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Final Report

DMM: A MULTIGROUP, MULTIREGION,  
ONE-SPACE-DIMENSIONAL COMPUTER PROGRAM  
USING NEUTRON-DIFFUSION THEORY

Part II - DMM Program Description

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## FOREWORD

The document submitted herein as Part II is in partial fulfillment of the final technical report requirements of Part I, para. E. 3, item III, of the Statement of Work of U. S. Air Force Contract AF33(616)-6097. The complete report is in three parts: I - "The Theory," published 31 December 1960; II - "DMM Program Description,"; the third part consists of the Uniservo tape(s) and two copies of the program on IBM cards.

A basic library of cross sections for DMM has been developed by D. L. Kavanagh and is presented in American-Standard Report ATL-A-106, "Cross Section Library for DMM: A Multigroup, Multiregion, One-Space-Dimensional Computer Program Using Neutron Diffusion Theory" (Secret-Restricted Data).

## ABSTRACT

DMM is a program using one-space-dimensional multigroup diffusion theory to calculate the reactivity or critical conditions and flux distribution of a multiregion reactor. Calculations of fission-produced xenon and samarium and time variation due to production and depletion of isotopes are an essential part of this program. The adjoint fluxes may also be computed, and the program includes the calculation of the nuclear constants from fairly simple input combined with a library of cross sections. The present code is written for the Remington Rand 1103A.

Complete descriptions of the routines making up the over-all DMM program, problem input and output specifications, and operating instructions are given in this part of the report.

## INTRODUCTION

The DMM System uses a multigroup, multiregion, diffusion-theory analysis written for the Remington Rand 1103A digital computer. The final program report is presented in three parts. The theoretical methods and techniques employed in this analysis are described in Part I - The Theory (ATL-A-105).<sup>1</sup> The machine programs developed to perform the prescribed functions of the DMM System are detailed in this part of the report. The third part consists of the Uniservo tape(s) and the IBM program cards.

The primary purpose of the DMM program is to evaluate the following characteristics of a nuclear reactor whose geometry is either slab, cylindrical, or spherical: the neutron-flux distribution in space and energy, the spatial-power distribution, and the reactivity.

In addition to the determination of the above properties, there are several supplementary routines associated with the DMM System that perform evaluations such as neutron balance, isotope depletion and production, xenon and samarium addition, flux weighting of diffusion-theory constants, and perturbation of system to criticality.

To explain the basic routines included in the integrated DMM System and their inter-connection, a list of the fourteen primary routines and a brief description of the function of each are given below. (Complete descriptions are included in other sections of the report.)

<u>Routine</u>	<u>Brief Description</u>
1) Tape Writer - Tape Loader	The Tape-Writer portion is used to write and to revise the program tape. The Tape-Loader portion transfers the Monitor and Output Routines from the Program Tape into memory and then transfers program control to the Problem-Input Routine.
2) Monitor	Directs the selections and institutes the processing of programs requested in the Problem-Input Routine.
3) Problem Input	Brings the Problem-Input Routine from cards into memory and assembles it in proper form for use with the appropriate programs.

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1. "DMM: A Multigroup, Multiregion, One-Space-Dimensional Computer Program Using Neutron Diffusion Theory," Advanced Technology Laboratories, a Division of American-Standard, ATL-A-105, 31 December 1960.

Routine

Brief Description

- |   |  |
|---|--|
| 4) Basic-Library Preparation              | Prepares the basic microscopic energy-point cross-section tape from Raw-Data Tapes, which contain the nuclear properties of all the isotopes.  |
| 5) Microscopic-Group - Cross-Section Tape | Makes up the Group-Average - Cross-Section Tape for the particular isotopes and group structure specified in the Problem-Input Routine.  |
| 6) Nuclear-Constants Preparer             | Evaluates the nuclear constants used in the diffusion calculations. (Described in detail in ATL-A-105, Section III. <sup>1</sup> ) Determines the initial constants, unweighted, for the first set of diffusion calculations. In subsequent calculations, the constants are automatically weighted by the fluxes determined by the previous diffusion calculation. This routine may be used whenever necessary to account for variations resulting from isotopic depletion and production after a burnup calculation.  |
| 7) Nuclear-Constants Corrector            | Corrects the nuclear constants to account for changes in the concentration of certain isotopes. This routine would be used a) after the Criticality Adjustment Routine to account for the change in isotopic concentration. When a change in a single isotope occurs, the routine corrects for the concentration and applies the flux-weighting technique to that part of the nuclear constants contributed by the change in isotopic concentration. b) Corrects the nuclear constants after the Xenon-Samarium-Addition Routine to account for the added poison. To carry out a) and b), the fluxes generated by the previous diffusion calculation are used. |
| 8) Adjoint                                | Determines the adjoint constants from the existing nuclear constants and automatically selects the diffusion routine to determine the adjoint fluxes.  |
| 9) Diffusion Theory                       | Performs the diffusion-theory calculations that determine neutron flux, power distribution, and reactivity.  |
| 10) Criticality Adjustment                | The routine first compares the reactivity of the diffusion calculation with an input reactivity and then perturbs either the concentration of any isotope in any region, or the size of any region, or the transverse leakage to attain the desired input reactivity.  |

Routine

Brief Description

11) Neutron Balance

Determines the over-all balance of the diffusion-theory analysis and evaluates such quantities as total leakage, total fission source, slowing down source, etc.

12) Xenon-Samarium Addition

Determines the xenon-samarium concentrations at equilibrium or at a specified time after shut-down.

13) Burnup

Evaluates the depletion and production of all specified isotopes in the reactor as a function of time (exposure).

14) Output

Arranges the output of all the routines used in a particular problem and prints the output on a printable output tape in a useable and readable form; i. e. , translates the information from binary to XS-3 format.

## I. GENERAL DESCRIPTION OF THE PROGRAMS

A general description of the main DMM programs is given in this section. Each program will be discussed to cover the following: general description and function, sources of input, general restrictions, and selection of program.

The potential user is given sufficient background information to understand the over-all DMM System. To keep this discussion descriptive in nature, many quantities and terms are not rigorously defined but are discussed fully in other sections of this report and in ATL-A-105.<sup>1</sup>

### A. Tape Writer - Tape Loader

The Tape-Writer - Tape-Loader Routine is an auxiliary routine that serves three purposes in the DMM operation: 1) writes the initial Program Tape, 2) makes revisions in the Program Tape whenever necessary, and 3) initiates a DMM problem run. The Tape-Writer portion of this routine can create or revise a binary Program Tape from SLAP\* assembled tapes. The programs are read into the memory from SLAP tapes and copied onto the Program Tape in binary form.

The Tape-Loader portion of this routine initiates a DMM problem run by loading the Monitor and Output Routines into the memory and then transfers control to the Monitor. The Monitor automatically calls for the Problem-Input Routine, which proceeds to read the specific problem data.

Storage restrictions require that the number of words to be put on the Program Tape at any one time be  $\leq 15,872$ .

Neither portion of the routine may be selected by the user.

### B. Monitor

The Monitor controls the program flow by means of certain input-program-control words specified by the user. These program-control words instruct the Monitor to select the appropriate routine from the Program Tape. The Monitor then loads the selected routine into high-speed memory and, after insuring a proper return, transfers control back to the Monitor.

---

\* The SLAP Assembly Program is described in Appendix E.

Details of the Monitor function can best be described by consulting the attached Monitor flow chart. Note that the Monitor Routine remains in core at all times during the operation of DMM and may not be selected by the user.

The Block-Read, Block-Write, and Allocation subroutines, \* which are common to most of the routines in the DMM System, have been assembled with the Monitor.

As previously mentioned, the flow of the program is controlled by program-control words made up in part by program-code names. A list of these program-code names, together with a list of the routines to which they refer, is given in Table I-1. A more detailed discussion of this subject appears in Sections II and IV.

Table I-1

DMM Program Identification Code Names

<u>Code Name</u>	<u>Name of Routine</u>
PROBIN	Problem Input
BASLIB	Basic-Library Preparation
MGCSTP	Microscopic-Group - Cross-Section Tape
NUCCON	Nuclear-Constants Preparer
CONCOR	Nuclear-Constants Corrector
AJOINT	Adjoint
DIFFUS	Diffusion Theory
CRTCAL	Criticality Adjustment
NUTBAL	Neutron Balance
XESMAD	Xenon-Samarium Addition
BURNUP	Burnup

C. Problem Input

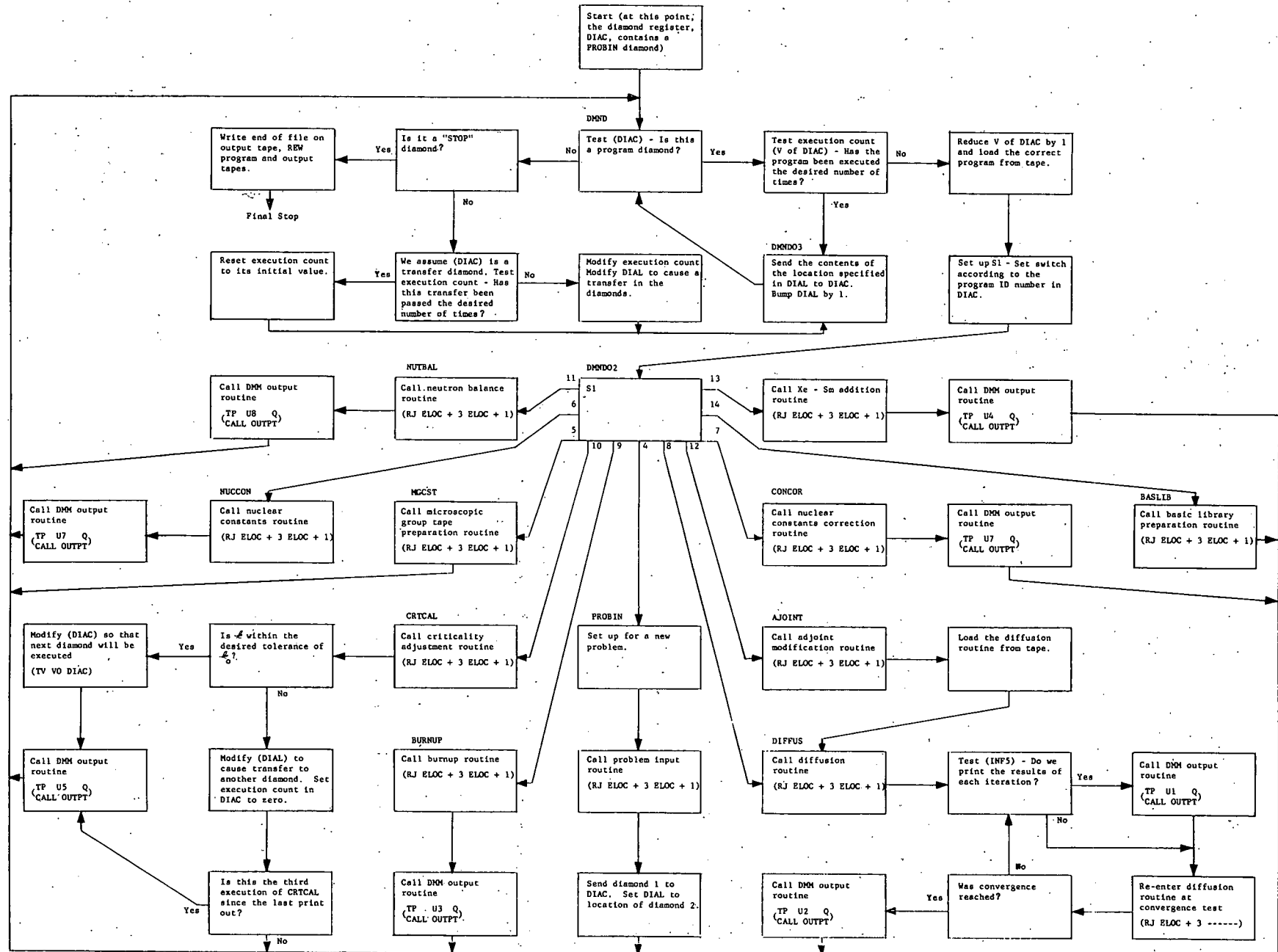
Cards and tape supply the input to all DMM problems. In general, the tape input is used to implement the computation of the problem described by the card input. Only cards are used to enter problem input.

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\* The subroutines are described in Appendix B, Auxiliary Routines.



## MONITOR



The DMM Problem-Input Routine reads cards describing the problem, translates the cards from fixed- or floating-point decimal to fixed- or floating-point binary (depending on the type of data being read), and stores the translated input in memory for use by the various DMM routines.

The first cards for any problem<sup>\*</sup> describe the problem "dimensions" (number of mesh spaces, number of groups, etc.). On the basis of these data, the Problem-Input Routine computes the storage requirements for the input data.

A block of cells in a lower core memory, called the Common-Storage Block, is set aside for communication between the individual DMM programs and for storage of miscellaneous items of input (for example, convergence criteria, number of regions, groups). The core and drum storage addresses allocated to each matrix of input data are retained in the Common-Storage Block. In this way, the particular items of data required by each DMM code are located. The Common-Storage Block and the drum are considered to be permanent storage areas and initially contain the input data. During the course of the calculation, certain items of output produced by one code for use as input by another code are retained in permanent storage.

Following is a brief discussion of the input specifications for the DMM System. The details of input requirements for individual DMM codes are presented in the sections describing input and output (Section II). The present discussion is limited to a more general description of the input system.

DMM card types are categorized as follows: 1) variable-identification cards, 2) variable-data cards, 3) isotope-data cards and 4) program-control cards.

#### 1. Variable-Identification Cards

The variable-identification card contains a single 4-digit code number that identifies the type of data contained on the cards following. The card format is:

---

\* Because of the flexible nature of DMM, it appears advisable here to define what is meant by "problem." In this and further discussions, each separate problem is considered to begin with execution of the Problem-Input Routine and to end with either a final machine stop or with another call for the Problem-Input Routine. A single machine run may include one or more problems, and each problem may call on one or more of the DMM codes.

<u>Columns</u>	<u>Information</u>
1-8	Blank
9-12	Y xxxx
13-80	Blank

## 2. Variable-Data Cards

With the exception of categories 3 and 4, all of the input data for a DMM problem are punched into variable-data cards. Each card contains six 12-digit fields. Columns 1-72 only are read by the Problem-Input Routine. The remaining eight columns may contain any information the user desires, including blanks. Hence, the card appears as follows:

<u>Columns</u>	<u>Information</u>
1-12	First word of input data
13-24	Second word of input data
25-36	Third word of input data
37-48	Fourth word of input data
49-60	Fifth word of input data
61-72	Sixth word of input data
73-80	Not interpreted

Every input word comprises 12 digits in either fixed-point or floating-point form. The formats used for fixed- and floating-point numbers are described in Section II.

## 3. Isotope-Data Cards

The isotope-data cards contain concentration information by region for each of the isotopes considered in the problem (including descendants of the initially present isotopes). Each card describes information pertaining to a single isotope in one of the regions in which it appears. There are five 12-digit fields on the card, as follows:

<u>Columns</u>	<u>Information</u>
1-12	A (isotope name, a fixed-point code number)
13-24	$k_A^N \times 10^{-24}$ (atomic concentration of isotope A in region k, floating point)
25-36	$q_A^k$ (index of the set of self-shielding factors to be applied to isotope A in region k, fixed point)
37-48	k (region index, fixed point)
49-60	999999999999 (This signal appears only on the last card that refers to isotope A. On the other cards for isotope A, columns 49-60 are blank.)
61-80	Blank

#### 4. Program-Control Cards

The particular DMM programs to be used in a problem and their order of execution are selected by means of the program-control cards. These cards are punched in a 6-field format, each field containing 12 alpha-numeric characters:

<u>Columns</u>	<u>Information</u>
1-12	First control word
13-24	Second control word
25-36	Third control word
37-48	Fourth control word
49-60	Fifth control word
61-72	Sixth control word
72-80	Not interpreted

Each control word consists of six alphabetical characters that identify the program to be selected, followed by six decimal digits that indicate the number of times the selected routine is to be executed. For example, the control word BURNUP000003 calls for three successive burnup steps.

Further details on use of the control cards appear in Section II.

The Problem-Input Routine processes data in sets, each set comprising all the data of a given kind (i. e., isotope data, mesh spacings, etc.). Within each of the sets, the card sequence is:

- a) Variable-Identification Card
- b) Variable-Data Card(s) (or isotope or control cards).

The last word of data is always followed by the signal word 9999999999<sup>Y</sup>. The last isotope card is followed by another card, with 9999999999<sup>Y</sup> in columns 1-12. The order of the sets is optional, except that the first set must always be the problem dimensions. The input to a problem need include only the types of data specifically needed for the particular codes to be used.

During the operation of the Problem-Input Routine, the availability of high-speed memory places the following restrictions on the size of the problem:

$$2B + I + N + 3R + 5B \times R + (\text{number of elements in largest set of input data}) < 9645_{10},$$

$$\text{and } 2B + 4I + 2N + 8R + 2R \times I + I \times N + S \times I + 5B \times R + \frac{I \times R (I - 1)}{2} < 10398_{10};$$

where B = total number of isotopes in problem,

I = total number of energy groups in problem,

N = total number of mesh points in problem,

R = total number of regions in problem, and

S = total number of self-shielding factor sets in problem.

At the start of any machine run, the Problem-Input Routine is automatically selected by the Monitor. Thereafter, the Problem-Input Routine may be selected at any time by using the code name PROBIN in the program-control words. This terminates the problem in operation by reading a new set of input data. The second and succeeding problems of a run may make use of previous input data, provided the dimensions remain the same, so only the data to be changed need be read. (See Section II for the procedure.)

#### D. Basic Library

The Basic Library Routine forms the Basic Library Tape (BLT) from the Raw-Data Tapes. Each Raw-Data Tape contains the energy-dependent microscopic cross sections tabulated for each isotope and other pertinent information necessary to the specification of the nuclear properties of any isotope. At present, the BLT contains information for 43 different isotopes. The information contained on the Raw-Data Tapes is given below. For each isotope, the values in 3 → 9 and 11 → 13 have been tabulated at a sufficient number of points to insure linearity between any two successive energy points. These values are obtained from cards described in ATL-A-106<sup>2</sup> and Section II of this report:

- 1) Identification number (see ATL-A-106<sup>2</sup>)
- 2) Energy (electron volts)
- 3)  $\sigma_c(E)$  = capture cross section
- 4)  $\sigma_s(E)$  = scattering cross section
- 5)  $\sigma_f(E)$  = fission cross section
- 6)  $\sigma_{in}(E)$  = inelastic-scattering cross section
- 7)  $\nu_f(E)$  = number of neutrons emitted per fission

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2. "Cross-Section Library for the DMM Code," Advanced Technology Laboratories, a Division of American-Standard, ATL-A-106, 29 February 1960 (Secret-Restricted Data).

- 8)  $\nu_{in}(E)$  = number of neutrons emitted per inelastic collision
- 9)  $[1 - \mu_0](E)$  = transport correction; 1 - the average cosine of the scattering angle
- 10)  $\alpha$  = the maximum fractional energy loss per collision
- 11)  $\chi_f(E)$  = fission spectrum; fraction of fission neutrons emitted at any energy
- 12)  $\chi_{in}(E)$  = distribution in energy of inelastically scattered neutrons
- 13)  $X_{in}(E)$  = normalizing function for truncated  $\chi_{in}$
- 14)  $Y_{A_x}$  = yield of isotope  $A_x$  from fission of A
- 15)  $A_n$  = isotope A forms isotope  $A_n$  by capture or fission

All cross-section values are given in barns. Quantities 1 through 10 are given in ATL-A-106.<sup>2</sup>

The cross-section cards from which the Raw-Data Tapes are made are tabulated by ascending values of energy and are put on the tape in the same order. Cards containing the raw data and the tape blocks are described in detail in Sections II and III, respectively.

The Basic-Library Routine regroups the information on the Raw-Data Tapes into the proper form for use in the DMM System.

The Basic-Library Routine is selected by use of the code name BASLIB in the program-control words. The restriction on this routine is given by the following inequality:

$$17Y + 2M_{\chi_f} < 10883_{10},$$

where Y is the number of isotopes in basic library,

$M_{\chi_f}$  is the number of points of tabulation of  $\chi_f$ .

#### E. Microscopic-Group - Cross-Section-Tape

The Microscopic-Group - Cross-Section-Tape Routine generates the group-average values of the energy-dependent nuclear parameters appearing on the Basic-Library Tape (BLT). In ordinary operation, the BLT is on TAPE2 and the Microscopic-Group - Cross-Section Tape (MGCST) is written on TAPE3. The group tape also contains information pertaining to the fractional energy losses, the yield factors, the decay constants, and the descendants for each isotope, even though they are not energy dependent.

This code may be used in two ways: 1) to generate a new MGCST tape solely from the BLT, or 2) to generate a new MGCST from the BLT and from a previously computed MGCST. Isotopes on the new MGCST whose cross sections appear on the old MGCST are merely copied onto the new MGCST. It is understood, of course, that the group structure must remain the same in this case. Whenever a new group structure is entered from the problem input, a completely new MGCST must be computed.

The method used to obtain the group-average cross sections can be described briefly as follows. The cross sections and other energy-dependent parameters are assumed to be linear between any two successive points in the tabulations. A general expression for the group value then becomes

$$\bar{\sigma}_x = \int_{E_{i+1}}^{E_i} (b + mE) \left\{ \begin{array}{c} 1 \\ \frac{1}{E} \\ E \end{array} \right\} dE$$

From this expression, it is apparent that these are not true group averages but represent the area under the curve. Not until the  $\bar{\sigma}_x$  is divided by the respective group width, as is done in the evaluation of the nuclear constants, do true group-average values appear. A detailed discussion of the actual integration of the above expressions is given in Appendix G.

The Microscopic-Group - Cross-Section-Tape Routine is selected by use of the code name MGCSTP in the program-control words. The choice of tape units may be governed by the tape-designation input, as explained in Section II. However, the MGCSTP normally appears on TAPE3.

To perform the cross-section evaluation, information from both the BLT and the problem input is required. (See Table I-2 below.)

The restriction on this routine is given by the following inequality:

$$4M_A + 10Y + B + 16I + \frac{3I(I-1)}{2} < 9040_{10}$$

where  $M_A$  is the number of points at which isotope A is tabulated. The symbols I, B, and Y are defined in Table I-2.

Table I-2

Microscopic-Group - Cross-Section-Tape Routine  
Card Input

<u>Symbol</u>	<u>Information</u>	<u>Type of Information</u>
I	Total number of energy groups in problem	Problem dimensions
B	Total number of isotopes in problem	Problem dimensions
Y	Total number of isotopes on BLT	Problem dimensions
INF1	Group structure indication: 0 - Same group structure 1 - New group structure, new tape must be made	Control information
INF2	Old group tape indication: 0 - Old tape not used 1 - Old tape used	Control information
ENGY	Group structure	Energy-group structure
ISOP	List of isotopes used in problem	Isotope list

In addition to the averaging procedure as outlined, this routine calculates two microscopic-group cross sections, the transport and total cross sections (not included in the original raw data). These cross sections are then averaged for the various groups as described above. Point values for each of these cross sections are determined by the following equations:

Total cross section:

$$\sigma_T[E(k)] = \sigma_c[E(k)] + \sigma_s[E(k)] + \sigma_f[E(k)] + \sigma_{in}[E(k)]$$

Transport cross section:

$$\sigma_{tr}[E(k)] = \left\{ 1 - \bar{\mu}_0[E(k)] \right\} \sigma_s[E(k)] + \sigma_c[E(k)] + \sigma_f[E(k)] + \sigma_{in}[E(k)]$$

F. Nuclear-Constants Preparer

The Nuclear-Constants-Preparer Routine generates the Nuclear-Constants Tape (TAPE4) from the Microscopic-Group - Cross-Section Tape (TAPE3). The layout of this tape is described in Section III.

The nuclear constants evaluated and written on tape by this routine are the following:



$k_D^i$  - diffusion coefficient,

$k_T^i$  - total removal cross section,

$k_{Tij}$  - elastic- and inelastic-scattering source into group i from group j,

$k_F^i$  - fission-production cross section,

$k_{\Sigma f}^i$  - macroscopic-fission cross section.

The tape also contains the energy spectrum of neutrons  $\chi_f$  produced by fissioning, obtained directly from the Microscopic-Group Cross-Section Tape.

The equations and methods used to calculate the above constants are discussed fully in Sections III and IV of ATL-A-105.<sup>1</sup>

The Nuclear-Constants-Preparer Program is selected by use of the code name NUCCON in the program-control words. The designation of a Nuclear-Constants Tape other than TAPE4 is controlled by the tape-designation input, which will be described in Section II.

Besides being written on the Nuclear-Constants Tape, the results of a nuclear-constants calculation are automatically printed on the Output Tape (TAPE8) upon completion of the evaluation.

The input to the Nuclear-Constants Routine normally comes from two sources: 1) the Microscopic-Group - Cross-Section Tape which contains all the group-averaged nuclear properties of the isotopes of interest, and 2) the problem-input data.

There are exceptions to the above specification of input. To initiate a problem, the constants are evaluated using only the data from the two sources mentioned above. However, if one wishes to re-evaluate the nuclear constants after a diffusion calculation, the constants that are calculated and put on the Output Tape will be flux weighted, as described in Section III of ATL-A-105.<sup>1</sup> The fluxes are obtained from the last diffusion calculation.

The Nuclear-Constants Routine is usually called for after a burnup calculation. Here, too, the constants will reflect not only the changes in concentration but the flux weighting.

A complete description of the problem input is given in Section II, but for the sake of clarity the input used by the Nuclear-Constants-Preparer Routine is listed below in Table I-3.

Table I-3

Nuclear-Constants-Preparer Routine  
Card Input

<u>Symbol</u>	<u>Information</u>	<u>Type of Information</u>
R	Total number of regions in problem	Problem dimension
I	Total number of energy groups in problem	Problem dimension
S	Total number of shielding factor sets in problem	Problem dimension
B	Total number of isotopes in problem	Problem dimension
ISOP	List of isotopes in problem	Isotope list
SFKI	Self-shielding factors	Self-shielding factors
AKBK	Isotope concentrations and regions in which isotopes appear; shielding-factor control	AK table
PBKI	Transverse leakage	Transverse leakage
ENGY	Group structure	Energy-group structure

The restriction is given by the following inequality:

$$SI + 24I + 6R + B + 7RI + \frac{(R + 3) I (I - 1)}{2} + BR < 9620_{10}$$

The symbols I, R, and B are defined in Table III-3.

#### G. Nuclear-Constants Corrector

The Nuclear-Constants-Corrector Routine is used to correct an existing Nuclear-Constants Tape, and is selected by use of the code name CONCOR in the program-control words. The need for correction is determined by the particular DMM problem.

Normally, this routine will be selected and used at the following stages of a problem: 1) after a perturbation of the concentration of any one isotope in any one region and 2) after a xenon and samarium calculation that determines xenon and samarium concentrations at equilibrium, or at some time  $\Delta t_s$  after shutdown. In addition to making the corrections in the nuclear constants due to the changes given above, the program automatically applies flux weighting to the nuclear constants. The fluxes are obtained from the last diffusion calculation. The flux-weighting technique is described in Section III of ATL-A-105.<sup>1</sup>

The restriction is given by the following inequality:

$$24I + 8R + B + 7RI + SI + BR + \frac{(R + 3) I (I - 1)}{2} < 9618_{10}$$

#### H. Adjoint

The Adjoint Routine rearranges the normal nuclear constants used in the diffusion-theory calculation into the proper form to solve the adjoint equation as given in Section VII ATL-A-105.<sup>1</sup> The Adjoint Routine then automatically calls in the Diffusion-Theory Routine, which uses the adjoint constants to calculate the adjoint fluxes. The adjoint fluxes, together with the normal diffusion-theory fluxes, can be used to carry out analyses of the perturbation-theory type.

It should be noted that the adjoint constants should be obtained from the initial nuclear-constants determination so that no flux weighting will appear in the adjoint constants.

The Adjoint Routine is selected by use of the code name AJOINT in the program-control words. The input is provided by the geometry of the specific problem and the Adjoint-Constants Tape.

The storage restriction is given by the following inequality:

$$6RI + \frac{IR(I-1)}{2} < 9648_{10}$$

where R = total number of regions in problem, and I = total number of groups in problem.

By setting up the ordinary diffusion equation in matrix form and performing the necessary transformations to arrive at the adjoint configuration, it becomes apparent that the adjoint constants can be obtained from the ordinary diffusion constants by a simple transposition of the constants. This process can be described simply as follows:  $k_{D^{I-i+1}} \rightarrow k_{D^i}$ . That is,  $D^i$  on ordinary constants tape is replaced by  $D^{I-i+1}$  to form the adjoint constant.

If I = 32, then

$$D^{32} \rightarrow D^1,$$

$$D^{31} \rightarrow D^2,$$

$$D^1 \rightarrow D^{32}.$$

The following are treated in exactly the same manner.

$$\chi_f^{I-i+1} \rightarrow F^i,$$

$$F^{I-i+1} \rightarrow \chi_f^i,$$

$$\chi_f^{I-i+1} \rightarrow \Sigma_f^i,$$

$$T^{I-i+1} \rightarrow T^i.$$

The handling of the elastic- and inelastic-scattering group-transfer terms is slightly more complicated. The transfer terms can be expressed as  $k_{T^{I-j+1, I-i+1}} \rightarrow k_{T^{ij}}$ .

For example, if  $I = 4$ ,

$$T^{21} \text{ replaces } T^{43},$$

$$T^{31} \text{ replaces } T^{42}$$

$$T^{32} \text{ replaces } T^{32},$$

$$T^{41} \text{ replaces } T^{41},$$

$$T^{42} \text{ replaces } T^{31}, \text{ and}$$

$$T^{43} \text{ replaces } T^{21}.$$

The normalization of the adjoint fluxes is discussed in the Words of Caution in Section IV. E.

### I. Diffusion Theory

The Diffusion-Theory Program solves the ordinary multigroup diffusion equations, determining the spatial- and energy-dependent flux distribution, the power distribution, and the reactivity for any reactor configuration.

The method of solving the diffusion-theory approximation and the evaluation of the nuclear parameters used in the equations are fully described in ATL-A-105.<sup>1</sup>

The input required by this routine comes from two sources: 1) Nuclear-Constants Tape and 2) Problem Input.

The data obtained from the Nuclear-Constants Tape are described above. In addition, certain data are obtained from the problem input as in the table below.

Table I-4

Diffusion-Theory Routine  
Card Input

<u>Symbol</u>	<u>Information</u>	<u>Type of Information</u>
I	Number of energy groups in problem	Problem dimensions
N	Number of mesh points in problem	Problem dimensions
R	Number of regions in problem	Problem dimensions
INF5*	Iteration Output: 0 - Output only at convergence 1 - Output after every iteration	Control information
QQ	Power density of reactor - kw/cc of reactor volume	Special data
PSUB0	Number of fissions per kw-sec = $3.12 \times 10^{13}$	Program constants
PTS	Number of mesh spaces in each region	Region spaces
EPSIL	Convergence criterion for reactivity	System constants
EPS2	Convergence criterion for power density	System constants
OMEGA	Acceleration factor	System constants
RHO	Geometry specification: 0 - slab; 1 - cylinder; 2 - sphere	Perturbation indicators
RDIF	Mesh spacing in each region - cm	Mesh spacing
BSUB0	Boundary condition at mesh point with smallest index - zero	Boundary conditions
BSUBN	Boundary condition at mesh point with highest index - N	Boundary conditions

The Diffusion Routine is selected by use of the code name DIFFUS in the program-control words. Convergence of the reactivity and the power density terminates the Diffusion-Theory Routine. Diffusion output (described in Section II) may be obtained after each iteration or at convergence, depending upon control word INF5 as indicated in Table I-4.

This routine, in conjunction with the Criticality-Adjustment Routine, serves to perturb a concentration, region size, or transverse leakage, in order to obtain the desired reactivity. Diffusion runs may also be used to account for the effect of flux-weighted nuclear constants and to determine the effect of isotope burnup or xenon-samarium addition. The only

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\* See Section II for INF1 → INF4.

exception to the selectability of this routine is the choice of the AJOINT code. This code automatically selects and runs the Diffusion-Theory Routine after adjusting to get the adjoint constants.

The restriction is given by the following inequality:

$$4I + 10R + 9N + 6RI + \frac{RI(I-1)}{2} < 9623_{10}$$

The symbols R, I, and N are defined in Table I-4 above.

#### J. Criticality Adjustment

The Criticality-Adjustment Routine is used to determine the appropriate value of a quantity to obtain a desired value of the reactivity. The quantities that can be varied are the concentration of any one isotope in any one region, the mesh spacing in any region ( $\Delta r$ ), or the transverse leakage ( $DB^2$ ).

This routine should be used in conjunction with the Nuclear-Constants-Preparer, the Nuclear-Constants-Corrector, and the Diffusion-Theory Routines in order to make full use of the perturbation technique. Based on the existing value of the perturbable quantity, the Diffusion-Theory Routine produces a reactivity that, when coupled with the desired reactivity, serves as a basis to perturb the aforementioned quantity. After each perturbation, the nuclear constants are corrected and the diffusion is rerun to determine a new reactivity. When the reactivity converges to within the tolerance ( $\epsilon_3$ ) of the desired reactivity, then the reactivity, the final value of the varied quantity, and the tolerance are written on the Output Tape. The nuclear constants, fluxes, and power distribution are written for each perturbation. The equations used in this routine are given in Section VIII of ATL-A-105.<sup>1</sup>

The diffusion calculation and the problem input supply the input to this routine. The diffusion furnishes the reactivity. The problem input contributes the information in Table I-5.

The Criticality-Adjustment Routine is selected by use of the code name CRTCAL in the program-control words. This routine is generally preceded by a diffusion calculation and followed by a nuclear-constants calculation. The storage restriction is given by the following inequality:

$$4R + B + N + RI \leq 9647_{10}$$

where the R, B, N, and I are as defined previously.

Table I-5

Criticality-Adjustment Routine  
Card Input

<u>Symbol</u>	<u>Information</u>	<u>Input Variable</u>
VARI	Variable to be perturbed: Type 1 - Concentration Type 2 - Mesh spacing Type 3 - Transverse leakage	Perturbation indicators
NOM	Number of isotope being varied.	Perturbation indicators
KKK	Region index of variable being perturbed	Perturbation indicators
DZDK	Initial value of $\delta$ (see ATL-A-105) <sup>1</sup>	System constants
$k_0$	Desired value of the reactivity	System constants
EPS3	Convergence criterion, $\epsilon_3$ , for the reactivity	System constants

K. Neutron Balance

The Neutron-Balance Routine evaluates in detail the neutron balance, based on the preceding diffusion-theory calculation. The following quantities are evaluated and placed on the Output Tape, TAPE8.

- 1) Total neutron flux per unit energy in group i of region k.
- 2) Degradation from group i in region k to lower energy groups.
- 3) Scattering from higher energy groups into group i of region k.
- 4) Fission-neutron source in group i of region k.
- 5) Neutron removal from group i of region k due to perpendicular leakage.
- 6) Neutron removal due to absorption from group i of region k.
- 7) Removal due to leakage from the outer boundary of region k in group i.
- 8) Removal due to leakage from the inner boundary of region k in group i.
- 9) Total removal from group i of region k.
- 10) Total neutron production in group i of region k.
- 11) Total leakage in region k.
- 12) Total fission-neutron source in region k.
- 13) The total fission-neutron production from group i of region k.
- 14) The error in neutron balance for region k.

The equations used to determine the above quantities are given in Section IX of ATL-A-105.<sup>1</sup>

The information necessary to carry out the above calculations comes from three sources. The fluxes are obtained from the preceding diffusion calculation, the necessary nuclear parameters from the Nuclear-Constants Tape, and the information in Table I-6 from the problem input.

Table I-6

Neutron Balance  
Card Input

<u>Symbol</u>	<u>Information</u>	<u>Input Type</u>
N	Total number of mesh points in problem	Problem dimensions
R	Total number of regions in problem	Problem dimensions
I	Total number of energy groups in problem	Problem dimensions
RHO	Geometrical configuration: 0 - slab, 1 - cylinder, 2 - sphere	Perturbation indicators
PTS	Number of spaces in each region	Mesh count
RDIF	Mesh spacing - cm	Mesh spacing
PBKI	Transverse leakage	Transverse leakage

The restriction for this program is given by the following inequality:

$$I + 3N + 7R + 14R \times I + \frac{RI(I-1)}{2} < 9626_{10},$$

where N, R, and I are as defined in Table I-6 above.

The Neutron-Balance Routine is selected by use of the code name NUTBAL in the program-control words.

L. Xenon-Samarium Addition

The Xenon-Samarium-Addition Routine computes the xenon and samarium concentrations at equilibrium or at some time  $\Delta t_s$  (sec) after shutdown. These concentrations are retained on drum and are available to the Nuclear-Constants-Corrector Routine so that the nuclear constants can be corrected to incorporate the xenon and samarium addition. A diffusion calculation can then be run to determine the effect of the poison addition. This sequence of events can be set up by using the proper program-control words in the problem input. To



evaluate changes when xenon and samarium are present at startup, the Burnup Routine would have to be used, with concentrations of xenon and samarium, in the initial problem input.

It should be pointed out that the problem input must contain xenon and samarium in the isotope list for any problem, but that the concentration would normally be zero.

The equations used to evaluate the xenon and samarium concentrations are described in Section V of ATL-A-105.<sup>1</sup>

The necessary input is obtained from several sources. The fluxes are obtained from the diffusion calculation. The xenon and samarium parameters, described in Section II and in ATL-A-105,<sup>1</sup> are constants that are built into the program. The required  $k_{\Sigma f}^i$  and  $\sigma_c^i$  (Xe) are obtained from the Nuclear-Constants Tape and the Microscopic-Group - Cross-Section Tape, respectively. The following card input information is used.

Table I-7

Xenon-Samarium-Addition Routine  
Card Input

<u>Symbol</u>	<u>Information</u>	<u>Input Type</u>
B	Total number of isotopes in problem	Problem dimensions
R	Total number of regions in problem	Problem dimensions
I	Total number of energy groups in problem	Problem dimensions
RHO	Geometrical configuration: 0 - slab, 1 - cylinder, 2 - sphere	Perturbation indicators
ENGY	Group structure	Group structure
AKBK	Concentration of isotopes in regions, self-shielding factor sets	AK table
SFKI	Shielding factor sets	Self-shielding factor
DELTS	$\Delta t_s$ (sec) time after shutdown	Special data information

The Xenon-Samarium-Addition Routine is selected by use of the code name XESMAD in the program-control words.

The restriction is given by the following inequality:

$$14R + 17I + 2RI + N + SI \leq 9633_{10},$$

where N = total number of mesh points in problem, S = total number of shielding factor sets in problem. R and I are as defined in Table I-7.

### M. Burnup

The Burnup Routine is used to determine the depletion of isotopes in the various react regions and the resultant production of other isotopes. For example,  $U(235) \rightarrow (U236)$ ,  $U(235) \rightarrow (U237)$ ,  $U(238) \rightarrow Pu(239) \rightarrow Pu(240) \rightarrow Pu(241)$ .

The following information is necessary to determine the production or depletion of any isotope, whether or not initially present: 1) the isotope number in the isotope list, 2) the isotope data card indicating the concentration in the appropriate region (this includes a concentration of zero for each isotope not present initially), 3) the isotopic cross sections on the Microscopic-Group - Cross-Section Tape.

The new concentrations determined from the burnup calculation are used as a basis for computing the nuclear constants. These constants in turn may be used to perform a diffusion calculation. This sequence of events can be specified by the user through the proper choice of the program-control words. The equations used in the burnup calculations are given in Section VI of ATL-A-105.<sup>1</sup>

The input necessary to evaluate the changes in isotopic concentrations comes from several sources: 1) the fluxes from the last diffusion calculation, 2) the nuclear data, such as decay constants and yields, from the basic library, and 3) the problem input described below.

Table I-8

Burnup  
Card Input

<u>Symbol</u>	<u>Information</u>	<u>Type of Information</u>
B	Total number of isotopes in problem	Problem dimensions
R	Total number of regions in problem	Problem dimensions
I	Total number of energy groups in problem	Problem dimensions
RHO	Geometrical configuration: 0 - slab, 1 - cylinder, 2 - sphere	Perturbation indications
ISOP	Isotope list	Isotope list
ENGY	Group structure	Energy-group structure
AKBK	Concentration by isotope and region; self-shielding control	AK table
SFKI	Shielding-factor sets	Self-shielding factor
PTS	Number of spaces in each region	Mesh count
RDIF	Distance between mesh points in each region	Mesh spacing

The Burnup Routine is selected by use of the code name BURNUP in the program-control words.

The restriction is given by the following inequalities:

$$17I + 7R + B + N + 2BR + SI + RI < 9600_{10} \text{ and } 8BR < 9649_{10}$$

where N = total number of mesh points in problem, S = total number of self-shielding factor sets in problem, and B, I, and R are as defined in Table I-8.

#### N. Output

The Output Routine transfers the output of the various routines in the DMM System to the Output Tape, TAPE8. This routine resides permanently on drum and is not selectable by the user. When the Output Routine is needed, the Monitor transfers it into core, preserving core on drum. Control is then transferred to the Output Routine. The output of a particular program is printed on the output tape, control is returned to the Monitor, core is restored, and the Monitor selects the next program indicated by the program-control words.

The routines having output which will normally be put on the Output Tape and the type of output from each routine are listed below.

<u>Routine on Output Tape</u>	<u>Type of Output</u>
1. Nuclear-Constants Preparer and Corrector Outputs	All nuclear constants (described in ATL-A-105 <sup>1</sup> and Section III. F)
2. Diffusion Theory	Iteration number Reactivity Neutron flux Power distribution Difference in power distribution of last two iterations
3. Criticality-Adjustment Output	Value of input quantity being perturbed, after every third perturbation Value of the converged reactivity corresponding to each value of the perturbed quantity Reactivity specified in input Change in variable with change in reactivity

Routine on Output Tape

Type of Output

- |                                   |   |
|-----------------------------------|---|
| 4. Neutron-Balance Output         | All quantities listed in Section II. K.   |
| 5. Xenon-Samarium-Addition Output | The concentration of xenon and samarium at the $\Delta t_s$ specified as input. |
| 6. Burnout Output                 | The concentrations of all isotopes depleted or produced by the Burnup Routine   |

## II. PROBLEM INPUT, OUTPUT, AND RAW-DATA DESCRIPTIONS

A detailed discussion of problem-input format is presented in this section. In addition to the information contained here, a potential DMM System user should consult the "Words of Caution" presented in Section IV. The Words of Caution emphasize special items in the running of problems in general, and such details as the best means for running consecutive and similar problems.

### A. Problem Input

The description of the input cards used in the definition of a particular problem follows. The card data can be interpreted as the data necessary to run a problem through certain routines in the DMM system of codes.

The problem input is considered separately from the input to the Raw-Data Tape, which includes basic nuclear data that can be used for any number of problems (see Section III - Raw-Data Tape and part C of this section). The card input is discussed below as fixed-point information, floating-point information, mixed floating- and fixed-point information, and problem-control information.

#### 1. Fixed-Point Information

All fixed-point information is contained in the low-order portion of the word, e. g., a fixed point 1 would be 000000000001.

##### a. Problem Dimensions

The fixed-point information describes the over-all size of the problem and consists of the following quantities.

IDEN	- Problem number
N	- Total number of geometric mesh points in problem
I	- Total number of energy groups in problem
B	- Total number of isotopes in problem
R	- Total number of regions in problem
S	- Total number of self-shielding factor sets in problem
Y	- Total number of isotopes on Basic-Library Tape

This information is put on cards as shown in Table II-1. Card 1 contains the identification word for this input data.

Table II-1

Problem-Dimensions Input

<u>Columns</u>	<u>Card 1</u>	<u>Card 2</u>	<u>Card 3</u>
1-12	000000000000 <sup>Y</sup>	IDEN	Y
13-24		N	999999999999 <sup>Y</sup>
25-36		I	
37-48		B	
49-60		R	
61-72		S	
73-80			

The identification word on card 1 is the first quantity and, therefore, the first card for the input to any problem. The information above is stored in the Common-Storage Block (see Appendix A) sequentially starting at cell 00010.

b. Mesh Count

The number of mesh spaces ( $n_k$ ) in each region ( $k$ ),  $k = 1, 2, \dots, R$ , is given in Table II-2. Card 1 contains the identification word for this particular information.

Table II-2

Mesh-Count Input

<u>Columns</u>	<u>Card 1</u>	<u>Card 2</u>	<u>Card <math>\frac{R+1}{6}</math></u>
1-12	000000000000 <sup>Y</sup>	$n_1$	$n_R$
13-24		$n_2$	999999999999 <sup>Y</sup>
25-36		$n_3$	
37-48		$n_4$	
49-60		$n_5$	
61-72		$n_6$	
73-80			

Note: If region 1 had 60 mesh spaces, then  $n_1 = 000000000060$ .

c. Tape Designations

The Tape Designations assign logical tape units to the mnemonic names, Tape 1 through Tape 10. Tape  $t = t, t = 1, 2, \dots, 10$ , is automatically assigned to the names as follows.

	<u>Tape</u>
TAPE1	DMM Program
TAPE2	Basic Library
TAPE3	Microscopic-Group Cross Section - New
TAPE4	Nuclear Constants
TAPE5	Microscopic-Group Cross Section - Old
TAPE6	Adjoint Constants
TAPE7	Burnup
TAPE8	Output
TAPE9	Dump
TAPE10	DMM Library

If it is desired to change these assignments, the tape-designation input shown in Table II-3 is used. Card 1 contains the identification word for this particular input.

Table II-3

Tape-Designation Input

<u>Columns</u>	<u>Card 1</u>	<u>Card 2</u>	<u>Card 3</u>
1-12	000000000002 <sup>Y</sup>	$t_1$	$t_7$
13-24		$t_2$	$t_8$
25-36		$t_3$	$t_9$
37-48		$t_4$	$t_{10}$
49-60		$t_5$	999999999999 <sup>Y</sup>
61-72		$t_6$	
73-80			

For example, if the user wants to assign the Nuclear-Constants Tape to servo 9, then  $t_4 = 000000000009$ .

This input will automatically supersede the normal assignments. This information is stored sequentially in the Common-Storage Block starting at cell TAPE1.

d. Isotope List

The Isotope List contains the list of isotopes used in the problem. The isotopes are identified by the identification numbers described in ATL-A-106.<sup>2</sup>

Card 1 contains the identification word indicative of the Isotope List. The card format is given in Table II-4 for isotopes  $A_1$  to  $A_B$ .

Table II-4

Isotope-List Input

<u>Columns</u>	<u>Card 1</u>	<u>Card 2</u>	<u>Card <math>(\frac{B+1}{6}) + 1</math></u>
1-12	000000000003 <sup>Y</sup>	$A_1$	$A_{B-2}$
13-24		$A_2$	$A_{B-1}$
25-36		$A_3$	$A_B$
37-48		$A_4$	999999999999 <sup>Y</sup>
49-60		$A_5$	
61-72		$A_6$	
73-80			

This information is stored sequentially in the Common-Storage Block, starting at cell ISOP.

e. Control Information

The control information is provided to the code to allow the use of certain options in the general flow of the problem. The card input as specified indicates that there are several choices of control words available, only five of which are presently used. This information is stored sequentially in the Common-Storage Block, starting at cell INF1. Card 1 contains the identification word for this particular set of data.



Table II-5

Control-Information Input

<u>Columns</u>	<u>Card 1</u>	<u>Card 2</u>	<u>Card 3</u>
1-12	000000000004 <sup>Y</sup>	Control Word 1	Control Word 7
13-24		Control Word 2	Control Word 8
25-36		Control Word 3	Control Word 9
37-48		Control Word 4	Control Word 10
49-60		Control Word 5	Control Word 11
61-72		Control Word 6	Control Word 12
73-80			

The five inputs used at present are:

Control Word 1 - Group-Structure Indication

000000000000 - Same group structure as previous problem and/or old group tape

000000000001 - New group structure

Control Word 2 - Microscopic-Group - Cross-Section Tape Option

000000000000 - No old group tape

000000000001 - Use an old group tape

Control Word 3 - Maximum number of diffusion iterations. For example,

000000000005 - Diffusion output after fifth iteration

Control Word 4 - Maximum number of iterations of adjoint-diffusion. For example,

000000000005 - Adjoint output after fifth iteration

Control Word 5 - Diffusion Option (Normal or Adjoint)

000000000000 - Output after last (converged) iteration only

000000000001 - Output after each iteration

There are allowances for 12 words of control information but, at present, only words 1 through 5 are utilized. As in other input groups, the last word used must be followed by 999999999999<sup>Y</sup>.

f. Perturbation Indicators

The perturbation indicators provide the diffusion and criticality routines with information concerning the parameters that are to be varied internally to arrive at the reactivity specified in the problem input. The card format is given in Table II-6. This information is stored in the Common-Storage Block, starting at cell RHO. Card 1 contains the identification word.

Table II-6

Perturbation-Indicators Input

<u>Columns</u>	<u>Card 1</u>	<u>Card 2</u>
1-12	000000000005 <sup>Y</sup>	$\rho$
13-24		$V(A, \Delta r, DB^2)$
25-36		k
37-48		A
49-60		999999999999 <sup>Y</sup>
61-72		
73-80		

$\rho$  Geometry specification = 0 - slab; 1 - cylinder; 2 - sphere.

$V(A, \Delta r, DB^2)$  Variable to be perturbed: = 1-concentration of any isotope, 2-mesh spacing (centimeters) in any region, 3-perpendicular leakage ( $DB^2$ ).

k = number of the region in which a perturbation is to take place.

A = the identification number of the isotope whose concentration is to be varied.

In selecting the  $V(A, \Delta r, DB^2)$  to be used in a particular problem, the following points should be noted.

If  $V(A, \Delta r, DB^2) = 000000000001$ , then the appropriate values for k and A must be chosen.

If  $V(A, \Delta r, DB^2) = 000000000002$ , then only k must be specified.

If  $V(A, \Delta r, DB^2) = 000000000003$ , then both A and k have no meaning and may be zero or any other number without affecting the perturbation of  $DB^2$ .

## 2. Floating-Point Information

The following sets of problem data are specified in floating-point format. The first card for each set of data is used as the indicator word for that particular set. The floating-point format is as follows:

0.01	+ 10000000 - 01
-0.10	- 10000000 00
0.10	+ 10000000 00
1.0	+ 10000000 + 01
10.0	+ 10000000 + 02

### a. Energy-Group Structure

The first energy value for each group is indicated, and the list is in descending order, starting with the highest energy value in the highest energy group. The last energy value given is the lowest energy value in the lowest energy group. The units are in electron volts (ev). This group structure is used first in the determination of the microscopic-group-average cross sections.

The format where card 1 contains the code word indicating group structure is given in Table II-7.

Table II-7

#### Energy-Group-Structure Input

<u>Columns</u>	<u>Card 1</u>	<u>Card 2</u>	<u>Card <math>\frac{I+4}{6}</math></u>
1-12	000000001000 <sup>Y</sup>	E <sup>1</sup>	E <sup>I-1</sup>
13-24		E <sup>2</sup>	E <sup>I</sup>
25-36		E <sup>3</sup>	E <sup>I+1</sup>
37-48		E <sup>4</sup>	999999999999 <sup>Y</sup>
49-60		E <sup>5</sup>	
61-72		E <sup>6</sup>	
73-80			

Note: There will be one more value of energy than the number of groups.

b. Mesh Spacing

The distance between adjacent mesh points in centimeters is given as  $\Delta r$ . This is constant in any one region but can vary from region to region. The input cards are given in the following format. The data are stored on drum in the region RDIF. Card 1 contains the identification word for this set of data.

Table II-8

Mesh-Spacing Input

<u>Columns</u>	<u>Card 1</u>	<u>Card 2</u>	<u>Card <math>\frac{R+1}{6}</math></u>
1-12	000000001001 <sup>Y</sup>	$\Delta r_1$	$\Delta r_{R-2}$
13-24		$\Delta r_2$	$\Delta r_{R-1}$
25-36		$\Delta r_3$	$\Delta r_R$
37-48		$\Delta r_4$	999999999999 <sup>Y</sup>
49-60		$\Delta r_5$	
61-72		$\Delta r_6$	
73-80			

c. Boundary Conditions at Last Mesh Point

The boundary condition at the last mesh point is explained in ATL-A-105.<sup>1</sup>

The value  $B_N$  is given for each energy group in the problem. The format for this condition is given below. Card 1 contains the identification word.

Table II-9

Outer-Boundary-Condition Input

<u>Columns</u>	<u>Card 1</u>	<u>Card 2</u>	<u>Card <math>\frac{I+1}{6}</math></u>
1-12	000000001002 <sup>Y</sup>	B <sup>1</sup> <sub>N</sub>	B <sup>I-2</sup> <sub>N</sub>
13-24		B <sup>2</sup> <sub>N</sub>	B <sup>I-1</sup> <sub>N</sub>
25-36		B <sup>3</sup> <sub>N</sub>	B <sup>I</sup> <sub>N</sub>
37-48		B <sup>4</sup> <sub>N</sub>	999999999999 <sup>Y</sup>
49-60		B <sup>5</sup> <sub>N</sub>	
61-72		B <sup>6</sup> <sub>N</sub>	
73-80			

d. Special Data Information

Three quantities are included in the special data information: 1)  $Q = \text{kw/cc}$  of reactor volume, 2)  $\Delta t_s$  = time after reactor shutdown, 3)  $\Delta t_{\text{max}}$  = maximum time increment (ATL-A-105<sup>1</sup>).  $Q$  is used in the diffusion analysis,  $\Delta t_s$  in the xenon-samarium calculation,  $\Delta t_{\text{max}}$  in the burnup computation.

This information input is given in the following form. Card 1 contains the identification word.

Table II-10

Special Data Input

<u>Columns</u>	<u>Card 1</u>	<u>Card 2</u>
1-12	000000001003 <sup>Y</sup>	Q
13-24		$\Delta t_s$
25-36		$\Delta t_{\max}$
37-48		999999999999 <sup>Y</sup>
49-60		
61-72		
73-80		

e. Boundary Condition at Mesh Point Zero

The boundary-condition data, as explained in ATL-A-105,<sup>1</sup> gives the necessary boundary conditions that must be satisfied at the beginning of the geometric mesh in the particular problem. The condition at this point, called  $B_0$ , must be specified for each energy group  $i$  contained in the problem specifications. The identification word and format are given in Table II-11, and this data is stored on drum in the region BSUO.

Table II-11

Inner-Boundary-Condition Input

<u>Columns</u>	<u>Card 1</u>	<u>Card 2</u>	<u>Card <math>\frac{I+1}{6}</math></u>
1-12	000000001004	$B_0^1$	$B_0^{I-2}$
13-24		$B_0^2$	$B_0^{I-1}$
25-36		$B_0^3$	$B_0^I$
37-48		$B_0^4$	999999999999 <sup>Y</sup>
49-60		$B_0^5$	
61-72		$B_0^6$	
73-80			

f. Perpendicular Leakage

The perpendicular-leakage input contains the value of the perpendicular leakage,  $DB^2$ , for every group in every region. The input cards have the following format. Card 1 contains the identification word. The data is stored on drum in the region called PBKI.

Table II-12

Perpendicular-Leakage Input

<u>Columns</u>	<u>Card 1</u>	<u>Card 2</u>	<u>Card <math>\frac{ki+1}{6}</math></u>	<u>Card <math>\frac{RI+1}{6}</math></u>
1-12	000000001005 <sup>Y</sup>	1 <sup>2</sup> (DB) <sup>1</sup>	$k$ (DB) <sup>2</sup> <sup>i*</sup>	$R-1$ (DB) <sup>2</sup> <sup>I</sup>
13-24		2 <sup>2</sup> (DB) <sup>1</sup>	$k+1$ (DB) <sup>2</sup> <sup>i</sup>	$R$ (DB) <sup>2</sup> <sup>I</sup>
25-36		3 <sup>2</sup> (DB) <sup>1</sup>		999999999999 <sup>Y</sup>
37-48		4 <sup>2</sup> (DB) <sup>1</sup>		
49-60		1 <sup>2</sup> (DB) <sup>2</sup>		
61-72		2 <sup>2</sup> (DB) <sup>2</sup>		
73-80				

\*  $k$  = region index and runs from  $k = 1, 2, \dots, R$   
 $i$  = energy-group index and runs from  $i = 1, 2, \dots, I$ .

g. Self-Shielding Factors

This block of input data contains all the sets of self-shielding factors to be used in a particular problem. Each isotope uses any one of these sets, and the particular set associated with a particular isotope is indicated in the AK table described in Section III and A. 3 of this section. The input is specified in the following format and put in drum in region SFKI. Card 1 contains the identification word for self-shielding factors.

Table II-13

Self-Shielding-Factor Input

<u>Columns</u>	<u>Card 1</u>	<u>Card 2</u>	<u>Card <math>\frac{\ell i+1}{6}</math></u>	<u>Card <math>\frac{SI+1}{6}</math></u>
1-12	000000001006 <sup>Y</sup>	$f_1^1$		
13-24		$f_1^2$	$f_l^i$	$f_S^{I-3}$
25-36		$f_1^3$	$f_l^{i+1}$	$f_S^{I-2}$
37-48		$f_1^4$	$f_l^{i+2}$	$f_S^{I-1}$
49-60		$f_1^5$		$f_S^I$
61-72		$f_1^6$		
73-80				

Subscript  $\ell$  indicates the set,  $\ell = 1, 2, \dots, S$ .

Superscript  $i$  indicates energy group  $i = 1, 2, \dots, I$ .

h. Xenon-Samarium Constants

The following data is used in the evaluation of xenon and samarium concentrations. These quantities are as defined in Section V of ATL-A-105,<sup>1</sup> and the numerical values listed therein are built into the program as constants. If it is desired to change any of these values, they can be put in as problem input with the following format. They are stored in the Common-Storage Block, starting at cell PSUB0. Card 1 contains the identification word.

Table II-14

Xenon-Samarium-Constants Input

<u>Columns</u>	<u>Card 1</u>	<u>Card 2</u>	<u>Card 3</u>
1-12	000000001007 <sup>Y</sup>	$P_0$	$\chi_{pr}$
13-24		$Y_{xe}$	999999999999 <sup>Y</sup>
25-36		$Y_I$	



Table II-14  
(concl.)

<u>Columns</u>	<u>Card 1</u>	<u>Card 2</u>	<u>Card 3</u>
37-48		$Y_{Pr}$	
49-60		$\lambda_{xe}$	
61-72		$\lambda_I$	
73-80			

i. System Constants

The system constants consist of quantities used by several different programs in the DMM System. There are values for some of these system constants already in the codes, but any new values desired can be input by using this particular block of input. The system constants are stored in the Common-Storage Block, starting at the cell RZERO. Card 1 contains the identification word.

Table II-15

System-Constants Input

<u>Columns</u>	<u>Card 1</u>	<u>Card 2</u>	<u>Card 3</u>
1-12	000000001008	$r_0$	$k_0$
13-24		$\tau$	$\omega$
25-36		$\epsilon_1$	$\delta$
37-48		$\epsilon_2$	999999999999 <sup>Y</sup>
49-60		$\epsilon_3$	
61-72		$\epsilon_4$	
73-80			

$r_0$  = value of radius (centimeters) at mesh point. This feature allows a void region at the center of a cylinder or sphere that is not specified or considered, rather than force the diffusion calculation to start at the interface of the void and unvoided regions.

$\tau$ (seconds) = the time (usually zero) when a burnup calculation is initiated. On the output, the time would appear at the tip of output listing generated after the burnup. The sum of the time increments,  $\Delta t$ , in the burnup steps would equal  $\tau$ .

$\epsilon_1$  and  $\epsilon_2$  are convergence criteria used in the diffusion calculation for the convergence on reactivity and power density, respectively.

$\omega$  = acceleration factor applied to accelerate the convergence of the power density.

$\epsilon_3$  = tolerance used in the Criticality-Adjustment Routine to give the allowable deviation of the computed reactivity from the desired input reactivity.

$\epsilon_4$  = a tolerance limit used in the Burnup Routine to allow a change in the time interval during a sequence of burnup steps.

$k_0$  = the desired reactivity for the system. The Criticality-Adjustment Routine will cause a perturbation of concentration, region size, or perpendicular leakage to attain this value.

$\delta = dZ/dk$  = the anticipated change in that quantity being perturbed with the change in the reactivity. The judicious choice of this quantity can bring about faster convergence.

These quantities are discussed fully in ATL-A-105.<sup>1</sup>

### 3. Mixed Floating- and Fixed-Point Information

#### a. AK Table

The only set of inputs that falls into this information category is the AK table containing the following information:

A - isotope identification number (fixed point).

N - concentration of isotope-atoms per cc  $\times 10^{-24}$  (floating point).

k - the number of the region in which the isotope appears (fixed point).

l - the number of the self-shielding set that is to be used with this isotope (fixed point).

This information appears on cards in the following format. Card 1 contains the identification word. The data is stored on drum in the region AKBK.

Table II-16

Isotope and Region-Identification Input

<u>Columns</u>	<u>Card 1</u>	<u>Card 2</u>	<u>Card 3</u>	<u>Card 4</u>	<u>Card Z-1</u>	<u>Card Z</u>
1-12	000000002000 <sup>Y</sup>	A <sub>1</sub>	A <sub>1</sub>	A <sub>2</sub>	A <sub>B</sub>	999999999999 <sup>Y</sup>
13-24		k <sub>1</sub> <sup>1</sup> <sub>N</sub> A <sub>1</sub>	k <sub>2</sub> <sup>1</sup> <sub>N</sub> A <sub>1</sub>	k <sub>1</sub> <sup>2</sup> <sub>N</sub> A <sub>2</sub>	k <sub>L</sub> <sup>B</sup> <sub>N</sub> A <sub>B</sub>	
25-36		k <sub>1</sub> <sup>1</sup> <sub>l</sub> A <sub>1</sub>	k <sub>2</sub> <sup>1</sup> <sub>l</sub> A <sub>1</sub>	k <sub>1</sub> <sup>2</sup> <sub>l</sub> A <sub>2</sub>	k <sub>L</sub> <sup>B</sup> <sub>l</sub> A <sub>B</sub>	
37-48		k <sub>1</sub> <sup>1</sup>	k <sub>2</sub> <sup>1</sup>	k <sub>1</sub> <sup>2</sup>	k <sub>L</sub> <sup>B</sup>	
49-60			999999999999 <sup>Y</sup>	999999999999 <sup>Y</sup>	999999999999 <sup>Y</sup>	
61-72						
73-80						

A<sub>1</sub> is some isotope; A<sub>B</sub> is last isotope used; k<sub>1</sub><sup>b</sup>, k<sub>2</sub><sup>b</sup>, ..., k<sub>L</sub><sup>b</sup> are regions for isotope A<sub>b</sub>; l<sub>A<sub>1</sub></sub> is set of shielding factors for A<sub>1</sub>. If an isotope is used in more than one region, the isotope appears consecutively (as in cards 2 and 3 where the 9's fall on the last card containing A<sub>1</sub>). When the isotope is present in one region only, the 9's fall on that card. The last card (card Z) must be present.

4. Problem-Control Information

The problem-control information consists of the problem-input program-control words that instruct the Monitor as to what programs are to be run, in what order they should be run, and how often a particular routine or set of routines should be cycled.

After the user selects the desired order, the appropriate program-control words are entered in the following format and are stored in the Common-Storage Block, starting with cell DIA1. Card 1 contains the identification word.

Table II-17

Problem-Control Input

<u>Columns</u>	<u>Card 1</u>	<u>Card 2</u>	<u>Card 3</u>	<u>Card 4</u>
1-12	000000003000 <sup>Y</sup>	DIA1	DIA7	DIA13
13-24		DIA2	DIA8	DIA14
25-36		DIA3	DIA9	DIA15
37-48		DIA4	DIA10	DIA16
49-60		DIA5	DIA11	DIA17
61-72		DIA6	DIA12	DIA18
73-80				

There are provisions for 18 program-control words; it is not necessary to include any more than are needed for a particular problem. The last-used program-control word must have a 12 punch in the last column of its field.

The means of controlling the flow and operation of the codes of the DMM System are discussed below.

5. DMM-Control Input

Each program-control word (PCW) tells the DMM Monitor to do one of three things: 1) execute a specified DMM program, 2) transfer control (of the order of execution) to a specified program-control word, or 3) stop the program. Up to 18 PCW's may be included in one set of input. The PCW's are interpreted in the order they appear on the input cards, until that order is interrupted by the appearance of a transfer PCW.

Each PCW uses 12 columns of the input card. The first six columns designate the function of the PCW, and the last six columns contain an execution count. Specifications of input PCW's, according to type, are given below.

a. Program-Control Words

To call a DMM program into use, a PCW containing the program code name in columns 1-6 is input. The code names appropriate to each DMM program are listed in Table II-18. The last six columns of this PCW control the number of consecutive, uninterrupted executions of the program. For example, the PCW: BURNUP000007 would result in seven successive burnup calculations before another PCW would be interpreted. If,

through the use of a transfer PCW, the same PCW word were encountered again, another group of seven burnup calculations would result.

Table II-18

DMM-Program-Identification-Code Names

<u>Name</u>	<u>Routine</u>
PROBIN	Problem Input
MGCSTP	Microscopic-Group - Cross-Section Tape
NUCCON	*Nuclear-Constants Preparer
CONCOR	*Nuclear-Constants Corrector
DIFFUS	Diffusion Theory
BURNUP	Burnup
CRTCAL	Criticality Adjustment
NUTBAL	Neutron Balance
AJOINT	Adjoint
XESMAD	Xenon-Samarium Addition
BASLIB	Basic-Library Preparation

An execution count is not used with the CRTCAL PCW, since the Criticality-Adjustment Routine is normally executed as many times as necessary to bring the criticality factor,  $k$ , within the required tolerance,  $\epsilon_3$ , of  $k_0$ . In this special case, the last six columns of the PCW are interpreted as the number of another PCW, to which a transfer is made if  $|k - k_0| > \epsilon_3$ . Thus, the CRTCAL PCW is analogous to a conditional jump instruction, the condition for making the jump being that  $k$  is not close enough to  $k_0$ . If  $|k - k_0| \leq \epsilon_3$ , control passes to the PCW following the CRTCAL PCW. For example: CRTCAL000012 is taken to mean, "Execute the Criticality-Adjustment Routine. This routine compares  $k$  to  $k_0$  and, if  $k$  is not close enough to  $k_0$ , changes a parameter that will affect a change in  $k$ . Then, if  $k$  was not within the desired range, take PCW12

---

\* The Nuclear-Constants-Preparer Routine (NUCCON) computes the full set of nuclear constants. The Nuclear-Constants-Corrector Routine (CONCOR) modifies the nuclear constants to account for changes in the concentrations of one or two isotopes. CONCOR will give correct results only following execution of the XESMAD or CRTCAL routines.

next, otherwise take PCW13." It is presumed that the user sets up the PCW's in such a way that PCW12 begins a series of PCW's which will cause  $\mathcal{K}$  to be recomputed and then cause a return to the CRTCAL PCW.

With the exception of two cases, a PCW is required to call for any selectable DMM program. For example, a DIFFUS PCW will call only the Diffusion-Theory Program and will not precede the diffusion calculation with a calculation of nuclear constants; the XESMAD PCW will compute xenon and samarium concentrations but will not recompute the nuclear constants which depend on xenon and samarium concentrations. The two exceptions are:

- 1) The AJOINT PCW causes the nuclear-constants matrices to be rearranged for an adjoint calculation, after which a diffusion calculation is made, using the modified constants.
- 2) Every run automatically starts with the Problem-Input Routine; therefore, PROBIN is not needed as the first PCW. PROBIN may be used as the last PCW, however, allowing the user to run problems in series without stopping the machine.

b. Transfer Program-Control Words

Whenever a "transfer" is encountered in the list of PCW's, the Monitor's progress through the list is altered, and the program "jumps" to whatever PCW is specified in the transfer. Columns 1-6 of a transfer PCW are: DIAMnn, where nn is a two-digit decimal number that designates the PCW to which transfer is made (i. e., nn = 01 means "transfer to the first PCW", nn = 14 means "transfer to the 14th PCW", etc.). The last six columns of the transfer PCW are used as an execution count, so that the transfer is made only a certain number of times, following which the transfer becomes ineffective. For example: DIAM03000022 would cause a transfer to the third PCW, the first 22 times it was encountered. On the 23rd time through, this transfer PCW would be ineffective, and control would pass from it to the next PCW in sequence. However, on the 24th through the 45th times through, the transfer would be in effect again and would cause program control to pass to PCW3. The "cycle" implied here may be repeated as many times as desired, as in the following example.

<u>PCW Number</u>	<u>Contents</u>
1	DIFFUS000001
2	DIAM01000003
3	DIAM01000003

In such a case, the Diffusion-Theory Routine would be executed 16 times before control would pass to the fourth PCW.

c. The Stop Program-Control Word

The stop PCW, STOP00000000, ends the run by rewinding the program and output tapes and stopping computer.

A list of the input for a sample problem is given in Table II-27 at the end of this section.

B. Problem Output

The Output Routine places the results obtained from the appropriate codes on the Output Tape. The programs that generate useable output on this tape are the following:

1. Nuclear-Constants-Preparer Routine
2. Nuclear-Constants-Corrector Routine
3. Diffusion-Theory Routine
4. Criticality-Adjustment Routine
5. Neutron-Balance Routine
6. Burnup Routine
7. Xenon-Samarium-Addition Routine
8. Adjoint Routine

Sample output listings are given in Table II-28 at the end of this section. The output shown is for the sample problem input given in Table II-27.

C. Raw-Data Information

The raw-data information consists of the basic nuclear properties of the isotopes contained in the DMM library.<sup>2</sup>

This nuclear data is put on cards and, in turn, put on the Raw-Data Tape. This tape is used to make the Basic-Library Tape, which is used to determine the microscopic-group-average values and the nuclear constants for any particular problem.

The format of the raw-data cards is given in Tables II-19 through II-23, along with the definition of each quantity.

Table II-19

Indicator Card for Isotope A

<u>Columns</u>	<u>Parameter</u>	<u>Definition</u>
1-12		
13-24	A	Isotope code name
25-36	$\alpha_A$	Maximum fractional energy loss, $[\frac{a-1}{a+1}]^2$ ; a = atomic weight
37-48	$M_A$	Number of energy points tabulated for A
49-60	FLAG	End of information 9999999999 <sup>Y</sup>
61-72		
73-80		

Table II-20

Descendants from Isotope A

<u>Columns</u>	<u>Parameter</u>	<u>Definition</u>
1-12	A	Isotope code name
13-24	$A_0$	Isotope A transforms to isotope $A_0$ by capture
25-36	$A_1$	Isotope A transforms to isotope $A_1$ by fission
37-48	$Y_{A_1}$	Yield of $A_1$ from fission A
49-60	$A_2$	Isotope A transforms to isotope $A_2$ by fission
61-72	$Y_{A_2}$	Yield of $A_2$ from fission of A
73-80		

$$\left[ \frac{2\gamma_{A_1} + 3}{6} \right] - 2 \text{ Descendant Cards}$$



Table II-20  
(concl.)

<u>Columns</u>	<u>Parameter</u>	<u>Definition</u>
1-12		
13-24		
25-36	$A_{\gamma_1}$	Isotope A transforms to isotope $A_{\gamma_1}$ by fission
37-48	$Y_{A_{\gamma_1}}$	Yield of $A_{\gamma_1}$ from fission of A
49-60	FLAG	End of descendant data for A 999999999999 <sup>Y</sup>
61-72		
73-80		

Note: There are  $\left[ \frac{2\gamma_1 + 3}{6} \right]$  cards for each isotope A specified as having descendants.

Table II-21

Fission Spectrum

<u>Columns</u>	<u>Parameter</u>	<u>Definition</u>
1-12	E(1) (ev)	First energy point at which fission spectrum listed
13-24	E(2) (ev)	Second energy point at which fission spectrum listed
25-36	E(3) (ev)	Third energy point at which fission spectrum listed
37-48	E(4) (ev)	Fourth energy point at which fission spectrum listed
49-60	E(5) (ev)	Fifth energy point at which fission spectrum listed
61-72	E(6) (ev)	Sixth energy point at which fission spectrum listed
73-80		

$$\left[ \frac{M_{X_f} + 1}{6} \right] - 2 \text{ Fission-Spectrum-Table Cards}$$

Table II-21  
(concl.)

<u>Columns</u>	<u>Parameter</u>	<u>Definition</u>
1-12	E(K)	K <sup>th</sup> energy point at which fission spectrum listed
13-24	E(M <sub>χ<sub>f</sub></sub> )	Last energy point at which fission spectrum listed
25-36	FLAG	
37-48	χ <sub>f</sub> [E(1)]*	First value of fission spectrum at E(1)**
49-60	χ <sub>f</sub> [E(2)]	Second value of fission spectrum at E(2)
61-72	χ <sub>f</sub> [E(3)]	Third value of fission spectrum at E(3)
73-80		
etc., until last value of χ <sub>f</sub> is followed by FLAG 9999999999 <sup>Y</sup>		

$$\left[ \frac{2M_{\chi_f} + 2}{6} \right] - \left[ \frac{M_{\chi_f} + 1}{6} \right] - 2 \text{ Fission-Spectrum-Table Cards}$$

\* The values of χ<sub>f</sub>(E), the fission spectrum used at present, are given in Table II-25.

\*\* E(1) is lowest energy value; energy values ascend to E(M<sub>χ<sub>f</sub></sub>).

Table II-22

Radioactive Decay\*

<u>Columns</u>	<u>Parameter</u>	<u>Definition</u>
1-12	A	Isotope code name
13-24	λ <sub>A</sub>	Total radioactive decay constant of isotope A
25-36	A <sub>1</sub>	Code name of isotope produced by decay of A
37-48	λ <sub>A<sub>1</sub></sub>	Radioactive decay constant of A for producing A <sub>1</sub>
49-60	A <sub>2</sub>	Code name of isotope produced by decay of A
61-72	λ <sub>A<sub>2</sub></sub>	Radioactive decay constant of A for producing A <sub>2</sub>

73-80

$$\left[ \frac{2\gamma_{A_2} + 3}{6} \right] - 2 \text{ Radioactive-Decay-Table Cards}$$

\* Only value on existing tape is for isotope 1; λ = 1.82

Table II-22  
(concl.)

<u>Columns</u>	<u>Parameter</u>	<u>Definition</u>
1-12	$A_{\gamma_2^{-1}}$	
13-24	$\lambda_{A_{\gamma_2^{-1}}}$	
25-36	$A_{\gamma_2}$	Code name of isotope produced by decay of A
37-48	$\lambda_{A_{\gamma_2}}$	Radioactive decay constant of A for producing $A_{\gamma_2}$
49-60	FLAG	999999999999 <sup>Y</sup>
61-72		
73-80		

Note: There are  $\left[ \frac{2\gamma_2 + 3}{6} \right]$  cards for each isotope A.

Table II-23

Cross-Section Data

Card 1

<u>Columns</u>	<u>Parameter</u>	<u>Definition</u>
1-12	A	Isotope code name
13-24	E(K)	Energy (ev) at which values tabulated
25-36	$\sigma_{cA} [E(K)]$	Microscopic-capture cross section of isotope A at energy E(K)
37-48	$\sigma_{fA} [E(K)]$	Microscopic-fission cross section of isotope A at energy E(K)
49-60	$\nu_{fA} [E(K)]$	Number of neutrons emitted per fission of isotope A at energy E(K)
61-72	$\sigma_{sA} [E(K)]$	Microscopic-elastic-scattering cross section of isotope A at energy E(K)
73-79		
80	1	Card number

Table II-23  
(concl.)

Card 2

<u>Columns</u>	<u>Parameter</u>	<u>Definition</u>
1-12	A	Isotope code name
13-24	E(K)	Energy (ev) at which values tabulated
25-36	$(1 - \bar{\mu}_0)_A [E(K)]$	1-average cosine of the scattering angle of isotope A at energy E(K)
37-48	$\chi_{in_A} [E(K)]$	Energy-distribution spectrum of neutrons inelastically scattered from isotope A at energy E(K)
49-60	$\sigma_{in_A} [E(K)]$	Microscopic-inelastic-scattering cross section of isotope A at energy E(K)
61-72	$\nu_{in_A} [E(K)]$	Number of neutrons emitted per inelastic collision from isotope A at energy E(K)
73-79		
80	2	Card number

Card 3

1-12	A	Isotope code name
13-24	E(K)	Energy (ev) at which values tabulated
25-36	$X_{in_A} [E(K)]$	Normalizing function for truncated $\chi_{in_A}$
37-48		
49-60		
61-72		
73-79		
80	3	Card number

Note: The  $\chi_{in}$  and  $X_{in}$  are evaluated by the following expressions:

$$\chi_{in}(E) = CE e^{-E/T} ;$$

$$X_{in}(E) = C[T^2 - e^{-E/T}(TE + T^2)] ;$$

$$\text{where } C = \left[ T^2 - e^{-10^7/T}(10^7 T + T^2) \right]^{-1}$$

T is the residual nucleus temperature in electron volts and is given in Table II-26 for the isotopes in the library.

The raw-data cards are placed in the order shown in Table II-24 for the preparation of a Raw-Data Tape. (See also Section III - Raw-Data Tape, and Section IV - Tape Preparation.)

Table II-24

Order of Raw-Data Input

<u>Order of Information</u>	<u>Description</u>
1	Indicator cards for all 43 isotopes in ascending order of isotope number (Table II-19).
2	End-of-isotope-list indicator (Table II-2).
3	Indicator card for fission spectrum (Table II-2).
4	Fission-spectrum table (Table II-2).
5	Indicator card for isotope A (Table II-19).
6	Descendants for isotope A (Table II-20).
7	Radioactive decay data for isotope A (Table II-22).
8	Cross-section-data cards for isotope A. Card numbers 1, 2, 3 (columns 80) in ascending order of energy (Table II-23).
9	End of cross-section data for isotope A (Table II-2).

Items 5 through 9 repeat for each of the 43 isotopes.

Table II-25

Fission Spectrum

Energy $\times 10^6$ (ev)	$\chi_f$ ( $\times 10^{-7}$ )	Energy $\times 10^6$ (ev)	$\chi_f$ ( $\times 10^{-7}$ )	Energy $\times 10^6$ (ev)	$\chi_f$ ( $\times 10^{-7}$ )
0.005	0.0	1.15	0.3348	2.75	0.1600
0.01	0.0911	1.20	0.3301	2.95	0.1424
0.05	0.1482	1.30	0.3199	3.15	0.1263
0.15	0.2404	1.40	0.3091	3.40	0.1084
0.25	0.2903	1.50	0.2977	3.70	0.08964
0.35	0.3212	1.60	0.2861	4.00	0.07379
0.45	0.3404	1.70	0.2742	4.40	0.05654
0.55	0.3516	1.80	0.2624	4.80	0.04304
0.65	0.3569	1.90	0.2505	5.40	0.02827
0.75	0.3578	2.00	0.2388	6.00	0.01837
0.80	0.3569	2.15	0.2216	7.00	0.008772
0.85	0.3553	2.30	0.2081	8.00	0.004104
0.95	0.3503	2.45	0.1892	9.00	0.001888
1.050	0.3433	2.60	0.1742	10.00	0.003784

TABLE II-26

## RESIDUAL NUCLEUS TEMPERATURES

Identification	T (ev)	Identification	T (ev)
1	0	22	$7.6 \times 10^5$
2	$6.2 \times 10^5$	23	$7.5 \times 10^5$
3	$5.0 \times 10^6$	24	$6.8 \times 10^5$
4	$5.0 \times 10^6$	25	$6.6 \times 10^5$
5	$5.0 \times 10^6$	26	$6.5 \times 10^5$
6	$5.0 \times 10^6$	27	$6.5 \times 10^5$
7	$5.0 \times 10^6$	28	$6.4 \times 10^5$
8	$5.0 \times 10^6$	29	$6.0 \times 10^5$
9	$1.04 \times 10^6$	30	0
10	$1.0 \times 10^6$	31	$5.2 \times 10^5$
11	$1.0 \times 10^6$	32	0
12	$1.0 \times 10^6$	33	$4.6 \times 10^5$
13	$1.0 \times 10^6$	34	$4.0 \times 10^5$
14	$1.0 \times 10^6$	35	$3.6 \times 10^5$
15	$1.0 \times 10^6$	36	$6.0 \times 10^5$
16	$9.6 \times 10^5$	37	$8.6 \times 10^5$
17	$9.0 \times 10^5$	38	$9.4 \times 10^5$
18	$8.0 \times 10^5$	39	$8.6 \times 10^5$
19	$8.0 \times 10^5$	40	$8.0 \times 10^5$
20	$8.0 \times 10^5$	41	$7.3 \times 10^5$
21	$7.8 \times 10^5$	42	$8.5 \times 10^5$
		43	$7.5 \times 10^5$

## DESCRIPTION OF TABLES II-27 AND II-28

### Tables II-27A and B - Input of Sample Problem

- A. Table II-27A shows a listing of the regular input cards for a DMM problem. These cards were put through a card-to-tape converter, and the tape was listed.
- B. Table II-27B is a listing of the cards, with descriptions of the various types of input between each line of the problem-input data.

### Table II-28A through I - Sample Problem Output

- A. Table II-28A gives the initial nuclear constants.
- B. Table II-28B gives the diffusion output for the adjoint calculation.
- C. Table II-28C gives the output for the normal diffusion calculation.
- D. Table II-28D gives the results of the neutron-balance calculations, based on the diffusion-theory results given in Table II-28C.
- E. Table II-28E gives the results of the burnup calculation, based on the fluxes from Table II-28C.
- F. Table II-28F gives the results of the calculation of equilibrium xenon and samarium concentrations, based on the fluxes from Table II-28C.
- G. Table II-28G gives the nuclear constants that have been flux weighted, using the fluxes from Table II-28C.
- H. Table II-28H gives the results of the diffusion calculation, using the flux-weighted nuclear constants given in Table II-28G.
- I. Table II-28I gives the results of a criticality test, comparing the desired input reactivity with a reactivity obtained in Table II-28H but for a different reactivity. This table was included only to show the format of the output from the Criticality-Adjustment Routine.





TABLE II-27A  
(page 2)

1		1	2799999999991
2		1	1
2		1	2799999999991
9+3346	-01	1	1
9+3346	-01	1	2799999999991
30+6692	-01	1	1
30+6692	-01	1	2799999999991
41+17716875-03		1	1799999999991

999999999991

300A

BASLIB000001MGCSTP00000VINUCCONCC0001AJ0INT000010IFFUS000001NITBAL000001  
BURNUP000001XESMAD00000VINUCCONCC00010IFFUS0000010PTCAL000012ST00000000A

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TABLE II-27B

INPUT OF SAMPLE PROBLEM, INCLUDING DESCRIPTIONS OF VARIOUS TYPES OF INPUT

VARIABLE ID  
DIMENSIONS

I

PROBLEM IDENTITY	NUMBER OF MESH POINTS	NUMBER OF ENERGY GROUPS	NO. OF ISOT IN PROBLEM	NUMBER OF REGIONS	NO. OF SETS SMLU FACTORS
---------------------	--------------------------	----------------------------	---------------------------	----------------------	-----------------------------

3	80	32	5	2	1
---	----	----	---	---	---

NO. OF ISOT  
BASIC LIBRY

43 99999999991

VARIABLE ID  
MESH COUNT

A

NO. POINTS REGION 1	NO. POINTS REGION 2	FLAG
------------------------	------------------------	------

40	40	99999999991
----	----	-------------

VARIABLE ID  
ISOTOPE LIST

C

FIRST ISOTOPE	SECOND ISOTOPE	THIRD ISOTOPE	FOURTH ISOTOPE	FIFTH ISOTOPE	FLAG
------------------	-------------------	------------------	-------------------	------------------	------

1	2	9	30	41	99999999991
---	---	---	----	----	-------------

VARIABLE ID  
CONTROL INFO

U

GP STRUCTURE INDICATION	GROUP OPTION	TAPE	ITERATIONS DIFFUSION	ITERATIONS ADJOINT	ADJ-DIFFUS OUTPUTOPTION	FLAG
----------------------------	-----------------	------	-------------------------	-----------------------	----------------------------	------

1			5			99999999991
---	--	--	---	--	--	-------------

VARIABLE ID  
PERTURB INUS

E

GEOMETRICAL CONFIG	TYPE OF PERTURBATION	PERTURBATION REGION	ISOTOPE PERTURBED	FLAG
-----------------------	-------------------------	------------------------	----------------------	------

2	1	1	41	99999999991
---	---	---	----	-------------

VARIABLE ID  
GP STRUCTURE

2-30

TABLE II-27B  
(page 2)

1001

GROUP	POINT	GROUP	POINT	GROUP	POINT	GROUP	POINT	GROUP	POINT	GROUP	POINT
1	2	3	4	5	6	7	8	9	10	11	12
+1	+08	+6060	+07	+3679	+07	+2231	+07	+1353	+07	+8208	+06
GROUP	POINT	GROUP	POINT	GROUP	POINT	GROUP	POINT	GROUP	POINT	GROUP	POINT
7	8	9	10	11	12	13	14	15	16	17	18
+498	+06	+302	+06	+1832	+06	+9118	+04	+454	+03	+112	+03
GROUP	POINT	GROUP	POINT	GROUP	POINT	GROUP	POINT	GROUP	POINT	GROUP	POINT
13	14	15	16	17	18	19	20	21	22	23	24
+3372	+02	+1510	+02	+1016	+02	+4564	+01	+1375	+01	+9214	+00
GROUP	POINT	GROUP	POINT	GROUP	POINT	GROUP	POINT	GROUP	POINT	GROUP	POINT
19	20	21	22	23	24	25	26	27	28	29	30
+6176	+00	+4140	+00	+2275	+00	+2272	+00	+1860	+00	+1523	+00
GROUP	POINT	GROUP	POINT	GROUP	POINT	GROUP	POINT	GROUP	POINT	GROUP	POINT
25	26	27	28	29	30	31	32	33	FLAG		
+1247	+00	+1021	+00	+8358	-01	+8843	-01	+5603	-01	+4587	-01
+3756	-01	+3070	+01	+2518	-01	999999999999					

VARIABLE ID  
MESH SPACING

100A

MESH SPACING	MESH SPACING	FLAG		
REGION 1	REGION 2			
+411	+00	+381	+00	999999999999

VARIABLE ID  
BC POINT N

100B

BC POINT N	BC POINT N	BC POINT N	BC POINT N	BC POINT N	BC POINT N
GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5	GROUP 6
+319	+00	+319	+00	+319	+00
BC POINT N	BC POINT N	BC POINT N	BC POINT N	BC POINT N	BC POINT N
GROUP 7	GROUP 8	GROUP 9	GROUP 10	GROUP 11	GROUP 12
+319	+00	+319	+00	+319	+00
BC POINT N	BC POINT N	BC POINT N	BC POINT N	BC POINT N	BC POINT N
GROUP 13	GROUP 14	GROUP 15	GROUP 16	GROUP 17	GROUP 18

2-31

TABLE II-27B

(page 3)

+319	+00	+319	+00	+319	+00	+319	+00	+319	+00	+319	+00
BC POINT N GROUP 19	BC POINT N GROUP 20	BC POINT N GROUP 21	BC POINT N GROUP 22	BC POINT N GROUP 23	BC POINT N GROUP 24	BC POINT N GROUP 25	BC POINT N GROUP 26	BC POINT N GROUP 27	BC POINT N GROUP 28	BC POINT N GROUP 29	BC POINT N GROUP 30
+319	+00	+319	+00	+319	+00	+319	+00	+319	+00	+319	+00
BC POINT N GROUP 25	BC POINT N GROUP 26	BC POINT N GROUP 27	BC POINT N GROUP 28	BC POINT N GROUP 29	BC POINT N GROUP 30	BC POINT N GROUP 31	BC POINT N GROUP 32	FLAG			
+319	+00	+319	+00	+319	+00	+319	+00	+319	+00	+319	+00
BC POINT N GROUP 31	BC POINT N GROUP 32	FLAG									
+319	+00	+319	+00	9999999999							

VARIABLE ID  
SPECIAL DATA

100C

PWR DENSITY TIME SINCE MAXIMUM TIME FLAG  
REACTOR SHUTDOWN BURNUP RTNE

+7518 -02 999999999901

VARIABLE ID  
LEAKAGE

100E

LEAKAGE GP 1 REG 1	LEAKAGE GP 2 REG 1	LEAKAGE GP 3 REG 1	LEAKAGE GP 4 REG 1	LEAKAGE GP 5 REG 1	LEAKAGE GP 6 REG 1
LEAKAGE GP 7 REG 1	LEAKAGE GP 8 REG 1	LEAKAGE GP 9 REG 1	LEAKAGE GP 10 REG 1	LEAKAGE GP 11 REG 1	LEAKAGE GP 12 REG 1
LEAKAGE GP 13 REG 1	LEAKAGE GP 14 REG 1	LEAKAGE GP 15 REG 1	LEAKAGE GP 16 REG 1	LEAKAGE GP 17 REG 1	LEAKAGE GP 18 REG 1
LEAKAGE GP 19 REG 1	LEAKAGE GP 20 REG 1	LEAKAGE GP 21 REG 1	LEAKAGE GP 22 REG 1	LEAKAGE GP 23 REG 1	LEAKAGE GP 24 REG 1
LEAKAGE GP 25 REG 1	LEAKAGE GP 26 REG 1	LEAKAGE GP 27 REG 1	LEAKAGE GP 28 REG 1	LEAKAGE GP 29 REG 1	LEAKAGE GP 30 REG 1
LEAKAGE GP 31 REG 1	LEAKAGE GP 32 REG 1	LEAKAGE GP 1 REG 2	LEAKAGE GP 2 REG 2	LEAKAGE GP 3 REG 2	LEAKAGE GP 4 REG 2

2-32

TABLE II-27B

(page 4)

LEAKAGE LEAKAGE LEAKAGE LEAKAGE LEAKAGE LEAKAGE  
GP 5 REG 2 GP 6 REG 2 GP 7 REG 2 GP 8 REG 2 GP 9 REG 2 GP 10 REG 2

LEAKAGE LEAKAGE LEAKAGE LEAKAGE LEAKAGE LEAKAGE  
GP 11 REG 2 GP 12 REG 2 GP 13 REG 2 GP 14 REG 2 GP 15 REG 2 GP 16 REG 2

LEAKAGE LEAKAGE LEAKAGE LEAKAGE LEAKAGE LEAKAGE  
GP 17 REG 2 GP 18 REG 2 GP 19 REG 2 GP 20 REG 2 GP 21 REG 2 GP 22 REG 2

LEAKAGE LEAKAGE LEAKAGE LEAKAGE LEAKAGE LEAKAGE  
GP 23 REG 2 GP 24 REG 2 GP 25 REG 2 GP 26 REG 2 GP 27 REG 2 GP 28 REG 2

LEAKAGE LEAKAGE LEAKAGE LEAKAGE  
GP 29 REG 2 GP 30 REG 2 GP 31 REG 2 GP 32 REG 2 FLAG

999999999999I

VARIABLE ID  
SHIELD FCTR

100F

SHIELD FCTR SHIELD FCTR SHIELD FCTR SHIELD FCTR SHIELD FCTR SHIELD FCTR  
GP 1 SET 1 GP 2 SET 1 GP 3 SET 1 GP 4 SET 1 GP 5 SET 1 GP 6 SET 1

+10 +01 +1 +01 +1 +01 +1 +01 +1 +01 +1 +01

SHIELD FCTR SHIELD FCTR SHIELD FCTR SHIELD FCTR SHIELD FCTR SHIELD FCTR  
GP 7 SET 1 GP 8 SET 1 GP 9 SET 1 GP 10 SET 1 GP 11 SET 1 GP 12 SET 1

+1 +01 +1 +01 +1 +01 +1 +01 +1 +01 +1 +01

SHIELD FCTR SHIELD FCTR SHIELD FCTR SHIELD FCTR SHIELD FCTR SHIELD FCTR  
GP 13 SET 1 GP 14 SET 1 GP 15 SET 1 GP 16 SET 1 GP 17 SET 1 GP 18 SET 1

+1 +01 +1 +01 +1 +01 +1 +01 +1 +01 +1 +01

SHIELD FCTR SHIELD FCTR SHIELD FCTR SHIELD FCTR SHIELD FCTR SHIELD FCTR  
GP 19 SET 1 GP 20 SET 1 GP 21 SET 1 GP 22 SET 1 GP 23 SET 1 GP 24 SET 1

+1 +01 +1 +01 +1 +01 +1 +01 +1 +01 +1 +01

SHIELD FCTR SHIELD FCTR SHIELD FCTR SHIELD FCTR SHIELD FCTR SHIELD FCTR  
GP 25 SET 1 GP 26 SET 1 GP 27 SET 1 GP 28 SET 1 GP 29 SET 1 GP 30 SET 1

+1 +01 +1 +01 +1 +01 +1 +01 +1 +01 +1 +01

SHIELD FCTR SHIELD FCTR  
GP 31 SET 1 GP 32 SET 1 FLAG

+1 +01 +1 +01 999999999999I

2-33

TABLE II-27B  
(page 5)

VARIABLE ID  
SYSTEM CONS

100H

FIRST POINT	MESH	CURRENT TIME	CONV CRITER. REACTIVITY	CONV CRITER. POWER	CONV CRITER. KZERO	CONV CRITER. BURNUP
-------------	------	--------------	-------------------------	--------------------	--------------------	---------------------

+1 -02 +1 -02 +1 -01 +1 -03

DESIRED REACTIVITY	ACCELERATION FACTOR	UZ/DK FIRST GUESS	FLAG
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+1 +01 +1 -02 9999999999I

VARIABLE ID  
AK TABLE

200I

ISOTOPE ID	ISOTOPE CONC	SHIELDING FACTOR SET	CONC REGION
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1

ISOTOPE ID	ISOTOPE CONC	SHIELDING FACTOR SET	CONC REGION
------------	--------------	----------------------	-------------

1

2 9999999999I

ISOTOPE ID	ISOTOPE CONC	SHIELDING FACTOR SET	CONC REGION
------------	--------------	----------------------	-------------

2

ISOTOPE ID	ISOTOPE CONC	SHIELDING FACTOR SET	CONC REGION
------------	--------------	----------------------	-------------

2

2 9999999999I

ISOTOPE ID	ISOTOPE CONC	SHIELDING FACTOR SET	CONC REGION
------------	--------------	----------------------	-------------

9

+3340 =01

ISOTOPE ID	ISOTOPE CONC	SHIELDING FACTOR SET	CONC REGION
------------	--------------	----------------------	-------------

9

+3340 =01

2 9999999999I

ISOTOPE ID	ISOTOPE CONC	SHIELDING FACTOR SET	CONC REGION
------------	--------------	----------------------	-------------

30

+6694 =01

ISOTOPE ID	ISOTOPE CONC	SHIELDING FACTOR SET	CONC REGION
------------	--------------	----------------------	-------------

30

+6694 =01

2 9999999999I

2-34

TABLE II-27B  
(page 6)

ISOTOPE ID ISOTOPE CONC SHIELDING CONC REGION  
 FACTOR SET  
 41 +17716875m03 1 999999999991

FLAG

999999999991

VARIABLE ID  
 PROG CTRL WD

300A

CONTROL WORD CONTROL WORD CONTROL WORD CONTROL WORD CONTROL WORD CONTROL WORD  
 1 2 3 4 5 6

BASLIB000001 MGCSIP000001 MUCCON000001 AJDINT000001 DIFFUS000001 NUTBAL000001

CONTROL WORD CONTROL WORD CONTROL WORD CONTROL WORD CONTROL WORD CONTROL WORD  
 7 8 9 10 11 12

BURNUP000001 XESMA000001 MUCCON000001 DIFFUS000001 CRTCAL000012 STOP0000000A

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2-35

TABLE II-28A

## RESULTS OF NUCLEAR-CONSTANTS-CALCULATION PROBLEM

## DIFFUSION COEFFICIENTS, DSUB I,K

		REGION 001	REGION 002
GROUP	001	53801556 01	54567856 01
GROUP	002	43920374 01	44565198 01
GROUP	003	30779152 01	31104238 01
GROUP	004	30811170 01	31104009 01
GROUP	005	20586037 01	20710636 01
GROUP	006	18066037 01	18167756 01
GROUP	007	80696251 00	80934438 00
GROUP	008	10592667 01	10644258 01
GROUP	009	80924498 00	81338415 00
GROUP	010	59284301 00	59618573 00
GROUP	011	56775710 00	57446413 00
GROUP	012	56288110 00	57279367 00
GROUP	013	55927109 00	57241009 00
GROUP	014	54339755 00	57231685 00
GROUP	015	55098975 00	56904229 00
GROUP	016	55730500 00	56371341 00
GROUP	017	54588444 00	56181199 00
GROUP	018	54078687 00	55387386 00
GROUP	019	52566213 00	54273113 00
GROUP	020	49650917 00	52899061 00
GROUP	021	48593604 00	51905461 00
GROUP	022	48341709 00	51569349 00
GROUP	023	46946242 00	50072557 00
GROUP	024	45456324 00	48640015 00
GROUP	025	44193907 00	47546345 00
GROUP	026	43341002 00	46424380 00
GROUP	027	41686099 00	44927711 00
GROUP	028	39637727 00	43550826 00
GROUP	029	37936303 00	42012114 00
GROUP	030	36214414 00	40324664 00
GROUP	031	34274632 00	38453845 00
GROUP	032	32245888 00	36520218 00

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## REMOVAL CROSS SECTIONS, T SUB I,K

		REGION 001	REGION 002
GROUP	001	85652549-01	85205247-01
GROUP	002	10665527 00	10608415 00
GROUP	003	13920830 00	13865384 00
GROUP	004	17664920 00	17614830 00
GROUP	005	23852908 00	23809703 00
GROUP	006	30035815 00	29998664 00
GROUP	007	40356430 00	40321496 00
GROUP	008	48019589 00	47985574 00
GROUP	009	16370762 00	16324323 00



TABLE II-28A  
(page 2)

GROUP	010	21154982	00	21010248	00
GROUP	011	63720543	00	63298704	00
GROUP	012	72515173	00	71677838	00
GROUP	013	91976523	00	90899279	00
GROUP	014	11774328	01	11406985	01
GROUP	015	92853239	00	91205738	00
GROUP	016	72264747	00	71820186	00
GROUP	017	11601166	01	11452941	01
GROUP	018	11673194	01	11552905	01
GROUP	019	11760664	01	11587658	01
GROUP	020	10633137	01	10248367	01
GROUP	021	15503322	01	15066664	01
GROUP	022	13345672	01	12941376	01
GROUP	023	13346929	01	12931100	01
GROUP	024	13243714	01	12791393	01
GROUP	025	12927410	01	12423383	01
GROUP	026	12371079	01	11888180	01
GROUP	027	11755814	01	11206866	01
GROUP	028	10935379	01	10207914	01
GROUP	029	96660992	00	88418293	00
GROUP	030	79087012	00	69988900	00
GROUP	031	54689503	00	44402837	00
GROUP	032	13912075	00	21055885	01

FISSION SPECTRUM, XSUB I

		REGION	001	REGION	002
GROUP	001	62605977	-08	00000000	00
GROUP	002	45604007	-07	00000000	00
GROUP	003	14522949	-06	00000000	00
GROUP	004	26304426	-06	00000000	00
GROUP	005	33811880	-06	00000000	00
GROUP	006	35448663	-06	00000000	00
GROUP	007	32921750	-06	00000000	00
GROUP	008	28407971	-06	00000000	00
GROUP	009	18671449	-06	00000000	00
GROUP	010	17807905	-07	00000000	00
GROUP	011	00000000	00	00000000	00
GROUP	012	00000000	00	00000000	00
GROUP	013	00000000	00	00000000	00
GROUP	014	00000000	00	00000000	00
GROUP	015	00000000	00	00000000	00
GROUP	016	00000000	00	00000000	00
GROUP	017	00000000	00	00000000	00
GROUP	018	00000000	00	00000000	00
GROUP	019	00000000	00	00000000	00
GROUP	020	00000000	00	00000000	00
GROUP	021	00000000	00	00000000	00
GROUP	022	00000000	00	00000000	00
GROUP	023	00000000	00	00000000	00
GROUP	024	00000000	00	00000000	00
GROUP	025	00000000	00	00000000	00
GROUP	026	00000000	00	00000000	00
GROUP	027	00000000	00	00000000	00
GROUP	028	00000000	00	00000000	00
GROUP	029	00000000	00	00000000	00

TABLE II-28A

(page 3)

GROUP	030	00000000 00	00000000 00
GROUP	031	00000000 00	00000000 00
GROUP	032	00000000 00	00000000 00

TRANSFER COEFFICIENTS, TSUB I,J,K

REGION	001	FROM GP 001	FROM GP 002	FROM GP 003	FROM GP 004	FROM GP 005	FROM GP 006	FROM GP 007	FROM GP 008	
		TO GRP. 002	50340799-01							
		TO GRP. 003	44749091-01	71808018-01						
		TO GRP. 004	49446165-01	56940520-01	99611672-01					
		TO GRP. 005	51400057-01	57077576-01	78396404-01	12540254 00				
		TO GRP. 006	50482455-01	57112998-01	78919276-01	10462547 00	17854831 00			
		TO GRP. 007	47992315-01	57055986-01	78882462-01	10454940 00	13895470 00	21403644 00		
		TO GRP. 008	45321525-01	56965361-01	78323044-01	10455796 00	13892008 00	18191123 00	30395485 00	
		TO GRP. 009	41759901-01	56819300-01	78729627-01	10449117 00	13885586 00	18186209 00	23436768 00	
		TO GRP. 010	39027329-01	56697974-01	78551285-01	10445570 00	13882032 00	18182128 00	23433539 00	
		TO GRP. 011	38875522-01	56690834-01	78506674-01	10443243 00	13881764 00	18181887 00	23433349 00	
		TO GRP. 012	38888401-01	56690497-01	78546457-01	10443228 00	13881751 00	18181876 00	23433340 00	
		TO GRP. 013	38866759-01	56690419-01	78546405-01	10443224 00	13881748 00	18181874 00	23433338 00	
		TO GRP. 014	38866359-01	56690400-01	78546393-01	10443223 00	13881748 00	18181873 00	23433337 00	
		TO GRP. 015	38866179-01	56690392-01	78546388-01	10443223 00	13881747 00	18181873 00	23433337 00	
		TO GRP. 016	38866030-01	56690386-01	78546384-01	10443223 00	13881747 00	18181872 00	23433337 00	
		TO GRP. 017	38865969-01	56690383-01	78546382-01	10443222 00	13881747 00	18181872 00	23433337 00	
		TO GRP. 018	38865954-01	56690382-01	78546382-01	10443222 00	13881747 00	18181872 00	23433337 00	
		TO GRP. 019	38865946-01	56690381-01	78546383-01	10443222 00	13881747 00	18181872 00	23433337 00	
		TO GRP. 020	38865941-01	56690381-01	78546380-01	10443222 00	13881747 00	18181872 00	23433337 00	
		TO GRP. 021	38865935-01	56690381-01	78546381-01	10443222 00	13881747 00	18181872 00	23433337 00	
		TO GRP. 022	38865935-01	56690381-01	78546381-01	10443223 00	13881747 00	18181872 00	23433337 00	
		TO GRP. 023	38865935-01	56690381-01	78546380-01	10443222 00	13881747 00	18181872 00	23433337 00	
		TO GRP. 024	38865933-01	56690380-01	78546380-01	10443223 00	13881747 00	18181872 00	23433337 00	
		TO GRP. 025	38865932-01	56690380-01	78546381-01	10443223 00	13881747 00	18181872 00	23433337 00	
		TO GRP. 026	38865932-01	56690380-01	78546381-01	10443222 00	13881747 00	18181872 00	23433337 00	
		TO GRP. 027	38865931-01	56690380-01	78546382-01	10443223 00	13881747 00	18181872 00	23433337 00	
		TO GRP. 028	38865931-01	56690381-01	78546381-01	10443223 00	13881747 00	18181872 00	23433337 00	
		TO GRP. 029	38865931-01	56690380-01	78546379-01	10443222 00	13881747 00	18181872 00	23433337 00	
		TO GRP. 030	38865930-01	56690381-01	78546391-01	10443222 00	13881747 00	18181872 00	23433337 00	
		TO GRP. 031	38865929-01	56690381-01	78546380-01	10443222 00	13881747 00	18181872 00	23433337 00	
		TO GRP. 032	38865929-01	56690381-01	78546381-01	10443223 00	13881747 00	18181872 00	23433337 00	
		FROM GP 009		FROM GP 010	FROM GP 011	FROM GP 012	FROM GP 013	FROM GP 014	FROM GP 015	FROM GP 016
		TO GRP. 010	31166808 01							
		TO GRP. 011	31139199 01	40083749 01						
		TO GRP. 012	31139199 01	40046128 01	19339347 01					
		TO GRP. 013	31139199 01	40046128 01	19220614 01	16703340 01				
		TO GRP. 014	31139199 01	40046128 01	19220614 01	16533378 01	11386161 01			
		TO GRP. 015	31139199 01	40046128 01	19220614 01	16533378 01	11027293 01	57751878 00		
		TO GRP. 016	31139198 01	40046128 01	19220615 01	16533378 01	11027293 01	55076725 00	11272737 01	
		TO GRP. 017	31139199 01	40046128 01	19220614 01	16533378 01	11027293 01	55076724 00	11103601 01	17084992 01
		TO GRP. 018	31139199 01	40046129 01	19220614 01	16533378 01	11027294 01	55076724 00	11103601 01	16801101 01
		TO GRP. 019	31139199 01	40046128 01	19220614 01	16533378 01	11027293 01	55076724 00	11103601 01	16801101 01
		TO GRP. 020	31139199 01	40046128 01	19220615 01	16533378 01	11027293 01	55076724 00	11103601 01	16801101 01
		TO GRP. 021	31139199 01	40046127 01	19220615 01	16533378 01	11027293 01	55076724 00	11103601 01	16801101 01
		TO GRP. 022	31139198 01	40046128 01	19220615 01	16533378 01	11027294 01	55076725 00	11103601 01	16801101 01

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TO GRP. 023	31139199 01	40046129 01	19220614 01	16533378 01	11027294 01	55076724 00	11103601 01	16801101 01
TO GRP. 024	31139199 01	40046128 01	19220615 01	16533378 01	11027293 01	55076724 00	11103601 01	16801101 01
TO GRP. 025	31139199 01	40046128 01	19220614 01	16533377 01	11027294 01	55076724 00	11103601 01	16801101 01
TO GRP. 026	31139199 01	40046128 01	19220614 01	16533378 01	11027293 01	55076724 00	11103601 01	16801101 01
TO GRP. 027	31139199 01	40046128 01	19220614 01	16533378 01	11027293 01	55076724 00	11103601 01	16801101 01
TO GRP. 028	31139199 01	40046128 01	19220615 01	16533378 01	11027293 01	55076724 00	11103601 01	16801101 01
TO GRP. 029	31139199 01	40046128 01	19220615 01	16533378 01	11027294 01	55076724 00	11103601 01	16801101 01
TO GRP. 030	31139199 01	40046128 01	19220614 01	16533378 01	11027294 01	55076724 00	11103601 01	16801101 01
TO GRP. 031	31139199 01	40046128 01	19220615 01	16533378 01	11027293 01	55076724 00	11103601 01	16801101 01
TO GRP. 032	31139199 01	40046128 01	19220614 01	16533377 01	11027293 01	55076724 00	11103601 01	16801101 01

FROM GP 017 FROM GP 018 FROM GP 019 FROM GP 020 FROM GP 021 FROM GP 022 FROM GP 023 FROM GP 024

TO GRP. 018	60723291 00							
TO GRP. 019	562P4586 00	61879411 00						
TO GRP. 020	562P4587 00	57530008 00	62064534 00					
TO GRP. 021	562P4587 00	57530008 00	58881377 00	10279817 01				
TO GRP. 022	562P4587 00	57530007 00	58881377 00	10516315 01	28002983-02			
TO GRP. 023	562P4587 00	57530007 00	58881377 00	91181130 00	22399036-02	39297578 00		
TO GRP. 024	562P4587 00	57530008 00	58881377 00	90911311 00	20429248-02	31554708 00	40392969 00	
TO GRP. 025	562P4587 00	57530008 00	58881377 00	90911312 00	20429248-02	31198918 00	32575848 00	41529079 00
TO GRP. 026	562P4587 00	57530008 00	58881377 00	90911311 00	20429248-02	31198918 00	32217172 00	33632838 00
TO GRP. 027	562P4587 00	57530007 00	58881377 00	90911312 00	20429248-02	31198918 00	32217171 00	33271124 00
TO GRP. 028	562P4587 00	57530008 00	58881378 00	90911311 00	20429248-02	31198918 00	32217171 00	33271125 00
TO GRP. 029	562P4587 00	57530008 00	58881377 00	90911312 00	20429248-02	31198919 00	32217171 00	33271124 00
TO GRP. 030	562P4587 00	57530007 00	58881377 00	90911312 00	20429248-02	31198918 00	32217172 00	33271125 00
TO GRP. 031	562P4587 00	57530007 00	58881377 00	90911312 00	20429248-02	31198919 00	32217172 00	33271124 00
TO GRP. 032	562P4587 00	57530008 00	58881377 00	90911312 00	20429248-02	31198918 00	32217172 00	33271125 00

FROM GP 025 FROM GP 026 FROM GP 027 FROM GP 028 FROM GP 029 FROM GP 030 FROM GP 031

TO GRP. 026	42411235 00							
TO GRP. 027	34401285 00	43418109 00						
TO GRP. 028	34130877 00	35467447 00	44771689 00					
TO GRP. 029	34130877 00	35103504 00	36656039 00	46082880 00				
TO GRP. 030	34130877 00	35103504 00	36294154 00	37928306 00	47712648 00			
TO GRP. 031	34130877 00	35103505 00	36294154 00	37555934 00	39397157 00	49594468 00		
TO GRP. 032	34130877 00	35103505 00	36294153 00	37555934 00	39014888 00	41205092 00	51974655 00	

REGION 002

FROM GP 001 FROM GP 002 FROM GP 003 FROM GP 004 FROM GP 005 FROM GP 006 FROM GP 007 FROM GP 008

TO GRP. 002	50319747-01							
TO GRP. 003	44701441-01	71704134-01						
TO GRP. 004	492F0279-01	56690380-01	99436877-01					
TO GRP. 005	51192319-01	56690381-01	78646382-01	12521430 00				
TO GRP. 006	501A8395-01	56690380-01	78646380-01	10443222 00	17837840 00			
TO GRP. 007	47710623-01	56690381-01	78646381-01	10443222 00	13881747 00	21389935 00		
TO GRP. 008	45117179-01	56690380-01	78646381-01	10443222 00	13881747 00	18181873 00	30386322 00	
TO GRP. 009	41664095-01	56690380-01	78646380-01	10443222 00	13881747 00	18181872 00	24333337 00	29824149 00
TO GRP. 010	39021684-01	56690380-01	78646381-01	10443222 00	13881747 00	18181872 00	24333337 00	29824149 00
TO GRP. 011	38875192-01	56690381-01	78646381-01	10443223 00	13881747 00	18181872 00	23433337 00	29824149 00
TO GRP. 012	388F9314-01	56690381-01	78646381-01	10443223 00	13881747 00	18181872 00	23433337 00	29824149 00
TO GRP. 013	388F6729-01	56690380-01	78646380-01	10443222 00	13881747 00	18181872 00	24333337 00	29824149 00
TO GRP. 014	38866343-01	56690380-01	78646380-01	10443222 00	13881747 00	18181872 00	24333337 00	29824149 00
TO GRP. 015	38866170-01	56690381-01	78646380-01	10443222 00	13881747 00	18181872 00	24333337 00	29824149 00
TO GRP. 016	388F6024-01	56690382-01	78646381-01	10443223 00	13881747 00	18181872 00	24333337 00	29824149 00
TO GRP. 017	388F5967-01	56690381-01	78646381-01	10443222 00	13881747 00	18181872 00	24333337 00	29824149 00

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TO GRP. 018	3886593-01	56690380-01	78646381-01	10443222 00	13881747 00	18181872 00	23433337 00	29824149 00
TO GRP. 019	3886593-01	56690380-01	78646382-01	10443222 00	13881747 00	18181872 00	23433337 00	29824149 00
TO GRP. 020	38865940-01	56690380-01	78646380-01	10443222 00	13881747 00	18181872 00	23433337 00	29824149 00
TO GRP. 021	38865934-01	56690380-01	78646381-01	10443222 00	13881747 00	18181872 00	23433337 00	29824149 00
TO GRP. 022	38865934-01	56690381-01	78646381-01	10443223 00	13881747 00	18181872 00	23433337 00	29824149 00
TO GRP. 023	38865935-01	56690380-01	78646380-01	10443222 00	13881747 00	18181872 00	23433337 00	29824149 00
TO GRP. 024	38865933-01	56690380-01	78646380-01	10443223 00	13881747 00	18181872 00	23433337 00	29824149 00
TO GRP. 025	38865937-01	56690380-01	78646381-01	10443223 00	13881747 00	18181872 00	23433337 00	29824149 00
TO GRP. 026	38865932-01	56690380-01	78646381-01	10443222 00	13881747 00	18181872 00	23433337 00	29824149 00
TO GRP. 027	38865931-01	56690380-01	78646382-01	10443223 00	13881747 00	18181872 00	23433337 00	29824149 00
TO GRP. 028	38865931-01	56690381-01	78646381-01	10443223 00	13881747 00	18181872 00	23433337 00	29824149 00
TO GRP. 029	38865931-01	56690380-01	78646379-01	10443222 00	13881747 00	18181872 00	23433337 00	29824148 00
TO GRP. 030	38865930-01	56690381-01	78646381-01	10443222 00	13881747 00	18181872 00	23433337 00	29824149 00
TO GRP. 031	38865929-01	56690381-01	78646380-01	10443222 00	13881747 00	18181872 00	23433337 00	29824149 00
TO GRP. 032	38865929-01	56690381-01	78646381-01	10443223 00	13881747 00	18181872 00	23433337 00	29824149 00

FROM GP 009 FROM GP 010 FROM GP 011 FROM GP 012 FROM GP 013 FROM GP 014 FROM GP 015 FROM GP 016

TO GRP. 010	31166780 01							
TO GRP. 011	31139199 01	40083714 01						
TO GRP. 012	31139199 01	40046128 01	19339207 01					
TO GRP. 013	31139199 01	40046128 01	19220614 01	16703177 01				
TO GRP. 014	31139199 01	40046128 01	19220614 01	16533378 01	11385675 01			
TO GRP. 015	31139199 01	40046128 01	19220614 01	16533378 01	11027293 01	57747673 00		
TO GRP. 016	31139199 01	40046128 01	19220615 01	16533378 01	11027293 01	55076725 00	11272522 01	
TO GRP. 017	31139199 01	40046128 01	19220614 01	16533378 01	11027293 01	55076724 00	11103601 01	17084672 01
TO GRP. 018	31139199 01	40046129 01	19220614 01	16533378 01	11027294 01	55076724 00	11103601 01	16801101 01
TO GRP. 019	31139199 01	40046128 01	19220614 01	16533378 01	11027293 01	55076724 00	11103601 01	16801101 01
TO GRP. 020	31139199 01	40046128 01	19220615 01	16533378 01	11027293 01	55076724 00	11103601 01	16801101 01
TO GRP. 021	31139199 01	40046127 01	19220615 01	16533378 01	11027293 01	55076724 00	11103601 01	16801101 01
TO GRP. 022	31139199 01	40046128 01	19220615 01	16533378 01	11027294 01	55076724 00	11103601 01	16801101 01
TO GRP. 023	31139199 01	40046129 01	19220614 01	16533378 01	11027294 01	55076724 00	11103601 01	16801101 01
TO GRP. 024	31139199 01	40046128 01	19220615 01	16533378 01	11027293 01	55076724 00	11103601 01	16801101 01
TO GRP. 025	31139199 01	40046128 01	19220614 01	16533377 01	11027294 01	55076724 00	11103601 01	16801101 01
TO GRP. 026	31139199 01	40046128 01	19220614 01	16533378 01	11027293 01	55076724 00	11103601 01	16801101 01
TO GRP. 027	31139199 01	40046128 01	19220614 01	16533378 01	11027293 01	55076724 00	11103601 01	16801101 01
TO GRP. 028	31139199 01	40046128 01	19220615 01	16533378 01	11027293 01	55076724 00	11103601 01	16801101 01
TO GRP. 029	31139199 01	40046128 01	19220615 01	16533378 01	11027294 01	55076724 00	11103601 01	16801101 01
TO GRP. 030	31139199 01	40046128 01	19220614 01	16533378 01	11027294 01	55076724 00	11103601 01	16801101 01
TO GRP. 031	31139199 01	40046128 01	19220615 01	16533378 01	11027293 01	55076724 00	11103601 01	16801101 01
TO GRP. 032	31139199 01	40046128 01	19220614 01	16533377 01	11027293 01	55076724 00	11103601 01	16801101 01

FROM GP 017 FROM GP 018 FROM GP 019 FROM GP 020 FROM GP 021 FROM GP 022 FROM GP 023 FROM GP 024

TO GRP. 018	60717927 00							
TO GRP. 019	562P4586 00	61873898 00						
TO GRP. 020	562P4537 00	57530008 00	62060366 00					
TO GRP. 021	562P4587 00	57530008 00	588A1377 00	10254425 01				
TO GRP. 022	562P4587 00	57530007 00	588A1377 00	10515500 01	27805845-02			
TO GRP. 023	562P4537 00	57530007 00	588A1377 00	91181130 00	22399036-02	39285452 00		
TO GRP. 024	562P4587 00	57530008 00	588A1377 00	90911311 00	20429248-02	31554708 00	40380751 00	
TO GRP. 025	562P4587 00	57530008 00	588A1377 00	90911312 00	20429248-02	31198918 00	32575848 00	41514785 00
TO GRP. 026	562P4537 00	57530008 00	588A1377 00	90911311 00	20429248-02	31198918 00	32217172 00	33632834 00
TO GRP. 027	562P4587 00	57530007 00	588A1377 00	90911312 00	20429248-02	31198918 00	3217171 00	33271124 00
TO GRP. 028	562P4587 00	57530008 00	588A1378 00	90911311 00	20429248-02	31198918 00	3217171 00	33271125 00
TO GRP. 029	562P4587 00	57530008 00	588A1377 00	90911312 00	20429248-02	31198919 00	3217171 00	33271124 00
TO GRP. 030	562P4587 00	57530007 00	588A1377 00	90911312 00	20429248-02	31198918 00	3217172 00	33271125 00
TO GRP. 031	562P4587 00	57530007 00	588A1377 00	90911312 00	20429248-02	31198919 00	3217172 00	33271124 00
TO GRP. 032	562P4537 00	57530008 00	588A1377 00	90911312 00	20429248-02	31198918 00	3217172 00	33271125 00

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	FROM GP 025	FROM GP 026	FROM GP 027	FROM GP 028	FROM GP 029	FROM GP 030	FROM GP 031
TO GRP. 026	42308894 00						
TO GRP. 027	34401225 00	43405706 00					
TO GRP. 028	34130877 00		35467447 00	44759242 00			
TO GRP. 029	34130877 00	35103504 00	36666039 00	46070385 00			
TO GRP. 030	34130877 00	35103504 00	36294154 00	37928306 00	47700123 00		
TO GRP. 031	34130877 00	35103505 00	36294154 00	37555934 00	39397157 00	49581846 00	
TO GRP. 032	34130877 00	35103505 00	36294153 00	37555934 00	39014888 00	41205092 00	51962072 00

FISSION NEUTRON PRODUCTION CROSS SECTION, FSUB I,K

		REGION 001	REGION 002
GROUP 001	41351015 04	00000000 00	
GROUP 002	14978954 04	00000000 00	
GROUP 003	907110429 03	00000000 00	
GROUP 004	54662669 03	00000000 00	
GROUP 005	30626251 03	00000000 00	
GROUP 006	17076284 03	00000000 00	
GROUP 007	11308799 03	00000000 00	
GROUP 008	75808680 02	00000000 00	
GROUP 009	14800899 03	00000000 00	
GROUP 010	20801845 02	00000000 00	
GROUP 011	23806815 01	00000000 00	
GROUP 012	10637738 01	00000000 00	
GROUP 013	32663109 00	00000000 00	
GROUP 014	15609167 00	00000000 00	
GROUP 015	14116197 00	00000000 00	
GROUP 016	25469357-01	00000000 00	
GROUP 017	13684987-01	00000000 00	
GROUP 018	77335125-02	00000000 00	
GROUP 019	73942514-02	00000000 00	
GROUP 020	14647941-01	00000000 00	
GROUP 021	25004304-04	00000000 00	
GROUP 022	34121750-02	00000000 00	
GROUP 023	29050824-02	00000000 00	
GROUP 024	26002390-02	00000000 00	
GROUP 025	23773002-02	00000000 00	
GROUP 026	18080125-02	00000000 00	
GROUP 027	16810555-02	00000000 00	
GROUP 028	18778830-02	00000000 00	
GROUP 029	17402875-02	00000000 00	
GROUP 030	15608693-02	00000000 00	
GROUP 031	14435937-02	00000000 00	
GROUP 032	13554086-02	00000000 00	

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FISSION CROSS SECTION, SIGMAFSUB I,K

		REGION 001	REGION 002
GROUP 001	11936270 04	00000000 00	
GROUP 002	48803590 03	00000000 00	
GROUP 003	32067537 03	00000000 00	

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GROUP	004	20347512	03	00000000	00
GROUP	005	11708214	03	00000000	00
GROUP	006	67159050	02	00000000	00
GROUP	007	45050576	02	00000000	00
GROUP	008	30438533	02	00000000	00
GROUP	009	60193789	02	00000000	00
GROUP	010	84542224	01	00000000	00
GROUP	011	97100875	00	00000000	00
GROUP	012	43242839	00	00000000	00
GROUP	013	13277685	00	00000000	00
GROUP	014	63451900	-01	00000000	00
GROUP	015	57382915	-01	00000000	00
GROUP	016	10353397	-01	00000000	00
GROUP	017	55630024	-02	00000000	00
GROUP	018	31437042	-02	00000000	00
GROUP	019	30057034	-02	00000000	00
GROUP	020	59544477	-02	00000000	00
GROUP	021	10200938	-04	00000000	00
GROUP	022	13895020	-02	00000000	00
GROUP	023	11809278	-02	00000000	00
GROUP	024	10570077	-02	00000000	00
GROUP	025	96638221	-03	00000000	00
GROUP	026	73496446	-03	00000000	00
GROUP	027	68335590	-03	00000000	00
GROUP	028	76336708	-03	00000000	00
GROUP	029	70743394	-03	00000000	00
GROUP	030	63449972	-03	00000000	00
GROUP	031	58682672	-03	00000000	00
GROUP	032	55296461	-03	00000000	00



TABLE II-28B  
(page 2)

	MESH PT 064	MESH PT 065	MESH PT 066	MESH PT 067	MESH PT 068	MESH PT 069	MESH PT 070	MESH PT 071
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 072	MESH PT 073	MESH PT 074	MESH PT 075	MESH PT 076	MESH PT 077	MESH PT 078	MESH PT 079
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 080							
REGION 002	00000000 00							

SPACE AND ENERGY DISTRIBUTION OF THE FLUX- NEUTRONS PER SQUARE CM PER SEC PER UNIT ENERGY

	MESH PT 000	MESH PT 001	MESH PT 002	MESH PT 003	MESH PT 004	MESH PT 005	MESH PT 006	MESH PT 007
GROUP 001	26285143 06	26254714 06	26224333 06	26174584 06	26104716 06	26014963 06	25905331 06	25774123 06
GROUP 002	61024065 06	60945659 06	60967380 06	60739203 06	60559336 06	60327989 06	60045592 06	59712809 06
GROUP 003	14302553 07	14372113 07	14351705 07	14318290 07	14271402 07	14211081 07	14137454 07	14050686 07
GROUP 004	28442930 07	28400634 07	28358403 07	28289248 07	28192204 07	28067342 07	27914916 07	27735257 07
GROUP 005	56904850 07	56816993 07	56729254 07	56585551 07	56383849 07	56124246 07	55807207 07	55433348 07
GROUP 006	10229727 08	10213846 08	10197983 08	10171998 08	10135518 08	10088552 08	10031175 08	99634849 07
GROUP 007	18209922 08	18271753 08	18243614 08	18197510 08	18132770 08	18049396 08	17947499 08	17827230 08
GROUP 008	30615943 08	30568972 08	30522047 08	30445166 08	30337206 08	30198166 08	30028229 08	29827642 08
GROUP 009	21632427 08	21599542 08	21566688 08	21512862 08	21437273 08	21339422 08	21220934 08	21080476 08
GROUP 010	47185930 09	47115724 09	47045594 09	46930703 09	46769378 09	46561636 09	46307762 09	46008134 09
GROUP 011	12403664 11	12475233 11	12456825 11	12426672 11	12384343 11	12329850 11	12263280 11	12184748 11
GROUP 012	55252432 11	55171012 11	55089687 11	54956429 11	54769395 11	54528631 11	54234536 11	53887632 11
GROUP 013	23512512 12	23477864 12	23443260 12	23386592 12	23307022 12	23204611 12	23079522 12	22931984 12
GROUP 014	87577577 12	87448534 12	87319660 12	87108575 12	86812275 12	86430885 12	85965049 12	85415626 12
GROUP 015	78893091 12	78776839 12	78660751 12	78470607 12	78203704 12	77860155 12	77440548 12	76945656 12
GROUP 016	13958350 13	13937785 13	13917246 13	13883606 13	13836387 13	13775608 13	13701376 13	13613827 13
GROUP 017	99244667 13	99118411 13	98972347 13	98733117 13	98397317 13	97965101 13	97437223 13	96814669 13
GROUP 018	14856533 14	14834633 14	14812782 14	14776977 14	14726718 14	14662029 14	14583023 14	14489847 14
GROUP 019	22246170 14	22213390 14	22180655 14	22127038 14	22051778 14	21954910 14	21836603 14	21697079 14
GROUP 020	24411116 14	24375146 14	24339223 14	24280385 14	24197797 14	24091498 14	23961671 14	23808563 14
GROUP 021	15197762 17	15175367 17	15153002 17	15116370 17	15064951 17	14998770 17	14917442 17	14822618 17
GROUP 022	11071179 15	11054865 15	11038572 15	11011886 15	10974429 15	10926218 15	10867336 15	10797895 15
GROUP 023	13551370 15	13531401 15	13511457 15	13478793 15	13432944 15	13373931 15	13301857 15	13218859 15
GROUP 024	15593192 15	15543777 15	15493394 15	15449457 15	15423800 15	15351248 15	15263127 15	15159204 15
GROUP 025	20258605 15	20228751 15	20198936 15	20150103 15	20081558 15	19993333 15	19885583 15	19758510 15
GROUP 026	24693023 15	24656633 15	24620291 15	24560769 15	24472119 15	24369682 15	24238344 15	24083454 15
GROUP 027	30214552 15	30199991 15	30185468 15	30082562 15	29980227 15	29848510 15	29687641 15	29499925 15
GROUP 028	37142255 15	37087517 15	37032852 15	36943316 15	36817639 15	36655878 15	36458316 15	36225324 15
GROUP 029	45379840 15	45312970 15	45246179 15	45136784 15	44987230 15	44785590 15	44544206 15	44259535 15
GROUP 030	55586524 15	55454674 15	55322933 15	55239052 15	55051127 15	54809248 15	54513833 15	54165441 15
GROUP 031	67912380 15	67812298 15	67712340 15	67540621 15	67318815 15	67023026 15	66661772 15	66235733 15
GROUP 032	83283219 15	83160470 15	83037893 15	82837102 15	82555274 15	82192527 15	81749494 15	81227010 15

	MESH PT 008	MESH PT 009	MESH PT 010	MESH PT 011	MESH PT 012	MESH PT 013	MESH PT 014	MESH PT 015
GROUP 001	25627623 06	25460155 06	25274080 06	25069798 06	24847746 06	24608397 06	24352259 06	24078852 06

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TABLE II-28B

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GROUP	014	8852302	10	77102899	10	64465195	10	57116091	10	48363R12	10	40326016	10	34927601	10	2609R137	10
GROUP	015	77804664	10	67770820	10	58568039	10	50148996	10	42431302	10	35345174	10	28826367	10	22815215	10
GROUP	016	13336753	11	11603283	11	10019002	11	85686689	10	72389906	10	60183862	10	49666771	10	38646576	10
GROUP	017	91204470	11	79356222	11	68445645	11	58444848	11	49281132	11	40866175	11	32144962	11	26060041	11
GROUP	018	13480904	12	11721747	12	10105261	12	86233972	11	72632394	11	60141176	11	46675646	11	38171060	11
GROUP	019	19924165	12	17309439	12	14915186	12	12718747	12	10700987	12	88462650	11	71424316	11	55807539	11
GROUP	020	21507684	12	18478659	12	16086373	12	13709106	12	11517012	12	95022182	11	76490024	11	59490193	11
GROUP	021	13285497	15	11508882	15	90275391	14	84360853	14	70815617	14	58335859	14	40845270	14	36299077	14
GROUP	022	96323647	12	83626359	12	71983399	12	61282591	12	51429392	12	42347917	12	39822867	12	26302493	12
GROUP	023	11716595	13	10170583	13	87523047	12	74481863	12	62462767	12	51371653	12	41138189	12	31720361	12
GROUP	024	14227701	13	12357378	13	10631884	13	90442340	12	75799391	12	62271358	12	49768670	12	38235328	12
GROUP	025	17311665	13	15023673	13	12923425	13	10990067	13	92057190	12	75556409	12	60285884	12	46174130	12
GROUP	026	21035450	13	18253351	13	15698761	13	13340077	13	11173231	13	91618801	12	74978525	12	55719367	12
GROUP	027	25598237	13	22210329	13	10098408	13	16230978	13	13580427	13	11124258	13	88435475	12	67258108	12
GROUP	028	31146257	13	27012702	13	23223074	13	19731246	13	16500529	13	13502814	13	10714533	13	81185022	12
GROUP	029	37814681	13	32803467	13	28197718	13	23949670	13	20017151	13	16363607	13	12958481	13	97780728	12
GROUP	030	46018791	13	39016287	13	34305676	13	29128008	13	24330727	13	19867498	13	12698347	13	11790229	13
GROUP	031	55870560	13	48421271	13	41606612	13	35313921	13	29477713	13	24039168	13	18445842	13	14151658	13
GROUP	032	67740646	13	58742491	13	50462832	13	42811975	13	35708204	13	29076801	13	24849174	13	16962056	13

MESH PT 080

GROUP	001	36471184	05
GROUP	002	57838180	05
GROUP	003	76748595	05
GROUP	004	11104276	06
GROUP	005	11638503	06
GROUP	006	14404302	06
GROUP	007	13163716	06
GROUP	008	23071296	06
GROUP	009	12487810	06
GROUP	010	15597533	07
GROUP	011	32318489	08
GROUP	012	13436004	09
GROUP	013	54420182	09
GROUP	014	19768874	10
GROUP	015	17253250	10
GROUP	016	29134799	10
GROUP	017	19598556	11
GROUP	018	28579918	11
GROUP	019	41556312	11
GROUP	020	43984478	11
GROUP	021	26688102	14
GROUP	022	19302648	12
GROUP	023	23109754	12
GROUP	024	27655384	12
GROUP	025	33199701	12
GROUP	026	39811371	12
GROUP	027	47684245	12
GROUP	028	57055298	12
GROUP	029	68071030	12
GROUP	030	81182260	12
GROUP	031	96172691	12
GROUP	032	11356783	13

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TABLE II-28B  
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	MESH PT 000	MESH PT 001	MESH PT 002	MESH PT 003	MESH PT 004	MESH PT 005	MESH PT 006	MESH PT 007
REGION 001	88012882 10	87446451 10	86883041 10	85965210 10	84683981 10	83048859 10	81072292 10	78770995 10
	MESH PT 008	MESH PT 009	MESH PT 010	MESH PT 011	MESH PT 012	MESH PT 013	MESH PT 014	MESH PT 015
REGION 001	76162007 10	73267282 10	70108119 10	66710077 10	63099699 10	59303854 10	52352689 10	51274711 10
	MESH PT 016	MESH PT 017	MESH PT 018	MESH PT 019	MESH PT 020	MESH PT 021	MESH PT 022	MESH PT 023
REGION 001	47100723 10	42860544 10	38586613 10	34306129 10	30051532 10	25849856 10	21729280 10	17714019 10
	MESH PT 024	MESH PT 025	MESH PT 026	MESH PT 027	MESH PT 028	MESH PT 029	MESH PT 030	MESH PT 031
REGION 001	13833830 10	10105651 10	65513062 09	31893094 09	34406400 07	-28996403 09	-50039834 09	-80701030 09
	MESH PT 032	MESH PT 033	MESH PT 034	MESH PT 035	MESH PT 036	MESH PT 037	MESH PT 038	MESH PT 039
REGION 001	-10204394 10	-12275220 10	-14012907 10	-15511879 10	-16777543 10	-17818746 10	-18645483 10	-19269713 10
	MESH PT 040							
REGION 001	-19705035 10							
	MESH PT 040	MESH PT 041	MESH PT 042	MESH PT 043	MESH PT 044	MESH PT 045	MESH PT 046	MESH PT 047
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 048	MESH PT 049	MESH PT 050	MESH PT 051	MESH PT 052	MESH PT 053	MESH PT 054	MESH PT 055
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 056	MESH PT 057	MESH PT 058	MESH PT 059	MESH PT 060	MESH PT 061	MESH PT 062	MESH PT 063
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 064	MESH PT 065	MESH PT 066	MESH PT 067	MESH PT 068	MESH PT 069	MESH PT 070	MESH PT 071
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 072	MESH PT 073	MESH PT 074	MESH PT 075	MESH PT 076	MESH PT 077	MESH PT 078	MESH PT 079
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 080							
REGION 002	00000000 00							

TABLE II-28C

RESULTS OF THE DIFFUSION-CALCULATION PROBLEM

ITERATION NUMBER 7.

K: 93896599 00

SPACE DISTRIBUTION OF THE TOTAL SOURCE FISSION NEUTRONS PER CUBIC CM PER SECOND

	MESH PT 000	MESH PT 001	MESH PT 002	MESH PT 003	MESH PT 004	MESH PT 005	MESH PT 006	MESH PT 007
REGION 001	60231667 13	60140910 13	60050274 13	59901815 13	59603414 13	59425167 13	59097520 13	58711001 13
	MESH PT 008	MESH PT 009	MESH PT 010	MESH PT 011	MESH PT 012	MESH PT 013	MESH PT 014	MESH PT 015
REGION 001	58266409 13	57764915 13	57206971 13	56593870 13	55926942 13	55207278 13	54436745 13	53617013 13
	MESH PT 016	MESH PT 017	MESH PT 018	MESH PT 019	MESH PT 020	MESH PT 021	MESH PT 022	MESH PT 023
REGION 001	52750094 13	51938278 13	50984193 13	49890871 13	48861842 13	47801243 13	46713963 13	45605821 13
	MESH PT 024	MESH PT 025	MESH PT 026	MESH PT 027	MESH PT 028	MESH PT 029	MESH PT 030	MESH PT 031
REGION 001	44483791 13	43756295 13	42233555 13	41128054 13	40055101 13	39033582 13	38086763 13	37247637 13
	MESH PT 032	MESH PT 033	MESH PT 034	MESH PT 035	MESH PT 036	MESH PT 037	MESH PT 038	MESH PT 039
REGION 001	36540175 13	36021246 13	35742894 13	35775228 13	36206021 13	37145395 13	38131188 13	41136270 13
	MESH PT 040							
REGION 001	44577045 13							
	MESH PT 040	MESH PT 041	MESH PT 042	MESH PT 043	MESH PT 044	MESH PT 045	MESH PT 046	MESH PT 047
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 048	MESH PT 049	MESH PT 050	MESH PT 051	MESH PT 052	MESH PT 053	MESH PT 054	MESH PT 055
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 056	MESH PT 057	MESH PT 058	MESH PT 059	MESH PT 060	MESH PT 061	MESH PT 062	MESH PT 063
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00

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	MESH PT 064	MESH PT 065	MESH PT 066	MESH PT 067	MESH PT 068	MESH PT 069	MESH PT 070	MESH PT 071
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 072	MESH PT 073	MESH PT 074	MESH PT 075	MESH PT 076	MESH PT 077	MESH PT 078	MESH PT 079
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 080							
REGION 002	00000000 00							

SPACE AND ENERGY DISTRIBUTION OF THE FLUX- NEUTRONS PER SQUARE CM PER SEC PER UNIT ENERGY

	MESH PT 000	MESH PT 001	MESH PT 002	MESH PT 003	MESH PT 004	MESH PT 005	MESH PT 006	MESH PT 007
GROUP 001	21236453 06	21205859 06	21175706 06	21125259 05	21057037 06	20964652 06	20854278 06	20724133 06
GROUP 002	15576471 07	15543593 07	15530726 07	15493291 07	15440744 07	15373124 07	15290545 07	15193168 07
GROUP 003	51484349 07	51470712 07	51371738 07	51206452 07	51070884 07	50904921 07	50528469 07	50207563 07
GROUP 004	95061727 07	94990311 07	94779099 07	94647790 07	94253141 07	93805305 07	93295031 07	92693302 07
GROUP 005	13598540 08	13548362 08	13511213 08	13515212 08	13444895 08	13409247 08	13356494 08	13250666 08
GROUP 006	19246449 08	18219344 08	18102276 08	18147946 08	18085721 08	18005644 08	17907458 08	17792508 08
GROUP 007	22200164 08	22167165 08	22174211 08	22030241 08	22004493 08	21907008 08	2187966 08	21647605 08
GROUP 008	30397120 08	30314986 08	30306614 08	30233076 08	30124492 08	29996147 08	29833336 08	29641352 08
GROUP 009	12647502 09	12628692 09	12600997 09	12574103 09	12535491 09	12480269 09	12412332 09	12332205 09
GROUP 010	18702035 10	18674915 10	18647030 10	18601353 10	18537242 10	18454680 10	18353437 10	18234976 10
GROUP 011	12223355 11	12205086 11	12186630 11	12156949 11	12114087 11	12060966 11	11994470 11	11917110 11
GROUP 012	42909470 11	42845270 11	42791147 11	42674108 11	42528442 11	42338188 11	42106440 11	41837187 11
GROUP 013	11086709 12	11070198 12	11053617 12	11026455 12	10994323 12	10939223 12	10879247 12	10804480 12
GROUP 014	19255489 12	19226444 12	19198074 12	19150841 12	19084583 12	18999279 12	18895056 12	18772098 12
GROUP 015	35788259 12	35744614 12	35691035 12	35603264 12	35470037 12	35311341 12	35117538 12	34884925 12
GROUP 016	10020060 13	10005921 13	99908095 12	99662918 12	99317027 12	98872598 12	98329093 12	97687709 12
GROUP 017	20858031 13	20827507 13	20796219 13	20744966 13	20673007 13	20580253 13	20467146 13	20333549 13
GROUP 018	31252070 13	31206018 13	31159121 13	31082295 13	30974431 13	30835540 13	30665458 13	30465426 13
GROUP 019	46562449 13	46442510 13	46322613 13	46204109 13	46111734 13	45940344 13	45687424 13	45330092 13
GROUP 020	77167341 13	77051334 13	76935439 13	76745531 13	76479014 13	76135708 13	75716428 13	75221501 13
GROUP 021	10208314 14	10202820 14	10247359 14	10242016 14	10204534 14	10160620 14	10104641 14	10030587 14
GROUP 022	12112599 14	12004372 14	12076174 14	12045362 14	12004506 14	11950613 14	11884762 14	11807058 14
GROUP 023	14850154 14	14827913 14	14805098 14	14764942 14	14717414 14	14651530 14	14570781 14	14475408 14
GROUP 024	18748054 14	18700645 14	18622457 14	18466304 14	18350141 14	18198040 14	18096071 14	18275749 14
GROUP 025	24268030 14	24232406 14	24105023 14	24131574 14	24052244 14	23944149 14	23812179 14	23656307 14
GROUP 026	32302780 14	32244018 14	32205311 14	3215519 14	32103488 14	31959238 14	31782981 14	31574907 14
GROUP 027	44202004 14	44205313 14	44158496 14	44049564 14	43880134 14	43699049 14	43457980 14	43173517 14
GROUP 028	63206417 14	63111218 14	63016126 14	62960345 14	62601423 14	62359489 14	62015478 14	6160914 14
GROUP 029	97502557 14	97435524 14	97308458 14	97204059 14	96710245 14	96275278 14	95743787 14	95116619 14
GROUP 030	17084457 15	17059100 15	17033371 15	16991223 15	16932044 15	16855045 15	16762736 15	16652966 15
GROUP 031	38444439 15	38386660 15	38328714 15	38233772 15	38100406 15	37928420 15	37719082 15	37471585 15
GROUP 032	27452023 16	27410637 16	27369206 16	27301613 16	27206594 16	27084315 16	26934482 16	26759902 16
	MESH PT 008	MESH PT 009	MESH PT 010	MESH PT 011	MESH PT 012	MESH PT 013	MESH PT 014	MESH PT 015
GROUP 001	20574471 06	20405593 06	20217793 06	20011460 06	19786074 06	19544759 06	19285269 06	19009900 06

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GROUP	014	49789363	10	44773158	10	39428764	10	34618179	10	30008515	10	25569310	10	21274460	10	17107472	10
GROUP	015	93823034	10	83763400	10	74219308	10	65121936	10	56409418	10	48026128	10	39423594	10	32061072	10
GROUP	016	24773165	11	23283819	11	21143426	11	18633030	11	16035393	11	13635060	11	11318409	11	90734815	10
GROUP	017	54934059	11	50771566	11	44926049	11	39361309	11	34034532	11	28926241	11	23495454	11	19227413	11
GROUP	019	96025492	11	76695726	11	67818430	11	59423866	11	51366993	11	43627950	11	36161417	11	28925988	11
GROUP	019	12998492	12	11596137	12	10246746	12	89712213	11	77514662	11	65787142	11	54466258	11	43478153	11
GROUP	020	22311550	12	19981026	12	17575706	12	15374842	12	13274686	12	11258305	12	93052705	11	74061604	11
GROUP	021	30146477	12	26958831	12	23740215	12	20769182	12	17925464	12	15189635	12	12542481	12	99640032	11
GROUP	022	35661051	12	31769135	12	29077074	12	24554424	12	21102075	12	17951318	12	14815658	12	11750740	12
GROUP	023	44165281	12	39740059	12	34761707	12	30398219	12	26214632	12	22193345	12	18290666	12	14474902	12
GROUP	024	56477023	12	50700192	12	44437155	12	38847182	12	33409013	12	28324391	12	23308152	12	18392981	12
GROUP	025	74290650	12	66163317	12	58428602	12	51060861	12	43905501	12	37177235	12	30247321	12	24039849	12
GROUP	026	10046474	13	89043168	12	79277103	12	68090268	12	58407110	12	50150247	12	41136493	12	32272959	12
GROUP	027	14038112	13	12005342	13	11029544	13	96300456	12	82859504	12	69859941	12	57179183	12	44677717	12
GROUP	028	20818094	13	18545205	13	16305040	13	14262035	13	12254595	13	10320428	13	84257762	12	65543856	12
GROUP	029	33679022	13	29056710	13	24415522	13	23024129	13	19769086	13	16609363	13	13516308	13	10456479	13
GROUP	030	63344041	13	56705735	13	49664143	13	43188127	13	37005041	13	31000442	13	25117089	13	19293256	13
GROUP	031	15582693	14	14720924	14	12305005	14	11204323	14	96024076	13	80070802	13	64445763	13	49016103	13
GROUP	032	75028333	15	66495581	15	58506230	15	50718389	15	43044783	15	35578147	15	28291597	15	21179000	15

MESH PT 080

GROUP	001	96202184	04
GROUP	002	40983039	05
GROUP	003	69605114	05
GROUP	004	12418164	06
GROUP	005	12147459	06
GROUP	006	15820411	06
GROUP	007	13555222	06
GROUP	008	20989732	06
GROUP	009	83105509	07
GROUP	010	12013023	08
GROUP	011	78316741	08
GROUP	012	27954294	09
GROUP	013	73360032	09
GROUP	014	13037123	10
GROUP	015	24405020	10
GROUP	016	58909362	10
GROUP	017	14584727	11
GROUP	018	21882847	11
GROUP	019	32751207	11
GROUP	020	55468301	11
GROUP	021	74323251	11
GROUP	022	87576825	11
GROUP	023	10712498	12
GROUP	024	13520383	12
GROUP	025	17571159	12
GROUP	026	23445623	12
GROUP	027	32185634	12
GROUP	028	46812031	12
GROUP	029	73902694	12
GROUP	030	13462003	13
GROUP	031	33647905	13
GROUP	032	14230473	15

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	MESH PT 000	MESH PT 001	MESH PT 002	MESH PT 003	MESH PT 004	MESH PT 005	MESH PT 006	MESH PT 007
REGION 001	47752805 10	47856584 10	47142092 10	46683259 10	46014792 10	45160858 10	44129321 10	42924735 10
	MESH PT 008	MESH PT 009	MESH PT 010	MESH PT 011	MESH PT 012	MESH PT 013	MESH PT 014	MESH PT 015
REGION 001	41544241 10	41052981 10	38402795 10	36628725 10	34742594 10	32761446 10	30699028 10	28569763 10
	MESH PT 016	MESH PT 017	MESH PT 018	MESH PT 019	MESH PT 020	MESH PT 021	MESH PT 022	MESH PT 023
REGION 001	26390491 10	24177541 10	21911604 10	19711918 10	17490903 10	15295447 10	13139468 10	11039228 10
	MESH PT 024	MESH PT 025	MESH PT 026	MESH PT 027	MESH PT 028	MESH PT 029	MESH PT 030	MESH PT 031
REGION 001	30994035 09	70743066 09	51511206 09	33541325 09	16472473 09	30146560 07	-14991360 09	-29491200 09
	MESH PT 032	MESH PT 033	MESH PT 034	MESH PT 035	MESH PT 036	MESH PT 037	MESH PT 038	MESH PT 039
REGION 001	-43302012 09	-56503613 09	-69605746 09	-82640896 09	-96079053 09	-11043145 10	-12633702 10	-14457241 10
	MESH PT 040							
REGION 001	-16612065 10							
	MESH PT 040	MESH PT 041	MESH PT 042	MESH PT 043	MESH PT 044	MESH PT 045	MESH PT 046	MESH PT 047
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 048	MESH PT 049	MESH PT 050	MESH PT 051	MESH PT 052	MESH PT 053	MESH PT 054	MESH PT 055
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 056	MESH PT 057	MESH PT 058	MESH PT 059	MESH PT 060	MESH PT 061	MESH PT 062	MESH PT 063
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 064	MESH PT 065	MESH PT 066	MESH PT 067	MESH PT 068	MESH PT 069	MESH PT 070	MESH PT 071
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 072	MESH PT 073	MESH PT 074	MESH PT 075	MESH PT 076	MESH PT 077	MESH PT 078	MESH PT 079
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 080							
REGION 002	00000000 00							



TABLE II-28D

## RESULTS OF THE NEUTRON BALANCE IN EACH REGION PROBLEM

TOTAL NEUTRON FLUX PER UNIT ENERGY

		REGION 001	REGION 002
GROUP	001	24060197	10 25216951
GROUP	002	17365158	11 15720444
GROUP	003	56672317	11 32166205
GROUP	004	10454134	12 71742403
GROUP	005	14956102	12 89540625
GROUP	006	20054062	12 12273644
GROUP	007	21537542	12 13069230
GROUP	008	33404236	12 21206422
GROUP	009	13703071	13 92706662
GROUP	010	20348225	14 15070912
GROUP	011	13206234	15 10721360
GROUP	012	46600146	15 34022205
GROUP	013	12063202	16 10716026
GROUP	014	20273557	16 13718406
GROUP	015	39007224	16 31225216
GROUP	016	10225240	17 96026203
GROUP	017	22756532	17 20745050
GROUP	018	34106870	17 30273472
GROUP	019	50838517	17 46201667
GROUP	020	34354002	17 72768367
GROUP	021	11262395	18 10752320
GROUP	022	13250302	18 12713122
GROUP	023	16251673	18 15720272
GROUP	024	20524439	18 20062760
GROUP	025	25501372	18 26743177
GROUP	026	35515774	18 35748470
GROUP	027	42608182	18 42030386
GROUP	028	52477222	18 73178322
GROUP	029	10750253	19 11726762
GROUP	030	14393063	19 21067041
GROUP	031	42306053	19 56741567
GROUP	032	37377134	20 17759541

DEGRADATION TO LOWER ENERGY GROUPS

		REGION 001	REGION 002
GROUP	001	18004020	09 19574430
GROUP	002	16322255	10 15091181
GROUP	003	74003210	10 52323339
GROUP	004	15167244	11 12450484
GROUP	005	35618051	11 21723210
GROUP	006	50196411	11 36218472
GROUP	007	92058526	11 55223094
GROUP	008	16030311	12 95052272
GROUP	009	22515342	12 16660296

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GROUP	010	42727518	13	33508954	13
GROUP	011	34035744	14	68144145	14
GROUP	012	33415064	15	27871910	15
GROUP	013	10955399	16	93011055	16
GROUP	014	24000700	16	20025220	16
GROUP	015	35406531	16	31174287	16
GROUP	016	73139052	16	69349745	16
GROUP	017	25903317	17	23058560	17
GROUP	018	39257103	17	35649647	17
GROUP	019	58648984	17	53851610	17
GROUP	020	35905396	17	81283706	17
GROUP	021	16014056	18	16129231	18
GROUP	022	17045799	18	16353484	18
GROUP	023	20877781	18	20103553	18
GROUP	024	26046064	18	25479507	18
GROUP	025	32758490	18	32050261	18
GROUP	026	41815974	18	41850994	18
GROUP	027	53859259	18	54094655	18
GROUP	028	69943044	18	73662558	18
GROUP	029	93334090	18	10223474	19
GROUP	030	12806635	19	14002707	19
GROUP	031	18239736	19	23076474	19

SCATTERING FROM HIGHER ENERGY GROUPS

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		REGION 001	REGION 002		
GROUP	002	12111075	09	13192303	09
GROUP	003	13546729	10	12775309	10
GROUP	004	67535710	10	49095261	10
GROUP	005	13696488	11	13024345	11
GROUP	006	43227097	11	27566240	11
GROUP	007	80217470	11	50269943	11
GROUP	008	14833740	12	88470085	11
GROUP	009	23539955	12	14133167	12
GROUP	010	45206651	13	32054712	13
GROUP	011	84009174	14	67740386	14
GROUP	012	34315331	15	27579482	15
GROUP	013	11214560	16	42407277	15
GROUP	014	24876267	16	20840489	16
GROUP	015	35555749	16	30093495	16
GROUP	016	70955247	16	69065297	16
GROUP	017	26506355	17	23420233	17
GROUP	018	40104701	17	35620267	17
GROUP	019	60199735	17	53074017	17
GROUP	020	90268092	17	81409360	17
GROUP	021	17533135	18	16191324	18
GROUP	022	17767544	18	16419495	18
GROUP	023	21788244	18	20223415	18
GROUP	024	27302565	18	25615030	18
GROUP	025	34510473	18	32004572	18
GROUP	026	44109059	18	42225224	18
GROUP	027	57349057	18	55009669	18
GROUP	028	76192310	18	74756234	18
GROUP	029	10414015	19	10433116	19
GROUP	030	14958412	19	15436397	19
GROUP	031	23408710	19	25223003	19
GROUP	032	44082003	19	52776448	19

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NEUTRON SOURCE DUE TO FISSION

		REGION	001	REGION	002
GROUP	001	48010552	09	00000000	00
GROUP	002	34972274	10	00000000	00
GROUP	003	11137191	11	00000000	00
GROUP	004	20172035	11	00000000	00
GROUP	005	25929265	11	00000000	00
GROUP	006	27184163	11	00000000	00
GROUP	007	25246653	11	00000000	00
GROUP	008	21785107	11	00000000	00
GROUP	009	14318545	11	00000000	00
GROUP	010	13656321	10	00000000	00
GROUP	011	00000000	00	00000000	00
GROUP	012	00000000	00	00000000	00
GROUP	013	00000000	00	00000000	00
GROUP	014	00000000	00	00000000	00
GROUP	015	00000000	00	00000000	00
GROUP	016	00000000	00	00000000	00
GROUP	017	00000000	00	00000000	00
GROUP	018	00000000	00	00000000	00
GROUP	019	00000000	00	00000000	00
GROUP	020	00000000	00	00000000	00
GROUP	021	00000000	00	00000000	00
GROUP	022	00000000	00	00000000	00
GROUP	023	00000000	00	00000000	00
GROUP	024	00000000	00	00000000	00
GROUP	025	00000000	00	00000000	00
GROUP	026	00000000	00	00000000	00
GROUP	027	00000000	00	00000000	00
GROUP	028	00000000	00	00000000	00
GROUP	029	00000000	00	00000000	00
GROUP	030	00000000	00	00000000	00
GROUP	031	00000000	00	00000000	00
GROUP	032	00000000	00	00000000	00

NEUTRON REMOVAL DUE TO ABSORPTION

		REGION	001	REGION	002
GROUP	001	26037522	08	2737372	08
GROUP	002	16984008	09	14038400	09
GROUP	003	22977062	09	19097447	09
GROUP	004	30010010	09	18005107	09
GROUP	005	35816384	08	60518400	06
GROUP	006	47521632	08	82176000	06
GROUP	007	66237440	08	92076800	06
GROUP	008	10288047	09	13516800	07
GROUP	009	64961536	09	66109440	07
GROUP	010	31911000	11	19375718	10
GROUP	011	68904550	12	10027039	12
GROUP	012	42157540	13	42313816	12

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GROUP	013	14452053	14	11433840	13
GROUP	014	60424585	14	20454614	13
GROUP	015	71363633	14	62031680	13
GROUP	016	81538545	14	29310803	14
GROUP	017	41692269	15	72617428	14
GROUP	018	55650911	15	13395395	15
GROUP	019	11406117	16	24151084	15
GROUP	020	37898019	16	51595134	15
GROUP	021	54606343	16	80663355	15
GROUP	022	63763020	16	99053972	15
GROUP	023	31361325	16	13497571	16
GROUP	024	11216375	17	19073348	16
GROUP	025	16170775	17	27687450	16
GROUP	026	21209733	17	40090566	16
GROUP	027	32849683	17	63347332	16
GROUP	028	60320069	17	10374579	17
GROUP	029	10578421	18	18033555	17
GROUP	030	20454649	18	38178445	17
GROUP	031	52253879	18	10740630	18
GROUP	032	51999352	19	36552051	18

NEUTRON REMOVAL DUE TO PERPENDICULAR LEAKAGE

		REGION	001	REGION	002
GROUP	001	00000000	00	00000000	00
GROUP	002	00000000	00	00000000	00
GROUP	003	00000000	00	00000000	00
GROUP	004	00000000	00	00000000	00
GROUP	005	00000000	00	00000000	00
GROUP	006	00000000	00	00000000	00
GROUP	007	00000000	00	00000000	00
GROUP	008	00000000	00	00000000	00
GROUP	009	00000000	00	00000000	00
GROUP	010	00000000	00	00000000	00
GROUP	011	00000000	00	00000000	00
GROUP	012	00000000	00	00000000	00
GROUP	013	00000000	00	00000000	00
GROUP	014	00000000	00	00000000	00
GROUP	015	00000000	00	00000000	00
GROUP	016	00000000	00	00000000	00
GROUP	017	00000000	00	00000000	00
GROUP	018	00000000	00	00000000	00
GROUP	019	00000000	00	00000000	00
GROUP	020	00000000	00	00000000	00
GROUP	021	00000000	00	00000000	00
GROUP	022	00000000	00	00000000	00
GROUP	023	00000000	00	00000000	00
GROUP	024	00000000	00	00000000	00
GROUP	025	00000000	00	00000000	00
GROUP	026	00000000	00	00000000	00
GROUP	027	00000000	00	00000000	00
GROUP	028	00000000	00	00000000	00
GROUP	029	00000000	00	00000000	00
GROUP	030	00000000	00	00000000	00
GROUP	031	00000000	00	00000000	00
GROUP	032	00000000	00	00000000	00

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## LEAKAGE ACROSS THE REGION OUTER BOUNDARY

		REGION	001	REGION	002
GROUP	001	78299185	05	42059750	04
GROUP	002	50212147	06	20070387	05
GROUP	003	12948167	07	34018634	05
GROUP	004	23820012	07	60906409	05
GROUP	005	24394324	07	53060544	05
GROUP	006	23466072	07	75151611	05
GROUP	007	17463229	07	59699060	05
GROUP	008	27452061	07	96748132	05
GROUP	009	70310236	07	40039035	06
GROUP	010	67559651	08	55443050	07
GROUP	011	40828200	09	36749933	08
GROUP	012	13750900	10	13052731	09
GROUP	013	34505081	10	34738702	09
GROUP	014	55504569	10	61089373	09
GROUP	015	10470132	11	11437461	10
GROUP	016	29939383	11	32706705	10
GROUP	017	50311064	11	68410630	10
GROUP	018	87915239	11	10742562	11
GROUP	019	12456445	12	15295941	11
GROUP	020	17989718	12	25024735	11
GROUP	021	22853057	12	34003913	11
GROUP	022	26573192	12	40448249	11
GROUP	023	30971591	12	49402310	11
GROUP	024	36663477	12	62227963	11
GROUP	025	44170425	12	80741650	11
GROUP	026	56451811	12	10759872	12
GROUP	027	62408432	12	14735497	12
GROUP	028	80496529	12	21419424	12
GROUP	029	96843006	12	33021663	12
GROUP	030	10830526	13	61734524	12
GROUP	031	-28006621	11	15715680	13
GROUP	032	-19988713	15	66626173	14

## LEAKAGE ACROSS THE REGION INNER BOUNDARY

		REGION	001	REGION	002
GROUP	001	-39862834	04	-77567172	05
GROUP	002	-24332635	05	-49729002	06
GROUP	003	-56927259	05	-12070789	07
GROUP	004	-10537026	06	-23670498	07
GROUP	005	-10039512	06	-24027494	07
GROUP	006	-11835090	06	-28740510	07
GROUP	007	-64342090	05	-17539363	07
GROUP	008	-11556703	06	-27262554	07
GROUP	009	-36353023	06	-68069084	07
GROUP	010	-40082303	07	-65029416	08
GROUP	011	-25122724	08	-39040452	09
GROUP	012	-87537491	08	-13476941	10
GROUP	013	-22491948	09	-33078873	10

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GROUP	014	-37972074	09	-55056482	10
GROUP	015	-71612561	09	-10308797	11
GROUP	016	-20309554	10	-29203128	11
GROUP	017	-41436441	10	-53030838	11
GROUP	018	-61529497	10	-86360520	11
GROUP	019	-89147013	10	-12289110	12
GROUP	020	-13961861	11	-17647768	12
GROUP	021	-18240106	11	-22050813	12
GROUP	022	-21345743	11	-26554743	12
GROUP	023	-25419424	11	-30860559	12
GROUP	024	-31080443	11	-36720400	12
GROUP	025	-39123195	11	-44373780	12
GROUP	026	-51225262	11	-56457817	12
GROUP	027	-67386263	11	-70050074	12
GROUP	028	-91465910	11	-82103574	12
GROUP	029	-13520634	12	-99802410	12
GROUP	030	-22611549	12	-11010528	13
GROUP	031	-48209025	12	-11244590	12
GROUP	032	-32343947	13	-20691415	15

TOTAL REMOVAL - ABSORPTION, SCATTERING, LEAKAGE

		REGION 001		REGION 002	
GROUP	001	20615403	09	22330881	09
GROUP	002	18525435	10	16570283	10
GROUP	003	73913226	10	54223752	10
GROUP	004	18449421	11	12436229	11
GROUP	005	35477257	11	21321695	11
GROUP	006	60236762	11	36816535	11
GROUP	007	99026045	11	56022329	11
GROUP	008	16040263	12	96041000	11
GROUP	009	22580074	12	16060308	12
GROUP	010	43047271	13	33417724	13
GROUP	011	84724772	14	68248052	14
GROUP	012	33857569	15	27874102	15
GROUP	013	11099051	16	93125080	15
GROUP	014	24695007	16	20945626	16
GROUP	015	36210264	16	31107027	16
GROUP	016	78955587	16	69462592	16
GROUP	017	26400295	17	23531126	17
GROUP	018	39813695	17	35793524	17
GROUP	019	59789412	17	54093013	17
GROUP	020	89695165	17	81749404	17
GROUP	021	17460041	18	16210175	18
GROUP	022	17683453	18	16452515	18
GROUP	023	21691423	18	20328403	18
GROUP	024	27188435	18	25470210	18
GROUP	025	34375208	18	32727103	18
GROUP	026	43936901	18	42260956	18
GROUP	027	57143290	18	55518073	18
GROUP	028	75976112	18	74499955	18
GROUP	029	10391310	19	10412803	19
GROUP	030	14942139	19	15374486	19
GROUP	031	23465119	19	25070551	19
GROUP	032	51997321	19	36554786	19

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TOTAL SOURCE -SCATTERING IN FISSION

		REGION 001	REGION 002
GROUP	001	48010552 09	00000000 00
GROUP	002	36183474 10	13122303 09
GROUP	003	12491964 11	12375309 10
GROUP	004	26225404 11	49005261 10
GROUP	005	44625755 11	13004345 11
GROUP	006	70412461 11	27566240 11
GROUP	007	10546412 12	50249943 11
GROUP	008	17012250 12	83470085 11
GROUP	009	24971911 12	14193167 12
GROUP	010	45310307 13	32054712 13
GROUP	011	86009174 14	67340386 14
GROUP	012	34315331 15	27579492 15
GROUP	013	11214550 16	92407277 15
GROUP	014	24876263 16	20940489 16
GROUP	015	36555799 16	30003905 16
GROUP	016	79955247 16	69065297 16
GROUP	017	26596355 17	23402233 17
GROUP	018	40104701 17	35420267 17
GROUP	019	60199735 17	53074017 17
GROUP	020	90263092 17	81409369 17
GROUP	021	17533135 18	16181324 18
GROUP	022	17767544 18	16410405 18
GROUP	023	21788844 18	20203415 18
GROUP	024	27302565 18	25435038 18
GROUP	025	34510673 18	32404573 18
GROUP	026	44109059 18	42225224 18
GROUP	027	57349057 18	55409669 18
GROUP	028	76102310 18	74756234 18
GROUP	029	10414016 19	10433116 19
GROUP	030	14258412 19	15436397 19
GROUP	031	23408710 19	25333007 19
GROUP	032	44082903 19	52776448 19

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FISSION NEUTRON PRODUCTION FROM EACH GROUP

		REGION 001	REGION 002
GROUP	001	92491359 13	00000000 00
GROUP	002	25011191 14	00000000 00
GROUP	003	51430143 14	00000000 00
GROUP	004	57145090 14	00000000 00
GROUP	005	45305210 14	00000000 00
GROUP	006	34244207 14	00000000 00
GROUP	007	27749012 14	00000000 00
GROUP	008	25323349 14	00000000 00
GROUP	009	20525329 15	00000000 00
GROUP	010	42328265 15	00000000 00
GROUP	011	31760493 15	00000000 00
GROUP	012	40667754 15	00000000 00
GROUP	013	39418224 15	00000000 00
GROUP	014	32737077 15	00000000 00

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GROUP	015	55049224	15	00000000	00
GROUP	016	27327411	15	00000000	00
GROUP	017	31142294	15	00000000	00
GROUP	018	26375590	15	00000000	00
GROUP	019	37591595	15	00000000	00
GROUP	020	12356125	16	00000000	00
GROUP	021	28262955	13	00000000	00
GROUP	022	45291878	15	00000000	00
GROUP	023	47213324	15	00000000	00
GROUP	024	53381448	15	00000000	00
GROUP	025	63215491	15	00000000	00
GROUP	026	64212674	15	00000000	00
GROUP	027	81713557	15	00000000	00
GROUP	028	13047020	16	00000000	00
GROUP	029	18708532	16	00000000	00
GROUP	030	29489604	16	00000000	00
GROUP	031	61938055	16	00000000	00
GROUP	032	50661289	17	00000000	00

TOTAL FISSION NEUTRON SOURCE

REGION 001 REGION 002

75686950 17 00000000 00

TOTAL REMOVAL DUE TO LEAKAGE

REGION 001 REGION 002

-19814670 15 27019598 15

ERROR IN THE NEUTRON BALANCE

REGION 001 REGION 002

62520413-01 12298764 00



TABLE II-28E

RESULTS OF THE BURNUP-CALCULATION PROBLEM

KEY TO THE LISTING OF ISOTOPES

ORDER OF APPEARANCE	ISOTOPE NAME -CODED-
ISOTOPE 1	<del>00000000</del> 01
ISOTOPE 2	002
ISOTOPE 3	009
ISOTOPE 4	030
ISOTOPE 5	041

CONCENTRATIONS OF THE ISOTOPES

	REGION 001	REGION 002
ISOTOPE 001	00000000 00	00000000 00
ISOTOPE 002	00000000 00	00000000 00
ISOTOPE 003	33460000-01	33460000-01
ISOTOPE 004	66919996-01	66919998-01
ISOTOPE 005	17714971-03	00000000 00

TABLE II-28F

RESULTS OF XENON-SAMARIUM-ADDITION PROBLEM

TIME AFTER SHUTDOWN: 00000000 .00

XENON CONCENTRATIONS

REGION 001 REGION 002

31443241-08 00000000 .00

SAMARIUM CONCENTRATIONS

REGION 001 REGION 002

21040297-06 00000000 .00



TABLE II-28G

## FLUX-WEIGHTED RESULTS OF THE NUCLEAR-CONSTANTS-CALCULATION PROBLEM

DIFFUSION COEFFICIENTS, D<sub>SUB I,K</sub>

		REGION 001	REGION 002
GROUP	001	52907301 01	53733346 01
GROUP	002	40311533 01	41745134 01
GROUP	003	31940714 01	32208320 01
GROUP	004	30258454 01	30670250 01
GROUP	005	20541539 01	20673690 01
GROUP	006	17920496 01	18049595 01
GROUP	007	81596395 00	81958725 00
GROUP	008	10521357 01	10558049 01
GROUP	009	73209224 00	73161828 00
GROUP	010	58872938 00	59224531 00
GROUP	011	56737168 00	57418210 00
GROUP	012	56168543 00	57274138 00
GROUP	013	55862249 00	57240177 00
GROUP	014	54357363 00	57231539 00
GROUP	015	55211043 00	56851132 00
GROUP	016	55693681 00	56340840 00
GROUP	017	54566712 00	56183649 00
GROUP	018	54031201 00	55340941 00
GROUP	019	52506946 00	54241016 00
GROUP	020	49487681 00	52807023 00
GROUP	021	48593605 00	51905455 00
GROUP	022	48323030 00	51546182 00
GROUP	023	46918316 00	50043374 00
GROUP	024	45426611 00	48611340 00
GROUP	025	44167168 00	47523614 00
GROUP	026	43350009 00	46384711 00
GROUP	027	41583889 00	44879828 00
GROUP	028	39583078 00	43498155 00
GROUP	029	37855959 00	41929816 00
GROUP	030	36110785 00	40177875 00
GROUP	031	33717041 00	37504954 00
GROUP	032	32330579 00	36586309 00

REMOVAL CROSS SECTIONS, T<sub>SUB I,K</sub>

		REGION 001	REGION 002
GROUP	001	96059799-01	94839842-01
GROUP	002	11715068 00	11403913 00
GROUP	003	14427080 00	14339428 00
GROUP	004	18174821 00	18007242 00
GROUP	005	24295079 00	24209846 00
GROUP	006	30478910 00	30358662 00
GROUP	007	40888079 00	40890664 00
GROUP	008	50054140 00	50448984 00

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GROUP	009	34091745	00	35175787	00
GROUP	010	31613232	00	31751925	00
GROUP	011	73559759	00	73429201	00
GROUP	012	80186225	00	79433568	00
GROUP	013	96106368	00	95135242	00
GROUP	014	11941487	01	11670003	01
GROUP	015	98550691	00	97161551	00
GROUP	016	79361623	00	79076199	00
GROUP	017	11756831	01	11608545	01
GROUP	018	11839191	01	11722815	01
GROUP	019	11934073	01	11766478	01
GROUP	020	10936223	01	10551761	01
GROUP	021	15502768	01	15066096	01
GROUP	022	13412036	01	13009899	01
GROUP	023	13403403	01	12989558	01
GROUP	024	13305235	01	12855047	01
GROUP	025	12992678	01	12490004	01
GROUP	026	12434466	01	11962716	01
GROUP	027	11844035	01	11289295	01
GROUP	028	11021009	01	10298474	01
GROUP	029	97668924	00	89491188	00
GROUP	030	80263097	00	71369141	00
GROUP	031	58068861	00	50315402	00
GROUP	032	13802864	00	20922879	01

FISSIION SPECTRUM, XSUB I

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		REGION: 001	REGION: 002
GROUP	001	62605977-08	00000000 00
GROUP	002	45604007-07	00000000 00
GROUP	003	14522948-06	00000000 00
GROUP	004	26304426-06	00000000 00
GROUP	005	33811880-06	00000000 00
GROUP	006	35448663-06	00000000 00
GROUP	007	32921750-06	00000000 00
GROUP	008	28407871-06	00000000 00
GROUP	009	18671448-06	00000000 00
GROUP	010	17807905-07	00000000 00
GROUP	011	00000000 00	00000000 00
GROUP	012	00000000 00	00000000 00
GROUP	013	00000000 00	00000000 00
GROUP	014	00000000 00	00000000 00
GROUP	015	00000000 00	00000000 00
GROUP	016	00000000 00	00000000 00
GROUP	017	00000000 00	00000000 00
GROUP	018	00000000 00	00000000 00
GROUP	019	00000000 00	00000000 00
GROUP	020	00000000 00	00000000 00
GROUP	021	00000000 00	00000000 00
GROUP	022	00000000 00	00000000 00
GROUP	023	00000000 00	00000000 00
GROUP	024	00000000 00	00000000 00
GROUP	025	00000000 00	00000000 00
GROUP	026	00000000 00	00000000 00
GROUP	027	00000000 00	00000000 00
GROUP	028	00000000 00	00000000 00

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GROUP 029 00000000 00 00000000 00  
 GROUP 030 00000000 00 00000000 00  
 GROUP 031 00000000 00 00000000 00  
 GROUP 032 00000000 00 00000000 00

TRANSFER COEFFICIENTS: TSUB I:J:K

REGION 001

	FROM GP 001	FROM GP 002	FROM GP 003	FROM GP 004	FROM GP 005	FROM GP 006	FROM GP 007	FROM GP 008
TO GRP. 002	61000001-01							
TO GRP. 003	50277525-01	80948875-01						
TO GRP. 004	52652289-01	62796885-01	10226637 00					
TO GRP. 005	53731561-01	62935461-01	82837233-01	12957356 00				
TO GRP. 006	53272638-01	62971272-01	82860207-01	10749638 00	18156524 00			
TO GRP. 007	52022453-01	62913630-01	82823231-01	10747008 00	14172554 00	21727963 00		
TO GRP. 008	50671371-01	62821999-01	82764447-01	10742829 00	14149112 00	18444946 00	30667773 00	
TO GRP. 009	48845884-01	62674315-01	82569727-01	10736003 00	14143584 00	18449301 00	23828015 00	32508290 00
TO GRP. 010	47438957-01	62551644-01	82591045-01	10730408 00	14158987 00	18445193 00	23825475 00	31107319 00
TO GRP. 011	47360525-01	62544410-01	82586411-01	10730149 00	14158716 00	18444052 00	23825475 00	31107231 00
TO GRP. 012	47355684-01	62544082-01	82586195-01	10730153 00	14158703 00	18444041 00	23825475 00	31107228 00
TO GRP. 013	47355998-01	62544002-01	82586144-01	10730150 00	14158700 00	18444938 00	23825473 00	31107226 00
TO GRP. 014	47355781-01	62543980-01	82586132-01	10730149 00	14158699 00	18444937 00	23825473 00	31107227 00
TO GRP. 015	47355694-01	62543972-01	82586127-01	10730148 00	14158699 00	18444937 00	23825472 00	31107227 00
TO GRP. 016	47355624-01	62543967-01	82586122-01	10730148 00	14158699 00	18444937 00	23825472 00	31107226 00
TO GRP. 017	47355579-01	62543963-01	82586119-01	10730148 00	14158698 00	18444937 00	23825472 00	31107227 00
TO GRP. 018	47355580-01	62543964-01	82586120-01	10730148 00	14158698 00	18444937 00	23825473 00	31107227 00
TO GRP. 019	47355573-01	62543964-01	82586119-01	10730148 00	14158698 00	18444937 00	23825472 00	31107226 00
TO GRP. 020	47355573-01	62543966-01	82586120-01	10730148 00	14158699 00	18444937 00	23825472 00	31107226 00
TO GRP. 021	47355570-01	62543950-01	82586119-01	10730148 00	14158698 00	18444937 00	23825472 00	31107225 00
TO GRP. 022	47355570-01	62543950-01	82586118-01	10730148 00	14158698 00	18444937 00	23825472 00	31107225 00
TO GRP. 023	47355569-01	62543965-01	82586120-01	10730148 00	14158698 00	18444937 00	23825472 00	31107226 00
TO GRP. 024	47355574-01	62543964-01	82586119-01	10730148 00	14158698 00	18444937 00	23825472 00	31107226 00
TO GRP. 025	47355573-01	62543964-01	82586120-01	10730148 00	14158699 00	18444937 00	23825472 00	31107226 00
TO GRP. 026	47355568-01	62543962-01	82586118-01	10730148 00	14158698 00	18444937 00	23825472 00	31107226 00
TO GRP. 027	47355565-01	62543960-01	82586119-01	10730148 00	14158698 00	18444937 00	23825472 00	31107226 00
TO GRP. 028	47355568-01	62543963-01	82586118-01	10730148 00	14158698 00	18444937 00	23825472 00	31107225 00
TO GRP. 029	47355563-01	62543963-01	82586118-01	10730148 00	14158698 00	18444937 00	23825472 00	31107226 00
TO GRP. 030	47355564-01	62543960-01	82586118-01	10730148 00	14158698 00	18444937 00	23825472 00	31107226 00
TO GRP. 031	47355571-01	62543964-01	82586118-01	10730148 00	14158698 00	18444937 00	23825472 00	31107227 00
TO GRP. 032	47355568-01	62543965-01	82586120-01	10730148 00	14158698 00	18444937 00	23825472 00	31107226 00

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	FROM GP 009	FROM GP 010	FROM GP 011	FROM GP 012	FROM GP 013	FROM GP 014	FROM GP 015	FROM GP 016
TO GRP. 010	64977299 01							
TO GRP. 011	64925492 01	59993908 01						
TO GRP. 012	64925492 01	59937943 01	22341628 01					
TO GRP. 013	64925492 01	59937943 01	22204547 01	18467912 01				
TO GRP. 014	64925493 01	59937943 01	22204546 01	18280000 01	11895873 01			
TO GRP. 015	64925492 01	59937943 01	22204546 01	18280001 01	11520942 01	58602288 00		
TO GRP. 016	64925492 01	59937943 01	22204547 01	18280000 01	11520942 01	55897762 00	11997959 01	
TO GRP. 017	64925492 01	59937943 01	22204547 01	18280001 01	11520942 01	55897764 00	11818105 01	18776941 01
TO GRP. 018	64925492 01	59937944 01	22204547 01	18280001 01	11520942 01	55897764 00	11818105 01	18465090 01
TO GRP. 019	64925493 01	59937943 01	22204547 01	18280001 01	11520942 01	55897763 00	11818105 01	18465091 01
TO GRP. 020	64925491 01	59937944 01	22204547 01	18280001 01	11520942 01	55897763 00	11818105 01	18465091 01
TO GRP. 021	64925492 01	59937944 01	22204547 01	18280001 01	11520943 01	55897763 00	11818105 01	18465091 01

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TO GRP. 023	64925492	01	59937944	01	22204546	01	18280000	01	11570942	01	55897764	00	11818105	01	18465091	01
TO GRP. 023	64925492	01	59937944	01	22204547	01	18280001	01	11570942	01	55897763	00	11818105	01	18465091	01
TO GRP. 024	64925491	01	59937943	01	22204547	01	18280001	01	11570942	01	55897764	00	11818105	01	18465091	01
TO GRP. 025	64925492	01	59937943	01	22204547	01	18280001	01	11570942	01	55897763	00	11818105	01	18465091	01
TO GRP. 024	64925492	01	59937943	01	22204547	01	18280001	01	11570942	01	55897763	00	11818105	01	18465091	01
TO GRP. 027	64925492	01	59937943	01	22204547	01	18280001	01	11570942	01	55897765	00	11818105	01	18465091	01
TO GRP. 029	64925492	01	59937943	01	22204547	01	18280001	01	11570943	01	55897763	00	11818105	01	18465091	01
TO GRP. 029	64925492	01	59937943	01	22204547	01	18280001	01	11570942	01	55897764	00	11818105	01	18465091	01
TO GRP. 030	64925492	01	59937943	01	22204547	01	18280001	01	11570942	01	55897762	00	11818105	01	18465091	01
TO GRP. 031	64925492	01	59937943	01	22204547	01	18280001	01	11570943	01	55897763	00	11818105	01	18465091	01
TO GRP. 032	64925493	01	59937944	01	22204547	01	18280001	01	11570943	01	55897764	00	11818105	01	18465091	01

FROM GP 017 FROM GP 018 FROM GP 019 FROM GP 020 FROM GP 021 FROM GP 022 FROM GP 023 FROM GP 024

TO GRP. 019	61533330	00														
TO GRP. 019	57040088	00	62766058	00												
TO GRP. 020	57040089	00	58358232	00	62975337	00										
TO GRP. 021	57040089	00	58358233	00	59747459	00	10567372	01								
TO GRP. 022	57040089	00	58358233	00	59747458	00	10814252	01	28011960-02							
TO GRP. 023	57040089	00	58358232	00	59747459	00	93787644	00	22398210-02	39499547	00					
TO GRP. 024	57040088	00	58358232	00	59747440	00	93510632	00	20428490-02	31717712	00	40564490	00			
TO GRP. 025	57040088	00	58358233	00	59747459	00	93510631	00	20428491-02	31340133	00	32718123	00	41724527	00	
TO GRP. 024	57040089	00	58358232	00	59747458	00	93510631	00	20428492-02	31340132	00	32358314	00	33793169	00	
TO GRP. 027	57040089	00	58358233	00	59747459	00	93510631	00	20428492-02	31340132	00	32358315	00	33429848	00	
TO GRP. 029	57040089	00	58358233	00	59747440	00	93510631	00	20428491-02	31360132	00	32358314	00	33429848	00	
TO GRP. 029	57040089	00	58358233	00	59747458	00	93510631	00	20428490-02	31360132	00	32358315	00	33429848	00	
TO GRP. 030	57040089	00	58358233	00	59747458	00	93510631	00	20428491-02	31360131	00	32358315	00	33429848	00	
TO GRP. 031	57040088	00	58358232	00	59747440	00	93510632	00	20428491-02	31360132	00	32358314	00	33429848	00	
TO GRP. 032	57040089	00	58358232	00	59747440	00	93510631	00	20428490-02	31360132	00	32358314	00	33429848	00	

FROM GP 025 FROM GP 026 FROM GP 027 FROM GP 028 FROM GP 029 FROM GP 030 FROM GP 031

TO GRP. 024	42627451	00														
TO GRP. 027	34670502	00	43675125	00												
TO GRP. 028	34308410	00	35680777	00	45072412	00										
TO GRP. 029	34308410	00	35314837	00	36917154	00	46454085	00								
TO GRP. 030	34308410	00	35314837	00	36542984	00	38232563	00	48229989	00						
TO GRP. 031	34308411	00	35314837	00	36542983	00	37863410	00	39833804	00	50430462	00				
TO GRP. 032	34308410	00	35314836	00	36542983	00	37863408	00	39447823	00	41909673	00	55358053	00		

REGION 002

FROM GP 001 FROM GP 002 FROM GP 003 FROM GP 004 FROM GP 005 FROM GP 006 FROM GP 007 FROM GP 008

TO GRP. 002	60236036-01															
TO GRP. 003	49787757-01	78604789-01														
TO GRP. 004	52156185-01	61146442-01	10192419	00												
TO GRP. 005	53159927-01	61146441-01	82335846-01	12841628	00											
TO GRP. 006	52627973-01	61146440-01	82335847-01	10664400	00											
TO GRP. 007	51351103-01	61146441-01	82335845-01	10664400	00	18109560	00									
TO GRP. 008	50003745-01	61146441-01	82335846-01	10664400	00	14133243	00	21652900	00							
TO GRP. 009	48209781-01	61146441-01	82335845-01	10664400	00	14133243	00	18396003	00	30674490	00					
TO GRP. 010	46876981-01	61146439-01	82335845-01	10664400	00	14133243	00	18396004	00	27855340	00	32784306	00			
TO GRP. 011	46760880-01	61146439-01	82335845-01	10664400	00	14133243	00	18396003	00	27855341	00	31377823	00			
TO GRP. 012	46757306-01	61146439-01	82335845-01	10664400	00	14133243	00	18396003	00	27855341	00	31377823	00			
TO GRP. 013	46756481-01	61146439-01	82335845-01	10664400	00	14133243	00	18396003	00	27855340	00	31377823	00			
TO GRP. 014	46756281-01	61146440-01	82335845-01	10664400	00	14133243	00	18396003	00	27855340	00	31377823	00			
TO GRP. 015	46756192-01	61146439-01	82335845-01	10664400	00	14133243	00	18396003	00	27855340	00	31377823	00			
TO GRP. 016	46756116-01	61146439-01	82335845-01	10664400	00	14133243	00	18396003	00	27855340	00	31377822	00			

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TO GRP. 017	46756084-01	61146438-01	82335845-01	10664400 00	14173243 00	18396004 00	23855341 00	31377824 00
TO GRP. 018	46756080-01	61146439-01	82335845-01	10664400 00	14173243 00	18396003 00	23855341 00	31377823 00
TO GRP. 019	46756072-01	61146439-01	82335845-01	10664400 00	14173243 00	18396003 00	23855341 00	31377823 00
TO GRP. 020	46756069-01	61146439-01	82335845-01	10664400 00	14173243 00	18396004 00	23855341 00	31377822 00
TO GRP. 021	46756065-01	61146439-01	82335845-01	10664400 00	14173243 00	18396004 00	23855341 00	31377821 00
TO GRP. 022	46756068-01	61146439-01	82335845-01	10664400 00	14173243 00	18396004 00	23855341 00	31377821 00
TO GRP. 023	46756070-01	61146439-01	82335845-01	10664400 00	14173243 00	18396003 00	23855341 00	31377822 00
TO GRP. 024	46756069-01	61146439-01	82335845-01	10664400 00	14173243 00	18396003 00	23855341 00	31377823 00
TO GRP. 025	46756069-01	61146441-01	82335845-01	10664400 00	14173243 00	18396003 00	23855340 00	31377822 00
TO GRP. 026	46756071-01	61146439-01	82335845-01	10664400 00	14173243 00	18396004 00	23855341 00	31377823 00
TO GRP. 027	46756068-01	61146439-01	82335845-01	10664400 00	14173242 00	18396004 00	23855341 00	31377823 00
TO GRP. 028	46756067-01	61146438-01	82335845-01	10664400 00	14173243 00	18396004 00	23855341 00	31377821 00
TO GRP. 029	46756061-01	61146439-01	82335845-01	10664400 00	14173243 00	18396004 00	23855340 00	31377823 00
TO GRP. 030	46756071-01	61146439-01	82335845-01	10664400 00	14173243 00	18396004 00	23855341 00	31377823 00
TO GRP. 031	46756068-01	61146439-01	82335845-01	10664400 00	14173243 00	18396004 00	23855341 00	31377822 00
TO GRP. 032	46756066-01	61146440-01	82335846-01	10664400 00	14173243 00	18396004 00	23855340 00	31377823 00

FROM GP 009 FROM GP 010 FROM GP 011 FROM GP 012 FROM GP 013 FROM GP 014 FROM GP 015 FROM GP 016

TO GRP. 010	67159592 01							
TO GRP. 011	67109277 01	60572267 01						
TO GRP. 012	67109277 01	60515826 01	22438395 01					
TO GRP. 013	67109276 01	60515826 01	22300874 01	18513154 01				
TO GRP. 014	67109276 01	60515826 01	22300873 01	18324974 01	11918208 01			
TO GRP. 015	67109276 01	60515827 01	22300873 01	18324975 01	11543070 01	58617559 00		
TO GRP. 016	67109276 01	60515827 01	22300874 01	18324974 01	11543070 01	55906383 00	12008615 01	
TO GRP. 017	67109277 01	60515826 01	22300874 01	18324975 01	11543070 01	55906383 00	11828824 01	18816291 01
TO GRP. 018	67109276 01	60515827 01	22300874 01	18324975 01	11543070 01	55906383 00	11828824 01	18504138 01
TO GRP. 019	67109276 01	60515826 01	22300874 01	18324974 01	11543070 01	55906382 00	11828824 01	18504137 01
TO GRP. 020	67109276 01	60515827 01	22300874 01	18324974 01	11543070 01	55906383 00	11828824 01	18504137 01
TO GRP. 021	67109277 01	60515826 01	22300874 01	18324974 01	11543070 01	55906382 00	11828824 01	18504137 01
TO GRP. 022	67109276 01	60515827 01	22300874 01	18324975 01	11543070 01	55906384 00	11828824 01	18504137 01
TO GRP. 023	67109277 01	60515827 01	22300874 01	18324974 01	11543070 01	55906382 00	11828824 01	18504137 01
TO GRP. 024	67109277 01	60515826 01	22300874 01	18324974 01	11543070 01	55906383 00	11828824 01	18504137 01
TO GRP. 025	67109277 01	60515826 01	22300874 01	18324974 01	11543070 01	55906383 00	11828824 01	18504137 01
TO GRP. 026	67109275 01	60515826 01	22300874 01	18324974 01	11543070 01	55906384 00	11828824 01	18504138 01
TO GRP. 028	67109277 01	60515826 01	22300874 01	18324974 01	11543070 01	55906383 00	11828824 01	18504137 01
TO GRP. 029	67109276 01	60515827 01	22300874 01	18324975 01	11543070 01	55906383 00	11828824 01	18504137 01
TO GRP. 030	67109275 01	60515826 01	22300874 01	18324974 01	11543070 01	55906381 00	11828824 01	18504137 01
TO GRP. 031	67109277 01	60515826 01	22300873 01	18324975 01	11543070 01	55906383 00	11828824 01	18504137 01
TO GRP. 032	67109277 01	60515826 01	22300874 01	18324974 01	11543070 01	55906383 00	11828824 01	18504137 01

FROM GP 017 FROM GP 018 FROM GP 019 FROM GP 020 FROM GP 021 FROM GP 022 FROM GP 023 FROM GP 024

TO GRP. 018	61541674 00							
TO GRP. 019	57052947 00	62782687 00						
TO GRP. 020	57052945 00	58378990 00	63019907 00					
TO GRP. 021	57052946 00	58378990 00	59793849 00	10557273 01				
TO GRP. 022	57052946 00	58378989 00	59793848 00	10825594 01	27804842-02			
TO GRP. 023	57052946 00	58378989 00	59793847 00	93894210 00	22398186-02	39493441 00		
TO GRP. 024	57052946 00	58378989 00	59793847 00	93616905 00	20478470-02	31722622 00	40559864 00	
TO GRP. 025	57052946 00	58378991 00	59793847 00	93616904 00	20478471-02	31364989 00	32724671 00	41722120 00
TO GRP. 026	57052946 00	58378991 00	59793847 00	93616905 00	20478471-02	31364987 00	32364604 00	37801328 00
TO GRP. 027	57052946 00	58378990 00	59793848 00	93616905 00	20478471-02	31364989 00	32364604 00	33437925 00
TO GRP. 028	57052946 00	58378990 00	59793846 00	93616904 00	20478470-02	31364988 00	32364603 00	33437924 00
TO GRP. 029	57052947 00	58378990 00	59793847 00	93616904 00	20478469-02	31364988 00	32364604 00	33437924 00
TO GRP. 030	57052947 00	58378989 00	59793848 00	93616904 00	20478470-02	31364990 00	32364604 00	33437925 00
TO GRP. 031	57052946 00	58378990 00	59793848 00	93616904 00	20478470-02	31364988 00	32364603 00	33437924 00
TO GRP. 032	57052946 00	58378990 00	59793847 00	93616905 00	20478470-02	31364988 00	32364603 00	33437924 00

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	FROM GP 025	FROM GP 026	FROM GP 027	FROM GP 028	FROM GP 029	FROM GP 030	FROM GP 031
TO GRP. 026	42624211 00						
TO GRP. 027	34678094 00	43676144 00					
TO GRP. 028	34315931 00	35691972 00	45086163 00				
TO GRP. 029	34315931 00	35325925 00	34938926 00	46478077 00			
TO GRP. 030	34315931 00	35325925 00	34564558 00	38269138 00	48277616 00		
TO GRP. 031	34315932 00	35325925 00	34564558 00	37893708 00	39894707 00	50571471 00	
TO GRP. 032	34315931 00	35325925 00	34564540 00	37893705 00	39498299 00	49039216 00	59067900 00

FISSION NEUTRON PRODUCTION CROSS SECTION: FSUB I+K

	REGION 001	REGION 002
GROUP 001	37631738 04	00000000 00
GROUP 002	15112327 04	00000000 00
GROUP 003	91310695 03	00000000 00
GROUP 004	54591223 03	00000000 00
GROUP 005	30564682 03	00000000 00
GROUP 006	17076968 03	00000000 00
GROUP 007	11333609 03	00000000 00
GROUP 008	76306457 02	00000000 00
GROUP 009	17911419 03	00000000 00
GROUP 010	23659027 02	00000000 00
GROUP 011	25328061 01	00000000 00
GROUP 012	12083026 01	00000000 00
GROUP 013	34889465 00	00000000 00
GROUP 014	15347232 00	00000000 00
GROUP 015	12225534 00	00000000 00
GROUP 016	25836646-01	00000000 00
GROUP 017	13941576-01	00000000 00
GROUP 018	77480858-02	00000000 00
GROUP 019	75477048-02	00000000 00
GROUP 020	15086481-01	00000000 00
GROUP 021	25094277-04	00000000 00
GROUP 022	34179338-02	00000000 00
GROUP 023	29089862-02	00000000 00
GROUP 024	26058337-02	00000000 00
GROUP 025	23837177-02	00000000 00
GROUP 026	1728597-02	00000000 00
GROUP 027	17257409-02	00000000 00
GROUP 028	18860017-02	00000000 00
GROUP 029	17500451-02	00000000 00
GROUP 030	1560066-02	00000000 00
GROUP 031	15284484-02	00000000 00
GROUP 032	13446748-02	00000000 00

FISSION CROSS SECTION: SIGMAFSUB I+K

	REGION 001	REGION 002
GROUP 001	10862674 04	00000000 00
GROUP 002	49238140 03	00000000 00

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GROUP	003	32269068	03	00000000	00
GROUP	004	20340891	03	00000000	00
GROUP	005	11774498	03	00000000	00
GROUP	006	67161723	02	00000000	00
GROUP	007	45149416	02	00000000	00
GROUP	008	30638399	02	00000000	00
GROUP	009	72452362	02	00000000	00
GROUP	010	96154296	01	00000000	00
GROUP	011	10295960	01	00000000	00
GROUP	012	49117993	00	00000000	00
GROUP	013	14182708	00	00000000	00
GROUP	014	62387327	01	00000000	00
GROUP	015	49697291	01	00000000	00
GROUP	016	10502701	01	00000000	00
GROUP	017	56673072	02	00000000	00
GROUP	018	31496283	02	00000000	00
GROUP	019	30681726	02	00000000	00
GROUP	020	61327160	02	00000000	00
GROUP	021	10200925	04	00000000	00
GROUP	022	13894039	02	00000000	00
GROUP	023	11825147	02	00000000	00
GROUP	024	10592820	02	00000000	00
GROUP	025	96899093	03	00000000	00
GROUP	026	72067471	03	00000000	00
GROUP	027	70152071	03	00000000	00
GROUP	028	76666737	03	00000000	00
GROUP	029	71140045	03	00000000	00
GROUP	030	63414902	03	00000000	00
GROUP	031	62132051	03	00000000	00
GROUP	032	54858556	03	00000000	00

TABLE II-28H

FLUX-WEIGHTED RESULTS OF THE DIFFUSION-CALCULATION PROBLEM

ITERATION NUMBER 5.

K: 10012824 01

SPACE DISTRIBUTION OF THE TOTAL SOURCE -FISSION NEUTRONS PER CUBIC CM PER SECOND

	MESH PT 000	MESH PT 001	MESH PT 002	MESH PT 003	MESH PT 004	MESH PT 005	MESH PT 006	MESH PT 007
REGION 001	61911407 13	61816791 13	61722292 13	61567504 13	61350213 13	61070498 13	60728823 13	60325809 13
	MESH PT 008	MESH PT 009	MESH PT 010	MESH PT 011	MESH PT 012	MESH PT 013	MESH PT 014	MESH PT 015
REGION 001	59862185 13	59338799 13	58756602 13	58116672 13	57420213 13	56668577 13	55863271 13	55005990 13
	MESH PT 016	MESH PT 017	MESH PT 018	MESH PT 019	MESH PT 020	MESH PT 021	MESH PT 022	MESH PT 023
REGION 001	54098640 13	53143384 13	52142685 13	51099379 13	50016759 13	48848682 13	47749208 13	46575276 13
	MESH PT 024	MESH PT 025	MESH PT 026	MESH PT 027	MESH PT 028	MESH PT 029	MESH PT 030	MESH PT 031
REGION 001	45381922 13	44177560 13	42971835 13	41776557 13	40606255 13	39478865 13	38416599 13	37447028 13
	MESH PT 032	MESH PT 033	MESH PT 034	MESH PT 035	MESH PT 036	MESH PT 037	MESH PT 038	MESH PT 039
REGION 001	36604438 13	35931539 13	35481599 13	35321128 13	35533227 13	36221791 13	37516736 13	39580496 13
	MESH PT 040							
REGION 001	42616041 13							
	MESH PT 040	MESH PT 041	MESH PT 042	MESH PT 043	MESH PT 044	MESH PT 045	MESH PT 046	MESH PT 047
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 048	MESH PT 049	MESH PT 050	MESH PT 051	MESH PT 052	MESH PT 053	MESH PT 054	MESH PT 055
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 056	MESH PT 057	MESH PT 058	MESH PT 059	MESH PT 060	MESH PT 061	MESH PT 062	MESH PT 063

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TABLE II-28H

(page 2)

REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 064	MESH PT 065	MESH PT 066	MESH PT 067	MESH PT 068	MESH PT 069	MESH PT 070	MESH PT 071	
REGION 003	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 072	MESH PT 073	MESH PT 074	MESH PT 075	MESH PT 076	MESH PT 077	MESH PT 078	MESH PT 079	
REGION 004	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 080								
REGION 005	00000000 00								

SPACE AND ENERGY DISTRIBUTION OF THE FLUX- NEUTRONS PER SQUARE CM PER SEC PER UNIT ENERGY

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	MESH PT 000	MESH PT 001	MESH PT 002	MESH PT 003	MESH PT 004	MESH PT 005	MESH PT 006	MESH PT 007
GROUP 001	20438627 06	20408443 06	20378300 06	20328932 06	20299638 06	20170254 06	20061440 06	19933104 06
GROUP 002	15510839 07	15487477 07	15464107 07	15425935 07	15372298 07	15303261 07	15218044 07	15119507 07
GROUP 003	51113579 07	51036244 07	50959011 07	50832508 07	50654039 07	50476379 07	50147224 07	49817995 07
GROUP 004	95344571 07	95200164 07	95055091 07	94819740 07	9448170 07	94041385 07	93540117 07	92925340 07
GROUP 005	13761090 08	13740290 08	13719536 08	13685527 08	13637791 08	13576348 08	13501305 08	13412803 08
GROUP 006	18516973 08	18489774 08	18461016 08	18415220 08	18350036 08	18281193 08	18167133 08	18047944 08
GROUP 007	22566969 08	22532876 08	22498826 08	22443057 08	22344775 08	22244017 08	22140055 08	21995821 08
GROUP 008	30020584 08	29975217 08	29929008 08	29855698 08	29751532 08	29617456 08	29453705 08	29260586 08
GROUP 009	65545421 08	65446297 08	65347303 08	65185160 08	64957563 08	64644410 08	64306006 08	63864814 08
GROUP 010	13702200 10	13691456 10	13660729 10	13626779 10	13579122 10	13517778 10	13442247 10	13354466 10
GROUP 011	11622303 11	11604687 11	11587002 11	11558274 11	11517818 11	11445742 11	11402129 11	11327094 11
GROUP 012	42645673 11	42540988 11	42516384 11	42410542 11	42242009 11	42070775 11	41837172 11	41561608 11
GROUP 013	11659383 12	11641688 12	11624015 12	11595045 12	11544425 12	11502108 12	11438198 12	11367805 12
GROUP 014	20858674 12	20827006 12	20795378 12	20743570 12	20670839 12	20577209 12	20462830 12	20327896 12
GROUP 015	37067864 12	37011562 12	36955299 12	36863216 12	36733002 12	36547026 12	36364051 12	36124124 12
GROUP 016	10055026 13	10039730 13	10024470 13	99994599 12	99643472 12	99101425 12	98639158 12	97987603 12
GROUP 017	22685770 13	22651261 13	22616703 13	22560331 13	22441064 13	22379012 13	22254331 13	22107230 13
GROUP 018	33962917 13	33911235 13	33859614 13	33775054 13	33646337 13	33503495 13	33316759 13	33094441 13
GROUP 019	50577196 13	50500205 13	50423305 13	50297345 13	50170080 13	49892784 13	49614092 13	49280366 13
GROUP 020	82710405 13	82584448 13	82458489 13	82252548 13	81943206 13	81500682 13	81135037 13	80590521 13
GROUP 021	11350736 14	11333446 14	11316177 14	11287908 14	11248172 14	11197037 14	11134560 14	11060845 14
GROUP 022	13283929 14	13263692 14	13243400 14	13210368 14	13143880 14	13104028 14	13030000 14	12944616 14
GROUP 023	16300116 14	16275281 14	16250474 14	16209937 14	16152784 14	16079378 14	15989580 14	15883684 14
GROUP 024	20571030 14	20539681 14	20508370 14	20457076 14	20395061 14	20292341 14	20179055 14	20053386 14
GROUP 025	26617619 14	26577048 14	26536523 14	26470139 14	26376937 14	26256038 14	26110119 14	25937321 14
GROUP 026	35525255 14	35471094 14	35416906 14	35328374 14	35203051 14	35043751 14	3484815 14	34617058 14
GROUP 027	48472349 14	48398430 14	48324008 14	48203648 14	48033835 14	47815104 14	47548449 14	47232833 14
GROUP 028	69133318 14	69077362 14	68922528 14	68749974 14	68577707 14	68105778 14	67814645 14	67364924 14
GROUP 029	10647194 15	10630947 15	10614718 15	10588133 15	10540806 15	10502746 15	10444024 15	10374733 15
GROUP 030	18563547 15	18535204 15	18506802 15	18460513 15	18395395 15	18311551 15	18209104 15	18082216 15
GROUP 031	39984763 15	39923658 15	39862613 15	39762616 15	39622216 15	39441437 15	39220040 15	38959876 15
GROUP 032	30562208 16	30515448 16	30468705 16	30392253 16	30294881 16	30186675 16	29977877 16	29778808 16
	MESH PT 008	MESH PT 009	MESH PT 010	MESH PT 011	MESH PT 012	MESH PT 013	MESH PT 014	MESH PT 015













TABLE II-28H

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GROUP	013	23212170	10	20786903	10	18482608	10	16278507	10	14156314	10	12099593	10	10095013	10	81323507	09
GROUP	014	42720048	10	38230487	10	33966602	10	29891432	10	25971541	10	22178349	10	18488237	10	14883295	10
GROUP	015	76659076	10	68552612	10	60857589	10	53508400	10	46447096	10	39643029	10	32994379	10	26528314	10
GROUP	016	21148057	11	18889617	11	16747642	11	14704509	11	12744012	11	10855069	11	90236845	10	72415259	10
GROUP	017	48897993	11	43647035	11	38669516	11	33925554	11	29379809	11	25001613	11	20765045	11	16648957	11
GROUP	018	73813908	11	65863073	11	58327057	11	51148109	11	44270284	11	37647123	11	31237450	11	25005904	11
GROUP	019	11147797	12	99434433	11	88021035	11	77149393	11	66734791	11	56744674	11	46992000	11	37538621	11
GROUP	020	18874489	12	16827416	12	14887748	12	13040006	12	11249077	12	95647336	11	79122441	11	63009187	11
GROUP	021	26267438	12	23413245	12	20708845	12	18132549	12	15644333	12	13285722	12	10979161	12	87271966	11
GROUP	022	36908857	12	27546644	12	24360919	12	21326015	12	18418315	12	15615845	12	12897654	12	10242841	12
GROUP	023	38319341	12	34144470	12	30188299	12	26418587	12	22805283	12	19319814	12	15933047	12	12617978	12
GROUP	024	48987282	12	43641130	12	38574325	12	33745032	12	29113019	12	24642461	12	20292146	12	16020601	12
GROUP	025	64425973	12	57381372	12	50703829	12	44337657	12	38279869	12	32308535	12	26580292	12	20926552	12
GROUP	026	87064467	12	77523612	12	68478131	12	59851728	12	51521205	12	43544121	12	35755457	12	28062122	12
GROUP	027	12155758	13	10820323	13	95338701	12	83455552	12	71648664	12	60612655	12	49636745	12	38797468	12
GROUP	028	16005686	13	16021263	13	14138473	13	12341566	13	10613971	13	89397728	12	73020119	12	56818887	12
GROUP	029	29047128	13	25832070	13	22780510	13	19865534	13	17040733	13	14349380	13	11673455	13	90324347	12
GROUP	030	54258051	13	48213570	13	42472477	13	36983565	13	31696716	13	26561365	13	21525431	13	16534002	13
GROUP	031	12772146	14	11333865	14	99662701	13	86571676	13	73945967	13	61646509	13	49613088	13	37663139	13
GROUP	032	69558420	15	61759251	15	54202719	15	46873721	15	39757184	15	32878403	15	26103363	15	19539076	15

MESH PT 080

GROUP	001	71786388	04
GROUP	002	33272579	05
GROUP	003	67177615	05
GROUP	004	11547387	06
GROUP	005	11544544	06
GROUP	006	15068849	06
GROUP	007	12992810	06
GROUP	008	19224431	06
GROUP	009	36689758	06
GROUP	010	71610243	07
GROUP	011	60325180	08
GROUP	012	22410777	09
GROUP	013	62050972	09
GROUP	014	11352006	10
GROUP	015	20201443	10
GROUP	016	55014652	10
GROUP	017	12636850	11
GROUP	018	18920632	11
GROUP	019	28282703	11
GROUP	020	47188607	11
GROUP	021	65111638	11
GROUP	022	76290780	11
GROUP	023	93378575	11
GROUP	024	11777587	12
GROUP	025	15297842	12
GROUP	026	20386838	12
GROUP	027	27948528	12
GROUP	028	40576546	12
GROUP	029	63819464	12
GROUP	030	11528362	13
GROUP	031	25691633	13
GROUP	032	13133935	15

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TABLE II-28H

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	MESH PT 000	MESH PT 001	MESH PT 002	MESH PT 003	MESH PT 004	MESH PT 005	MESH PT 006	MESH PT 007
REGION 001	35052257 11	34929304 11	34607858 11	34246688 11	33742848 11	33099939 11	32323076 11	31418548 11
	MESH PT 008	MESH PT 009	MESH PT 010	MESH PT 011	MESH PT 012	MESH PT 013	MESH PT 014	MESH PT 015
REGION 001	30393761 11	29256974 11	29017760 11	26684948 11	25270026 11	23794128 11	22238461 11	20645150 11
	MESH PT 016	MESH PT 017	MESH PT 018	MESH PT 019	MESH PT 020	MESH PT 021	MESH PT 022	MESH PT 023
REGION 001	19016187 11	17364025 11	15700525 11	14037876 11	12397811 11	10741535 11	91695750 10	74216402 10
	MESH PT 024	MESH PT 025	MESH PT 026	MESH PT 027	MESH PT 028	MESH PT 029	MESH PT 030	MESH PT 031
REGION 001	61267640 10	46924431 10	33252678 10	20296826 10	80894362 09	-33633075 09	-14075166 10	-24089067 10
	MESH PT 032	MESH PT 033	MESH PT 034	MESH PT 035	MESH PT 036	MESH PT 037	MESH PT 038	MESH PT 039
REGION 001	-33481359 10	-42362142 10	-50887066 10	-59260600 10	-67748823 10	-78697676 10	-86497690 10	-97701396 10
	MESH PT 040							
REGION 001	-11094556 11							
	MESH PT 040	MESH PT 041	MESH PT 042	MESH PT 043	MESH PT 044	MESH PT 045	MESH PT 046	MESH PT 047
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 048	MESH PT 049	MESH PT 050	MESH PT 051	MESH PT 052	MESH PT 053	MESH PT 054	MESH PT 055
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 056	MESH PT 057	MESH PT 058	MESH PT 059	MESH PT 060	MESH PT 061	MESH PT 062	MESH PT 063
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 064	MESH PT 065	MESH PT 066	MESH PT 067	MESH PT 068	MESH PT 069	MESH PT 070	MESH PT 071
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 072	MESH PT 073	MESH PT 074	MESH PT 075	MESH PT 076	MESH PT 077	MESH PT 078	MESH PT 079
REGION 002	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00	00000000 00
	MESH PT 080							

TABLE II-28I

RESULTS OF THE CRITICALITY-ADJUSTMENT PROBLEM

DESIRED VALUE OF K, KSUB 0, 1000000 01 TOLERANCE: 1000000-01

	Z	K	
1ST TRY	17716874-03	10012819 01	10000000-02

### III. MAGNETIC TAPE DESCRIPTIONS

This section describes some of the machine tapes that are used by the DMM System. The following discussion gives the various blocks on the tapes and, where necessary, a detailed breakdown of the information contained in these blocks.

#### A. Raw-Data Tape

This variable-block tape contains the data pertaining to the nuclear properties of each isotope. Data are obtained from cards, and the specification of these nuclear-data cards is included in the following tables, in conjunction with the specification of the tape blocks.

The list of blocks on the tape is given in Table III-1 and the detailed description of the blocks in Table III-2.

The following information is included on the tape.

#### 1. Energy-Dependent Quantities for Isotope A

- |  |                          |
|--|--------------------------|
| a. Energy point  | $E$                      |
| b. Isotope identification                                  | $A$                      |
| c. Capture cross section                                   | $\sigma_{cA}(E)$         |
| d. Elastic-scattering cross section                        | $\sigma_{sA}(E)$         |
| e. Fission cross section                                   | $\sigma_{fA}(E)$         |
| f. Inelastic-scattering cross section                      | $\sigma_{inA}(E)$        |
| g. Number of neutrons emitted per fission                  | $\nu_{fA}(E)$            |
| h. Number of neutrons emitted per inelastic scatter        | $\nu_{inA}(E)$           |
| i. Energy distribution of neutrons emitted per fission     | $\chi_{fA}(E)$           |
| j. Energy distribution of inelastically scattered neutrons | $\chi_{inA}(E)$          |
| k. Normalizing function for truncated $\chi_{in}$          | $X_{inA}(E)$             |
| l. One minus the average cosine of the scattering angle    | $(1 - \bar{\mu}_0)_A(E)$ |

The  $\chi_{inA}$  and  $X_{inA}$  are evaluated by the following equations, where T is given in

$$\chi_{\text{in}A}(E) = C E \exp(-E/T) ,$$

$$X_{\text{in}A}(E) = C [ T^2 - \exp(-E/T) (TE + T^2) ] ,$$

where C is given by

$$C = \left[ T^2 - \exp\left(-\frac{10^7}{T}\right) (10^7 T + T^2) \right]^{-1}$$

The  $\chi_f(E)$  used at present is given in Table II-25.

2. Parameters Not Dependent on Energy

- |   |   |
|---|---|
| a. Maximum fractional energy loss per collision               | $\alpha_A$                                |
| b. Isotope descendants  |   |
| A into $A_0$ by capture                                       | $A_0$                                     |
| A into $A_\eta$ by fission ( $\eta = 1, 2, \dots, \gamma_1$ ) | $A_\eta$                                  |
| c. Fractional yield of $A_\eta$ by fission of A               | $Y_{A_\eta}$                              |
| d. Total radioactive decay constant for isotope A             | $\lambda_A$                               |
| e. Name of an isotope produced by decay of A                  | $A_\xi$ ( $\xi = 1, 2, \dots, \gamma_2$ ) |
| f. Radioactive decay constant for producing $A_\xi$ from A    | $\lambda_{A_\xi}$                         |

TABLE III-1  
RAW-DATA TAPE  
XS-3

	<u>Number of Blocks</u>
Indicator Block for isotope $A_1$ . . . . .	1
Indicator Block for isotope $A_2$ . . . . .	1
Indicator Block for isotope $A_Y$ . . . . .	1
End of Isotope List Block . . . . .	1
Indicator Block for Fission Spectrum . . . . .	1
Fission Spectrum Table . . . . .	$\left[ \frac{2M \chi_f + 2}{6} \right]$
Indicator Block for isotope $A_1$ . . . . .	1
Descendant Block for isotope $A_1$ . . . . .	$\left[ \frac{2\gamma_1 A_1 + 3}{6} \right]$
Lambda Block for isotope $A_1$ . . . . .	$\left[ \frac{2\gamma_2 A_1 + 3}{6} \right]$
Function Block for point $A_1 E(1)$ . . . . .	3
Function Block for point $A_1 E(2)$ . . . . .	3
Function Block for point $A_1 E(M_{A_1})$ . . . . .	3
End of Function Block . . . . .	1
Indicator Block for isotope $A_2$ . . . . .	1
Descendant Block for isotope $A_2$ . . . . .	$\left[ \frac{2\gamma_1 A_2 + 3}{6} \right]$

TABLE III-I  
(cont.)

	Number of Blocks
Lambda Block for isotope $A_2$	$\left[ \frac{2\gamma_2 A_2 + 3}{6} \right]$
Function Block for point $A_2 E(1)$	3
Function Block for point $A_2 E(2)$	3
Function Block for point $A_2 E(M_{A_2})$	3
End of Function Block	1
Indicator Block for isotope $A_Y$	1
Descendant Block for isotope $A_Y$	$\left[ \frac{2\gamma_1 A_Y + 3}{6} \right]$
Lambda Block for isotope $A_Y$	$\left[ \frac{2\gamma_2 A_Y + 3}{6} \right]$
Function Block for point $A_Y E(1)$	3
Function Block for point $A_Y E(2)$	3
Function Block for point $A_Y E(M_{A_Y})$	3
End of Function Block	1

End of Tape

Total number of blocks on tape:

$$3Y + \left[ \frac{M_{X_f} + 1}{3} \right] + 2 + \sum_{K=1}^Y \left\{ \left[ \frac{2\gamma_1 A_K + 3}{6} \right] + \left[ \frac{2\gamma_2 A_K + 3}{6} \right] + 3M_{A_K} \right\}$$

TABLE III-1 :  
(concl.)

- where Y = number of isotopes in the Basic Library,
- $M_{A_K}$  = number of tabular values for isotope  $A_K$ ,
- $M_{\chi_f}$  = number of tabular values for fission spectrum,
- $\gamma_{1 A_K}$  = number of fission descendants from isotope  $A_K$ ,
- $\gamma_{2 A_K}$  = number of decay descendants from isotope  $A_K$ ,
- [X] = smallest integer greater than or equal to X.



TABLE III-2

DETAILED BLOCK INFORMATION  
Raw-Data Tape

Card Count	Block Name	Card Columns	Block Positions	Variable Symbol	Description of Variable
<u>Indicator Block for Isotope A</u>					
1	Indi- cator Block for Isotope A	1-12	1-12	ELMENT	Isotope indication 000000ELMENT
		13-24	13-24	A	Isotope code name
		25-36	25-36	$\alpha_A$	$\left[ \frac{a_A - 1}{a_A + 1} \right]^2$ , where $a_A$ is the atomic weight of isotope A
		37-48	37-48	$M_A$	Number of energy points at which each function of A is tabulated
		49-60	49-60	FLAG	End of indicator block for isotope A
		61-72	61-72		
		73-80	73-80		
<u>End of Isotope List Block</u>					
1	End of Isotope List Block	1-12	1-12	FLAG	End of isotope list block
		13-24	13-24		
		25-36	25-36		
		37-48	37-48		
		49-60	49-60		
		61-72	61-72		
		73-80	73-80		
		81-120			

TABLE III-2 (cont.)

<u>Card Count</u>	<u>Block Name</u>	<u>Card Columns</u>	<u>Block Positions</u>	<u>Variable Symbol</u>	<u>Description of Variable</u>
<u>Indicator Block for Fission Spectrum</u>					
1	Indicator Block for Fission Spectrum	1-12	1-12		
		13-24	13-24		
		25-36	25-36		
		37-48	37-48	$M_{\chi_f}$	Number of tabular values of fission spectrum
		49-60	49-60	FLAG	End of indicator block for fission spectrum
		61-72	61-72		
		73-80	73-80		
			81-120		
<u>Fission-Spectrum Table</u>					
1	Fission Spectrum Table	1-12	1-12	E(1)	First point at which fission spectrum is tabulated
		13-24	13-24	E(2)	Second point at which fission spectrum is tabulated
		25-36	25-36	E(3)	Third point at which fission spectrum is tabulated
		37-48	37-48	E(4)	Fourth point at which fission spectrum is tabulated
		49-60	49-60	E(5)	Fifth point at which fission spectrum is tabulated
		61-72	61-72	E(6)	Sixth point at which fission spectrum is tabulated
		73-80	73-80		
			81-120		

$$\left[ \frac{M_{\chi_f} + 1}{6} \right]^{-2}$$

TABLE III-2 (cont.)

Card Count	Block Name	Card Columns	Block Positions	Variable Symbol	Description of Variable
<u>Fission-Spectrum Table (cont.)</u>					
		1-12	1-12		
		13-24	13-24	E(K)	K <sup>th</sup> point at which fission spectrum is tabulated
		25-36	25-36		
$\left[ \frac{M_f + 1}{6} \right]$		37-48	37-48	E(M <sub>f</sub> ) χ <sub>f</sub>	M <sub>f</sub> <sup>th</sup> point at which fission spectrum is tabulated
		49-60	49-60	FLAG	End of argument table for fission spectrum
		61-72	61-72	χ <sub>f</sub> E(1)	Function value at first point of tabulation
		73-80	73-80		
			81-120		
		1-12	1-12	χ <sub>f</sub> [E(2)]	Function value at second point of tabulation
		13-24	13-24	χ <sub>f</sub> [E(3)]	Function value at third point of tabulation
$\left[ \frac{M_f + 1}{6} \right] + 1$		25-36	25-36	χ <sub>f</sub> [E(4)]	Function value at fourth point of tabulation
		37-48	37-48	χ <sub>f</sub> [E(5)]	Function value at fifth point of tabulation
		49-60	49-60	χ <sub>f</sub> [E(6)]	Function value at sixth point of tabulation
		61-72	61-72	χ <sub>f</sub> [E(7)]	Function value at seventh point of tabulation
		73-80	73-80		
			81-120		
$\left[ \frac{M_f + 1}{3} \right] - \left[ \frac{M_f + 1}{6} \right] - 2$					

TABLE III-2 (cont.)

<u>Card Count</u>	<u>Block Name</u>	<u>Card Columns</u>	<u>Block Positions</u>	<u>Variable Symbol</u>	<u>Description of Variable</u>
<u>Fission-Spectrum Table (cont.)</u>					
		1-12	1-12	$\chi_f[E(K)]$	Function value at $K^{\text{th}}$ point of tabulation
		13-24	13-24		
		25-36	25-36	$\chi_f[E(M_{\chi_f})]$	Function value at $M_{\chi_f}^{\text{th}}$ point of tabulation
		37-48	37-48	FLAG	End of function table for fission spectrum
		49-60	49-60		
		61-72	61-72		
		73-80	73-80		
			81-120		
		<u>Indicator Block for Isotope A</u>			
		1-12	1-12	ELMENT	Isotope indication 000000ELMENT
		13-24	13-24	A	Isotope code name
		25-36	25-36	$\alpha_A$	$\left[ \frac{a_A - 1}{a_A + 2} \right]^2$ , where $a_A$ is the atomic weight of isotope A
1	Indicator Block for Isotope A	37-48	37-48	$M_A$	Number of energy points for which each function of A is tabulated
		49-60	49-60	FLAG	End of indicator block for isotope A
		61-72	61-72		
		73-80	73-80		
			81-120		

$$\left[ \frac{M_{\chi_f} + 1}{3} \right]$$

TABLE III-2 (cont.)

<u>Card Count</u>	<u>Block Name</u>	<u>Card Columns</u>	<u>Block Position</u>	<u>Variable Symbol</u>	<u>Description of Variable</u>
			<u>Descendant Block</u>		
		1-12	1-12	A	Isotope code name
		13-24	13-24	$A_0$	Isotope A transforms to isotope $A_0$ by capture
1	De- scen- dant Block	25-36	25-36	$A_1$	Isotope A transforms to isotope $A_1$ by fission
		37-48	37-48	$Y_{A_1}$	Yield of $A_1$ in fission of A
		49-60	49-60	$A_2$	Isotope A transforms to isotope $A_2$ by fission
		61-72	61-72	$Y_{A_2}$	Yield of $A_2$ in fission of A
		73-80	73-80		
			81-120		
		1-12	1-12		
		13-24	13-24		
		25-36	25-36	$A_{\gamma_1}$	Isotope A transforms to isotope $A_{\gamma_1}$ by fission
		37-48	37-48	$Y_{A_{\gamma_1}}$	Yield of $A_{\gamma_1}$ in fission of A
		49-60	49-60	FLAG	End of descendant block
		61-72	61-72		
		73-80	73-80		
			81-120		

$$\left[ \frac{2\gamma_1 A + 3}{6} \right]^{-1}$$

$$\left[ \frac{2\gamma_1 A + 3}{6} \right]$$

TABLE III-2 (cont.)

<u>Card Count</u>	<u>Block Name</u>	<u>Card Columns</u>	<u>Block Position</u>	<u>Variable Symbol</u>	<u>Description of Variable</u>
			<u>Lambda Block</u>		
		1-12	1-12	A	Isotope code name
		13-24	13-24	$\lambda_A$	Total radioactive decay constant for isotope A
		25-36	25-36	$A_1$	Name of an isotope produced by radioactive decay of A
1	Lambda Block	37-48	37-48	$\lambda_{A_1}$	Radioactive decay constant for A in chain producing $A_1$
		49-60	49-60	$A_2$	Name of an isotope produced by radioactive decay of A
		61-72	61-72	$\lambda_{A_2}$	Radioactive decay constant for A in chain producing $A_2$
		73-80	73-80		
			81-120		
		1-12	1-12		
		13-24	13-24		
		25-36	25-36	$A_{\gamma_2}$	Name of an isotope produced by radioactive decay of A
		37-48	37-48	$\lambda_{A_{\gamma_2}}$	Radioactive decay constant for A in chain producing $A_{\gamma_2}$
		49-60	49-60	FLAG	End of lambda block
		61-72	61-72		
		73-80	73-80		
			81-120		

$$\left[ \frac{2\gamma_2 + 3}{6} \right]$$

TABLE III-2 (cont.)

<u>Card Count</u>	<u>Block Name</u>	<u>Card Columns</u>	<u>Block Positions</u>	<u>Variable Symbol</u>	<u>Description of Variable</u>
<u>Function Block for Point E(K)</u>					
1	Function Block for Point E(K)	1-12	1-12	A	Isotope code name
		13-24	13-24	E(K)	K <sup>th</sup> tabular value of energy
		25-36	25-36	$\sigma_c [E(K)]_A$	Microscopic-capture cross section of isotope A at point E(K)
		37-48	37-48	$\sigma_f [E(K)]_A$	Microscopic-fission cross section of isotope A at point E(K)
		49-60	49-60	$\nu_f [E(K)]_A$	Number of neutrons emitted per fission of isotope A at point E(K)
		61-72	61-72	$\sigma_s [E(K)]_A$	Microscopic-elastic-scatter cross section of isotope A at point E(K)
		73-80	73-80		
		81-120			
2		1-12	1-12	A	Isotope code name
		13-24	13-24	E(K)	K <sup>th</sup> tabular value of energy
		25-36	25-36	$(1-\bar{\mu}_0) [E(K)]_A$	1 - average cosine of the scattering angle for isotope A at point E(K)
		37-48	37-48	$\chi_{in} [E(K)]_A$	Inelastic spectrum for isotope A at point E(K)
		49-60	49-60	$\sigma_{in} [E(K)]_A$	Inelastic-scattering cross section for isotope A at point E(K)
		61-72	61-72	$\nu_{in} [E(K)]_A$	Number of neutrons emitted per inelastic scatter of isotope A at point E(K)
		73-80	73-80		
		81-120			

TABLE III-2 (concl.)

<u>Card Count</u>	<u>Block Name</u>	<u>Card Columns</u>	<u>Block Position</u>	<u>Variable Symbol</u>	<u>Description of Variable</u>
<u>(Function Block for Point E(K) (cont.))</u>					
		1-12	1-12	A	Isotope code name
		13-24	13-24	E(K)	K <sup>th</sup> tabular value of energy
		25-36	25-36	$X_{in A}[E(K)]$	Normalizing function for $\chi_{in A}$ for isotope A at point E(K)
3		37-48	37-48		
		49-60	49-60		
		61-72	61-72		
		73-80	73-80		
			81-120		
<u>End of Function Block</u>					
		1-12	1-12	FLAG	End of function
1	End of Function Block	13-24	13-24		
		25-36	25-36		
		37-48	37-48		
		49-60	49-60		
		61-72	61-72		
		73-80	73-80		
			81-120		



## B. Program Tape

The DMM Program Tape, a variable-block binary tape, contains all the programs used to carry out the various phases of any DMM problem. Each program is compiled by the SLAP assembler and written on a separate block on the tape. The Program Tape is built up from these SLAP tapes by use of the Tape-Writer Program. The blocks that appear on the Program Tape are listed in Table III-3.

Table III-3

### Blocks on Program Tape

<u>Routine Name</u> *	<u>Number of Blocks</u>
1) Tape-Writer - Tape-Loader Routines	1
2) Output Routine	1
3) Monitor-Allocation - Block-Read - Block-Write Routines	1
4) Problem-Input Routine	1
5) Microscopic-Group - Cross-Section Tape Routine	1
6) Nuclear-Constants-Preparer Routine	1
7) Nuclear-Constants-Corrector Routine	1
8) Diffusion-Theory Routine	1
9) Burnup Routine	1
10) Criticality-Adjustment Routine	1
11) Neutron-Balance Routine	1
12) Adjoint Routine	1
13) Xenon-Samarium-Addition Routine	1
14) Basic-Library-Preparation Routine	1
Total Number of Blocks on Tape	14

\* This is the actual order of the routines on the Program Tape.

## C. Basic-Library Tape

The Basic-Library Tape is a tape containing all the nuclear data necessary to make the Microscopic-Group - Cross-Section Tape. The data are taken from the Raw-Data Tape and arranged in the format and order necessary to be utilized by the DMM programs. The basic library contains the following information:

- 1) List of isotopes contained on the tape.
- 2) The fission spectrum used.

The following information is recorded for each isotope:

- 1) Isotope identification
- 2)  $\alpha_A$
- 3) Number of energy values tabulated for each isotope,  $M_A$
- 4) Descendants (capture, fission, and decay)
- 5)  $\sigma_c$
- 6)  $\sigma_f$
- 7)  $\sigma_s$
- 8)  $\sigma_{in}$
- 9)  $\nu_f$
- 10)  $\nu_{in}$
- 11)  $(1-\bar{\mu}_0)$
- 12)  $\chi_{in}$
- 13)  $X_{in}$

Items 5 through 13 are all energy dependent and are therefore listed at a series of energy values for each isotope. The quantities are defined in the first part of this section.

It is assumed that all this information will be contained on a single reel and that that reel, in general, will be on TAPE2.

The Basic-Library Tape is a variable-block tape prepared by the Basic-Library Routine. The list of blocks is given in Table III-4, and the breakdown of the information contained in these blocks is given in Table III-5.

TABLE III-4

BASIC-LIBRARY TAPE  
(Binary)

	No. of Variable Blocks
Isotope List Block	1
Indicator Block for Fission Spectrum	1
Fission-Spectrum Table	1
<u>First Isotope</u>	
Indicator Block for isotope $A_1$	1
Descendant Block for isotope $A_1$	1
Lambda Block for isotope $A_1$	1
Tabular values for isotope $A_1$ block	1
Tabular Function Block for isotope $A_1 - \sigma_{c_{A_1}} [E(K)]$	1
Tabular Function Block for isotope $A_1 - \sigma_{f_{A_1}} [E(K)]$	1
Tabular Function Block for isotope $A_1 - \sigma_{s_{A_1}} [E(K)]$	1
Tabular Function Block for isotope $A_1 - \sigma_{in_{A_1}} [E(K)]$	1
Tabular Function Block for isotope $A_1 - \nu_{f_{A_1}} [E(K)]$	1
Tabular Function Block for isotope $A_1 - \nu_{in_{A_1}} [E(K)]$	1
Tabular Function Block for isotope $A_1 - (1 - \bar{\mu}_0)_{A_1} [E(K)]$	1
Tabular Function Block for isotope $A_1 - \chi_{in_{A_1}} [E(K)]$	1
Tabular Function Block for isotope $A_1 - X_{in_{A_1}} [E(K)]$	1

TABLE III-4 (cont.)

	<u>No. of Variable Blocks</u>
<u>Second Isotope</u>	
Indicator Block for isotope $A_2$	1
Descendant Block for isotope $A_2$	1
Lambda Block for isotope $A_2$	1
Tabular values for isotope $A_2$ block	1
Tabular Function Block for isotope $A_2 - \sigma_c [E(K)]$ $A_2$	1
Tabular Function Block for isotope $A_2 - \sigma_f [E(K)]$ $A_2$	1
Tabular Function Block for isotope $A_2 - \sigma_s [E(K)]$ $A_2$	1
Tabular Function Block for isotope $A_2 - \sigma_{in} [E(K)]$ $A_2$	1
Tabular Function Block for isotope $A_2 - \nu_f [E(K)]$ $A_2$	1
Tabular Function Block for isotope $A_2 - \nu_{in} [E(K)]$ $A_2$	1
Tabular Function Block for isotope $A_2 - (1 - \bar{\mu}_0) [E(K)]$ $A_2$	1
Tabular Function Block for isotope $A_2 - \chi_{in} [E(K)]$ $A_2$	1
Tabular Function Block for isotope $A_2 - X_{in} [E(K)]$ $A_2$	1
<u><math>Y^{\text{th}}</math> Isotope</u>	
Indicator Block for isotope $A_Y$	1
Descendant Block for isotope $A_Y$	1
Lambda Block for isotope $A_Y$	1

TABLE III-4 (concl.)

<u>Y<sup>th</sup> Isotope (cont.)</u>	<u>No. of Variable Blocks</u>
Tabular values for isotope A <sub>Y</sub> block	1
Tabular Function Block for isotope A <sub>Y</sub> - $\sigma_c$ [E(K)]	1
Tabular Function Block for isotope A <sub>Y</sub> - $\sigma_f$ [E(K)]	1
Tabular Function Block for isotope A <sub>Y</sub> - $\sigma_s$ [E(K)]	1
Tabular Function Block for isotope A <sub>Y</sub> - $\sigma_{in}$ [E(K)]	1
Tabular Function Block for isotope A <sub>Y</sub> - $\nu_f$ [E(K)]	1
Tabular Function Block for isotope A <sub>Y</sub> - $\nu_{in}$ [E(K)]	1
Tabular Function Block for isotope A <sub>Y</sub> - $(1 - \bar{\mu}_0)$ [E(K)]	1
Tabular Function Block for isotope A <sub>Y</sub> - $\chi_{in}$ [E(K)]	1
Tabular Function Block for isotope A <sub>Y</sub> - X <sub>in</sub> [E(K)]	1

End of Tape

Total number of blocks on tape = 3 + 13Y, where Y = total number of isotopes on Basic-Library Tape.

TABLE III-5

DETAILED BLOCK INFORMATION  
Basic-Library Tape

Block Name	Variable Symbol	Description of Variable
<u>Isotope List Block</u>		
	ELMENT	Isotope indication 000000ELMENT
	$A_1$	Isotope code name
	$\alpha_{A_1}$	$\left[ \frac{(a_{A_1} - 1)}{(a_{A_1} + 1)} \right]^2$ , where $a_{A_1}$ is the atomic weight of isotope $A_1$
	$M_{A_1}$	Number of energy values of all functions of $A_1$
	377777777777	End of first isotope information
	ELMENT	Isotope indication 000000ELMENT
	$A_2$	Isotope code name
Isotope List Block	$\alpha_{A_2}$	$\left[ \frac{(a_{A_2} - 1)}{(a_{A_2} + 1)} \right]^2$ , where $a_{A_2}$ is the atomic weight of isotope $A_2$
	$M_{A_2}$	Number of energy values of all functions of $A_2$
	377777777777	End of second isotope information
	ELMENT	Isotope indication 000000ELMENT
	$A_Y$	Isotope code name
	$\alpha_{A_Y}$	$\left[ \frac{(a_{A_Y} - 1)}{(a_{A_Y} + 1)} \right]^2$ , where $a_{A_Y}$ is the atomic weight of isotope $A_Y$
	$M_{A_Y}$	Number of energy values of all functions of $A_Y$
	377777777777	End of $Y^{\text{th}}$ isotope information
	377777777777	End of isotope list

TABLE III-5  
(cont.)

Block Name	Variable Symbol	Description of Variable
<u>Indicator Block for Fission Spectrum</u>		
Indicator Block for Fission Spectrum	-- -- M $\chi_f$	Number of tabular values of fission spectrum
	377777777777	End of indicator block for fission spectrum
	--	
	--	
<u>Fission-Spectrum Table</u>		
	E(1)	First point at which the fission spectrum is tabulated
	E(2)	Second point at which the fission spectrum is tabulated
	E(3)	Third point at which the fission spectrum is tabulated
	E(4)	Fourth point at which the fission spectrum is tabulated
	E(5)	Fifth point at which the fission spectrum is tabulated
	E(6)	Sixth point at which the fission spectrum is tabulated
	--	
	--	
	E(K)	K <sup>th</sup> point at which the fission spectrum is tabulated
	--	
	--	

TABLE III-5  
(cont.)

Block Name	Variable Symbol	Description of Variable
<u>Fission-Spectrum Table (cont.)</u>		
	$E(M_{\chi_f})$	$M_{\chi_f}$ th point at which the fission spectrum is tabulated
	377777777777	End of argument table for fission spectrum
	$\chi_f[E(1)]$	Function value at first point of tabulation
	--	
	--	
	$\chi_f[E(2)]$	Function value at second point of tabulation
	$\chi_f[E(3)]$	Function value at third point of tabulation
	$\chi_f[E(4)]$	Function value at fourth point of tabulation
	$\chi_f[E(5)]$	Function value at fifth point of tabulation
	$\chi_f[E(6)]$	Function value at sixth point of tabulation
	$\chi_f[E(7)]$	Function value at seventh point of tabulation
	--	
	--	
	$\chi_f[E(K)]$	Function value at $K$ th point of tabulation
	--	
	--	
	$\chi_f[E(M_{\chi_f})]$	Function value at $M_{\chi_f}$ th point of tabulation
	377777777777	End of function table for fission spectrum
	---	
	---	



TABLE III-5  
(cont.)

Block Name	Variable Symbol	Description of Variable
<u>Indicator Block for Isotope A</u>		
Indicator Block for Isotope A	ELMENT	Isotope indication 000000ELMENT
	A	Isotope code name
	$\alpha_A$	$\left[ \frac{a_A - 1}{a_A + 1} \right]^2$ , where $a_A$ is the atomic weight of isotope A
	$M_A$	Number of energy points of all functions of A
	377777777777	End of indicator block for isotope A
<u>Descendant Block</u>		
Descendant Block	A	Isotope code name
	$A_0$	Isotope A transforms to isotope $A_0$ by capture
	$A_1$	Isotope A transforms to isotope $A_1$ by fission
	$Y_{A_1}$	Yield of $A_1$ in fission of A
	$A_2$	Isotope A transforms to isotope $A_2$ by fission
	$Y_{A_2}$	Yield of $A_2$ in fission of A
	--	
	--	
	$A_{\gamma_1}$	Isotope A transforms to isotope $A_{\gamma_1}$ by fission
	$Y_{A_{\gamma_1}}$	Yield of $A_{\gamma_1}$ in fission of A
377777777777	End of descendant block	

TABLE III-5  
(cont.)

Block Name	Variable Symbol	Description of Variable
Lambda Block	<u>Lambda Block</u>	
	A	Isotope code name
	$\lambda_A$	Total radioactive decay constant for isotope A
	$A_1$	Name of an isotope produced by radioactive decay of A
	$\lambda_{A_1}$	Radioactive decay constant for A in chain producing $A_1$
	$A_2$	Name of an isotope produced by radioactive decay of A
	$\lambda_{A_2}$	Radioactive decay constant for A in chain producing $A_2$
	---	
	---	
	$A_{\gamma_2}$	Name of an isotope produced by radioactive decay of A
$\lambda_{A_{\gamma_2}}$	Radioactive decay constant for A in chain producing $A_{\gamma_2}$	
377777777777	End of lambda block	

TABLE III-5  
(concl.)

Block Name	Variable Symbol	Description of Variable
<u>Tabular Values for Isotope A Block</u>		
Tabular Values Block	$A^E(1)$	First point at which isotope A is tabulated
	$A^E(2)$	Second point at which isotope A is tabulated
	$A^E(3)$	Third point at which isotope A is tabulated
	$A^E(4)$	Fourth point at which isotope A is tabulated
	$A^E(K)$	$K^{\text{th}}$ point at which isotope A is tabulated
	$A^E(M_A)$	$M_A^{\text{th}}$ point at which isotope A is tabulated
	377777777777	FLAG - End of block
<u>Tabular-Function Block for Isotope A</u>		
Tabular Function Block	$f_A[E(1)]$	Function value at point E(1)
	$f_A[E(2)]$	Function value at point E(2)
	$f_A[E(3)]$	Function value at point E(3)
	$f_A[E(4)]$	Function value at point E(4)
	$f_A[E(5)]$	Function value at point E(5)
	$f_A[E(6)]$	Function value at point E(6)
	$f_A[E(K)]$	Function value at point E(K)
	$f_A[E(M_A)]$	Function value at point E( $M_A$ )
	377777777777	FLAG - End of block

The function f(E) is representative of any of the functions given in items 5 through 13 on page 15.

#### D. Microscopic-Group - Cross-Section Tape

The Microscopic-Group - Cross-Section Tape is also a variable-block binary tape, which can be prepared from 1) a Basic-Library Tape, or 2) a previous Microscopic-Group - Cross-Section Tape (if group structure the same, using the Basic-Library Tape only to compute cross sections for new isotopes). It must be emphasized that the second tape mentioned above will yield meaningful results only if the group structure on the new group tape is exactly the same as that used to prepare the previous group tape.

This Microscopic-Group - Cross-Section Tape contains the group-average values as described in Section I. E and Appendix G of this report. These values are given as  $\sigma_{tr}^i(1)$ ,  $\sigma_{tr}^i(2)$ ,  $\sigma_{tr}^i(3)$ ,  $\sigma_f^i(1)$ ,  $\sigma_f^i(2)$ ,  $\sigma_f^i(3)$ ,  $\sigma_c^i(1)$ ,  $\sigma_c^i(2)$ ,  $\sigma_c^i(3)$ , etc., as discussed in ATL-A-105, Section III. B. 1. The blocks contained on the Microscopic-Group Tape are listed in Table III-6, and the detailed description of the information in these blocks is given in Table III-7.

TABLE III-6

MICROSCOPIC-GROUP - CROSS-SECTION TAPE  
(Binary)

	<u>Number of Blocks</u>
Group Structure Block	1
Isotopes Names Block	1
Fission Spectrum Block	1
Indicator Block for isotope $A_1$	1
Descendant Block for isotope $A_1$	1
Lambda Block for isotope $A_1$	1
AK Block for isotope $A_1$	1
Group-Average Capture Cross Section Block for isotope $A_1$	1
Group-Average Fission Cross Section Block for isotope $A_1$	1
Neutrons per Fission Block for isotope $A_1$	1
Group-Average Cross Section Block for Scattering from Group j to Group i for isotope $A_1$	1
Group-Average Transport Cross Section Block for isotope $A_1$	1
Group-Average Total Cross Section Block for isotope $A_1$	1
Indicator Block for isotope $A_2$	1
Descendant Block for isotope $A_2$	1
Lambda Block for isotope $A_2$	1
AK Block for isotope $A_2$	1
Group-Average Capture Cross Section Block for isotope $A_2$	1
Group-Average Fission Cross Section Block for isotope $A_2$	1
Neutrons per Fission Block for isotope $A_2$	1

TABLE III-6

(concl.)

	<u>Number of Blocks</u>
Group-Average Cross Section Block for Scattering from Group j to Group i for Isotope $A_2$	1
Group-Average Transport Cross Section Block for isotope $A_2$	1
Group-Average Total Cross Section Block for isotope $A_2$	1
Indicator Block for isotope $A_B$	1
Lambda Block for isotope $A_B$	1
AK Block for isotope $A_B$	1
Group-Average Capture Cross Section Block for isotope $A_B$	1
Group-Average Fission Cross Section Block for isotope $A_B$	1
Neutrons per Fission Block for isotope $A_B$	1
Group-Average Cross Section Block for Scattering from Group j to Group i for isotope $A_B$	1
Group-Average Transport Cross Section Block for isotope $A_B$	1
Group-Average Total Cross Section Block for isotope $A_B$	1

Total number of blocks on Microscopic-Group - Cross-Section Tape =  $3 + 10B$ ,  
where B is the number of isotopes in the problem.

TABLE III-7

DETAILED BLOCK INFORMATION  
Microscopic-Group - Cross-Section Tape

Block Name	Variable Symbol	Description of Variable
	<u>Group Structure Block</u>	
	$E^1$	First point of group structure
	$E^2$	Second point of group structure
	$E^3$	Third point of group structure
	$E^4$	Fourth point of group structure
Group Structure Block	$E^i$	$i^{\text{th}}$ point of group structure
	$E^{I-2}$	I - 2nd point of group structure
	$E^{I-1}$	I - 1st point of group structure
	$E^I$	$I^{\text{th}}$ point of group structure
	$E^{I+1}$	I + 1st point of group structure
	37777777777	FLAG - End of group structure block
The magnitudes of the energies are such that $E^i > E^{i+1}$ , where $0.0252 \text{ ev} \leq E^i \leq 10^8 \text{ ev}$ .		
	<u>Isotope Names Block</u>	
Isotope Names Block	$A_1$	Isotope code name for isotope $A_1$
	$A_2$	Isotope code name for isotope $A_2$
	$A_3$	Isotope code name for isotope $A_3$
	$A_b$	Isotope code name for isotope $A_b$
	$A_{B-1}$	Isotope code name for isotope $A_{B-1}$
	$A_B$	Isotope code name for isotope $A_B$
	37777777777	FLAG - End of isotope names block



TABLE III-7  
(cont.)

Block Name	Variable Symbol	Description of Variable
	<u>Fission Spectrum Block</u>	
Fission Spectrum Block	$\chi_f(E^1)$	Value of fission spectrum - Group 1
	$\chi_f(E^2)$	Value of fission spectrum - Group 2
	$\chi_f(E^i)$	Value of fission spectrum - Group i
	$\chi_f(E^{I-1})$	Value of fission spectrum - Group I-1
	$\chi_f(E^I)$	Value of fission spectrum - Group I
	377777777777	FLAG - End of fission spectrum block
	<u>Indicator Block for Isotope A</u>	
Indicator Block for Isotope A	ELMENT	Isotope indication 000000ELMENT
	A	Isotope code name
	$\alpha_A$	$\left[ \frac{a_A - 1}{a_A + 1} \right]^2$ , where $a_A$ is the atomic weight of isotope A
	$M_A$	Number of energy points of all functions of A
	377777777777	End of indicator block for isotope A



TABLE III-7  
(cont.)

Block Name	Variable Symbol	Description of Variable
<u>Descendant Block for Isotope A</u>		
	A	Isotope code name
	$A_0$	Isotope A transforms to isotope $A_0$ by capture
	$A_1$	Isotope A transforms to isotope $A_1$ by fission
	$Y_{A_1}$	Yield of $A_1$ in fission of A
Descendant Block for Isotope A	$A_2$	Isotope A transforms to isotope $A_2$ by fission
	$Y_{A_2}$	Yield of $A_2$ in fission of A
	--	
	--	
	$A_{\gamma_1}$	Isotope A transforms to isotope $A_{\gamma_1}$
	$Y_{A_{\gamma_1}}$	Yield of $A_{\gamma_1}$ in fission of A
	377777777777	End of descendant block

TABLE III-7  
(cont.)

Block Name	Variable Symbol	Description of Variable
	<u>Lambda Block for Isotope A</u>	
	A	Isotope code name
	$\lambda_A$	Total radioactive decay constant for isotope A
	$A_1$	Name of an isotope produced by radioactive decay of A
	$\lambda_{A_1}$	Radioactive decay constant for A in chain producing $A_1$
	$A_2$	Name of an isotope produced by radioactive decay of A
Lambda Block	$\lambda_{A_2}$	Radioactive decay constant for A in chain producing $A_2$
	---	
	---	
	$A_{\gamma_2}$	Name of an isotope produced by radioactive decay of A
	$\lambda_{A_{\gamma_2}}$	Radioactive decay constant for A in chain producing $A_{\gamma_2}$
	377777777777	End of lambda block

TABLE III-7  
(cont.)

Block Name	Variable Symbol	Description of Variable
<u>AK Block of Isotope A</u>		
	A	Code name for isotope A
	$k_{1N}^A$	Concentration of isotope A in first region containing A - $k_1$
	$k_{1\ell}^A$	Code number of shielding factor set for isotope A in region $k_1$
	$k_1$	First region containing isotope A
AK Block of Isotope A	A	Code name for isotope A
	$k_{2N}^A$	Concentration of isotope A in second region containing A - $k_2$
	$k_{2\ell}^A$	Code number for shielding factor set for isotope A in $k_2$
	$k_2$	Second region containing A
	A	Code name for isotope A
	$k_{LN}^A$	Concentration of isotope A in last region containing A - $k_L$
	$k_{L\ell}^A$	Code number for shielding factor set for isotope A in region $k_L$
	$k_L$	Last region containing A
	377777777777	FLAG - End of AK block



TABLE III-7  
(concl.)

Block Name	Variable Symbol	Description of Variable	
<u>Group-Average Cross Section Block for Isotope A</u>			
Group-Average Cross-Section Block	$\sigma_{PA}^1 (1)$	Average cross section for process P, * integral 1, ** for group 1	
	$\sigma_{PA}^1 (2)$	Average cross section for process P, integral 2, for group 1	
	$\sigma_{PA}^1 (3)$	Average cross section for process P, integral 3, for group 1	
	$\sigma_{PA}^2 (1)$	Average cross section for process P, integral 1, for group 2	
	$\sigma_{PA}^2 (2)$	Average cross section for process P, integral 2, for group 2	
	$\sigma_{PA}^2 (3)$	Average cross section for process P, integral 3, for group 2	
	$\sigma_{PA}^i (1)$	Average cross section for process P, integral 1, for group i	
	$\sigma_{PA}^i (2)$	Average cross section for process P, integral 2, for group i	
	$\sigma_{PA}^i (3)$	Average cross section for process P, integral 3, for group i	
	$\sigma_{PA}^I (1)$	Average cross section for process P, integral 1 for group I	
	$\sigma_{PA}^I (2)$	Average cross section for process P, integral 2 for group I	
	$\sigma_{PA}^I (3)$	Average cross section for process P, integral 3 for group I	
	37777777777	End of group average block	

\* P is the symbol for a process such as capture, fission, transport.

\*\* Integrals 1, 2, 3 refer to group-average values given in Section I. E and Appendix G of this report and in ATL-A-105, Section III. B. <sup>1</sup>

### E. Nuclear-Constants Tape

The Nuclear-Constants Tape is a variable-block binary tape formed from the energy-dependent nuclear data appearing on the Microscopic-Group - Cross-Section Tape in conjunction with the problem-input data on the identification of the isotopes in the various geometric regions of the problem and their concentrations (atom/cc  $\times 10^{-24}$ ). The constants appearing on this tape are described in Section I of this report and in Section III of ATL-A-105.<sup>1</sup>

These constants are  $k_D^i$ ,  $k_T^i$ ,  $k_{T^{ij}}$ ,  $k_F^i$ ,  $k_{\chi_f^i}$ ,  $k_{\Sigma_f^i}$ . The k refers to geometric region number, and the i to group number.

The six blocks appearing on this tape are listed in Table III-8 and the details of representative blocks in Table III-9.

Table III-8

Nuclear-Constants Tape  
(Binary Type)

	<u>Number of Blocks</u>
Nuclear-Constants Matrix Block for $k_D^i$ *	1
Nuclear-Constants Matrix Block for $k_T^i$	1
Nuclear-Constants Matrix Block for $k_{T^{ij}}$	1
Nuclear-Constants Matrix Block for $k_F^i$	1
Nuclear-Constants Matrix Block for $k_{\chi_f^i}$	1
Nuclear-Constants Matrix Block for $k_{\Sigma_f^i}$	1

\* k is region index, and i is group index.

TABLE III-9

NUCLEAR-CONSTANTS MATRIX BLOCK FOR VARIABLE  $k_Z^i$

Block Name	Variable Symbol	Description of Variable
Nuclear Constants Matrix Block $k_Z^i$	$1_Z^1$	Value of nuclear constant $k_Z^{i*}$ for region 1, group 1
	$2_Z^1$	Value of nuclear constant $k_Z^i$ for region 2, group 1
	$R_Z^1$	Value of nuclear constant $k_Z^i$ for region R, group 1
	$1_Z^2$	Value of nuclear constant $k_Z^i$ for region 1, group 2
	$2_Z^2$	Value of nuclear constant $k_Z^i$ for region 2, group 2
	$R_Z^2$	Value of nuclear constant $k_Z^i$ for region R, group 2
	$k_Z^i$	Value of nuclear constant $k_Z^i$ for region k, group i
	$1_Z^I$	Value of nuclear constant $k_Z^i$ for region 1, group I
	$2_Z^I$	Value of nuclear constant $k_Z^i$ for region 2, group I
	$R_Z^I$	Value of nuclear constant $k_Z^i$ for region R, group I
	377777777777	FLAG - End of nuclear constants matrix block $k_Z^i$

\*  $k_Z^i$  represents  $D^i, T^i, F^i, \chi_f^i, \Sigma_f^i$ .

TABLE III-9  
(cont.)

NUCLEAR-CONSTANTS MATRIX BLOCK FOR VARIABLE  $k_{Tij}$

Block Name	Variable Symbol	Description of Variable
Nuclear Constants Matrix Block $k_{Tij}$	$1_{T21}$	Value of $k_{Tij}$ for region 1 and scattering from groups 1 to 2
	$2_{T21}$	Value of $k_{Tij}$ for region 2 and scattering from groups 1 to 2
	$3_{T21}$	Value of $k_{Tij}$ for region 3 and scattering from groups 1 to 2
	$R_{T21}$	Value of $k_{Tij}$ for region R and scattering from groups 1 to 2
	$1_{T31}$	Value of $k_{Tij}$ for region 1 and scattering from groups 1 to 3
	$2_{T31}$	Value of $k_{Tij}$ for region 2 and scattering from groups 1 to 3
	$R_{T31}$	Value of $k_{Tij}$ for region R and scattering from groups 1 to 3
	$1_{T32}$	Value of $k_{Tij}$ for region 1 and scattering from groups 2 to 3
	$2_{T32}$	Value of $k_{Tij}$ for region 2 and scattering from groups 2 to 3
	$R_{T32}$	Value of $k_{Tij}$ for region R and scattering from groups 2 to 3
$1_{Tij}$	Value of $k_{Tij}$ for region 1 and scattering from groups j to i	
$2_{Tij}$	Value of $k_{Tij}$ for region 2 and scattering from groups j to i	

TABLE III-9  
(concl.)

Block Name	Variable Symbol	Description of Variable
	$k_{Tij}$	Value of $k_{Tij}$ for region k and scattering from groups j to i
	$R_{Tij}$	Value of $k_{Tij}$ for region R and scattering from groups j to i
	$1_{T I, I-1}$	Value of $k_{Tij}$ for region 1 and scattering from groups I-1 to I
	$2_{T I, I-1}$	Value of $k_{Tij}$ for region 2 and scattering from groups I-1 to I
	$R_{T I, I-1}$	Value of $k_{Tij}$ for region R and scattering from groups I-1 to I
	377777777777	FLAG - End of nuclear-constants matrix block $k_{Tij}$



## F. Output Tape

The Output Tape (TAPE8) contains all the output generated by the different parts of the DMM Program. Eight of the fourteen programs produce output that appears on this tape. The programs and the type of output produced are given below. A detailed description of the output format was given in Section II.

Table III-10

### Output Tape

1) Nuclear-Constants-Preparer Output	Nuclear constants.
2) Nuclear-Constants-Corrector Output	Nuclear constants.
3) Diffusion-Theory Output	} Fluxes by group and space point. Power density by space point.
4) Adjoint - Diffusion-Theory Output	
5) Burnup Output	Concentration of depleted and produced isotopes (atom/cc $\times 10^{-24}$ ).
6) Neutron-Balance Output	Complete system balance, flux, fissions, sources, degradations, removals, etc., per group and region.
7) Xenon-Samarium-Addition Output	Concentration of xenon and samarium produced (atoms/cc $\times 10^{-24}$ ).
8) Criticality-Adjustment Output	Reactivity for each perturbed value of concentration, region size, or perpendicular leakage. Change of perturbed quantity versus change in reactivity and convergence.

## G. Intermediate Tape

The Intermediate Tape, TAPE7, is used by the Burnup Routine to store computed values of the concentration along with the estimated values of the first four derivatives for all the isotopes in all regions at a particular instant of time.

## H. Dump Tape

The Dump Tape, TAPE9, is used primarily to dump the contents of the memory of the machine. The actual dump routine described in the Lockheed Service Library\* accomplishes this. It is not possible, however, to use this Dump Tape to restart the problem.

---

\* Lockheed Service Library is described in detail in Appendix D.

### I. Lockheed Service Library

The Lockheed Service Library is written and read in the variable-block mode except for the first block, which is called the "Driver Block." The Driver Block controls the loading of the library from tape to drum.

Four variable blocks (2048 words each) containing the entire contents of drums 4 and 5 follow the Driver Block. The drum is restored from these blocks when  $A = 0$  on a 40,000-drum start. The second core is used as a buffer during the transfer, and no attempt is made to preserve either the initial content of this buffer space or the first 661 words of first core.

Following these four blocks on the tape, the service routines appear again in blocks of 500 words or less. In the case of a 40,000-drum start with  $A$  equal to the code (Code = DRUMST - 40,000) of a routine, the library is moved past the four large blocks and the desired routine is selected from the small blocks. Since these blocks are  $\leq 500$  words, the Drum-Core Image in core may be used for the transfer buffer; hence, all of core is preserved on a selective restore.

### J. Adjoint-Constants Tape

The Adjoint Constants are determined from the normal Nuclear Constants by the procedure given in Section I. This procedure merely requires a rearrangement of the Nuclear Constants on TAPE4. The results are then written in set blocks on TAPE6 in exactly the same way as the Nuclear Constants are written on TAPE4 and are available for the diffusion calculation that yields the adjoint fluxes.

#### IV. OPERATIONAL PROCEDURES AND PROGRAM CONTROL

The details of preparing, running, and controlling a DMM problem are discussed fully in this section. The following items are described: preparing a Raw-Data Tape, preparing a Program Tape, tape requirements, machine operation, program control, and machine stops.

##### A. Preparation of Raw-Data Tape

The Raw-Data Tape is prepared from many types of data. Although the Raw-Data Tape is described in Section III, it might be well to repeat the information at this time.

The Raw-Data Tape is a variable-block tape and is prepared from seven different types of cards. The various card forms and the information each contains are listed on the following pages.

##### 1. Card Types

##### a. Indicator Card

<u>Card Columns</u>	<u>Variable Symbol</u>	<u>Entry</u>	<u>Description of Variable</u>
1-12	ELMENT	000000ELMENT	Beginning of isotope indicator
13-24	A	0000000000XX*	Isotope code name
25-36	$\alpha_A$	±XXXXXXXXXX±XX	$\alpha_A = (a_A - 1)/(a_A + 1)^2$ , where $a_A$ is atomic weight of A
37-48	$M_A$	000000000XXX	Number of tabular values of A
39-60	FLAG	999999999999 <sup>Y</sup>	End of indicative information
61-72			
73-79			
80			

\* X indicates quantity in Variable Symbol column.

b. End-of-Indicator Card - End-of-Function Card

<u>Card Columns</u>	<u>Variable Symbol</u>	<u>Entry</u>	<u>Description of Variable</u>
1-12	FLAG	999999999999 <sup>Y</sup>	End-of-Indicator Card - End-of-Function Card
13-24			
25-36			
37-48			
49-60			
61-72			
73-79			
80			

c. Indicator Card - Fission Spectrum

<u>Card Columns</u>	<u>Variable Symbol</u>	<u>Entry</u>	<u>Description of Variable</u>
1-12			
13-24			
25-36			
37-48	M <sub>f</sub>	000000000XXX	Number of tabular values for fission spectrum
49-60	FLAG	999999999999 <sup>Y</sup>	End of indicator card - fission spectrum
61-72			
73-80			



d. Fission-Spectrum-Table Cards

<u>Card Columns</u>	<u>Variable Symbol</u>	<u>Entry</u>	<u>Description of Variable</u>
1-12	E(1)	±XXXXXXXXXX±XX	First point of tabulation
13-24	E(2)	±XXXXXXXXXX±XX	Second point of tabulation
25-36	E(3)	±XXXXXXXXXX±XX	Third point of tabulation
37-48	E(4)	±XXXXXXXXXX±XX	Fourth point of tabulation
49-60	E(5)	±XXXXXXXXXX±XX	Fifth point of tabulation
61-72	E(6)	±XXXXXXXXXX±XX	Sixth point of tabulation
73-80			
<hr/>			
1-12	E(K)	±XXXXXXXXXX±XX	K <sup>th</sup> point of tabulation
13-24			
25-36	E(M <sub>χ<sub>f</sub></sub> )	±XXXXXXXXXX±XX	M <sub>χ<sub>f</sub></sub> <sup>th</sup> point of tabulation
37-48	FLAG	99999999999 <sup>Y</sup>	End of argument values
49-60	χ <sub>f</sub> [E(1)]	±XXXXXXXXXX±XX	Function value at first point of tabulation
61-72	χ <sub>f</sub> [E(2)]	±XXXXXXXXXX±XX	Function value at second point of tabulation
73-80			
<hr/>			
1-12	χ <sub>f</sub> [E(3)]	±XXXXXXXXXX±XX	Function value at third point of tabulation
13-24			
25-36	χ <sub>f</sub> [E(M <sub>χ<sub>f</sub></sub> )]	±XXXXXXXXXX±XX	Function value at M <sub>χ<sub>f</sub></sub> <sup>th</sup> point of tabulation
37-48	FLAG	99999999999 <sup>Y</sup>	End of function values
49-60			
61-72			
73-80			

e. Descendant Cards

<u>Card Columns</u>	<u>Variable Symbol</u>	<u>Entry</u>	<u>Description of Variable</u>
1-12	A	0000000000XX	Isotope code name
13-24	A <sub>0</sub>	0000000000XX	Isotope A transforms to isotope A <sub>0</sub> by capture
25-36	A <sub>1</sub>	0000000000XX	Isotope A transforms to isotope A <sub>1</sub> by fission
37-48	Y <sub>A<sub>1</sub></sub>	±xxxxxxxx±xx	Yield of A <sub>1</sub> in fission of A
49-60	A <sub>2</sub>	0000000000XX	Isotope A transforms to isotope A <sub>2</sub> by fission
61-72	Y <sub>A<sub>2</sub></sub>	±xxxxxxxx±xx	Yield of A <sub>2</sub> in fission of A
73-79			
80			
<hr/>			
1-12	A <sub>γ<sub>1</sub><sup>-1</sup></sub>	0000000000XX	Isotope A transforms to isotope A <sub>γ<sub>1</sub><sup>-1</sup></sub> by fission
13-24	Y <sub>A<sub>γ<sub>1</sub><sup>-1</sup></sub></sub>	±xxxxxxxx±xx	Yield of A <sub>γ<sub>1</sub><sup>-1</sup></sub> in fission of A
25-36	A <sub>γ<sub>1</sub></sub>	0000000000XX	Isotope A transforms to isotope A <sub>γ<sub>1</sub></sub> by fission
37-48	Y <sub>A<sub>γ<sub>1</sub></sub></sub>	±xxxxxxxx±xx	Yield of A <sub>γ<sub>1</sub></sub> in fission of A
49-60	FLAG	999999999999 <sup>Y</sup>	End of descendant block
61-72			
73-79			
80			

f. Lambda Cards

<u>Card Columns</u>	<u>Variable Symbol</u>	<u>Entry</u>	<u>Description of Variable</u>
1-12	A	0000000000XX	Isotope code name
13-24	$\lambda_A$	0000000000XX	Total radioactive decay constant for isotope A
25-36	$A_1$	0000000000XX	Name of an isotope produced by radioactive decay of A
37-48	$\lambda_{A_1}$	0000000000XX	Radioactive decay constant for A in chain producing $A_1$
49-60	$A_2$	0000000000XX	Name of an isotope produced by radioactive decay of A
61-72	$\lambda_{A_2}$	0000000000XX	Radioactive decay constant for A in chain producing $A_2$
73-80			

---

1-12			
13-24			
25-36	$A_{\gamma_2}$	0000000000XX	Name of an isotope produced by radioactive decay of A
37-48	$\lambda_{A_{\gamma_2}}$	0000000000XX	Radioactive decay constant for A in chain producing $A_{\gamma_2}$
49-60	FLAG	9999999999 <sup>Y</sup>	End of lambda block
61-72			
73-80			

g. Function Value at Energy Point E(K) Cards

<u>Card Columns</u>	<u>Variable Symbol</u>	<u>Entry</u>	<u>Description of Variable</u>
1-12	A	0000000000XX	Isotope code name
13-24	E(K)	±XXXXXXXX±XX	K <sup>th</sup> tabular value of energy for isotope A
25-36	$\sigma_{cA} [E(K)]$	±XXXXXXXX±XX	Microscopic-capture cross section for isotope A point E(K)
37-48	$\sigma_{cA} [E(K)]$	±XXXXXXXX±XX	Microscopic-fission cross section for isotope A point E(K)
49-60	$\nu_{fA} [E(K)]$	±XXXXXXXX±XX	Number of neutrons emitted per fission for isotope A point E(K)
61-72	$\sigma_{sA} [E(K)]$	±XXXXXXXX±XX	Microscopic elastic scatter cross section for isotope A point E(K)
73-79			
80	1	1	Card number
<hr/>			
1-12	A	0000000000XX	Isotope code name
13-24	E(K)	±XXXXXXXX±XX	K <sup>th</sup> tabular value of energy for isotope A
25-36	$[1-\bar{\mu}_o]_A [E(K)]$	±XXXXXXXX±XX	1 - average cosine of the scattering angle for isotope A point E(K)
37-48	$\chi_{inA} [E(K)]$	±XXXXXXXX±XX	Inelastic spectrum for isotope A point E(K)
49-60	$\sigma_{inA} [E(K)]$	±XXXXXXXX±XX	Inelastic scattering cross section for isotope A point E(K)
61-72	$\nu_{inA} [E(K)]$	±XXXXXXXX±XX	Number of neutrons emitted per inelastic scatter for isotope A point E(K)
73-79			
80	2	2	Card number



<u>Card Columns</u>	<u>Variable Symbol</u>	<u>Entry</u>	<u>Description of Variable</u>
1-12	A	0000000000XX	Isotope code name
13-24	E(K)	+XXXXXXXX+XX	$K^{\text{th}}$ tabular value of energy for isotope A
25-36	$X_{\text{in A}} [E(K)]$	+XXXXXXXX+XX	Normalizing function for truncated $\chi_{\text{in}}$ for isotope A point E(K)
37-48			
49-60			
61-72			
73-79			
80	3	3	Card number

## 2. Card Decks

In order to prepare a Raw-Data Tape, the following decks of raw-data cards must be formed:

Indicator-Card Deck - Contains the indicator cards for each isotope to be put on the Raw-Data Tapes. These cards are ordered by ascending values of the isotope code name. The last card in this deck must be the end-of-indicator card.

Indicator-Card - Fission-Spectrum Deck - Consists of one card, the Indicator-Card - Fission Spectrum.

Fission-Spectrum-Table Deck - Consists of the cards comprising the Fission-Spectrum Table as previously defined.

The data given up to this point contained only information having no affiliation with any particular isotope. Each isotope has the decks indicated below.

### Isotope-Information Decks

a) Indicator Card - This deck consists of a single card which has been defined previously in this section.

b) Descendant Cards - This deck consists of a number of cards which have been defined previously in this section.

c) Lambda Cards - This deck consists of a number of cards which have been defined previously in this section.

d) Function Value - This deck consists of information contained on the Function-Value-at-Energy-Point E(K) cards. There are three cards for each tabular value, as described earlier in this section. The number of tabular values vary with each isotope. The Function-Value Deck must be placed in order of increasing isotope number, card columns 11 and 12. Within each isotope, the cards must be in order of increasing energy value, columns 13 through 24. Within each energy value, the cards must be in order of increasing card number, column 80. The function values pertaining to one isotope are followed by an End-of-Function Card.

To prepare the Raw-Data Tape, place the defined decks in the following order:

- 1) Indicator-Card Deck
- 2) Indicator-Card - Fission-Spectrum Deck
- 3) Fission-Spectrum-Table Deck
  
- 4) Indicator-Card Deck (Isotope  $A_1$ )
- 5) Descendant-Card Deck (Isotope  $A_1$ )
- 6) Lambda-Card Deck (Isotope  $A_1$ )
- 7) Function-Value Deck (Isotope  $A_1$ )
- 8) End-of-Function Card (Isotope  $A_1$ )
  
- 9) Indicator-Card Deck (Isotope  $A_2$ )
- 10) Descendant-Card Deck (Isotope  $A_2$ )
- 11) Lambda-Card Deck (Isotope  $A_2$ )
- 12) Function-Value Deck (Isotope  $A_2$ )
- 13) End-of-Function Card (Isotope  $A_2$ )
  
- 14) Indicator-Card Deck (Isotope  $A_Y$ , where Y is the index for last isotope).
- 15) Descendant-Card Deck (Isotope  $A_Y$ )
- 16) Lambda-Card Deck (Isotope  $A_Y$ )
- 17) Function-Value Deck (Isotope  $A_Y$ )
- 18) End-of-Function Card (Isotope  $A_Y$ )

With the decks ordered as directed above, they must then be placed on tape. The resulting tape must contain one card per block and must be in the variable-block mode. The card-to-tape converter may be used to prepare this tape in a fixed-block mode. It is then necessary to convert this tape to an 1103A-prepared variable-block tape. This is one procedure that may be used to prepare the Raw-Data Tape; there are other feasible methods.

It is necessary to prepare each Raw-Data Tape with an integral number of isotopes. This means simply that each Raw-Data Tape must contain all of the information pertinent to a particular isotope. The first Raw-Data Tape, however, does contain the Indicator-Card Deck, the Indicator-Card - Fission-Spectrum Deck, and the Fission-Spectrum-Table Deck.

**B. Preparation of Program Tape**

Preparation of the Program Tape is a necessary step to implement the DMM System. Each of the 14 programs on the Program Tape is first assembled by the SLAP<sup>\*</sup> Routine on the Lockheed Service Library. These assembled programs are read into the machine and deposited in binary form on the Program Tape. This Program Tape is then used as the repository for the 14 programs. The necessary program is then available to solve a particular problem by means of the MONITOR and the program-control words. Operating instructions for making or revising the binary Program Tape are given below.

1. Switch Settings

MJ	1 on
	2 - 3 off
MS	1 - 3 off

2. Input Tapes

	<u>Tape Description</u>	<u>Tape (Uniservo) Number</u>	
		<u>Logical</u>	<u>Symbolic</u>
	Old DMM binary Program Tape (see note 1)	Optional	DMMPT
	DMM Tape-Writer, SLAP Symbolic Tape (see note 2)	Optional	TWSST
	DMM Program(s) - SLAP Symbolic Tape(s) (There may be from 1 to 13 of these in a given run.)	Optional	SYMTP

---

\* SLAP is described in Appendix E.

3. Output Tape

The output will be a new DMM binary Program Tape written on DMMPT.

4. Load the Lockheed Service Library onto drum.

5. If you have a TWSST tape (see note 2), load by using the library routine, "Load SLAP Symbolic Tape." After loading TWSST, start at 00005. If you are not using a TWSST tape, load the old DMM Program Tape (DMMPT) as in note 3.

6. Perform these steps for each SLAP Symbolic Tape to be loaded:

a. At MS0 \_\_\_17766, set Q to the number of the next symbolic tape (SYMTP) you wish to load (they may be loaded in any order).

b. Start.

7. After the last of the SLAP Input Tapes has been read, MS0 \_\_\_17766 will again occur. Set Q to the tape number of the Program Tape (DMMPT); change PAK to 17767, then start.

8. After the new tape is written on DMMPT, the program will stop on a PS instruction.

Note 1: If an old Program Tape is not provided, a blank tape is used on DMMPT. The output will appear on this unit.

Note 2: TWSST may or may not be used. If it is furnished, load it first, as in 5 above. If it is not furnished, use an old Program Tape (note 1).

Note 3: The DMM Program Tape may be loaded by the WADD Abnormal Drum Start routine, or by any routine that does the following: Stores an MJ0 instruction in 00000; reads one variable-length block into 00001 and successive locations; jumps to 00001.

The machine stops are listed below to indicate errors in the Tape-Writer and Tape-Loader Routines.

<u>Stop</u>	<u>Condition</u>	<u>Results if START is Pressed</u>
MS0 ___17770	Word count of a DMM program exceeds 4095.	Return to stop.
MS0 ___17771	No room in temporary storage for program just loaded.	Program is ignored. T-W prepares to load next program.
MS0 ___17772	Incorrect I. D. number on program just loaded. Block number less than 1.	Same as above.
MS0 ___17773	Incorrect I. D. number on program just loaded. Block number greater than 14.	Same as above.

\* To use the LMSD Abnormal Drum Start explained in Appendix C, the Program Tape must be on Uniservo 1.

<u>Stop</u>	<u>Condition</u>	<u>Results if START is Pressed</u>
MS0__17774	The program just loaded from its SLAP tape has already been loaded and stored in TEMP.	Accept the <u>latest</u> one loaded (reject previously loaded program).
MS0__17775	T-W was not given anything to write (no SLAP tapes were loaded).	Prepare to load a SLAP tape.
MS0__17776	End-of-program tape found.	Return to stop.
MS0__17777	Error in reading program tape. Block numbers do not check.	Return to stop.

### C. Operating Procedure

#### 1. Tapes

The tapes used by each program in the DMM System are listed in Table IV-1, which describes the tape input or output information necessary for each routine. The input tapes are described by name; the output tapes are designated by X's in the appropriate columns.

The Basic-Library-Preparation Routine is used only to prepare a cross-section library tape. This library is retained and used in subsequent reactor calculations. It is necessary to use the Basic-Library-Preparation Routine when preparing the cross-section library tape originally or when adding the cross sections of subsequent isotopes. The Basic-Library-Preparation Routine is designed to make the Basic-Library Tape in its entirety; there are no provisions for patching or adding to an existing library tape. The new isotopes must be placed on a variable-block XS-3 tape (Raw-Data Tape) in ascending values of the energy. These tapes, containing cross-section information on an integral number of isotopes, are fed to the computer in order of increasing isotope number. The Basic-Library-Preparation Routine assimilates this information and places it on the Basic-Library Tape.

To create a Microscopic-Group - Cross-Section Tape, the Basic-Library Tape must be used. The Microscopic-Group - Cross-Section Tape must be completely remade only if there is a change in group structure or a completely different list of isotopes. If the group structure and isotope list are identical with those of an old group tape, the old group tape may be used. If the new group structure is identical to that of the old group structure on the old group tape but the isotope list is different, then all of the isotopes

TABLE IV-1

TAPE TABLE

Program	Servo Number									
	1	2	3	4	5	6	7	8	9	10
PROBIN	Program								Dump	Service Library
BASLIB	Program	X				Raw-Data			Dump	Service Library
MGCSTP	Program	Basic Library	X		Old Group				Dump	Service Library
NUCCON	Program		Microscopic Group Average	X				X	Dump	Service Library
DIFFUS	Program			Nuclear Constants				X	Dump	Service Library
CONCOR	Program		Microscopic Group Average	Nuclear Constants				X	Dump	Service Library
CRTCAL	Program							X	Dump	Service Library
XESMAD	Program		Microscopic Group Average	Nuclear Constants				X	Dump	Service Library
AJOINT	Program			Nuclear Constants		X (Adjoint Constants)		X	Dump	Service Library
BURNUP	Program		Microscopic Group Average				X	X	Dump	Service Library
NUTBAL	Program			Nuclear Constants				X	Dump	Service Library

that have previously been computed on the old group tape may be copied onto the new group tape. Those isotopes not on the old group tape are computed from the Basic-Library Tape and added.

The Lockheed Service Library (on TAPE10) is described in Appendix D.

## 2. Cards

Put Problem Input deck in Bull and cycle one card. This deck may contain information pertaining to many problems. As mentioned before, the input to all of these problems may be placed in the card reader at one time.

### IMPORTANT:

THE FIRST SET OF INPUT TO ANY PROBLEM MUST BE THE PROBLEM DIMENSIONS AND THE PROPER DATA-IDENTIFICATION WORD.

## 3. Operating Instructions

### a. Read in Lockheed Service Library\*

- 1) Set PCR to 75 10171 00000  
X Reg to 76 57610 00000
- 2) Set Main Pulse Distributor to 3.
- 3) Program Start.
- 4) Hang up on EXTERNAL WAIT.
- 5) Set Tape Control Register to 6032.
- 6) Tape Start.

### b. Begin DMM Problem

WADD Abnormal-Drum Start\*\* with Q = 40000000001. The problem then runs without manual intervention unless stops are encountered.

## 4. Program Stops

- a. A final stop indicates the end of all problems.
- b. An MS 3 stop can be used to cause the machine to stop in the Monitor immediately after a DMM program is loaded.

---

\* To read in the Service Library subsequently: master clear, set Q = 00000000012, and program start.

\*\* Abnormal-drum starts are explained in Appendix C.

c. The list of MS 3 stops follows.

PROBIN	563000000611
BASLIB	563000000723
MGCSTP	563000000630
NUCCON	563000000632
DIFFUS	563000000642
CONCOR	563000000636
CRTCAL	563000000670
XESMAD	563000000717
AJOINT	563000000712
BURNUP	563000000664
NUTBAL	563000000706

These stops allow the program loaded to be corrected by use of Four-Field Octal Loaders. The problem may be resumed by setting PAK to the V-address of the MS 3 command.

d. Selection of the MS 2 switch will cause the machine to stop in the computation of the Criticality-Adjustment Routine. At this point, the current reactivity in floating-binary form is displayed in the Q register.

#### D. Program Control

Program control is maintained by the Monitor Routine. The Monitor resides in core and directs program flow by means of a set of instructions presented to it. These instructions, called Program-Control Words, cause the Monitor to process desired DMM programs in the sequence indicated. Following is a brief discussion of the Program-Control Words and an extensive description of the Monitor.

##### 1. Program-Control Words

The DMM System consists of some 14 programs. Three are of the auxiliary type, whereas the remaining 11 may be used singly or in combination during a given problem. The user selects the programs to be used and the order in which they are to be called by means of certain input words called Program-Control Words. A comprehensive description of the Program-Control Words is given in Section II.



## 2. Monitor

There are four main sections within the Monitor, as described below.

a. The Program-Control Word (PCW) routine (starting address = DMND) interprets each PCW and causes the programs called for in the PCW to be loaded and executed. The cell, DIAC, always contains the current PCW; the cell, DIAL, contains the (relative) location of the next PCW to be executed.

Starting at DMND, the contents of DIAC (initially the Problem-Input PCW) are examined to determine whether the PCW calls for: 1) execution of a program, 2) transfer to another PCW, or 3) end of run.

In case 1), the tally of the PCW (in the V field of DIAC) is tested. If the tally is greater than zero, it is reduced by one, the program called for (program number is in the U field of DIAC) is loaded (by the LOAD routine described below), and control goes to the appropriate program entrance (see below). If the tally is zero, the contents of the location specified in DIAL is sent to DIAC, DIAL is bumped by one, and control goes back to DMND.

In case 2), the tally of the transfer PCW is tested to determine whether or not the transfer has been made a sufficient number of times. This tally, unlike that of the program PCW, is kept in a PCW image block (an 18-word image of the input PCW block). When a transfer PCW is in DIAC, its relative location within the PCW (or PCW image) block is (DIAL) - 1. If the transfer tally is greater than zero, it is reduced by one, the contents of DIAL is replaced by (DIAC)<sub>u</sub>, and the program proceeds as in 1) above with zero tally. If the transfer tally is zero, the image PCW is replaced by the initial (input) PCW (causing the tally to be reset to its initial value), and the program proceeds as in 1) above with zero tally.

In case 3), the Output Tape is marked with end-of-file, then both it and the program tape are rewound. The program then makes a final stop (PS instruction).

b. The LOAD subroutine is used to read programs called for in the PCW into core memory. When LOAD is entered, the program I. D. number (which is equal to the program block number on the Program Tape) is in the low-order positions of Q. LOAD moves the Program Tape forward or back so that it is in position to read the block requested, then reads the block and checks the block I. D. number against the block number. The

position of the Program Tape is recorded in BLOCK, so that tape movement may be minimized. After the correct block has been loaded, a normal subroutine exit is made.

c. The OUTPT subroutine is called on at each point in DMM where output is printed. This subroutine stores the contents of the core memory to be occupied by the print routine in a drum buffer reserved for that purpose. The print routine is then called in from drum and an appropriate entrance (according to which DMM program output is required) is set up and executed. After return from the print routine to the OUTPT routine, core memory is restored from the drum buffer and a normal subroutine exit is made.

At the time the print routine is loaded (by the Tape Loader), a word count of the print routine is stored in cell NDCI. The cell, DRUM, is then filled with  $50000 + 2$  (NDCI) so that sufficient storage is allocated for both the print routine and the core image.

On entrance to the print routine (PRNT), Q contains in its U address a code number which directs the program to the appropriate output routine (diffusion, burnup, etc.).

d. The program entrances are sets of instructions, executed before and after each program, which perform any special setups and link the program to its output routine (if it has one). Each of the programs that may be called for in the input PCW's has its own program-entrance instructions, making 11 program entrances in all. By using a separate entrance and a separate exit for each of the DMM programs, the Monitor is able to allow for some special cases in the pre- and post-program setups. In the Monitor code listing, the first word of each program entrance is tagged with the name that the user punches in the PCW cards (e.g., PROBIN for Problem Input Routine, BURNUP for Burnup Routine).

The Monitor tests for certain error conditions and stops the program when they occur, as indicated in Table IV-2. In some cases, the program will continue if START is pressed. The results of this action are given in the "Restart" column.

TABLE IV-2

DMM MONITOR ALARMS

<u>Stop</u> *	<u>Condition</u>	<u>Restart</u>
MS0___ALARM1	Error in PCW's I. D. number of program called for is less than 04. Q contains the erroneous I. D. number.	Current problem will be interrupted. Problem input routine will be called.
MS0___ALARM2	Error in PCW's I. D. number is greater than 16. I. D. number is in Q.	Same as above.
MS0___ALARM3	Error in loading program tape. I. D. number of block loaded does not match I. D. number of block called for. A contains I. D. number called for.	Same as above.
MS0___ALARM4	End of tape was found in attempt to read Program Tape.	Same as above.

---

\* The symbols ALARM1, ALARM2, etc. refer to locations within the permanent core storage block. They are equivalent to locations within that block, as follows:

ALARM1	EQLS	MLM1
ALARM2	EQLS	MLM1 + 1
ALARM3	EQLS	MLM1 + 2
ALARM4	EQLS	MLM1 + 3

E. Program Error Stops

TABLE IV-3

DMM PROGRAM-ERROR STOPS

Routine	Ad- dress	PCR	PAK	Reason for Stop	If Restarted
Basic Library (BASLIB)	02142	56 00000 01572	01572	End of one part of Basic Library	Put on the next tape manually. Restart.
Burnup (BURNUP)	01725	56 00000 01726	01726	End of TAPE7 found.	No provisions
	03144	56 00000 03145	03145	$x = 87$ in $e^x$ . 37777777770 → Q.	Normal exit of EXP
	03353	56 00000 03353	03353	An isotope from MGCS tape not on the isotope (ISOP) list.	No provisions
Critic- ality (CRTCAL)	01453	56 00000 01453	01453	VARI $\neq$ 1, 2, or 3.	No provisions
	01475	56 00000 01475	01475	The isotope to be per- turbed (NOM) is not in the ISOP table.	No provisions
	01605	56 00000 01605	01605	Z = 0 for the last two corrections.	No provisions
	01616	56 00000 01616	01616	C > 3.	No provisions
	01702	56 00000 01702	01702	VARI $\neq$ 1, 2, or 3.	No provisions
Monitor	00731	56 00000 00342		Error in diamonds. I. D. number of program called for is less than 04. Q contains the erroneous I. D. number.	Current problem will be interrupted. Problem input routine will be called.
	00734	56 00000 00343		Error in diamonds. I. D. number of program called for is greater than 16. I. D. number is in Q.	Same as above
	00737	56 00000 00344		Error in loading program tape. I. D. number of program loaded does not match I. D. number of program called for. A contains I. D. number called for.	Same as above
	00742	56 00000 00345		End of tape was found in attempt to read Program Tape.	Same as above

TABLE IV-3 (cont.)

Routine	Ad- dress	PCR	PAK	Reason for Stop	If Restarted
Neutron Balance (NUTBAL)	01525	56 00000 00000	00000	The last block of the Nuclear-Constants Tape has been read.	No provisions
Nuclear Constants (NUCCON)	03401	56 00000 03402	03402	The natural log of a negative number.	The ln of this number is set equal to zero.
Nuclear- Constants Corrector (CONCOR)	03410	56 00000 03411	03411	The natural log of a negative number.	The ln of this number is set equal to zero.
Problem Input (PROBIN)	01455	56 00000 01455	01455	Invalid variable identifi- cation.	No provisions
	01620	56 00000 01620	01620	Variable-identification card but no variable.	No provisions
	02327	56 00000 02327	02327	Invalid DMM program.	No provisions
Micro- scopic- Group Prepa- ration (MGCSTP)	01743	56 00000 01743	01743	End of Basic-Library Tape.	No provisions
	01656	56 00000 01726	01726	Isotope on ISOP list given in problem not on Basic- Library Tape.	The isotope is skipped and program uses next isotope.
	03556	56 00000 03463	03463	$\frac{\int \sigma_{in} \nu_{in}}{X_{in}} dE$ is negative.	0 → result and proceed
	04010	56 00000 03751	03751	$\frac{\int \sigma_{in} \nu_{in} E}{X_{in}} dE$ is negative.	0 → result and proceed
	04136	56 00000 04071	04071	$\frac{\int \sigma_{in} \nu_{in}}{X_{in} E} dE$ is negative.	0 → result and proceed
	04226	56 00000 04227	04227	The natural log of a negative number.	The ln of this number is set equal to zero.
	04430	56 00000 04430	04430	$\frac{b_3 + m_3 E_\beta}{b_3 + m_3 E_\alpha} < 0.$	No provisions
	04725	56 00000 04730	04730	First energy point in group structure < last tabulated point.	No provisions
	04730	56 00000 04730	04730	First energy point in group structure > last tabulated point.	No provisions

TABLE IV-3 (concl.)

Routine	Ad- dress	PCR	PAK	Reason for Stop	If Restarted
Tape Writer - Tape Loader	17370	56 00000 17770	17770	Word count of a DMM program exceeds 4095.	No provisions
	17373	56 00000 17771	17771	No room in temporary storage for program just loaded.	Program is ignored. T-W prepares to load next program.
	17403	56 00000 17772	17772	Incorrect I. D. number on program just loaded. Block number less than one.	Same as above
	17406	56 00000 17773	17773	Incorrect I. D. number on program just loaded. Block number greater than $16_8$ .	Same as above
	17411	56 00000 17774	17774	The program just loaded from its SLAP tape has already been loaded and stored in TEMP.	Accept the <u>latest</u> one loaded (reject previously loaded program).
	17414	56 00000 17775	17775	T-W was not given anything to write (no SLAP tapes were loaded).	Prepare to load a SLAP tape.
	17416	56 00000 17776	17776	End-of-program tape found.	No provisions
	17420	56 00000 17777	17777	Error in reading program-tape block. Numbers do not check.	No provisions
Xenon Sama- rium (XESMAD)	02765	56 00000 02766	02766	The natural log of a negative number.	The ln of this number is set equal to zero.
	03103	56 00000 03103	03103	$x \geq 87$ in $e^x$ . 377777777770 → Q.	Normal exit of EXP

#### F. Words of Caution

This part of the report contains items that can easily be overlooked in preparing the input to problems or in utilizing the flexibility of the code. These words of caution have, for the most part, been mentioned in other sections, but are re-emphasized here.

1. Isotopes 1 and 2, xenon and samarium, must be specified in the input of any problem. The concentrations can be zero, as pointed out in the sample problem input.

2. The isotope number for any isotope that appears in a series of burnup steps as well as in the list of isotopes in the basic library must appear in the initial problem input. The concentration can be zero. This makes it possible for the cross sections for that isotope to be put on the Microscopic-

Group - Cross Section Tape so that they will be available for evaluation of the depletion or production of that isotope due to burnup.

3. The problem dimensions and its identification word must be the first input quantities for any problem. This information is given below.

a. Card 1 (Identification Word)

<u>Columns</u>	<u>Information</u>
1-12	Y 000000000000
13-80	

b. Card 2

<u>Columns</u>	<u>Information</u>
1-12	Problem number
13-24	N - Total number of mesh points
25-36	I - Total number of energy groups
37-48	B - Total number of isotopes
49-60	R - Total number of regions
61-72	S - Total number of self-shielding factor sets
73-80	

c. Card 3

<u>Columns</u>	<u>Information</u>
1-12	Y - Total number of isotopes on Basic-Library Tape (at present, 43)
13-24	Y 999999999999
25-80	

4. The perturbation of the transverse leakage  $DB^2$  gives as output a number approximately equal to 1.0 that should be used to multiply or to correct the input energy and region-dependent  $DB^2$  values.

5. Each set of input data must be preceded by the identification word for that particular type of data.

6. Blocks of input data not needed for a particular problem may be omitted. For example, if no change in tape designation from that automatically assigned is desired, do not include this input data.

7. To run successive and similar problems, the following procedure can be used to reduce the amount of input needed.

To indicate the beginning of similar problems, there must be a 12 punch in column 1 of the Identification Card for the Problem Dimensions. The rest of the input, which varies from that of the preceding problem or problems, is prepared according to the normal procedures. The new information replaces what is already in memory. The 12 punch in column 1 instructs the Problem-Input Routine to a) send Problem Identification (Problem Number) to IDEN, and b) omit the transfer of the first 60 cells of the Common-Storage Block from storage to execution locations.

8. Adjoint-flux normalization - In the normal diffusion-theory calculation, the  $\phi$  is normalized by making  $\int \int \Sigma_f \phi dE dv = VP_0 Q$ . Consequently, when the nuclear constants are regrouped to carry out the adjoint-flux calculation, the normalization turns out to be  $\int \int \chi_f \phi^* dE dv = VP_0 Q$ . This means that when a one-group, one-region calculation is carried out (the fluxes should be self adjoint or equal at every space point for the normal and adjoint fluxes), the following ratios appear:

$$\frac{P_n \text{ (Diffusion)}}{P_n \text{ (Adjoint)}} = \bar{\nu}_f$$

and 
$$\frac{\phi^* \text{ (Adjoint)}}{\phi \text{ (Diffusion)}} = \chi_f \Sigma_f$$

9. Constants currently in the Common-Storage Block:

a. Xenon and Samarium

$$Y_{Xe} - Xe \text{ 135 atoms produced per fission} = 3.0 \times 10^{-3}$$

$$Y_I - I \text{ 135 atoms produced per fission} = 5.6 \times 10^{-2}$$

$$Y_{Pr} - Pr \text{ 149 atoms produced per fission} = 1.4 \times 10^{-2}$$

$$\lambda_{Xe} - \text{probability per second of decay of an Xe 135 atom} = 2.1 \times 10^{-5}$$

$$\lambda_I - \text{probability per second of decay of an I 135 atom} = 2.9 \times 10^{-5}$$

$$\lambda_{Pr} - \text{probability per second of decay of a Pr 149 atom} = 4.1 \times 10^{-6}$$

b. Burnup

$$\epsilon_4 - \text{convergence criterion for change in } \Delta t = 0.1 \times 10^{-4}$$



c. Diffusion

$$P_0 = \text{fissions per kw-sec} = 3.12 \times 10^{13}$$

$$r_0 = \text{first mesh point} = 0$$

$$\epsilon_1 = \text{convergence criterion for critical reactivity} = 0.1 \times 10^{-4}$$

$$\epsilon_2 = \text{convergence criterion for critical power} = 0.1 \times 10^{-4}$$

$$\omega = \text{acceleration factor} = 0$$

d. Criticality

$$\epsilon_3 = \text{convergence criterion for critical reactivity} = 0.1 \times 10^{-4}$$

$$\mathcal{K}_0 = \text{desired reactivity} = 1.0$$

$$\delta = dZ/dk \text{ first guess at DELTA} = 1.0$$

Besides the constants mentioned above, the tape specifications are given by:

TAPE1	=	Program Tape	=	1
TAPE2	=	Basic-Library Tape	=	2
TAPE3	=	Microscopic-Group - Cross-Section - Tape - new	=	3
TAPE4	=	Nuclear-Constants Tape	=	4
TAPE5	=	Microscopic-Group - Cross-Section Tape - old	=	5
TAPE6	=	Raw-Data Tape, Adjoint-Constants Tape	=	6
TAPE7	=	Burnup Tape	=	7
TAPE8	=	Output Tape	=	8
TAPE9	=	Dump Tape	=	9
TAPE10	=	DMM Service Library Tape	=	10

10. To begin a problem run or a series of problem runs, it is incorrect to call the Problem-Input Routine from the Program-Control Words, since originally the Problem Input is automatically called for by the Monitor. However, running a series of similar problems necessitates calling the Problem-Input Routine by use of a Program-Control Word.

11. In order to re-evaluate the nuclear constants after the perturbation of some quantity in the Criticality, either the Nuclear-Constants Preparer or Corrector should be used. In order to

recompute the nuclear constants, the Preparer must be used after a perturbation of mesh spacing or transverse leakage, the Corrector after a change in concentration.

12. There should be no flux weighting in the constants used by the Adjoint Routine to calculate the adjoint fluxes. This can be most easily accomplished by running the Adjoint Routine before a normal diffusion-theory calculation.

## V. PROGRAM DETAILS

### A. General Discussion

Details of the programs making up the DMM System appear in this section. Flow charts, memory maps, and listings of the 14 major routines are included.

The routines, listed below in alphabetical order, include certain necessary subroutines. The specific codes that contain these subroutines and the general subroutine functions are indicated by the subheadings under the major routines.

- (5-4)\* 1. Adjoint Routine
- (5-6) 2. Basic-Library-Preparation Routine
- (5-11) 3. Burnup (Adams Method) Routine
- (5-9) a. Burnup Constants
- (5-24) 1) EINV (Computation of  $E^{-1}$  for Evaluation of Flux-Weighting Factors)
- (5-31) 2) MRES (Computation of  $k_{\sigma_f A}^i$ ,  $k_{\sigma_c A}^i$ ,  $k_{t A}^i$ , and  $k_{\sigma_{tr A}}^i$ )
- (5-13) a) DELE (Computation of  $E_i - E_{i+1}$ ,  $\ln \frac{E_i}{E_{i+1}}$ ,  $\frac{E_i^2 - E_{i+1}^2}{2}$ )
- (5-12) 4. Criticality-Adjustment Routine
- (5-14) 5. Diffusion-Theory Routine
- (5-22) a. Invert (Inversion of Adjoint  $\phi_n^i$  for Printout)
- (5-23) b. Revert (Reversion of Adjoint  $\phi_n^i$  for Computation)
- (5-21) c. Flux (Computation of  $k \phi^i$ )
- (5-26) 6. Microscopic-Group - Cross-Section Routine
- (5-43) a. Sum-Tum (Computation of Group Average Cross Sections)
- (5-30) 7. Monitor Routine
- (5-32) 8. Neutron-Balance Routine
- (5-35) 9. Nuclear-Constants-Corrector Routine
- (5-31) a. MRES
- (5-13) 1) DELE

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\* Number indicates the page on which the flow chart appears.

- (5-42) b. SCTR (Computation of  $k_{tA}^{ij}$ )
- (5-13) 1) DELE
- (5-24) c. EINV
- (5-36) 10. Nuclear-Constants-Preparer Routine
- (5-38) 11. Problem-Input Routine
- (5-3) a. AK Block Preparation of the Problem Input
- (5-41) b. Program-Control Words Conversion of the Problem Input
- (5-40) 12. Output Routine
- (5-50) 13. Tape-Writer - Tape-Loader Routine
- (5-51) 14. Xenon-Samarium-Addition Routine
- (5-31) a. MRES
- (5-13) 1) DELE
- (5-24) b. EINV

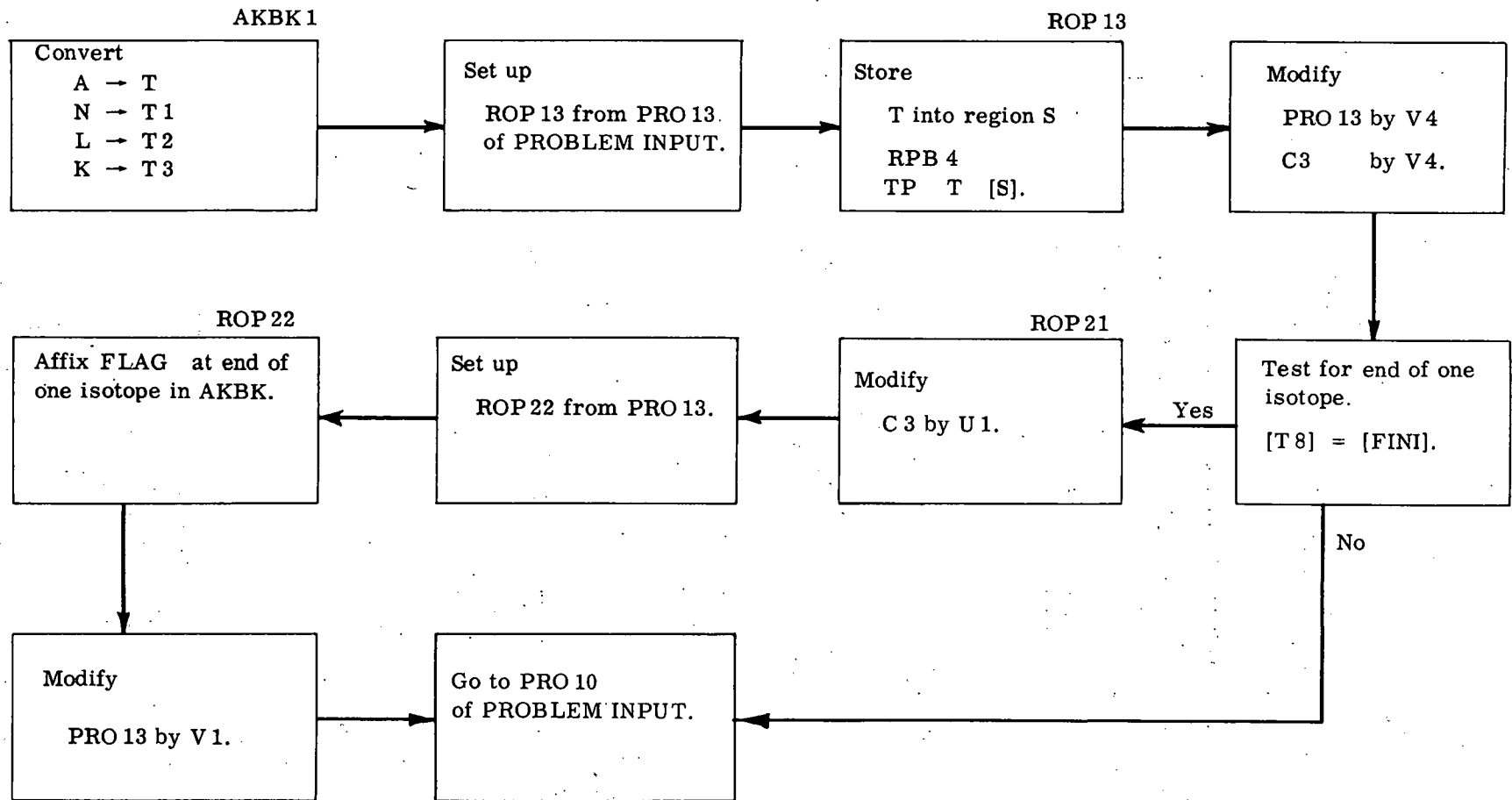
The program listings are arranged in the order they appear on the DMM Program Tape, namely:

1. Tape-Writer - Tape-Loader
2. Output Routine
3. Monitor
4. Problem-Input Routine
5. Microscopic-Group - Cross-Section Tape Routine
6. Nuclear-Constants-Preparer Routine
7. Nuclear-Constants-Corrector Routine
8. Diffusion-Theory Routine
9. Burnup Routine
10. Criticality-Adjustment Routine
11. Neutron-Balance Routine
12. Adjoint Routine
13. Xenon-Samarium-Addition Routine
14. Basic-Library-Preparation Routine

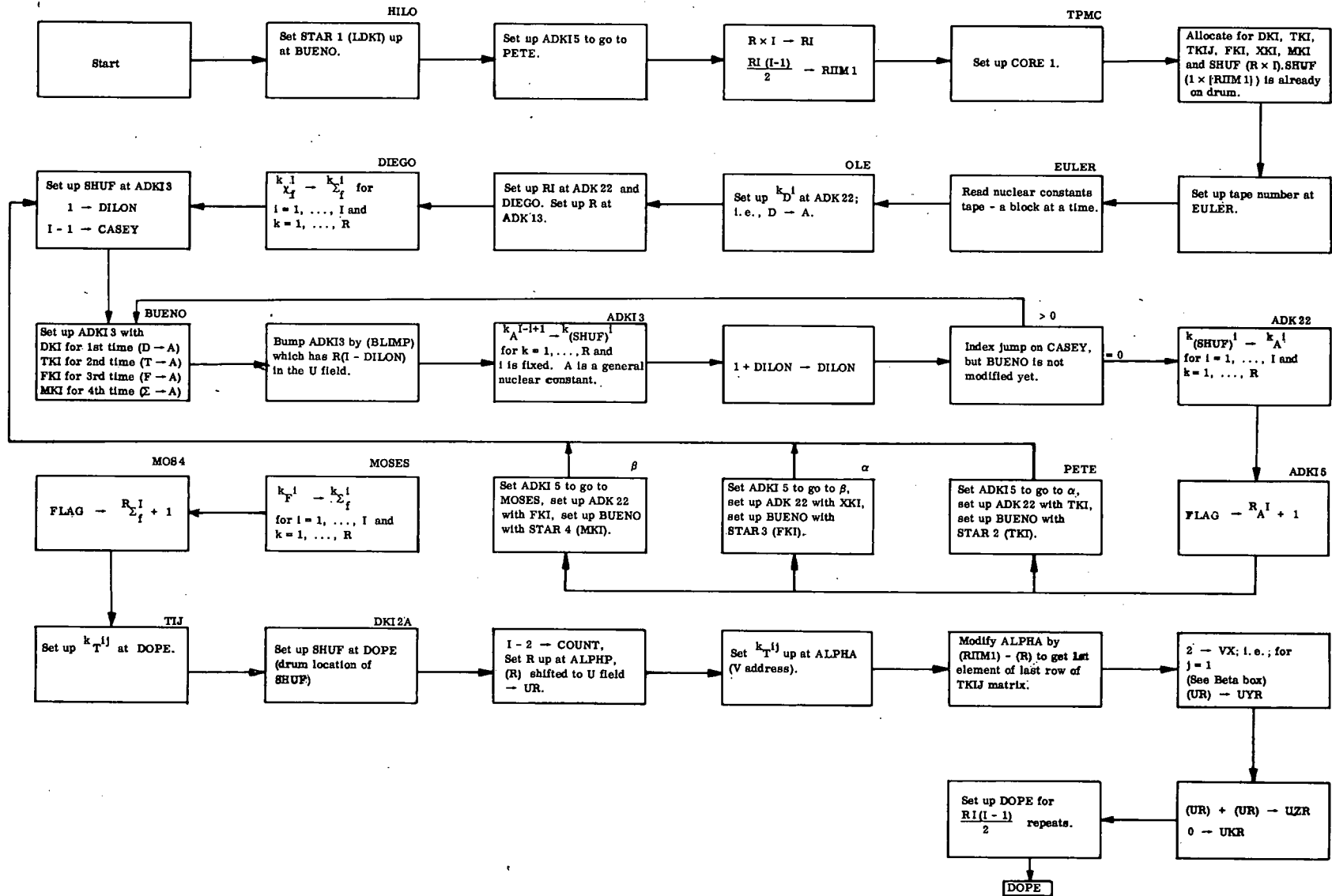
#### B. Flow Charts

Flow charts of the DMM routines and subroutines listed above are presented on the following pages.

## 1. AK BLOCK PREPARATION OF THE PROBLEM INPUT

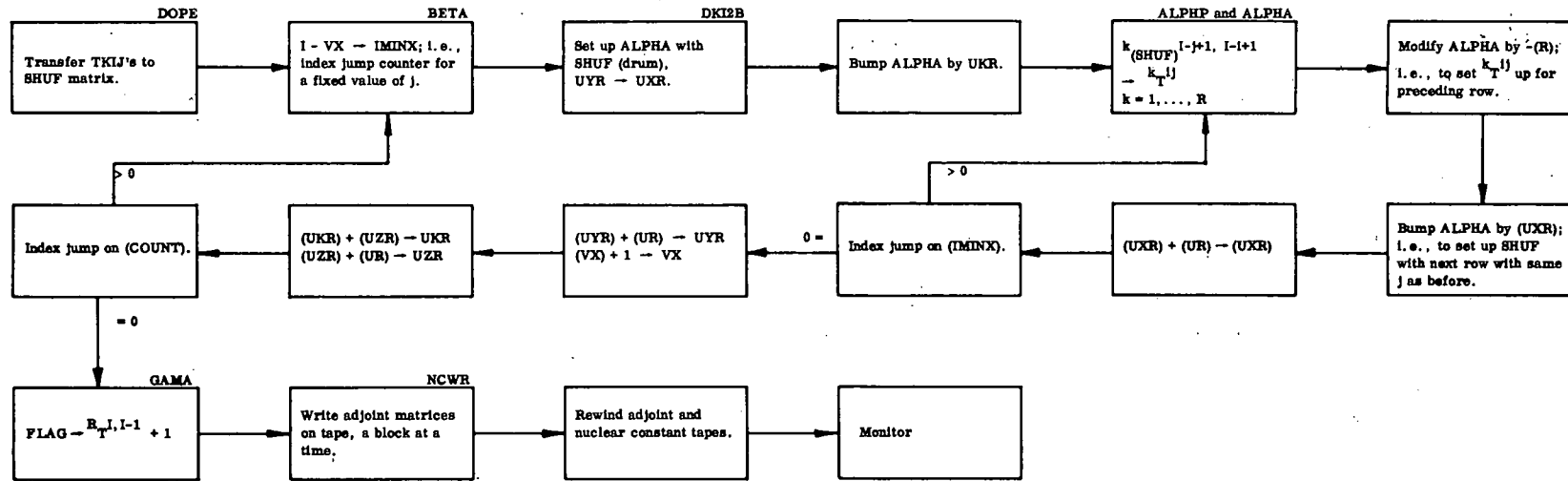


2. ADJOINT  
(page 1 of 2)

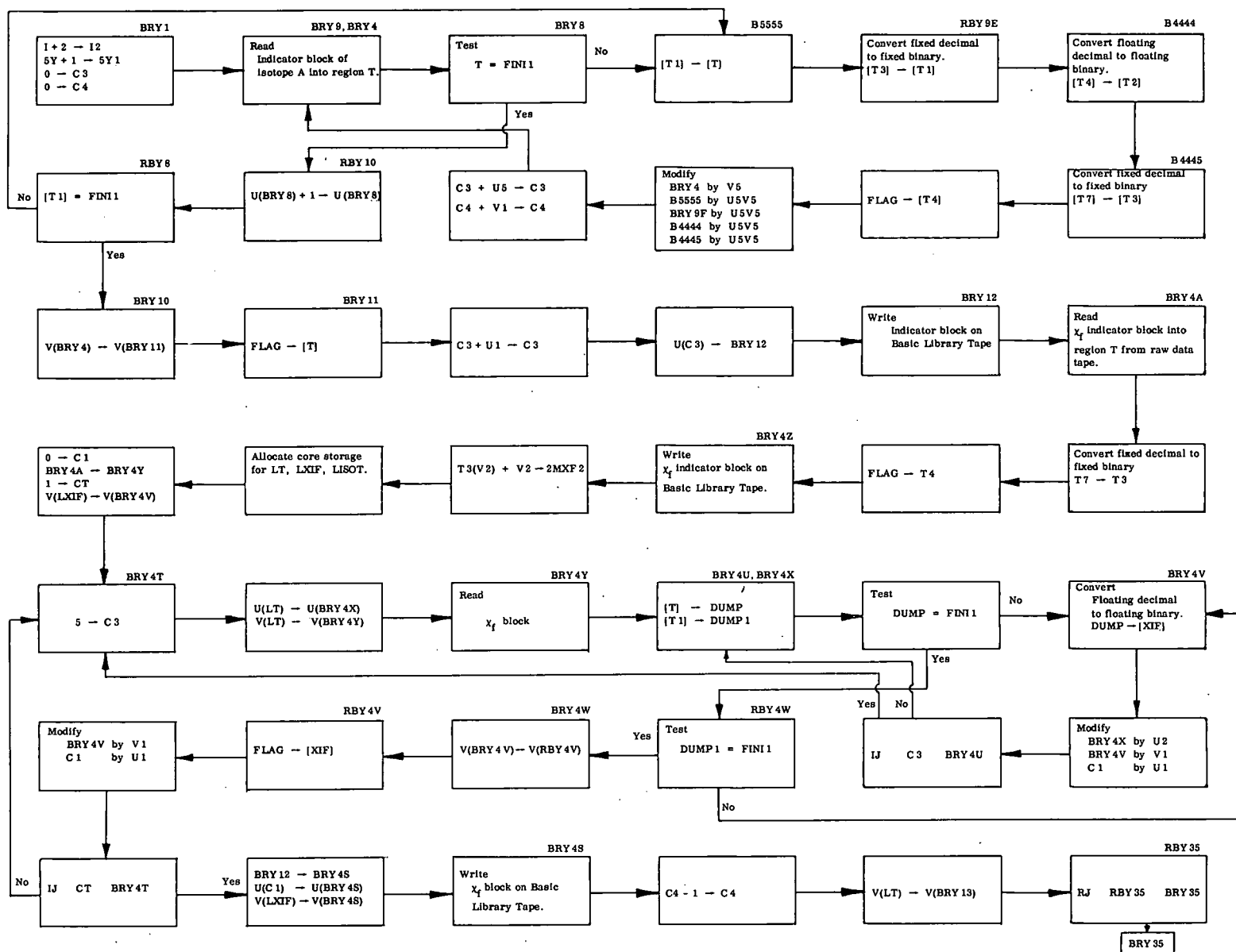


5-4

## 2. ADJOINT (page 2 of 2)



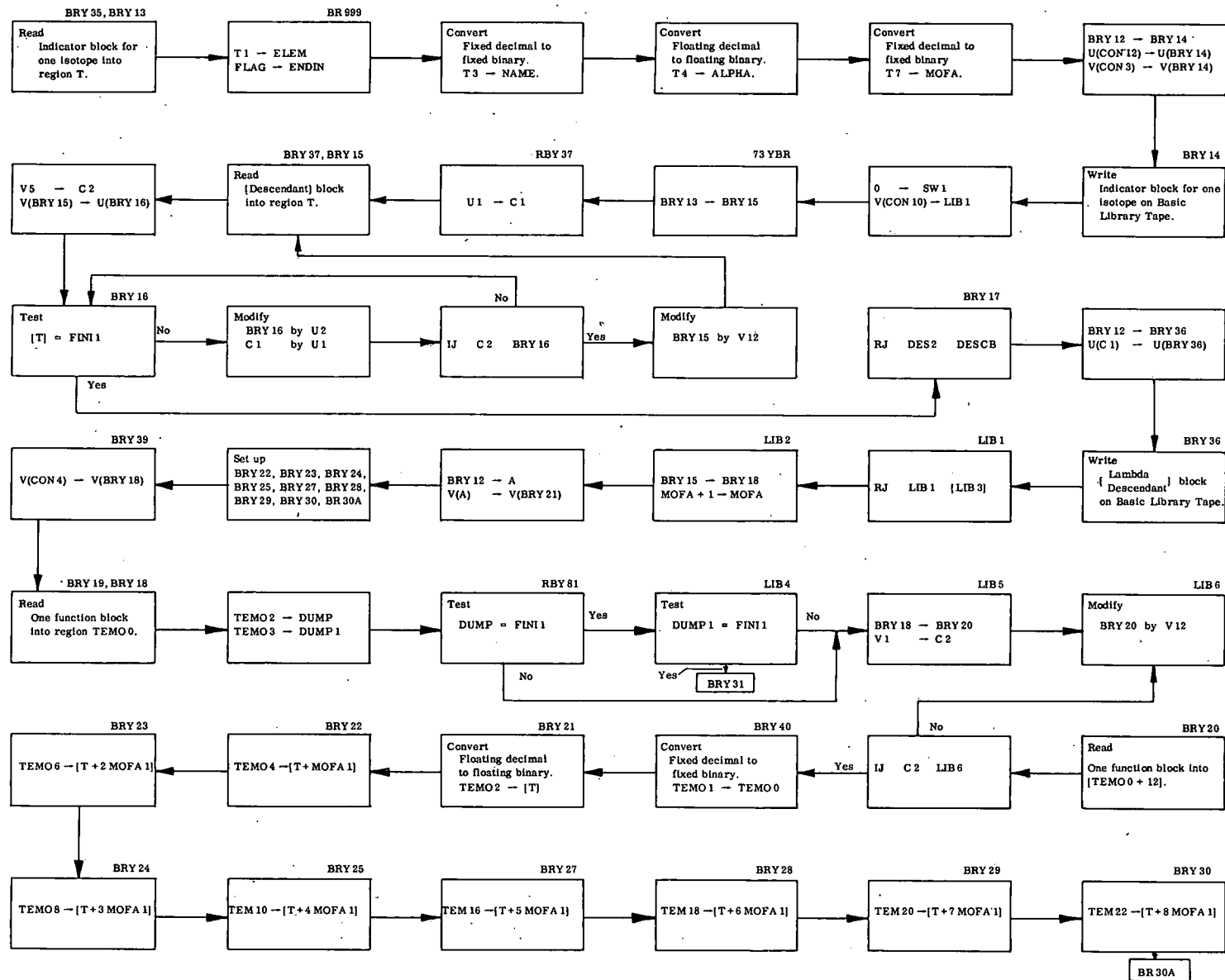
### 3. BASIC-LIBRARY PREPARATION (page 1 of 3)



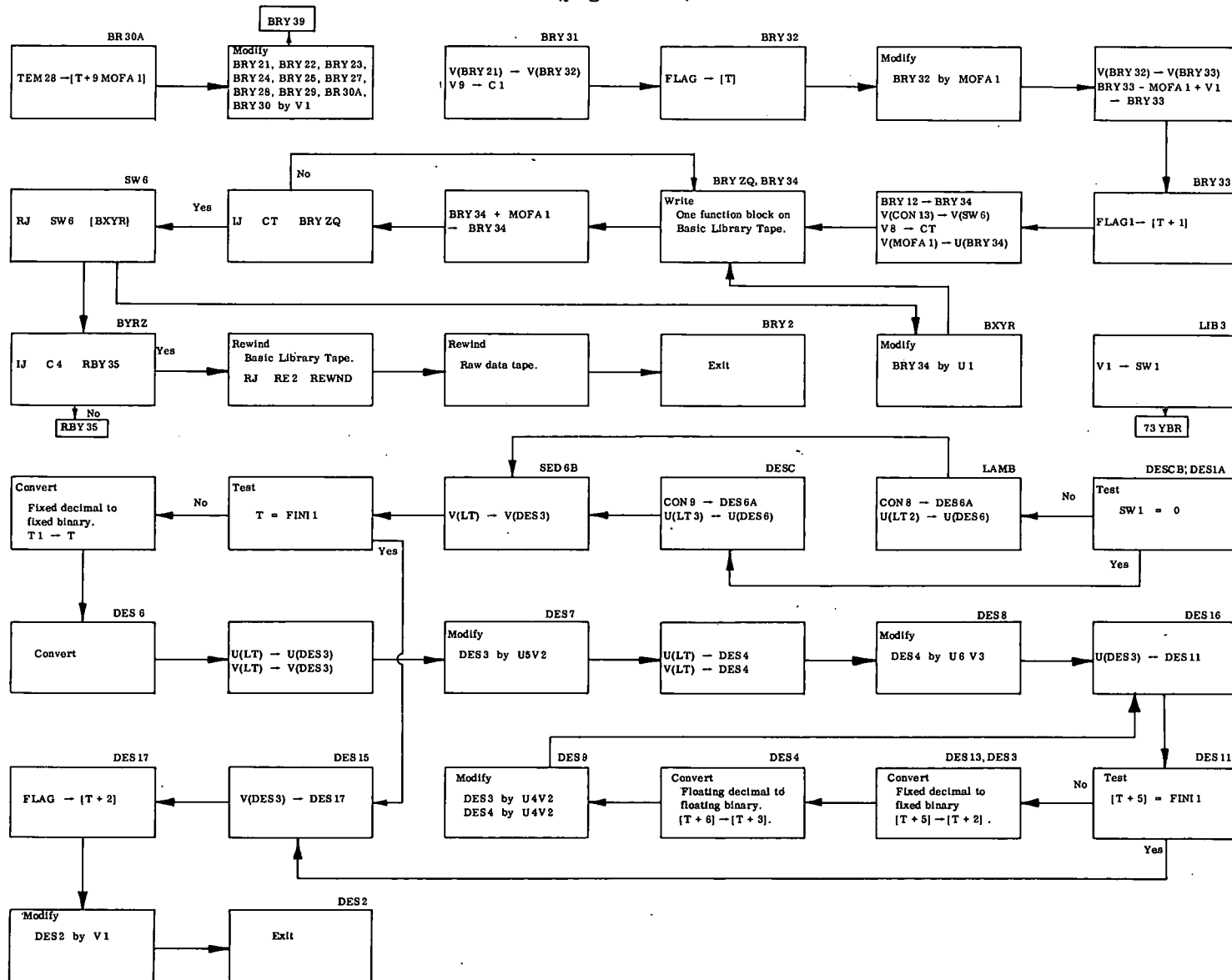
U-6



### 3. BASIC-LIBRARY PREPARATION (page 2 of 3)

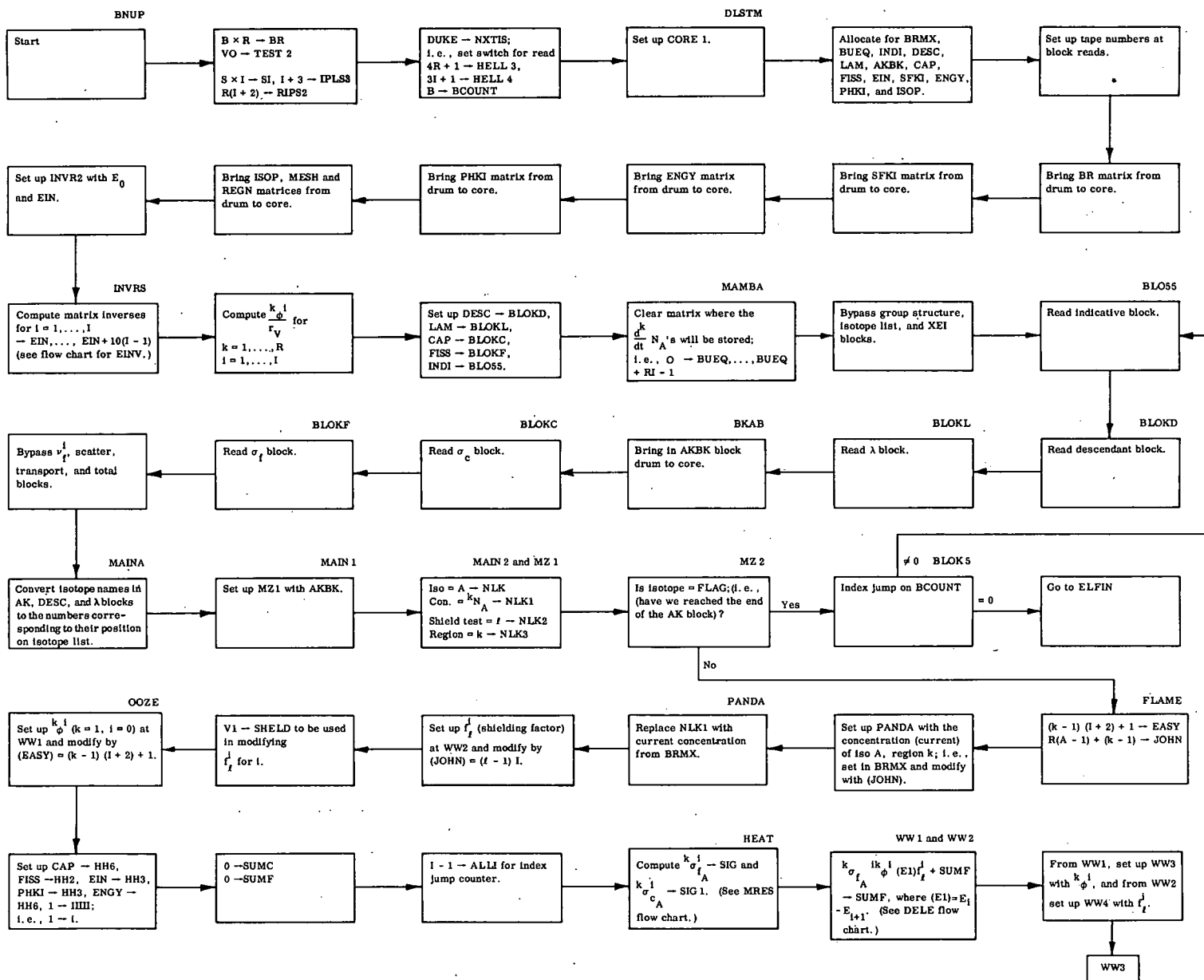


### 3. BASIC-LIBRARY PREPARATION (page 3 of 3)

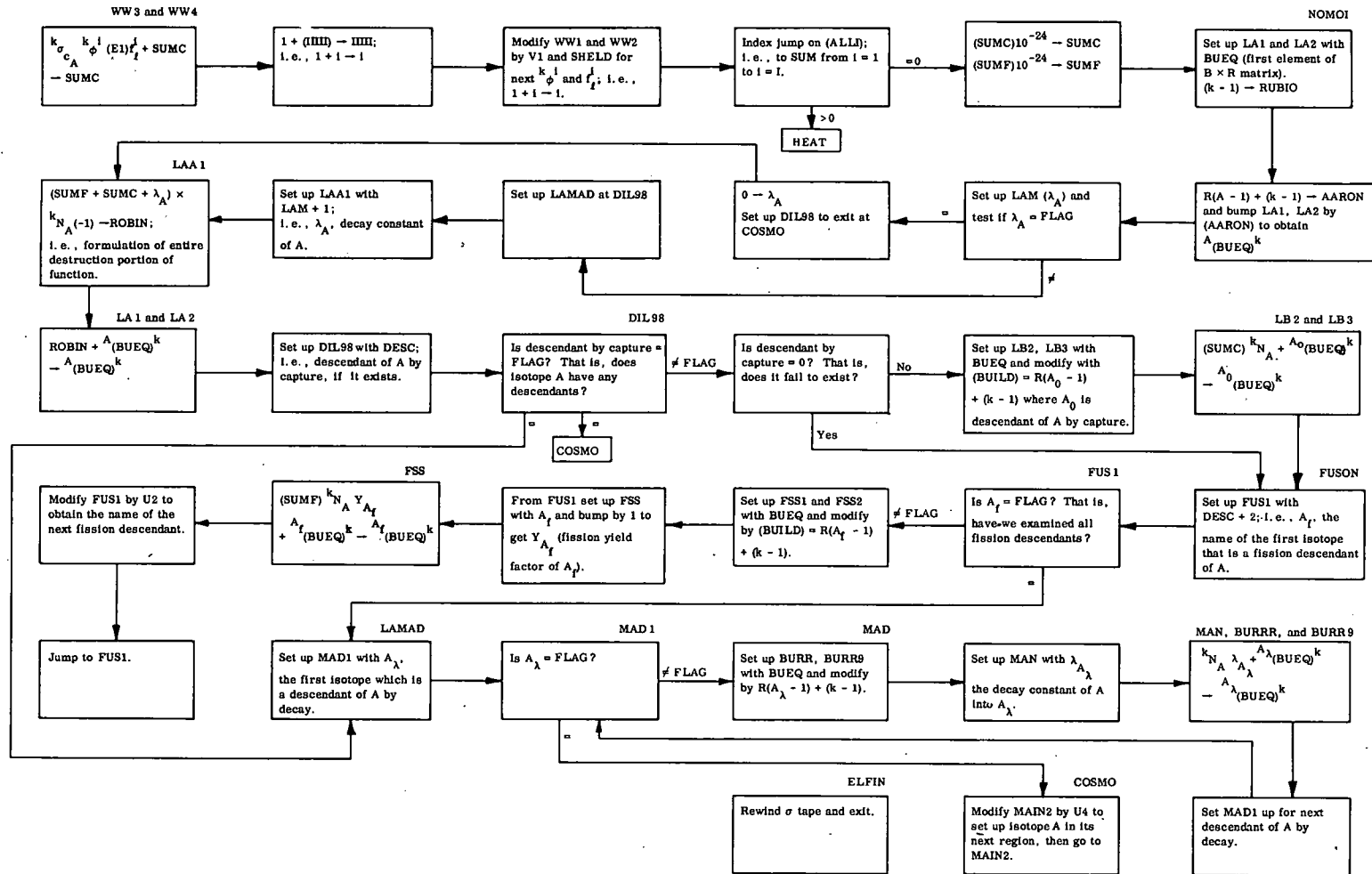


5-8

## 4. BURNUP CONSTANTS (page 1 of 2)

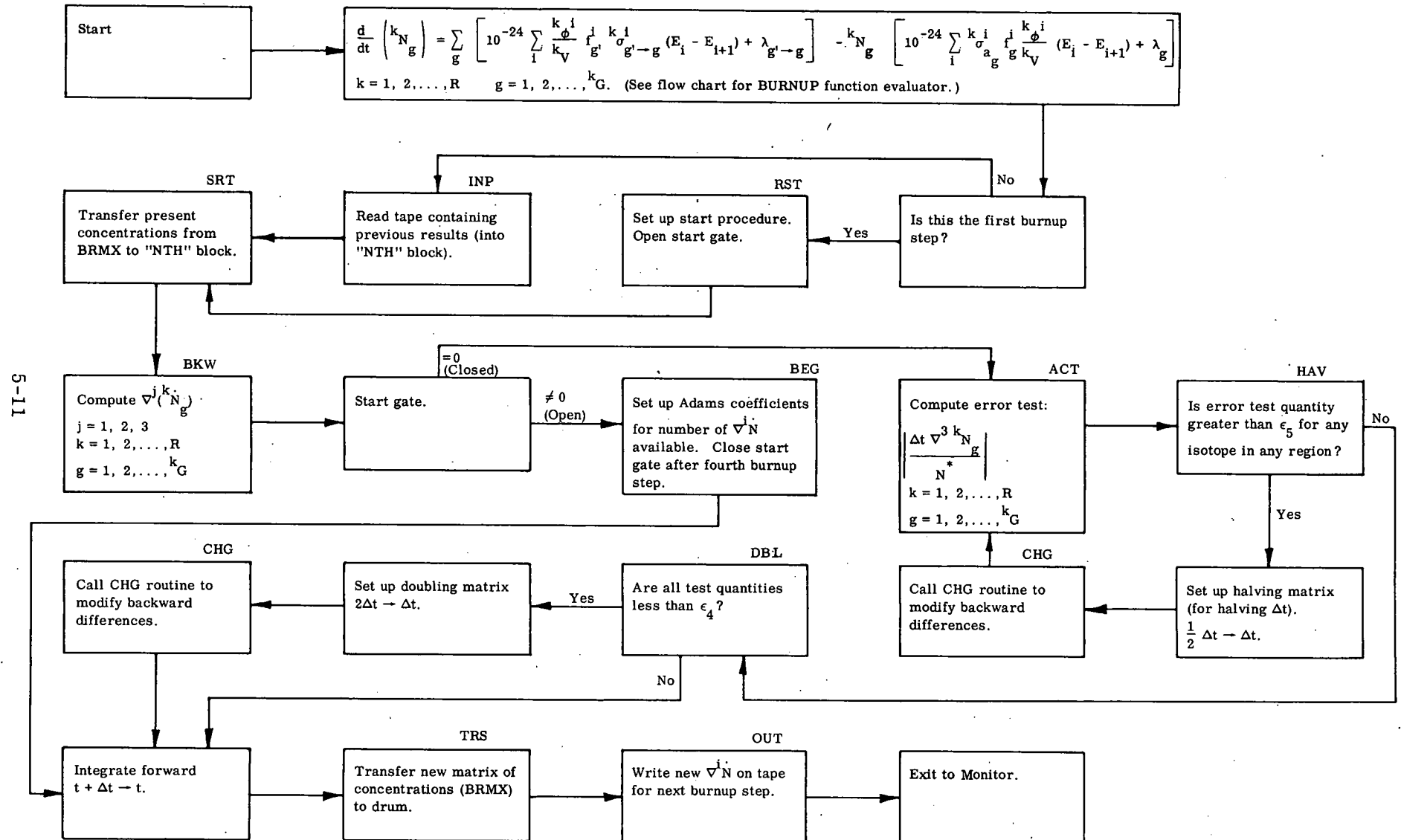


4. BURNUP CONSTANTS  
(page 2 of 2)

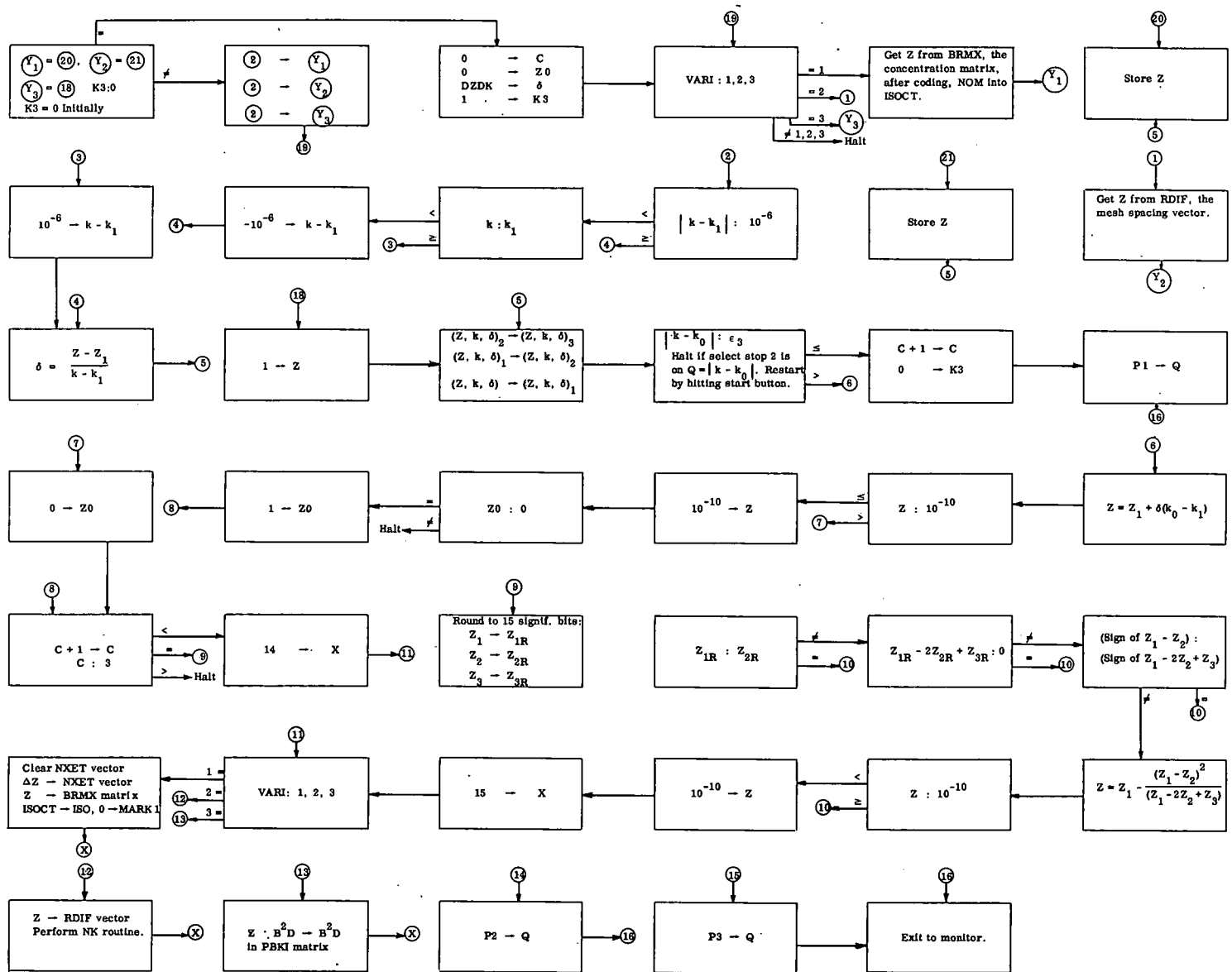


5-10

## 5. BURNUP (ADAMS METHOD)

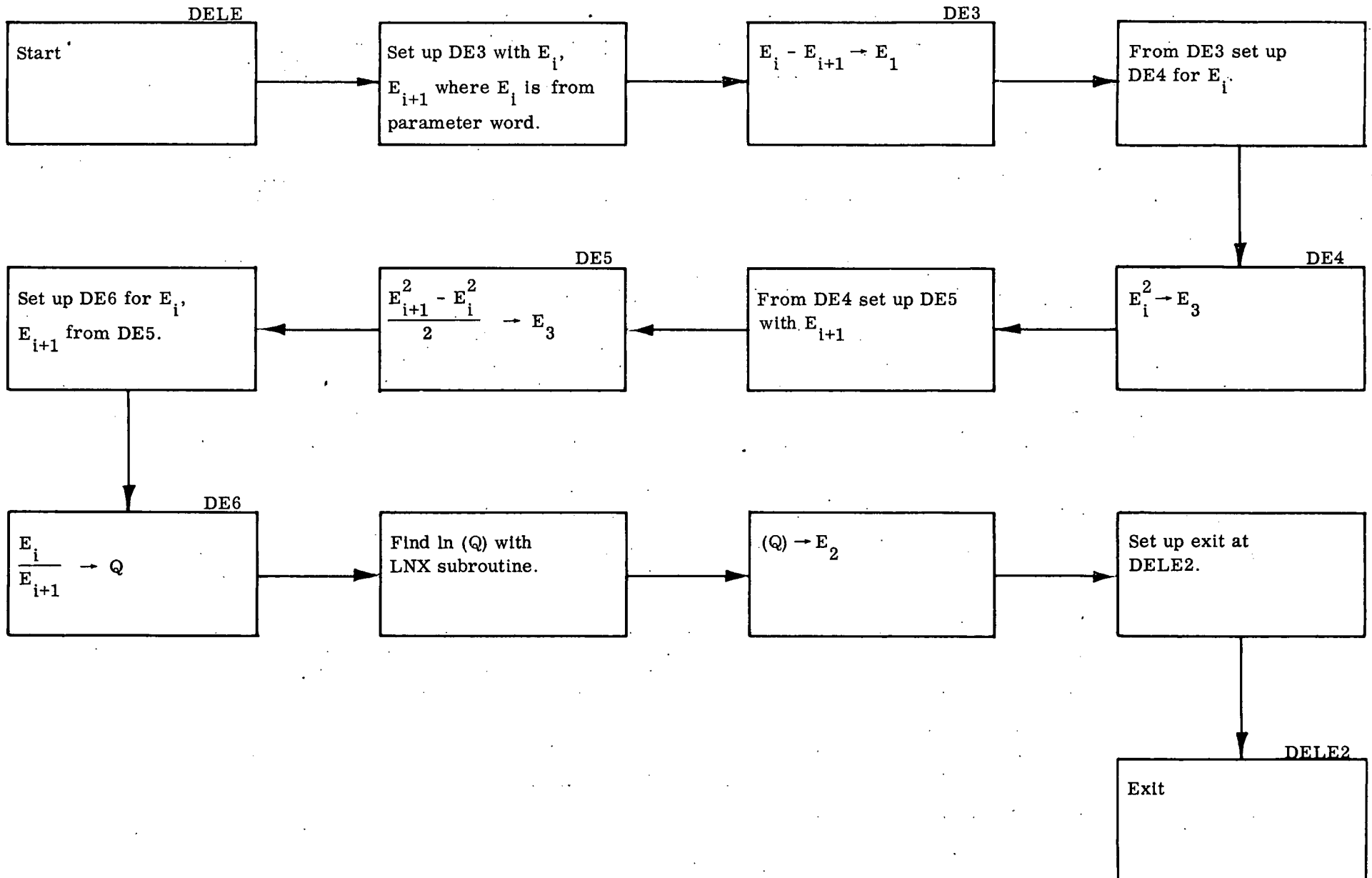


## 6. CRITICALITY ADJUSTMENT



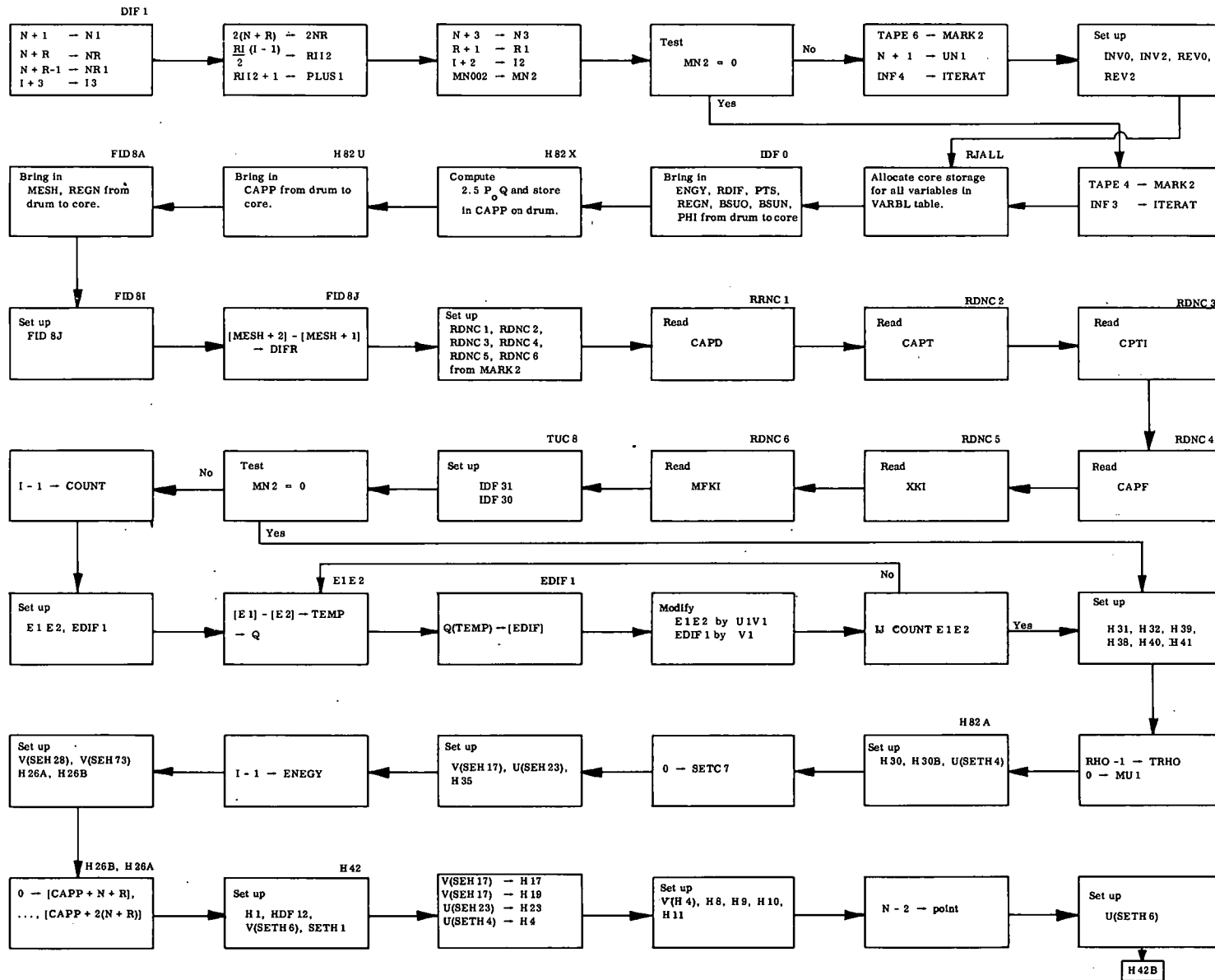
5-12

7. DELE (COMPUTATION OF  $E_i - E_{i+1}$ ,  $\ln \frac{E_i}{E_{i+1}}$ ,  $\frac{E_i^2 - E_{i+1}^2}{2}$ )



# 8. DIFFUSION THEORY

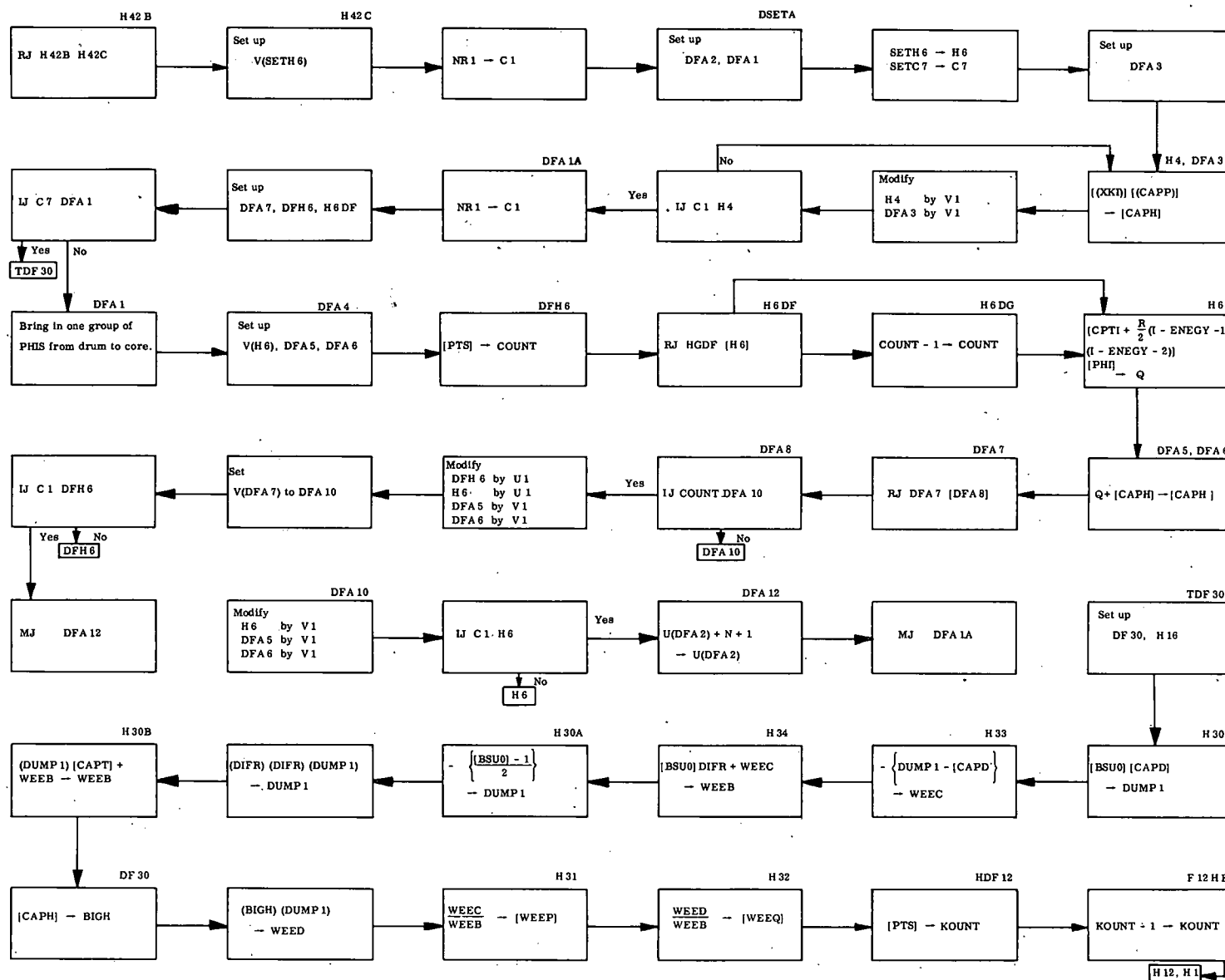
(page 1 of 10)



5-14

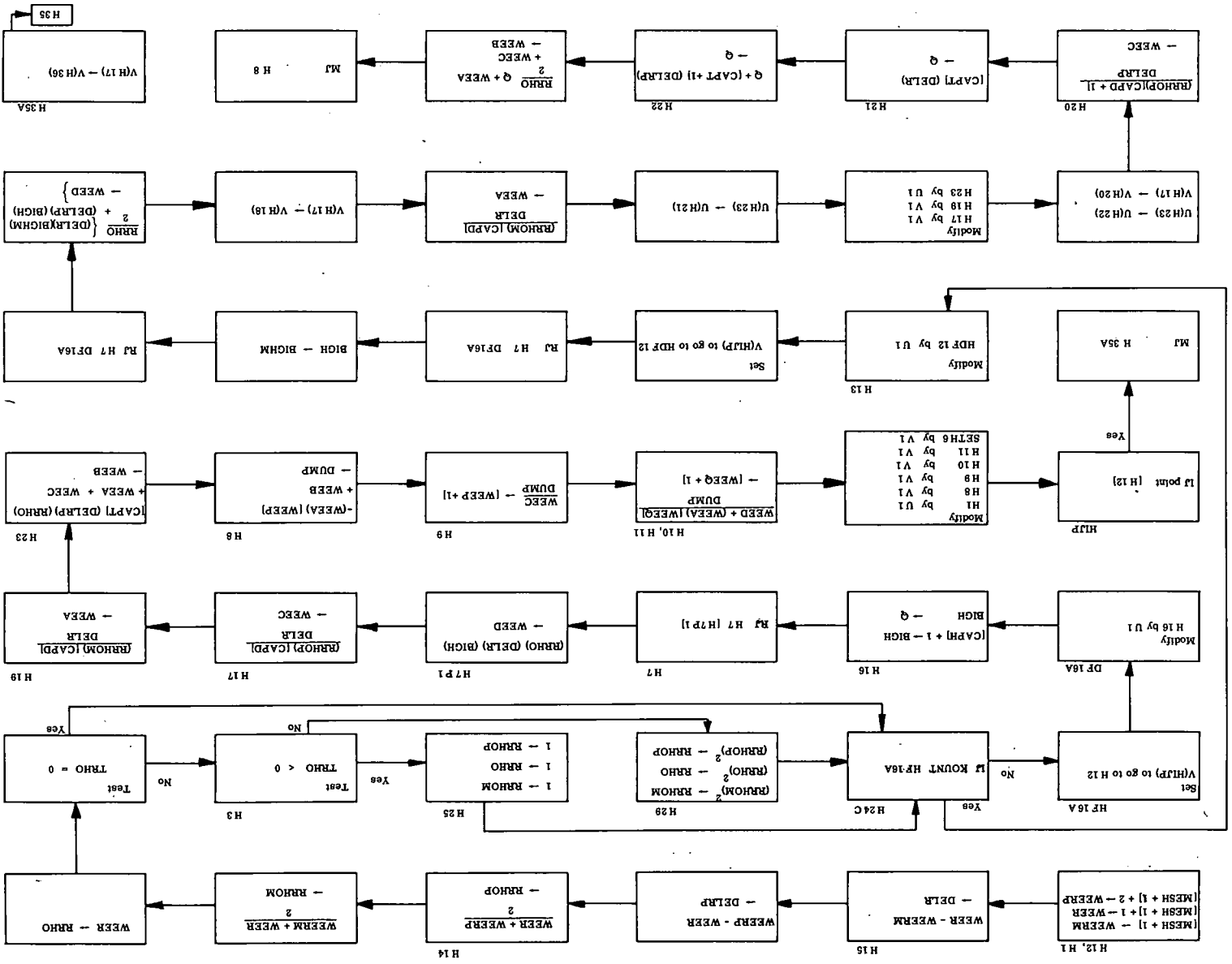


### 8. DIFFUSION THEORY (page 2 of 10)

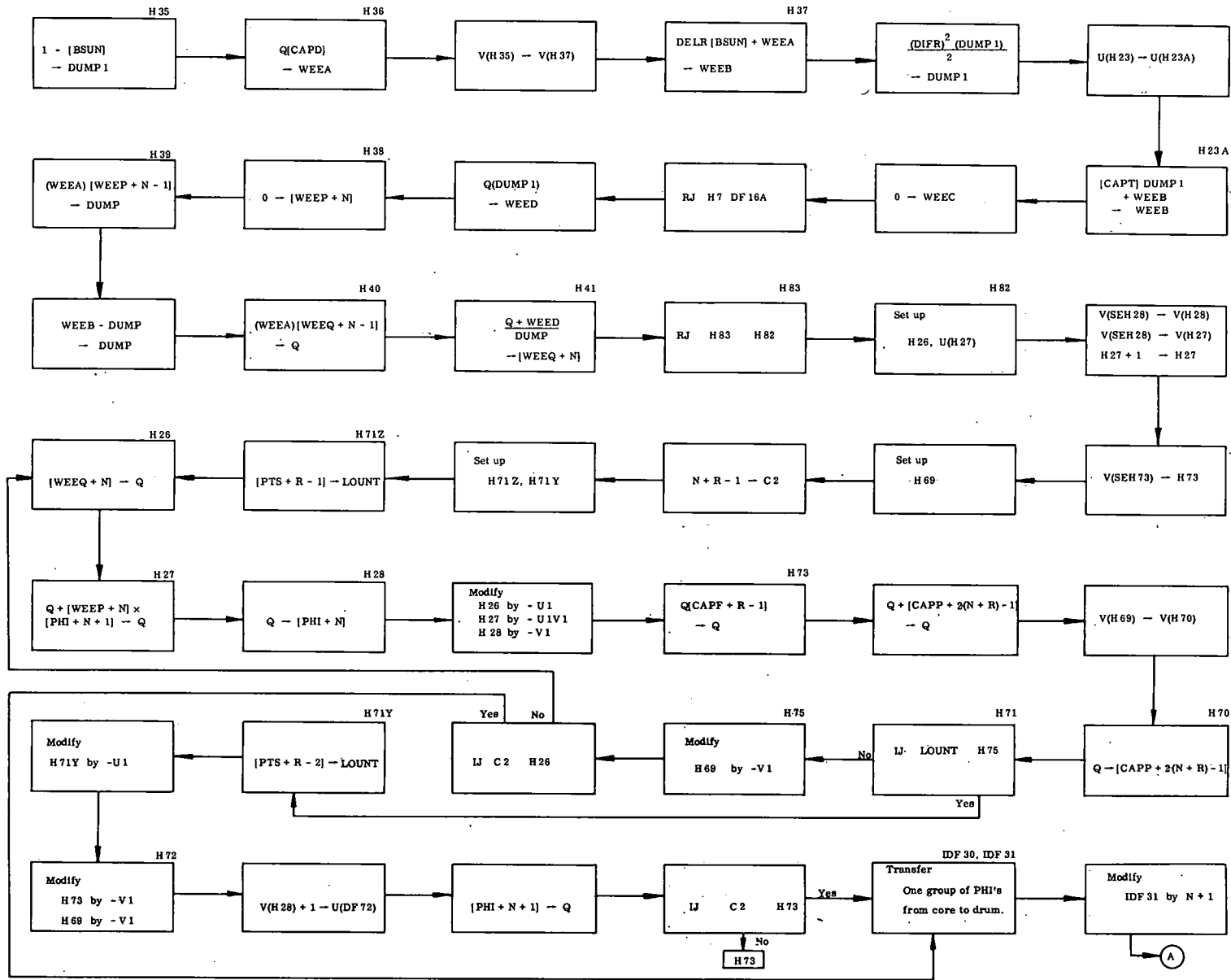


5-15

8. DIFFUSION THEORY  
(page 3 of 10)

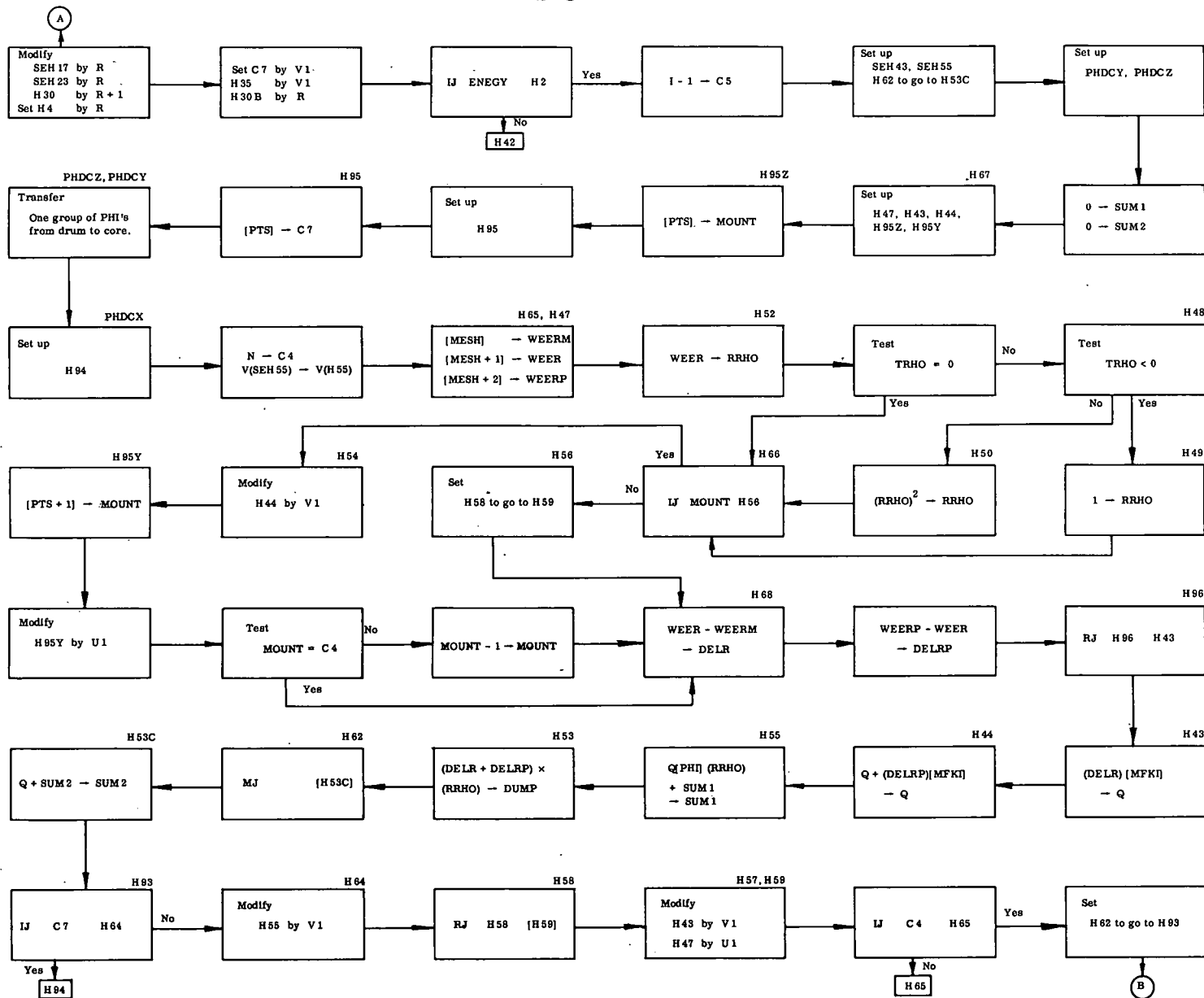


### 8. DIFFUSION THEORY (page 4 of 10)



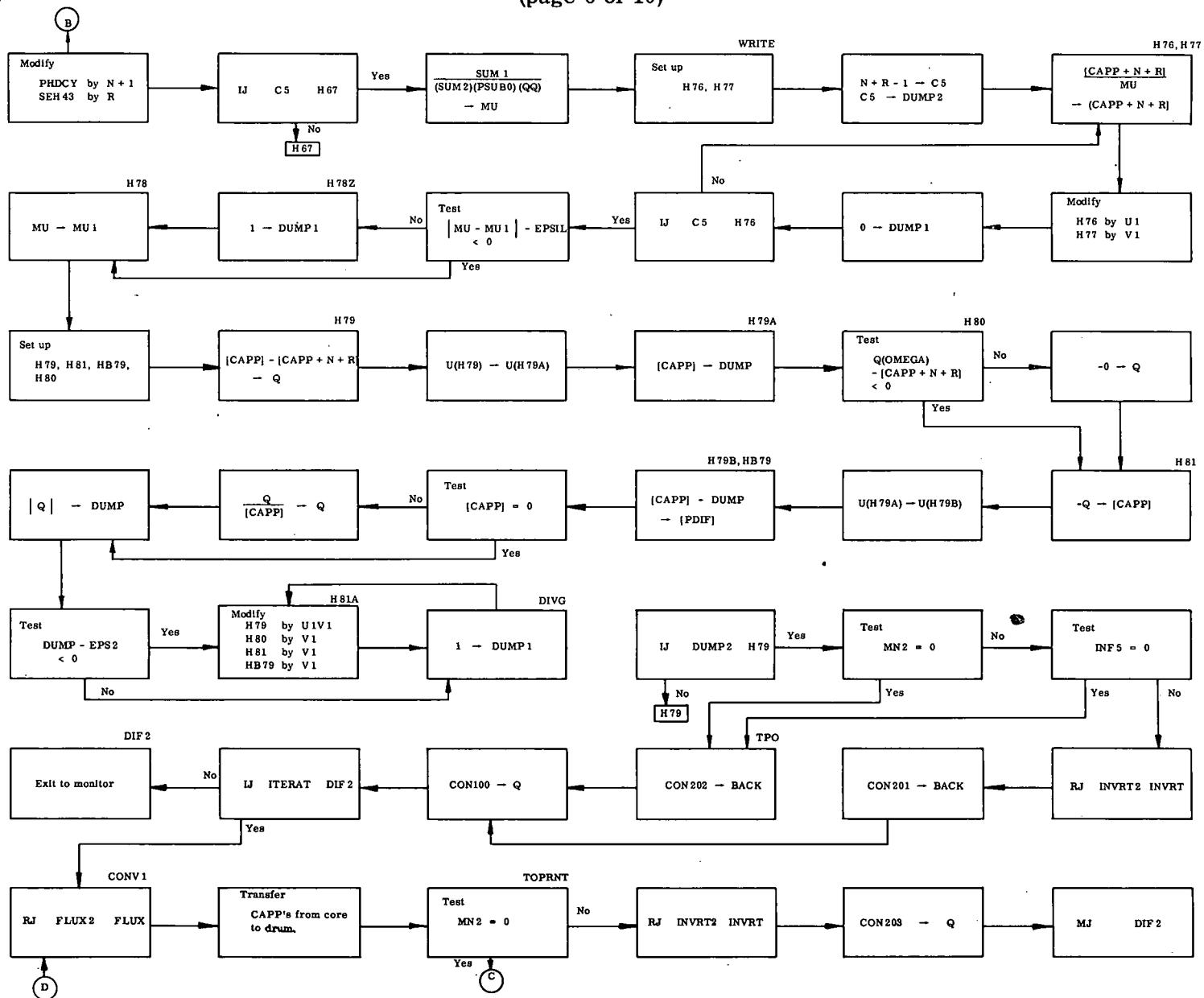
5-17

8. DIFFUSION THEORY  
(page 5 of 10)



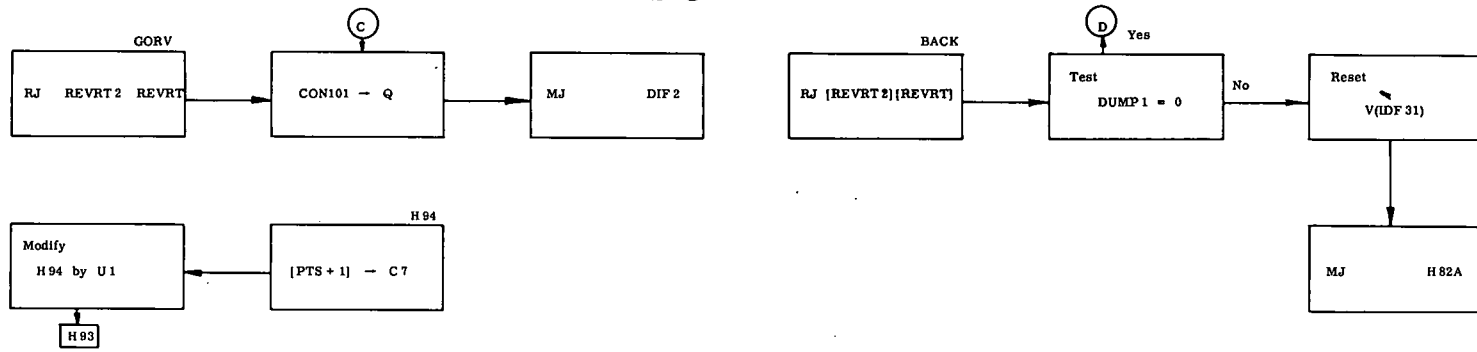
5-18

### 8. DIFFUSION THEORY (page 6 of 10)



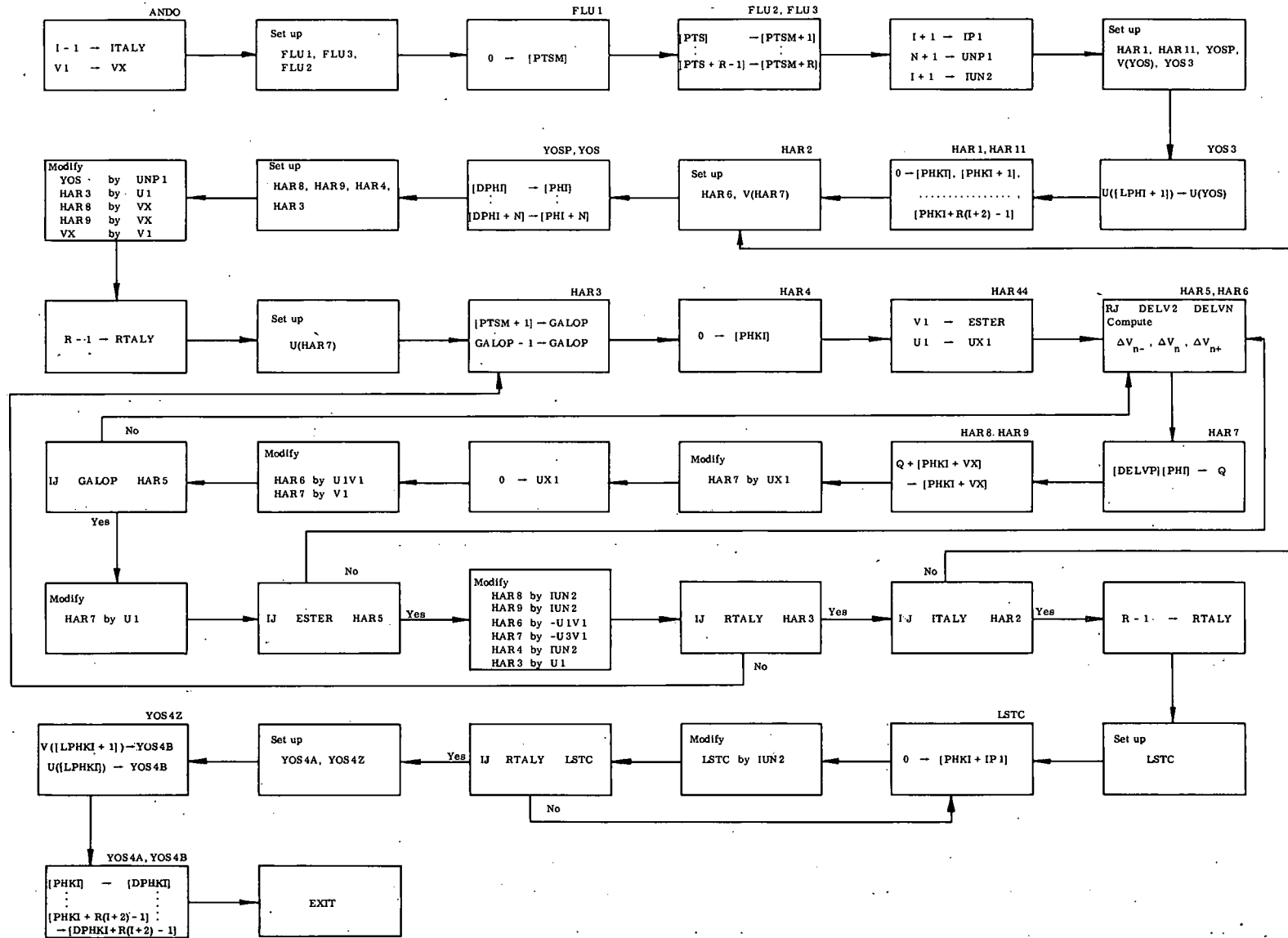
5-19

8. DIFFUSION THEORY  
(page 7 of 10)



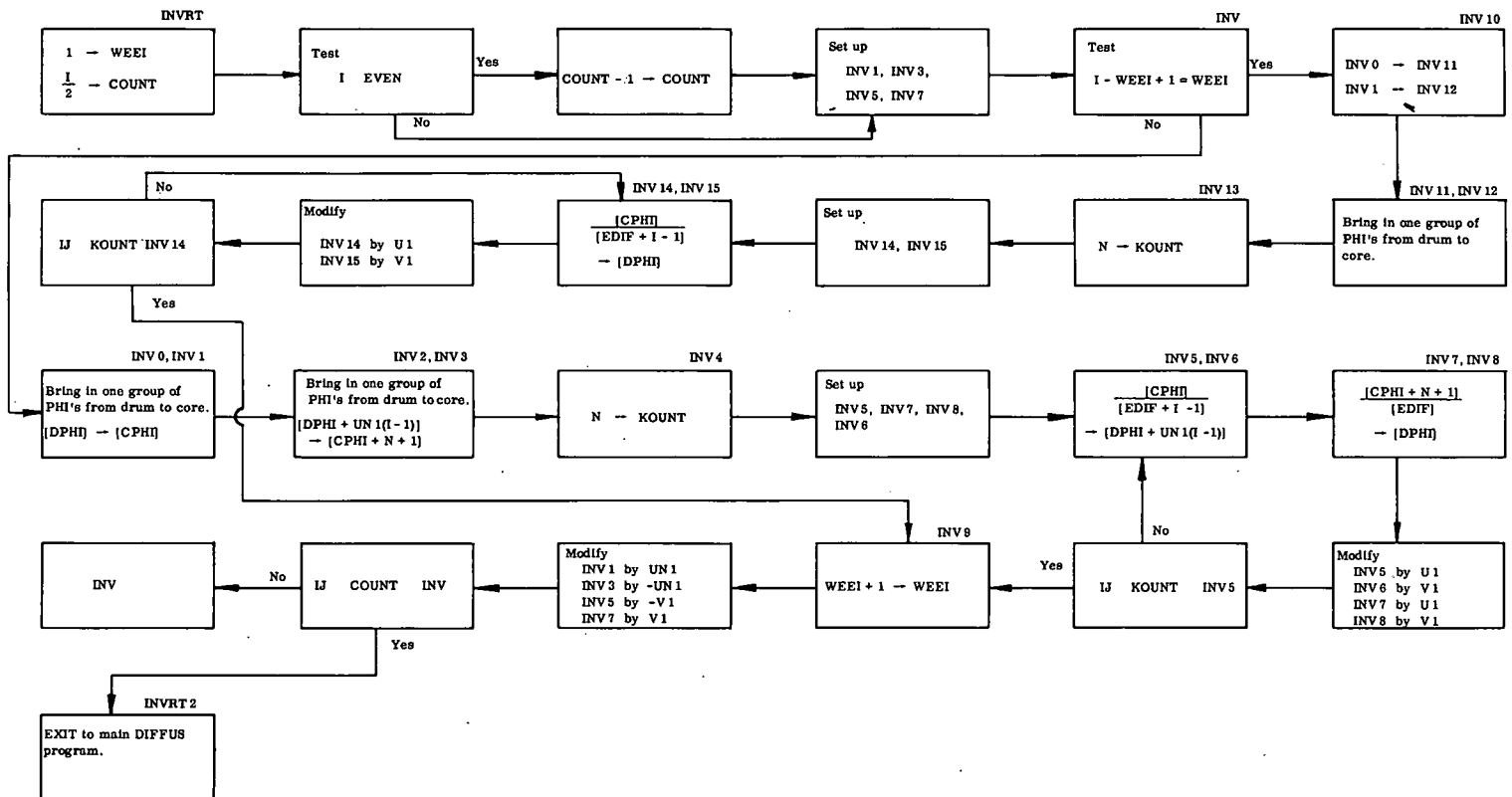
5-20

### 8. DIFFUSION THEORY (page 8 of 10)



5-21

8. DIFFUSION THEORY  
(page 9 of 10)

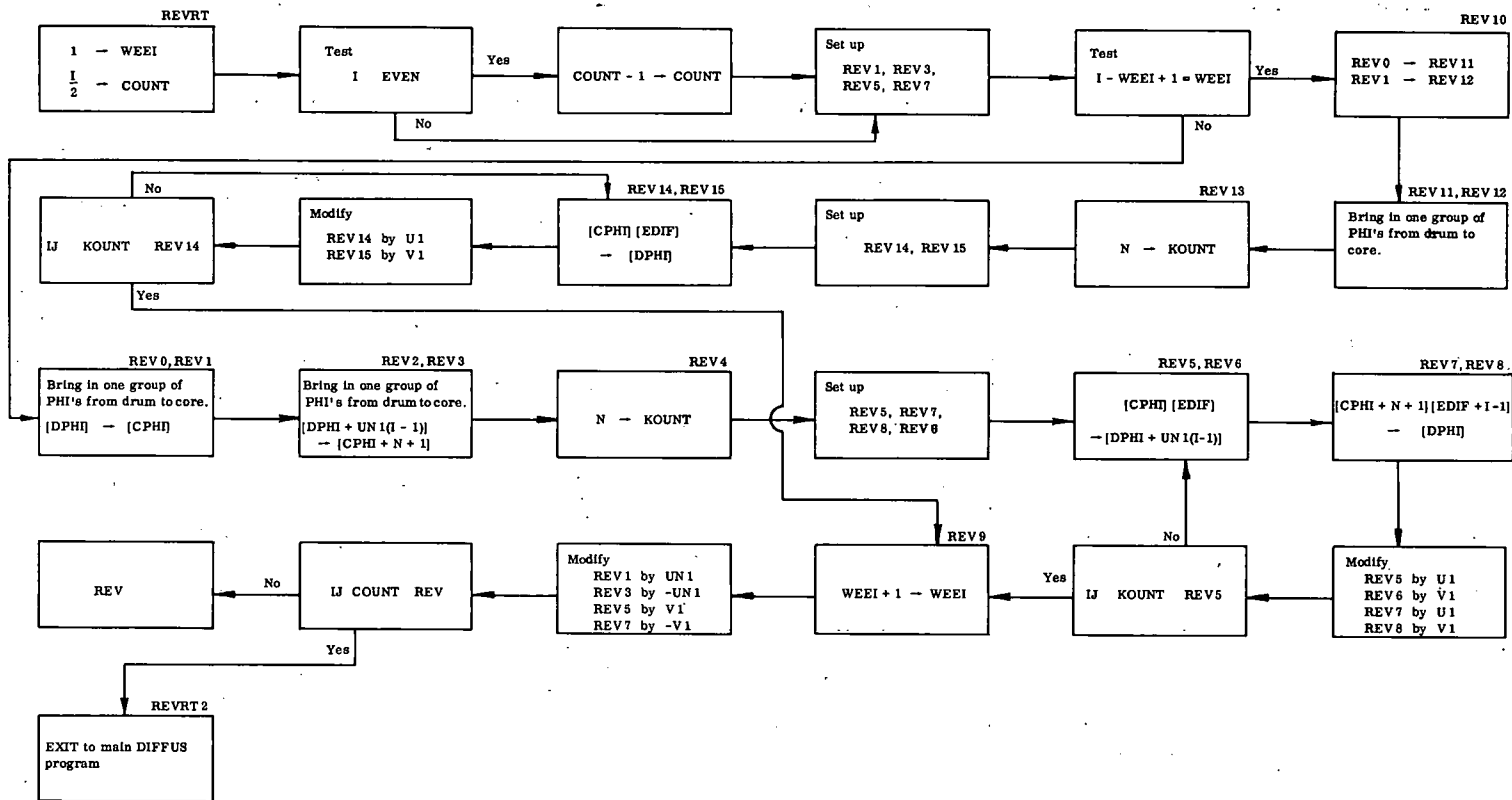


S-22

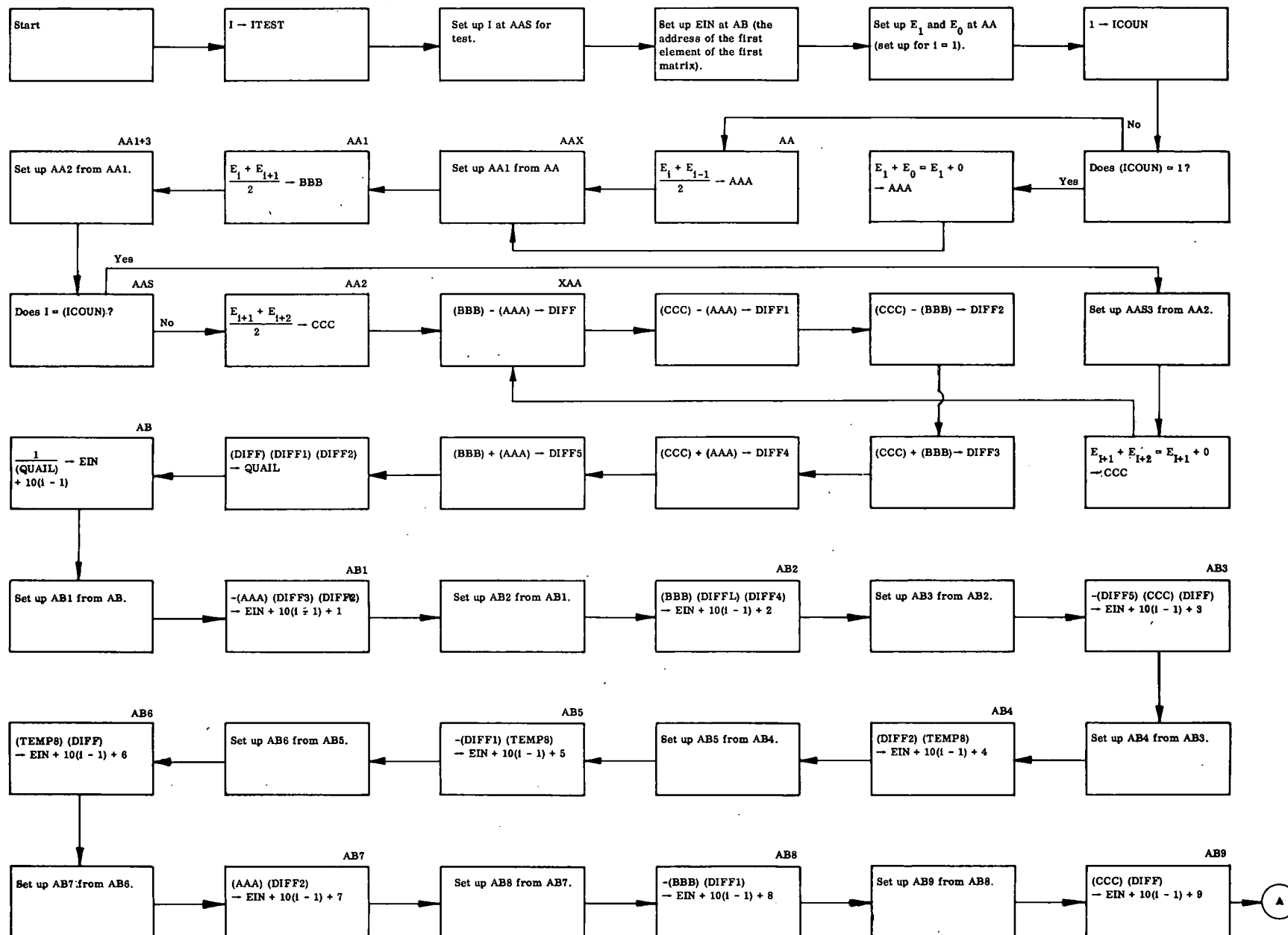


## 8. DIFFUSION THEORY

(page 10 of 10)

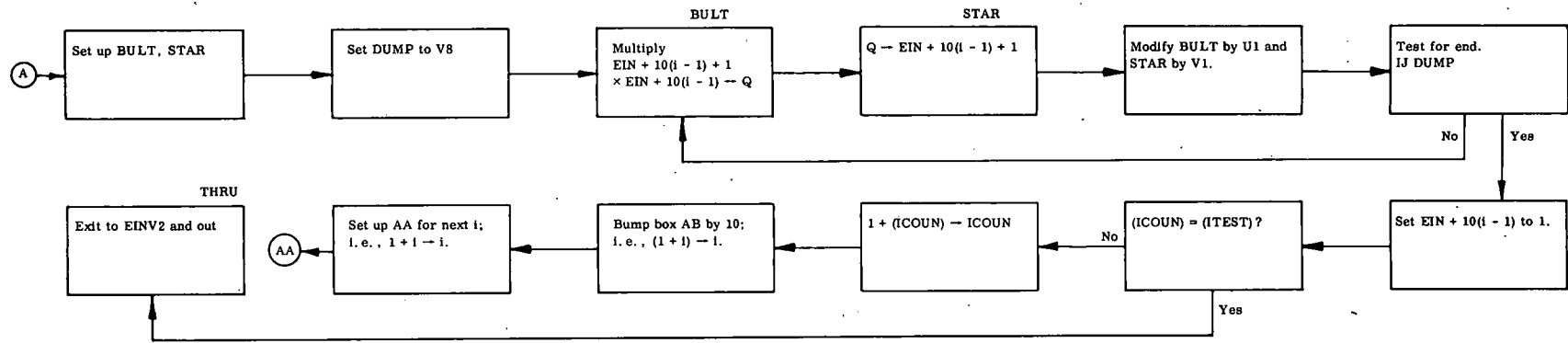


9. EINV (COMPUTATION OF  $E^{-1}$  FOR EVALUATION OF FLUX-WEIGHTING FACTORS)  
(page 1 of 2)



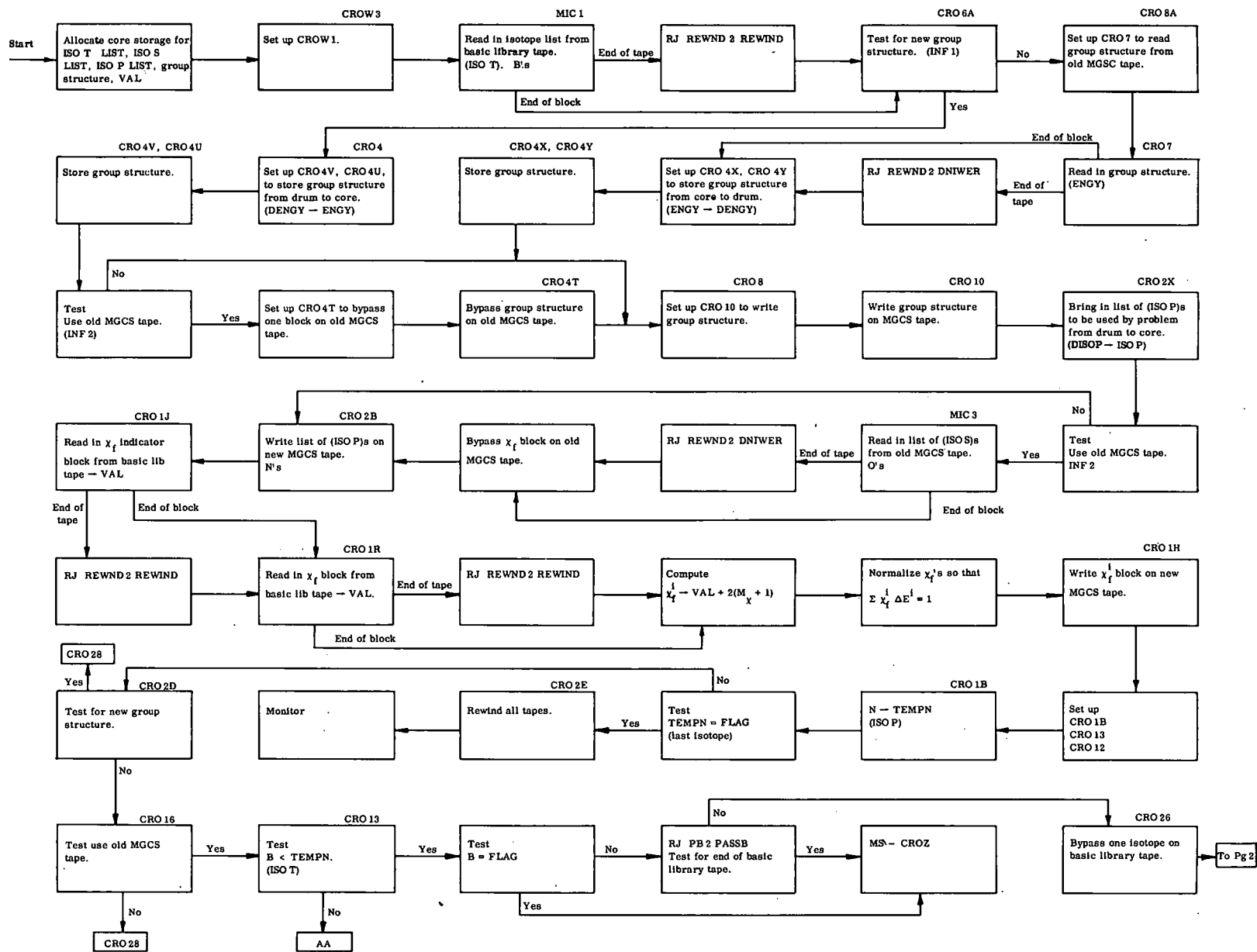
5-24

9. EINV (COMPUTATION OF  $E^{-1}$  FOR EVALUATION OF FLUX-WEIGHTING FACTORS)  
(page 2 of 2)



# 10. MICROSCOPIC-GROUP - CROSS-SECTION TAPE

(page 1 of 4)

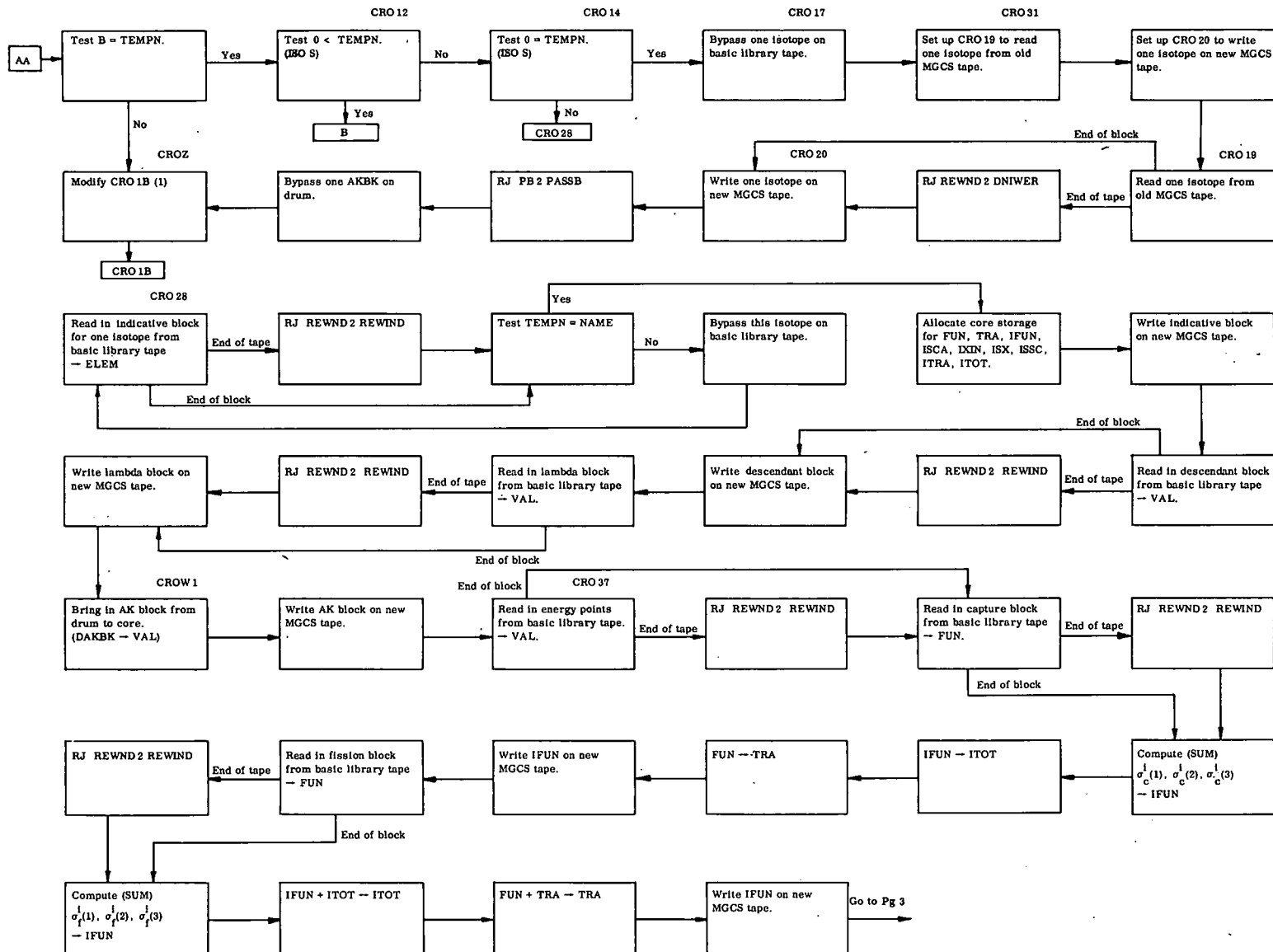


5-26

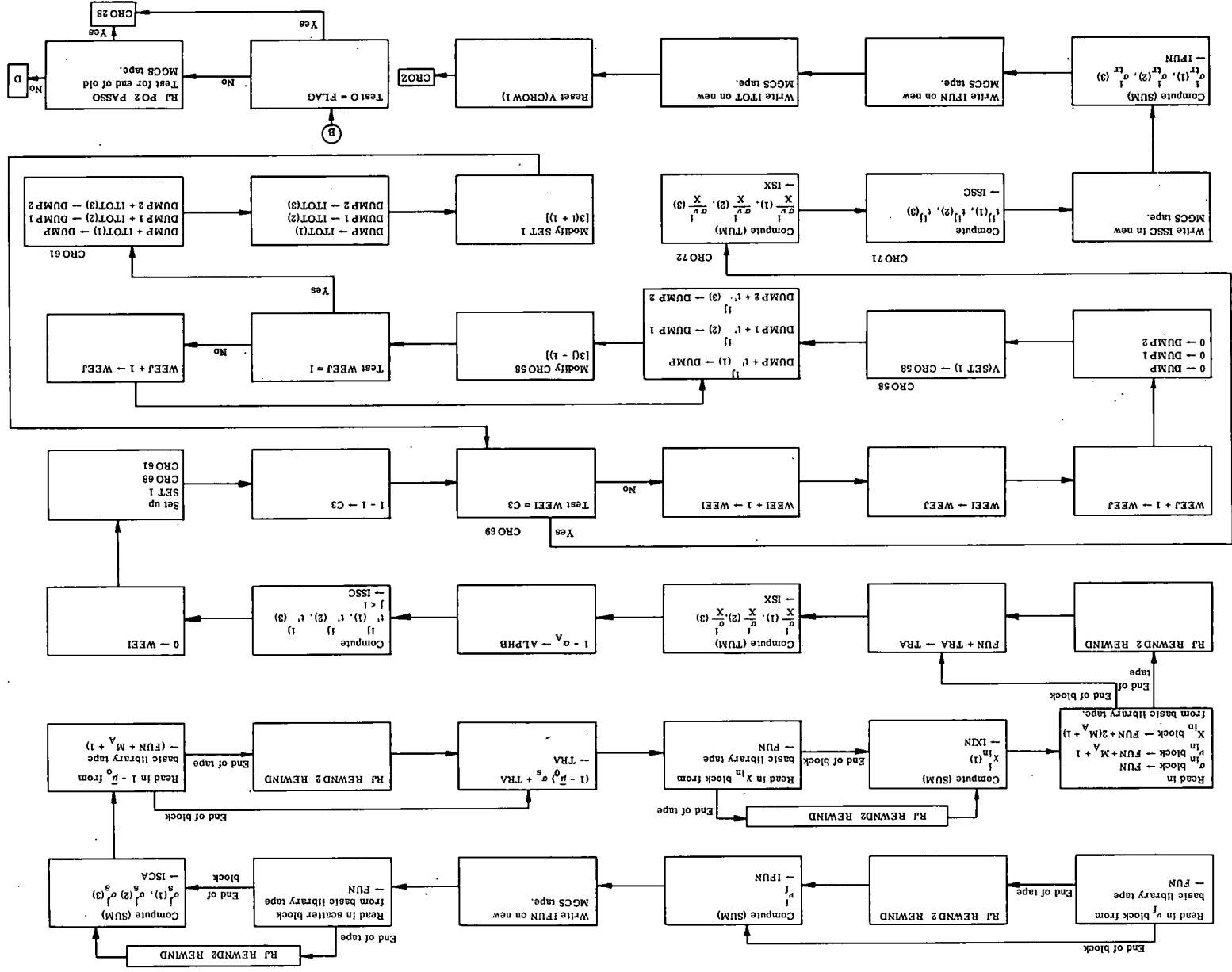


# 10. MICROSCOPIC-GROUP - CROSS-SECTION TAPE

(page 2 of 4)

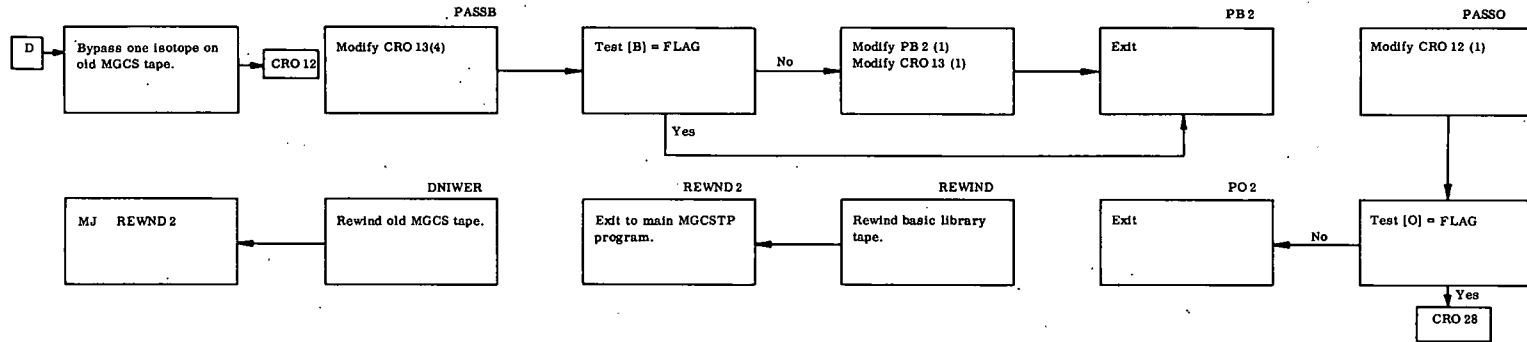


10. MICROSCOPIC-GROUP - CROSS-SECTION TAPE (page 3 of 4)

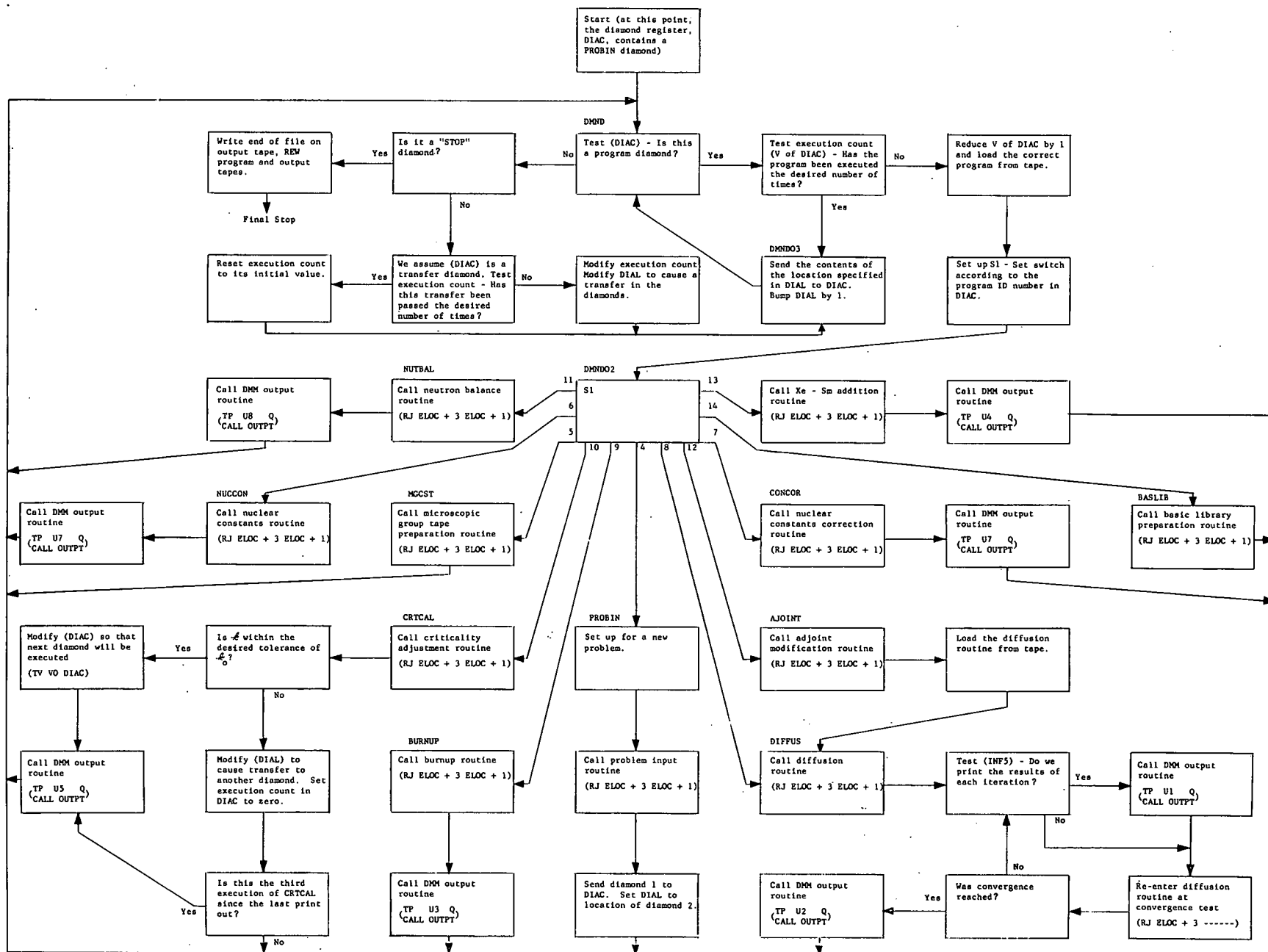




### 10. MICROSCOPIC-GROUP - CROSS-SECTION TAPE (page 4 of 4)



# 11. MONITOR

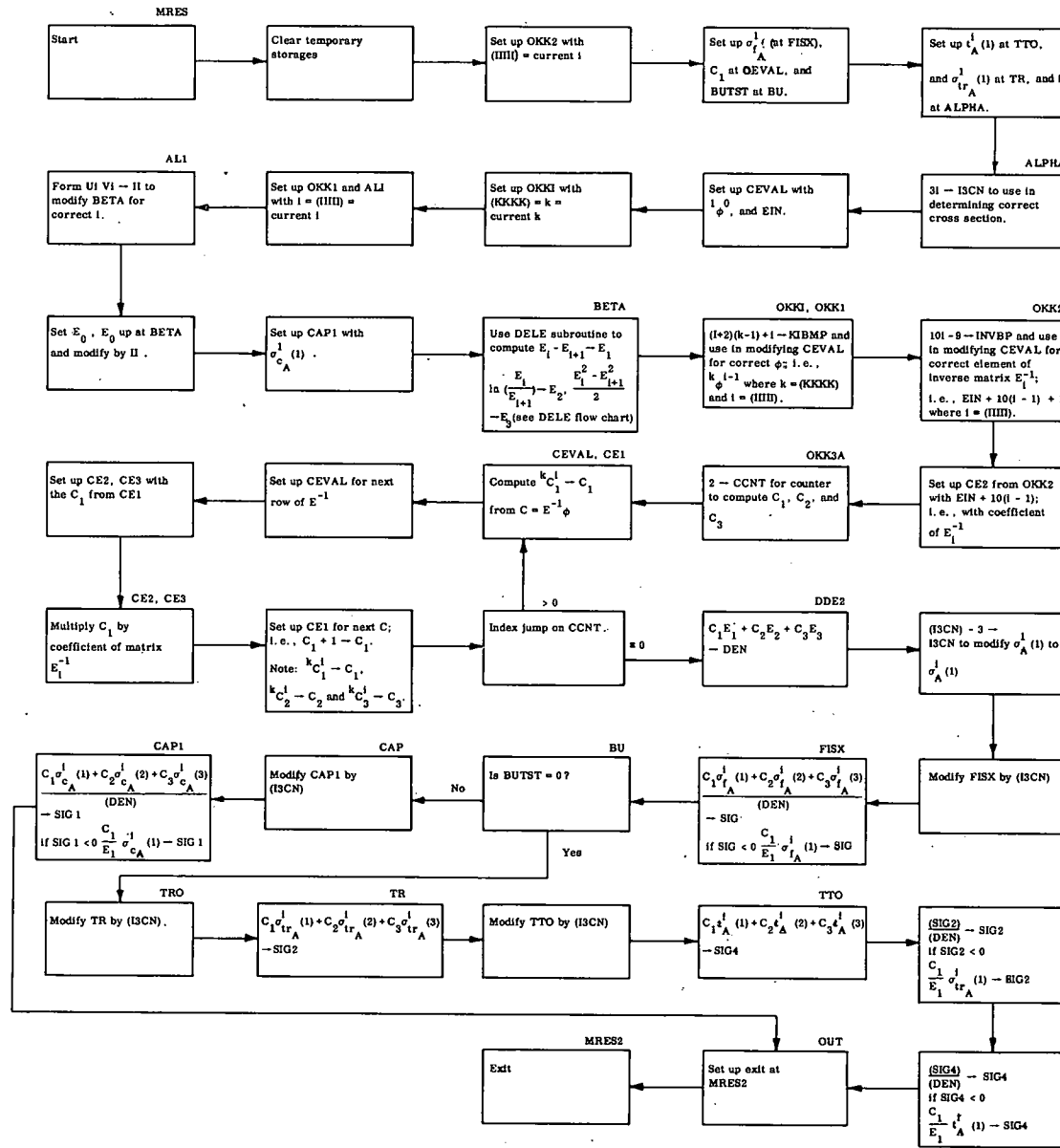


5-30





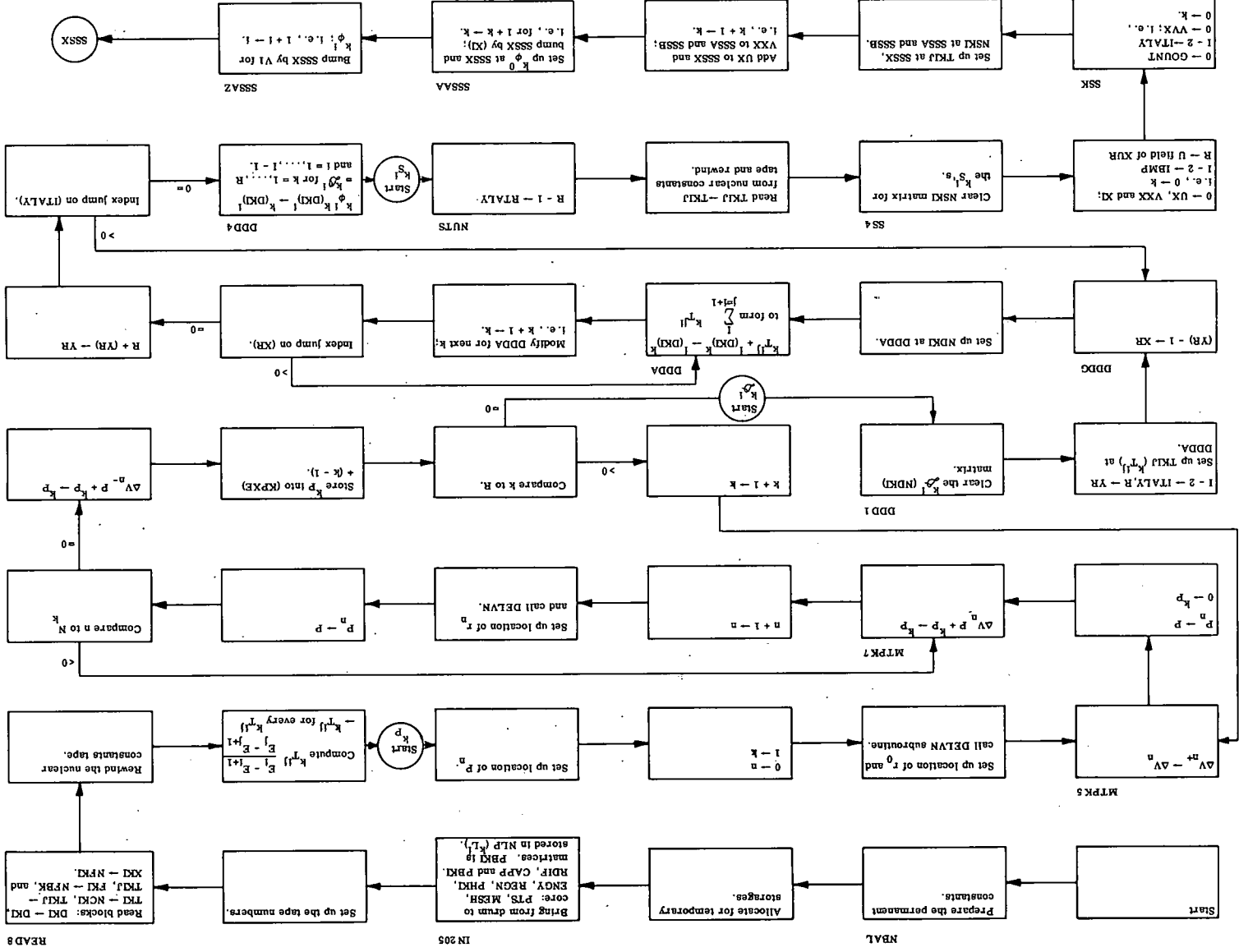
## 12. MRES (COMPUTATION OF $k_{\sigma_f}^i$ , $k_{\sigma_c}^i$ , $k_{t_A}^i$ , AND $k_{\sigma_{tr}}^i$ )



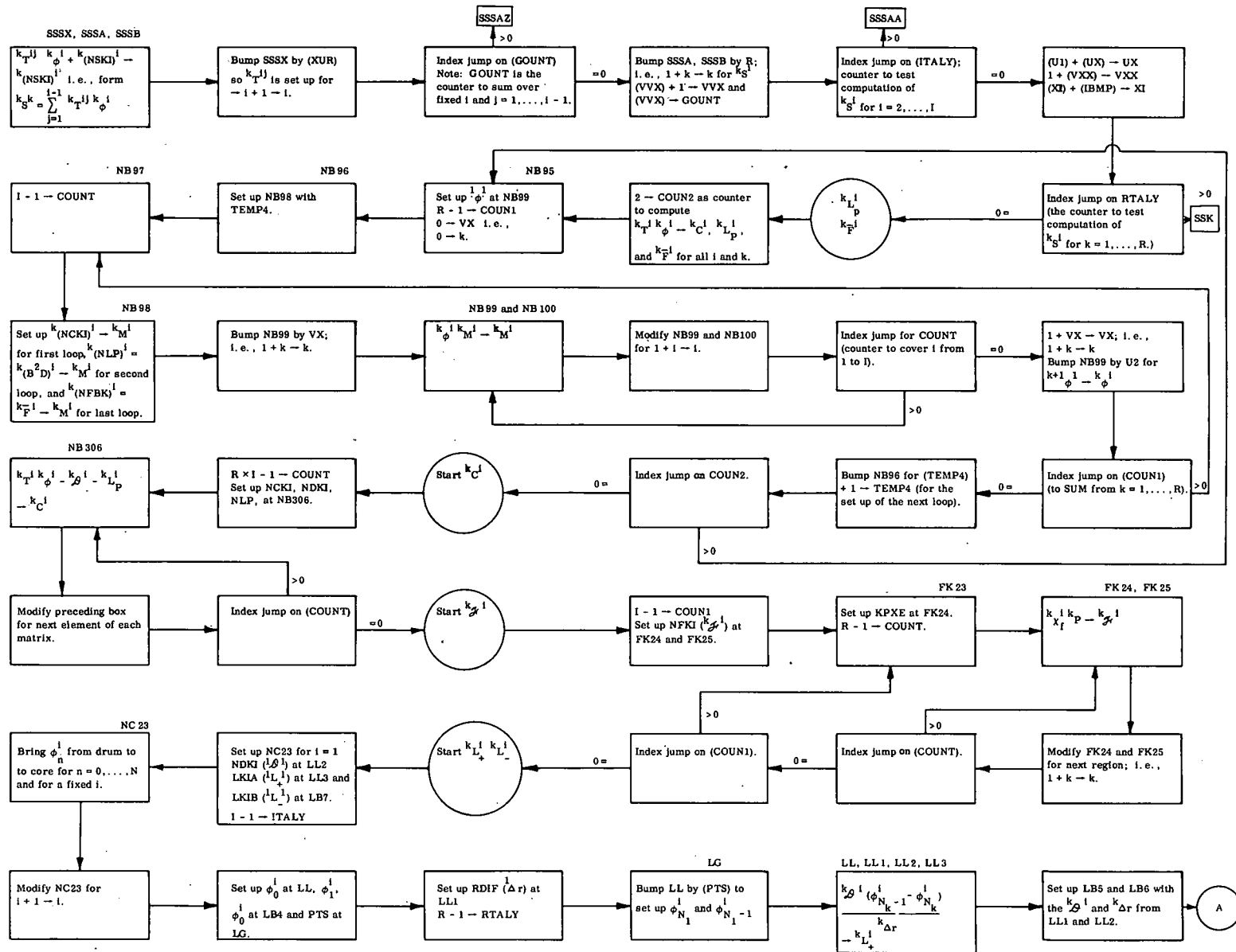
5-31

# 13. NEUTRON BALANCE

(page 1 of 3)



### 13. NEUTRON BALANCE (page 2 of 3)

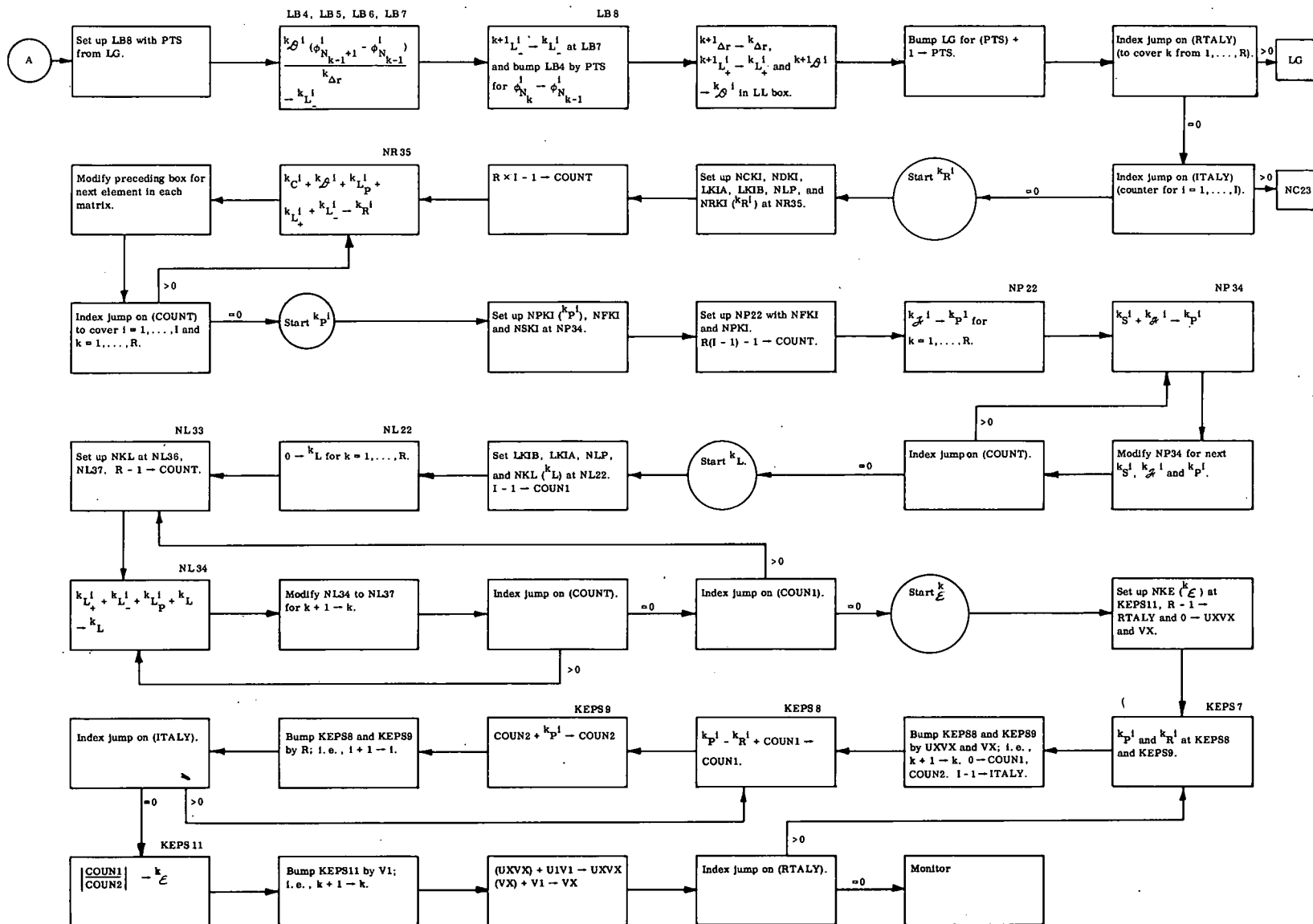


5-33

A

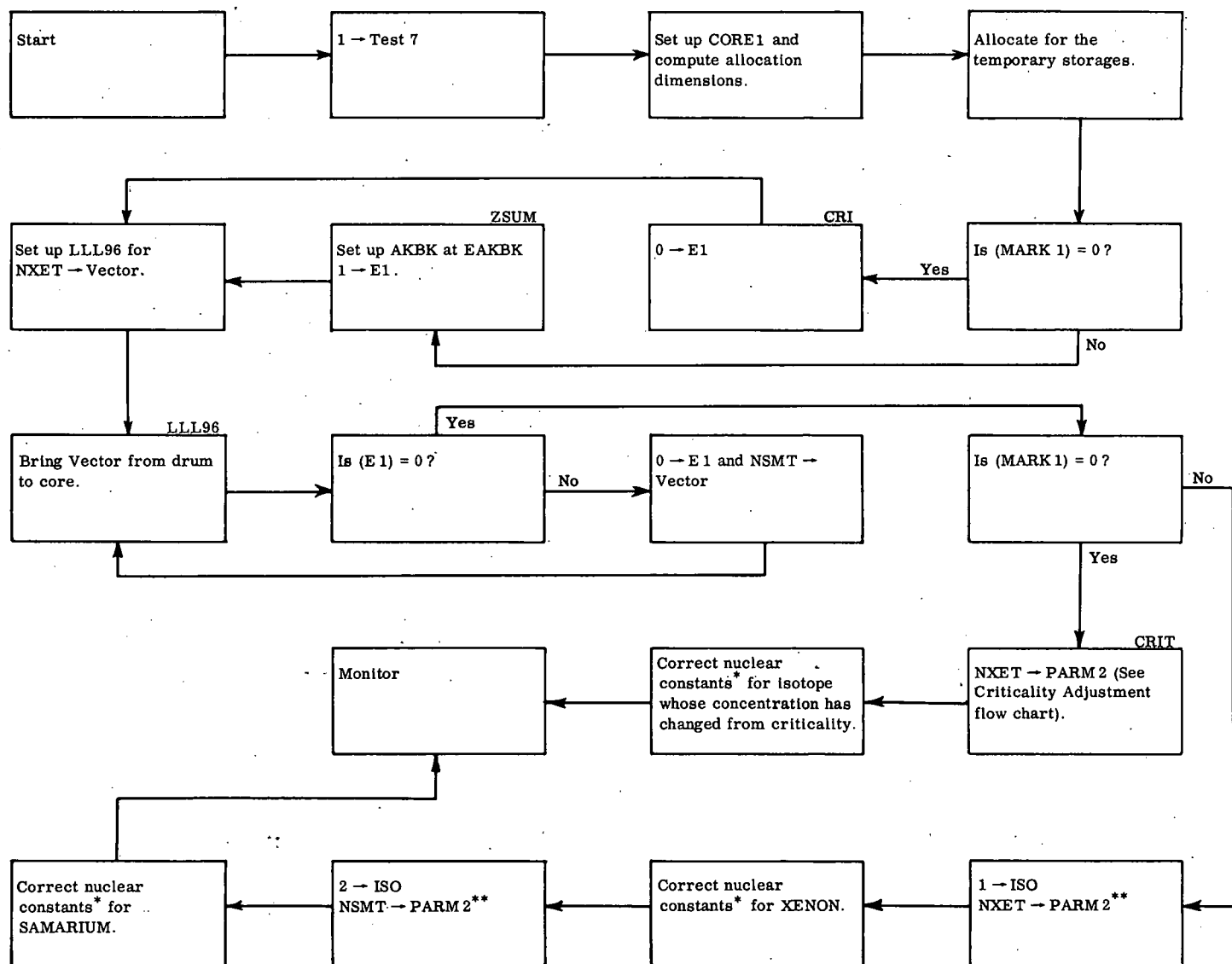
# 13. NEUTRON BALANCE

(page 3 of 3)



5-34

## 14. NUCLEAR-CONSTANTS CORRECTOR

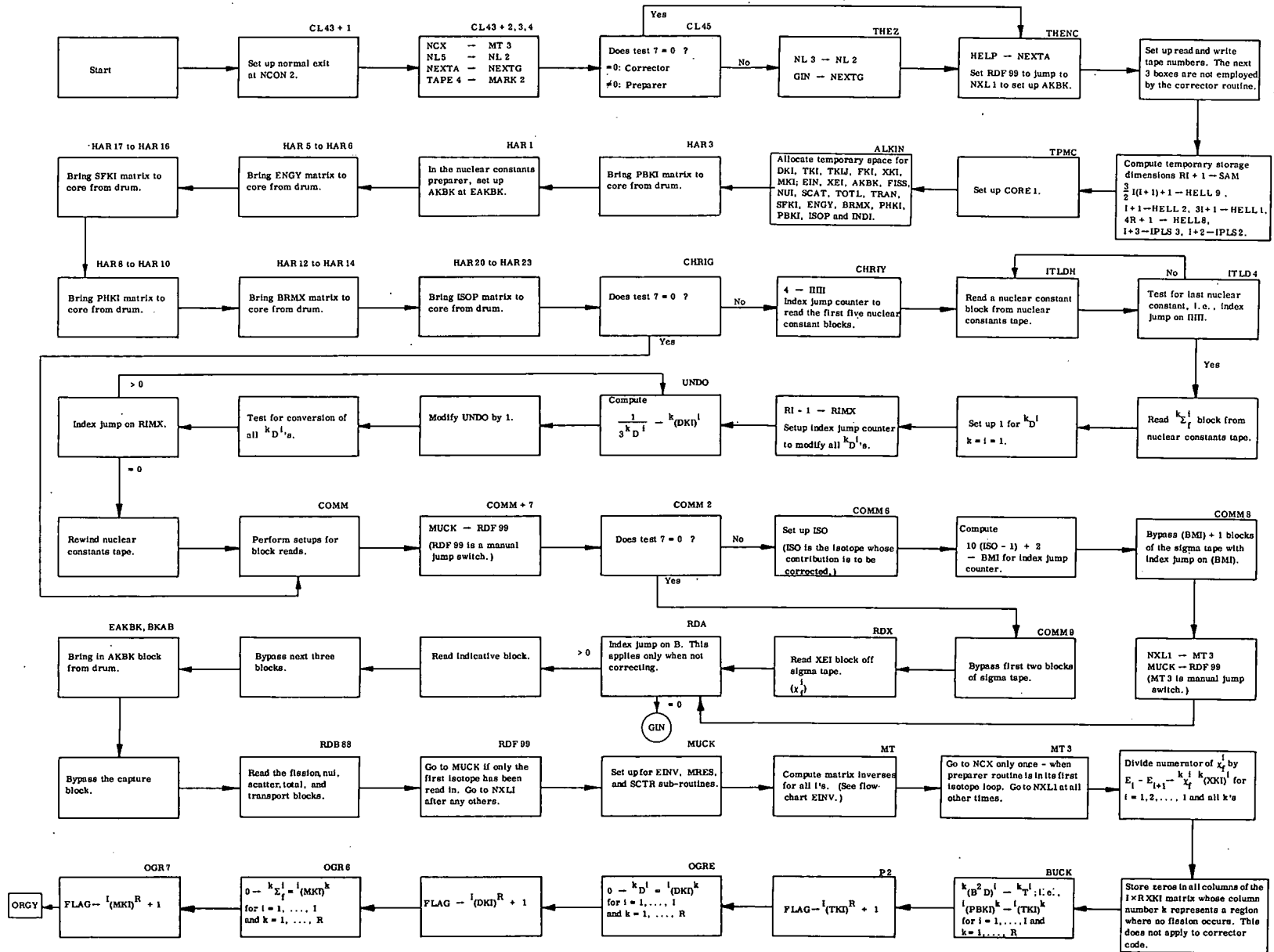


\* See Nuclear-Constants-Preparer flow chart.

\*\* See Xenon - Samarium-Addition flow chart.

# 15. NUCLEAR-CONSTANTS PREPARER

(page 1 of 2)

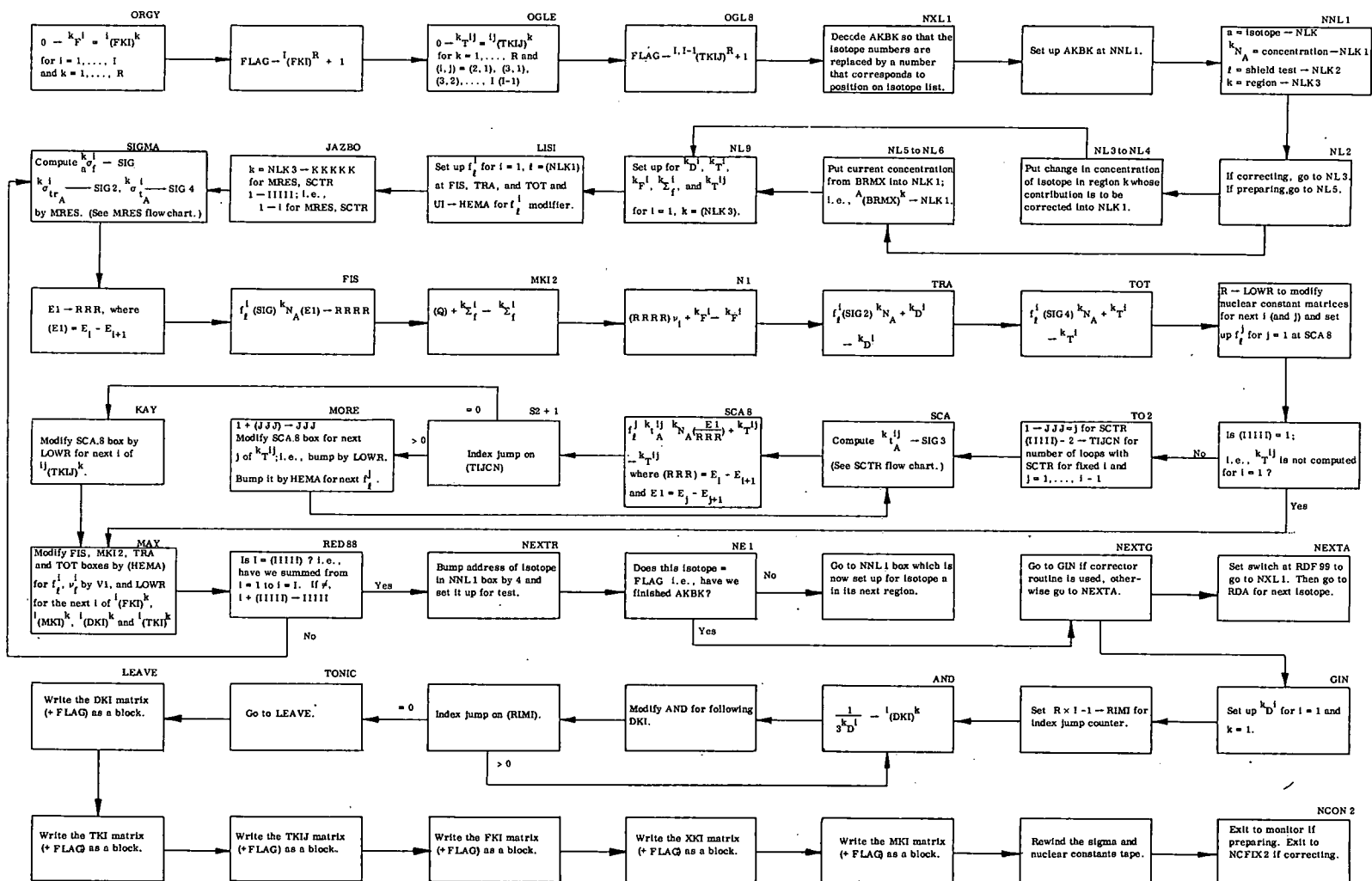


5-36



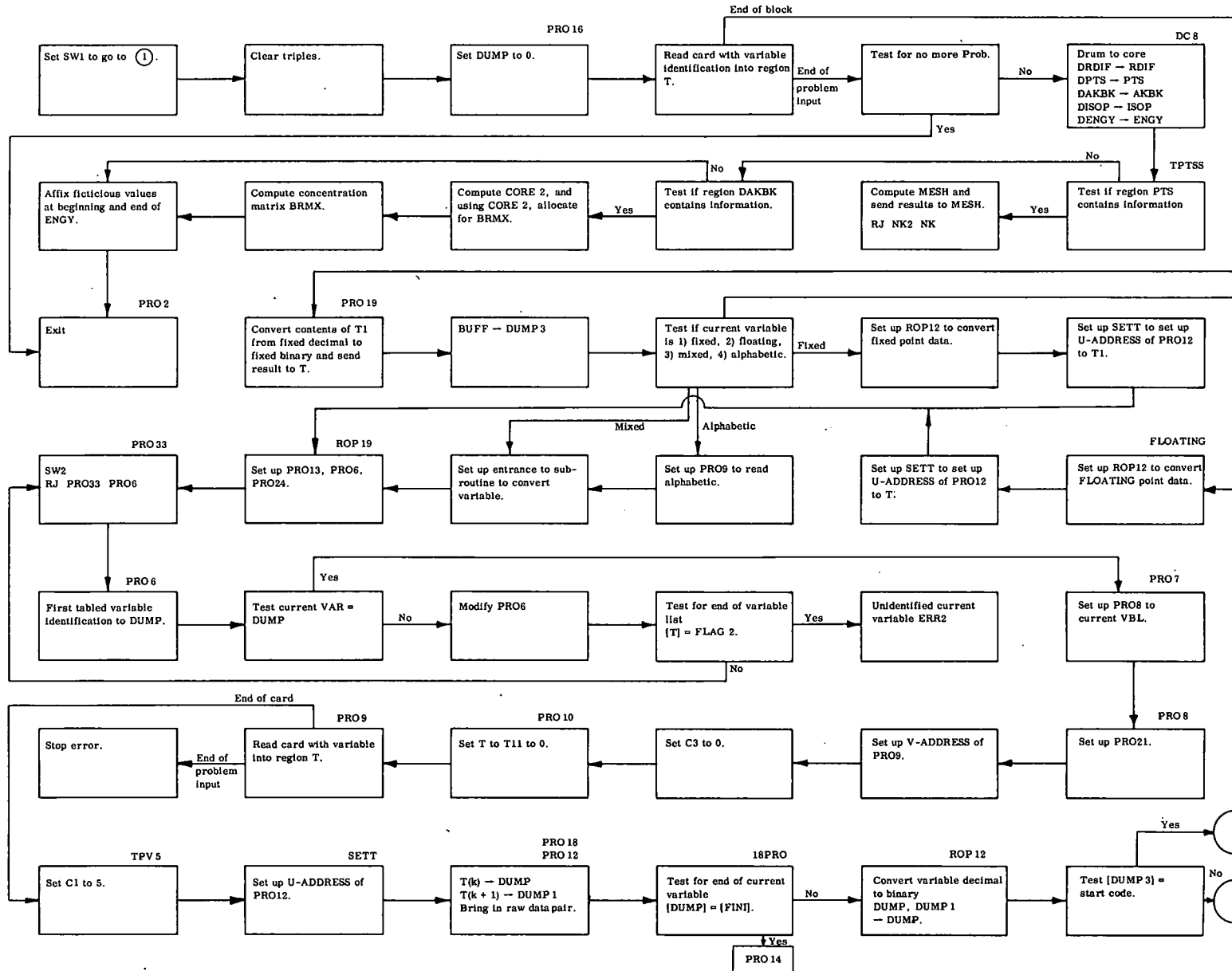
# 15. NUCLEAR-CONSTANTS PREPARER

(page 2 of 2)



# 16. PROBLEM INPUT

(page 1 of 2)

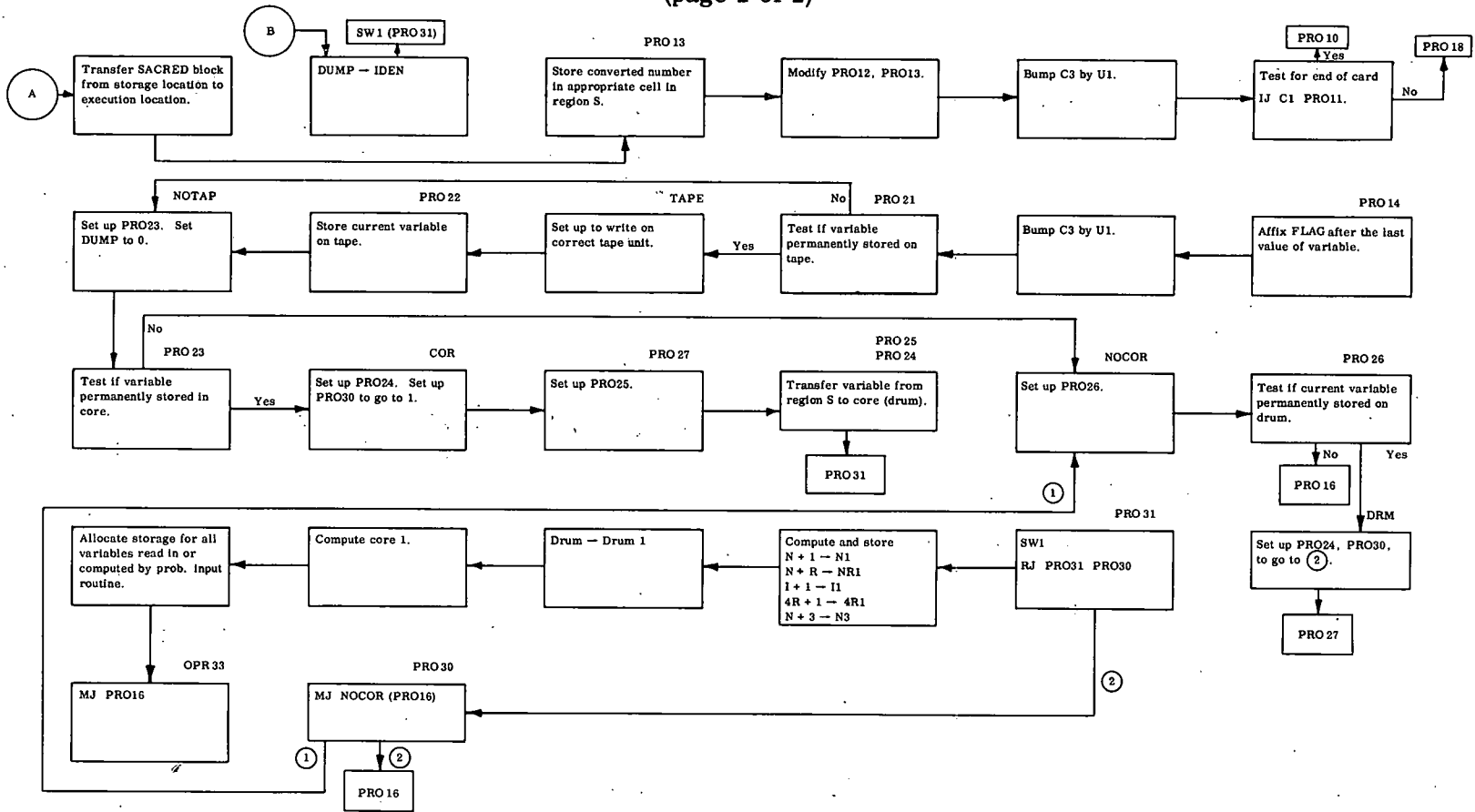


5-38

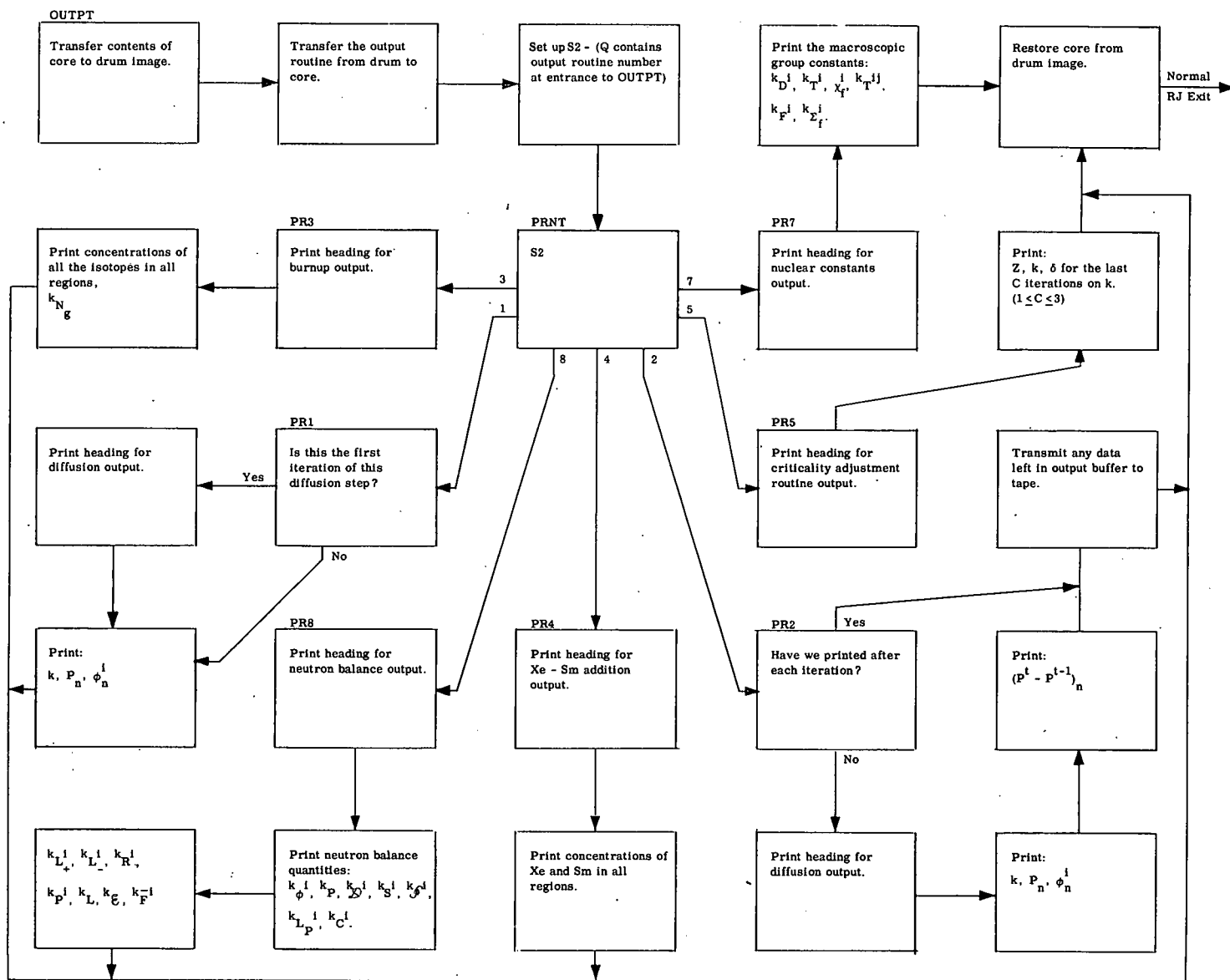




### 16. PROBLEM INPUT (page 2 of 2)

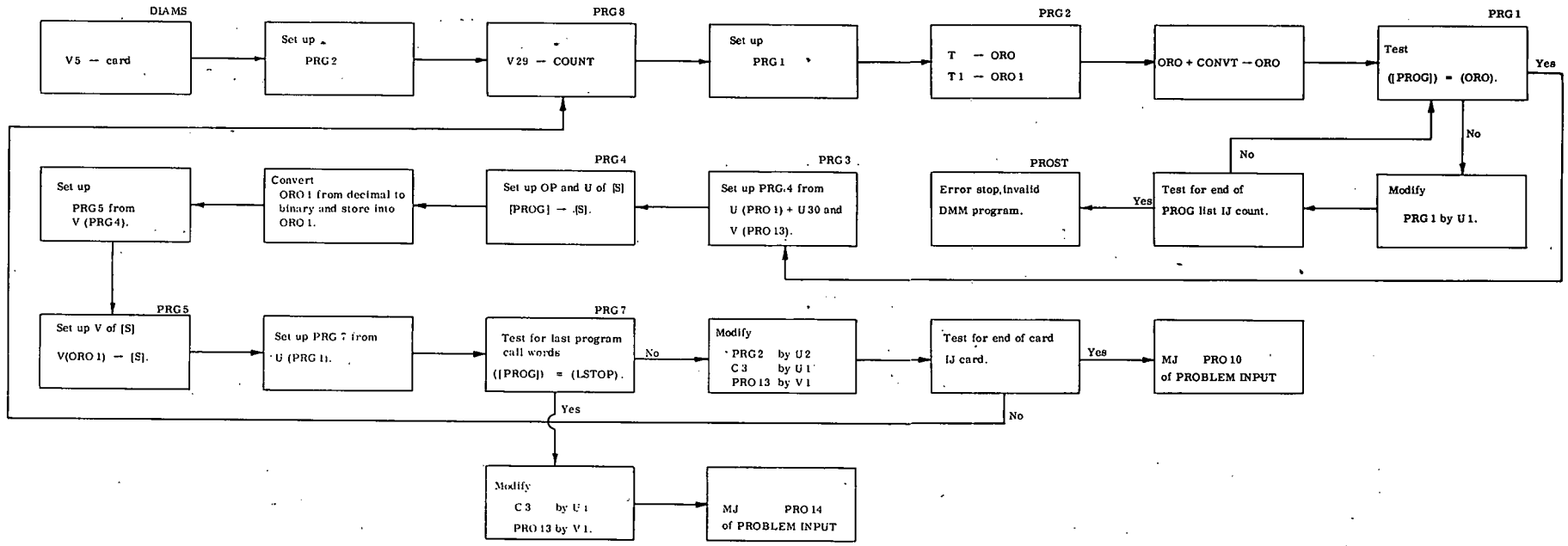


# 17. OUTPUT

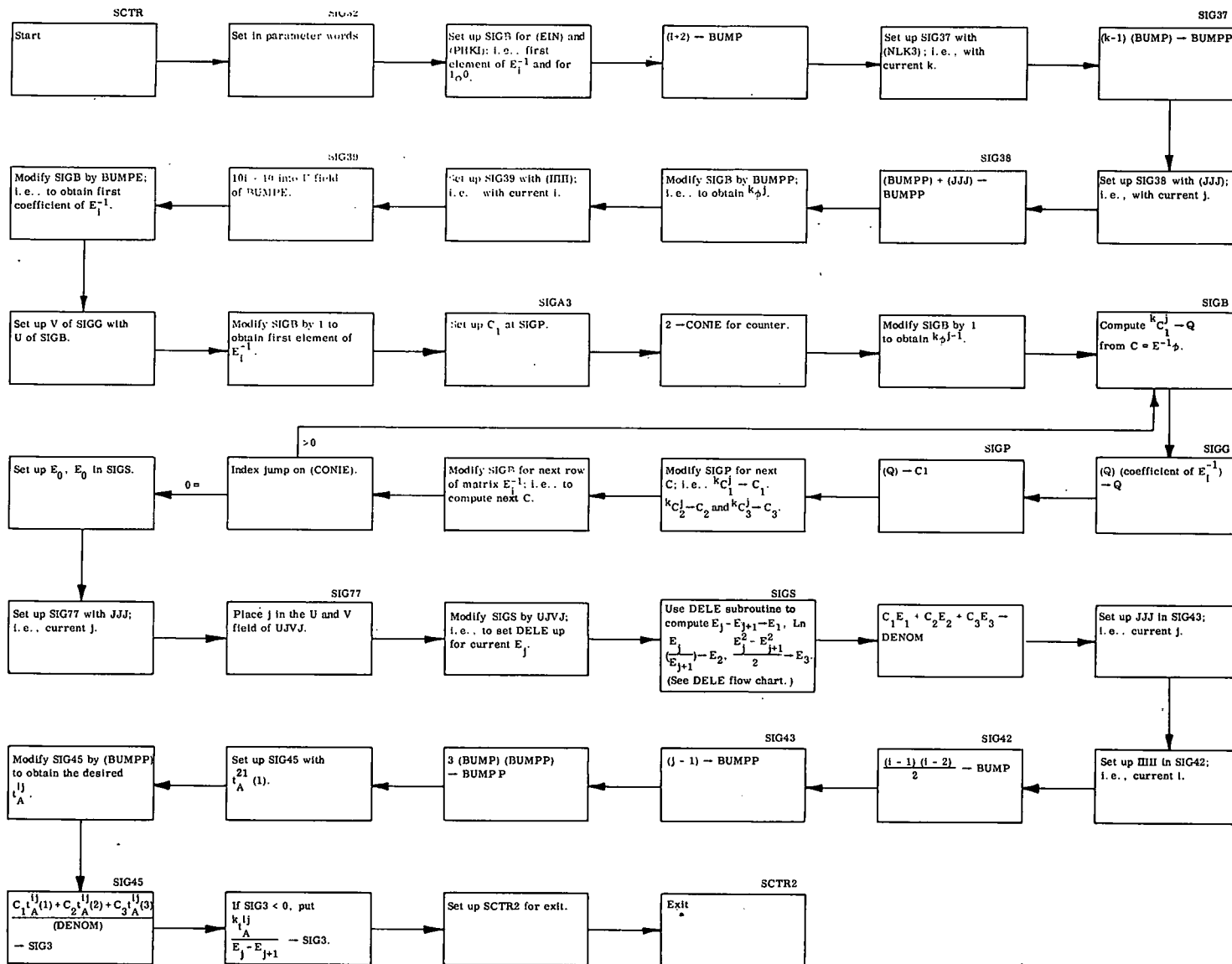


5-40

### 18. PROGRAM-CONTROL WORDS CONVERSION OF THE PROBLEM INPUT

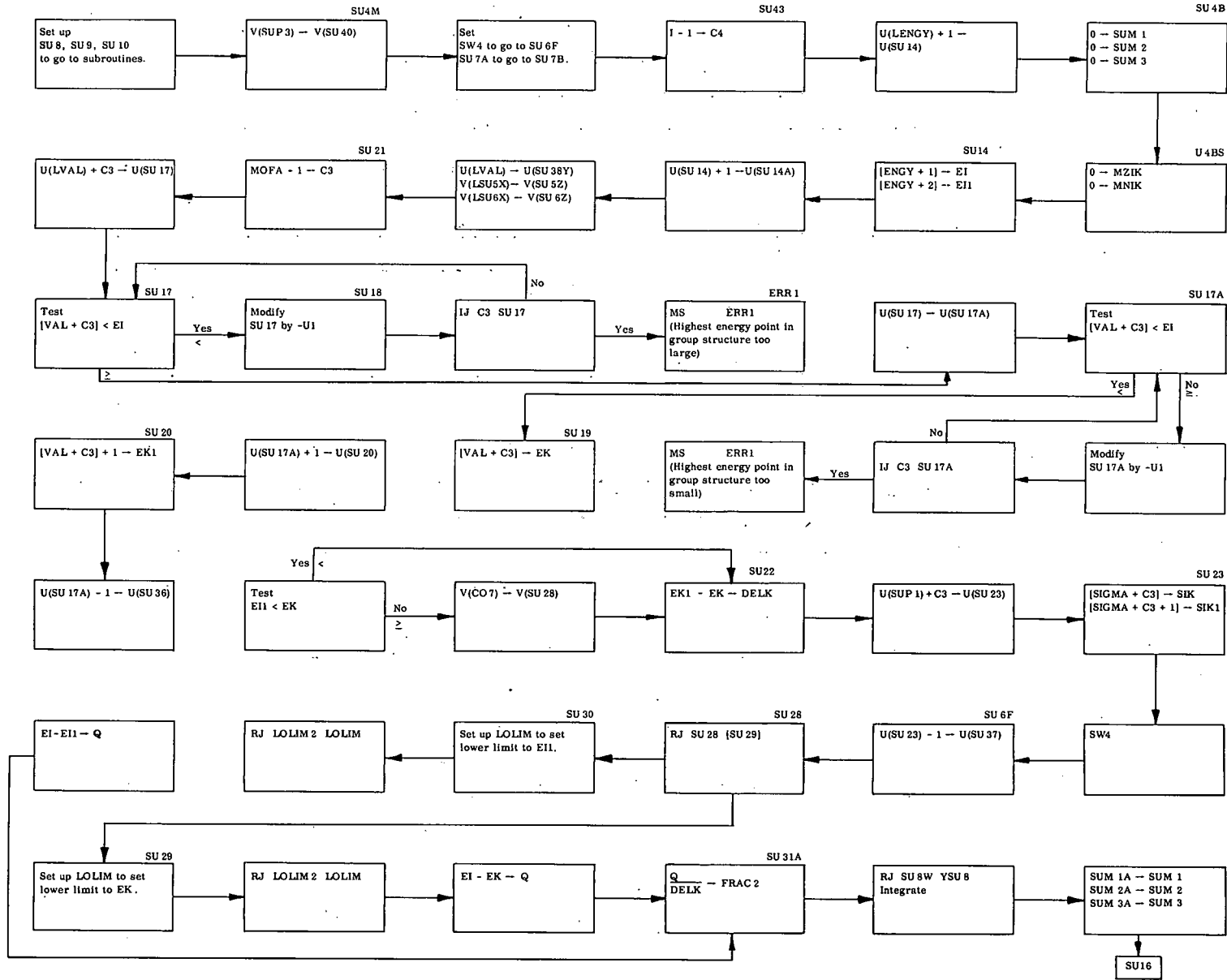


# 19. SCTR (COMPUTATION OF $k_{t,ij}^A$ )



5-42

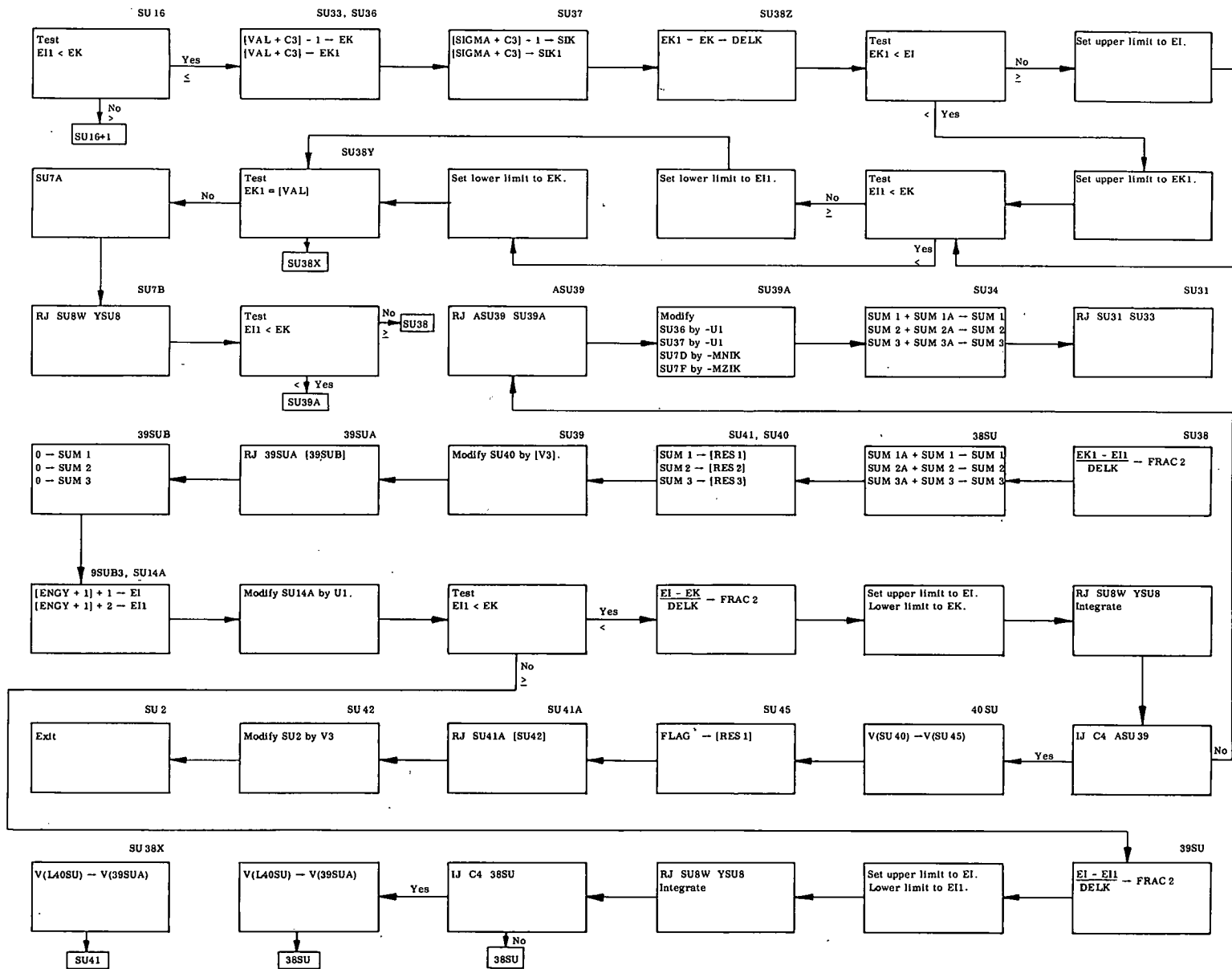
20. SUM-TUM (COMPUTATION OF GROUP AVERAGE CROSS SECTIONS)  
(page 1 of 7)



5-43

# 20. SUM-TUM (COMPUTATION OF GROUP AVERAGE CROSS SECTIONS)

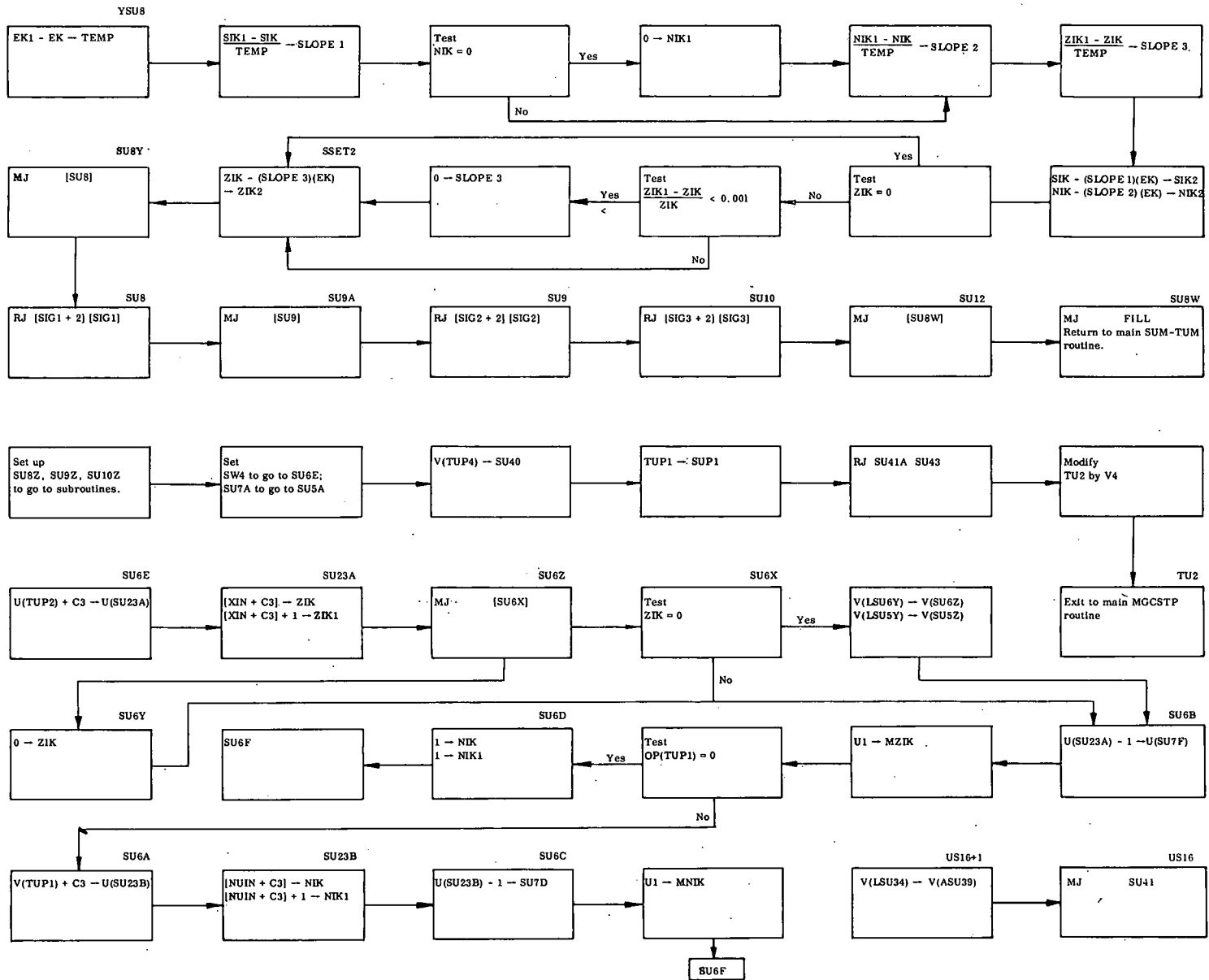
(page 2 of 7)



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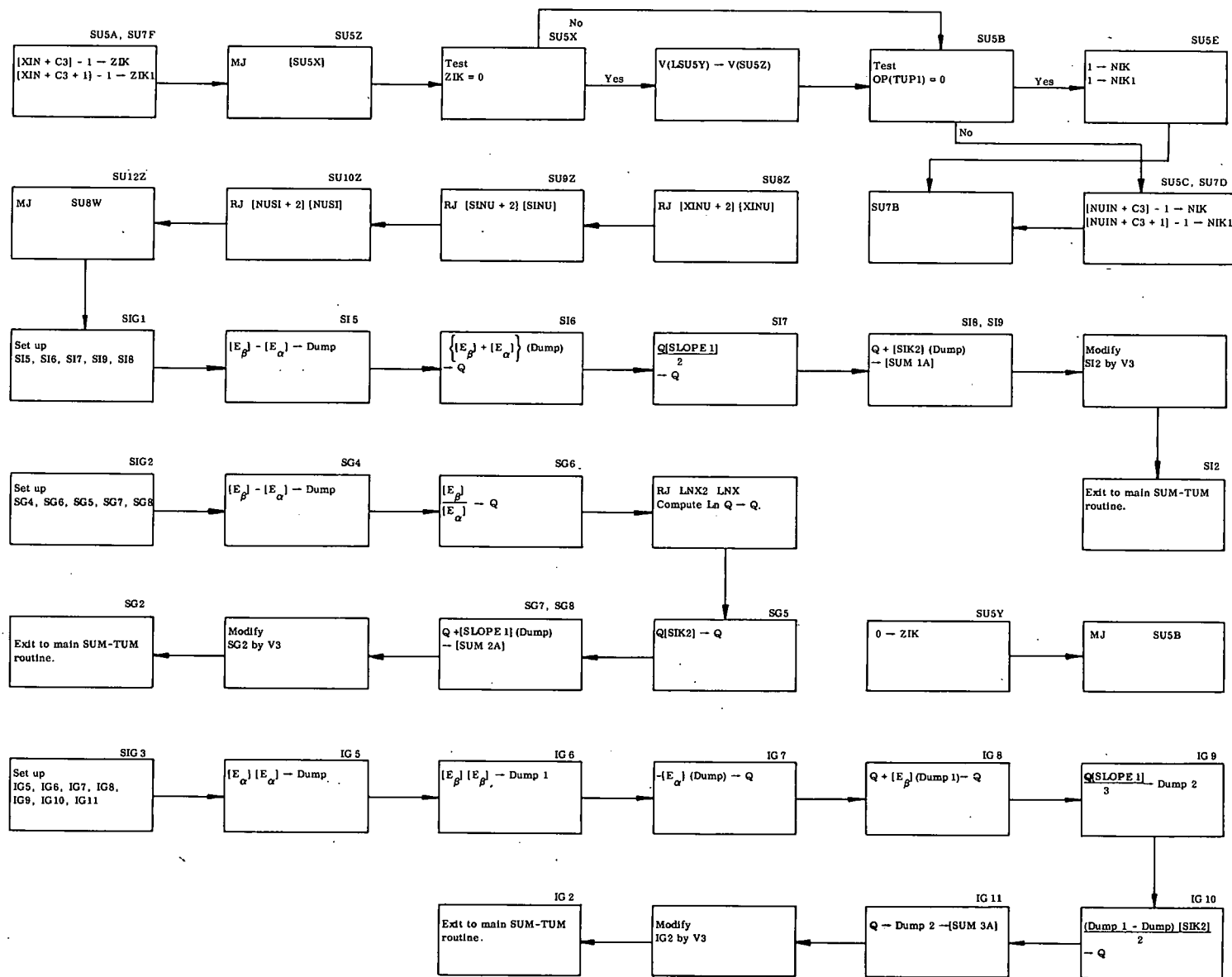


20. SUM-TUM (COMPUTATION OF GROUP AVERAGE CROSS SECTIONS)  
(page 3 of 7)



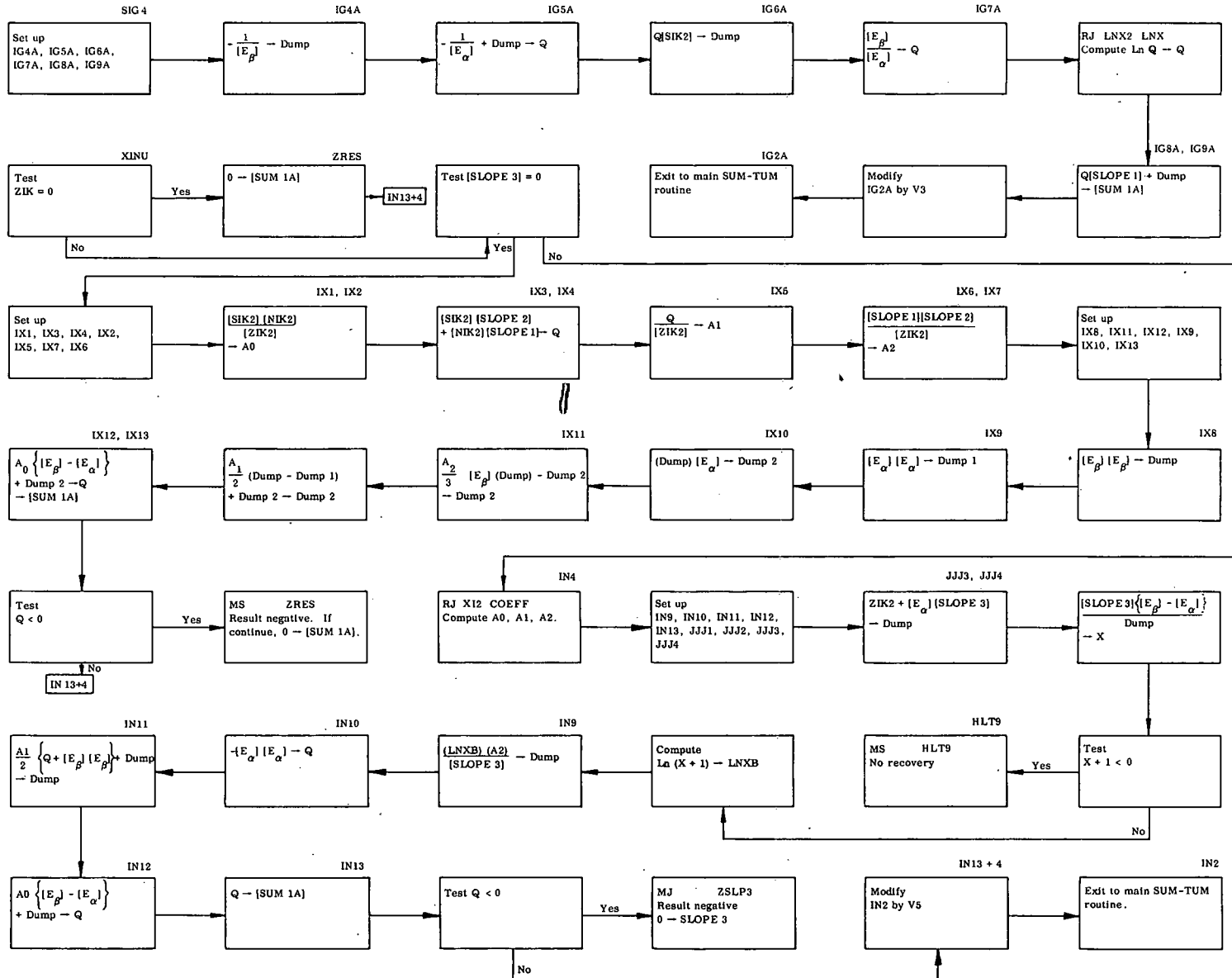
5-45

20. SUM-TUM (COMPUTATION OF GROUP AVERAGE CROSS SECTIONS)  
(page 4 of 7)





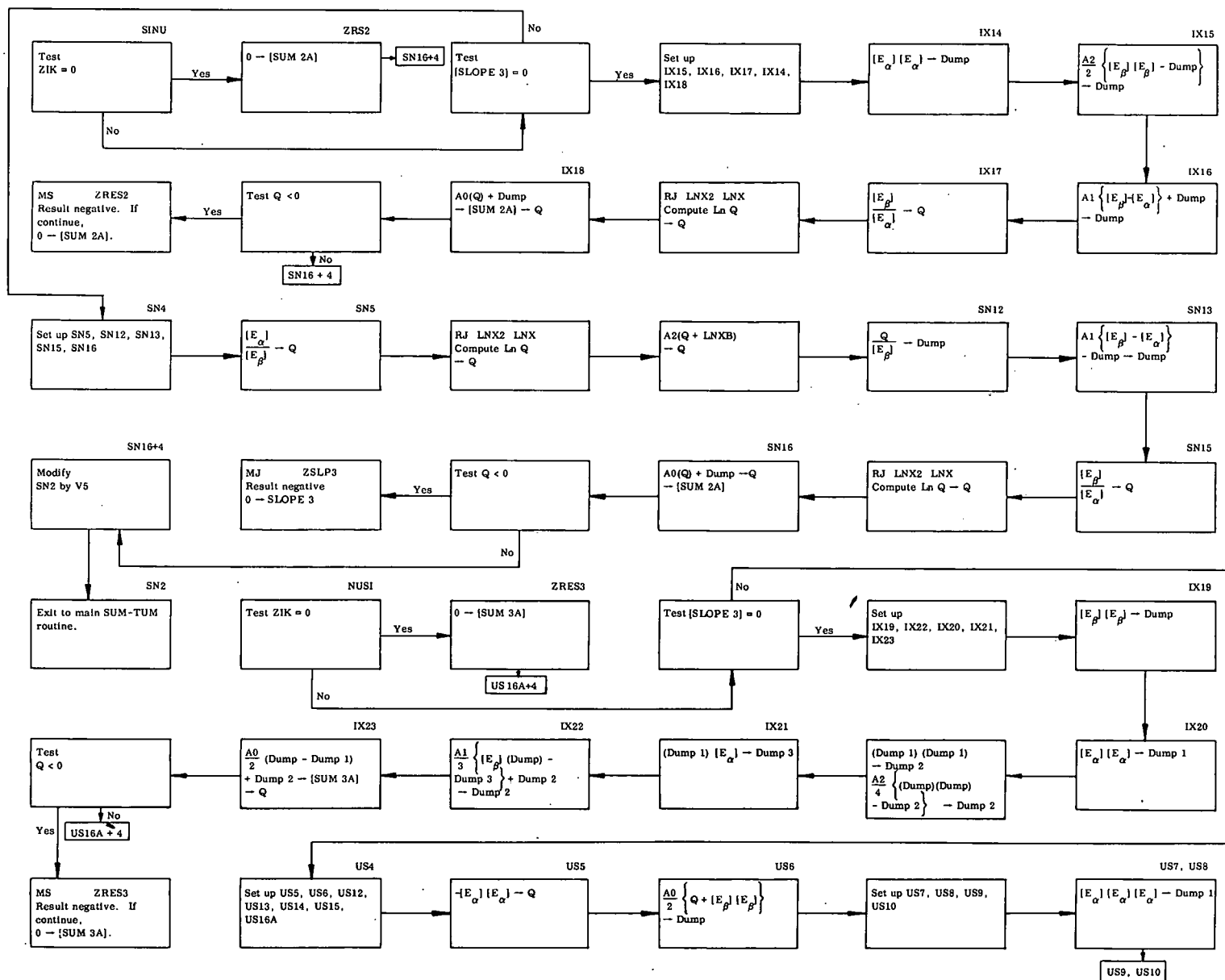
20. SUM-TUM (COMPUTATION OF GROUP AVERAGE CROSS SECTIONS)  
(page 5 of 7)



5-47

## 20. SUM-TUM (COMPUTATION OF GROUP AVERAGE CROSS SECTIONS)

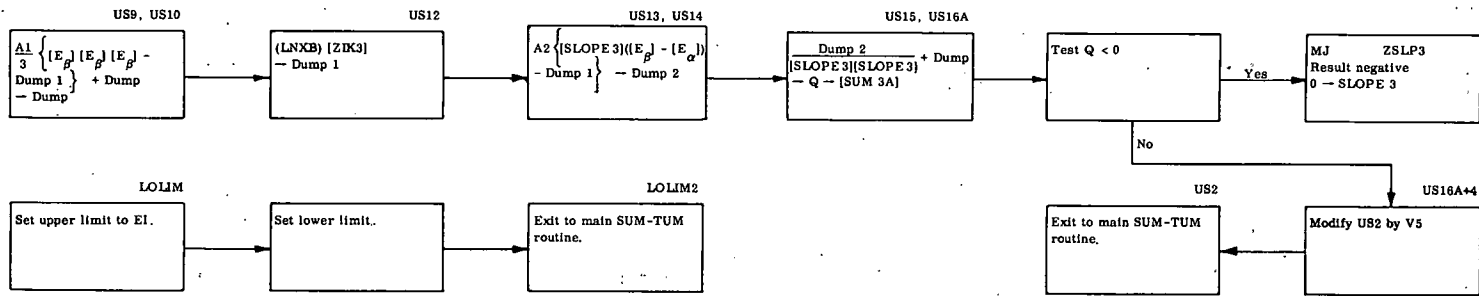
(page 6 of 7)



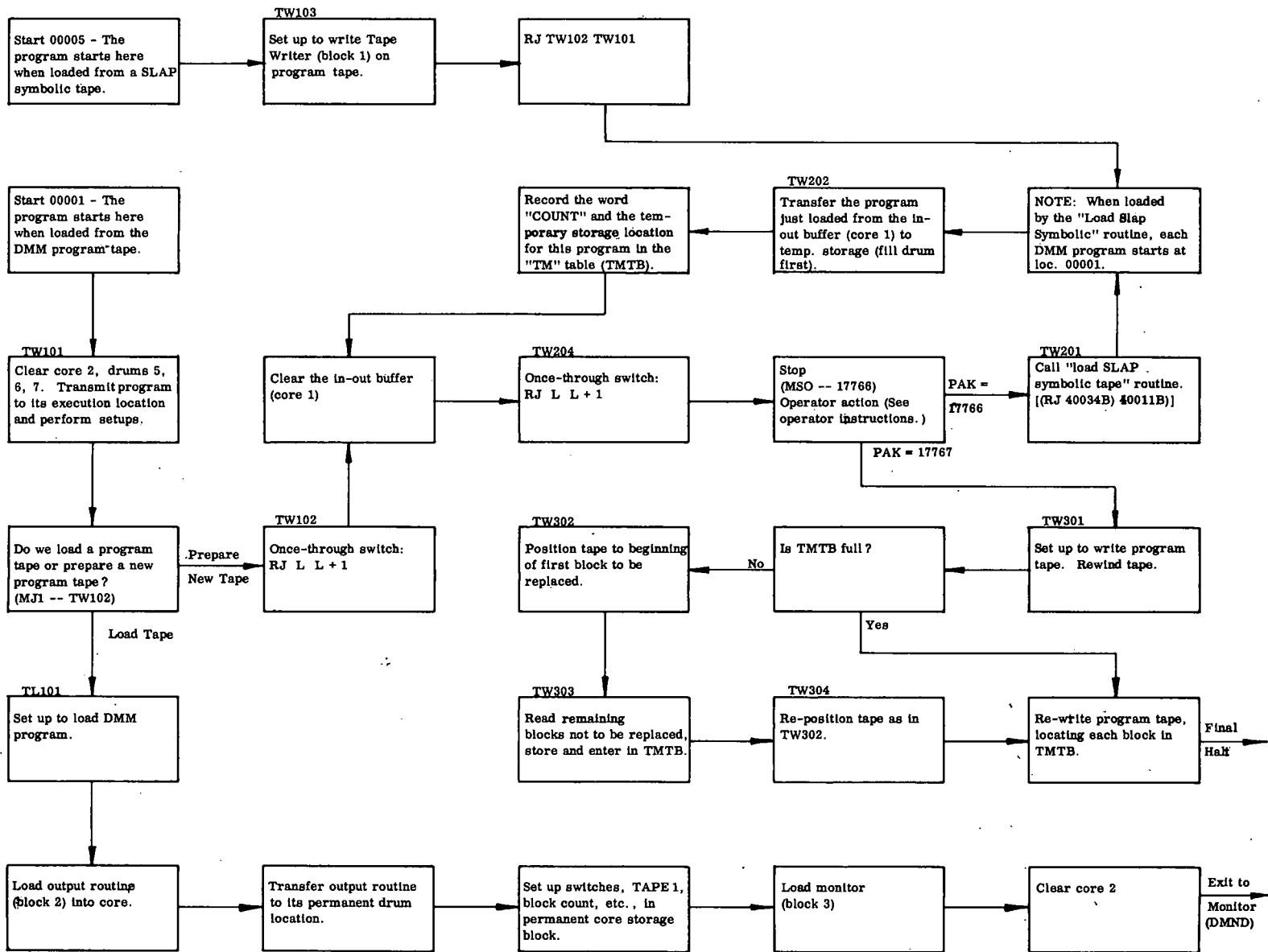
5-48



20. SUM-TUM (COMPUTATION OF GROUP AVERAGE CROSS SECTIONS)  
(page 7 of 7)

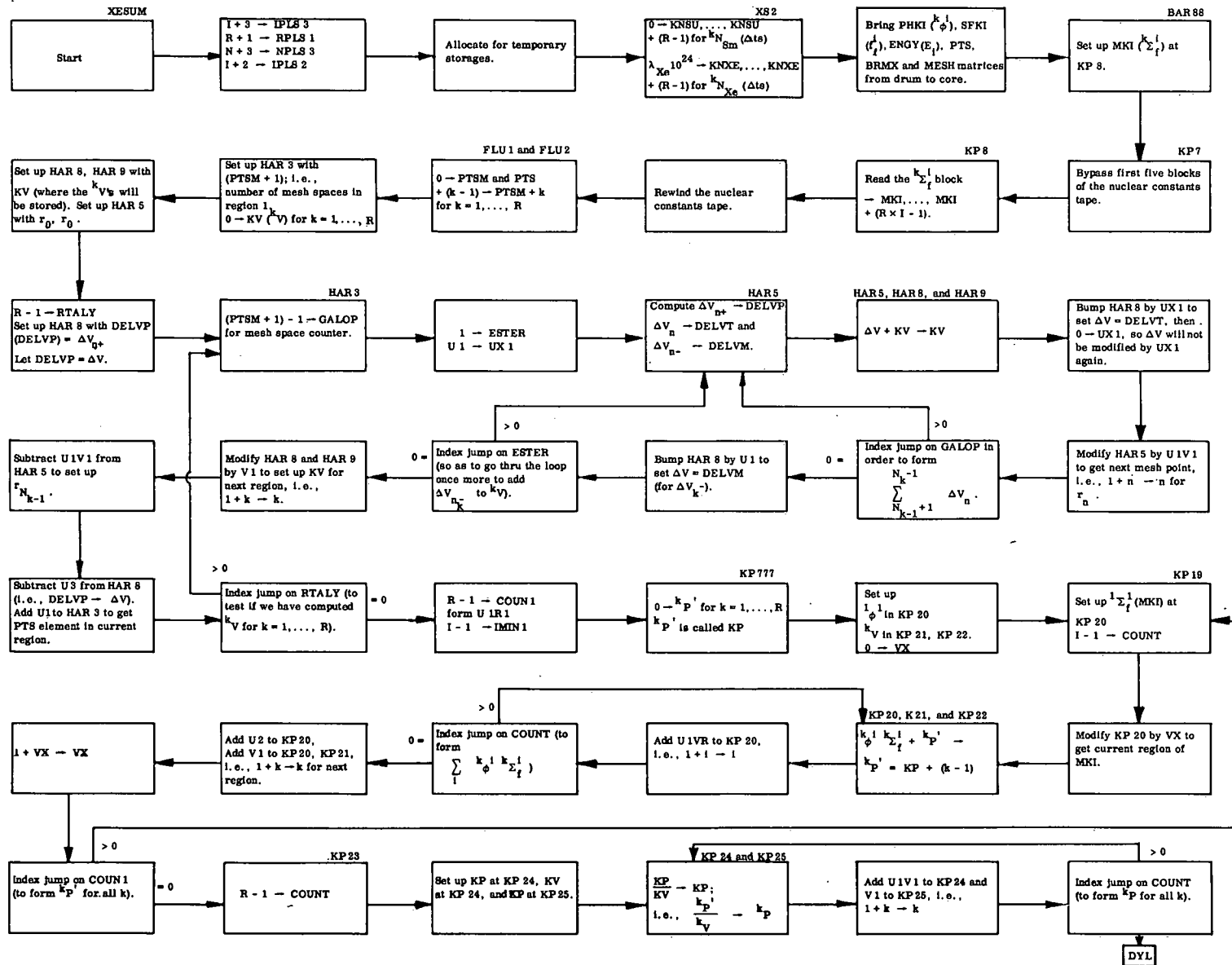


## 21. TAPE WRITER - TAPE LOADER



5-50

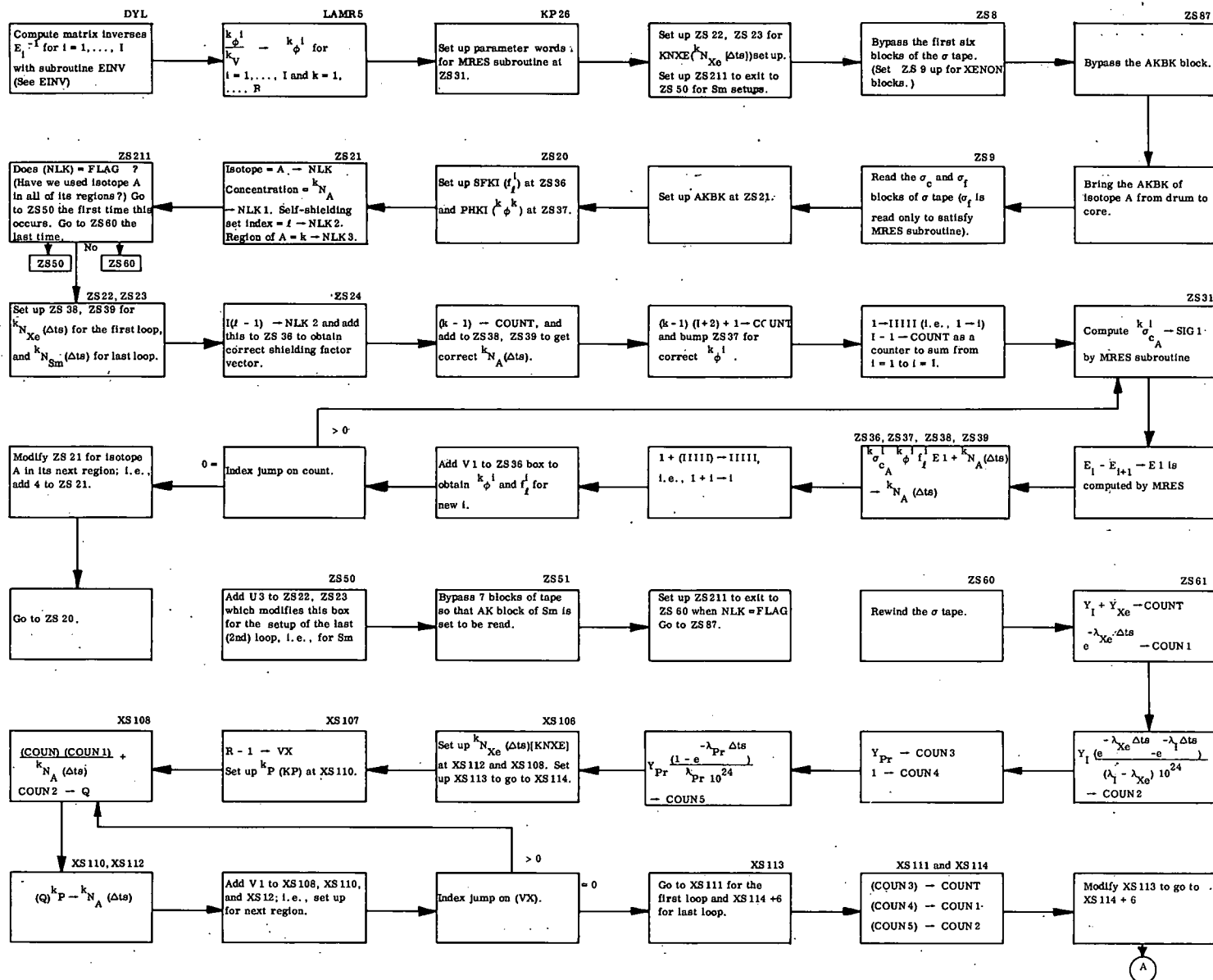
## 22. XENON-SAMARIUM ADDITION (page 1 of 3)



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## 22. XENON-SAMARIUM ADDITIONS

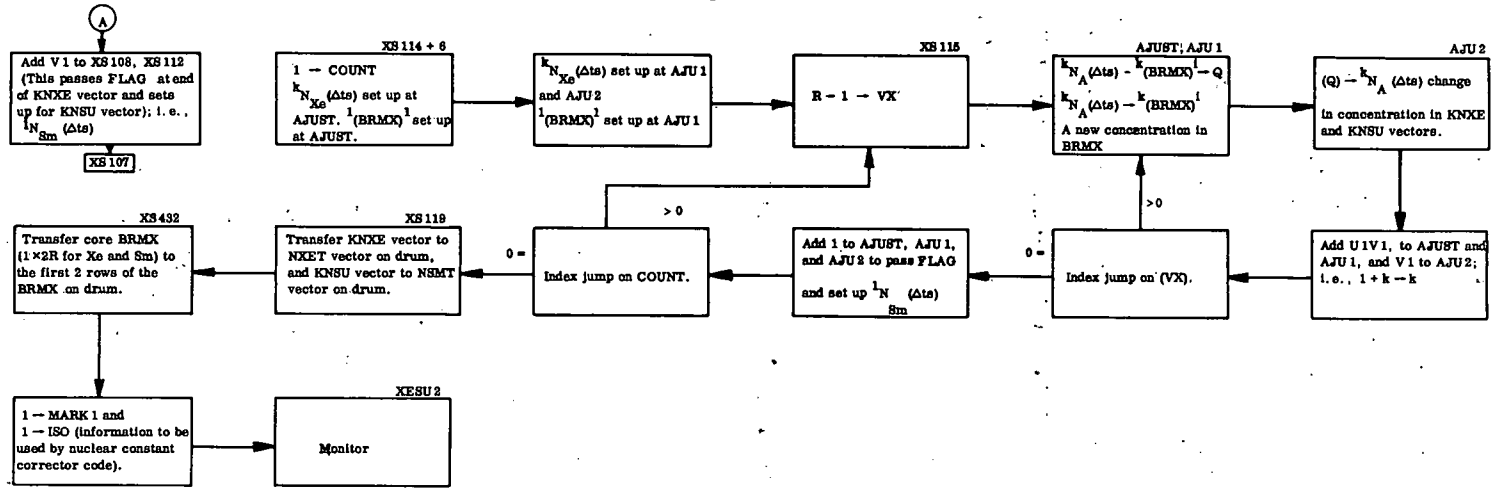
(page 2 of 3)



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## 22. XENON-SAMARIUM ADDITION

(page 3 of 3)



C. Memory Maps

The storage allocations for core, drum, and tape for each routine in the DMM System are described in the next pages. The storage requirements depend entirely on the size of the problem and, for this reason, can be given only in symbolic form. The order and amount of data storage are determined for the core independently by each routine from a table within the routine itself.

The temporary storage for core and drum begins at cells CORE1 and DRUM1, respectively. CORE1 is determined for each routine and is defined as one plus the greater of the maximum core-storage location occupied by the Output Routine and the maximum core-storage location occupied by the routine presently being used. For example, the last cell in core used by the Burnup Routine is 04120. The last cell used by the Output Routine is 05110. Consequently,

$$\text{CORE1} = \max (04120, 05110) + 1 = 05111$$

1. Memory Maps of the Core

a. Permanent Information

Table V-I presents the permanent information in core memory.

Table V-1

Permanent Information in Core Memory

Information	Number of Cells (OCTAL)	Core Location
$F_1 = 00000$ $F_2 = 00001$		
$F_3 = 00002$ $F_4 = 00003$	4	00000-00003
Not used	4	00004-00007
Common-Storage Block	354	00010-00363
Not used	4	00364-00367
Monitor Routine	451	00370-01040
Block-Read Routine	107	01041-01147
Block-Write Routine	25	01150-01174
Allocation Routine	111	01175-01305
Not used	72	01306-01377



b. Coding

The core location of each DMM routine is listed in Table V-2. Only one routine is in core at a time.

Table V-2

DMM Codes

Routine	Number of Cells (OCTAL)	Core Location
Adjoint	00361	01400-01760
Basic-Library Preparation	01204	01400-02603
Burnup	02520	01400-04117
Criticality Adjustment	00562	01400-02161
Diffusion Theory	02353	01400-03752
Neutron Balance	01307	01400-02706
Nuclear-Constants Preparer	02530	01400-04127
Nuclear-Constants Corrector	02544	01400-04143
Output	03511	01400-05110
Problem Input	01744	01400-03343
Microscopic-Group - Cross- Section Tape	03636	01400-05235
Tape Writer - Tape Loader	00552	00001-00037 17000-17512
Xenon-Samarium Addition	02067	01400-03466

c. Temporary Core Storage

The temporary core storage for each routine consists of numerous sets of sequential cells. Each input variable has its own set of cells in either core or drum, or both. Each variable is considered to be a two-dimensional array (matrix). The elements for each of these matrices are stored sequentially, row by row. \* The first element of the first row of the first matrix is stored in CORE1. Each variable may be stored on any or all

---

\* The last element of each matrix is followed by either one or two terminals. The first element of the next matrix follows the last terminal. The terminal is the number 377777777777.

of the storage media: core, drum, or tape. The results of the storage assignments are preserved in sets of cells called Storage-Location Parameters.

These Storage-Location Parameters are stored in the Common-Storage Block and as a part of the routine presently operating. The Storage-Location Parameters are sets of three sequential cells defining the storage specifications for each variable. The first cell in the storage region of each variable has a four-character name, XXXX. The corresponding Storage-Location Parameter has a preceding L, LXXXX. The Storage-Location Parameters have the following form:

<u>Cell</u>		<u>Contents</u>	
LXXXX	TT	CXXXX	CXXXX
	00	DXXXX	DXXXX
	00	DROWS	DCOLS

TT - Tape unit upon which XXXX resides if any

CXXXX - Name of cell in core containing first piece of information from variable XXXX

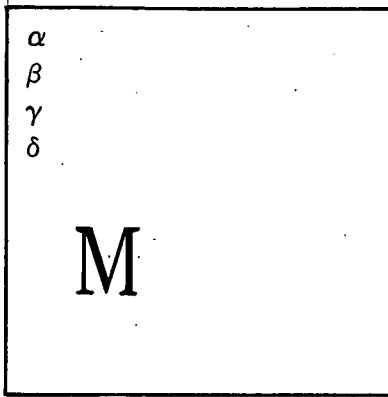
DXXXX - Name of cell in drum containing first piece of information from variable XXXX

DROWS - Name of cell containing number of rows in matrix

DCOLS - Name of cell containing number of columns in matrix

The Output Routine and the Tape-Writer - Tape-Loader Routine do not use temporary storage. The temporary-core-storage maps of the other routines are shown on the following pages. CORE1 is given on the title page of each routine. The maps of temporary storage are composed of blocks as in the following sketch. Each block describes a matrix (see drawing; legend). The blocks should be read from left to right to correspond to the way the matrices are stored in the core.

## BLOCK ARRANGEMENT OF TEMPORARY-STORAGE MAP



### Legend

- $\alpha$  - Description or name of the matrix elements.
- $\beta$  - Symbol of a typical element.
- $\gamma$  - Matrix dimensions, e.g.  $[A \times B] + M$ , where A is the number of rows, B is the number of columns, and the brackets enclose the number of matrix elements. M indicates the space used by the terminal following each matrix. M is usually equal to 1, but in some cases it is equal to 2.
- $\delta$  - Symbol address of the cell containing the first element of the matrix. This address can be found in the U and V fields of the Storage-Location Parameters.
- M - The matrix. For clarity, M is sometimes replaced by a written description.

CORE1 = 05111

Diffusion Coefficients (Adjoint)

$k_{D,i}^*$

$[I \times R] + 1$

DKI

$$\begin{pmatrix} 1_{D,1}^* & & & R_{D,1}^* \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ 1_{D,I}^* & & & R_{D,I}^* \end{pmatrix}$$

Removal Cross Section (Adjoint)

$k_{T,i}^*$

$[I \times R] + 1$

TKI

$$\begin{pmatrix} 1_{T,1}^* & & & R_{T,1}^* \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ 1_{T,I}^* & & & R_{T,I}^* \end{pmatrix}$$

Transfer Coefficients (Adjoint)

$k_{T,ij}^*$

$$\left\{ \left[ I \frac{(I-1)}{2} \times R \right] + 1 \right\} + 1$$

TKIJ

$$\begin{pmatrix} 1_{T,2,1}^* & & & R_{T,2,1}^* \\ 1_{T,3,1}^* & & & R_{T,3,1}^* \\ 1_{T,3,2}^* & & & R_{T,3,2}^* \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ 1_{T,I,I-1}^* & & & R_{T,I,I-1}^* \end{pmatrix}$$

Fission-Neutron-Production Cross Section (Adjoint)

$k_{F,i}^*$

$[I \times R] + 1$

FKI

$$\begin{pmatrix} 1_{F,1}^* & & & R_{F,1}^* \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ 1_{F,I}^* & & & R_{F,I}^* \end{pmatrix}$$

Fission Spectrum (Adjoint)

$k_{\chi_f,i}^*$

$[I \times R] + 1$

XKI

$$\begin{pmatrix} 1_{\chi_f,1}^* & & & R_{\chi_f,1}^* \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ 1_{\chi_f,I}^* & & & R_{\chi_f,I}^* \end{pmatrix}$$

Fission Cross Section (Adjoint)

$k_{\Sigma_f,i}^*$

$[I \times R] + 1$

MKI

$$\begin{pmatrix} 1_{\Sigma_f,1}^* & & & R_{\Sigma_f,1}^* \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ 1_{\Sigma_f,I}^* & & & R_{\Sigma_f,I}^* \end{pmatrix}$$

Temporary Storages

$[I \times R] + 1$   
SHUF



BASIC-LIBRARY PREPARATION

(page 1 of 1)

CORE1 = 05111

Temporary Storage

$[12 \times Y] + 1$

T

Fission-Spectrum Table

$\chi_f[E(K)]$

$[1 \times 2M_{\chi_f}] + 2$

XIF

$(\chi_f[E(1)], \chi_f[E(2)], \dots, \chi_f[E(\chi_f)])$

Isotope List from Basic-Library-Preparation  
Tape

$[1 \times (5Y + 1)] + 1$

ISOT

For a description of this list, see  
Section III.

## Isotope Concentrations

$${}^k_N A$$

[B × R] + 1

BRMX

This matrix has B rows (one for each isotope) and R columns (one for each region). The concentration of isotope A in region k is found in column k and the row corresponding to isotope A's position on the isotope list.

## Isotope Concentration Change

$$\frac{\partial}{\partial t} {}^k_N A$$

[B × R] + 1

BUEQ

This matrix has B rows (one for each isotope) and R columns (one for each region). The concentration change of isotope A in region k is found in column k and the row corresponding to isotope A's position on the isotope list.

## Indicative Block

[1 × 4] + 1

INDI

(ELEMENT, A,  $\alpha$ ,  $M_A$ )

## Descendant Block

[1 × 18] + 1

DESC

For description of this block, see Section III.

## Lambda Block

[1 × 8] + 1

LAM

For description of this block, see Section III.

## AK Block

[1 × 4R] + 1

AKBK

For description of this block, see Section III.

Microscopic-Capture Cross Section  
 $\sigma_{cA}^i(\bar{x}) \quad x = 1, 2, 3$   
 $[1 \times 3I] + 1$   
 CAP  

$$\left( \sigma_{cA}^1(1), \sigma_{cA}^1(2), \sigma_{cA}^1(3), \dots, \dots, \right.$$

$$\left. \sigma_{cA}^I(1), \sigma_{cA}^I(2), \sigma_{cA}^I(3) \right)$$

Microscopic-Fission Cross Section  
 $\sigma_{fA}^i(x) \quad x = 1, 2, 3$   
 $[1 \times 3I] + 1$   
 FISS  

$$\left( \sigma_{fA}^1(1), \sigma_{fA}^1(2), \sigma_{fA}^1(3), \dots, \dots, \right.$$

$$\left. \sigma_{fA}^I(1), \sigma_{fA}^I(2), \sigma_{fA}^I(3) \right)$$

Energy Inverse Matrices  
 $E_i^{-1}$   
 $[10 \times I] + 1$   
 EIN  
 There are I of these matrices, each being  $3 \times 3$  with a coefficient of 1. The matrix for group i is stored row by row after its coefficient. The matrix for group i+1 follows.  

$$E_i^{-1} = \begin{bmatrix} 1 \cdot (E_{i-\frac{1}{2}})^{-1} & E_{i-\frac{1}{2}} \\ 1 \cdot (E_{i+\frac{1}{2}})^{-1} & E_{i+\frac{1}{2}} \\ 1 \cdot (E_{i+\frac{3}{2}})^{-1} & E_{i+\frac{3}{2}} \end{bmatrix} \text{ where } E_{i+\frac{1}{2}} = \frac{E_i + E_{i+1}}{2}$$

Self-Shielding Factors  
 $f_s^i$   
 $[S \times I] + 1$   
 SFKI  

$$\begin{pmatrix} f_1^1 & & & f_1^I \\ \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ f_S^1 & \cdot & \cdot & f_S^I \end{pmatrix}$$

Energy-Group Structure  
 $E_i$   
 $[1 \times (I + 3)] + 1$   
 ENGY  
 $(E_0, E_1, \dots, E_I, E_{I+1}, E_{I+2})$ , where  
 $E_0 \equiv E_{I+2} \equiv 0$ .

Total Neutron Flux Per Unit Energy  
 $k_i \phi$   
 $[R \times (I + 2)] + 1$   
 PHKI  

$$\begin{pmatrix} 0 & 1 & 1 & & & 1 & I & 0 \\ \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot \\ 0 & R & 1 & & & R & I & 0 \end{pmatrix}$$



BURNUP  
(page 3 of 3)

Isotope List

A

[1 × B] + 1

ISOP

(The list of B isotopes.)

Highest Mesh Index Per Region

$N_k$

[1 × R] + 1

REGN

$(N_1, N_2, \dots, N_R)$

Mesh Points

$r_n$

[1 × (N + 3)] + 1

MESH

$(r_{-1}, r_0, r_1, \dots, r_N, r_{N+1})$

CRITICALITY ADJUSTMENT

(page 1 of 1)

CORE1 = 05111

Isotope List

A

[1 × B] + 1

ISOP

(The list of B isotopes.)

Mesh Spacing

$\Delta r_k$

[1 × R] + 1

RDIF

$(\Delta r_1, \Delta r_2, \dots, \Delta r_R)$

Number of Mesh Spaces Per Region

$n_k$

[1 × R] + 1

PTS

$(n_1, n_2, \dots, n_R)$

Highest Mesh Index Per Region

$N_k$

[1 × R] + 1

REGN

$(N_1, N_2, \dots, N_R)$

Mesh Points

$r_n$

[1 × (N + 3)] + 1

MESH

$(r_{-1}, r_0, r_1, \dots, r_N, r_{N+1})$

Perpendicular Leakage

$k_{(B^2 D)^i}$

[1 × R] + 1

PBKI

$$\begin{pmatrix} k_{(B^2 D)^1} & & & & k_{(B^2 D)^R} \\ \vdots & & & & \vdots \\ k_{(B^2 D)^1} & & & & k_{(B^2 D)^R} \end{pmatrix}$$

DIFFUSION THEORY

CORE1 = 05111

(page 1 of 4)

<p>Energy-Group Structure</p> <p><math>E_i</math></p> <p><math>[1 \times (I + 3)] + 1</math></p> <p>ENGY</p> <p><math>(E_0, E_1, \dots, E_I, E_{I+1}, E_{I+2})</math></p> <p>where <math>E_0 \equiv E_{I+2} \equiv 0</math>.</p>	<p>Mesh Spacing</p> <p><math>\Delta r_k</math></p> <p><math>[1 \times R] + 1</math></p> <p>RDIF</p> <p><math>(\Delta r_1, \Delta r_2, \dots, \Delta r_R)</math></p>
<p>Number of Mesh Spaces Per Region</p> <p><math>n_k</math></p> <p><math>[1 \times R] + 1</math></p> <p>PTS</p> <p><math>(n_1, n_2, \dots, n_R)</math></p>	<p>Highest Mesh Index Per Region</p> <p><math>N_k</math></p> <p><math>[1 \times R] + 1</math></p> <p>REGN</p> <p><math>(N_1, N_2, \dots, N_R)</math></p>
<p>Mesh Points</p> <p><math>r_n</math></p> <p><math>[1 \times (N + 3)] + 1</math></p> <p>MESH</p> <p><math>(r_{-1}, r_0, r_1, \dots, r_N, r_{N+1})</math></p>	<p>Boundary Conditions at Point <math>r = r_0</math></p> <p><math>B_0^i</math></p> <p><math>[1 \times I] + 1</math></p> <p>BSUO</p> <p><math>(B_0^1, B_0^2, \dots, B_0^I)</math></p>

DIFFUSION THEORY

(page 2 of 4)

Boundary Conditions at Point  $r = r_N$

$B_N^i$

$[1 \times I] + 1$

BSUN

$$(B_N^1, B_N^2, \dots, B_N^I)$$

Point Flux

$\phi_n^i$

$[2 \times (N+1)] + 1$

PHI

$$\begin{pmatrix} \phi_0^i & \phi_1^i & \dots & \phi_N^i \\ \phi_0^{I-i+1} & \phi_1^{I-i+1} & \dots & \phi_N^{I-i+1} \end{pmatrix}$$

Power Density

$P_n$

$[1 \times 2(N+R)] + 1$

CAPP

$$\begin{pmatrix} P_{N_1^-}, P_{N_1^+}, P_1, P_2, \dots, P_{N_R^-}, P_{N_R^+}, P_{N_1^1} \\ P_{N_1^1}, P_1^1, P_2^1, \dots, P_{N_R^1}, P_{N_R^+}^1 \end{pmatrix}$$

where P and P<sup>1</sup> are powers from successive iterations.

Diffusion-Theory Coefficients

$k_D^i$

$[I \times R] + 1$

CAPD

$$\begin{pmatrix} 1_D^1 & \dots & R_D^1 \\ \vdots & & \vdots \\ 1_D^I & \dots & R_D^I \end{pmatrix}$$

Removal Cross-Section

$k_{T,i}$

$[I \times R] + 1$

CAPT

$$\begin{pmatrix} 1_T^1 & \dots & R_T^1 \\ \vdots & & \vdots \\ 1_T^I & \dots & R_T^I \end{pmatrix}$$

Transfer Coefficients

$k_{T,ij}$

$\left\{ \left[ \frac{I(I-1)}{2} \times R \right] + 1 \right\} + 1$

CPTI

$$\begin{pmatrix} 1_T^{2,1} & \dots & R_T^{2,1} \\ 1_T^{3,1} & \dots & R_T^{3,1} \\ 1_T^{3,2} & \dots & R_T^{3,2} \\ \vdots & & \vdots \\ 1_T^{I,I-1} & \dots & R_T^{I,I-1} \end{pmatrix}$$

DIFFUSION THEORY

(page 3 of 4)

Fission-Neutron Production Cross Section

$k_{F,i}$

$[I \times R] + 1$

CAPF

$$\begin{pmatrix} 1_F^1 & & & & R_F^1 \\ \cdot & & & & \\ \cdot & & & & \\ \cdot & & & & \\ 1_F^I & & & & R_F^I \end{pmatrix}$$

Fission Spectrum

$k_{i,f}$

$[I \times R] + 1$

XKI

$$\begin{pmatrix} 1 & 1 & & & R & 1 \\ \chi_f & & & & \chi_f & \\ \cdot & & & & \cdot & \\ \cdot & & & & \cdot & \\ \cdot & & & & \cdot & \\ 1 & I & & & R & I \\ \chi_f & & & & \chi_f & \end{pmatrix}$$

Fission Cross Section

$k_{\Sigma f,i}$

$[I \times R] + 1$

MKI

$$\begin{pmatrix} 1_{\Sigma f}^1 & & & & R_{\Sigma f}^1 \\ \cdot & & & & \\ \cdot & & & & \\ \cdot & & & & \\ 1_{\Sigma f}^I & & & & R_{\Sigma f}^I \end{pmatrix}$$

Power Difference

$$(P_n - P_{n-1}) = \Delta P_n$$

$[1 \times (N + R)] + 1$

PDIF

$$\begin{pmatrix} \Delta P_{N_1^-}, \Delta P_{N_1^+}, \Delta P_{N_1}, \Delta P_{N_2}, \dots \\ \Delta P_{N_R^-}, \Delta P_{N_R^+} \end{pmatrix}$$

Intermediate-Flux Computation

$H_n^i$

$[1 \times (N + R)] + 1$

CAPH

$$(H_{N_1^-}^i, H_{N_1^+}^i, H_1^i, H_2^i, \dots, H_{N_R^-}^i, H_{N_R^+}^i)$$

Intermediate-Flux Computation

$p_n^i$

$[1 \times (N + 1)] + 1$

WEEP

$$(p_0^i, p_1^i, p_2^i, \dots, p_N^i)$$

DIFFUSION THEORY

(page 4 of 4)

Intermediate-Flux Computation

$q_n^i$

$[1 \times (N + 1)] + 1$

WEEQ

$(q_0^i, q_1^i, \dots, q_N^i)$

Number of Mesh Spaces Per Region

$n_k$

$[1 \times R] + 1$

PTSM

$(n_0, n_1, n_2, \dots, n_R)$

where  $n_0 = 0$

Total Neutron Flux Per Unit Energy

$\phi^k$

$[R \times (I + 2)] + 1$

PHKI

$$\begin{pmatrix} 0 & 1 & 1 & & & & 1 & I & 0 \\ \cdot & \cdot & \cdot & & & & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & & & & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & & & & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & & & & \cdot & \cdot & \cdot \\ 0 & R & 1 & & & & R & I & 0 \end{pmatrix}$$

Square of the Energy Difference

$(\Delta E_1)^2$

$(1 \times I) + 1$

EDIF

$[(\Delta E_1)^2, (\Delta E_2)^2, \dots, (\Delta E_I)^2]$

GROUP TAPE

(page 1 of 3)

CORE1 = 05236

Isotope List From Basic-Library-Preparation  
Tape

$[1 \times (5Y + 1)] + 1$   
ISOT

For a description of this list, see  
Section III.

Isotope List From Old Group Tape

$[1 \times (5Y + 1)] + 1$   
ISOS

For a description of this list, see  
Section III.

Isotope List

A  
 $[1 \times B] + 1$   
ISOP

(The list of B isotopes.)

Energy-Group Structure

$E_i$   
 $[1 \times (I + 3)] + 1$   
ENGY

$(E_0, E_1, \dots, E_I, E_{I+1}, E_{I+2})$

where  $E_0 \equiv E_{I+2} \equiv 0$

Temporary Storage

$[1 \times 510] + 1$   
VAL

Temporary Storage

$[3 \times (M_A + 1)] + 1$   
FUN

GROUP TAPE  
(page 2 of 3)

Temporary Storage

$[1 \times M_A] + 1$   
TRA

Temporary Storage

$[1 \times 3I] + 1$   
IFUN

Temporary Storage

$[1 \times 3I] + 1$   
ISCA

Temporary Storage

$[1 \times 3I] + 1$   
IXIN

Temporary Storage

$[1 \times 3I] + 1$   
ISX

Temporary Storage

$\left[ \frac{I(I-1)}{2} \times 3 \right] + 1$   
ISSC



GROUP TAPE  
(page 3 of 3)

Temporary Storage

[1 × 3I] + 1  
ITOT

NEUTRON BALANCE

(page 1 of 4)

CORE1 = 05111

Power Density

$P_n$

$[1 \times (N + R)] + 1$

CAPP

$(P_{N_1^-}, P_{N_1^+}, P_1, P_2, \dots, P_{N_R^-}, P_{N_R^+})$

Neutron Removal Due to Perpendicular Leakage

$k_{L_p}^i$

$[1 \times (I \times R)] + 1$

NLP

$$\begin{pmatrix} 1_{L_p}^1 & & & R_{L_p}^1 \\ \vdots & & & \vdots \\ 1_{L_p}^I & & & R_{L_p}^I \end{pmatrix}$$

Number of Mesh Spaces Per Region

$n_k$

$[1 \times R] + 1$

PTS

$(n_1, n_2, \dots, n_R)$

Point Flux

$\phi_n^i$

$[1 \times (N + 1)] + 1$

PHI

$(\phi_0^i, \phi_1^i, \dots, \phi_N^i)$

Mesh Points

$r_n$

$[1 \times (N + 3)] + 1$

MESH

$(r_{-1}, r_0, r_1, \dots, r_N, r_{N+1})$

Total Neutron Flux Per Unit Energy

$k_{\phi}^i$

$[R \times (I + 2)] + 1$

PHKI

$$\begin{pmatrix} 0 & 1_{\phi}^1 & & & 1_{\phi}^I & 0 \\ \vdots & & & & \vdots & \\ 0 & R_{\phi}^1 & & & R_{\phi}^I & 0 \end{pmatrix}$$

NEUTRON BALANCE

(page 2 of 4)

Transfer Coefficients

$k_{T,ij}$

$$\left[ \frac{I(I-1)}{2} \times R \right] + 1$$

TKIJ

$$\begin{pmatrix} 1_{T,2,1} & & & R_{T,2,1} \\ 1_{T,3,1} & & & R_{T,3,1} \\ 1_{T,3,2} & & & R_{T,3,2} \\ \vdots & & & \vdots \\ \vdots & & & \vdots \\ 1_{T,I,I-1} & & & R_{T,I,I-1} \end{pmatrix}$$

Degradation to Lower Energy Groups

$k_{D,i}$

$$[I \times R] + 1$$

NDKI

$$\begin{pmatrix} 1_{D,1} & & & R_{D,1} \\ 1_{D,2} & & & R_{D,2} \\ \vdots & & & \vdots \\ \vdots & & & \vdots \\ 1_{D,I-1} & & & R_{D,I-1} \\ 0 & & & 0 \end{pmatrix}$$

Scattering From Higher Energy Groups

$k_{S,i}$

$$[I \times R] + 1$$

NSKI

$$\begin{pmatrix} 1_{S,2} & & & R_{S,2} \\ 1_{S,3} & & & R_{S,3} \\ \vdots & & & \vdots \\ \vdots & & & \vdots \\ 1_{S,I} & & & R_{S,I} \\ 0 & & & 0 \end{pmatrix}$$

Neutron Source Due to Fission

$k_{F,i}$

$$[I \times R] + 1$$

NFKI

$$\begin{pmatrix} 1_{F,1} & & & R_{F,1} \\ \vdots & & & \vdots \\ \vdots & & & \vdots \\ 1_{F,I} & & & R_{F,I} \end{pmatrix}$$

Total Leakage

$k_{L,i}$

$$[1 \times R] + 1$$

NKL

$$\begin{pmatrix} 1_{L,2,L} & & & R_{L,2,L} \\ \vdots & & & \vdots \\ \vdots & & & \vdots \\ 1_{L,I,L} & & & R_{L,I,L} \end{pmatrix}$$

Neutron Removal Due to Absorption

$k_{C,i}$

$$[I \times R] + 1$$

NCKI

$$\begin{pmatrix} 1_{C,1} & & & R_{C,1} \\ \vdots & & & \vdots \\ \vdots & & & \vdots \\ 1_{C,I} & & & R_{C,I} \end{pmatrix}$$

NEUTRON BALANCE

(page 3 of 4)

Leakage Across Region-Outer Boundary

$$k_{L+}^i$$

$$[I \times R] + 1$$

LKIA

$$\begin{pmatrix} 1_{L+}^1 & & & R_{L+}^1 \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ 1_{L+}^I & & & R_{L+}^I \end{pmatrix}$$

Leakage Across Region-Inner Boundary

$$k_{L-}^i$$

$$[I \times R] + 1$$

LKIB

$$\begin{pmatrix} 1_{L-}^1 & & & R_{L-}^1 \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ 1_{L-}^I & & & R_{L-}^I \end{pmatrix}$$

Total Removal

$$k_R^i$$

$$[I \times R] + 1$$

NRKI

$$\begin{pmatrix} 1_R^1 & & & R_R^1 \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ 1_R^I & & & R_R^I \end{pmatrix}$$

Total Production

$$k_P^i$$

$$[I \times R] + 1$$

NPKI

$$\begin{pmatrix} 1_P^1 & & & R_P^1 \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ 1_P^I & & & R_P^I \end{pmatrix}$$

Fission-Neutron Production

$$k_F^i$$

$$[I \times R] + 1$$

FBK

$$\begin{pmatrix} 1_F^1 & & & R_F^1 \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ 1_F^I & & & R_F^I \end{pmatrix}$$

Total Fission-Neutron Source

$$k_P$$

$$[1 \times R] + 1$$

KPXE

$$\begin{pmatrix} 1_P^1 & 2_P^1 & & R_P^1 \\ \cdot & \cdot & & \cdot \\ \cdot & \cdot & & \cdot \\ \cdot & \cdot & & \cdot \\ 1_P^I & 2_P^I & & R_P^I \end{pmatrix}$$

NEUTRON BALANCE

(page 4 of 4)

Highest Mesh Index Per Region

$N_k$

$[1 \times R] + 1$

REGN

$(N_1, N_2, \dots, N_R)$

Mesh Spacing

$\Delta r_k$

$[1 \times R] + 1$

RDIF

$(\Delta r_1, \Delta r_2, \dots, \Delta r_R)$

Error in Neutron Balance

$k \epsilon$

$[1 \times R] + 1$

NKE

$(\epsilon^1, \epsilon^2, \dots, \epsilon^R)$

Diffusion Coefficient

$k_D^i$

$[1 \times R] + 1$

DKI

$$\begin{pmatrix} 1_D^1 & & & 1_D^I \\ \vdots & & & \vdots \\ R_D^1 & & & R_D^I \end{pmatrix}$$

Energy-Group Structure

$E_i$

$[1 \times (I+3)] + 1$

ENGY

$(E_0, E_1, \dots, E_I, E_{I+1}, E_{I+2})$

where  $E_0 \equiv E_{I+2} \equiv 0$

NUCLEAR-CONSTANTS PREPARER

(page 1 of 4)

CORE1 = 05111

Diffusion Coefficients

$k_D^i$   
 $[I \times R] + 2$   
 DKI

$$\begin{pmatrix} 1_D^1 & & & R_D^1 \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ 1_D^I & & & R_D^I \end{pmatrix}$$

Removal Cross Section

$k_T^i$   
 $[I \times R] + 2$   
 TKI

$$\begin{pmatrix} 1_T^1 & & & R_T^1 \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ 1_T^I & & & R_T^I \end{pmatrix}$$

Transfer Coefficients

$k_{T,ij}$   
 $\left[ \frac{I(I-1)}{2} \times R \right] + 2$   
 TKIJ

$$\begin{pmatrix} 1_{T,2,1} & & & R_{T,2,1} \\ 1_{T,3,1} & & & R_{T,3,1} \\ 1_{T,3,2} & & & R_{T,3,2} \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ 1_{T,I,I-1} & & & R_{T,I,I-1} \end{pmatrix}$$

Fission-Neutron-Production Cross Section

$k_F^i$   
 $[I \times R] + 2$   
 FKI

$$\begin{pmatrix} 1_F^1 & & & R_F^1 \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ 1_F^I & & & R_F^I \end{pmatrix}$$

Fission Spectrum

$k_f^i$   
 $\chi_f$   
 $[I \times R] + 2$   
 XKI

$$\begin{pmatrix} 1_f^1 & & & R_f^1 \\ \chi_f & & & \chi_f \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ 1_f^I & & & R_f^I \\ \chi_f & & & \chi_f \end{pmatrix}$$

Inverse Matrices

$E_i^{-1}$   
 $[10 \times I] + 1$   
 EIN

There are I of these matrices, each being 3 x 3 with a coefficient of 1. The matrix for group i is stored row by row after its coefficient. The matrix for group i+1 follows.

$$E_i^{-1} = \begin{bmatrix} 1 & (E_{i-\frac{1}{2}})^{-1} & E_{i-\frac{1}{2}} \\ 1 & (E_{i+\frac{1}{2}})^{-1} & E_{i+\frac{1}{2}} \\ 1 & (E_{i+\frac{3}{2}})^{-1} & E_{i+\frac{3}{2}} \end{bmatrix} \text{ where } E_{i+\frac{1}{2}} = \frac{E_i + E_{i+1}}{2}$$

NUCLEAR CONSTANTS PREPARER

(page 2 of 4)

Fission Spectrum

$\chi_f^i$   
 $[1 \times I] + 2$   
 XEI

$$(\chi_f^1, \chi_f^2, \dots, \chi_f^I)$$

AK Block

$[1 \times 4R] + 2$   
 AKBK

For a description of this block, see Section III.

Microscopic-Fission Cross Section

$\sigma_{fA}^i(x)$   $x = 1, 2, 3$   
 $[1 \times 3I] + 2$   
 FISS

$$\left( \sigma_{fA}^1(1), \sigma_{fA}^1(2), \sigma_{fA}^1(3), \dots, \right. \\ \left. \sigma_{fA}^I(1), \sigma_{fA}^I(2), \sigma_{fA}^I(3) \right)$$

Number of Neutrons Per Fission

$\nu_f^i$   
 $[1 \times I] + 2$   
 NUI

$$(\nu_f^1, \nu_f^2, \dots, \nu_f^I)$$

Microscopic-Scatter Cross Section

$t_A^{ij}(x)$   $x = 1, 2, 3$   
 $\left[ 1 \times \frac{3I(I-1)}{2} \right] + 2$   
 SCAT

$$\left( t_A^{2,1}(1), t_A^{2,1}(2), t_A^{2,1}(3), \dots, \right. \\ \left. t_A^{I,I-1}(1), t_A^{I,I-1}(2), t_A^{I,I-1}(3) \right)$$

Microscopic-Total Cross Section

$t_A^i(x)$   $x = 1, 2, 3$   
 $[1 \times 3I] + 2$   
 TOTL

$$\left( t_A^1(1), t_A^1(2), t_A^1(3), \dots, \right. \\ \left. t_A^I(1), t_A^I(2), t_A^I(3) \right)$$

NUCLEAR-CONSTANTS PREPARER

(page 3 of 4)

Microscopic-Transport Cross Section

$$\sigma_{tr A}^i(x) \quad x = 1, 2, 3$$

[1 × 3I] + 2

TRAN  $\left( \begin{array}{cccc} \sigma_{tr A}^1(1), \sigma_{tr A}^1(2), \sigma_{tr A}^1(3), & \dots & \dots & \dots \\ \sigma_{tr A}^I(1), \sigma_{tr A}^I(2), \sigma_{tr A}^I(3) & & & \end{array} \right)$

Fission Cross Section

$$k_{\Sigma f}^i$$

[I × R] + 2

MKI  $\left( \begin{array}{cccc} 1_{\Sigma f}^1 & \dots & \dots & R_{\Sigma f}^1 \\ \dots & & & \dots \\ \dots & & & \dots \\ 1_{\Sigma f}^I & \dots & \dots & R_{\Sigma f}^I \end{array} \right)$

Indicative Block

[1 × 4] + 1

INDI

(ELEMENT, A,  $\alpha$ ,  $M_A$ )

Self-Shielding Factors

$$f_s^i$$

[S × I] + 1

SFKI

$$\left( \begin{array}{cccc} f_1^1 & \dots & \dots & f_1^I \\ \dots & & & \dots \\ \dots & & & \dots \\ f_S^1 & \dots & \dots & f_S^I \end{array} \right)$$

Energy-Group Structure

$$E_i$$

[1 × (I + 3)] + 1

ENGY

( $E_0, E_1, \dots, E_1, E_{I+1}, E_{I+2}$ )

where  $E_0 \equiv E_{I+2} \equiv 0$

Isotope Concentrations

$$k_{N A}$$

[B × R] + 1

BRMX

This matrix has B rows (one for each isotope) and R columns (one for each region). The concentration of isotope A in region k is found in column k and the row corresponding to isotope A's position on the isotope list.



NUCLEAR-CONSTANTS PREPARER

(page 4 of 4)

Perpendicular Leakage

$k_{(B^2 D)^i}$

$[I \times R] + 1$

PBKI

$$\begin{pmatrix} 1_{(B^2 D)^1} & & & R_{(B^2 D)^1} \\ \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ 1_{(B^2 D)^I} & & & R_{(B^2 D)^I} \end{pmatrix}$$

Total Neutron Flux Per Unit Energy

$k_i$

$[R \times (I + 2)] + 1$

PHKI

$$\begin{pmatrix} 0 & 1 & \cdot & \cdot & \cdot & 1 & I & 0 \\ \phi & \cdot & \cdot & \cdot & \cdot & \phi & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot \\ 0 & R & 1 & \cdot & \cdot & \cdot & R & I \\ \phi & \cdot & \cdot & \cdot & \cdot & \phi & \cdot & 0 \end{pmatrix}$$

Isotope List

A

$[1 \times B] + 1$

ISOP

(The list of B isotopes.)

NUCLEAR-CONSTANTS CORRECTOR

(page 1 of 4)

CORE1 = 05111

Diffusion Coefficients

$k_D^i$

$[I \times R] + 2$

DKI

$$\begin{pmatrix} 1_D^1 & & & R_D^1 \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ 1_D^I & & & R_D^I \end{pmatrix}$$

Removal Cross Section

$k_T^i$

$[I \times R] + 2$

TKI

$$\begin{pmatrix} 1_T^1 & & & R_T^1 \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ 1_T^I & & & R_T^I \end{pmatrix}$$

Transfer Coefficients

$k_{T,ij}$

$[\frac{I(I-1)}{2} \times R] + 2$

TKIJ

$$\begin{pmatrix} 1_{T,2,1} & & & R_{T,2,1} \\ 1_{T,3,1} & & & R_{T,3,1} \\ 1_{T,3,2} & & & R_{T,3,2} \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ 1_{T,I,I-1} & & & R_{T,I,I-1} \end{pmatrix}$$

Fission-Neutron-Production Cross Section

$k_F^i$

$[I \times R] + 2$

FKI

$$\begin{pmatrix} 1_F^1 & & & R_F^1 \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ 1_F^I & & & R_F^I \end{pmatrix}$$

Fission Spectrum

$k_i$

$\chi_f$

$[I \times R] + 2$

XKI

$$\begin{pmatrix} 1 & & & R & 1 \\ \chi_f & & & \chi_f & \\ \cdot & & & \cdot & \\ \cdot & & & \cdot & \\ \cdot & & & \cdot & \\ 1 & & & R & 1 \\ \chi_f & & & \chi_f & \end{pmatrix}$$

Inverse Matrices

$E_i^{-1}$

$[10 \times I] + 1$

EIN

There are I of these matrices, each being  $3 \times 3$  with a coefficient of 1. The matrix for group i is stored row by row after its coefficient. The matrix for group i+1 follows.

$$E_i^{-1} = \begin{bmatrix} 1 & (E_{i-\frac{1}{2}})^{-1} & E_{i-\frac{1}{2}} \\ 1 & (E_{i+\frac{1}{2}})^{-1} & E_{i+\frac{1}{2}} \\ 1 & (E_{i+\frac{3}{2}})^{-1} & E_{i+\frac{3}{2}} \end{bmatrix} \text{ where } E_{i+\frac{1}{2}} = \frac{E_i + E_{i+1}}{2}$$

NUCLEAR-CONSTANTS CORRECTOR

(page 2 of 4)

<p>Fission Spectrum</p> $\chi_f^i$ <p><math>[1 \times I] + 2</math></p> <p>XEI</p> $(\chi_f^1, \chi_f^2, \dots, \chi_f^I)$	<p>AK Block</p> <p><math>[1 \times 4R] + 2</math></p> <p>AKBK</p> <p>For a description of this block, see Section III.</p>
<p>Microscopic-Fission Cross Section</p> $\sigma_{fA}^i(x) \quad x = 1, 2, 3$ <p><math>[1 \times 3I] + 2</math></p> <p>FISS</p> $\left( \sigma_{fA}^1(1), \sigma_{fA}^1(2), \sigma_{fA}^1(3), \dots, \right.$ $\left. \sigma_{fA}^I(1), \sigma_{fA}^I(2), \sigma_{fA}^I(3) \right)$	<p>Number of Neutrons Per Fission</p> $\nu_f^i$ <p><math>[1 \times I] + 2</math></p> <p>NUI</p> $(\nu_f^1, \nu_f^2, \dots, \nu_f^I)$
<p>Microscopic-Scatter Cross Section</p> $t_A^{ij}(x) \quad x = 1, 2, 3$ <p><math>[1 \times \frac{3I(I-1)}{2}] + 2</math></p> <p>SCAT</p> $\left( t_A^{2,1}(1), t_A^{2,1}(2), t_A^{2,1}(3), \dots, \right.$ $\left. t_A^{I,I-1}(1), t_A^{I,I-1}(2), t_A^{I,I-1}(3) \right)$	<p>Microscopic-Total Cross Section</p> $t_A^i(x) \quad x = 1, 2, 3$ <p><math>[1 \times 3I] + 2</math></p> <p>TOTL</p> $\left( t_A^1(1), t_A^1(2), t_A^1(3), \dots, \right.$ $\left. t_A^I(1), t_A^I(2), t_A^I(3) \right)$

NUCLEAR-CONSTANTS CORRECTOR

(page 3 of 4)

Microscopic-Transport Cross Section

$$\sigma_{tr A}^i(x) \quad x = 1, 2, 3$$

[1 × 3I] + 2

TRAN  $\left( \sigma_{tr A}^1(1), \sigma_{tr A}^1(2), \sigma_{tr A}^1(3), \dots, \right.$   
 $\left. \sigma_{tr A}^I(1), \sigma_{tr A}^I(2), \sigma_{tr A}^I(3) \right)$

Fission Cross Section

$$k_{\Sigma f}^i$$

[I × R] + 2

MKI  $\begin{pmatrix} 1_{\Sigma f}^1 & \dots & R_{\Sigma f}^1 \\ \vdots & & \vdots \\ 1_{\Sigma f}^I & \dots & R_{\Sigma f}^I \end{pmatrix}$

Indicative Block

[1 × 4] + 1

INDI

(ELEMENT , A ,  $\alpha$  ,  $M_A$ )

Self-Shielding Factors

$$f_s^i$$

[S × I] + 1

SFKI

$$\begin{pmatrix} f_1^1 & \dots & f_1^I \\ \vdots & & \vdots \\ f_S^1 & \dots & f_S^I \end{pmatrix}$$

Energy-Group Structure

$$E_i$$

[1 × (I + 3)] + 1

ENGY

( $E_0, E_1, \dots, E_I, E_{I+1}, E_{I+2}$ )

where  $E_0 \equiv E_{I+2} \equiv 0$ .

Isotope Concentrations

$$k_{N_A}$$

[B × R] + 1

BRMX

This matrix has B rows (one for each isotope) and R columns (one for each region). The concentration of isotope A in region k is found in column k and the row corresponding to isotope A's position on the isotope list.

NUCLEAR-CONSTANTS CORRECTOR

(page 4 of 4)

Perpendicular Leakage

$$k_{(B^2 D)^i}$$

$$[I \times R] + 1$$

PBKI

$$\begin{pmatrix} 1_{(B^2 D)^1} & & & R_{(B^2 D)^1} \\ \vdots & & & \vdots \\ 1_{(B^2 D)^I} & & & R_{(B^2 D)^I} \end{pmatrix}$$

Total Neutron Flux Per Unit Energy

$$k_{\phi^i}$$

$$[R \times (I + 2)] + 1$$

PHKI

$$\begin{pmatrix} 0 & 1_{\phi^1} & & & 1_{\phi^I} & 0 \\ \vdots & \vdots & & & \vdots & \vdots \\ 0 & R_{\phi^1} & & & R_{\phi^I} & 0 \end{pmatrix}$$

Isotope List

A

$$[1 \times B] + 1$$

ISOP

(The list of B isotopes.)

Concentration Change

$$k_{N_A}$$

$$[1 \times R] + 1$$

NXET

This  $1 \times R$  matrix contains concentration changes from the Criticality Adjustment or from the Xenon-Samarium-Addition problems.

Concentration Change

$$k_{N_A}$$

$$[1 \times R] + 1$$

NSMT

This  $1 \times R$  matrix contains concentration changes from the Xenon-Samarium-Addition problem.

PROBLEM INPUT

(page 1 of 2)

CORE1 = 05111

Mesh Spacing

$\Delta r_k$

$[1 \times R] + 1$

RDIF

$(\Delta r_1, \Delta r_2, \dots, \Delta r_R)$

Number of Mesh Spaces Per Region

$n_k$

$[1 \times R] + 1$

PTS

$(n_1, n_2, \dots, n_R)$

Highest Mesh Index Per Region

$N_k$

$[1 \times R] + 1$

REGN

$(N_1, N_2, \dots, N_R)$

Mesh Points

$r_n$

$[1 \times (N + 3)] + 1$

MESH

$(r_{-1}, r_0, r_1, \dots, r_N, r_{N+1})$

Isotope List

A

$[1 \times B] + 1$

ISOP

(The list of B isotopes.)

Energy-Group Structure

$E_i$

$[1 \times (I + 3)] + 1$

ENGY

$(E_0, E_1, \dots, E_I, E_{I+1}, E_{I+2})$

where  $E_0 \equiv E_{I+2} \equiv 0$ .

PROBLEM INPUT

(page 2 of 2)

AK Block

$$[1 \times B (4R + 1)] + 1$$

AKBK

For a description of this block, see Section III.

Temporary Storage

$$[1 \times 1] + 1$$

S

Isotope Concentrations

$${}^k N_A$$

$$[B \times R] + 1$$

BRMX

This matrix has B rows (one for each isotope) and R columns (one for each region). The concentration of isotope A in region k is found in column k and the row corresponding to isotope A's position on the isotope list.

XENON-SAMARIUM ADDITION

CORE1 = 05111

(page 1 of 3)

AK Block

[1 × 4R] + 1

AKBK

For a description of this block, see Section III.

Microscopic-Capture Cross Section

$$\sigma_{cA}^i(x) \quad x = I, 2, 3$$

[1 × 3I] + 1

CAP

$$\left( \sigma_{cA}^1(1), \sigma_{cA}^1(2), \sigma_{cA}^1(3), \dots, \right. \\ \left. \sigma_{cA}^I(1), \sigma_{cA}^I(2), \sigma_{cA}^I(3) \right)$$

Microscopic-Fission Cross Section

$$\sigma_{fA}^i(x) \quad x = 1, 2, 3$$

[1 × 3I] + 1

FISS

$$\left( \sigma_{fA}^1(1), \sigma_{fA}^1(2), \sigma_{fA}^1(3), \dots, \right. \\ \left. \sigma_{fA}^I(1), \sigma_{fA}^I(2), \sigma_{fA}^I(3) \right)$$

Volume Per Region

$$k_V$$

[1 × R] + 1

KV

$$({}^1V, {}^2V, \dots, R_V)$$

Concentration Change of Xenon

$$k_{N_{Xe}}(\Delta t_s)$$

[1 × R] + 1

KNXE

$$[{}^1N_{Xe}(\Delta t_s), {}^2N_{Xe}(\Delta t_s), \dots, R_{N_{Xe}}(\Delta t_s)]$$

Concentration Change of Samarium

$$k_{N_{Sm}}(\Delta t_s)$$

[1 × R] + 1

KNSU

$$[{}^1N_{Sm}(\Delta t_s), {}^2N_{Sm}(\Delta t_s), \dots, R_{N_{Sm}}(\Delta t_s)]$$



XENON-SAMARIUM ADDITION

(page 2 of 3)

Mesh Points

$r_n$   
 $[1 \times (N + 3)] + 1$   
 MESH  
 $(r_{-1}, r_0, r_1, \dots, r_N, r_{N+1})$

Total Neutron Flux Per Unit Energy

$k_i$   
 $\phi$   
 $[R \times (I + 2)] + 1$   
 PHKI  

$$\begin{pmatrix} 0 & 1 & \phi & \dots & \dots & 1 & I & 0 \\ \vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots \\ 0 & R & \phi & \dots & \dots & R & I & 0 \end{pmatrix}$$

Fission Cross Section

$k_i$   
 $\Sigma_f$   
 $[I \times R] + 1$   
 MKI  

$$\begin{pmatrix} 1 & \dots & \dots & R & 1 \\ \Sigma_f & \dots & \dots & \Sigma_f & \dots \\ \vdots & \vdots & \vdots & \vdots & \vdots \\ 1 & \dots & \dots & R & I \\ \Sigma_f & \dots & \dots & \Sigma_f & \dots \end{pmatrix}$$

Self-Shielding Factors

$f_s^i$   
 $[S \times I] + 1$   
 SFKI  

$$\begin{pmatrix} 1 & \dots & \dots & I \\ f_1^1 & \dots & \dots & f_1^I \\ \vdots & \vdots & \vdots & \vdots \\ f_S^1 & \dots & \dots & f_S^I \end{pmatrix}$$

Energy-Group Structure

$E_i$   
 $[1 \times (I + 3)] + 1$   
 ENGY  
 $(E_0, E_1, \dots, E_I, E_{I+1}, E_{I+2})$   
 where  $E_0 \equiv E_{I+2} \equiv 0$ .

Inverse Matrices

$E_i^{-1}$   
 $[10 \times I] + 1$   
 EIN  
 There are I of these matrices, each being  $3 \times 3$  with a coefficient of 1. The matrix for group i is stored row by row after its coefficient. The matrix for group i+1 follows.  

$$E_i^{-1} = \begin{bmatrix} 1 & (E_{i-\frac{1}{2}})^{-1} & E_{i-\frac{1}{2}} \\ 1 & (E_{i+\frac{1}{2}})^{-1} & E_{i+\frac{1}{2}} \\ 1 & (E_{i+\frac{3}{2}})^{-1} & E_{i+\frac{3}{2}} \end{bmatrix}$$
 where  $E_{i+\frac{1}{2}} = \frac{E_i + E_{i+1}}{2}$

XENON-SAMARIUM ADDITION

(page 3 of 3)

Number of Mesh Spaces Per Region

$n_k$

$[1 \times R] + 1$

PTS

$(n_1, n_2, \dots, n_R)$

Number of Mesh Spaces Per Region

$n_k$

$[1 \times (R + 1)] + 1$

PTSM

$(n_0, n_1, n_2, \dots, n_R)$

where  $n_0 = 0$ .

Isotope Concentrations

$N_A^k$

$[B \times R] + 1$

BRMX

This matrix has B rows (one for each isotope) and R columns (one for each region). The concentration of isotope A in region k is found in column k, and the row corresponding to isotope A's position on the isotope list.

Average Fission Density

$k_p$

$[1 \times R] + 1$

KP

$(p_1, p_2, \dots, p_R)$

## 2. Memory Map of the Drum

Drum allocation occurs only once per problem. Although some drum information may change, the new information would still occupy the same cells assigned to the original information.

The only routine on the drum is the Output Routine.

Routine	Number of Cells (OCTAL)	Core Location
Output	3,510	50,000-53,510

The map of the remaining drum information uses the same format as the maps of temporary core storage except that DRUM1 is the address of the first element of the first matrix, and  $\delta$  is found in the Common-Storage Block.

DRUM MEMORY MAP

(page 1 of 3)

DRUM1 = 55011

<p>Mesh Spacing  <math>\Delta r_k</math>  <math>[1 \times R] + 1</math>                  RDIF  <math>(\Delta r_1, \Delta r_2, \dots, \Delta r_R)</math></p>	<p>Number of Mesh Spaces Per Region  <math>n_k</math>  <math>[1 \times R] + 1</math>                  PTS  <math>(n_1, n_2, \dots, n_R)</math></p>
<p>Highest Mesh Index  <math>N_k</math>  <math>[1 \times R] + 1</math>                  REGN  <math>(N_1, N_2, \dots, N_R)</math></p>	<p>Mesh Points  <math>r_n</math>  <math>[1 \times (N + 3)] + 1</math>                  MESH  <math>(r_{-1}, r_0, r_1, \dots, r_N, r_{N+1})</math></p>
<p>Boundary Condition at Point <math>r = r_0</math>  <math>B_0^i</math>  <math>[1 \times I] + 1</math>                  BSUO  <math>(B_0^1, B_0^2, \dots, B_0^I)</math></p>	<p>Boundary Condition at Point <math>r = r_N</math>  <math>B_N^i</math>  <math>[1 \times I] + 1</math>                  BSUN  <math>(B_N^1, B_N^2, \dots, B_N^I)</math></p>



## DRUM MEMORY MAP

(page 2 of 3)

Total Neutron Flux

$$k_i^i$$

$$[R \times (I + 2)] + 1$$

PHKI

$$\begin{pmatrix} 0 & 1 & 1 & & & & 1 & I & - 0 \\ \cdot & \cdot & & & & & \cdot & & \\ \cdot & \cdot & & & & & \cdot & & \\ \cdot & \cdot & & & & & \cdot & & \\ \cdot & \cdot & & & & & \cdot & & \\ 0 & R & \phi & & & & R & I & 0 \end{pmatrix}$$

Point Flux

$$k_i^i$$

$$[I \times (N + 1)]$$

PHI

$$\begin{pmatrix} 1 & & & & & & 1 \\ \phi_0 & \cdot & \cdot & \cdot & \cdot & & \phi_N \\ \cdot & & & & & & \\ \cdot & & & & & & \\ \cdot & & & & & & \\ \cdot & & & & & & \\ \cdot & & & & & & \\ \cdot & & & & & & \\ \phi_0^I & \cdot & \cdot & \cdot & \cdot & \cdot & \phi_N^I \end{pmatrix}$$

Power Density

$$P_n$$

$$[1 \times (N + R)] + 1$$

CAPP

$$(P_{N_1^-}, P_{N_1^+}, P_1, P_2, \dots, P_{N_R^-}, P_{N_R^+})$$

Concentration Change of Xenon

$$k_{N_{Xe}}(\Delta t_s)$$

$$[1 \times R] + 1$$

NSMT

$$[{}^1N_{Xe}(\Delta t_s), {}^2N_{Xe}(\Delta t_s), \dots, {}^RN_{Xe}(\Delta t_s)]$$

Note: After Criticality Adjustment, this matrix contains concentration change in one region of some other isotope.

Concentration Change of Samarium

$$k_{N_{Sm}}(\Delta t_s)$$

$$[1 \times R] + 1$$

NXET

$$[{}^1N_{Sm}(\Delta t_s), {}^2N_{Sm}(\Delta t_s), \dots, {}^RN_{Sm}(\Delta t_s)]$$

Perpendicular Leakage

$$k_{(B^2D)}^i$$

$$[I \times R] + 1$$

PBKI

$$\begin{pmatrix} 1 & & & & & & R \\ (B^2D)^1 & \cdot & \cdot & \cdot & \cdot & & (B^2D)^1 \\ \cdot & & & & & & \cdot \\ \cdot & & & & & & \cdot \\ \cdot & & & & & & \cdot \\ \cdot & & & & & & \cdot \\ \cdot & & & & & & \cdot \\ 1 & & & & & & R \\ (B^2D)^I & & & & & & (B^2D)^I \end{pmatrix}$$

DRUM MEMORY MAP

(page 3 of 3)

Self-Shielding Factors

$$f_s^i$$

$$[S \times I] + 1$$

SFKI

$$\begin{pmatrix} f_1^1 & \cdot & \cdot & \cdot & f_1^I \\ \cdot & \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot & \cdot \\ f_S^1 & \cdot & \cdot & \cdot & f_S^I \end{pmatrix}$$

Temporary Storage

$$\left\{ \left[ \frac{I(I-1)}{2} \times R \right] + 1 \right\} + 1$$

SHUF

Isotope List

A

$$[1 \times B] + 1$$

ISOP

(The list of B isotopes.)

Energy-Group Structure

$$E_i$$

$$[1 \times (I + 3)] + 1$$

ENGY

$$(E_0, E_1, \dots, E_I, E_{I+1}, E_{I+2})$$

where  $E_0 \equiv E_{I+2} \equiv 0$ .

AK Blocks

$$[1 \times B (4R + 1)] + 1$$

AKBK

For a description of this block, see Section III.

Isotope Concentration

$$N_A^k$$

$$[B \times R] + 1$$

BRMX

This matrix has B rows (one for each isotope) and R columns (one for each region). The concentration of isotope A in region k is found in column k and the row corresponding to isotope A's position on the isotope list.

#### D. DMM Program Listings

The following pages consist of 14 program listings for the DMM routines.

<u>Table No.</u>	<u>Title</u>	<u>Page</u>
V-2A	Tape Writer - Tape Loader	5-94
V-2B	Output	5-103
V-2C	Monitor	5-134
V-2D	Problem Input	5-144
V-2E	Microscopic-Group Cross Sections	5-164
V-2F	Nuclear-Constants Preparer	5-200
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V-2L	Adjoint	5-325
V-2M	Xenon Samarium	5-332
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TABLE V-2A

## TAPE WRITER - TAPE LOADER

SETL 1				1	DMM TAPE WRITER.			
	X63	DMM 01			THIS ROUTINE CREATES	00001	27	47470 00304
	TP	L-1	L+1		THE BINARY DMM PROGRAM	00002	11	00001 00003
	B				TAPE.	00003	00	00000 00000
	MJ		TW101			00004	45	00000 00006
LDSLAP	MJ		TW103			00005	45	00000 00553
TW101	REV	4095	L+3		CLEAR CORE 2.	00006	75	17777 00011
	TP	L+1	100008)			00007	11	00010 10000
	B					00010	00	00000 00000
	R08		L+2		TRANSMIT TO EXECUTION	00011	75	30000 00013
	TP	TW201/	TW201		LOCATION.	00012	11	00040 17000
	REV	4095	L+2		CLEAR DRUMS 510.7.	00013	75	17777 00015
	TP	VO	500008)			00014	11	17421 50000
	TP	VO	577778)			00015	11	17421 57777
	REV	4095	L+2			00016	75	17777 00020
	TP	VO	600008)			00017	11	17421 60000
	TP	VO	677778)			00020	11	17421 67777
	REV	4095	L+2			00021	75	17777 00023
	TP	VO	700008)			00022	11	17421 70000
	TP	VO	777778)			00023	11	17421 77777
	REV	8	L+2		SETUP ALARM STOPS.	00024	75	10010 00026
	TP	MJ	ALARM1			00025	11	17455 17778
	RP	PGMX+4096	L+2			00026	75	10016 00030
	TP	VO	TMT9			00027	11	17421 17466
	MJ1		L+2			00030	45	10000 00032
	MJ		TL101		TO TAPE LOADER.	00031	45	00000 17204
	TP	ST11	STOP1		TO TAPE WRITER.	00032	11	17453 17766
	TP	ST31	STOP3			00033	11	17454 17767
	TP	IDRUM1	IDRUM			00034	11	17451 17457
	TP	ICORE1	ICORE			00035	11	17452 17460
TW102	RJ	L	L+1			00036	37	00036 00037
	MJ		TW204-2			00037	45	00000 17054
	SETL		170008)					
TW201	RJ	400348)	400118)		LOAD SYMBOLIC.	00040	17000	37 40034 40011
TW202	TP	1	A		PERFORM WORD COUNT.	00041	17001	11 00001 32000
	R0U	4094	PREA1			00042	75	27776 17367
	EJ	2	L+1			00043	43	00002 17004
	TP	Q	A			00044	13	31000 32000
	AT	TWC1	WDCT			00045	35	17431 17461
	RA	A	IDRUM			00046	21	32000 17457
	RS	A	V2			00047	23	32000 17423
	TJ	DRMAX	L+6		IS THERE STORAGE ON DRUM	00050	42	17446 17016
	TP	WDCT	A		NO.	00051	11	17461 32000
	RA	A	ICORE			00052	21	32000 17460
	RS	A	V2			00053	23	32000 17423
	TJ	CRMAX	L+5		IS THERE STO. IN CORE.	00054	42	17447 17021
	MJ		PREA2		NO. ALARM.	00055	45	00000 17371
	TV	IDRUM	TW203+1		SET UP TRANSFER TO DRUM	00056	16	17457 17027
	AT	V2	IDRUM			00057	35	17423 17457
	MJ		L+3			00060	45	00000 17023
	TV	ICORE	TW203+1		SET UP TRANS. TO CORE.	00061	16	17460 17027
	AT	V2	ICORE			00062	35	17423 17460
	TP	WDCT	A		TRANSFER FROM INPUT	00063	11	17461 32000
	SA	TWC2	15		BLOCK.	00064	32	17432 00017
	TP	A	TW203			00065	15	32000 17025
TW203	R08		L+2			00066	75	30000 17030
	TP	1	FILL			00067	11	00001 30000
	TP	V77778	3		FIND BLOCK NUMBER.	00070	11	17427 31000
	QT	1	A			00071	51	00001 32000
	RS	A	0303			00072	23	32000 17430



TABLE V-2A  
(page 2)

LTL	33	BLK		00073	17033	22	00041	17462
LA	A	3		00074	17034	55	32000	00003
AT	BLK	BLK	TEST BLOCK NUMBER.	00075	17035	35	17462	17462
RS	A	V1		00076	17036	23	32000	17422
SJ	PREA3	L+1		00077	17037	46	17374	17040
TJ	NBLK	L+2		00100	17040	42	17450	17042
MJ		PREA4		00101	17041	45	00000	17404
RA	A	TWC3		00102	17042	21	32000	17433
TV	A	L+8		00103	17043	16	32000	17053
LA	A	15		00104	17044	54	32000	00017
TII	A	L+1	TEST FOR PREVIOUS ENTRY	00105	17045	15	32000	17046
TP	FILL	A	OF THIS BLOCK.	00106	17046	11	30000	32000
ZJ	PREA3	L+1		00107	17047	47	17407	17050
TW203A	TP	VO	TEMP	00110	17050	11	17421	17465
	TII	TW203	TEMP	00111	17051	15	17026	17465
	TV	TW203+1	TEMP	00112	17052	14	17027	17465
	TP	TEMP	FILL	00113	17053	11	17465	30000
	REV	4095	L+2	00114	17054	75	17777	17056
	TP	VC	1	00115	17055	11	17421	00001
TW204	RJ	L	L+1	00116	17056	37	17056	17057
	MS		STOP1	00117	17057	56	00000	17766
TW301	LA	Q	A+12	00120	17060	54	31000	32014
	LA	Q	30	00121	17061	55	31000	00036
	TP	Q	PROG	00122	17062	11	31000	17463
	TP	MASK1	Q	00123	17063	11	17446	31000
	QS	A	REEW0	00124	17064	53	32000	17441
	REV	4	L+2	00125	17065	75	10004	17067
	QS	REEW0	R+INT	00126	17066	53	17441	17442
	EF		REEW0	00127	17067	17	00000	17441
	TP	V1	BLK	00130	17070	11	17422	17462
	TP	NBLK	A	00131	17071	11	17450	32000
	SA	TWC4	15	00132	17072	32	17434	00017
	TU	A	L+2	00133	17073	15	32000	17075
	TP	VO	A	00134	17074	11	17421	32000
	ROU		TW305	00135	17075	75	20000	17157
	EJ	TMTB	TW302	00136	17076	43	17466	17077
TW302	TP	TWC3	A	00137	17077	11	17433	32000
	RA	A	BLK	00140	17100	21	32000	17462
	SS	V1	15	00141	17101	34	17422	00017
	TU	A	L+1	00142	17102	15	32000	17103
	TP	FILL	A	00143	17103	11	30000	32000
	ZJ	L+5	L+1	00144	17104	47	17111	17105
	TP	BLK	A	00145	17105	11	17462	32000
	EJ	NBLK	PREA6	00146	17106	43	17450	17412
	AT	V1	BLK	00147	17107	35	17422	17462
	MJ		TW302	00150	17110	45	00000	17077
	TP	V7777B	Q	00151	17111	11	17427	31000
	QS	BLK	MUVNF	00152	17112	53	17462	17443
	EF		MUVNF	00153	17113	17	00000	17443
	TP	BLK	A	00154	17114	11	17462	32000
	ST	V1	1STBL	00155	17115	36	17422	17464
TW303	TP	BLK	A	00156	17116	11	17462	32000
	EJ	NBLK	TW304	00157	17117	43	17450	17150
	AT	V1	BLK	00160	17120	35	17422	17462
	RA	A	TWC3	00161	17121	21	32000	17433
	SC	V1	15	00162	17122	34	17422	00017
	TU	A	L+1	00163	17123	15	32000	17124
	TP	FILL	A	00164	17124	11	30000	32000
	ZJ	L+1	L+3	00165	17125	47	17126	17130
	EF		MUV1F	00166	17126	17	00000	17445
			YES.					

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	MJ		TW303		00107 17127	45	00000	17116
	TP	PROG	A	NO.	00170 17130	11	17463	32000
	AT	V1	L+2		00171 17131	35	17422	17133
TW303A	CALL	BKREAD		READ BLOCK.	00172 17132	37	17235	17233
	B				00173 17133	00	00000	00000
	M.I		PREA7	END OF TAPE = ALARM.	00174 17134	45	00000	17415
	TP	V7777B	Q		00175 17135	11	17427	31000
	QT	1	A	CHECK BLOCK IV.	00176 17136	51	00001	32000
	RS	A	0303		00177 17137	23	32000	17430
	LTL	33	TEMP		00200 17140	22	00041	17465
	LQ	A	3		00201 17141	55	32000	00003
	AT	TEMP	TEMP		00202 17142	35	17465	17465
	EJ	BLK	L+2		00203 17143	43	17462	17145
	MJ		PREA8		00204 17144	45	00000	17417
	RJ	TW204	TW202		00205 17145	37	17056	17001
TW303B	RJ	L	L+1		00206 17146	37	17146	17147
	MJ		TW303		00207 17147	45	00000	17116
TW304	TP	NBLK	A	MOVE TAPE TO BEGIN	00210 17150	11	17450	32000
	RS	A	1STBL	WRITING.	00211 17151	23	32000	17464
	TP	V7777B	Q		00212 17152	11	17427	31000
	QS	A	MUVNB		00213 17153	53	32000	17444
	EF		MUVNB		00214 17154	17	00000	17444
	TP	1STBL	A		00215 17155	11	17464	32000
	AT	V1	BLK		00216 17156	35	17422	17462
TW305	RA	A	TW305	SEND BLOCK TO OUTPUT	00217 17157	21	32000	17433
	SS	V1	15	BUFFER.	00220 17160	34	17422	00017
	TU	A	L+1		00221 17161	15	32000	17162
	TP	FILL	A		00222 17162	11	30000	32000
	TU	A	L+3		00223 17163	15	32000	17166
	LA	A	15		00224 17164	54	32000	00017
	TU	A	L+2		00225 17165	15	32000	17167
	RFB		L+2		00226 17166	75	30000	17170
	TP	FILL	1		00227 17167	11	30000	00001
	TP	PROG	A	SETUP BKRITE PARAM.	00230 17170	11	17463	32000
	AT	V1	L+4		00231 17171	35	17422	17175
	LQ	V7777B	A+15		00232 17172	55	17427	32017
	QS	L-5	L+2		00233 17173	53	17166	17175
	CALL	BKRITE		WRITE ONE PROGRAM BLOCK	00234 17174	37	17344	17342
	B				00235 17175	00	00000	00000
	TP	BLK	A	IS LAST BLOCK WRITTEN.	00236 17176	11	17462	32000
	EJ	NBLK	L+3		00237 17177	43	17450	17202
	AT	V1	BLK	NO.	00240 17200	35	17422	17462
	MJ		TW305		00241 17201	45	00000	17157
	EF		RWINT	YES! REWIND AND	00242 17202	17	00000	17442
	PS			STOP.	00243 17203	57	00000	00000
TL101	TP	TLC1	TW303A+1	DMT TAPE LOADER.	00244 17204	11	17436	17133
	TP	IDRUMI	IDRUM	THIS ROUTINE LOADS THE	00245 17205	11	17451	17457
	TP	CRMAX	ICORE	PROGRAM AT THE BEGINNING	00246 17206	11	17447	17460
	TP	V2	BLK	OF EACH RUN.	00247 17207	11	17423	17462
	RJ	TW303B	TW303A	LOAD OUTPUT ROUTINE.	00250 17210	37	17146	17132
	SP	WDCT	15	STORE OUTPUT ROUTINE	00251 17211	31	17461	00017
	TP	A	NDCT	WORD COUNT.	00252 17212	11	32000	00326
	SP	WDCT	1	SET UP AVAILABLE DRUM	00253 17213	31	17461	00001
	AT	IDRUMI	DRUM	AND CORE STORAGES.	00254 17214	35	17451	00346
	TP	TLC2	A		00255 17215	11	17437	32000
	AT	WDCT	CORE		00256 17216	35	17461	00347
	RFB	4	L+2	SET MONITOR ALARMS.	00257 17217	75	10004	17221
	TP	MJ	MEM1		00260 17220	11	17455	00342
	TP	V1	TAPE1	SET PROG. TAPE NO.	00261 17221	11	17422	00070
	CALL	BKREAD		LOAD MONITOR.	00262 17222	37	17235	17233

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	01	0	MONTR		00203	17223	01	00000	00370	NOP
	MJ		PREA7	END OF TAPE STOP.	00204	17224	45	00000	17415	
	TP	V4	BLOCK	SET PROG. TP. BLOCK CT.	00205	17225	11	17425	00325	
	TP	MONTR	A		00206	17226	11	00370	32000	
	EJ	MONID	L+2	CHECK BLOCK ID.	00207	17227	43	17456	17231	
	MJ		PREA8		00270	17230	45	00000	17417	
	ROV	4095	MONTR+1	CLEAR CORE 2 AND	00271	17231	75	17777	00371	
	TP	VO	10000B)	TRANSFER CONTROL TO MON	00272	17232	11	17421	10000	
BKREAD	MJ		START	READ BLOCK ON TAPE TT	001	00273	17233	45	00000	17237
	MS			ERRON EXIT	002	00274	17234	56	00000	00000
EXIT	MJ		FILL	NORMAL EXIT	003	00275	17235	45	00000	30000
PAR1					004	00276	17236	00	00000	00000
START	SP	EXIT	15		005	00277	17237	31	17235	00017
	TU	A	L+1		006	00300	17240	15	32000	17241
	TP	FILL	PAR1		007	00301	17241	11	30000	17236
	LO	PAR1	A+8		008	00302	17242	55	17236	32006
	QJ	BWD	FWD		009	00303	17243	44	17244	17250
BWD	TP	KON1	MODIFY		010	00304	17244	11	17337	17276
	TP	RDFWD	RDVBLK		011	00305	17245	11	17334	17327
	TP	MOVFN0	MOVE		012	00306	17246	11	17335	17330
	MJ		SHIFT		013	00307	17247	45	00000	17253
	TP	KON2	MODIFY		014	00310	17250	11	17346	17276
FWD	TP	RDFWD	RDVBLK		015	00311	17251	11	17333	17327
	TP	MOVBAC	MOVE		016	00312	17252	11	17336	17330
SHIFT	LO	Q	A+11		017	00313	17253	55	31000	32013
	QJ	L+1	L+3		018	00314	17254	44	17255	17257
	TV	ENDING	ENDTP		019	00315	17255	16	17323	17310
	MJ		L+2		020	00316	17256	45	00000	17260
	TV	ENDER	ENDTP		021	00317	17257	16	17324	17310
	LO	V17B	A+12		022	00320	17260	55	17426	32014
	SP	PAR1	54		023	00321	17261	31	17236	00066
	QS	A	RDVBLK		024	00322	17262	53	32000	17327
	QS	A	MOVE		025	00323	17263	53	32000	17330
ROVAR	EF		NORMAL	SET NORMAL BIAS	026	00324	17264	17	00000	17325
	TP	V2	INDEX	SET BIAS INDEX	027	00325	17265	11	17423	17331
ENT	TV	PAR1	RA		028	00326	17266	16	17236	17275
	EF		RDVBLK	START TAPE	029	00327	17267	17	00000	17327
RO	E00		A	READ IOA	030	00320	17270	76	00000	32000
	EJ	V1	PARITY	TEST PARITY ERROR	031	00321	17271	43	17422	17300
	EJ	V2	ENDBLK	TEST END OF BLOCK	032	00322	17272	43	17423	17302
	EJ	V3	MOD6	TEST MOD6 ERROR	033	00323	17273	43	17424	17306
	EJ	V4	ENDTP	TEST END OF TAPE	034	00324	17274	43	17425	17310
RA	E01		FILL	READ WORD AND	035	00325	17275	76	10000	30000
MODIFY	RA	L-1	V1	BUMP READ ADDRESS	036	00326	17276	21	17275	17422
	MJ		RO	READ NEXT WORD	037	00327	17277	45	00000	17270
PARITY	TV	PARTN	DUM	SET DUMMY SWITCH TO	038	00340	17300	16	17313	17303
	MJ		RA	EXECUTE PARITY ROUTINE	039	00341	17301	45	00000	17275
ENDBLK	EF		STOFTP	END OF BLOCK STOP TAPE	040	00342	17302	17	00000	17332
DUM	RJ	L	L+1	PARITY SWITCH	041	00343	17303	37	17303	17304
EXITS	RA	EXIT	V2		042	00344	17304	21	17235	17423
	MJ		EXIT		043	00345	17305	45	00000	17235
MOD6	EF		STOFTP	MOD 6 ERROR STOP TAPE	044	00346	17306	17	00000	17332
	MJ		M6RERO	AND GOTO REPOS ROUTINE	045	00347	17307	45	00000	17321
ENDTP	MJ		FILL		046	00320	17310	45	00000	30000
	RA	EXIT	V1		047	00321	17311	21	17235	17422
	MJ		EXIT		048	00322	17312	45	00000	17235
PARTN			L+1	ADDRESS FOR PARITY ROUT	049	00323	17313	00	00000	17314
	IJ	INDEX	L+2	TEST BIAS INDEX	050	00324	17314	41	17331	17316
	TP	V2	INDEX	RESET BIAS INDEX TO ROCK	051	00325	17315	11	17423	17331
	LA	A	12	POSITION RESULT OF IJ	052	00326	17316	54	32000	00014

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	AT	LOBIAS	A	FORM NEW BIAS CODE	053	00327	17317	35	17326	32000
	EF		A	CHANGE BIAS	054	00360	17320	17	00000	32000
M6RERD	EF		MOVE	MOVE BACK ONE BLOCK	055	00361	17321	17	00000	17330
ENDTP1	M.J		ENT	REREAD THE BLOCK	056	00362	17322	45	00000	17266
ENDING			ENDTP1		057	00363	17323	00	00000	17322
ENDER			ENDTP+1		058	00364	17324	00	00000	17311
NORMAL	B	020000150000		NORMAL BIAS EF CODE	059	00365	17325	02	00001	50000
LOBIAS	B	020000160000		LOW BIAS EF CODE	060	00366	17326	02	00001	60000
R0VBLK	B	020006230000		EF CODE VBL BLK RD ON 3	061	00367	17327	02	00062	30000
MOVE	B			EF VBL BLK RD ON 3	062	00370	17330	00	00000	00000
INDEX	B				063	00371	17331	00	00000	00000
STOPTP	B	020000000000		EF CODE STOP TAPE	064	00372	17332	02	00000	00000
RDFWD	B	020006230000			065	00373	17333	02	00062	30000
RDBWD	B	020007230000			066	00374	17334	02	00072	30000
MOVFWO	B	020006430000			067	00375	17335	02	00064	30000
MOVBAO	B	020007430000			068	00376	17336	02	00074	30000
KON1	RS	RA	V1		069	00377	17337	23	17275	17422
KON2	RA	RA	V1		070	00400	17340	21	17275	17422
REWIND	B	020020030000			071	00401	17341	02	00200	30000
BKRITE	MJ		START1	WRITE BLOCK ON TAPE TT	001	00402	17342	45	00000	17346
	MS			ERROR EXIT	002	00403	17343	56	00000	00000
EXIT1	MJ		FILL	NORMAL EXIT	003	00404	17344	45	00000	30000
PARA1					004	00405	17345	00	00000	00000
START1	SP	EXIT1	15		005	00406	17346	31	17344	00017
	TU	A	L+1		006	00407	17347	15	32000	17350
	TP	FILL	PARA1		007	00410	17350	11	30000	17345
	LQ	V7777B	A+15		008	00411	17351	55	17427	32017
	QS	PARA1	W1	SETUP N	009	00412	17352	53	17345	17360
	TV	PARA1	W2	SETUP EW	010	00413	17353	16	17345	17361
	LQ	V17B	A+12		011	00414	17354	55	17426	32014
	SP	PARA1	54		012	00415	17355	31	17345	00066
	QS	A	WRVBLK		013	00416	17356	53	32000	17365
WRVAR	EF		WRVBLK	START TAPE	014	00417	17357	17	00000	17365
W1	REV		L+2	WRITE	015	00420	17360	75	10000	17362
W2	EW1		FILL	N WORDS	016	00421	17361	77	10000	30000
	EF		PTPOTS	STOP TAPE		00422	17362	17	00000	17366
	RA	EXIT1	V1		018	00423	17363	21	17344	17422
	M.J		EXIT1		019	00424	17364	45	00000	17344
WRVBLK	B	020006600000		EF CODE VB WRITE FWD		00425	17365	02	00066	00000
PTPOTS	B	020009000000		EF CODE STOP TAPE		00426	17366	02	00000	00000
PREA1	RJ	ALARM1	L+1	PROGRAM LENGTH GREATER		00427	17367	37	17770	17370
	MS		ALARM1	THAN 4095 WORDS. NO REC.		00420	17370	56	00000	17770
PREA2	RJ	ALARM2	L+2	INSUFFICIENT TEMP.		00421	17371	37	17771	17373
	M.J		TW204-2	STORAGE. IGNORE PROGRAM		00422	17372	45	00000	17054
	MS		ALARM2	JUST LOADED.		00423	17373	56	00000	17771
PREA3	RJ	ALARM3	L+7	BLOCK ID OF PROGRAM		00424	17374	37	17772	17403
	TP	TW203+1	A	JUST LOADED IS LESS THAN		00425	17375	11	17027	32000
	TJ	TWC5	L+3	1. IGNORE THIS PROGRAM.		00426	17376	42	17435	17401
	RS	IDRUM	WUCT			00427	17377	23	17457	17461
	M.J		TW204-2			00440	17400	45	00000	17054
	RS	ICORE	WUCT			00441	17401	23	17460	17461
	M.J		TW204-2			00442	17402	45	00000	17054
	MS		ALARM3			00443	17403	56	00000	17772
PREA4	RJ	ALARM4	L+2			00444	17404	37	17773	17406
	MJ		PREA3+1	IGNORE PROGRAM JUST		00445	17405	45	00000	17375
	MS		ALARM4	LOADED.		00446	17406	56	00000	17773
PREA5	RJ	ALARM5	L+2	SYMBOLIC PROG. LOADED		00447	17407	37	17774	17411
	MJ		TW203A	MORE THAN ONCE ACCEPT		00420	17410	45	00000	17050
	MS		ALARM5	LATEST.		00421	17411	56	00000	17774
PREA6	RJ	ALARM6	L+2	NO PROGRAMS LOADED FROM		00422	17412	37	17775	17414

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	MJ		TW204-2	SYMBOLIC.	00423	17413	45	00000	17054
	MS		ALARM6		00424	17414	56	00000	17775
PREA7	RJ	ALARM7	L+1	END OF PROG. TAPE.	00425	17415	37	17776	17416
	MS		ALARM7	NO RECOVERY.	00426	17416	56	00000	17776
PREA8	RJ	ALARM8	L+1	ERROR IN BLOCK NO.	00427	17417	37	17777	17420
	MS		ALARM8	NO RECOVERY.	00428	17420	56	00000	17777
V0	B			CONSTANTS.	00429	17421	00	00000	00000
V1	B	1			00422	17422	00	00000	00001
V2	B	2			00423	17423	00	00000	00002
V3	B	3			00424	17424	00	00000	00003
V4	B	4			00425	17425	00	00000	00004
V17B	B	17			00426	17426	00	00000	00017
V7777B	B	7777			00427	17427	00	00000	07777
O303	B	303			00470	17430	00	00000	00303
TWC1	S	12287			00471	17431	00	00000	27777
TWC2	B12	3			00472	17432	00	00000	30000
TWC3	00	0	TMTA		00473	17433	00	00000	17466
TWC4	B12	2			00474	17434	00	00000	20000
TWC5	TP	1	40000B)		00475	17435	11	00001	40000
TLC1	B	10000000001			00476	17436	01	00000	00001
TLC2	00	0	ELOC		00477	17437	00	00000	01400
MASK1	S	170000			00500	17440	00	00001	70000
REPWD	B21	2002			00501	17441	02	00200	00000
R#INT	B21	2004			00502	17442	02	00400	00000
MUVNF	B15	200004			00503	17443	02	00064	00000
MUVNB	B15	200074			00504	17444	02	00074	00000
MUVIF	B	020006400001			00505	17445	02	00064	00001
DRMAX	S	77777			00506	17446	00	00000	77777
CRMAX	00	0	TW201-1		00507	17447	00	00000	16777
NBLK	00	0	PGMX		00510	17450	00	00000	00016
IDRUMI	00	0	PRDRM		00511	17451	00	00000	50000
ICOREI	00	0	10000B)		00512	17452	00	00000	10000
ST11	MJ		TW201		00513	17453	45	00000	17000
ST31	MJ		TW301		00514	17454	45	00000	17000
MJ	MJ		FILL		00515	17455	45	00000	30000
MONID	X53	DMM 03			00516	17456	27	47470	00306
IDRUM	B				00517	17457	00	00000	00000
ICORE	B				00520	17460	00	00000	00000
WOCT	B				00521	17461	00	00000	00000
BLK	B				00522	17462	00	00000	00000
PROG	B				00523	17463	00	00000	00000
1STBL	B				00524	17464	00	00000	00000
TEMP	B				00525	17465	00	00000	00000
TMTB	RSRV	20	20		00526	17466			
PRGND	X53	DMM 01			00522	17512	27	47470	00304
	SFTL		S						
TW103	TP	L+7	A		00553		11	00562	32000
	RS	A	L+7		00554		23	32000	00563
	RA	A	L+7		00555		21	32000	00564
	TI	A	TW101+3		00556		15	32000	00011
	RJ	TW102	TW101		00557		37	00036	00006
	MJ		TW202		00550		45	00000	17001
	B				00561		00	00000	00000
	00	PRGND			00562		00	17512	00000
	00	TW201			00563		00	17000	00000
	B27	3			00564		00	30000	00000
	SFTL		10B)						
IDEN					00565	00010	00	00000	00000
N					00566	00011	00	00000	00000
I					00567	00012	00	00000	00000

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B					00570 00013	00 00000 00000
R		0000	0000		0006 00571 00014	00 00000 00000
S		0000	0000		0007 00572 00015	00 00000 00000
Y					00573 00016	00 00000 00000
INF1		0000	0000		0008 00574 00017	00 00000 00000
INF2		0000	0000		0009 00575 00020	00 00000 00000
INF3		0000	0000		0010 00576 00021	00 00000 00000
INF4		0000	0000		0011 00577 00022	00 00000 00000
INF5		0000	0000		0012 00600 00023	00 00000 00000
INF6		0000	0000		0013 00601 00024	00 00000 00000
INF7		0000	0000		0014 00602 00025	00 00000 00000
INF8		0000	0000		0015 00603 00026	00 00000 00000
INF9		0000	0000		0016 00604 00027	00 00000 00000
INF10		0000	0000		0017 00605 00030	00 00000 00000
INF11		0000	0000		0018 00606 00031	00 00000 00000
INF12		0000	0000		0019 00607 00032	00 00000 00000
RHO		0000	0000		0020 00610 00033	00 00000 00000
VAR1				FX-CHANGE CON,MESH,PB	0021 00611 00034	00 00000 00000
KXK				FX-REGION INDEX	0022 00612 00035	00 00000 00000
NOM				FX-ISOTOPE INDEX	00613 00036	00 00000 00000
PSUBO	F	0000	0000		00614 00037	00 00000 00000
YSUBX	F	3.12	13	FISSIONS-KW+SEC	00615 00040	00 00000 00000
YSUBI	F	5.6	-2	XE135 ATOMS-FISSION	0023 00616 00041	00 00000 00000
YSUBP	F	1.4	-2	I135 ATOMS-FISSION	00617 00042	25 57060 12073
LAMXE	F	2.1	-5	PR149 ATOMS-FISSION	00620 00043	17 06111 56457
LAMI	F	2.9	-5	PR149 ATOMS-FISSION	00621 00044	17 47126 01014
LAMPR	F	4.1	-6	PR149 ATOMS-FISSION	00622 00045	17 27126 01014
RZERO	F			PROR-SEC DECAY XE135	00623 00046	16 15402 84501
TIME	F			PROR-SEC DECAY I135	00624 00047	16 17464 24065
EPSTL	F	.00001		PROR-SEC DECAY PR149	00625 00050	15 74231 12733
EPS2	F	.00001			00626 00051	00 00000 00000
EPS3	F	.00001		0 FIRST MESH POINT	00627 00052	00 00000 00000
EPS4	F	.00001		0 CURRENT TIME	00620 00053	00 00000 00000
K0	F	1.0		.00001 CONV CRIT REAC	00621 00054	16 05174 26542
OMEGA	F			.00001 CONV CRIT POWER	00622 00055	16 05174 26542
DZDK	F	1.0		.00001 CONV CRIT KZERO	00623 00056	16 05174 26542
QQ	F	0000	0000	.00001	00624 00057	16 05174 26542
DELTS	F			1.0 DESIRED REACTIVITY	00625 00060	20 14000 00000
DTMAX	F			DIFF. ACCEL. FACTOR	00626 00061	00 00000 00000
TAPE1	B	1		DZDK FIRST GUESS	00627 00062	20 14000 00000
TAPE2	B	2		POWER DENSITY KW-CM3	0036 00640 00063	00 00000 00000
TAPE3	B	3		TIME SINCE SHUTDOWN SEC	00641 00064	00 00000 00000
TAPE4	B	4			00642 00065	00 00000 00000
TAPE5	B	5		PROGRAM TAPE	00643 00066	00 00000 00000
TAPE6	B	6		BASIC LIBRARY TAPE	00644 00067	00 00000 00000
TAPE7	B	7		MICRO GROUP TAPE NEW	00645 00070	00 00000 00001
TAPE8	B	10		NUCLEAR CONSTANT TAPE	00646 00071	00 00000 00002
TAPE9	B	11		MICRO GROUP TAPE OLD	00647 00072	00 00000 00003
TAPE10	B	12		RAW DATA TAPE	00620 00073	00 00000 00004
DIA1		0000	0000	INTERMEDIATE TAPE	00621 00074	00 00000 00005
DIA2		0000	0000	OUTPUT TAPE	00622 00075	00 00000 00006
DIA3		0000	0000	DUMP TAPE	00623 00076	00 00000 00007
DIA4		0000	0000	DUM SERVICE LIBRARY	00624 00077	00 00000 00010
					00625 00100	00 00000 00011
					00626 00101	00 00000 00012
					0045 00627 00102	00 00000 00000
					0046 00600 00103	00 00000 00000
					0047 00601 00104	00 00000 00000
					0048 00602 00105	00 00000 00000
					0049 00603 00106	00 00000 00000

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TABLE V-2A  
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DIA5		0000	0000	0050	00604	00107	00	00000	00000
DIA6		0000	0000	0051	00605	00110	00	00000	00000
DIA7		0000	0000	0052	00606	00111	00	00000	00000
DIA8		0000	0000	0053	00607	00112	00	00000	00000
DIA9		0000	0000	0054	00610	00113	00	00000	00000
DIA10		0000	0000	0055	00611	00114	00	00000	00000
DIA11		0000	0000	0056	00612	00115	00	00000	00000
DIA12		0000	0000	0057	00613	00116	00	00000	00000
DIA13		0000	0000	0058	00614	00117	00	00000	00000
DIA14		0000	0000	0059	00615	00120	00	00000	00000
DIA15		0000	0000	0060	00616	00121	00	00000	00000
DIA16		0000	0000	0061	00617	00122	00	00000	00000
DIA17		0000	0000	0062	00700	00123	00	00000	00000
DIA18		0000	0000	0063	00701	00124	00	00000	00000
					00702	00125	00	00000	00000
					00703	00126			
LISOP	RSRV	3	3		00706	00131			
LENGY	RSRV	3	3		00711	00134			
LAKBK	RSRV	3	3		00714	00137			
LRDIF	RSRV	3	3		00717	00142			
LPTS	RSRV	3	3		00722	00145			
LREGN	RSRV	3	3		00725	00150			
LBSUO	RSRV	3	3		00730	00153			
LBSUN	RSRV	3	3		00733	00156			
LPHI	RSRV	3	3		00736	00161			
LCAPP	RSRV	3	3		00741	00164			
LPBKI	RSRV	3	3		00744	00167			
LSFKI	RSRV	3	3		00747	00172			
LMESH	RSRV	3	3		00752	00175			
LBRMX	RSRV	3	3		00755	00200			
LPHKI	RSRV	3	3		00760	00203			
LNSMT	RSRV	3	3		00763	00206			
LNXET	RSRV	3	3		00766	00211			
LCAPD	RSRV	3	3		00771	00214			
LCAPT	RSRV	3	3		00774	00217			
LCPTI	RSRV	3	3		00777	00222			
LCAPF	RSRV	3	3		01002	00225			
LXKI	RSRV	3	3		01005	00230			
LMFKI	RSRV	3	3		01010	00233			
LPDIF	RSRV	3	3		01013	00236			
LXPXE	RSRV	3	3		01016	00241			
LLKIA	RSRV	3	3		01021	00244			
LLKIB	RSRV	3	3		01024	00247			
LNFKI	RSRV	3	3		01027	00252			
LNLP	RSRV	3	3		01032	00255			
LNSKI	RSRV	3	3		01035	00260			
LNDKI	RSRV	3	3		01040	00263			
LNFP	RSRV	3	3		01043	00266			
LNCKI	RSRV	3	3		01046	00271			
LNPKI	RSRV	3	3		01051	00274			
LNKE	RSRV	3	3		01054	00277			
LNKL	RSRV	3	3		01057	00302			
LSHUF	RSRV	3	3		01062	00305			
CRC01	B				01065	00310	00	00000	00000
Z3	RSRV	3	3		01066	00311			
Z2	RSRV	3	3		01071	00314			
Z1	RSRV	3	3		01074	00317			
Z					01077	00322	00	00000	00000
DELTA	F			CURRENT RZ-DK	01100	00323	00	00000	00000
MU				CURRENT REACTIVITY	01101	00324	00	00000	00000

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TABLE V-2A  
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BLOCK	B				01102	00325	00	00000	00000
NOC1	B				01103	00326	00	00000	00000
MNO01	B			PRINT ROUTINE WORD COUNT	01104	00327	00	00000	00000
MNO02	B			CONTROL WORD DIFF. MON.	01105	00330	00	00000	00000
SUBR	RSRV	9		CONTROL WORD ADJ. MON.	01106	00331			
MLM1	RSRV	4		SUBROUTINE EQUIVALENCES	01117	00342			
DRUM	B			MONITOR ALARMS	01123	00346	00	00000	00000
MINCE	B			FIRST TEMP DRUM STORAGE	01144	00347	00	00000	00000
ISO				FIRST TEMP CORE STORAGE	01125	00350	00	00000	00000
MARK1				XE+SM ISOTOPE NUMBER	01146	00351	00	00000	00000
MARK2				CONTROL WORD XE+SM CONC	01147	00352	00	00000	00000
K3					01120	00353	00	00000	00000
STAGAT					01121	00354	00	00000	00000
INDEXS					01122	00355	00	00000	00000
DTWICE					01123	00356	00	00000	00000
ADMCFE	RSRV	3			01124	00357			
1STBP					01127	00362	00	00000	00000
DELTAT					01140	00363	00	00000	00000
PGMX	EQLS	1681							
STOP1	EQLS	17766B)							
STOP3	EQLS	17767B)							
ALARM1	EQLS	17770B)							
ALARM2	EQLS	17771B)							
ALARM3	EQLS	17772B)							
ALARM4	EQLS	17773B)							
ALARM5	EQLS	17774B)							
ALARM6	EQLS	17775B)							
ALARM7	EQLS	17776B)							
ALARM8	EQLS	17777B)							
PRDRM	EQLS	50000B)							
CORE	EQLS	MINCE							
ELOC	EQLS	1400B)							
MONITR	EQLS	370B)							
END									

00000  
00000

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TABLE V-2B

OUTPUT

ROUTINE	SETL	1400R)	OUTPUT ROUTINE				
PRNT	XS3 UMM 02			00001	01400	27	47470 00309
		L+3	DMM OUTPUT ROUTINES.	00002	01401	45	00000 01404
		L+1		00003	01402	56	00000 01403
		FILL	SETUP ENTRANCE TO	00004	01403	45	00000 30000
	TP PRNT1	A	ROUTINE CALLED.	00005	01404	11	01411 32000
	AT ↓	L+1		00006	01405	35	31000 01406
	TP FILL	L+1		00007	01406	11	30000 01407
	RJ FILL	FILL		00010	01407	37	30000 30000
PRNT1	MJ	PRNT+2		00011	01410	45	00000 01403
	TP L	L-2		00012	01411	11	01411 01407
	CALL PR1		ENTRANCES TO THE OUTPUT	00013	01412	37	01424 01422
	CALL PR2		ROUTINES.	00014	01413	37	01441 01437
	CALL PR3			00015	01414	37	01754 01752
	CALL PR4			00016	01415	37	02225 02223
	CALL PR5			00017	01416	37	02344 02342
	MS	PRNT+2	(NOT USED).	00020	01417	56	00000 01403
	CALL PR7			00021	01420	37	02471 02467
	CALL PR8			00022	01421	37	03113 03111
PR1	MJ	L+3	DIFFUSION OUTPUT	00023	01422	45	00000 01425
	MS	L+1	ROUTINE (1).	00024	01423	56	00000 01424
	MJ	FILL		00025	01424	45	00000 30000
	TP V1	A	CALL AS FOLLOWS-	00026	01425	11	05012 32000
	TJ MN001	PR101	L CALL PR1	00027	01426	42	00327 01430
	CALL PR1S1		L+1 (RETURN)	00030	01427	37	01470 01466
PR101	CALL PR1S3			00031	01430	37	01512 01510
	TP PRAC9	Q		00032	01431	11	03701 31000
	SP TAPFB	30		00033	01432	31	00077 00036
	QS A	PR2C5		00034	01433	53	32000 01750
	TP PR2C5	Q		00035	01434	11	01750 31000
	CALL PREDIT			00036	01435	37	03743 03741
PR2	MJ	PR1+2	EXIT	00037	01436	45	00000 01424
	MJ	L+3	DIFFUSION OUTPUT	00040	01437	45	00000 01442
	MS	L+1	ROUTINE (2).	00041	01440	56	00000 01441
	MJ	FILL		00042	01441	45	00000 30000
	TP INF5	A	CALL AS FOLLOWS-	00043	01442	11	00024 32000
	ZJ PR201	L+1	L CALL PR2	00044	01443	47	01460 01444
	CALL PR1S1		L+1 (RETURN)	00045	01444	37	01470 01466
	CALL PR1S3			00046	01445	37	01512 01510
	TP PRAC9	Q	SET TAPE NUMBER.	00047	01446	11	03701 31000
	SP TAPFB	30		00050	01447	31	00077 00036
	QS A	PR2C1		00051	01450	53	32000 01733
	QS PR2C1	PR2C2		00052	01451	53	01733 01734
	TP PR2C1	Q	PRINT POWER RESIDUALS.	00053	01452	11	01733 31000
	CALL PREDIT			00054	01453	37	03743 03741
	TP PR2C2	Q		00055	01454	11	01734 31000
	CALL PREDIT			00056	01455	37	03743 03741
	TP LPDIF	Q		00057	01456	11	00233 31000
PR201	CALL PR1S6		TRANSMIT LAS LINES OF	00060	01457	37	01560 01556
	TP PRAC9	Q	OUTPUT TO TAPE.	00061	01460	11	03701 31000
	SP TAPFB	30		00062	01461	31	00077 00036
	QS A	PR2C5		00063	01462	53	32000 01750
	TP PR2C5	Q		00064	01463	11	01750 31000
	CALL PREDIT			00065	01464	37	03743 03741
	MJ	PR2+2	EXIT.	00066	01465	45	00000 01441
PR1S1	MJ	L+3	SUBROUTINES FOR PR1, PR2	00067	01466	45	00000 01471
	MJ	L+1		00070	01467	45	00000 01470
	MJ	FILL	1. PRINT TITLE.	00071	01470	45	00000 30000
	TP MN002	A		00072	01471	11	00330 32000

TABLE V-2B  
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	ZJ	L+1	PRIS11	00073	01472	47	01473	01477
	RFB	2	L+2	00074	01473	75	30002	01475
	TP	PRIC3	PRIC1+3	00075	01474	11	01630	01622
	TP	VO	MN002	00076	01475	11	05011	00330
	MJ		PRIS12	00077	01476	45	00000	01501
PRIS11	RFB	2	L+2	00100	01477	75	30002	01501
	TP	PRIC2	PRIC1+3	00101	01500	11	01626	01622
PRIS12	TP	PRAC9	Q	00102	01501	11	03701	31000
	SP	TAPE8	30	00103	01502	31	00077	00036
	QS	A	PRIC4	00104	01503	53	32000	01632
	TP	PRIC4	Q	00105	01504	11	01632	31000
	CALL	PREDIT		00106	01505	37	03743	03741
	CALL	PRB		00107	01506	37	03710	03706
	MJ		PRIS1+2	00110	01507	45	00000	01470
PRIS3	MJ	L+3	2. PRINT K, PHI AND	00111	01510	45	00000	01513
	MS	L+1	POWER.	00112	01511	56	00000	01512
	MJ	FILL		00113	01512	45	00000	30000
	TP	Q		00114	01513	11	03701	31000
	SP	PRAC9		00115	01514	31	00077	00036
	QS	TAPE8		00116	01515	53	32000	01733
	RPV	A	PR2C1	00117	01516	75	10004	01520
	QS	4	L+2	00140	01517	53	01733	01637
	TP	PR2C1	PRIC7	00141	01520	11	01733	31000
	CALL	PR2C1	Q	00142	01521	37	03743	03741
	CALL	PREDIT		00143	01522	11	01642	31000
	TP	PRIC9+1	Q	00144	01523	37	03743	03741
	CALL	PREDIT	PRINT ITERATION COUNT.	00145	01524	11	01733	31000
	TP	PR2C1	Q	00146	01525	37	03743	03741
	CALL	PREDIT		00147	01526	11	01637	31000
	TP	PRIC7	Q	00148	01527	37	03743	03741
	CALL	PREDIT	PRINT K.	00149	01527	37	03743	03741
	TP	PR2C1	Q	00151	01530	11	01733	31000
	CALL	PREDIT		00152	01531	37	03743	03741
	TP	PRIC8	Q	00153	01532	11	01640	31000
	CALL	PREDIT	PRINT P HEADINGS.	00154	01533	37	03743	03741
	TP	LCAPR	Q	00155	01534	11	00161	31000
	CALL	PRIS6		00156	01535	37	01560	01556
	TP	PR2C1	Q	00157	01536	11	01733	31000
	CALL	PREDIT		00140	01537	37	03743	03741
	TP	PRIC9	Q	00141	01540	11	01641	31000
	CALL	PREDIT	PRINT PHI HEADING.	00142	01541	37	03743	03741
	RFB	4	L+2	00143	01542	75	30004	01544
	TP	PRIC15	PRCOM+3	00144	01543	11	01714	05043
	RPV	3	L+2	00145	01544	75	10003	01546
	TP	VO	PRCOM	00146	01545	11	05011	05040
	TU	LPHI+1	PRCOM	00147	01546	15	00157	05040
	SP	I	15	00150	01547	31	00012	00017
	TU	A	PRCOM+1	00151	01550	15	32000	05041
	SP	N		00152	01551	31	00011	00000
	SA	VI	15	00153	01552	32	05012	00017
	TU	A	PRCOM+2	00154	01553	15	32000	05042
	CALL	PRA	PRINT PHI.	00155	01554	37	03522	03520
	MJ		PRIS3+2	00156	01555	45	00000	01512
PRIS6	MJ	L+3	3 SET UP AND PRINT	00157	01556	45	00000	01561
	MS	L+1	P MATRIX.	00100	01557	56	00000	01560
	MJ	FILL		00101	01560	45	00000	30000
	TP	VO	PRCOM+2B	00102	01561	11	05011	05074
	TU	Q	PRCOM+2B	00103	01562	15	31000	05074
	TP	U1	PRCOM+1	00104	01563	11	05005	05041
	TP	U1	PRCOM+31	00105	01564	11	05005	05077
	TP	VO	PRCOM+30	00106	01565	11	05011	05076

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TABLE V-2B  
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	TU	LREGN	PR1561	00197	01566	15	00145	01573
	RPB	2	L+2	00170	01567	75	30002	01571
	TP	PR1C16	PRCOM+3	00171	01570	11	01720	05043
	RPB	2	L+2	00172	01571	75	30002	01573
	TP	PR1C15+2	PRCOM+5	00173	01572	11	01716	05045
PR1561	SP	FILL	15	00174	01573	31	30000	00017
	TP	A	PRCOM+29	00175	01574	11	32000	05075
	RA	A	U1	00176	01575	21	32000	05005
	ST	PRCOM+30	PRCOM+2	00177	01576	36	05076	05042
	TP	PRCOM+28	PRCOM	00200	01577	11	05074	05040
	CALL	PRA		00201	01600	37	05222	05220
	LU	PRCOM+31	A+21	00202	01601	55	05077	32025
	EJ	K	PR156+2	00203	01602	43	00014	01560
	LA	A	15	00204	01603	54	32000	00017
	AT	U1	PRCOM+31	00205	01604	35	05005	05077
	TP	PRCOM+29	PRCOM+30	00206	01605	11	05075	05076
	RA	PR1561	U1	00207	01606	24	01573	05005
	RA	PRCOM+28	PRCOM+2	00210	01607	21	05074	05042
	SP	PRCOM+4	30	00211	01610	31	05044	00036
	CALL	PRAS1		00212	01611	37	05621	05617
	TP	A	PRCOM+4	00213	01612	11	32000	05044
	SP	PRCOM+25	1	00214	01613	31	05071	00001
	AT	PR1C17	L+1	00215	01614	35	01722	01615
	TP	FILL	PRCOM+6	00216	01615	11	30000	05046
	MJ		PR1561	00217	01616	45	00000	01573
PR1C1	XS3	RE		00220	01617	00	00000	05430
	XS3	SULTS		00221	01620	65	67466	66500
	XS3	OF THE		00222	01621	51	31006	63330
	XS3			00223	01622	00	00000	00000
	XS3			00224	01623	00	00000	00000
	XS3	CALCUL		00225	01624	26	24462	66746
	XS3	ATION		00226	01625	24	66345	15000
PR1C2	XS3	DIFFU		00227	01626	00	27343	13167
	XS3	SION		00230	01627	65	34515	00000
PR1C3	XS3	ADJO		00231	01630	00	00242	74451
	XS3	INT		00232	01631	34	50660	00000
PR1C4		PR1C5	1	00233	01632	00	01633	00001
PR1C5	B	100000000001		00234	01633	10	00000	00001
	00	PR1C1	4652B)	00235	01634	00	01617	04652
	00	U	5	00236	01635	00	00000	00005
PR1C6	XS3	K:		00237	01636	45	62000	00000
PR1C7		PR1C10	1	00240	01637	00	01643	00001
PR1C8		PR1C11	1	00241	01640	00	01650	00001
PR1C9		PR1C13	1	00242	01641	00	01671	00001
		PR1C18	1	00243	01642	00	01723	00001
PR1C10	00	0	2	00244	01643	00	00000	00002
	00	PR1C6	104B)	00245	01644	00	01636	00104
	00	0	5	00246	01645	00	00000	00005
	00	MU	14B)	00247	01646	00	00324	00014
	00	0	1	00250	01647	00	00000	00001
PR1C11	00	0	1	00251	01650	00	00000	00001
	00	PR1C12	6	00252	01651	00	01653	00006
	B	150000000005		00253	01652	15	00000	00005
PR1C12	XS3	SPAGE		00254	01653	00	65522	42630
	XS3	DISFR		00255	01654	00	27346	56654
	XS3	IBUTIO		00256	01655	34	25676	62451
	XS3	N OF T		00257	01656	50	00513	10066
	XS3	HE TOT		00260	01657	33	30006	65166
	XS3	AL SOU		00261	01660	24	46006	52167
	XS3	KCE -F		00262	01661	54	26300	00231

EXIT.

CONSTANTS FOR ROUTINES  
PR1 AND PR2.

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TABLE V-2B  
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	X53	MISSION		00203	01662	34	65653	45150
	X53	NEUTR		00204	01663	00	50306	76654
	X53	ONS RE		00205	01664	51	50650	05230
	X53	M CUBI		00206	01665	54	00266	72534
	X53	C CM P		00207	01666	26	00264	70052
	X53	ER SEC		00210	01667	30	54006	53026
	X53	OND		00211	01670	51	50270	00000
PRIC13	00	0	1	00212	01671	00	00000	00001
	00.	PRIC14	6	00213	01672	00	01674	00006
	B	170000000005		00214	01673	17	00000	00005
PRIC14	X53	SPACE		00215	01674	00	65522	42630
	X53	AND E		00216	01675	00	24502	70030
	X53	NERGY		00217	01676	50	30543	27300
	X53	DISTR		00300	01677	27	34656	65434
	X53	BUTION		00301	01700	25	67663	45150
	X53	OF TH		00302	01701	00	51310	06633
	X53	E FLUX		00303	01702	30	00314	66772
	X53	- NEUT		00304	01703	02	00503	06766
	X53	RONS P		00305	01704	54	51506	50052
	X53	ER SQU		00306	01705	30	54006	55367
	X53	ARE CM		00307	01706	24	54300	02647
	X53	PER S		00310	01707	00	52305	40065
	X53	EC PER		00311	01710	30	26005	23054
	X53	UNIT		00312	01711	00	67503	46600
	X53	ENERGY		00313	01712	30	50305	45273
	X53			00314	01713	00	00000	00000
PRIC15	X53	GROUP		00315	01714	00	32545	16752
	X53	001		00316	01715	00	00000	30304
	X53	MESH		00317	01716	00	47306	53300
	X53	PT 000		00320	01717	52	66000	30303
PRIC16	X53	REGIO		00321	01720	00	54303	23451
	X53	N 001		00322	01721	50	00000	30304
PRIC17	TP	PRCOM+4	PRCOM+6	00323	01722	11	05044	05046
PRIC18	00	0	2	00324	01723	00	00000	00002
	00	PRIC19	6	00325	01724	00	01730	00006
	B	20000000005		00326	01725	02	00000	00005
	00	MN001	106B)	00327	01726	00	00327	00106
	00	4000B)	2	00320	01727	00	04000	00002
PRIC19	X53	ITERA		00321	01730	00	34663	05424
	X53	TION N		00322	01731	66	34515	00050
	X53	UMBER		00323	01732	67	47253	05400
PR2C1		VO	3	00324	01733	00	05011	00003
PR2C2		PR2C3	1	00325	01734	00	01735	00001
PR2C3	00	0	1	00326	01735	00	00000	00001
	00	PR2C4	6	00327	01736	00	01740	00006
	B	70000000005		00340	01737	07	00000	00005
PR2C4	X53	CHANG		00341	01740	00	26332	45032
	X53	E IN P		00342	01741	30	00345	00052
	X53	OWER B		00343	01742	51	71305	40025
	X53	ETWEEN		00344	01743	30	66713	03050
	X53	THE L		00345	01744	00	66353	00046
	X53	AST FW		00346	01745	24	65660	06671
	X53	U ITER		00347	01746	51	00346	63054
	X53	ATIONS		00320	01747	24	66345	15065
PR2C5		PR2C6	1	00321	01750	00	01751	00001
PR2C6	B30	I		00322	01751	01	00000	00000
PR3	MJ	L+3	BURNUP OUTPUT ROUTINE	00323	01752	45	00000	01755
	MS	L+1		00324	01753	56	00000	01754
	MJ	FILL	CALLING SEQUENCE-	00325	01754	45	00000	30000
	TP	PRAC9	Q	00326	01755	11	03701	31000

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SP	TAPES	30	CALL PR3	00397 01756	31	00077	00036
QS	A	PR2C1	(RETURN)	00390 01757	53	32000	01733
QS	PR2C1	PR2C5		00391 01760	53	01733	01750
QS	PR2C1	PRAC2		00392 01761	53	01733	03642
QS	PR2C1	PRAC3		00393 01762	53	01733	03643
RPV	5	L+2		00394 01763	75	10005	01765
QS	PR2C1	PK3C1		00395 01764	53	01733	02115
TP	PR3C1	Q	PRINT PAGE TITLE.	00396 01765	11	02115	31000
CALL	PREDIT			00397 01766	37	03743	03741
CALL	PRB			00390 01767	37	03710	03706
TP	PR2C1	Q	PRINT KEY TO ISOTOPE LIST.	00371 01770	11	01733	31000
CALL	PREDIT			00372 01771	37	03743	03741
TP	PR3C2+1	Q		00373 01772	11	02117	31000
CALL	PREDIT			00374 01773	37	03743	03741
TP	PRAC2	Q		00375 01774	11	03642	31000
CALL	PREDIT			00376 01775	37	03743	03741
TP	VO	PKCOM+9		00377 01776	11	05011	05051
TV	LISOB+1	PKCOM+9		00400 01777	16	00127	05051
RPV	3	L+2		00401 02000	75	10003	02002
TP	VO	PKCOM	SETUP NO. OF COLUMNS.	00402 02001	11	05011	05040
TP	B	A		00403 02002	11	00013	32000
TJ	V11	L+11		00404 02003	42	05020	02016
TJ	V21	L+7		00405 02004	42	05024	02013
TV	V3	PR3C12	3 COLS.	00406 02005	16	05014	02211
DV	V3	PKCOM		00407 02006	73	05014	05040
TP	Q	PKCOM+2		00410 02007	11	31000	05042
TP	Q	PKCOM+1		00411 02010	11	31000	05041
TP	A	PKCOM+10		00412 02011	11	32000	05052
MJ		L+7		00413 02012	45	00000	02021
TV	V2	PK3C12	2 COLS.	00414 02013	16	05013	02211
DV	V2	PKCOM		00415 02014	73	05013	05040
MJ		L-5		00416 02015	45	00000	02010
TV	V1	PR3C12	1 COL.	00417 02016	16	05012	02211
TP	A	PKCOM		00420 02017	11	32000	05040
TP	VO	PKCOM+10		00421 02020	11	05011	05052
IJ	PRCOM+10	L+2		00422 02021	41	05052	02023
MJ		L+5		00423 02022	45	00000	02027
RA	PRCOM	V1		00424 02023	21	05040	05012
IJ	PRCOM+10	L+2		00425 02024	41	05052	02026
MJ		L+2		00426 02025	45	00000	02027
RA	PRCOM+1	V1		00427 02026	21	05041	05012
TP	VO	PKCOM+3		00430 02027	11	05011	05043
TP	PRCOM	PRCOM+4		00431 02030	11	05040	05044
TP	PRCOM	A		00432 02031	11	05040	32000
AT	PRCOM+1	PKCOM+5		00433 02032	35	05041	05045
TP	PR3C2+2	Q	PRINT TABLE OF CODED ISOTOPE NAMES.	00434 02033	11	02120	31000
CALL	PREDIT			00435 02034	37	03743	03741
TP	PRAC3	Q		00436 02035	11	03643	31000
CALL	PREDIT			00437 02036	37	03743	03741
IJ	PRCOM	L+2		00440 02037	41	05040	02041
MJ		PR302		00441 02040	45	00000	02072
TV	V3	PK3C11		00442 02041	16	05014	02166
TP	PRCOM+9	A		00443 02042	11	05051	32000
SA	PRCOM+3	15		00444 02043	32	05043	00017
TU	A	L+1		00445 02044	15	32000	02045
TP	FILL	PKCOM+6		00446 02045	11	30000	05046
RA	PRCOM+3	V1		00447 02046	21	05043	05012
IJ	PRCOM+1	L+2		00450 02047	41	05041	02051
MJ		L+15		00451 02050	45	00000	02067
RA	PR3C11	V3		00452 02051	21	02166	05014

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PR301

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	TP	PRCOM+9	A		00453	02052	11	05051	32000
	SA	PRCOM+4	15		00454	02053	32	05044	00017
	TU	A	L+1		00455	02054	15	32000	02055
	TP	FILL	PRCOM+7		00456	02055	11	30000	05047
	RA	PRCOM+4	V1		00457	02056	21	05044	05012
	IJ	PRCOM+2	L+2		00450	02057	41	05042	02061
	MJ		L+7		00451	02050	45	00000	02067
	RA	PR3C11	V3		00452	02061	21	02166	05014
	TP	PRCOM+9	A		00453	02062	11	05051	32000
	SA	PRCOM+5	15		00454	02063	32	05045	00017
	TU	A	L+1		00455	02064	15	32000	02065
	TP	FILL	PKCOM+8		00456	02065	11	30000	05050
	RA	PRCOM+5	V1		00457	02066	21	05045	05012
	TP	PR3C2+3	Q		00470	02067	11	02121	31000
	CALL	PRREDIT			00471	02070	37	03743	03741
	MJ		PR301		00472	02071	45	00000	02037
PR302	TP	PR2C1	Q		00473	02072	11	01733	31000
	CALL	PRREDIT			00474	02073	37	03743	03741
	TP	PR3C2	Q		00475	02074	11	02116	31000
	CALL	PRREDIT			00476	02075	37	03743	03741
	RPV	3	L+2		00477	02076	75	10003	02100
	TP	VO	PRCOM		00500	02077	11	05011	05040
	TU	LBRMX	PKCOM	MATRIX LOCATION.	00501	02100	15	00175	05040
	SP	B	15		00502	02101	31	00013	00017
	TU	A	PKCOM+1	NO. ROWS.	00503	02102	15	32000	05041
	SP	K	15		00504	02103	31	00014	00017
	TU	A	PKCOM+2	NO. COLS.	00505	02104	15	32000	05042
	RPB	2	L+2		00506	02105	75	30002	02107
	TP	PR3C7	PRCOM+3	ROW HEADING.	00507	02106	11	02143	05043
	RPB	2	L+2	COL. HEADING.	00510	02107	75	30002	02111
	TP	PR1C16	PKCOM+5		00511	02110	11	01720	05045
	CALL	PRA			00512	02111	37	03522	03520
	TP	PR2C5	Q		00513	02112	11	01750	31000
	CALL	PRREDIT			00514	02113	37	03743	03741
	MJ		PR3+2		00515	02114	45	00000	01754
PR3C1		PR3C3	1	CONSTANTS FOR PR3.	00516	02115	00	02122	00001
PR3C2		PR3C4	1		00517	02116	00	02125	00001
		PR3C13	1		00540	02117	00	02220	00001
		PR3C12	2		00541	02120	00	02211	00002
		PR3C11	1		00542	02121	00	02166	00001
PR3C3	B	1000000000001			00543	02122	10	00000	00001
	00	PR3C5	5344A)		00544	02123	00	02130	05344
	00	0	5		00545	02124	00	00000	00005
PR3C4	00	0	1		00546	02125	00	00000	00001
	00	PR3C6	136B)		00547	02126	00	02136	00136
	00	0	5		00550	02127	00	00000	00005
PR3C5	XS3	RESULT			00551	02130	54	30656	74666
	XS3	S OF T			00552	02131	65	00513	10066
	XS3	HE PUR			00553	02132	33	30002	56754
	XS3	WUP GA			00554	02133	50	67520	02624
	XS3	LCULAT			00555	02134	46	26674	62466
	XS3	ION			00556	02135	34	51500	00000
PR3C6	XS3	CONCEN			00557	02136	26	51502	63050
	XS3	TRATIO			00540	02137	66	54246	63451
	XS3	NS OF			00541	02140	50	65005	13100
	XS3	THE IS			00542	02141	66	33300	03465
	XS3	UTOPE5			00543	02142	51	66515	23065
PR3C7	XS3	ISOFO			00544	02143	00	34655	10651
	XS3	PE 001			00545	02144	52	30000	30304
PR3C8	XS3	KEY FO			00546	02145	45	30730	06651

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	XS3	THE L		00547	02146	00	66333	00046	
	XS3	LISTING		00550	02147	34	65663	45032	
	XS3	OF IS		00551	02150	00	51310	03465	
	XS3	OTOPES		00552	02151	51	66515	23065	
PR3C9	XS3	ORDER		00553	02152	00	51542	73054	
	XS3	OF		00554	02153	00	51310	00000	
	XS3	ISO		00555	02154	00	00003	46551	
	XS3	TOPF N		00556	02155	66	51523	00050	
	XS3	AME		00557	02156	24	47300	00000	
	XS3	APPEAR		00560	02157	24	52523	02454	
	XS3	ANCE		00561	02160	24	50263	00000	
	XS3			00562	02161	00	00000	00002	
	XS3	CODED		00563	02162	26	51273	02702	
	XS3			00564	02163	00	00000	00000	
PR3C10	XS3	ISOTOP		00565	02164	34	65516	65152	
	XS3	E		00566	02165	30	00000	00000	
PR3C11	00	0	FILL	00567	02166	00	00000	30000	
	00	PR3C10	1407B)	00570	02167	00	02164	01407	
	00	0	5	00571	02170	00	00000	00005	
	00	PRCOM+3	5	00572	02171	00	05043	00005	
	00	0	FIXIN	00573	02172	00	00000	04732	
	00	PRCOM+6	10	00574	02173	00	05046	00012	
	00	0	FIXIN	00575	02174	00	00000	04732	
	00	PR3C10	1407B)	00576	02175	00	02164	01407	
	00	0	5	00577	02176	00	00000	00005	
	00	PRCOM+4	5	00600	02177	00	05044	00005	
	00	0	FIXIN	00601	02200	00	00000	04732	
	00	PRCOM+7	10	00602	02201	00	05047	00012	
	00	0	FIXIN	00603	02202	00	00000	04732	
	00	PR3C10	1407B)	00604	02203	00	02164	01407	
	00	0	5	00605	02204	00	00000	00005	
	00	PRCOM+5	5	00606	02205	00	05045	00005	
	00	0	FIXIN	00607	02206	00	00000	04732	
	00	PRCOM+8	10	00610	02207	00	05050	00012	
	00	0	FIXIN	00611	02210	00	00000	04732	
PR3C12	00	0	FILL	00612	02211	00	00000	30000	
	05	PR3C9	1533B)	00613	02212	05	02152	01533	NOP
	00	0	5	00614	02213	00	00000	00005	
	05	PR3C9	733B)	00615	02214	05	02152	00733	NOP
	00	0	5	00616	02215	00	00000	00005	
	05	PR3C9	733B)	00617	02216	05	02152	00733	NOP
	00	0	5	00620	02217	00	00000	00005	
PR3C13	00	0	1	00621	02220	00	00000	00001	
	00	PR3C8	136B)	00622	02221	00	02145	00136	
	00	0	5	00623	02222	00	00000	00005	
PR4	MJ	L+3	XENON, SMARIUM ADDITION	00624	02223	45	00000	02226	
	MS	L+1	OUTPUT.	00625	02224	56	00000	02225	
	MJ	FILL		00626	02225	45	00000	30000	
	TP	PRAC9	Q CALLING SEQUENCE	00627	02226	11	03701	31000	
	SP	TAPE8	30	00630	02227	31	00077	00036	
	QS	A	PR2C1 CALL PR4	00631	02230	53	32000	01733	
	QS	PR2C1	PR2C5 (RETURN)	00632	02231	53	01733	01750	
	RPV	4	L+2	00633	02232	75	10004	02234	
	QS	PR2C1	PR4C1	00634	02233	53	01733	02276	
	TP	PR4C1	Q PRINT PAGE TITLE.	00635	02234	11	02276	31000	
	CALL	PREDIT		00636	02235	37	03743	03741	
	CALL	PRB		00637	02236	37	03710	03706	
	TP	PR2C1	Q PRINT TIME AFTER SHUT-	00640	02237	11	01733	31000	
	CALL	PREDIT	DOWN.	00641	02240	37	03743	03741	
	TP	PR4C3+1	Q	00642	02241	11	02301	31000	

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	CALL	PREDIT		00643	02242	37	03743	03741
	TP	PR2C1	Q	00644	02243	11	01733	31000
	CALL	PREDIT		00645	02244	37	03743	03741
	TP	PR4C2	Q	00646	02245	11	02277	31000
	CALL	PREDIT		00647	02246	37	03743	03741
	RPV	3	L+2	00648	02247	75	10003	02251
	TP	VO	PKCOM	00649	02250	11	05011	05040
	TU	LBRMX+1	PRCOM	00652	02251	15	00176	05040
	TP	UI	PKCOM+1	00653	02252	11	05005	05041
	SP	R	15	00654	02253	31	00014	00017
	TU	A	PKCOM+2	00655	02254	15	32000	05042
	RPV	2	L+2	00656	02255	75	10002	02257
	TP	PRAC8	PKCOM+3	00657	02256	11	03700	05043
	RPB	2	L+2	00660	02257	75	30602	02261
	TP	PRIC16	PKCOM+5	00661	02260	11	01720	05045
	CALL	PRA		00662	02261	37	03522	03520
	TP	PR2C1	Q	00663	02262	11	01733	31000
	CALL	PREDIT		00664	02263	37	03743	03741
	TP	PR4C3	Q	00665	02264	11	02300	31000
	CALL	PREDIT		00666	02265	37	03743	03741
	SP	R	15	00667	02266	31	00014	00017
	RA	A	LBRMX+1	00670	02267	21	32000	00176
	TU	A	PKCOM	00671	02270	15	32000	05040
	TP	PRIC16+1	PKCOM+6	00672	02271	11	01721	05046
	CALL	PRA		00673	02272	37	03522	03520
	TP	PR2C5	Q	00674	02273	11	01750	31000
	CALL	PREDIT		00675	02274	37	03743	03741
	MJ		PR4+2	00676	02275	45	00000	02225
PR4C1		PR4C4	1	00677	02276	00	02302	00001
PR4C2		PR4C5	1	00700	02277	00	02305	00001
PR4C3		PR4C6	1	00701	02300	00	02310	00001
		PR4C11	1	00702	02301	00	02335	00001
PR4C4	B	100000000001		00703	02302	10	00000	00001
	00	PR4C7	5244B)	00704	02303	00	02313	05244
	00	0	5	00705	02304	00	00000	00005
PR4C5	00	0	1	00706	02305	00	00000	00001
	00	PR4C8	130B)	00707	02306	00	02321	00130
	00	0	5	00710	02307	00	00000	00005
PR4C6	00	0	1	00711	02310	00	00000	00001
	00	PR4C9	130B)	00712	02311	00	02325	00130
	00	0	5	00713	02312	00	00000	00005
PR4C7	XS3	RESULT		00714	02313	54	30656	74666
	XS3	S OF X		00715	02314	65	00513	10072
	XS3	ENON		00716	02315	30	50515	02100
	XS3	SAMARI		00717	02316	65	24472	45434
	XS3	UM ADD		00720	02317	67	47002	42727
	XS3	ITION		00721	02320	34	66345	15000
PR4C8	XS3	XENON		00722	02321	72	30505	15000
	XS3	CONCEN		00723	02322	26	51502	63050
	XS3	TRATIO		00724	02323	66	54246	63451
	XS3	NS		00725	02324	50	65000	00000
PR4C9	XS3	SAMARI		00726	02325	65	24472	45434
	XS3	UM CON		00727	02326	67	47002	63150
	XS3	CENTRA		00728	02327	26	30506	65424
	XS3	TIONS		00729	02330	66	34515	06500
PR4C10	XS3	TIME A		00722	02331	66	34473	00024
	XS3	FTER S		00723	02332	31	66305	40065
	XS3	HUTDOW		00724	02333	33	67662	75171
	XS3	N:		00725	02334	50	62000	00000
PR4C11	00	0	2	00726	02335	00	00000	00002

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00	PR4C10	124B)		00737	02336	00	02331	00124
00	0	5		00740	02337	00	00000	00005
00	DELTS	214B)		00741	02340	00	00065	00214
00	0	1		00742	02341	00	00000	00001
PR5	MJ	L+3	CRITICALITY ADJUSTMENT	00743	02342	45	00000	02345
	MS	L+1	OUTPUT ROUTINE.	00744	02343	56	00000	02344
	MJ	FILL		00745	02344	45	00000	30000
	TP	PRAC9	CALLING SEQUENCE	00746	02345	11	03701	31000
	SP	TAPB.	30	00747	02346	31	00077	00036
	QS	A	PR2C1	00750	02347	53	32000	01733
	QS	PR2C1	PRAC3	00751	02350	53	01733	03643
	QS	PR2C1	PK2C5	00752	02351	53	01733	01750
	RPV	4	L+2	00753	02352	75	10004	02354
	QS	PR2C1	PR5C1	00754	02353	53	01733	02403
	TV	CRC01	PR5C4	00755	02354	16	00310	02406
	SN	CRC01	1	00756	02355	33	00310	00001
	SS	CRC01	15	00757	02356	34	00310	00017
	AT	PR5C16	PR5C8+3	00760	02357	35	02466	02435
	TP	PR5C1	0	00761	02360	11	024C3	31000
	CALL	PR5C1		00762	02361	37	03743	03741
	CALL	PR5C1		00763	02362	37	03710	03706
	TP	PR2C1	0	00764	02363	11	01733	31000
	CALL	PR5C1		00765	02364	37	03743	03741
	TP	PR5C2	0	00766	02365	11	02404	31000
	CALL	PR5C1		00767	02366	37	03743	03741
	TP	PR2C1	0	00770	02367	11	01733	31000
	CALL	PR5C1		00771	02370	37	03743	03741
	TP	PR5C3	0	00772	02371	11	02405	31000
	CALL	PR5C1	PRINT COL. HEADINGS.	00773	02372	37	03743	03741
	TP	PRAC3	0	00774	02373	11	03643	31000
	CALL	PR5C1		00775	02374	37	03743	03741
	TP	PR5C4	0	00776	02375	11	02406	31000
	CALL	PR5C1		00777	02376	37	03743	03741
	TP	PR2C5	0	01000	02377	11	01750	31000
	CALL	PR5C1		01001	02400	37	03743	03741
	TP	VO	CRC01	01002	02401	11	05011	00310
	MJ	PR5+2	EXIT.	01003	02402	45	00000	02344
PR5C1	PR5C5	1	PR5 CONSTANTS.	01004	02403	00	02407	00001
PR5C2	PR5C6	1		01005	02404	00	02412	00001
PR5C3	PR5C7	1		01006	02405	00	02423	00001
PR5C4	PR5C8	FILL		01007	02406	00	02432	30000
PR5C5	B	1000000000001		01010	02407	10	00000	00001
00	PR5C9	5152B)		01011	02410	00	02437	05152
00	0	5		01012	02411	00	00000	00005
PR5C6	0	4		01013	02412	00	00000	00004
00	PR5C10	133B)		01014	02413	00	02446	00133
00	0	5		01015	02414	00	00000	00005
00	K0	114B)		01016	02415	00	00060	00114
00	0	1		01017	02416	00	00000	00001
00	PR5C11	312B)		01020	02417	00	02453	00312
00	0	5		01021	02420	00	00000	00005
00	EP53	114B)		01022	02421	00	00056	00114
00	0	1		01023	02422	00	00000	00001
PR5C7	0	3		01024	02423	00	00000	00003
00	PR5C12	2501B)		01025	02424	00	02455	02501
00	0	5		01026	02425	00	00000	00005
00	PR5C13	2301B)		01027	02426	00	02456	02301
00	0	5		01030	02427	00	00000	00005
00	PR5C14	2105B)		01031	02430	00	02457	02105
00	0	5		01032	02431	00	00000	00005

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PR5C8	00	0	2	01033	02432	00	00000	00002	
	02	PR5C15	107B)	01034	02433	02	02460	00107	NOP
	00	0	5	01035	02434	00	00000	00005	
	03	FILL	1014B)	01036	02435	03	30000	01014	NOP
	B	20000000001		01037	02436	02	00000	00001	
PR5C9	XS3	RESULT		01040	02437	54	30656	74666	
	XS3	S OF T		01041	02440	65	00513	10066	
	XS3	HE CRI		01042	02441	33	30002	65434	
	XS3	TICALT		01043	02442	66	34262	44634	
	XS3	TY ABJ		01044	02443	66	73002	42744	
	XS3	USTMEN		01045	02444	67	65664	73050	
	XS3	T		01046	02445	66	00000	00000	
PR5C10	XS3	DESIRE		01047	02446	27	30653	42430	
	XS3	D VALU		01050	02447	27	00702	44667	
	XS3	E. OF K		01051	02450	30	00513	10045	
	XS3	KSUB		01052	02451	21	00456	56725	
	XS3	O: I		01053	02452	00	03210	06200	
PR5C11	XS3	TOLERA		01054	02453	55	51463	05424	
	XS3	NCEI		01055	02454	50	26306	20000	
PR5C12	XS3	Z		01056	02455	74	00000	00000	
PR5C13	XS3	K		01057	02456	45	00000	00000	
PR5C14	XS3	0Z/DK		01060	02457	27	74642	74500	
PR5C15	XS3	1ST TR		01061	02460	04	65660	06654	
	XS3	Y		01062	02461	73	00000	00000	
	XS3	2ND TR		01063	02462	05	50270	06654	
	XS3	Y		01064	02463	73	00000	00000	
	XS3	3RD TR		01065	02464	06	54270	06654	
	XS3	Y		01066	02465	73	00000	00000	
PR5C16	Q3	CRC02+9	1014B)	01067	02466	03	00322	01014	NOP
PR7	MJ		L+3	01070	02467	45	00000	02472	
	MS		L+1	01071	02470	56	00000	02471	
	MJ		FILL	01072	02471	45	00000	30000	
	TP	PRAC9	Q	01073	02472	11	03701	31000	
	SP	TAPEB	30	01074	02473	31	00077	00036	
	QS	A	PR7C1	01075	02474	53	32000	02747	
	QS	PR7C1	PR2C5	01076	02475	53	02747	01750	
	QS	PR7C1	PR7C5	01077	02476	53	02747	02764	
	QS	PR7C1	PR7C7	01100	02477	53	02747	02770	
	QS	PR7C1	PR2C1	01101	02500	53	02747	01733	
	RPV	6	L+2	01102	02501	75	10006	02503	
	QS	PR7C1	PK7C16	01103	02502	53	02747	03053	
	TP	PR7C7	Q	01104	02503	11	02770	31000	
	CALL	PREDIT		01105	02504	37	03743	03741	
	CALL	PRB		01106	02505	37	03710	03706	
	TP	PR2C1	Q	01107	02506	11	01733	31000	
	CALL	PREDIT		01110	02507	37	03743	03741	
	TP	PR7C16	Q	01111	02510	11	03053	31000	
	CALL	PREDIT		01112	02511	37	03743	03741	
	RPV	3	L+2	01113	02512	75	10003	02514	
	TP	VO	PRCOM	01114	02513	11	05011	05040	
	TU	LCAPB	PRCOM	01115	02514	15	00211	05040	
	SP	I	15	01116	02515	31	00012	00017	
	TU	A	PRCOM+1	01117	02516	15	32000	05041	
	SP	R	15	01120	02517	31	00014	00017	
	TU	A	PRCOM+2	01121	02520	15	32000	05042	
	RPB	2	L+2	01122	02521	75	30002	02523	
	TP	PR1C15	PRCOM+3	01123	02522	11	01714	05043	
	RPB	2	L+2	01124	02523	75	30002	02525	
	TP	PR1C16	PRCOM+5	01125	02524	11	01720	05045	
	CALL	PRA		01126	02525	37	03522	03520	

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	TP	PR2C1	Q	2. PRINT T(I,K).	01	27	02526	11	01733	31000
	CALL	PREDIT			01	30	02527	37	03743	03741
	TP	PR7C16+1	Q		01	31	02530	11	03054	31000
	CALL	PREDIT			01	32	02531	37	03743	03741
	TU	LCAPT	PRCOM		01	33	02532	15	00214	05040
	TP	PRIC16+1	PRCOM+6		01	34	02533	11	01721	05046
	CALL	PRA			01	35	02534	37	03522	03520
	TP	PR2C1	Q	3. PRINT X(I)	01	36	02535	11	01733	31000
	CALL	PREDIT			01	37	02536	37	03743	03741
	TP	PR7C16+2	Q		01	40	02537	11	03055	31000
	CALL	PREDIT			01	41	02540	37	03743	03741
	TU	LXI	PRCOM	MATRIX LOC.	01	42	02541	15	00225	05040
	TP	PRIC16+1	PRCOM+6		01	43	02542	11	01721	05046
	CALL	PRA			01	44	02543	37	03522	03520
	TP	I	A		01	45	02544	11	00012	32000
	TJ	V2	PR709		01	46	02545	42	05013	02715
	TP	PR2C1	Q	4. PRINT T(I,J,K).	01	47	02546	11	01733	31000
	CALL	PREDIT			01	50	02547	37	03743	03741
	TP	PR7C16+3	Q		01	51	02550	11	03056	31000
	CALL	PREDIT			01	52	02551	37	03743	03741
	RPV	29	L+2		01	53	02552	75	10035	02554
	TP	VO	PRCOM		01	54	02553	11	05011	05040
	TP	V1	PRCOM	INIT. K.	01	55	02554	11	05012	05040
	TU	LCPTI	PRCOM+1		01	56	02555	15	00217	05041
	RPB	2	L+2		01	57	02556	75	30002	02560
	TP	PRIC16	PRCOM+3		01	60	02557	11	01720	05043
	SP	I	15		01	61	02560	31	00012	00017
	ST	U1	PRCOM+28		01	62	02561	36	05005	05074
	SP	K	15		01	63	02562	31	00014	00017
	TP	A	PRCOM+38		01	64	02563	11	32000	05106
	AT	V1	PRCOM+37		01	65	02564	35	05012	05105
PR701	TP	PRAC2	Q		01	66	02565	11	03642	31000
	CALL	PREDIT			01	67	02566	37	03743	03741
	TP	PR7C5	Q		01	70	02567	11	02764	31000
	CALL	PREDIT		PRINT K.	01	71	02570	37	03743	03741
	TP	PR7C3+2	PR7C3+1	INIT. ROW HEAD.	01	72	02571	11	02761	02760
	RPV	16	L+2		01	73	02572	75	10020	02574
	TP	PR7C4	PRCOM+5		01	74	02573	11	02762	05045
	TP	PR7C4+1	PRCOM+6		01	75	02574	11	02763	05046
	TP	PRCOM+38	PRCOM+2		01	76	02575	11	05106	05042
	TP	U1	PRCOM+21		01	77	02576	11	05005	05065
	TP	V2	PRCOM+22		01	80	02577	11	05013	05066
PR702	TU	U1	PRCOM+23		01	81	02600	15	05005	05067
PR703	TP	PRCOM+21	A	TEST FOR LAST	01	82	02601	11	05065	32000
	EJ	PRCOM+28	PK704	GROUP. (J).	01	83	02602	43	05074	02620
	AT	U1	PRCOM+21	NO.	01	84	02603	35	05005	05065
	TP	PRCOM+23	A		01	85	02604	11	05067	32000
	EJ	U8	PR704	IS LINE FULL.	01	86	02605	43	05010	02620
	LA	A	1	NO.	01	87	02606	54	32000	00001
	AT	PR7C23	PR703A		01	90	02607	35	03103	02613
	RA	A	U2		01	91	02610	21	32000	05006
	LG	A	21		01	92	02611	55	32000	00025
	TV	A	PR703B		01	93	02612	16	32000	02615
PR703A	SP	FILL	30		01	94	02613	31	30000	00036
	CALL	PRAS1			01	95	02614	37	03621	03617
PR703B	TP	A	FILL	INC. COL. INDEX.	01	96	02615	11	32000	30000
	RA	PRCOM+23	U1		01	97	02616	21	05067	05005
	MJ		PR703.		01	98	02617	45	00000	02601
PR704	TP	PRAC3	Q		01	99	02620	11	03643	31000
	CALL	PREDIT			01	100	02621	37	03743	03741

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			PRINT COL. HEAD.						
	LQ	PRCOM+23	A+21		01243	02622	55	05067	32025
	RA	A	V1		01244	02623	21	32000	05012
	TV	A	PRAC6		01245	02624	16	32000	03646
	TP	PRAC4	Q		01246	02625	11	03644	31000
	CALL	PREDIT			01247	02626	37	03743	03741
	TP	PRAC3	Q		01248	02627	11	03643	31000
	CALL	PREDIT			01249	02630	37	03743	03741
	TP	VO	PRCOM+24		01252	02631	11	05011	05070
	TV	PR7C24	PR705A		01253	02632	16	03104	02656
	TV	PR7C25	PK705B		01254	02633	16	03106	02647
PR705	TU	PRCOM+1	L+3	PRINT ONE ROW	01255	02634	15	05041	02637
	TP	V7	PKERS		01256	02635	11	05016	05034
	TV	PR7C26	L+1		01257	02636	16	03110	02637
	TP	FILL	FILL		01240	02637	11	30000	30000
	RA	L-1	PRCOM+37		01241	02640	21	02637	05105
	IJ	PRERS	L-2		01242	02641	41	05034	02637
	LQ	PRCOM+24	A+15		01243	02642	59	05070	32017
	AT	V1	PK7C2+6		01244	02643	35	05012	02756
	TP	PR7C1	Q		01245	02644	11	02747	31000
	CALL	PREDIT			01246	02645	37	03743	03741
	TP	PRCOM+22	A		01247	02646	11	05066	32000
PR705B	EJ	I	FILL	IS THIS LAST GROUP.	01250	02647	43	00012	30000
	AT	V1	PRCOM+22	NO.	01251	02650	35	05012	05066
	RA	PRCOM+1	PRCOM+2		01252	02651	21	05041	05042
	SP	PR7C3+1	30		01253	02652	31	02760	00036
	CALL	PRAS1			01254	02653	37	03621	03617
	TP	A	PR7C3+1		01255	02654	11	32000	02760
PR705A	RA	PRCOM+2	PRCOM+38		01256	02655	21	05042	05106
PR706	MJ		FILL		01257	02656	45	00000	30000
	TP	PRCOM+24	A		01258	02657	11	05070	32000
	EJ	U7	L+3	IS LINE FULL.	01259	02660	43	05007	02663
	AT	U1	PRCOM+24	NO.	01262	02661	35	05005	05070
	MJ		PK70A		01263	02662	45	00000	02634
	TV	PR7C24+1	PR705A	YES.	01264	02663	16	03105	02656
	TV	PR7C25+1	PR705B		01265	02664	16	03107	02647
	SP	PRCOM+38	3		01266	02665	31	05106	00003
	AT	PRCOM+1	PRCOM+25		01267	02666	35	05041	05071
	TP	PRCOM+22	PRCOM+26		01270	02667	11	05066	05072
	TP	PR7C3+1	PRCOM+27		01271	02670	11	02760	05073
	MJ		PK705		01272	02671	45	00000	02634
PR707	TP	PRCOM	A		01273	02672	11	05040	32000
	EJ	R	PK709	EXIT, LAST REGION.	01274	02673	43	00014	02715
	AT	V1	PRCOM	SETUP FOR NEXT REGION.	01275	02674	35	05012	05040
	ST	V1	A		01276	02675	36	05012	32000
	SA	LCPTI	15		01277	02676	32	00217	00017
	TU	A	PRCOM+1		01300	02677	15	32000	05041
	SP	PRCOM+4	30		01301	02700	31	05044	00036
	CALL	PRAS1			01302	02701	37	03621	03617
	TP	A	PRCOM+4		01303	02702	11	32000	05044
	MJ		PR701		01304	02703	45	00000	02565
PR708	TP	PRCOM+25	PRCOM+1	SETUP TO PRINT NEXT	01305	02704	11	05071	05041
	TP	PRCOM+26	PRCOM+22	8 COLS.	01306	02705	11	05072	05066
	MP	PRCOM+21	R		01307	02706	71	05065	00014
	TP	A	PRCOM+2		01310	02707	11	32000	05042
	TP	PRCOM+27	PR7C3+1		01311	02710	11	05073	02760
	SP	PRCOM+20	30		01312	02711	31	05064	00036
	CALL	PRAS1			01313	02712	37	03621	03617
	TP	A	PRCOM+6		01314	02713	11	32000	05046
	MJ		PR702		01315	02714	45	00000	02600
PR709	RPV	3	L+2	5. PRINT F(I,K).	01316	02715	75	10003	02717

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	TP	VO	PRCOM		01317	02716	11	05011	05040
	TU	LCAPF	PRCOM	MATRIX LOC.	01320	02717	15	00222	05040
	SP	I	15		01321	02720	31	00012	00017
	TU	A	PRCOM+1	NO ROWS.	01322	02721	15	32000	05041
	SP	K	15		01323	02722	31	00014	00017
	TU	A	PRCOM+2	NO COLS.	01324	02723	15	32000	05042
	RFB	2	L+2		01325	02724	75	30002	02726
	TP	PRIC15	PRCOM+3	ROW HEAD.	01326	02725	11	01714	05043
	RFB	2	L+2		01327	02726	75	30002	02730
	TP	PRIC16	PRCOM+5	COL HEAD.	01330	02727	11	01720	05045
	TP	PR2C1	Q		01331	02730	11	01733	31000
	CALL	PREDIT			01332	02731	37	03743	03741
	TP	PR7C16+4	Q		01333	02732	11	03057	31000
	CALL	PREDIT			01334	02733	37	03743	03741
	CALL	PRA			01335	02734	37	03522	03520
	TP	PR2C1	Q	6. PRINT SIGMAF(I,K).	01336	02735	11	01733	31000
	CALL	PREDIT			01337	02736	37	03743	03741
	TP	PR7C16+5	Q		01340	02737	11	03060	31000
	CALL	PREDIT			01341	02740	37	03743	03741
	TU	LMKI	PRCOM		01342	02741	15	00230	05040
	TP	PRIC16+1	PRCOM+6		01343	02742	11	01721	05046
	CALL	PRA			01344	02743	37	03522	03520
	TP	PR2C5	Q	TRANSMIT LAST LINES	01345	02744	11	01750	31000
	CALL	PREDIT		TO TAPE.	01346	02745	37	03743	03741
	MJ		PR7+2	EXIT.	01347	02746	45	00000	02471
	PR7C1	PR7C2	1	CONSTANTS FOR PR7	01350	02747	00	02750	00001
	PR7C2	00	3		01351	02750	00	00000	00003
		00	PR7C3	214B)	01352	02751	00	02757	00214
		00	0	5	01353	02752	00	00000	00005
		00	PRAC8	2	01354	02753	00	03700	00002
		00	0	5	01355	02754	00	00000	00005
		00	PRCOM+29	114B)	01356	02755	00	05075	00114
		00	0	1	01357	02756	00	00000	00001
	PR7C3	XS3	TO GR		01360	02757	00	66510	03254
		XS3	P. 002		01361	02760	52	22000	30305
		XS3	P. 002		01362	02761	52	22000	30305
	PR7C4	XS3	FROM		01363	02762	00	31545	14700
		XS3	GP 001		01364	02763	32	52000	30304
	PR7C5		PR7C6	1	01365	02764	00	02765	00001
	PR7C6	00	0	1	01366	02765	00	00000	00001
		00	PRCOM+3	214B)	01367	02766	00	05043	00214
		00	0	5	01370	02767	00	00000	00005
	PR7C7		PR7C8	1	01371	02770	00	02771	00001
	PR7C8	B	100000000001		01372	02771	10	00000	00001
		00	PR7C9	4654B)	01373	02772	00	02774	04654
		00	0	5	01374	02773	00	00000	00005
	PR7C9	XS3	RESULT		01375	02774	54	30656	74666
		XS3	S OF T		01376	02775	65	00513	10066
		XS3	HE NUC		01377	02776	33	30005	09726
		XS3	LEAR C		01400	02777	46	30245	40026
		XS3	ONSTAN		01401	03000	51	50656	62450
		XS3	TS CAL		01402	03001	66	65002	62446
		XS3	CULATI		01403	03002	26	67462	40634
		XS3	ON		01404	03003	51	50000	00000
	PR7C10	XS3	DIFFUS		01405	03004	27	34313	19765
		XS3	ION CO		01406	03005	34	51500	02651
		XS3	EFFICI		01407	03006	30	31313	42634
		XS3	ENTS		01410	03007	30	50666	52100
		XS3	USUB I		01411	03010	27	65672	50034
		XS3	*K		01412	03011	21	45000	00000

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PR7C11	XS3	REMOVA		01413	03012	54	30475	17024
	XS3	L CROS		01414	03013	46	00265	45165
	XS3	S SEGT		01415	03014	65	00653	02666
	XS3	IONS		01416	03015	34	51506	52100
	XS3	TSUR I		01417	03016	66	65672	50034
	XS3	*K		01420	03017	21	45000	00000
PR7C12	XS3	FISSIO		01421	03020	31	34656	53451
	XS3	N SPEC		01422	03021	50	00655	23026
	XS3	TRUM		01423	03022	66	54674	72100
	XS3	XSUR I		01424	03023	72	65672	50034
	XS3			01425	03024	00	00000	00000
PR7C13	XS3	TRANSF		01426	03025	66	54245	00531
	XS3	ER COE		01427	03026	30	54002	65130
	XS3	FFICIE		01428	03027	31	31342	63430
	XS3	NTS, T		01429	03030	50	66652	10066
	XS3	SUB I,		01432	03031	65	67250	03421
	XS3	J,K		01433	03032	44	21450	00000
PR7C14	XS3	FISSIO		01434	03033	31	34656	53451
	XS3	N NEUT		01435	03034	50	00503	00766
	XS3	RON PR		01436	03035	54	51500	05254
	XS3	ODUCTI		01437	03036	51	27672	60634
	XS3	ON CRO		01440	03037	51	50002	65451
	XS3	SS SEC		01441	03040	65	65006	53026
	XS3	TION,		01442	03041	66	34515	02100
	XS3	FSUR I		01443	03042	31	65672	50034
	XS3	*K		01444	03043	21	45000	00000
PR7C15	XS3	FISSIO		01445	03044	31	34656	53451
	XS3	N CROS		01446	03045	50	00265	45165
	XS3	S SECT		01447	03046	65	00653	02666
	XS3	ION, S		01450	03047	34	51502	10065
	XS3	IGMAFS		01451	03050	34	32472	43165
	XS3	UB I,K		01452	03051	67	25003	42145
	XS3			01453	03052	00	00000	00000
PR7C16		PR7C17	1	01454	03053	00	03061	00001
		PR7C18	1	01455	03054	00	03064	00001
		PR7C19	1	01456	03055	00	03067	00001
		PR7C20	1	01457	03056	00	03072	00001
		PR7C21	1	01460	03057	00	03075	00001
		PR7C22	1	01461	03060	00	03100	00001
PR7C17	00	0	1	01462	03061	00	00000	00001
	00	PR7C10	144B)	01463	03062	00	03004	00144
	00	0	5	01464	03063	00	00000	00005
PR7C18	00	0	1	01465	03064	00	00000	00001
	00	PR7C11	144B)	01466	03065	00	03012	00144
	00	0	5	01467	03066	00	00000	00005
PR7C19	00	0	1	01470	03067	00	00000	00001
	00	PR7C12	136B)	01471	03070	00	03020	00136
	00	0	5	01472	03071	00	00000	00005
PR7C20	00	0	1	01473	03072	00	00000	00001
	00	PR7C13	144B)	01474	03073	00	03025	00144
	00	0	5	01475	03074	00	00000	00005
PR7C21	00	0	1	01476	03075	00	00000	00001
	00	PR7C14	166B)	01477	03076	00	03033	00166
	00	0	5	01500	03077	00	00000	00005
PR7C22	00	0	1	01501	03100	00	00000	00001
	00	PR7C15	152B)	01502	03101	00	03044	00152
	00	0	5	01503	03102	00	00000	00005
PR7C23	SP	PRCOM+4	30	01504	03103	31	05044	00036
PR7C24	00	0	PR706	01505	03104	00	00000	02657
	00	0	PR705	01506	03105	00	00000	02634

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PR7C25	00	0	PR707	01507	03106	00	00000	02672
	00	0	PR708	01510	03107	00	00000	02704
PR7C26			PKCOM+29	01511	03110	00	00000	03075
PR8	MJ		L+3	01512	03111	45	00000	03114
	MS		L+1	01513	03112	56	00000	03113
	MJ		FILL	01514	03113	45	00000	30000
	TP	PRAC9	Q	01515	03114	11	03701	31000
	SP	TAPES	30	01516	03115	31	00077	00036
	QS	A	PK2C1	01517	03116	53	32000	01733
	QS	PR2C1	PK2C5	01520	03117	53	01733	01750
	RPV	2	L+2	01521	03120	75	10002	03122
	QS	PR2C1	PK8C1	01522	03121	53	01733	03263
	TP	PR8C1	Q	01523	03122	11	03263	31000
	CALL	PREDIT		01524	03123	37	03743	03741
	CALL	PR8		01525	03124	37	03710	03706
	TP	I	A	01526	03125	11	00012	32000
	AT	V2	A	01527	03126	35	05013	32000
	MP	A	R	01530	03127	71	32000	00014
	AT	LPHKI	A	01531	03130	35	00200	32000
	TV	A	PK80B	01532	03131	16	32000	03174
	LQ	Q	A+15	01533	03132	55	31000	32017
	AT	I	PKCOM+4	01534	03133	35	00012	05044
	ST	U1	PKCOM	01535	03134	36	05005	05040
	TN	V77B	Q	01536	03135	13	05027	31000
	LQ	Q	30	01537	03136	55	31000	00036
	QT	LPHKI	A	01540	03137	51	00200	32000
	ST	PRCOM	A	01541	03140	36	05040	32000
	TU	A	PR80A+1	01542	03141	15	32000	03163
	TV	A	PR80A+1	01543	03142	16	32000	03163
	TP	PRCOM	PRCOM+6	01544	03143	11	05040	05046
	SP	I	15	01545	03144	31	00012	00017
	TP	A	PRCOM	01546	03145	11	32000	05040
	AT	V1	PRCOM+5	01547	03146	35	05012	05045
	AT	B273	A	01550	03147	35	05032	32000
	TU	A	PR80A	01551	03150	15	32000	03162
	TP	I	A	01552	03151	11	00012	32000
	ST	V1	PRCOM+1	01553	03152	36	05012	05041
	TP	K	PRCOM+2	01554	03153	11	00014	05042
	TP	K	A	01555	03154	11	00014	32000
	ST	V1	PRCOM+8	01556	03155	36	05012	05050
	AT	V2	PRCOM+7	01557	03156	35	05013	05047
	IJ	PRCOM+2	L+2	01560	03157	41	05042	03161
	MJ		PR80AA	01561	03160	45	00000	03164
PR80A	RA	PR80A+1	PKCOM+4	01562	03161	21	03163	05044
	RPB	FILL	L-3	01563	03162	75	60000	03157
	TP	FILL	FILL	01564	03163	11	30000	30000
PR80AA	TP	R	PRCOM+2	01565	03164	11	00014	05042
	MP	PRCOM	PRCOM+7	01566	03165	71	05040	05047
	AT	LPHKI	A	01567	03166	35	00200	32000
	ST	U1	A	01570	03167	36	05005	32000
	TU	A	PR80B	01571	03170	15	32000	03174
	IJ	PRCOM+2	L+2	01572	03171	41	05042	03173
	MJ		L+4	01573	03172	45	00000	03176
	RS	PR80B	PRCOM+5	01574	03173	23	03174	05045
PR80B	TP	FILL	FILL	01575	03174	11	30000	30000
	MJ		L-4	01576	03175	45	00000	03171
	IJ	PRCOM+1	L+2	01577	03176	41	05041	03200
	MJ		PK80C+2	01600	03177	45	00000	03216
	KS	PRCOM+5	U1	01601	03200	23	05045	05005
	RS	PRCOM+6	U1V1	01602	03201	23	05046	05033

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	RS	PRCOM	U1	GROUP	01603	03202	23	05040	05005
	AT	B273	A		01604	03203	35	05032	32000
	TU	A	PR80C		01605	03204	15	32000	03214
	TN	V77R	Q		01606	03205	13	05027	31000
	LQ	Q	30		01607	03206	55	31000	00036
	Q5	LPHKI	PR80C+1		01610	03207	53	00200	03215
	TP	PRCOM+8	PRCOM+2		01611	03210	41	05050	05042
	IJ	PRCOM+2	L+2		01612	03211	41	05042	03213
	MJ		PR80AA		01613	03212	45	00000	03164
PR80C	RA	PR80C+1	PKCOM+6		01614	03213	21	03215	05046
	RPB	FILL	L-3		01615	03214	75	60000	03211
	TP	FILL	FILL		01616	03215	11	30000	30000
	SP	R	15		01617	03216	31	00014	00017
	TP	A	PRCOM+2	SETUP TO PRINT THE 14	01620	03217	11	32000	05042
	LA	A	1		01621	03220	54	32000	00001
	AT	LPHKI	PKCOM+28	NEUTRON BALANCE	01622	03221	35	00200	05074
	SP	I	15	QUANTITIES.	01623	03222	31	00012	00017
	TU	A	PR80C9		01624	03223	15	32000	03467
	RS	A	U1		01625	03224	23	32000	05005
	TU	A	PR80C10		01626	03225	15	32000	03472
	TU	A	PR80C11		01627	03226	15	32000	03475
	TP	VO	PRCOM		01630	03227	11	05011	05040
	TP	PR1C16	PRCOM+5		01631	03230	11	01720	05045
	TP	PR80C13	PRCOM+29		01632	03231	11	03516	05075
PR801	IJ	PRCOM+29	L+4	ARE ALL RESULTS PRINTED	01633	03232	41	05075	03236
	TP	PR205	Q	YES.	01634	03233	11	01750	31000
	CALL	PREDIT			01635	03234	37	03743	03741
	MJ		PR8+2		01636	03235	45	00000	03113
	TP	PR201	Q	SPACE.	01637	03236	11	01733	31000
	CALL	PREDIT			01640	03237	37	03743	03741
	SN	PRCOM+29	18		01641	03240	33	05075	00022
	AT	PR80C7	PR80C4+1		01642	03241	35	03463	03271
	TP	PR80C2	Q		01643	03242	11	03264	31000
	CALL	PREDIT		PRINT HEADING.	01644	03243	37	03743	03741
	SP	PRCOM+29	15		01645	03244	31	05075	00017
	AT	PR80C14	L+1		01646	03245	35	03517	03246
	TP	FILL	A		01647	03246	11	30000	32000
	TU	A	L+1		01650	03247	15	32000	03250
	TU	FILL	PRCOM	MATRIX LOCATION.	01651	03250	15	30000	05040
	LA	A	15		01652	03251	54	32000	00017
	TU	A	L+1		01653	03252	15	32000	03253
	TP	FILL	PRCOM+1	NO. ROWS.	01654	03253	11	30000	05041
	RA	A	U1		01655	03254	21	32000	05005
	TU	A	L+2		01656	03255	15	32000	03257
	RPB	Z	L+2		01657	03256	75	30002	03260
	TP	FILL	PRCOM+3	ROW HEADING.	01660	03257	11	30000	05043
	TP	PR1C16+1	PRCOM+6	COL. HEADING.	01661	03260	11	01721	05046
	CALL	PRA		PRINT.	01662	03261	37	03522	03520
	MJ		PR801		01663	03262	45	00000	03232
PR801	PR801	PR80C3	1	CONSTANTS.	01664	03263	00	03265	00001
PR802	PR802	PR80C4	1		01665	03264	00	03270	00001
PR803	B	100000000001			01666	03265	10	00000	00001
	00	PR80C5	4555B)		01667	03266	00	03273	04555
	00	0	5		01670	03267	00	00000	00005
PR804	00	0	1		01671	03270	00	00000	00001
	00	FILL	160B)		01672	03271	00	30000	00160
	00	0	5		01673	03272	00	00000	00005
PR805	XS3	RESULT			01674	03273	54	30656	74666
	XS3	S OF T			01675	03274	65	00513	10066
	XS3	ME NEU			01676	03275	33	30005	03067

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XS3	TRON B	01677	03276	66	54515	00025
XS3	ALANCE	01700	03277	24	46245	02630
XS3	IN EA	01701	03300	00	34500	03024
XS3	CH REG	01702	03301	26	33005	43032
XS3	ION	01703	03302	34	51500	00000
XS3	TOTAL	01704	03303	66	51662	44600
XS3	NEUTRO	01705	03304	50	30676	65451
XS3	N FLUX	01706	03305	50	00314	66772
XS3	PER	01707	03306	00	00523	00400
XS3	UNIT E	01710	03307	67	50346	60030
XS3	NERGY	01711	03310	50	30543	27300
XS3		01712	03311	00	00000	00000
XS3		01713	03312	00	00000	00000
XS3		01714	03313	27	30325	42427
XS3	DEGRAD	01715	03314	24	66345	15000
XS3	ATION	01716	03315	66	51004	65171
XS3	TO LOW	01717	03316	30	54003	05030
XS3	ER ENE	01720	03317	54	32730	03254
XS3	NGY GR	01721	03320	51	67526	50000
XS3	OUPS	01722	03321	00	00000	00000
XS3		01723	03322	00	00000	00000
XS3	SCATTE	01724	03323	65	26246	66630
XS3	RING F	01725	03324	54	34503	20031
XS3	ROM HI	01726	03325	54	51470	03334
XS3	GHER E	01727	03326	32	33305	40030
XS3	NERGY	01730	03327	50	30543	27300
XS3	GROUPS	01731	03330	32	54516	72265
XS3		01732	03331	00	00000	00000
XS3		01733	03332	00	00000	00000
XS3		01734	03333	50	30676	65451
XS3	NEUTRO	01735	03334	50	00655	16754
XS3	N SOUR	01736	03335	26	30002	76730
XS3	CE DUE	01737	03336	00	66510	03134
XS3	TO FI	01740	03337	65	65345	15000
XS3	SSION	01741	03340	00	00000	00000
XS3		01742	03341	00	00000	00000
XS3		01743	03342	00	00000	00000
XS3	NEUTRO	01744	03343	50	30676	65451
XS3	N-REMO	01745	03344	50	00543	04751
XS3	VAL DU	01746	03345	70	24460	02767
XS3	E TO A	01747	03346	30	00665	10024
XS3	BSORPT	01750	03347	25	65515	45266
XS3	ION	01751	03350	34	51500	00000
XS3		01752	03351	00	00000	00000
XS3		01753	03352	00	00000	00000
XS3		01754	03353	50	30676	65451
XS3	NEUTRO	01755	03354	50	00543	04751
XS3	N REMO	01756	03355	70	24460	02767
XS3	VAL DU	01757	03356	30	00665	10052
XS3	E TOIP	01760	03357	30	54523	05027
XS3	ERPEND	01701	03360	34	26674	62454
XS3	ICULAR	01702	03361	00	46302	44524
XS3	LEAKA	01703	03362	32	30000	00000
XS3	GE	01704	03363	46	30244	52432
XS3	LEAKAG	01705	03364	30	00242	65451
XS3	E-ACRO	01706	03365	65	65006	63330
XS3	SS-THE	01707	03366	00	54303	23451
XS3	REGIO	01710	03367	50	00516	70630
XS3	N OUFÉ	01711	03370	54	00255	16750
XS3	R BOUN	01712	03371	27	24547	30000
XS3	DARY					

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XS3		01773	03372	00	00000	00000
XS3	LEAKAG	01774	03373	46	30244	52432
XS3	E ACRO	01775	03374	30	00242	65451
XS3	SS THE	01776	03375	65	65006	63330
XS3	REGIO	01777	03376	00	54303	23451
XS3	N INNE	02000	03377	50	00345	05030
XS3	N BOUN	02001	03400	54	00255	16750
XS3	DARY	02002	03401	27	24547	30000
XS3		02003	03402	00	00000	00000
XS3	TOTAL	02004	03403	66	51662	44600
XS3	REMOVA	02005	03404	54	30475	17024
XS3	L -ABS	02006	03405	46	00022	42565
XS3	URPTIO	02007	03406	51	54526	63451
XS3	N -SCA	02010	03407	50	21006	52624
XS3	TERIN	02011	03410	66	66305	43450
XS3	G, LEA	02012	03411	32	21004	63024
XS3	KAGE	02013	03412	45	24323	00000
XS3	TOTAL	02014	03413	66	51662	44600
XS3	SOURCE	02015	03414	65	51675	42630
XS3	-SCAT	02016	03415	00	02652	162466
XS3	TERING	02017	03416	66	30543	45032
XS3	IN, F	02020	03417	00	34502	10031
XS3	ISSION	02021	03420	34	65653	45150
XS3		02022	03421	00	00000	00000
XS3		02023	03422	00	00000	00000
XS3	FISSIO	02024	03423	31	34656	53451
XS3	N NEUT	02025	03424	50	00503	06766
XS3	RON PR	02026	03425	54	51500	05254
XS3	ODUCTI	02027	03426	51	27672	66634
XS3	ON, FRO	02030	03427	51	50003	15451
XS3	M EACH	02031	03430	47	00302	42633
XS3	GROUP	02032	03431	00	32545	16752
XS3		02033	03432	00	00000	00000
XS3	TOTAL	02034	03433	66	51662	44600
XS3	FISSIO	02035	03434	31	34656	53451
XS3	N NEUT	02036	03435	50	00503	06766
XS3	RON SO	02037	03436	54	51500	06551
XS3	URCE	02040	03437	67	54263	00000
XS3		02041	03440	00	00000	00000
XS3		02042	03441	00	00000	00000
XS3		02043	03442	00	00000	00000
XS3	TOTAL	02044	03443	66	51662	44600
XS3	REMOVA	02045	03444	54	30475	17024
XS3	L DUE	02046	03445	46	00276	73000
XS3	TO LEA	02047	03446	66	51004	63024
XS3	KAGE	02050	03447	45	24323	00000
XS3		02051	03450	00	00000	00000
XS3		02052	03451	00	00000	00000
XS3		02053	03452	00	00000	00000
XS3	ERROR	02054	03453	30	54545	15400
XS3	IN THE	02055	03454	34	50006	163330
XS3	NEUTR	02056	03455	00	50306	76654
XS3	ON BAL	02057	03456	51	50002	52446
XS3	ANCE	02060	03457	24	50263	00000
XS3		02061	03460	00	00000	00000
XS3		02062	03461	00	00000	00000
XS3		02063	03462	00	00000	00000
XS3		02064	03463	00	03453	00160
XS3		02065	03464	00	00001	00000
XS3		02066	03465	00	00000	00000

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PRBC7 00 PRBC6+104 160B  
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PR8C9	XS3			02097	03466	00	00000	00000
	00	FILL	0	02010	03467	00	30000	00000
	XS3	GROUP		02011	03470	00	32545	16752
	XS3	001		02012	03471	00	00000	30304
PR8C10	00	FILL	0	02013	03472	00	30000	00000
	XS3	GROUP		02014	03473	00	32545	16752
	XS3	001		02015	03474	00	00000	30304
PR8C11	00	FILL	0	02016	03475	00	30000	00000
	XS3	GROUP		02017	03476	00	32545	16752
	XS3	002		02100	03477	00	00000	30305
PR8C12	00	LNKE	PR8C8	02101	03500	00	00277	03464
	00	LNKL	PR8C8	02102	03501	00	00302	03464
	00	LKPYE	PR8C8	02103	03502	00	00236	03464
	00	LNFP	PR8C9	02104	03503	00	00263	03467
	00	LNPKI	PK8C9	02105	03504	00	00274	03467
	00	LNRI	PK8C9	02106	03505	00	00271	03467
	00	LLKIB	PK8C9	02107	03506	00	00244	03467
	00	LLKIA	PK8C9	02110	03507	00	00241	03467
	00	LNLPI	PR8C9	02111	03510	00	00252	03467
	00	LNCKI	PR8C9	02112	03511	00	00266	03467
	00	LNFKI	PK8C9	02113	03512	00	00247	03467
	00	LNSKI	PK8C11	02114	03513	00	00255	03475
	00	LNDKI	PK8C10	02115	03514	00	00260	03472
	00	PRCOM+28	PK8C9	02116	03515	00	05074	03467
PR8C13	B	16		02117	03516	00	00000	00016
PR8C14	TP	PR8C12	A	02120	03517	11	03500	32000
PRA	MJ		L+3	02121	03520	45	00000	03523
	MS		L+1	02122	03521	56	00000	03522
	MJ		FILL	02123	03522	45	00000	30000
	TP	PRCOM+2	A	02124	03523	11	05042	32000
	ST	U1	PRCOM+27	02125	03524	36	05005	05073
	TP	PRAC9	Q	02126	03525	11	03701	31000
	SP	TAPES	30	02127	03526	31	00077	00036
	QS	A	PRAC2	02130	03527	53	32000	03642
	RPV	3	L+2	02131	03530	75	10003	03532
	QS	PRAC2	PRAC	02132	03531	53	03642	03643
	RPV	14	L+2	02133	03532	75	10016	03534
	TP	PRCOM+5	PRCOM+7	02134	03533	11	05045	05047
PRA01	TP	U1	PRCOM+25	02135	03534	11	05005	05071
	TP	U7	PRCOM+24	02136	03535	11	05007	05070
	TP	PRCOM	PRCOM+26	02137	03536	11	05040	05072
PRA02	TP	PRCOM+27	A	02140	03537	11	05073	32000
	ZJ	L+1	PRA03	02141	03540	47	03541	03560
	TP	PRCOM+24	A	02142	03541	11	05070	32000
	ZJ	L+1	PRA03	02143	03542	47	03543	03560
	SN	A	1	02144	03543	33	32000	00001
	AT	PRAC1	PKERS	02145	03544	35	03641	05034
	AT	U2	PRERS+1	02146	03545	35	05006	05035
	LO	PRERS+1	21	02147	03546	55	05035	00025
	TU	PRERS	L+2	02130	03547	15	05034	03551
	TV	PRERS+1	L+3	02131	03550	16	05035	03553
	SP	FILL	30	02132	03551	31	30000	00036
	CALL	PRASI		02133	03552	37	03621	03617
	TP	A	FILL	02134	03553	11	32000	30000
	RS	PRCOM+27	U1	02135	03554	23	05073	05005
	RS	PRCOM+24	U1	02136	03555	23	05070	05005
	RA	PRCOM+25	U1	02137	03556	21	05071	05005
	MJ		PRA02	02100	03557	45	00000	03537
PRA03	TP	PRAC2	Q	02101	03560	11	03642	31000
	CALL	PREDIT		02102	03561	37	03743	03741

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	LU	PRCOM+25	A+21	SET COLUMN COUNT.	02103	03562	55	05071	32025
	AT	V1	PRAC6		02104	03563	35	05012	03646
	SS	V2	30		02105	03564	34	05013	00036
	AT	V1	PRAC7+6		02106	03565	35	05012	03677
	TP	PRAC4	Q		02107	03566	11	03644	31000
	CALL	PREDIT		PRINT COL. HEADINGS.	02110	03567	37	03743	03741
	TP	PRAC3	Q		02111	03570	11	03643	31000
	CALL	PREDIT		SKIP ONE LINE.	02112	03571	37	03743	03741
	TP	PRCOM+1	PRCOM+23		02113	03572	11	05041	05067
	RPB	2	L+2		02114	03573	75	30002	03575
	TP	PRCOM+3	PRCOM+21		02115	03574	11	05043	05065
PRA04	TU	PRCOM+26	PRAC7+5		02116	03575	15	05072	03676
	TP	PRAC5	Q	PRINT ONE ROW.	02117	03576	11	03645	31000
	CALL	PREDIT			02200	03577	37	03743	03741
	RS	PRCOM+23	U1		02201	03600	23	05067	05005
	ZJ	L+1	PRA05	JUMP IF LAST ROW.	02202	03601	47	03602	03607
	SP	PRCOM+22	30	INDEX ROW HEADING.	02203	03602	31	05066	00036
	CALL	PRAS1			02204	03603	37	03621	03617
	TP	A	PRCOM+22		02205	03604	11	32000	05066
	RA	PRCOM+26	PRCOM+2		02206	03605	21	05072	05042
	MJ		PRA04		02207	03606	45	00000	03575
PRA05	TP	PRCOM+27	A		02210	03607	11	05073	32000
	ZJ	L+1	PKA+2	EXIT.	02211	03610	47	03611	03522
	ST	U1	PRCOM+27		02212	03611	36	05005	05073
	RA	PRCOM	PRCOM+25		02213	03612	21	05040	05071
	SP	PRCOM+20	30		02214	03613	31	05064	00036
	CALL	PRAS1			02215	03614	37	03621	03617
	TP	A	PRCOM+6		02216	03615	11	32000	05046
	MJ		PRA01		02217	03616	45	00000	03534
PRAS1	MJ		L+3	SUBROUTINE FOR INDEXING	02240	03617	45	00000	03622
	MS		L+1	IN X5-3 FORMAT.	02221	03620	56	00000	03621
	MJ		FILL		02222	03621	45	00000	30000
	TV	PRAC12	PKAS11+5		02243	03622	16	03704	03631
	TP	V2	PRERS		02224	03623	11	05013	05034
PRAS11	LT		PKERS+1		02245	03624	22	00000	05035
	SP	A			02246	03625	31	32000	00000
	EJ	PRAC10	PKAS12		02247	03626	43	03702	03633
	AT	PRAC11	PRERS+2		02230	03627	35	03703	05036
	SP	PRERS+1	36		02231	03630	31	05035	00044
	SA	PRERS+2	FILL		02232	03631	32	05036	30000
	MJ		PKAS1+2	EXIT.	02233	03632	45	00000	03621
PRAS12	IJ	PRERS	L+3		02234	03633	41	05034	03636
	TP	PRAC13	PRERS+2		02235	03634	11	03705	05036
	MJ		PRAS11+4		02236	03635	45	00000	03630
	RA	PRAS11+5	V6		02237	03636	21	03631	05015
	SP	PRERS+1	30		02240	03637	31	05035	00036
	MJ		PKAS11		02241	03640	45	00000	03624
PRAC1	00	PRCOM+20	0	SUBROUTINE CONSTANTS.	02242	03641	00	05064	00000
PRAC2		VO	2		02243	03642	00	05011	00002
PRAC3		VO	1		02244	03643	00	05011	00001
PRAC4		PRAC6	1		02245	03644	00	03646	00001
PRAC5		PRAC7	1		02246	03645	00	03671	00001
PRAC6	00	0	FILL		02247	03646	00	00000	30000
	00	PRAC8	1206B)		02230	03647	00	03700	01206
	00	0	5		02231	03650	00	00000	00005
	00	PRCOM+5	114B)		02232	03651	00	05045	00114
	00	0	5		02233	03652	00	00000	00005
	00	PRCOM+7	114B)		02234	03653	00	05047	00114
	00	0	5		02235	03654	00	00000	00005
	00	PRCOM+9	114B)		02236	03655	00	05051	00114

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EJ	L+476	L+3	PARTIAL	010	02353	03752	43	04706	03755
RJ	L+115	L+109	BLOCK AND	011	02354	03753	37	04136	04130
TP	L+474	L+270	SET NEW UNIT	012	02355	03754	11	04706	04372
IJ	L+267	L+2	TEST FOR	013	02356	03755	41	04370	03757
MJ		L-11	NO OUTPUT	014	02357	03756	45	00000	03743
TP	FILL	L+471	OBTAIN FIRST PARAM WORD	015	02358	03757	11	30000	04706
SP	L+470	3	SPLIT OFF	016	02359	03758	31	04706	00003
LT		Q	FAST FEED	017	02362	03761	22	00000	31000
MP	Q	V6	INDICATOR	018	02363	03762	71	31000	05015
TV	A	L+1	AND PLACE	019	02364	03763	16	32000	03764
SP	L+242	FILL	CORRESPONDING	020	02365	03764	31	04346	30000
TV	L+74	L+2	SYMBOL INTO	021	02366	03765	16	04077	03767
TP	L+239	Q	FIRST LINE	022	02367	03766	11	04345	31000
QS	A	FILL		023	02370	03767	53	32000	30000
TV	L+462	L+255	SET PARAMETER INDEX	024	02371	03770	16	04706	04367
IJ	L+254	L+2		025	02372	03771	41	04367	03773
MJ		L+83		026	02373	03772	45	00000	04115
TU	L-12	L+3	SET FIRST	027	02374	03773	15	03757	03776
RA	L+2	L+235	PAIR	028	02375	03774	21	03776	04347
RP3	2	L+2	PICK UP CURRENT	029	02376	03775	75	30002	03777
TP	FILL	L+457	PARAMETER PAIR	030	02377	03776	11	30000	04707
SP	L+456	6	SET PICKUP	031	02400	03777	31	04707	00006
LT		Q	OF FIRST	032	02401	04000	22	00000	31000
MP	Q	L+248	LOCATION	033	02402	04001	71	31000	04371
AT	L+453	L+453	FOR CONVERSION	034	02403	04002	35	04707	04707
LT1	21	A	OBTAIN	035	02404	04003	22	10025	32000
LT	9	L+247	COUNTS	036	02405	04004	22	00011	04373
SP	A	5	FOR SPACES	037	02406	04005	31	32000	00006
LT		L+246	AND COLUMN WIDTH	038	02407	04006	22	00000	04374
SP	L+449	6	SET REPEAT	039	02410	04007	31	04710	00006
LT		L+245	INDEX	040	02411	04010	22	00000	04375
LT1	15	L+448	CONVERSION TYPE	041	02412	04011	22	10017	04711
LO	L+447	A+15	IF CONVERSION	042	02413	04012	55	04711	32017
TJ	L+221	L+85	ROUTINE	043	02414	04013	42	04350	04140
SA	L+225	15	IS NOT IN	044	02415	04014	32	04355	00017
AT	Q	L+3	PRINT EDIT	045	02416	04015	35	31000	04020
TP	L+441	A	SET UP AND	046	02417	04016	11	04707	32000
TP	L+441	Q	GO TO OUTSIDE	047	02420	04017	11	04710	31000
RJ	FILL	FILL	CONVERSION	048	02421	04020	37	30000	30000
SJ	L+1	L+16	IF	049	02422	04021	46	04022	04041
TM	A	A	CHARACTERS	050	02423	04022	12	32000	32000
TU	A	L+5	ARE	051	02424	04023	15	32000	04030
TV	L+24	L+8	UNPACKED	052	02425	04024	16	04054	04034
TP	L+231	L+119	PACK	053	02426	04025	11	04374	04214
TP	V77R	Q	UP	054	02427	04026	11	05027	31000
RP3	6	L+2	AND	055	02430	04027	75	30006	04031
QT	FILL	L+231	PLACE	056	02431	04030	31	30000	04377
SS	A		IN	057	02432	04031	34	32000	00000
RP2	5	L+2	COMMON+4	058	02433	04032	75	20005	04034
SA	L+228	6	THROUGH	059	02434	04033	32	04377	00006
AT	L+232	FILL	COMMON+14	060	02435	04034	35	04404	30000
RA	L-5	L+204		061	02436	04035	21	04030	04351
RA	L-2	V1		062	02437	04036	21	04034	05012
RS	L+109	V6		063	02440	04037	23	04214	05015
SJ	L+30	L-9		064	02441	04040	46	04107	04027
TU	A	L+2	IF CHARACTERS	065	02442	04041	15	32000	04043
RP3	11	L+37	ARE PACKED	066	02443	04042	75	30013	04107
TP	FILL	L+423	TRANSFER WORDS ONLY	067	02444	04043	11	30000	04712
RA	L+27	V1	SKIP OVER	068	02445	04044	21	04077	05012
EJ	L+198	L+40	NUMBER	069	02446	04045	43	04353	04115

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00	0	5			02257	03656	00	00000	00005
00	PRCOM+11	114B)			02260	03657	00	05053	00114
00	0	5			02261	03660	00	00000	00005
00	PRCOM+13	114B)			02262	03661	00	05055	00114
00	0	5			02263	03662	00	00000	00005
00	PRCOM+15	114B)			02264	03663	00	05057	00114
00	0	5			02265	03664	00	00000	00005
00	PRCOM+17	114B)			02266	03665	00	05061	00114
00	0	5			02267	03666	00	00000	00005
00	PRCOM+19	114B)			02270	03667	00	05063	00114
00	0	5			02271	03670	00	00000	00005
PRAC7	0	3			02272	03671	00	00000	00003
00	PRCOM+21	214B)			02273	03672	00	05065	00214
00	0	5			02274	03673	00	00000	00005
00	PRAC8	2			02275	03674	00	03700	00002
00	0	5			02276	03675	00	00000	00005
00	FILL	114B)			02277	03676	00	30000	00114
00	0	1			02300	03677	00	00000	00001
PRAC8	XS3				02301	03700	00	00000	00000
PRAC9	B30	77			02302	03701	77	00000	00000
PRAC10	B30	14			02303	03702	14	00000	00000
PRAC11	B18	10303			02304	03703	01	03030	00000
PRAC12	00	0	42		02305	03704	00	00000	00052
PRAC13	B18	30303			02306	03705	03	03030	00000
PRB	MJ		L+3	PRINT TIME AND PRB+NO.	02307	03706	45	00000	03711
	MS		L+1		02310	03707	56	00000	03710
	MJ		FILL	CALLING SEQ.-	02311	03710	45	00000	30000
	TP	PRAC9	Q		02312	03711	11	03701	31000
	SP	TAPE8	30	CALL PRB	02313	03712	31	00077	00036
	QS	A	PRBC1	(RETURN)	02314	03713	53	32000	03722
	QS	PRBC1	PRBC4		02315	03714	53	03722	03731
	TP	PRBC4	Q		02316	03715	11	03731	31000
	CALL	PREDIT			02317	03716	37	03743	03741
	TP	PRBC1	Q		02320	03717	11	03722	31000
	CALL	PREDIT			02321	03720	37	03743	03741
	MJ		PRB+2	EXIT.	02322	03721	45	00000	03710
PRBC1	PRBC2	1		CONSTANTS.	02323	03722	00	03723	00001
PRBC2	00	0	2		02324	03723	00	00000	00002
	00	PRBC3	6206B)		02325	03724	00	03730	06206
	00	0	5		02326	03725	00	00000	00005
	00	TIME	214B)		02327	03726	00	00053	00214
	00	0	1		02330	03727	00	00000	00001
PRBC3	XS3	TIME			02331	03730	00	66344	73000
PRBC4	L+1	1			02332	03731	00	03732	00001
	00	2			02333	03732	00	00000	00002
	00	L+4	6107B)		02334	03733	00	03737	06107
	00	0	5		02335	03734	00	00000	00005
	00	IDEN	12		02336	03735	00	00010	00014
	00	0	FIXIN		02337	03736	00	00000	04732
	XS3	PROBLE			02340	03737	52	54512	54630
	XS3	M			02341	03740	47	00000	00000
PREDIT	MJ		L+3	GENERALIZED	02342	03741	45	00000	03744
	RJ	L+124	L+119	PRINT	02343	03742	37	04136	04131
	MJ		FILL	EDIT	02344	03743	45	00000	30000
	TP	V0	L+277	RESET OUTPUT COUNT	02345	03744	11	05011	04371
	TU	Q	L+10	SAVE PARAMETER LOCATION	02346	03745	15	31000	03757
	TV	Q	L+274	SAVE NUMBER LINES	02347	03746	16	31000	04370
	SP	Q	5	IF TAPE UNIT	02350	03747	31	31000	00006
	LT		L+478	HAS CHANGED	02351	03750	22	00000	04706
	TP	L+273	A	OUTPUT	02352	03751	11	04372	32000

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MJ		L+2	OF	070	02447	04046	45	00000	04050
RA	L+215	L+212	SPACES	071	02450	04047	21	04376	04373
RS	L+214	V6	REQUIRED	072	02451	04050	23	04376	05015
SJ	L+1	L-5		073	02452	04051	46	04052	04044
LQ	L+210	A	TEST FOR	074	02453	04052	55	04374	32000
ZJ	L+7	L+30	NO COLUMN WIDTH	075	02454	04053	47	04062	04111
TP	L+192	L+414	TEST IF	076	02455	04054	11	04354	04712
AT	L+209	L+209	LAST WORD HAS PART	077	02456	04055	35	04376	04376
SJ	L+4	L+1	JUNK IF SO FIX UP	078	02457	04056	46	04062	04057
RA	L+16	V1	IF NOT PICK UP REST	079	02460	04057	21	04077	05012
EJ	L+187	L+29	IN EITHER CASE OBTAIN	080	02461	04060	43	04353	04115
MJ		L+5	NEW CHARACTER COUNT	081	02462	04061	45	00000	04066
RA	L+204	V6	ADJUST CHARACTER COUNT	082	02463	04062	21	04376	05015
SP	L+12	15	OBTAIN	083	02464	04063	31	04077	00017
TU	A	L+1	CURRENT	084	02465	04064	15	32000	04065
TP	FILL	L+202	WORD	085	02466	04065	11	30000	04377
TP	V0	A		086	02467	04066	11	05011	32000
RPO	0	L+2	AND SET	087	02470	04067	75	00006	04071
SA	L+198		SHIFTS	088	02471	04070	32	04376	00000
TV	A	L+3	FOR STORE	089	02472	04071	16	32000	04074
TN	A	A	INTO	090	02473	04072	13	32000	32000
AT	L+175	L+3	BUFFER	091	02474	04073	35	04352	04076
SP	L+195	FILL	STORE	092	02475	04074	31	04377	30000
SS	A		WORDS	093	02476	04075	34	32000	00000
SA	FILL	FILL	INTO	094	02477	04076	32	30000	30000
LT		L+271	BUFFER	095	02500	04077	22	00000	04516
TP	A	L+191	UNTIL	096	02501	04100	11	32000	04377
RA	L-3	L+166	COLUMN WIDTH	097	02502	04101	21	04076	04347
RS	Q	V6	IS	098	02503	04102	23	31000	05015
TJ	V1	L+5	EXHAUSTED	099	02504	04103	42	05012	04110
RA	L-5	V1		100	02505	04104	21	04077	05012
EJ	L+166	L+8		101	02506	04105	43	04353	04115
MJ		L-10		102	02507	04106	45	00000	04074
RJ	L-4	L-32	SET NORMAL OP	103	02510	04107	37	04103	04047
RJ	L-5	L-28	SET FOR ADJUST	104	02511	04110	37	04103	04054
RA	L+382	L+158	BUMP CONVERT LOCATION	105	02512	04111	21	04707	04347
IJ	L+179	L-64	TEST FOR REPEATED PARAM	106	02513	04112	41	04375	04012
RA	L-77	L+156	PICK UP NEXT	107	02514	04113	21	03776	04347
IJ	L+171	L-80	PAIR PARAMETERS	108	02515	04114	41	04367	03774
TP	V0	L+177	RESET CHARACTER COUNT	109	02516	04115	11	05011	04376
RA	L+171	L+153	BUMP STORE COUNT	110	02517	04116	21	04371	04347
TV	L+156	L-16	RESET CURRENT WORD	111	02520	04117	16	04353	04077
RA	L+155	V20	AND TEST FOR	112	02521	04120	21	04353	05023
SS	L+157		BUFFER	113	02522	04121	34	04356	00000
ZJ	L+2	L+1	FULL	114	02523	04122	47	04124	04123
RJ	L+11	L+4	OUTPUT BLK RESET STATUS	115	02524	04123	37	04136	04127
IJ	L+164	L-92	TEST FOR NEXT LINE	116	02525	04124	41	04370	03770
LQ	L+369	5	TEST FOR FINAL	117	02526	04125	55	04706	00005
QJ	L-116	L-115	EDIT AND EXIT	118	02527	04126	44	03742	03743
TP	L+163	A	TEST FOR	119	02530	04127	11	04372	32000
ZJ	L+1	L+4	LEGAL UNIT	120	02531	04130	47	04131	04134
TP	L+146	A	TEST FOR NO INFORMATION	121	02532	04131	11	04353	32000
EJ	L+149	L+2	INFORMATION	122	02533	04132	43	04357	04134
RJ	L+172	L+170	WRITE BLOCK	123	02534	04133	37	04407	04405
TP	L+147	L+143	RESET TESTWORD	124	02535	04134	11	04357	04353
TV	L+2	L-30	CURRENT STATUS	125	02536	04135	16	04137	04077
RPI	L20	FILL	AND	126	02537	04136	75	10170	30000
TP	L+141	L+239	BUFFER	127	02540	04137	11	04354	04516
TU	L+359	L+1		128	02541	04140	15	04707	04141
TP	FILL	L+162		129	02542	04141	11	30000	04403

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TP	L+154	L+158	150	02543 04142	11	04374	04400
LO	L+357	A+12	131	02544 04143	55	04710	32014
QT	V77R	L+158	132	02545 04144	51	05027	04402
QT	L+139	A	133	02546 04145	51	04360	32000
LT	9	L+155	134	02547 04146	22	00011	04401
LO	Q	21	135	02550 04147	55	31000	00025
QJ	L+1	L+4	136	02551 04150	44	04151	04154
QJ	L+1	L+2	137	02552 04151	44	04152	04153
QJ	L+119	L+115	138	02553 04152	44	04341	04335
QJ	L+4	L+7	139	02554 04153	44	04157	04162
QJ	L+1	L+2	140	02555 04154	44	04155	04156
QJ	L+103	L+13	141	02556 04155	44	04324	04172
QJ	L+75	L+68	142	02557 04156	44	04271	04262
TU	L+344	L+2	143	02560 04157	15	04707	04161
RP3	11	L+41	144	02501 04160	75	30013	04107
TP	FILL	L+345	145	02502 04161	11	30000	04712
SP	L+145		146	02503 04162	31	04403	00000
RP1	12	L+2	147	02504 04163	75	10014	04165
LT	3	L+342	148	02505 04164	22	00003	04712
TP	V7	Q	149	02506 04165	11	05016	31000
RP3	12	L+2	150	02507 04166	75	30014	04170
QT	L+339	L+339	151	02510 04167	51	04712	04712
RP2	12	L+107	152	02511 04170	75	20014	04343
RA	L+337	V3	153	02512 04171	21	04712	05014
IJ	L+134	L+2	154	02513 04172	41	04400	04174
MJ		L+52	155	02514 04173	45	00000	04107
TJ	V13	L+2	156	02515 04174	42	05022	04176
MJ		L+100	157	02516 04175	45	00000	04341
RS	L+130	L+132	158	02517 04176	23	04400	04402
SJ	L+98	L+1	159	02500 04177	46	04341	04200
TU	L+116	L+36	160	02501 04200	15	04364	04244
TV	L+20	L+28	161	02502 04201	16	04225	04235
RA	L+27	L+128	162	02503 04202	21	04235	04402
AT	V1	A	163	02504 04203	35	05012	32000
TV	A	L+34	164	02505 04204	16	32000	04246
TV	A	L+40	165	02506 04205	16	32000	04255
RS	L+123	V36	166	02507 04206	23	04401	05025
SJ	L+7	L+1	167	02510 04207	46	04216	04210
TJ	V36	L+2	168	02511 04210	42	05025	04212
RS	L+122	A	169	02512 04211	23	04403	32000
TN	A	A	170	02513 04212	13	32000	32000
AT	L+106	L+1	171	02514 04213	35	04365	04214
LA	FILL	FILL	172	02515 04214	54	30000	30000
SP	V1	A	173	02516 04215	31	05012	00000
TM	A	A	174	02517 04216	12	32000	32000
SP	A	15	175	02520 04217	31	32000	00017
AT	L+102	L+7	176	02521 04220	35	04366	04227
TP	L+114	A	177	02522 04221	11	04403	32000
TP	V1	L+312	178	02523 04222	11	05012	04712
SJ	L+1	L+3	179	02524 04223	46	04224	04226
TM	A	A	180	02525 04224	12	32000	32000
TP	V2	L+309	181	02526 04225	11	05013	04712
RJ	L	L+1	182	02527 04226	37	04226	04227
LT1	FILL	FILL	183	02530 04227	22	40000	30000
LT		3	184	02531 04230	22	00000	31000
IJ	L+105	L+2	185	02532 04231	41	04402	04233
MJ		L+12	186	02533 04232	45	00000	04246
SP	Q		187	02534 04233	51	31000	00000
DV	V10	Q	188	02535 04234	73	05017	31000
AT	V3	FILL	9	02536 04235	35	05014	30000



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EJ	V3	L+3		02637	04236	43	05014	04241	
TU	L+85	L+5		191	02640	04237	15	04364	04244
MJ		L+2		192	02641	04240	45	00000	04242
RA	L+3	L+70		193	02642	04241	21	04244	04347
RS	L-5	V1			02643	04242	23	04235	05012
IJ	L+95	L-8		195	02644	04243	41	05402	04233
RP	FILL	L+2		196	02645	04244	75	30000	04246
TP	V1	L+29H		197	02646	04245	11	05012	04713
TP	L+77	FILL		198	02647	04246	11	04363	30000
IJ	L+89	L+7		199	02650	04247	41	04400	04256
MJ		L+9		200	02651	04250	45	00000	04261
SP	L+90	2		201	02652	04251	31	04403	00002
SA	L+89	1		202	02653	04252	32	04403	00001
LT1		L+88		203	02654	04253	22	10000	04403
LT		A		204	02655	04254	22	00000	32000
AT	V3	FILL		205	02656	04255	35	05014	30000
RA	L-1	V1		206	02657	04256	21	04255	05012
IJ	L+81	L-6		207	02650	04257	41	04400	04251
RJ	L	L+1		208	02651	04260	37	04260	04261
MJ		L+50		209	02652	04261	45	00000	04343
LA	L+81	9	UNFLOAT MANTISSA	210	02653	04262	54	04403	00011
LQ	L+80	35	SCALED 35	211	02654	04263	55	04403	00043
LT		A	OBTAIN	212	02655	04264	22	00000	32000
TM	A	A	BINARY	213	02656	04265	12	32000	32000
SN	A		SCALING	214	02657	04266	33	32000	00000
AT	V243B	L+74	WHERE B EQ 235-CHAK	215	02670	04267	35	05031	04401
SJ	L+41	L-62		216	02671	04270	46	04341	04172
RJ	L-35	L-40		217	02672	04271	37	04226	04221
TP	A	L+147		218	02673	04272	11	32000	04515
IJ	L+69	L+2		219	02674	04273	41	04400	04275
MJ		L-117		220	02675	04274	45	00000	04107
TJ	V12	L+2		221	02676	04275	42	05021	04277
MJ		L+35		222	02677	04276	45	00000	04341
RS	L+65	V3		223	02700	04277	23	04400	05014
TV	L-27	L-19		224	02701	04300	16	04245	04255
RJ	L+79	L+77		225	02702	04301	37	04420	04416
LT1	1	L+65		226	02703	04302	22	10001	04403
RJ	L-19	L-20		227	02704	04303	37	04260	04257
TV	L-23	L+10		228	02705	04304	16	04255	04316
RA	L-24	V1		9	02706	04305	21	04255	05012
TV	A	L+12		230	02707	04306	16	32000	04322
SA	V1			231	02710	04307	32	05012	00000
TV	A	L+8		232	02711	04310	16	32000	04320
TP	L+131	A		233	02712	04311	11	04514	32000
TP	V1	Q		234	02713	04312	11	05012	31000
SJ	L+1	L+3		235	02714	04313	46	04314	04316
TP	V2	Q		236	02715	04314	11	05013	31000
TN	A	A		237	02716	04315	13	32000	32000
TP	Q	FILL		238	02717	04316	11	31000	30000
DV	V10	Q		239	02720	04317	73	05017	31000
AT	V3	FILL		240	02721	04320	35	05014	30000
SP	Q			241	02722	04321	31	31000	00000
AT	V3	FILL		24	02723	04322	35	05014	30000
MJ		L+16		243	02724	04323	45	00000	04343
RJ	L-62	L-67		244	02725	04324	37	04226	04221
SP	A	35		245	02726	04325	31	32000	00043
ZJ	L+1	L-28		246	02727	04326	47	04327	04272
SF	A	L+45		247	02730	04327	74	32000	04404
LT	28	L+43		248	02731	04330	22	00034	04403
RA	L+43	V200B		249	02732	04331	21	04404	05030

TABLE V-2B  
(page 26)

SS	L+30	9	250	02723	04332	34	04401	00011
AT	L+40	L+40	251	02724	04333	35	04403	04403
MJ		L-34	252	02725	04334	45	00000	04272
TU	L+234	L+3	253	02726	04335	15	04707	04340
TV	L-159	L+2	254	02727	04336	16	04077	04340
RP3	20	L-146	255	02740	04337	75	30024	04115
TP	FILL	FILL	256	02741	04340	11	30000	30000
RP1	11	L-154	257	02742	04341	75	10013	04107
TP	L+16	L+232	258	02743	04342	11	04362	04712
TU	L+7	L-203	259	02744	04343	15	04352	04030
MJ		L-208	260	02745	04344	45	00000	04024
B	770000000000		261	02746	04345	77	00000	00000
B	01374257600		262	02747	04346	01	37425	7600
B	000000100000		263	02750	04347	00	00001	00000
B	10		264	02751	04350	00	00000	00010
B	000000600000		265	02752	04351	00	00006	00000
SA	L+224	36	266	02753	04352	32	04712	00044
LT		L+119	267	02754	04353	22	00000	04542
B	010101010101		268	02755	04354	01	01010	10101
B	3700002		269	02756	04355	00	00037	00002
LT		L+236	270	02757	04356	22	00000	04732
LT		L+115	271	02750	04357	22	00000	04542
B	777000000000		272	02751	04360	77	70000	00000
B	030303030303		273	02752	04361	03	03030	30303
B	565656565656		274	02753	04362	56	56565	65656
B	000000000022		275	02754	04363	00	00000	00022
B	001000000000		276	02755	04364	00	10000	00000
LA	L+14	71	277	02756	04365	54	04403	00107
LT1		L+13	278	02757	04366	22	10000	04403
B			279	02760	04367	00	00000	00000
B			280	02771	04370	00	00000	00000
B			281	02772	04371	00	00000	00000
B			282	02773	04372	00	00000	00000
B			283	02774	04373	00	00000	00000
B			284	02775	04374	00	00000	00000
B			285	02776	04375	00	00000	00000
B			286	02777	04376	00	00000	00000
B			287	03000	04377	00	00000	00000
B			288	03001	04400	00	00000	00000
B			289	03002	04401	00	00000	00000
B			290	03003	04402	00	00000	00000
B			291	03004	04403	00	00000	00000
B			292	03005	04404	00	00000	00000
MJ		L+3	293	03006	04405	45	00000	04410
B			294	03007	04406	00	00000	00000
MJ			295	03010	04407	45	00000	00000
SP	L-14	12	296	03011	04410	31	04372	00014
AT	L+4	L-3	297	03012	04411	35	04415	04406
EF		L-4	298	03013	04412	17	00000	04406
RP1	120	L-4	299	03014	04413	75	10170	04407
EWI		L+66	300	03015	04414	77	10000	04516
B	020064600000		301	03016	04415	02	00646	00000
MJ		L+3	302	03017	04416	45	00000	04421
B			303	03020	04417	00	00000	00000
MJ			304	03021	04420	45	00000	00000
SP	L+60		305	03022	04421	31	04515	00000
LT	9	L+58	306	03023	04422	22	00011	04514
LQ	A	35	307	03024	04423	55	32000	00043
TM	Q	L+57	308	03025	04424	12	31000	04515
ZJ	L+1	L-5	309	03026	04425	47	04426	04420

TABLE V-2B  
(page 27)

RS	L+54	V127		03027	04426	23	04514	05026
MP	L+36	L+53	311	03030	04427	71	04473	04514
LT	1	L+52	312	03031	04430	22	00001	04514
LQ	A	35	313	03032	04431	55	32000	00043
SJ	L+1	L+4	314	03033	04432	46	04433	04436
RS	L+49	V1	315	03034	04433	23	04514	05012
SP	L+34	1	316	03035	04434	31	04476	00001
AT	Q	Q	317	03036	04435	35	31000	31000
MP	Q	L+30	318	03037	04436	71	31000	04474
LT	1	A	319	03040	04437	22	00001	32000
LT1	3	Q	320	03041	04440	22	10003	31000
LT		A	321	03042	04441	22	00000	32000
AT	L+27	L+18	322	03043	04442	35	04475	04464
LQ	Q	35	323	03044	04443	55	31000	00043
SP	Q	4	324	03045	04444	31	31000	00004
LT		A	325	03046	04445	22	00000	32000
AT	L+32	L+11	326	03047	04446	35	04506	04461
QT	L+32	Q	327	03050	04447	51	04507	31000
MP	Q	L+33	328	03051	04450	71	31000	04511
LT		A	329	03052	04451	22	00000	32000
AT	L+30	L-39	330	03053	04452	35	04510	04403
MP	Q	L-40	331	03054	04453	71	31000	04403
LT		A	332	03055	04454	22	00000	32000
AT	L+29	L-42	333	03056	04455	35	04512	04403
SP	Q	33	334	03057	04456	31	31000	00041
DV	L-44	A	335	03060	04457	73	04403	32000
AT	L+14	Q	336	03061	04460	35	04476	31000
	FILL	FILL	337	03062	04461	00	30000	30000
LT	2	A	338	03063	04462	22	00002	32000
MP	A	L+26	339	03064	04463	71	32000	04515
	FILL	FILL	340	03065	04464	00	30000	30000
SA	L+22		341	03066	04465	32	04513	00000
EJ	A	L+4	342	03067	04466	43	32000	04472
DV	V10	Q	343	03070	04467	73	05017	31000
RA	L+20	V1	344	03071	04470	21	04514	05012
RA	Q	V1	345	03072	04471	21	31000	05012
MJ		L-42	346	03073	04472	45	00000	04420
B	115040465024		347	03074	04473	11	50404	65024
B	324464741135		348	03075	04474	32	44647	41135
SS	A	37	349	03076	04475	34	32000	00045
B	200000000000		350	03077	04476	20	00000	00000
B	21345340/440		351	03100	04477	21	34534	07440
B	230157701214		352	03101	04500	23	01577	01214
B	245775532516		353	03102	04501	24	57755	32516
B	265011714640		354	03103	04502	26	50117	14640
B	305316250212		355	03104	04503	30	53162	50212
B	327211763126		356	03105	04504	32	72117	63126
B	352601433477		357	03106	04505	35	26014	33477
MP	Q	L-8	358	03107	04506	71	31000	04476
B	03777777/777		359	03110	04507	03	77777	77777
B	600080171150		360	03111	04510	60	00001	71150
B	035440262675		361	03112	04511	03	54402	62675
B	270524354513		362	03113	04512	27	05243	54513
B	000080000254		363	03114	04513	00	00000	00254
			364	03115	04514	00	00000	00000
			365	03116	04515	00	00000	00000
			366	03117	04516			
			367	03307	04706			
RSRV	120	120		03333	04732	45	00000	04735
RSRV	20	20		03334	04733	56	00000	04734
MJ		L+3						
MS		L+1						

LOG2 BASE10 S35  
LOG10 BASE2 S35  
DUMMY  
1 SCALED 34  
2 TO 1/8TH SCALED 34  
T  
A  
B  
L  
E  
2 TO 7/8THS SCALED 34  
DUMMY  
MASK  
A1 S35  
A2 S36  
LOGE BASE2 S34  
ROUNDING FACTOR

FIXED POINT INTEGER  
CONVERSION ROUTINE.

TABLE V-2B  
(page 28)

MJ		FILL		03325	04734	45	00000	30000
RPV	12	L+2		03326	04735	75	10014	04737
TP	L+25	L+27		03327	04736	11	04767	04771
TU	A	L+1		03340	04737	15	32000	04740
TP	FILL	L+24		03341	04740	11	30000	04770
LA	A	30		03342	04741	54	32000	00036
LQ	A	6		03343	04742	55	32000	00006
AT	L+17	L+3		03344	04743	35	04764	04746
TP	L+20	A		03345	04744	11	04770	32000
DV	L+14	L+19		03346	04745	73	04763	04770
TP	A	FILL		03347	04746	11	32000	30000
TP	Q	A		03350	04747	11	31000	32000
ZJ	L+1	L+5		03351	04750	47	04751	04755
TP	L-3	A		03352	04751	11	04746	32000
EJ	L+11	L+3		03353	04752	43	04765	04755
ST	L+6	L-5		03354	04753	36	04761	04746
MJ		L-8		03355	04754	45	00000	04744
RPV	12	L+2		03356	04755	75	20014	04757
RA	L+11	L+4		03357	04756	21	04771	04762
TN	L+7	A		03360	04757	13	04766	32000
MJ		L-20		03361	04760	45	00000	04734
B	1			03362	04761	00	00000	00001
B	3			03363	04762	00	00000	00003
B	12			03364	04763	00	00000	00012
TP	A	L+4		03365	04764	11	32000	04770
TP	A	L+4		03366	04765	11	32000	04771
	L+3			03367	04766	00	04771	00000
B	777777777775			03370	04767	77	77777	77775
RSRV	13	13		03371	04770			
U1	00	1		03406	05005	00	00001	00000
U2	00	2		03407	05006	00	00002	00000
U7	00	7		03410	05007	00	00007	00000
U8	00	8		03411	05010	00	00010	00000
V0	00	0		03412	05011	00	00000	00000
V1	00	0		03413	05012	00	00000	00001
V2	00	0		03414	05013	00	00000	00002
V3	S	3		03415	05014	00	00000	00003
V6	00	0		03416	05015	00	00000	00006
V7	S	7		03417	05016	00	00000	00007
V10	S	10		03420	05017	00	00000	00012
V11	S	11		03421	05020	00	00000	00013
V12	S	12		03422	05021	00	00000	00014
V13	S	13		03423	05022	00	00000	00015
V20	S	20		03424	05023	00	00000	00024
V21	S	21		03425	05024	00	00000	00025
V36	S	36		03426	05025	00	00000	00044
V127	S	127		03427	05026	00	00000	00177
V77B	B	77		03428	05027	00	00000	00077
V200B	B	200		03431	05030	00	00000	00200
V243B	B	243		03432	05031	00	00000	00243
B273	B27	3		03433	05032	00	30000	00000
U1V1	00	1		03434	05033	00	00001	00001
PRERS	RSRV	4		03435	05034			
PRCOM	RSRV	39		03441	05040			
LLAST		LAST		03510	05107	00	00000	05110
LAST	XS3	DMM 02		03511	05110	27	47470	00305
	SETL	(10B)						
IOEN				03512	00010	00	00000	00000
N				03513	00011	00	00000	00000
I				03514	00012	00	00000	00000

OUTPUT ROUTINE CONSTANTS

PROGRAM ID (LAST WORD).

5-130

TABLE V-2B  
(page 29)

5-131

B				03515	00013	00	00000	00000
R		0000	0000	0006	03516	00014	00	00000
S		0000	0000	0007	03517	00015	00	00000
Y					03520	00016	00	00000
INF1		0000	0000	0008	03521	00017	00	00000
INF2		0000	0000	0009	03522	00020	00	00000
INF3		0000	0000	0010	03523	00021	00	00000
INF4		0000	0000	0011	03524	00022	00	00000
INF5		0000	0000	0012	03525	00023	00	00000
INF6		0000	0000	0013	03526	00024	00	00000
INF7		0000	0000	0014	03527	00025	00	00000
INF8		0000	0000	0015	03528	00026	00	00000
INF9		0000	0000	0016	03529	00027	00	00000
INF10		0000	0000	0017	03532	00030	00	00000
INF11		0000	0000	0018	03533	00031	00	00000
INF12		0000	0000	0019	03534	00032	00	00000
RHO		0000	0000	0020	03535	00033	00	00000
VARI				0021	03536	00034	00	00000
KKK				0022	03537	00035	00	00000
NOM					03540	00036	00	00000
PSUBO	F	0000	0000		03541	00037	00	00000
YSUBX	F	3.12	13		03542	00040	00	00000
YSUBI	F	3	-3		0023	03543	00	00000
YSUBP	F	5.6	-2		03544	00042	25	57060
LAMXE	F	1.4	-2		03545	00043	17	06111
LAMI	F	2.1	-5		03546	00044	17	47126
LAMPR	F	2.9	-5		03547	00045	17	27126
		4.1	-6		03550	00046	16	15402
					03551	00047	16	17464
					03552	00050	15	74231
					03553	00051	00	00000
RZERO	F				03554	00052	00	00000
TIME	F				03555	00053	00	00000
EPSIL	F	.00001			03556	00054	16	05174
EPS2	F	.00001			03557	00055	16	05174
EPS3	F	.00001			03560	00056	16	05174
EPS4	F	.00001			03561	00057	16	05174
K0	F	1.0			03562	00060	20	14000
OMEGA	F				03563	00061	00	00000
UZDK	F	1.0			03564	00062	20	14000
		0000	0000		0036	03565	00	00000
QQ	F				03566	00064	00	00000
DELTS	F				03567	00065	00	00000
DTMAX	F				03570	00066	00	00000
					03571	00067	00	00000
TAPE1	B	1			03572	00070	00	00000
TAPE2	B	2			03573	00071	00	00000
TAPE3	B	3			03574	00072	00	00000
TAPE4	B	4			03575	00073	00	00000
TAPE5	B	5			03576	00074	00	00000
TAPE6	B	6			03577	00075	00	00000
TAPE7	B	7			03600	00076	00	00000
TAPE8	B	10			03601	00077	00	00000
TAPE9	B	11			03602	00100	00	00000
TAPE10	B	12			03603	00101	00	00000
		0000	0000		0045	03604	00	00000
DIA1		0000	0000		0046	03605	00	00000
DIA2		0000	0000		0047	03606	00	00000
DIA3		0000	0000		0048	03607	00	00000
DIA4		0000	0000		0049	03610	00	00000

FX-CHANGE CON+MESH+PB  
FX-REGION INDEX  
FX-ISOTOPE INDEX

FISSIONS-KW+SEC  
XE135 ATOMS-FISSION  
I135 ATOMS-FISSION  
PRI49 ATOMS-FISSION  
PROB-SEC DECAY XE135  
PROB-SEC DECAY I135  
PROB-SEC DECAY PRI49

0 FIRST MESH POINT  
0 CURRENT TIME  
.00001 CONV CRIT REAC  
.00001 CONV CRIT POWER  
.00001 CONV CRIT KZERO  
.00001  
1.0 DESIRED REACTIVITY  
DIFF. ACCEL. FACTOR  
DZ-DK FIRST GUESS

POWER DENSITY KW-CM3  
TIME SINCE SHUTDOWN SEC

PROGRAM TAPE  
BASIC LIBRARY TAPE  
MICKO GROUP TAPE NEW  
NUCLEAR CONSTANT TAPE  
MICKO GROUP TAPE OLD  
RAW DATA TAPE  
INTERMEDIATE TAPE  
OUTPUT TAPE  
DUMP TAPE  
DMM SERVICE LIBRARY

TABLE V-2B  
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DIA5	0000	0000	0050	03611	00107	00	00000	00000
DIA6	0000	0000	0051	03612	00110	00	00000	00000
DIA7	0000	0000	0052	03613	00111	00	00000	00000
DIA8	0000	0000	0053	03614	00112	00	00000	00000
DIA9	0000	0000	0054	03615	00113	00	00000	00000
DIA10	0000	0000	0055	03616	00114	00	00000	00000
DIA11	0000	0000	0056	03617	00115	00	00000	00000
DIA12	0000	0000	0057	03620	00116	00	00000	00000
DIA13	0000	0000	0058	03621	00117	00	00000	00000
DIA14	0000	0000	0059	03622	00120	00	00000	00000
DIA15	0000	0000	0060	03623	00121	00	00000	00000
DIA16	0000	0000	0061	03624	00122	00	00000	00000
DIA17	0000	0000	0062	03625	00123	00	00000	00000
DIA18	0000	0000	0063	03626	00124	00	00000	00000
				03627	00125	00	00000	00000
LISOP	RSRV	3		03630	00126			
LENGY	RSRV	3		03633	00131			
LAKBK	RSRV	3		03636	00134			
LROIF	RSRV	3		03641	00137			
LPTS	RSRV	3		03644	00142			
LREGN	RSRV	3		03647	00145			
LBSU0	RSRV	3		03652	00150			
LBSUN	RSRV	3		03655	00153			
LPHI	RSRV	3		03660	00156			
LCAPP	RSRV	3		03663	00161			
LPBKI	RSRV	3		03666	00164			
LSFKI	RSRV	3		03671	00167			
LMESH	RSRV	3		03674	00172			
LBRMX	RSRV	3		03677	00175			
LPHKI	RSRV	3		03702	00200			
LNSMT	RSRV	3		03705	00203			
LNJET	RSRV	3		03710	00206			
LCAPD	RSRV	3		03713	00211			
LCAPT	RSRV	3		03716	00214			
LCPTI	RSRV	3		03721	00217			
LCAPF	RSRV	3		03724	00222			
LXKI	RSRV	3		03727	00225			
LMFKI	RSRV	3		03732	00230			
LPDIF	RSRV	3		03735	00233			
LKPXE	RSRV	3		03740	00236			
LLKIA	RSRV	3		03743	00241			
LLKIB	RSRV	3		03746	00244			
LNFKI	RSRV	3		03751	00247			
LNLP	RSRV	3		03754	00252			
LNSKI	RSRV	3		03757	00255			
LNDKI	RSRV	3		03762	00260			
LNFP	RSRV	3		03765	00263			
LNCKI	RSRV	3		03770	00266			
LNRKI	RSRV	3		03773	00271			
LNPKI	RSRV	3		03776	00274			
LNKE	RSRV	3		04001	00277			
LNKL	RSRV	3		04004	00302			
LSHUF	RSRV	3		04007	00305			
CRCO1	B			04012	00310	00	00000	00000
Z3	RSRV	3		04013	00311			
Z2	RSRV	3		04016	00314			
Z1	RSRV	3		04021	00317			
Z				04024	00322	00	00000	00000
DELTA	F			04025	00323	00	00000	00000
MU				04026	00324	00	00000	00000

CURRENT DZ-DK  
CURRENT REACTIVITY

TABLE V-2B  
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BLOCK	B			04027	00325	00	00000	00000
NDCI	B			04030	00326	00	00000	00000
MN001	B			04031	00327	00	00000	00000
MN002	B			04032	00330	00	00000	00000
SUBR	RSRV	9	9	04033	00331			
MLM1	RSRV	4	4	04044	00342			
DRUM	B			04030	00346	00	00000	00000
MINCE	B			04031	00347	00	00000	00000
ISO				04032	00350	00	00000	00000
MARK1				04033	00351	00	00000	00000
MARK2				04034	00352	00	00000	00000
K3				04035	00353	00	00000	00000
STAGAT				04036	00354	00	00000	00000
INDEXS				04037	00355	00	00000	00000
DTWICE				04038	00356	00	00000	00000
ADMCFE	RSRV	3	3	04039	00357			
1STBP				04034	00362	00	00000	00000
UFLTAT				04035	00363	00	00000	00000
CR02	EQLS	Z3						
LISOB	EQLS	LISOP						
LXI	EQLS	LXKI						
LMKI	EQLS	LMFKI						
END							00000	

TABLE V-2C

MONITOR

Label	Code	Address	Description	Address	Count	Address	Count
	SETL	1	370R)				
	XS3	UMM 03		00001	00370	27	47470 00306
UMND	TP	UIAC	Q	00002	00371	11	00457 31000
	QJ	UMND04	L+1	00003	00372	44	00427 00373
	QT	MSK1	A	00004	00373	51	00453 32000
	ZJ	L+1	UMND03	00005	00374	47	00375 00421
	RS	DIAC	V1	00006	00375	23	00457 00764
	LQ	UIAC	A+21	00007	00376	55	00457 32025
	QT	MSK3	Q	00010	00377	51	00532 31000
UMND01	TP	U	TEMP	00011	00400	11	31000 01015
	CALL	LOAD		00012	00401	37	00463 00461
	TP	TEMP	Q	00013	00402	11	01015 31000
	RA	U	TABL1	00014	00403	21	31000 00454
	TV	Q	L+1	00015	00404	16	31000 00405
	MJ		FILL	00016	00405	45	00000 30000
UMND02	MS3		PROB1N	00017	00406	56	30000 00611
	MS3		MGCSTP	00020	00407	56	30000 00630
	MS3		NUCCON	00021	00410	56	30000 00632
	MS3		CONCOR	00022	00411	56	30000 00636
	MS3		DIFFUS	00023	00412	56	30000 00642
	MS3		BURNUP	00024	00413	56	30000 00664
	MS3		CRICAL	00025	00414	56	30000 00670
	MS3		NUTRAL	00026	00415	56	30000 00706
	MS3		AJOINT	00027	00416	56	30000 00712
	MS3		XESMAD	00030	00417	56	30000 00717
	MS3		BASLTB	00031	00420	56	30000 00723
UMND03	TP	UIAL	A	00032	00421	11	00460 32000
	RA	A	DIMG	00033	00422	21	32000 00456
	TU	A	L+1	00034	00423	15	32000 00424
	TP	FILL	DIAC	00035	00424	11	30000 00457
	RA	UIAL	UI	00036	00425	21	00460 00774
	MJ		DMND	00037	00426	45	00000 00571
UMND04	QJ	STOP	L+1	00040	00427	44	00743 00430
	TP	UIAL	A	00041	00430	11	00460 32000
	RA	A	DIMG	00042	00431	21	32000 00456
	RS	A	UI	00043	00432	23	32000 00774
	LQ	A	21	00044	00433	55	32000 00025
	TV	A	UMND05	00045	00434	16	32000 00441
	TP	MSK3	Q	00046	00435	11	00532 31000
	QT	UIAC	A	00047	00436	51	00457 32000
	ZJ	L+1	UMND06	00050	00437	47	00440 00444
	TP	DIAC	A	00051	00440	11	00457 32000
UMND05	ST	V1	FILL	00052	00441	36	00764 30000
	TU	A	DIAL	00053	00442	15	32000 00460
	MJ		DMND03	00054	00443	45	00000 00421
UMND06	TP	UIAL	A	00055	00444	11	00460 32000
	RA	A	DBLK	00056	00445	21	32000 00455
	RS	A	UI	00057	00446	23	32000 00774
	TU	A	L+2	00060	00447	15	32000 00451
	TV	UMND05	L+1	00061	00450	16	00441 00451
	TP	FILL	FILL	00062	00451	11	30000 30000
	MJ		DMND03	00063	00452	45	00000 00421
MSK1	B	177776		00064	00453	00	00001 77776
TABL1	00	0	DMND02-4	00065	00454	00	00000 00402
DBLK	00	UIA1=1	0	00066	00455	00	00102 00000
DIMG	00	DIAM=1		00067	00456	00	01016 00000
DIAC	00	4	1	00070	00457	00	00004 00001
DIAL	00	0	0	00071	00460	00	00000 00000
LOAD	MJ		L+3	00072	00461	45	00000 00464

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	MS		L+1	BLOCK FROM THE PROGRAM	00073	00462	56	00000	00463
	MJ		FILL	TAPE INTO SEQUENTIAL	00074	00463	45	00000	00000
	TP	V3	A	CELLS, STARTING AT ELOC.	00075	00464	11	00766	02000
	TJ	Q	L+2		00076	00465	42	01000	00467
	MJ		PREA1	TEST FOR CORRECT	00077	00466	45	00000	00725
	TP	V14	A	PROGRAM ID.	00100	00467	11	00771	02000
	TJ	Q	PKEA2		00101	00470	42	01000	00732
	TP	Q	TEMP+1		00102	00471	11	01000	01016
	TP	MSK2	Q	SET UP TAPE NUMBER.	00103	00472	11	00531	01000
	SP	TAPE1	12		00104	00473	31	00070	00014
	QS	A	MOVEF		00105	00474	53	02000	00547
	QS	MOVEF	MOVEF		00106	00475	53	00547	00550
	LQ	Q	18		00107	00476	55	01000	00022
	SP	TAPE1	30		00110	00477	31	00070	00036
	QS	A	TPCAL		00111	00500	53	02000	00521
	TP	TEMP+1	Q	MOVE TAPE TO READ	00112	00501	11	01016	01000
	TP	BLOCK	A	POSITION.	00113	00502	11	00325	02000
	TJ	Q	LOAD01		00114	00503	42	01000	00512
	RS	A	Q		00115	00504	23	02000	01000
	TP	MSK3	Q		00116	00505	11	00532	01000
	QS	A	MOVEB		00117	00506	53	02000	00550
	EF		MOVEF		00120	00507	17	00000	00550
	TP	TEMP+1	BLOCK		00121	00510	11	01016	00325
	MJ		LOAD02		00122	00511	45	00000	00520
LOAD01	ST	Q	Q		00123	00512	36	01000	01000
	TN	Q	A		00124	00513	13	01000	02000
	TP	MSK3	Q		00125	00514	11	00532	01000
	QS	A	MOVEF		00126	00515	53	02000	00547
	EF		MOVEF		00127	00516	17	00000	00547
	TP	TEMP+1	BLOCK		00130	00517	11	01016	00325
LOAD02	CALL	BKREAD		HEAD PROGRAM BLOCK.	00131	00520	37	01043	01041
TPCAL		Q	ELOC		00132	00521	00	00000	01400
	MJ		PREA4	END OF TAPE.	00133	00522	45	00000	00740
	RA	BLOCK	V1		00134	00523	21	00325	00764
	SP	TEMP+1	15	END OF BLOCK, COMPARE	00135	00524	31	01016	00017
	AT	TABL2	L+1	ID OF BLOCK READ WITH	00136	00525	35	00533	00526
	TP	FILL	A	THAT REQUESTED.	00137	00526	11	00000	02000
	EJ	ELOC	LOAD+2	EXIT.	00140	00527	43	01400	00463
	MJ		PREA3		00141	00530	45	00000	00735
MSK2	B12	17		CONSTANTS.	00142	00531	00	00001	00000
MSK3	B	7777			00143	00532	00	00000	07777
TABL2	TP	L-3	A		00144	00533	11	00530	02000
	XS3	DMM 04			00145	00534	27	47470	00307
	XS3	DMM 05			00146	00535	27	47470	00310
	XS3	DMM 06			00147	00536	27	47470	00311
	XS3	DMM 07			00150	00537	27	47470	00312
	XS3	DMM 10			00151	00540	27	47470	00403
	XS3	DMM 11			00152	00541	27	47470	00404
	XS3	DMM 12			00153	00542	27	47470	00405
	XS3	DMM 13			00154	00543	27	47470	00406
	XS3	DMM 14			00155	00544	27	47470	00407
	XS3	DMM 15			00156	00545	27	47470	00410
	XS3	DMM 16			00157	00546	27	47470	00411
MOVEF	B15	200064			00160	00547	02	00064	00000
MOVEB	B15	200074			00161	00550	02	00074	00000
OUTIN	MJ		L+3	THIS ROUTINE SAVES THE	00162	00551	45	00000	00554
	MS		L+1	CONTENTS OF CURE	00163	00552	56	00000	00553
	MJ		FILL	LOCATIONS ELOC THROUGH	00164	00553	45	00000	00000
	TU	NDCI	L+4	ELOC+(NDCI)-1 IN A DRUM	00165	00554	15	00326	00560
	RA	L+3	L+8	IMAGE, THEN LOADS THE	00166	00555	21	00560	00565

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	LQ	NDC1	A+21	OUTPUT ROUTINE INTO CORE	00167	00556	55	00326	32025
	AT	L+7	L+2	STARTING AT ELOC.	00170	00557	35	00566	00561
	RPB		L+2	NDC1 CONTAINS A WORK	00171	00560	75	30000	00562
	TP	ELOC	FILL	COUNT OF THE OUTPUT	00172	00561	11	01400	30000
	TU	L-2	L+1	ROUTINE.	00173	00562	15	00560	00563
	RPB		OUTIN+2		00174	00563	75	30000	00553
	TP	PRDRM	ELOC		00175	00564	11	50000	01400
	B27	3		CONSTANTS.	00176	00565	00	30000	00000
	TP	ELOC	PRDRM		00177	00566	11	01400	50000
RESTOR	MJ		L+3	THIS ROUTINE RESTORES	00200	00567	45	00000	00572
	MS		L+1	THE CONTENTS OF CORE	00201	00570	56	00000	00571
	MJ		FILL	SAVED BY OUTIN.	00202	00571	45	00000	30000
	TU	OUTIN+7	L+3		00203	00572	15	00560	00575
	SP	OUTIN+8	15		00204	00573	31	00561	00017
	TU	A	L+2		00205	00574	15	32000	00576
	RPB		RESTOR+2		00206	00575	75	30000	00571
OUTPT	TP	FILL	ELOC	SETUP AND CALL OUTPUT	00207	00576	11	30000	01400
	MJ		L+3	ROUTINE DESIGNATED IN	00210	00577	45	00000	00602
	MS		L+1	Q.	00211	00600	56	00000	00601
	MJ		FILL		00212	00601	45	00000	30000
	TP	Q	L+6		00213	00602	11	31000	00610
	CALL	OUTIN			00214	00603	37	00553	00551
	TP	L+4	Q		00215	00604	11	00610	31000
	RJ	ELOC+3	ELOC+1		00216	00605	37	01403	01401
	CALL	RESTOR			00217	00606	37	00571	00567
	MJ		OUTPT+2		00220	00607	45	00000	00601
PROBIN	RSRV	1	1	CONTROLLING SEQUENCES	00221	00610			
	RPB	9	L+2	FOR DMM PROGRAMS.	00222	00611	75	30011	00613
	TP	CLSEQ	SUBR		00223	00612	11	01004	00331
	TP	UZDK	DELTA		00224	00613	11	00062	00323
	TP	TIME1	TIME		00225	00614	11	01003	00053
	RPB	9	L+2		00226	00615	75	30011	00617
	TP	CLSEQ	SUBR		00227	00616	11	01004	00331
	RJ	ELOC+3	ELOC+1		00230	00617	37	01403	01401
	MJ		STOP		00231	00620	45	00000	00743
	RPB	18	L+2		00232	00621	75	30022	00623
	TP	DIA1	DIAM		00233	00622	11	00103	01017
	TP	DIA1	DIAC		00234	00623	11	00103	00457
	TP	U2	DIAL		00235	00624	11	00775	00460
	TP	V0	1STBP		00236	00625	11	00763	00362
	TP	TIME	TIME1		00237	00626	11	00053	01003
	MJ		DMND		00240	00627	45	00000	00371
MGCSTP	RJ	ELOC+3	ELOC+1		00241	00630	37	01403	01401
	MJ		DMND	EACH DMM PROGRAM HAS	00242	00631	45	00000	00371
NUCCON	RJ	ELOC+3	ELOC+1	A CALLING SEQUENCE IN	00243	00632	37	01403	01401
	TP	U7	Q	THIS LIST. SETUPS AND	00244	00633	11	01001	31000
	CALL	OUTPT		TERMINATION SEQUENCES	00245	00634	37	00601	00577
	MJ		DMND	ARE PERFORMED HERE.	00246	00635	45	00000	00371
CONCOK	RJ	ELOC+3	ELOC+1		00247	00636	37	01403	01401
	TP	U7	Q		00250	00637	11	01001	31000
	CALL	OUTPT			00251	00640	37	00601	00577
	MJ		DMND		00252	00641	45	00000	00371
DIFFUS	RJ	ELOC+3	ELOC+1		00253	00642	37	01403	01401
	TV	Q	L+10		00254	00643	16	31000	00655
	RJ	L	L+7		00255	00644	37	00644	00653
	RA	MNOO1	V1		00256	00645	21	00327	00764
	TP	INFS	A		00257	00646	11	00024	32000
	ZJ	L+1	L+6		00260	00647	47	00650	00655
	TP	U1	Q		00261	00650	11	00774	31000
	CALL	OUTPT			00262	00651	37	00601	00577

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	MJ		L+3	00263	00652	45	00000	00655
	TP	V0	MN001	00264	00653	11	00763	00327
	MJ		L-7	00265	00654	45	00000	00645
	RJ	ELOC+3	FILL	00266	00655	37	01403	30000
	QJ	L+1	L-10	00267	00656	44	00657	00644
	TV	L+4	L-11	00270	00657	16	00663	00644
	TP	U2	Q	00271	00660	11	00775	31000
	CALL	OUTPT		00272	00661	37	00601	00577
	MJ		DMND	00273	00662	45	00000	00371
	OO	0	L-8	00274	00663	00	00000	00653
BURNUP	RJ	ELOC+3	ELOC+1	00275	00664	37	01403	01401
	TP	U3	Q	00276	00665	11	00776	31000
	CALL	OUTPT		00277	00666	37	00601	00577
	MJ		DMND	00300	00667	45	00000	00371
CRTCAL	RJ	ELOC+3	ELOC+1	00301	00670	37	01403	01401
	QJ	L+5	L+1	00302	00671	44	00676	00672
	TV	V0	DIAC	00303	00672	16	00763	00457
	TP	U5	Q	00304	00673	11	01000	31000
	CALL	OUTPT		00305	00674	37	00601	00577
	MJ		DMND	00306	00675	45	00000	00371
	SP	DIAC	0	00307	00676	31	00457	00000
	SA	V1	15	00310	00677	32	00764	00017
	TU	A	DIAL	00311	00700	15	32000	00460
	TV	V0	DIAC	00312	00701	16	00763	00457
	QJ	L+1	DMND	00313	00702	44	00703	00371
	TP	U5	Q	00314	00703	11	01000	31000
	CALL	OUTPT		00315	00704	37	00601	00577
	MJ		DMND	00316	00705	45	00000	00371
NUTBAL	RJ	ELOC+3	ELOC+1	00317	00706	37	01403	01401
	TP	U3	Q	00320	00707	11	01002	31000
	CALL	OUTPT		00321	00710	37	00601	00577
	MJ		DMND	00322	00711	45	00000	00371
AJOINT	RJ	ELOC+3	ELOC+1	00323	00712	37	01403	01401
	TP	V1	MN002	00324	00713	11	00764	00330
	TP	V8	Q	00325	00714	11	00770	31000
	CALL	LOAD		00326	00715	37	00463	00461
	MJ		DIFFUS	00327	00716	45	00000	00642
XESMAU	RJ	ELOC+3	ELOC+1	00330	00717	37	01403	01401
	TP	U4	Q	00331	00720	11	00777	31000
	CALL	OUTPT		00332	00721	37	00601	00577
	MJ		DMND	00333	00722	45	00000	00371
BASLIB	RJ	ELOC+3	ELOC+1	00334	00723	37	01403	01401
	MJ		DMND	00335	00724	45	00000	00371
PREA1	RJ	ALARM1	L+4	00336	00725	37	00342	00731
	TP	V4	Q	00337	00726	11	00767	31000
	CALL	LOAD		00340	00727	37	00463	00461
	MJ		PROB1N	00341	00730	45	00000	00611
	MS		ALARM1	00342	00731	56	00000	00342
PREA2	RJ	ALARM2	L+2	00343	00732	37	00343	00734
	MJ		PREA1+1	00344	00733	45	00000	00726
	MS		ALARM2	00345	00734	56	00000	00343
PREA3	RJ	ALARM3	L+2	00346	00735	37	00344	00737
	MJ		PREA1+1	00347	00736	45	00000	00726
	MS		ALARM3	00350	00737	56	00000	00344
PREA4	RJ	ALARM4	L+2	00351	00740	37	00345	00742
	MJ		PREA1+1	00352	00741	45	00000	00726
	MS		ALARM4	00353	00742	56	00000	00345
STOP	TP	MSK2	Q	00354	00743	11	00531	31000
	SP	TAPE8	12	00355	00744	31	00077	00014
	QS	A	WRT1	00356	00745	53	32000	00757

ALARM1- PROGRAM ID IN  
DIAMOND IS LESS THAN 4.

ALARM2- PROGRAM ID IN  
DIAMOND IS GREATER  
THAN 14.

ALARM3- ID OF PROGRAM  
LOADED DOES NOT MATCH  
THAT OF PROG. CALLED.

ALARM4- END OF PROG.  
TAPE.

END OF RUN SEQUENCE.

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	QS	WRT1	WRT2		00357	00746	53	00757	00760	
	SP	1APE1	12		00360	00747	31	00070	00014	
	QS	A	WRT3		00361	00750	53	32000	00761	
	EF		WRT1	END-OF-FILE, OUTPUT TP.	00362	00751	17	00000	00757	
	RP	120	L+2		00363	00752	75	00170	00754	
	E#1		TPEND		00364	00753	77	10000	00762	
	EF		WRT3	REW PROG. TAPE.	00365	00754	17	00000	00761	
	EF		WRT2	REW OUTPUT TAPE.	00366	00755	17	00000	00760	
	PS			STOP.	00367	00756	57	00000	00000	
WRT1	B	020064600000			00370	00757	02	00646	00000	
WRT2	B	020040000000			00371	00760	02	00400	00000	
WRT3	B	020040000000			00372	00761	02	00400	00000	
TPEND	B	006060600060			00373	00762	60	60606	00060	
V0	B			MONITOR CONSTANTS.	00374	00763	00	00000	00000	
V1	B	1			00375	00764	00	00000	00001	
V2	B		2		00376	00765	00	00000	00002	
V3	B	3			00377	00766	00	00000	00003	
V4	B	4			00400	00767	00	00000	00004	
V8	B	10			00401	00770	00	00000	00010	
V14	B	16			00402	00771	00	00000	00016	
V17B	B	17			00403	00772	00	00000	00017	
V7777B	B	7777			00404	00773	00	00000	07777	
U1	B15	1			00405	00774	00	00001	00000	
U2	B15	2			00406	00775	00	00002	00000	
U3	B15	3			00407	00776	00	00003	00000	
U4	B15	4			00410	00777	00	00004	00000	
U5	B15	5			00411	01000	00	00005	00000	
U7	B15	7			00412	01001	00	00007	00000	
U8	B15	10			00413	01002	00	00010	00000	
TIME1	B				00414	01003	00	00000	00000	
CLSEQ	TV	SUBR+2	ALLOK+2		00415	01004	16	00333	01177	
	MJ		ALLOK		00416	01005	45	00000	01175	
	B				00417	01006	00	00000	00000	
	TV	SUBR+5	8KREAD+2		00420	01007	16	00336	01043	
	MJ		8KREAD		00421	01010	45	00000	01041	
	B				00422	01011	00	00000	00000	
	TV	SUBR+8	8KRITE+2		00423	01012	16	00341	01152	
	MJ		8KRITE		00424	01013	45	00000	01150	
	B				00425	01014	00	00000	00000	
TEMP	RSRV	2	2	MONITOR STORAGES.	00426	01015				
UIAM	RSRV	18	18		00430	01017				
8KPEAU	MJ		START	READ BLOCK ON TAPE IT	001	00452	01041	45	00000	01045
	MS			ERROR EXIT	002	00453	01042	56	00000	00000
EXIT	MJ		FILL	NORMAL EXIT	003	00454	01043	45	00000	30000
PAP1					004	00455	01044	00	00000	00000
START	SP	EXIT	15		005	00456	01045	31	01043	00017
	TU	A	L+1		006	00457	01046	15	32000	01047
	TP	FILL	PAR1		007	00460	01047	11	30000	01044
	LO	PAR1	A+6		008	00461	01050	55	01044	32000
	QU	8WD	FWD		009	00462	01051	44	01052	01056
8WD	TP	KON1	MODIFY		010	00463	01052	11	01145	01104
	TP	KDFWD	RUVBLK		011	00464	01053	11	01142	01135
	TP	MOVFWD	MOVE		012	00465	01054	11	01143	01136
	MJ		SHIFT		013	00466	01055	45	00000	01061
8WD	TP	KON2	MODIFY		014	00467	01056	11	01146	01104
	TP	KDFWD	RUVBLK		015	00470	01057	11	01141	01135
	TP	MOV PAC	MOVE		016	00471	01060	11	01144	01138
SHIFT	LQ	0	A+11		017	00472	01061	55	31000	32013
	QU	L+1	L+3		018	00473	01062	44	01063	01065
	TV	ENDING	ENDTP		019	00474	01063	16	01131	01116

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	MJ		L+2	020	00475	01064	45	00000	01066
	TV	ENDER	ENDTP	021	00476	01065	16	01132	01116
	LQ	V17B	A+12	022	00477	01066	55	00772	32014
	SP	PAR1	54	023	00500	01067	31	01044	00066
	QS	A	RDVBLK	024	00501	01070	53	32000	01135
	QS	A	MOVE	025	00502	01071	53	32000	01136
RUVAR	EF		NORMAL	026	00503	01072	17	00000	01133
	TP	V2	INDEX	027	00504	01073	11	00765	01137
ENT	TV	PAR1	RA	028	00505	01074	16	01044	01103
	EF		RDVBLK	029	00506	01075	17	00000	01135
RO	ERO		A	030	00507	01076	76	00000	32000
	EJ	V1	PARITY	031	00510	01077	43	00764	01106
	EJ	V2	ENDBLK	032	00511	01100	43	00765	01110
	EJ	V3	MOD6	033	00512	01101	43	00766	01114
	EJ	V4	ENDTP	034	00513	01102	43	00767	01116
RA	ERI		FILL	035	00514	01103	76	10000	30000
MODIFY	RA	L-1	V1	036	00515	01104	21	01103	00764
	MJ		RO	037	00516	01105	45	00000	01076
PARITY	TV	PARTN	DUM.	038	00517	01106	16	01121	01111
	MJ		RA	039	00520	01107	45	00000	01103
ENDBLK	EF		STOPTP	040	00521	01110	17	00000	01140
DUM	RJ	L	L+1	041	00522	01111	37	01111	01112
EXITS	RA	EXIT	V2	042	00523	01112	21	01043	00765
	MJ		EXIT	043	00524	01113	45	00000	01043
MOD6	EF		STOPTP	044	00525	01114	17	00000	01140
	MJ		M6RERD	045	00526	01115	45	00000	01127
ENDTP	MJ		FILL	046	00527	01116	45	00000	30000
	RA	EXIT	V1	047	00530	01117	21	01043	00764
	MJ		EXIT	048	00531	01120	45	00000	01043
PARTN			L+1	049	00532	01121	00	00000	01122
	IJ	INDEX	L+2	050	00533	01122	41	01137	01124
	TP	V2	INDEX	051	00534	01123	11	00765	01137
	LA	A	12	052	00535	01124	54	32000	00014
	AT	LOBIAS	A	053	00536	01125	35	01134	32000
	EF		A	054	00537	01126	17	00000	32000
M6RERD	EF		MOVE	055	00540	01127	17	00000	01136
ENDTP1	MJ		ENT	056	00541	01130	45	00000	01074
ENDING			ENDTP1	057	00542	01131	00	00000	01130
ENDER			ENDTP+1	058	00543	01132	00	00000	01117
NORMAL	B	020000150000		059	00544	01133	02	00001	50000
LOBIAS	B	020000160000		060	00545	01134	02	00001	60000
RDVBLK	B	020006230000		061	00546	01135	02	00062	30000
MOVE	B			062	00547	01136	00	00000	00000
INDEX	B			063	00550	01137	00	00000	00000
STOPTP	B	020060000000		064	00551	01140	02	00600	00000
RDFWD	B	020006230000		065	00552	01141	02	00062	30000
RDBWD	B	020007230000		066	00553	01142	02	00072	30000
MOVFWU	B	0200095430000		067	00554	01143	02	00064	30000
MOVBAC	B	020007430000		068	00555	01144	02	00074	30000
KON1	RS	KA	V1	069	00556	01145	23	01103	00764
KON2	RA	KA	V1	070	00557	01146	21	01103	00764
REWIND	B	020020030000		071	00560	01147	02	00200	30000
BKWRITE	MJ		START1	001	00561	01150	45	00000	01154
	MS			002	00562	01151	56	00000	00000
EXIT1	MJ		FILL	003	00563	01152	45	00000	30000
PARA1				004	00564	01153	00	00000	00000
START1	SP	EXIT1	15	005	00565	01154	31	01152	00017
	TU	A	L+1	006	00566	01155	15	32000	01156
	TP	FILL	PARA1	007	00567	01156	11	30000	01153
	LO	V7777B	A+15	008	00570	01157	55	00773	32017

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	QS	PARA1	W1	SETUP N	009	00571	01160	53	01153	01166
	TV	PARA1	W2	SETUP EW	010	00572	01161	16	01153	01167
	LQ	V17B	A+12		011	00573	01162	55	00772	32014
	SP	PARA1	54		012	00574	01163	31	01153	00066
	QS	A	WRVBLK		013	00575	01164	55	32000	01173
WRVAR	EF		WRVBLK	START TAPE	014	00576	01165	17	00000	01173
W1	RPV		L+2	WRITE	015	00577	01166	75	10000	01170
W2	EW1		FILL	N WORDS	016	00600	01167	77	10000	30000
	EF		PTPOTS	EF CODE STOP TAPE		00601	01170	17	00000	01174
	RA	EXIT1	V1		018	00602	01171	21	01152	00764
	MJ		EXIT1		019	00603	01172	45	00000	01152
WRVBLK	B	020006600000		EF CODE VB WHITE FWD		00604	01173	02	00066	00000
PTPOTS	B	020006000000				00605	01174	02	00600	00000
ALLOK	MJ	0000	ALL3	ALLOCATION	0006	00606	01175	45	00000	01202
ALL18	MS	0000	0000	ROUTINE	0007	00607	01176	50	00000	00000
ALL2	MJ	0000	FILL		0008	00610	01177	45	00000	30000
ALLP1		FILL	FILL			00611	01200	00	30000	30000
ALLP2		FILL	FILL			00612	01201	00	30000	30000
ALL3	SP	ALL2	15	BRING IN		00613	01202	31	01177	00017
	TU	A	ALL4	PARAMETERS	0014	00614	01203	15	32000	01205
	RFB	2	LL4A			00615	01204	75	30002	01206
ALL4	TP	FILL	ALLP1		0016	00616	01205	11	30000	01200
LL4A	TU	ALLP2	ALL8			00617	01206	15	01201	01215
	TU	ALLP1	ALL21		0018	00620	01207	15	01200	01210
ALL21	TP	FILL	C1		0019	00621	01210	11	30000	01303
	SP	ALLP1	15			00622	01211	31	01200	00017
	TU	A	ALL22		0021	00623	01212	15	32000	01213
ALL22	TP	FILL	01		0022	00624	01213	11	30000	01304
ALL20	RFB	3	LL8A			00625	01214	75	30003	01216
ALL8	TP	FILL	VAR	1ST VARI	0024	00626	01215	11	30000	01300
LL8A	SP	ZERO				00627	01216	31	01271	00000
ALL9	TP	VAR	A		0026	00630	01217	11	01300	32000
	EJ	FLAG0	ALL16		0027	00631	01220	43	01272	01267
ALL32	TV	VAR	ALL13		0028	00632	01221	16	01300	01223
	RA	ALL13	V2		0029	00633	01222	21	01223	00765
ALL13	TP	VAR2	FILL		0030	00634	01223	11	01302	30000
	TP	CON1	ALL14	BUMP	0031	00635	01224	11	01277	01226
	RA	ALL14	VAR1	C1	0032	00636	01225	21	01226	01301
ALL14	MP	FILL	FILL		0033	00637	01226	71	30000	30000
	TP	A	TEMP1		0034	00640	01227	11	32000	01274
	ZJ	ALL27	ALL17		0035	00641	01230	47	01231	01245
ALL27	TV	VAR	ALL11		0036	00642	01231	16	01300	01237
	SP	C1	15			00643	01232	31	01303	00017
	AT	C1	TEMP2		0038	00644	01233	35	01303	01273
	SP	VAR	6			00645	01234	31	01300	00006
	LTL		Q			00646	01235	22	00000	31000
	SP	Q	30			00647	01236	31	31000	00036
ALL11	AT	TEMP2	FILL		0042	00650	01237	35	01273	30000
	SP	TEMP1	0000		0043	00651	01240	31	01274	00000
	AT	C1	C1		0044	00652	01241	35	01303	01303
	AT	V1	C1		0045	00653	01242	35	00764	01303
	TJ	CEND	ALL17		0046	00654	01243	42	01275	01245
	MJ	0000	ALL18		0047	00655	01244	45	00000	01176
ALL17	TP	CON1	ALL15	BUMP	0048	00656	01245	11	01277	01247
	RA	ALL15	VAR2	D1	0049	00657	01246	21	01247	01302
ALL15	MP	FILL	FILL		0050	00660	01247	71	30000	30000
	TP	A	TEMP1		0051	00661	01250	11	32000	01274
	ZJ	ALL31	LLA19		0052	00662	01251	47	01252	01263
ALL31	TV	VAR	ALL12		0053	00663	01252	16	01300	01255
	RA	ALL12	V1		0054	00664	01253	21	01255	00764

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	SP	U1	15		0065	01254	31	01304	00017	
ALL12	AT	U1	FILL		0056	00666	01255	35	01304	00000
	SP	TEMP1	0000		0057	00667	01256	31	01274	00000
	AT	U1	01		0058	00670	01257	35	01304	01304
	AT	V1	01		0059	00671	01260	35	00764	01304
	TJ	UEND	ALL19		0060	00672	01261	42	01276	01265
	MJ	0000	ALL19		0061	00673	01262	45	00000	01176
LLA19	TV	ALL13	LLA13		0062	00674	01263	16	01223	01264
LLA13	TP	VAR1	FILL		0063	00675	01264	11	01301	00000
ALL19	RA	ALLR	U3		0064	00676	01265	21	01215	00776
	MJ	0000	ALL20		0065	00677	01266	45	00000	01214
ALL16	RA	ALL2	V2	EXIT	0066	00700	01267	21	01177	00765
	MJ	0000	ALL2		0067	00701	01270	45	00000	01177
ZERO					00702	01271		00	00000	00000
FLAGO	B	5777777777			00703	01272		37	71777	71777
TEMP2					00704	01273		00	00000	00000
TEMP1					00705	01274		00	00000	00000
CEND	B	00000002777			00706	01275		00	00000	27777
DEND	B	00000007777			00707	01276		00	00000	77777
COM1	MP				00710	01277		71	00000	00000
VAR					00711	01300		00	00000	00000
VAR1					00712	01301		00	00000	00000
VAR2					00713	01302		00	00000	00000
C1					00714	01303		00	00000	00000
U1					00715	01304		00	00000	00000
	XS3	0MM 03			00716	01305		27	47470	00306
	SETL		1081							
IDEN					00717	00010		00	00000	00000
N					00720	00011		00	00000	00000
I					00721	00012		00	00000	00000
B					00722	00013		00	00000	00000
R		0000	0000		0006	00723	00014	00	00000	00000
S		0000	0000		0007	00724	00015	00	00000	00000
Y						00725	00016	00	00000	00000
		0000	0000		0008	00726	00017	00	00000	00000
INF1		0000	0000		0009	00727	00020	00	00000	00000
INF2		0000	0000		0010	00730	00021	00	00000	00000
INF3		0000	0000		0011	00731	00022	00	00000	00000
INF4		0000	0000		0012	00732	00023	00	00000	00000
INF5		0000	0000		0013	00733	00024	00	00000	00000
INF6		0000	0000		0014	00734	00025	00	00000	00000
INF7		0000	0000		0015	00735	00026	00	00000	00000
INF8		0000	0000		0016	00736	00027	00	00000	00000
INF9		0000	0000		0017	00737	00030	00	00000	00000
INF10		0000	0000		0018	00740	00031	00	00000	00000
INF11		0000	0000		0019	00741	00032	00	00000	00000
INF12		0000	0000		0020	00742	00033	00	00000	00000
		0000	0000		0021	00743	00034	00	00000	00000
		0000	0000		0022	00744	00035	00	00000	00000
RHO		0000	0000			00745	00036	00	00000	00000
VAR1				FX-CHANGE CON+MESH+PB		00746	00037	00	00000	00000
KKK				FX-REGION INDEX		00747	00040	00	00000	00000
NOM				FX-ISOTOPE INDEX		00747	00040	00	00000	00000
		0000	0000		0023	00750	00041	00	00000	00000
PSUBO	F	3.12	13	FISSIONS-KW+SEC		00751	00042	25	57060	12073
YSUBX	F	3	-3	XE135 ATOMS-FISSION		00752	00043	17	06111	56457
YSUBI	F	3.6	-2	I135 ATOMS-FISSION		00753	00044	17	47126	01014
YSUBP	F	1.4	-2	PR149 ATOMS-FISSION		00754	00045	17	27126	01014
LAMXE	F	2.1	-5	PROH-SEC DECAY XE135		00755	00046	16	15402	44501
LAMI	F	2.9	-5	PROH-SEC DECAY I135		00756	00047	16	17464	24065
LAMPR	F	4.1	-6	PROH-SEC DECAY PR149		00757	00050	15	74231	12733

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RZERO	F			0	FIRST MESH POINT	00760	00051	00	00000	00000
TIME	F			0	CURRENT TIME	00761	00052	00	00000	00000
EPSIL	F	•00001		0	CONV CRIT REAC	00762	00053	00	00000	00000
EPS2	F	•00001		•00001	CONV CRIT POWER	00763	00054	16	05174	26542
EPS3	F	•00001		•00001	CONV CRIT KZERO	00764	00055	16	05174	26542
EPS4	F	•00001		•00001		00765	00056	16	05174	26542
K0	F	1.0		1.0	DESIRED REACTIVITY	00766	00057	16	05174	26542
OMEGA	F				DIFF. ACCEL. FACTOR	00767	00060	20	14000	00000
UZDK	F	1.0			DZ-DK FIRST GUESS	00770	00061	00	00000	00000
		0000	0000			00771	00062	20	14000	00000
QQ	F				POWER DENSITY KW-CM3	00772	00063	00	00000	00000
DELTS	F				TIME SINCE SHUTDOWN SEC	00773	00064	00	00000	00000
UTMAX	F					00774	00065	00	00000	00000
						00775	00066	00	00000	00000
TAPE1	B	1			PROGRAM TAPE	00776	00067	00	00000	00000
TAPE2	B	2			BASIC LIBRARY TAPE	00777	00070	00	00000	00001
TAPE3	B	3			MICRO GROUP TAPE NEW	01000	00071	00	00000	00002
TAPE4	B	4			NUCLEAR CONSTANT TAPE	01001	00072	00	00000	00003
TAPE5	B	5			MICRO GROUP TAPE OLD	01002	00073	00	00000	00004
TAPE6	B	6			RAW DATA TAPE	01003	00074	00	00000	00005
TAPE7	B	7			INTERMEDIATE TAPE	01004	00075	00	00000	00006
TAPE8	B	10			OUTPUT TAPE	01005	00076	00	00000	00007
TAPE9	B	11			DUMP TAPE	01006	00077	00	00000	00010
TAPE10	B	12			DMM SERVICE LIBRARY	01007	00100	00	00000	00011
		0000	0000			01010	00101	00	00000	00012
DIA1		0000	0000			0045	01011	00102	00	00000
DIA2		0000	0000			0046	01012	00103	00	00000
DIA3		0000	0000			0047	01013	00104	00	00000
DIA4		0000	0000			0048	01014	00105	00	00000
DIA5		0000	0000			0049	01015	00106	00	00000
DIA6		0000	0000			0050	01016	00107	00	00000
DIA7		0000	0000			0051	01017	00110	00	00000
DIA8		0000	0000			0052	01020	00111	00	00000
DIA9		0000	0000			0053	01021	00112	00	00000
DIA10		0000	0000			0054	01022	00113	00	00000
DIA11		0000	0000			0055	01023	00114	00	00000
DIA12		0000	0000			0056	01024	00115	00	00000
DIA13		0000	0000			0057	01025	00116	00	00000
DIA14		0000	0000			0058	01026	00117	00	00000
DIA15		0000	0000			0059	01027	00120	00	00000
DIA16		0000	0000			0060	01030	00121	00	00000
DIA17		0000	0000			0061	01031	00122	00	00000
DIA18		0000	0000			0062	01032	00123	00	00000
						0063	01033	00124	00	00000
							01034	00125	00	00000
LISOP	RSRV	3	3				01035	00126		
LENGY	RSRV	3	3				01040	00131		
LAKBK	RSRV	3	3				01043	00134		
LROIF	RSRV	3	3				01046	00137		
LPTS	RSRV	3	3				01051	00142		
LREGN	RSRV	3	3				01054	00145		
LBSUO	RSRV	3	3				01057	00150		
LBSUN	RSRV	3	3				01062	00153		
LPHI	RSRV	3	3				01065	00156		
LCAPP	RSRV	3	3				01070	00161		
LPHKI	RSRV	3	3				01073	00164		
LSFKI	RSRV	3	3				01076	00167		
LMESH	RSRV	3	3				01101	00172		
LBFMX	RSRV	3	3				01104	00175		
LPHKI	RSRV	3	3				01107	00200		



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LNSMT	RSRV	3	3	01112	00203			
LNJET	RSRV	3	3	01115	00206			
LCAPD	RSRV	3	3	01120	00211			
LCAPT	RSRV	3	3	01123	00214			
LCPTI	RSRV	3	3	01126	00217			
LCAPP	RSRV	3	3	01131	00222			
LXKI	RSRV	3	3	01134	00225			
LMFKI	RSRV	3	3	01137	00230			
LPDIF	RSRV	3	3	01142	00233			
LKPXE	RSRV	3	3	01145	00236			
LLKIA	RSRV	3	3	01150	00241			
LLKIB	RSRV	3	3	01153	00244			
LNFKI	RSRV	3	3	01156	00247			
LNLFP	RSRV	3	3	01161	00252			
LNSKI	RSRV	3	3	01164	00255			
LNDKI	RSRV	3	3	01167	00260			
LNFP	RSRV	3	3	01172	00263			
LNCKI	RSRV	3	3	01175	00266			
LNRKI	RSRV	3	3	01200	00271			
LNPKI	RSRV	3	3	01203	00274			
LNKE	RSRV	3	3	01206	00277			
LNKL	RSRV	3	3	01211	00302			
LSHUF	RSRV	3	3	01214	00305			
CRCO1	B			01217	00310	00	00000	00000
Z3	RSRV	3	3	01220	00311			
Z2	RSRV	3	3	01223	00314			
Z1	RSRV	3	3	01226	00317			
Z				01231	00322	00	00000	00000
DELTA	F			01232	00323	00	00000	00000
MU				01233	00324	00	00000	00000
BLOCK	B			01234	00325	00	00000	00000
NDCI	B			01235	00326	00	00000	00000
MNOO1	B			01236	00327	00	00000	00000
MNOO2	B			01237	00330	00	00000	00000
SUBR	RSRV	9	9	01240	00331			
MLM1	RSRV	4	4	01251	00342			
DRUM	B			01255	00346	00	00000	00000
MINCE	B			01256	00347	00	00000	00000
ISO				01257	00350	00	00000	00000
MARK1				01260	00351	00	00000	00000
MARK2				01261	00352	00	00000	00000
K3				01262	00353	00	00000	00000
STAGAT				01263	00354	00	00000	00000
INDEX5				01264	00355	00	00000	00000
DTWICE				01265	00356	00	00000	00000
ADHCFF	RSRV	3	3	01266	00357			
1STBP				01271	00362	00	00000	00000
DELTAT				01272	00363	00	00000	00000
PRDRM	EQLS	50000B1						
ELOC	EQLS	1400B1						
ALARM1	EQLS	MLM1						
ALARM2	EQLS	MLM1+1						
ALARM3	EQLS	MLM1+2						
ALARM4	EQLS	MLM1+3						
END								00000

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TABLE V-2D

PROBLEM INPUT

SETL	1	1400B)	PROBLEM INPUT						
	XS3	UMM 04			00001	01400	27	07470	00307
PROB	MJ	0000	PRO1	0037	00002	01401	45	00000	01404
PROE	MS	0000	0000	0038	00003	01402	56	00000	00000
PRO2	MJ	0000	FILL	0039	00004	01403	45	00000	30000
PRO1	MJ		TOD0		00005	01404	45	00000	01405
TOD0	MJ	0000	PRO3	0042	00006	01405	45	00000	01406
PRO3	TP	LLS1	LS		00007	01406	11	02745	02635
	TV	CON1	PRO31		00010	01407	16	02464	01545
	RPV	114	PK016		00011	01410	75	10162	01412
	TP	ZERO	LISOP		00012	01411	11	02505	00126
PRO16	TP	ZERO	DUMP		00013	01412	11	02505	02557
	CALL	COREAD			00014	01413	37	02751	02747
PRO5	04	T	DC8		00015	01414	04	02727	01661
	TP	BUFF	DUMP3		00016	01415	11	03105	02561
PRO19	RJ	EXIT3	FXDB6		00017	01416	37	03123	03121
	TP	PRO5	PRO9	0087	00021	01420	11	01414	01465
	SP	T	0000	0056	00022	01421	31	02727	00000
	SJ	VMIL	A	0057	00023	01422	36	02503	32000
	SJ	FIX	ROP1	0058	00024	01423	46	01424	01427
FIX	TP	CON5	ROP12	0059	00025	01424	11	02467	01474
	TU	LTI	SETT		00026	01425	15	02576	01467
	MJ	0000	ROP19	0060	00027	01426	45	00000	01442
ROP1	ST	VMIL	A	0061	00030	01427	36	02503	32000
	TP	FLOAT	ROP2	0062	00031	01430	46	01431	01434
FLOAT	TP	CON6	ROP12	0063	00032	01431	11	02470	01474
	TU	LLT	SETT		00033	01432	15	02600	01467
	MJ	0000	ROP19	0064	00034	01433	45	00000	01442
ROP2	ST	VMIL	A	0065	00035	01434	36	02503	32000
	SJ	MIXED	GOR1		00036	01435	46	01440	01436
GOR1	TP	LT	PRO9		00037	01436	11	02601	01465
	MJ		L+2		00040	01437	45	00000	01441
MIXED	AT	VMIL	A		00041	01440	35	02503	32000
	AT	CON7	ROP12		00042	01441	35	02471	01474
ROP19	TV	LS	PRO13	0073	00043	01442	16	02635	01507
	TU	LS	PRO24		00044	01443	15	02635	01544
	TU	LVBL	PRO6	0074	00045	01444	15	02556	01447
PRO11	SP	T	0000	TEST FOR E	0075	00046	31	02727	00000
PRO33	RJ	PRO33	PRO6		0077	00047	37	01446	01447
PRO6	TV	FILL	DUMP		0078	00050	16	30000	02557
	EJ	DUMP	PRO7		0079	00051	43	02557	01456
	RA	PRO6	UI		0080	00052	21	01447	02506
	SP	DUMPI	0000		0081	00053	31	02557	00000
	EJ	FLAG2	ERR2		0082	00054	43	02154	01455
	MJ	0000	PRO11		0083	00055	45	00000	01445
ERR2	MS	0000	ERR2		0084	00056	36	00000	01455
PRO7	TU	PRO6	PK08		0085	00057	15	01447	01457
PRO8	TU	FILL	PK021		0086	00060	15	30000	01520
	TV	CON2	PRO9		0086	01460	16	02466	01465
	TP	ZERO	C3		0088	01461	11	02505	02564
PRO10	RPV	12	10PRO		0089	01462	75	10014	01464
	TP	ZERO	T		0090	01463	11	02505	02727
10PRO	CALL	COREAD			0092	01464	37	02751	02747
PRO9	0	FILL	FILL	INTU REGIO	0094	01465	00	30000	30000
TPV5	TP	V5	C1		0094	01466	11	02531	02562
SETT	TU	FILL	PRO12		0070	01467	15	30000	01471
PRO18	RPB	2	18PRO		0071	01470	75	30002	01472
PRO12	TP	FILL	DUMP		0099	01471	11	30000	02557

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18PRO	SP	DUMP			00073	01472	31	02557	00000	
	EJ	FINI	PRO14		00074	01473	43	02462	01915	
ROP12	RJ	FILL	FILL	CONVERT	0102	00075	01474	37	30000	30000
	O	DUMP	DUMP	XSO TO	0103	00076	01475	00	02557	02557
	TP	DUMP3	Q			00077	01476	11	02561	31000
	QJ	L+1	PRO13-4			00100	01477	44	01500	01503
	TP	DUMP	IDEN			00101	01500	11	02557	00010
	RJ	GDAMN	GDAMN			00102	01501	37	01503	01503
	MJ		PRO31			00103	01502	45	00000	01545
GDAMN	RJ	L	L+2			00104	01503	37	01503	01505
	MJ		PRO13			00105	01504	45	00000	01507
	RFB	60	L+2	BRING IN SACRED BLOCK		00106	01505	75	30074	01507
	TP	IDEN/+76/	IDEN	STORAGE TO EXECUTION		00107	01506	11	03344	00010
PRO13	TP	DUMP	FILL		0104	00110	01507	11	02557	30000
	RA	PRO12	U2			00111	01510	21	01471	02507
	RA	PRO13	V1	MOD PRO13	0106	00112	01511	21	01507	02525
	RA	C3	U1		0107	00113	01512	21	02564	02506
	IJ	C1	PRO18		0108	00114	01513	41	02562	01470
	MJ	0000	PRO10		0109	00115	01514	45	00000	01462
PRO14	TV	PRO13	PRO15	AFFIX	0110	00116	01515	16	01507	01516
PRO15	TP	FLAGO	FILL	FLAGO	0111	00117	01516	11	02152	30000
	RA	C3	U1		0112	00120	01517	21	02564	02506
PRO21	SP	FILL	6			00121	01520	31	30000	00006
	LTL		A			00122	01521	22	00000	32000
	ZJ	TAPE	NOTAP		0115	00123	01522	47	01523	01532
TAPE	SP	A	30			00124	01523	31	32000	00036
	TP	A	PRO22		0117	00125	01524	11	32000	01530
	TU	C3	PRO22		0118	00126	01525	15	02564	01530
	TV	LS	PRO22		0119	00127	01526	16	02635	01530
	RJ	WR2	BRITE		0120	00130	01527	37	00341	00337
PRO22		FILL	FILL			00131	01530	00	30000	30000
	MJ		NOTAP			00132	01531	45	00000	01532
NOTAP	TU	PRO21	PRO23		0123	00133	01532	15	01520	01534
	TP	4ERO	DUMP		0124	00134	01533	11	02505	02557
PRO23	TV	FILL	DUMP		0125	00135	01534	16	30000	02557
	SP	DUMP	0000		0126	00136	01535	31	02557	00000
OPR23	ZJ	COR	NOCOR			00137	01536	47	01537	01607
COR	TV	JUMP	PRO24		0128	00140	01537	16	02557	01544
	TV	OPR23	PRO30			00141	01540	16	01536	01546
PRO27	SP	C3	0000		0129	00142	01541	31	02564	00000
	AT	C07	PRO25		0130	00143	01542	35	02567	01543
PRO25	RP	0000	U1V1		0131	00144	01543	75	00000	02545
PRO24	TP	FILL	FILL			00145	01544	11	30000	30000
PRO31	RJ	PRO31	PRO30		0133	00146	01545	37	01545	01546
PRO30	MJ	0000	PRO16		0134	00147	01546	45	00000	01412
PRO32	TP	N	N1		0135	00150	01547	11	00011	02572
	RA	N1	V1		0136	00151	01550	21	02572	02525
	TP	N1	NK1		0137	00152	01551	11	02572	02573
	RA	NR1	R		0138	00153	01552	21	02573	00014
	RS	NR1	V1			00154	01553	23	02573	02525
	TP	N	N3			00155	01554	11	00011	02602
	RA	N3	V3			00156	01555	21	02602	02527
	TP	I	I2			00157	01556	11	00012	02570
	RA	I2	V2			00160	01557	21	02570	02526
	TP	I	I3		0139	00161	01560	11	00012	02571
	RA	I3	V3		0140	00162	01561	21	02571	02527
	MP	V4	R			00163	01562	71	02530	00014
	AT	V1	4K1		0142	00164	01563	35	02525	02574
	TP	I	R112			00165	01564	11	00012	02575
	RS	R112	V1			00166	01565	23	02575	02525

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	MP	K	I	00167	01566	71	00014	00012	
	MP	A	RII2	00170	01567	71	32000	02575	
	DV	V2	RII2	00171	01570	73	02526	02575	
	TP	KII2	PLUS1	00172	01571	11	02575	02475	
	RA	PLUS1	VI	00173	01572	21	02473	02525	
	TP	DRUM	DRUM1	00174	01573	11	00346	02460	
	SP	LLAST		00175	01574	31	02746	00000	
	TJ	MINCE	TPMC	00176	01575	42	00347	01601	
	TV	LLAST	CORE1	00177	01576	16	02746	02457	
	RA	CORE1	VI	00200	01577	21	02457	02525	
	MJ		RJALL	00201	01600	45	00000	01603	
TPMC	TV	MINCE	CORE1	00202	01601	16	00347	02457	
	RA	CORE1	VI	00203	01602	21	02457	02525	
RJALL	RJ	ALL2	ALLOK	00204	01603	37	00333	00331	
		CORE1	DRUM1	00205	01604	00	02457	02460	
		VARBL	FILL	00206	01605	00	02640	30000	
OPR33	MJ		PRO16	00207	01606	45	00000	01412	
NOCOR	TU	PRO21	PRO26	0147	00210	01607	15	01520	01612
	RA	PRO26	U1	0148	00211	01610	21	01612	02506
	TP	ZERO	DUMP	0149	00212	01611	11	02505	02557
PRO26	TV	FILL	DUMP	0150	00213	01612	16	30000	02557
	SP	DUMP	0000	0151	00214	01613	31	02557	00000
	ZJ	DRM	PRO16		00215	01614	47	01615	01412
DRM	TV	DUMP	PRO24	0153	00216	01615	16	02557	01544
	TV	UPR33	PRO30		00217	01616	16	01606	01544
	MJ	0000	PRO27	0154	00220	01617	45	00000	01541
ERR3	MS	0000	ENR3	0155	00221	01620	56	00000	01620
STOPP	MS		STOPP		00222	01621	56	00000	01621
AKBK	MJ	0000	AKBK1	0164	00223	01622	45	00000	01634
	MJ		DIAMS		00224	01623	45	00000	02314
	MJ	0000	FILL	0166	00225	01624	45	00000	30000
	MJ	0000	FILL	0167	00226	01625	45	00000	30000
	MJ	0000	FILL	0168	00227	01626	45	00000	30000
	MJ	0000	FILL	0169	00230	01627	45	00000	30000
	MJ	0000	FILL	0170	00231	01630	45	00000	30000
	MJ	0000	FILL	0171	00232	01631	45	00000	30000
	MJ	0000	FILL	0172	00233	01632	45	00000	30000
	MJ	0000	FILL	0173	00234	01633	45	00000	30000
AKBK1	RJ	EXIT3	FX0B6		00235	01634	37	03123	03121
		T1	T		00236	01635	00	02730	02727
	RJ	EXIT2	FL0B		00237	01636	37	03120	03116
		T2	T1		00240	01637	00	02731	02730
	RJ	EXIT3	FX0B6		00241	01640	37	03123	03121
		T5	T2		00242	01641	00	02734	02731
	RJ	EXIT3	FX0B6		00243	01642	37	03123	03121
		T7	T3		00244	01643	00	02736	02732
	TV	PRO13	ROP13	0182	00245	01644	16	01507	01646
	RPB	4	13ROP		00246	01645	75	30004	01647
ROP13	TP	T	FILL	0184	00247	01646	11	02727	30000
13ROP	RA	PRO13	V4	0185	00250	01647	21	01507	02530
	RA	C3	U4	0186	00251	01650	21	02564	02511
	SP	T8			00252	01651	31	02737	00000
	EJ	FINI	ROP21		00253	01652	43	02462	01654
	MJ	0000	PRO10	0189	00254	01653	45	00000	01462
ROP21	RA	C3	U1	0190	00255	01654	21	02564	02506
	TV	PRO13	ROP22	0191	00256	01655	16	01507	01656
ROP22	TP	FLAG0	FILL	0192	00257	01656	11	02152	30000
	RA	PRO13	VI	0193	00260	01657	21	01507	02525
	MJ	0000	PRO10	0194	00261	01660	45	00000	01462
UCB	LQ	DUMP	A+35		00262	01661	55	02557	32043

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	QJ	L+1	L+2	00263	01602	44	01663	01664
	MJ		PK02	00264	01603	45	00000	01403
	TU	L+3	L+2	00265	01604	15	01667	01666
	RA	L+1	U1	00266	01605	21	01666	02506
	TU	FILL	L+5	00267	01606	15	30000	01673
	TV	LPTS	L+4	00270	01667	16	00142	01673
	SP	R	15	00271	01670	31	00014	00017
	AT	K71	L+1	00272	01671	35	02475	01672
	RFB		DRDTC	00273	01672	75	30000	01674
	TP	FILL	FILL	00274	01673	11	30000	30000
DRDTC	TU	L+3	L+2	00275	01674	15	01677	01676
	RA	L+1	U1	00276	01675	21	01676	02506
	TU	FILL	L+5	00277	01676	15	30000	01703
	TV	LRDIF	L+4	00300	01677	16	00137	01703
	SP	R	15	00301	01700	31	00014	00017
	AT	K72	L+1	00302	01701	35	02476	01702
	RFB		DAKTC	00303	01702	75	30000	01704
	TP	FILL	FILL	00304	01703	11	30000	30000
DAKTC	TU	L+3	L+2	00305	01704	15	01707	01706
	RA	L+1	U1	00306	01705	21	01706	02506
	TU	FILL	L+5	00307	01706	15	30000	01714
	TV	LAKBK	L+5	00310	01707	16	00134	01714
	MP	4R1	3	00311	01710	71	02574	00013
	LQ	A	A+15	00312	01711	55	32000	32017
	AT	K73	L+1	00313	01712	35	02477	01713
	RFB		DISTC	00314	01713	75	30000	01715
	TP	FILL	FILL	00315	01714	11	30000	30000
DISTC	TU	L+3	L+2	00316	01715	15	01720	01717
	RA	L+1	U1	00317	01716	21	01717	02506
	TU	FILL	L+5	00320	01717	15	30000	01724
	TV	LISOP	L+4	00321	01720	16	00126	01724
	SP	3	15	00322	01721	31	00013	00017
	AT	K74	L+1	00323	01722	35	02500	01723
	RFB		DENTC	00324	01723	75	30000	01725
	TP	FILL	FILL	00325	01724	11	30000	30000
DENTC	TU	L+3	L+2	00326	01725	15	01730	01727
	RA	L+1	U1	00327	01726	21	01727	02506
	TU	FILL	L+5	00330	01727	15	30000	01734
	TV	LENGY	L+4	00331	01730	16	00131	01734
	SP	13	15	00332	01731	31	02571	00017
	AT	K75	L+1	00333	01732	35	02501	01733
	RFB		TPTSS	00334	01733	75	30000	01735
	TP	FILL	FILL	00335	01734	11	30000	30000
TPTSS	TU	LPTS	TMESH	00336	01735	15	00142	01741
	SP	R	15	00337	01736	31	00014	00017
	AT	TMESH	TMESH	00340	01737	35	01741	01741
	SP	FLAG0		00341	01740	31	02152	00000
TMESH	EJ	FILL	GMESH	00342	01741	43	30000	01743
	MJ		DC9	00343	01742	45	00000	01744
GMESH	RJ	NK2	NK	00344	01743	37	02221	02217
DC9	TU	CON60	DC10	00345	01744	15	02472	01746
	RA	DC10	U1	00346	01745	21	01746	02506
DC10	TU	FILL	DC11	00347	01746	15	30000	01747
DC11	TP	FILL	DUMP	00350	01747	11	30000	02557
	SP	DUMP		00351	01750	31	02557	00000
	ZJ	GBRMX	DC12	00352	01751	47	01752	01766
GBRMX	TU	DC10	GBRM1	00353	01752	15	01746	01754
	TP	ZERO	DUMP	00354	01753	11	02505	02557
GBRM1	TV	FILL	DUMP	00355	01754	16	30000	02557
	MP	4R1	B	00356	01755	71	02574	00013

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	LQ	A	A	00357	01756	55	32000	32000	
	AT	DUMP	DRUM2	00360	01757	35	02557	04204	
	AT	V2	DRUM2	00361	01760	35	02526	02204	
	TP	ZERO	CORE2	00362	01761	11	02505	02205	
	TV	LAKBK	CORE2	00363	01762	16	00134	02205	
	RA	CORE2	Q	00364	01763	21	02205	31000	
	RA	CORE2	V2	00365	01764	21	02205	02526	
	RJ	BREND	BRGO	00366	01765	37	02043	02044	
DC12	TU	CONET	DC13	00367	01766	15	02200	01770	
	RA	DC13	U1	00370	01767	21	01770	02506	
DC13	TV	FILL	DC14	00371	01770	16	30000	01775	
	MP	K	I2	00372	01771	71	00014	02570	
	SP	A	15	00373	01772	31	32000	00017	
	AT	K61	DC15	00374	01773	35	02201	01774	
DC15	RPV		TENG	00375	01774	75	10000	01776	
DC14	TP	F1	FILL	00376	01775	11	02155	30000	
TENG	TU	LENGY	TENG1	00377	01776	15	00131	02003	
	SP	I		00400	01777	31	00012	00000	
	SA	V1	15	00401	02000	32	02525	00017	
	AT	TENG1	TENG1	00402	02001	35	02003	02003	
	SP	FLAG0		00403	02002	31	02152	00000	
TENG1	EJ	FILL	L+3	00404	02003	43	30000	02006	
	RA	PRO2	V1	00405	02004	21	01403	02525	
	MJ		PRO2	00406	02005	45	00000	01403	
	TP	I	DUMP	00407	02006	11	00012	02557	
	LQ	TENG1	A+21	00410	02007	35	02003	32025	
	TV	A	TENG2	00411	02010	16	32000	02022	
	TV	A	L+3	00412	02011	16	32000	02014	
	TU	TENG1	L+2	00413	02012	15	02003	02014	
	RS	L+1	U1	00414	02013	23	02014	02506	
	TP	FILL	FILL	00415	02014	11	30000	30000	
	RS	L-1	U1V1	00416	02015	23	02014	02545	
	IJ	DUMP	L-2	00417	02016	41	02557	02014	
	TV	LENGY	L+1	00420	02017	16	00131	02020	
	TP	ZERO	FILL	00421	02020	11	02505	30000	
	RA	TENG2	V1	00422	02021	21	02022	02525	
TENG2	TP	ZERO	FILL	00423	02022	11	02505	30000	
	TV	TENG2	TENG3	00424	02023	16	02022	02025	
	RA	TENG3	V1	00425	02024	21	02025	02525	
TENG3	TP	FLAG0	FILL	00426	02025	11	02152	30000	
	TU	TENG	L+2	00427	02026	15	01776	02030	
	RA	L+1	U1	00430	02027	21	02030	02506	
	TV	FILL	L+6	00431	02030	16	30000	02036	
	TU	LENGY	L+5	00432	02031	15	00131	02036	
	SP	I3	15	00433	02032	31	02571	00017	
	AT	U1	A	00434	02033	35	02506	32000	
	AT	K70	L+1	00435	02034	35	02474	02035	
	RPB		TENG1+1	00436	02035	75	30000	02004	
	TP	FILL	FILL	00437	02036	11	30000	30000	
SETD0	TP	STOP	TOD0	00440	02037	11	02604	01405	
	MJ		DC8	00441	02040	45	00000	01661	
SETD1	TP	STOP	TOD0	00442	02041	11	02604	01405	
	MJ		TPV5	00443	02042	45	00000	01466	
BREND	MJ	0000	FILL	0070	00444	45	00000	30000	
BRGO	RJ	ALL2	ALL0K	0071	00445	37	00333	00331	
		CORE2	DRUM2		00446	02045	00	02205	02204
		VRBL			00447	02046	00	02146	00000
	TU	LAKBK	TL21	0074	00450	15	00134	02053	
	TV	LAKBK	TL23	0075	00451	16	00134	02060	
TL18	TU	LISOP	TL22	0076	00452	15	00126	02054	

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TL20	TP	V1	TCODE	0077	00453	02052	11	02525	02207
TL21	SP	FILL	0000	0078	00454	02053	31	30000	00000
TL22	EJ	FILL	TL23	0079	00455	02054	43	30000	02060
	RA	TL22	U1	0080	00456	02055	21	02054	02506
	RA	TCODE	V1	0081	00457	02056	21	02207	02525
	MJ	0000	TL21	0082	00460	02057	45	00000	02055
TL23	TP	TCODE	FILL	0083	00461	02060	11	02207	30000
	RA	TL23	V4	0084	00462	02061	21	02060	02530
	SP	TL23	15		00463	02062	31	02060	00017
	TU	A	TL25	0086	00464	02063	15	32000	02064
TL25	SP	FILL	0000	0087	00465	02064	31	30000	00000
TL24	EJ	FLAG0	TL61	0088	00466	02065	43	02152	02067
	MJ	0000	TL23	0089	00467	02066	45	00000	02060
TL61	RA	TL25	U1	0090	00470	02067	21	02064	02506
	TU	TL25	TL62	0091	00471	02070	15	02064	02071
TL62	SP	FILL	0000	0092	00472	02071	31	30000	00000
	EJ	FLAG0	TL555	0093	00473	02072	43	02152	02077
	TU	TL62	TL21	0094	00474	02073	15	02071	02053
	LQ	TL21	A+21		00475	02074	35	02053	32025
	TV	Q	TL23	0096	00476	02075	16	31000	02060
	MJ	0000	TL18	0097	00477	02076	45	00000	02051
TL555	MP	R	B		00500	02077	71	00014	00013
	SP	A	15		00501	02100	31	32000	00017
	AT	K100	TL556		00502	02101	35	02202	02103
	TV	LBRMX	TL557	0101	00503	02102	16	00175	02104
TL556	RPV		TL1		00504	02103	75	10000	02105
TL557	TP	V0	FILL	0103	00505	02104	11	02206	30000
TL1	TU	LAKBK	TL3	0104	00506	02105	15	00134	02107
TL2	RPB	4	TL4		00507	02106	75	30004	02110
TL3	TP	FILL	NX1	0106	00510	02107	11	30000	02211
TL4	SP	NX1			00511	02110	31	02211	00000
	EJ	FLAG0	TL5	0108	00512	02111	43	02152	02113
	MJ	0000	TL7	0109	00513	02112	45	00000	02121
TL5	TU	TL3	TL6	0110	00514	02113	15	02107	02115
	RA	TL6	U1	0111	00515	02114	21	02115	02506
TL6	SP	FILL	0000	0112	00516	02115	31	30000	00000
	EJ	FLAG0	TL886	0113	00517	02116	43	02152	02134
	RA	TL3	U1	0114	00520	02117	21	02107	02506
	MJ	0000	TL2	0115	00521	02120	45	00000	02106
TL7	TP	NX1	AMIN1	0116	00522	02121	11	02211	02215
	TP	NX4	KMIN1	0117	00523	02122	11	02214	02216
	RS	AMIN1	V1	0118	00524	02123	23	02215	02525
	RS	KMIN1	V1	0119	00525	02124	23	02216	02525
	MP	AMIN1	R		00526	02125	71	02215	00014
	AT	KMIN1	KMIN1	0121	00527	02126	35	02216	02216
	TV	LBRMX	TL9	0122	00530	02127	16	00175	02131
	RA	TL9	KMIN1	0123	00531	02130	21	02131	02216
TL9	TP	NX2	FILL	0124	00532	02131	11	02212	30000
	RA	TL3	U4	0125	00533	02132	21	02107	02511
	MJ	0000	TL2	0126	00534	02133	45	00000	02106
TL886	TU	LBRMX	TL889	0127	00535	02134	15	00175	02144
	MP	R	B		00536	02135	71	00014	00013
	SP	A	15		00537	02136	31	32000	00017
	AT	K101	TL888		00540	02137	35	02203	02143
	TU	URMAR	TL887	0131	00541	02140	15	02210	02142
	RA	TL887	U1	0132	00542	02141	21	02142	02506
TL887	TV	FILL	TL889	0133	00543	02142	16	30000	02144
TL888	RPB		TL988		00544	02143	75	30000	02145
TL889	TP	FILL	FILL	0135	00545	02144	11	30000	30000
TL988	MJ		BREND		00546	02145	45	00000	02043

CLEAR BRMX

BRMX  
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VRBL		LBRMX	LBRMX	00547	02146	00	00175	00175		
	O	B	R	0138	00550	02147	00	00013	00014	NOP
	O	B	R	0139	00551	02150	00	00013	00014	NOP
FLAG0	B	37777777/777			00552	02151	37	77777	7/777	
FLAG1	B	37777777/777			00553	02152	37	77777	7/777	
FLAG2	B	37777777/776			00554	02153	37	77777	7/776	
F1	B	00000007/777			00555	02154	00	00000	7/777	
VBL	F	1			00556	02155	20	14000	00000	
		LDIM			00557	02156	00	02605	00000	
		LPTS	1		00560	02157	00	00142	00001	
		LTAPE	2		00561	02160	00	02613	00002	
		LISOR	3		00562	02161	00	00126	00003	
		LINF0	4		00563	02162	00	02616	00004	
		LSHFX	5		00564	02163	00	02621	00005	
		LENGY	1000		00565	02164	00	00131	01750	
		LROIF	1001		00566	02165	00	00137	01751	
		LBSUN	1002		00567	02166	00	00153	01752	
		LSHFL	1003		00570	02167	00	02624	01753	
		LBSU0	1004		00571	02170	00	00150	01754	
		LPBK1	1005		00572	02171	00	00164	01755	
		LSFK1	1006		00573	02172	00	00167	01756	
		LPGCN	1007		00574	02173	00	02627	01757	
		LSMVR	1008		00575	02174	00	02632	01760	
		LAKBK	2000		00576	02175	00	00134	03720	
		LQIA1	3001		00577	02176	00	02610	05671	
	B	37777777/777			00600	02177	37	7/777	7/777	
CON61		LPHK1	LPHK1		00601	02200	00	00200	00200	
K61	RPV		TENG		00602	02201	75	10000	01776	
K100	RPV		TL1		00603	02202	75	10000	02105	
K101	RPB		TL988		00604	02203	75	30000	02145	
DRUM2			FILL		00605	02204	00	00000	30000	
CORE2			FILL		00606	02205	00	00000	30000	
VO	0	0000	0000	0039	00607	02206	00	00000	00000	NOP
TCODE	0	0000	0000	0041	00610	02207	00	00000	00000	NOP
DRMBR	0	LBRMX	LBRMX	0051	00611	02210	00	00175	00175	NOP
NX1	0	0000	0000	0058	00612	02211	00	00000	00000	NOP
NX2	0	0000	0000	0059	00613	02212	00	00000	00000	NOP
NX3	0	0000	0000	0060	00614	02213	00	00000	00000	NOP
NX4	0	0000	0000	0061	00615	02214	00	00000	00000	NOP
AMINI	0	0000	0000	0064	00616	02215	00	00000	00000	NOP
KMIN1	0	0000	0000	0065	00617	02216	00	00000	00000	NOP
NK	MJ		NK2A	COMPUTE	00620	02217	45	00000	02222	
	MS		NK2	R AT EACH	00621	02220	58	00000	02221	
NK2	MJ		FILL	MESH POINT	00622	02221	45	00000	30000	
NK2A	TU	LPTS	NK8		00623	02222	15	00142	02246	
	TV	LROIF	NK6		00624	02223	18	00137	02240	
	TV	LMESH	NK3	MESH INDEX	00625	02224	16	00172	02232	
	TV	LMESH	NK7	IN EACH	00626	02225	16	00172	02243	
	RA	NK7	V1		00627	02226	21	02243	02525	
	TV	LREGN	NK9	REGION	00630	02227	16	00145	02251	
	TP	RZERO	NKE3		00631	02230	11	00052	02305	
	RPV	2	NK3Z		00632	02231	75	10002	02233	
NK3	TP	NKE3	FILL	INITIAL R	00633	02232	11	02305	30000	
NK3Z	TP	ZERO	NKE1		00634	02233	11	02505	02303	
	TP	V1	NKE2		00635	02234	11	02525	02304	
NK4	TP	V1	NKE4	INITIAL COUNT	00636	02235	11	02525	02306	
NK5	RA	NKE1	V1	INC N	00637	02236	21	02303	02525	
	RA	NK7	V1		00640	02237	21	02243	02525	
NK6	FA	NKE3	FILL	INC R	00641	02240	64	02305	30000	
	TP	0	NKE3		00642	02241	11	31000	02305	

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NK7	RPV	2	NK7Z		00643	02242	75	10002	02244
NK7Z	TP	Q	FILL	STORE R	00644	02243	11	31000	30000
	SP	ZERO			00645	02244	31	02505	00000
	TP	NKE4	A		00646	02245	11	02306	32000
NK8	EJ	FILL	NK9	LAST IN K	00647	02246	43	30000	02251
	AT	V1	NKE4	NO	00650	02247	35	02525	02306
	MJ		NK5		00651	02250	45	00000	02236
NK9	TP	NKE1	FILL	STORE	00652	02251	11	02303	30000
	SP	ZERO			00653	02252	31	02505	00000
	TP	NKE2	A	NSUBK	00654	02253	11	02304	32000
	EJ	K	NK2B		00655	02254	43	00014	02262
	AT	V1	NKE2	LAST K	00656	02255	35	02525	02304
	RA	NK6	V1		00657	02256	21	02240	02525
	RA	NK8	U1		00660	02257	21	02246	02506
	RA	NK9	V1		00661	02260	21	02251	02525
	MJ		NK4		00662	02261	45	00000	02235
NK2B	TU	CON12	NK2C		00663	02262	15	02307	02264
	RA	NK2C	U1		00664	02263	21	02264	02506
NK2C	TV	FILL	NK2E		00665	02264	16	30000	02271
	TU	LMESH	NK2E		00666	02265	15	00172	02271
	SP	N3	15		00667	02266	31	02602	00017
	AT	K12	NK2D		00670	02267	35	02311	02270
NK2D	RPB		NK2F		00671	02270	75	30000	02272
NK2E	TP	FILL	FILL		00672	02271	11	30000	30000
NK2F	TU	CON13	NK2G		00673	02272	15	02310	02274
	RA	NK2G	U1		00674	02273	21	02274	02506
NK2G	TV	FILL	NK2I		00675	02274	16	30000	02301
	TU	LREGN	NK2I		00676	02275	15	00145	02301
	SP	K	15		00677	02276	31	00014	00017
	AT	K13	NK2H		00700	02277	35	02312	02300
NK2H	RPB		NK2J		00701	02300	75	30000	02302
NK2I	TP	FILL	FILL		00702	02301	11	30000	30000
NK2J	MJ		NK2		00703	02302	45	00000	02221
NKE1				N	00704	02303	00	00000	00000
NKE2				R	00705	02304	00	00000	00000
NKE3				COUNTER	00706	02305	00	00000	00000
NKE4					00707	02306	00	00000	00000
CON12		LMESH	LMESH		00710	02307	00	00172	00172
CON13		LREGN	LREGN		00711	02310	00	00145	00145
K12	RPB		NK2F		00712	02311	75	30000	02272
K13	RPB		NK2J		00713	02312	75	30000	02302
CONS			SETD1		00714	02313	00	00000	02041
DIAMS	TP	V5	CARD		00715	02314	11	02531	02357
	TU	LT	PRG2		00716	02315	15	02601	02321
PRG8	TP	V29	COUNT		00717	02316	11	02355	02356
	TU	LPROG	PRG1		00720	02317	15	02362	02323
	RPB	2	PRG10		00721	02320	75	30002	02322
PRG2	TP	FILL	ORO		00722	02321	11	30000	02360
PRG10	RA	ORO	CUNVT		00723	02322	21	02360	02603
PRG1	TP	FILL	A	BRING IN PROGRAM NAME	00724	02323	11	30000	32000
	EJ	ORO	PRG3	TEST FOR PROGRAM	00725	02324	43	02360	02330
	RA	PRG1	U1		00726	02325	21	02323	02506
	IJ	COUN#	PRG1		00727	02326	41	02356	02323
PROST	MS		PROST	INVALID DMM PROGRAM	00730	02327	56	00000	02327
PRG3	TU	PRG1	PRG4		00731	02330	15	02323	02333
	RA	PRG4	U30		00732	02331	21	02333	02353
	TV	PRO13	PRG4		00733	02332	16	01507	02333
PRG4	TP	FILL	FILL	SETUP OP AND U ADDRESS	00734	02333	11	30000	30000
	RJ	EXIT3	FXDB6		00735	02334	37	03123	03121
		ORO1	ORO1		00736	02335	00	02361	02361

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PRG5	TV	PRG4	PRG5	00737	02336	16	02333	02337
	TV	UR01	FILL	00740	02337	16	02361	30000
	TU	PRG1	PRG7	00741	02340	15	02323	02341
PRG7	TP	FILL	A	00742	02341	11	30000	32000
	EJ	LSTOP	PKG11	00743	02342	43	02420	02350
	RA	PRG2	U2	00744	02343	21	02321	02507
	RA	C3	U1	00745	02344	21	02564	02506
	RA	PRO13	VI	00746	02345	21	01507	02525
	IJ	CARD	PRG8	00747	02346	41	02357	02316
	MJ		PRO10	00750	02347	45	00000	01462
PRG11	RA	C3	U1	00751	02350	21	02564	02506
	RA	PRO13	VI	00752	02351	21	01507	02525
	MJ		PRO14	00753	02352	45	00000	01515
U30		30		00754	02353	00	00036	00000
V17			17	00755	02354	00	00000	00021
V29			29	00756	02355	00	00000	00035
COUNT				00757	02356	00	00000	00000
CARD				00760	02357	00	00000	00000
ORO				00761	02360	00	00000	00000
OR01				00762	02361	00	00000	00000
LPROG		PROG	PROG	00763	02362	00	02363	02363
PROG	XS3	PROBIN	INPUT DIAMOND CONVERSION	00764	02363	52	54512	53450
	XS3	MGCSTP		00765	02364	47	32266	56652
	XS3	NUCCBN	TABLE - ARGUMENTS	00766	02365	50	67262	65150
	XS3	CONCOR		00767	02366	26	51502	65154
	XS3	DIFFUS		00770	02367	27	34313	16765
	XS3	BURNUP		00771	02370	25	67545	06752
	XS3	CRTCAL		00772	02371	26	54662	62446
	XS3	NUTBAL		00773	02372	50	67662	52446
	XS3	AJOINT		00774	02373	24	44513	45066
	XS3	XESMAD		00775	02374	72	30654	72427
	XS3	BASLIB		00776	02375	25	24654	65425
	XS3	DIAM01		00777	02376	27	34244	70304
	XS3	DIAM02		01000	02377	27	34244	70305
	XS3	DIAM03		01001	02400	27	34244	70306
	XS3	DIAM04		01002	02401	27	34244	70307
	XS3	DIAM05		01003	02402	27	34244	70310
	XS3	DIAM06		01004	02403	27	34244	70311
	XS3	DIAM07		01005	02404	27	34244	70312
	XS3	DIAM08		01006	02405	27	34244	70313
	XS3	DIAM09		01007	02406	27	34244	70314
	XS3	DIAM10		01010	02407	27	34244	70403
	XS3	DIAM11		01011	02410	27	34244	70404
	XS3	DIAM12		01012	02411	27	34244	70405
	XS3	DIAM13		01013	02412	27	34244	70406
	XS3	DIAM14		01014	02413	27	34244	70407
	XS3	DIAM15		01015	02414	27	34244	70410
	XS3	DIAM16		01016	02415	27	34244	70411
	XS3	DIAM17		01017	02416	27	34244	70412
	XS3	DIAM18		01020	02417	27	34244	70413
LSTOP	XS3	STOP00		01021	02420	65	66515	20303
	B15	4		01022	02421	00	00004	00000
	B15	5	INPUT DIAMOND CONVERSION	01023	02422	00	00005	00000
	B15	6	TABLE - FUNCTIONS	01024	02423	00	00006	00000
	B15	7	(DIAMONDS).	01025	02424	00	00007	00000
	B15	10		01026	02425	00	00010	00000
	B15	11		01027	02426	00	00011	00000
	B15	12		01030	02427	00	00012	00000
	B15	13		01031	02430	00	00013	00000
	B15	14		01032	02431	00	00014	00000

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B15	15			01033	02432	00	00015	00000
B15	16			01034	02433	00	00016	00000
B15	4000001			01035	02434	40	00001	00000
B15	4000002			01036	02435	40	00002	00000
B15	4000003			01037	02436	40	00003	00000
B15	4000004			01040	02437	40	00004	00000
B15	4000005			01041	02440	40	00005	00000
B15	4000006			01042	02441	40	00006	00000
B15	4000007			01043	02442	40	00007	00000
B15	4000010			01044	02443	40	00010	00000
B15	4000011			01045	02444	40	00011	00000
B15	4000012			01046	02445	40	00012	00000
B15	4000013			01047	02446	40	00013	00000
B15	4000014			01050	02447	40	00014	00000
B15	4000015			01051	02450	40	00015	00000
B15	4000016			01052	02451	40	00016	00000
B15	4000017			01053	02452	40	00017	00000
B15	4000020			01054	02453	40	00020	00000
B15	4000021			01055	02454	40	00021	00000
B15	4000022			01056	02455	40	00022	00000
B15	7777777			01057	02456	77	77777	00000
CORE1	0	0000	1050	01060	02457	00	00000	00000
DRUM1			50000B)	01061	02460	00	00000	50000
				01062	02461	00	00000	00000
FINI	B	1111111111		01063	02462	11	11111	11111
FINI1	B	1414141414		01064	02463	14	14141	41414
CON1			PK032	01065	02464	00	00000	01547
CON1Z			PRO30	01066	02465	00	00000	01546
CON2			STOPP	01067	02466	00	00000	01621
CON5	RJ	EXIT3	FXDB6	01070	02467	37	03123	03121
CON6	RJ	EXIT2	FLDB	01071	02470	37	03120	03116
CON7	MJ	0000	AKBK	01072	02471	45	00000	01622
CON60		LAKBK	LAKBK	01073	02472	00	00134	00134
PLUS1				01074	02473	00	00000	00000
K70	RPB		TENG1+1	01075	02474	75	30000	02004
K71	RPB	1	DRDTC	01076	02475	75	30001	01674
K72	RPB	1	DAKTC	01077	02476	75	30001	01704
K73	RPB	1	DISTC	01100	02477	75	30001	01715
K74	RPB	1	DENTC	01101	02500	75	30001	01725
K75	RPB	1	TPTSS	01102	02501	75	30001	01735
KRP2	RPV		OPR33	01103	02502	75	10000	01606
VMIL			1000	01104	02503	00	00000	01750
VMIL2			2000	01105	02504	00	00000	03720
ZERO				01106	02505	00	00000	00000
U1		1		01107	02506	00	00001	00000
U2		2		01110	02507	00	00002	00000
U3		3		01111	02510	00	00003	00000
U4		4		01112	02511	00	00004	00000
U5		5		01113	02512	00	00005	00000
U6		6		01114	02513	00	00006	00000
U7		7		01115	02514	00	00007	00000
U8		8		01116	02515	00	00010	00000
U9		9		01117	02516	00	00011	00000
U10		10		01120	02517	00	00012	00000
U11		11		01121	02520	00	00013	00000
U12		12		01122	02521	00	00014	00000
U13		13		01123	02522	00	00015	00000
U14		14		01124	02523	00	00016	00000
U15		15		01125	02524	00	00017	00000
V1				01126	02525	00	00000	00001
				0198				NOP
				0208				

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V2			2	01127	02526	00	00000	00002	
V3			3	01130	02527	00	00000	00003	
V4			4	01131	02530	00	00000	00004	
V5			5	01132	02531	00	00000	00005	
V6			6	01133	02532	00	00000	00006	
V7			7	01134	02533	00	00000	00007	
V8			8	01135	02534	00	00000	00010	
V9			9	01136	02535	00	00000	00011	
V10			10	01137	02536	00	00000	00012	
V11			11	01140	02537	00	00000	00013	
V12			12	01141	02540	00	00000	00014	
V13			13	01142	02541	00	00000	00015	
V14			14	01143	02542	00	00000	00016	
V15			15	01144	02543	00	00000	00017	
V18			18	01145	02544	00	00000	00022	
U1V1		1	1	01146	02545	00	00001	00001	
U2V2		2	2	01147	02546	00	00002	00002	
U3V3		3	3	01150	02547	00	00003	00003	
U4V4		4	4	01151	02550	00	00004	00004	
U5V5		5	5	01152	02551	00	00005	00005	
U4V2		4	2	01153	02552	00	00004	00002	
U6V3		6	3	01154	02553	00	00006	00003	
U2V1		2	1	01155	02554	00	00002	00001	
V7777B	B	00000000	777	01156	02555	00	00000	01777	
LVBL		VBL	VBL	01157	02556	00	02156	02156	
DUMP				01160	02557	00	00000	00000	
DUMP1	0	0000	0000	0229 01161	02560	00	00000	00000	NOP
DUMP3				01162	02561	00	00000	00000	
C1				01163	02562	00	00000	00000	
C2				01164	02563	00	00000	00000	
C3				01165	02564	00	00000	00000	
C4				01166	02565	00	00000	00000	
CO4		4	T	01167	02566	00	00004	02727	
CO7	RPB		PK031	01170	02567	75	30000	01545	
I2				01171	02570	00	00000	00000	
I3	0	0000	0000	0236 01172	02571	00	00000	00000	NOP
N1	0	0000	0000	0237 01173	02572	00	00000	00000	NOP
NR1	0	0000	0000	0238 01174	02573	00	00000	00000	NOP
4R1				01175	02574	00	00000	00000	
RII2				01176	02575	00	00000	00000	
LLT1				01177	02576	00	02577	02577	
LT1		LT1	LT1	01200	02577	00	02730	02730	
LLT		LT	LT	01201	02600	00	02601	02601	
LT		T	T	01202	02601	00	02727	02727	
N3				01203	02602	00	00000	00000	
CONVT	B	0303030303		01204	02603	03	03030	30303	
STOP	MS	STOP	STOP	0241 01205	02604	56	02604	02604	
LOIM		IDEN	IDEN	01206	02605	00	00010	00010	
				01207	02606	00	00000	00000	
				01210	02607	00	02525	02533	
LDIA1		DIA1	DIA1	01211	02610	00	00103	00103	
				01212	02611	00	00000	00000	
				01213	02612	00	02525	02544	
LTAPE		TAPE1	TAPE1	01214	02613	00	00070	00070	
				01215	02614	00	00000	00000	
				01216	02615	00	02525	02536	
LINFO		INF1	INF1	01217	02616	00	00020	00020	
				01220	02617	00	00000	00000	
				01221	02620	00	02525	02540	
LSHFX		RHO	RHO	01222	02621	00	00035	00035	

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	V1	V4	01223	02622	00	00000	00000
	QQ	QQ	01224	02623	00	02525	02530
LSHFL			01225	02624	00	00064	00064
	V1	V3	01226	02625	00	00000	00000
LPGCN	PSUBO	PSUBO	01227	02626	00	02525	02527
			01230	02627	00	00042	00042
	V1	V7	01231	02630	00	00000	00000
LSMVR	RZERO	RZERO	01232	02631	00	02525	02533
			01233	02632	00	00052	00052
	V1	V9	01234	02633	00	00000	00000
LS	FILL	FILL	01235	02634	00	02525	02535
	V1	V1	01236	02635	00	30000	30000
	ZERO	ZERO	01237	02636	00	02525	02525
VARBL	LRDIF	LRDIF	01240	02637	00	02505	02505
	V1	R	01241	02640	00	00137	00137
	V1	R	01242	02641	00	02525	00014
	LPTS	LPTS	01243	02642	00	02525	00014
	V1	R	01244	02643	00	00142	00142
	V1	R	01245	02644	00	02525	00014
	V1	R	01246	02645	00	02525	00014
	LREGN	LREGN	01247	02646	00	00145	00145
	V1	R	01250	02647	00	02525	00014
	V1	R	01251	02650	00	02525	00014
	LMESH	LMESH	01252	02651	00	00172	00172
	V1	N3	01253	02652	00	02525	02602
	V1	N3	01254	02653	00	02525	02602
	LBSUO	LBSUO	01255	02654	00	00150	00150
	ZERO	ZERO	01256	02655	00	02505	02505
	V1	I	01257	02656	00	02525	00012
	LBSUN	LBSUN	01260	02657	00	00153	00153
	ZERO	ZERO	01261	02660	00	02505	02505
	V1	I	01262	02661	00	02525	00012
	LPHKI	LPHKI	01263	02662	00	00200	00200
	ZERO	ZERO	01264	02663	00	02505	02505
	N	I2	01265	02664	00	00014	02570
	LPHI	LPHI	01266	02665	00	00156	00156
	ZERO	ZERO	01267	02666	00	02505	02505
	I	N1	01270	02667	00	00012	02572
	LCAPP	LCAPP	01271	02670	00	00161	00161
	ZERO	ZERO	01272	02671	00	02505	02505
	V1	NR1	01273	02672	00	02525	02573
	LNSMT	LNSMT	01274	02673	00	00203	00203
	ZERO	ZERO	01275	02674	00	02505	02505
	V1	R	01276	02675	00	02525	00014
	LNXET	LNXET	01277	02676	00	00206	00206
	ZERO	ZERO	01300	02677	00	02505	02505
	V1	R	01301	02700	00	02525	00014
	LPBKI	LPBKI	01302	02701	00	00164	00164
	ZERO	ZERO	01303	02702	00	02505	02505
	I	R	01304	02703	00	00012	00014
	LSFKI	LSFKI	01305	02704	00	00167	00167
	ZERO	ZERO	01306	02705	00	02505	02505
	S	I	01307	02706	00	00015	00012
	LSHUF	LSHUF	01310	02707	00	00305	00305
	ZERO	ZERO	01311	02710	00	02505	02505
	V1	PLUS1	01312	02711	00	02525	02473
	LISOP	LISOP	01313	02712	00	00126	00126
	V1	B	01314	02713	00	02525	00013
	V1	B	01315	02714	00	02525	00013
	LENGY	LENGY	01316	02715	00	00131	00131

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		V1	I3		01317	02716	00	02525	02571	
		V1	I3		01320	02717	00	02525	02571	
		LAKBK	LAKBK		01321	02720	00	00134	00134	
		4R1	B		01322	02721	00	02574	00013	
		4R1	B		01323	02722	00	02574	00013	
		LS	LS		01324	02723	00	02635	02635	
		V1	V1		01325	02724	00	02525	02525	
		ZERO	ZERO		01326	02725	00	02505	02505	
	B	37777777/777			01327	02726	37	71777	71777	
T	0	0000	0000		0279	01330	00	00000	00000	NOP
T1	0	0000	0000		0280	01331	00	00000	00000	NOP
T2	0	0000	0000		0281	01332	00	00000	00000	NOP
T3	0	0000	0000		0282	01333	00	00000	00000	NOP
T4	0	0000	0000		0283	01334	00	00000	00000	NOP
T5	0	0000	0000		0284	01335	00	00000	00000	NOP
T6	0	0000	0000		0285	01336	00	00000	00000	NOP
T7	0	0000	0000		0286	01337	00	00000	00000	NOP
T8	0	0000	0000		0287	01340	00	00000	00000	NOP
T9	0	0000	0000		0288	01341	00	00000	00000	NOP
T10	0	0000	0000		0289	01342	00	00000	00000	NOP
T11	0	0000	0000		0290	01343	00	00000	00000	NOP
LASTC			17777B1		01344	02743	00	00000	17777	
LASTD	B	00000007/777			01345	02744	00	00000	77777	
LLS1		LAST+20	LAST+20		01346	02745	00	03367	03367	
LLAST			LAST		01347	02746	00	00000	03343	
CDREAD	MJ		L+5	SINGLE CARD READ	001	01350	45	00000	02754	
	MS			ERROR EXIT	002	01351	56	00000	00000	
EXITCR	MJ		FILL	NORMAL EXIT	003	01352	45	00000	30000	
PAUSE	MJ		FILL		004	01353	45	00000	30000	
PARIA		FILL	FILL			01354	00	30000	30000	
	SP	EXITCR	15		006	01355	31	02751	00017	
	TU	A	L+1		007	01356	15	32000	02756	
	TP	FILL	PARIA		008	01357	11	30000	02753	
	LQ	PARIA	A+21		009	01360	55	02753	32025	
	TV	A	MCRBA		010	01361	16	32000	02777	
	TV	PARIA	PAUSE		011	01362	16	02753	02752	
HOP	RJ	L	L+1		012	01363	37	02762	02763	
READER	EF		CST3		013	01364	17	00000	03066	
SPRING	RJ	L	L+1		014	01365	37	02764	02765	
JUMP	RJ	L	L+1		015	01366	37	02765	02766	
	TP	PARIA	Q		016	01367	11	02753	31000	
	QJ	L+1	BETA		017	01370	44	02770	02775	
	TV	CST5	MCR31		018	01371	16	03103	03055	
GENT	TV	EXITCR	JUMP		019	01372	16	02751	02765	
	TV	BOUNCE	HOP		020	01373	16	03036	02762	
	RA	JUMP	V1			01374	21	02765	02525	
	MJ		L+2		022	01375	45	00000	02776	
BETA	TV	CST2	MCR31		023	01376	16	03065	03055	
	RPV	12	L+2		024	01377	75	10014	03000	
MCRBA	TP	ZERO	FILL			01400	11	02505	30000	
	TU	CST2	MCR6		026	01401	15	03065	03007	
	TP	V10	15			01402	11	02536	03113	
ROLINE	ERO		DUMP		028	01403	76	00000	02557	
	ERI		BUFF		029	01404	76	10000	03105	
	ERI		BUFF+1		030	01405	76	10000	03106	
CROWD	RJ	L	L+1		031	01406	37	03005	03006	
	TP	BUFF	BUFF+2		032	01407	11	03105	03107	
MCR6	TP	FILL	INK		033	01410	11	30000	03114	
	TP	CST4+R	I4		034	01411	11	03077	03112	
	TU	PARIA	MCR3		035	01412	15	02753	03016	

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MCR5	TU	PARIA	MCR2	036	01413	03012	15	02753	03024
	TP	CST4+4	I3A		01414	03013	11	03073	03111
	LQ	BUFF+2	35	038	01415	03014	55	03107	00043
MCR4	TP	CST4+4	I2A		01416	03015	11	03073	03110
MCR3	LQ	FILL	6	040	01417	03016	55	30000	00008
	QT	V77B	A		01420	03017	51	03335	32000
	AT	INK	A	042	01421	03020	35	03114	32000
MCR1	LQ	BUFF+2	1	043	01422	03021	55	03107	00001
	QJ	L+1	TEST	044	01423	03022	44	03023	03025
	EJ	CST4+9	TEST	045	01424	03023	43	03100	03025
MCR2	RA	FILL	INK	046	01425	03024	21	30000	03114
TEST	IJ	I2A	MCR3		01426	03025	41	03110	03018
	RA	MCR3	U1		01427	03026	21	03016	02508
	RA	MCR2	U1		01430	03027	21	03024	02506
	IJ	I3A	MCR4		01431	03030	41	03111	03015
	TP	BUFF+1	BUFF+2	051	01432	03031	11	03106	03107
	IJ	I4	MCR5	052	01433	03032	41	03112	03013
	RA	MCR4	U1		01434	03033	21	03007	02508
	IJ	I5	ROLINE	054	01435	03034	41	03113	03002
VAULT	RJ	L	L+1	055	01436	03035	37	03035	03036
BOUNCE	TV	CST5A	SPRING	056	01437	03036	16	03104	02764
	TV	GENT	VAULT	057	01440	03037	16	02771	03035
	RJ	CROWD	ROLINE	058	01441	03040	37	03005	03002
	LQ	DUMP	35	059	01442	03041	55	02557	00043
	QJ	L+1	MCR30	060	01443	03042	44	03043	03047
	RJ	JUMP	JUMP	061	01444	03043	37	02765	02765
	RJ	HOP	HOP	062	01445	03044	37	02762	02762
	RJ	VAULT	SPRING	063	01446	03045	37	03035	02764
MCR7A	MJ		PAUSE	064	01447	03046	45	00000	02752
MCR30	LQ	PARIA	A+3	065	01450	03047	55	02753	32003
	QJ	L+1	MCR32	066	01451	03050	44	03051	03063
	TV	BOUNCE+1	SPRING		01452	03051	16	03037	02764
	SP	BUFF	1	067	01453	03052	31	03105	00001
	SP	A	71	068	01454	03053	31	32000	00107
	SA	BUFF+1		069	01455	03054	32	03106	00000
MCR31	ZJ	L+1	FILL	070	01456	03055	47	03056	30000
EXITS	RA	EXIT6R	CST4+8	071	01457	03056	21	02751	03077
	RJ	VAULT	SPRING	072	01460	03057	37	03035	02764
	RJ	HOP	HOP	073	01461	03060	37	02762	02762
	RJ	JUMP	JUMP	074	01462	03061	37	02765	02765
	MJ		EXITCR	075	01463	03062	45	00000	02751
MCR32	SP	DUMP		076	01464	03063	31	02557	00000
	MJ		MCR31	077	01465	03064	45	00000	03055
CST2		CST4	EXITS	078	01466	03065	00	03067	03056
CST3	B	400000000005		079	01467	03066	40	00000	00005
CST4	B	11		080	01470	03067	00	00000	00011
	B	10		081	01471	03070	00	00000	00010
	B	07		082	01472	03071	00	00000	00007
	B	06		083	01473	03072	00	00000	00006
	B	05		084	01474	03073	00	00000	00005
	B	04		085	01475	03074	00	00000	00004
	B	03		086	01476	03075	00	00000	00003
	B	02		087	01477	03076	00	00000	00002
	B	01		088	01500	03077	00	00000	00001
	B	60		089	01501	03100	00	00000	00060
	B	40		090	01502	03101	00	00000	00040
	B	20		091	01503	03102	00	00000	00020
CST5			READER	092	01504	03103	00	00000	02763
CST5A			CROWD	093	01505	03104	00	00000	03005
BUFF	RSRV	3	3	094	01506	03105			

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12A				01511	03110	00	00000	00000	
13A	B			01512	03111	00	00000	00000	
14				097	01513	03112	00	00000	00000
15				098	01514	03113	00	00000	00000
INK				099	01515	03114	00	00000	00000
FXDB12	MJ	START1	FIXED DEC-BIN 12	00001	01516	03115	45	00000	03127
FLOB	MJ	START2	FLOATING DEC-BIN	00002	01517	03116	45	00000	03124
EXIT	MJ	FILL	NORMAL EXIT	00003	01520	03117	45	00000	30000
EXIT2	MJ	FILL		00004	01521	03120	45	00000	30000
FXDB6	MJ	START3	FIXED DEC-BIN 6	00005	01522	03121	45	00000	03131
	MS		ERROR EXIT	00006	01523	03122	56	00000	00000
EXIT3	MJ	FILL		00007	01524	03123	45	00000	30000
START2	TV	EXIT2	EXIT	00008	01525	03124	16	03120	03117
	TV	F6	F3	00009	01526	03125	16	03140	03153
	MJ		START	00010	01527	03126	45	00000	03133
START1	TV	CNST1	F4	00011	01530	03127	16	03310	03253
	MJ		START2+12	00012	01531	03130	45	00000	03125
START3	TV	CNST2	F3	00013	01532	03131	16	03311	03153
	TV	EXIT3	EXIT	00014	01533	03132	16	03123	03117
START	SP	EXIT	15	00015	01534	03133	31	03117	00017
	TU	A	L+1	00016	01535	03134	15	32000	03135
	TP	FILL	Q	00017	01536	03135	11	30000	31000
	TU	Q	CONV	00018	01537	03136	15	31000	03146
	TV	Q	BET	00019	01540	03137	16	31000	03266
F6	TU	Q	MCR20	00020	01541	03140	15	31000	03154
	RA	MCR20	U1		01542	03141	21	03154	02506
	SP	Q	5	00022	01543	03142	31	31000	00006
	LT		SCALER	00023	01544	03143	22	00000	03320
	RPR	9	L+2	00024	01545	03144	75	10011	03146
	TP	ZERO	TEMP		01546	03145	11	02505	03322
CONV	TP	FILL	Q	00026	01547	03146	11	30000	31000
	LQ	Q	6	00027	01550	03147	55	31000	00006
	QT	CST4+10	TEMP		01551	03150	51	03101	03322
	TP	V4	DON		01552	03151	11	02530	03333
	RJ	XIT	X	00030	01553	03152	37	03222	03213
F3	MJ		FILL	00031	01554	03153	45	00000	30000
MCR20	TP	FILL	Q	00032	01555	03154	11	30000	31000
	TP	V2	DON		01556	03155	11	02526	03333
	MJ	XIT	X+1	00034	01557	03156	37	03222	03214
	TP	HIDE	TEMP+1		01560	03157	11	03321	03323
	LQ	Q	6	00036	01561	03160	55	31000	00006
	QT	CST4+10	TEMP+2		01562	03161	51	03101	03324
F20	TP	V1	DON		01563	03162	11	02525	03333
	RJ	XIT	X	00039	01564	03163	37	03222	03213
	RS	HIDE	TEMP+3		01565	03164	23	03321	03325
	TP	HIDE	TEMP+3		01566	03165	11	03321	03325
	SP	TEMP+2	POWER		01567	03166	31	03324	00000
	ZJ	L+1	L+2	00043	01570	03167	47	03170	03171
	TN	TEMP+3	TEMP+3	00044	01571	03170	13	03325	03325
	RS	TEMP+3	V10B		01572	03171	23	03325	03336
	SJ	L+1	L+3	00046	01573	03172	46	03173	03175
	TP	V1	TEMP+2		01574	03173	11	02525	03324
	MJ		L+2	00048	01575	03174	45	00000	03176
	TP	ZERO	TEMP+2		01576	03175	11	02505	03324
	TM	TEMP+3	Q	00050	01577	03176	12	03325	31000
	TP	COLT	TEMP+5	00051	01600	03177	11	03312	03327
	RJ	BT	AT	00052	01601	03200	37	03210	03207
	TP	CT	TEMP+5	00053	01602	03201	11	03316	03327
	RJ	BT	AT	00054	01603	03202	37	03210	03207
	TP	CT+1	TEMP+5	00055	01604	03203	11	03317	03327



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	RJ	BT	AT	00056	01605	03204	37	03210	03207
	TP	ZERO	Q		01606	03205	11	02505	31000
	MJ		BET	00058	01607	03206	45	00000	03266
AT	RS	Q	V17B		01610	03207	23	31000	03337
BT	SJ	L+1		00060	01611	03210	46	03211	00000
	AT	V17B	Q		01612	03211	35	03337	31000
	MJ		HELP	00062	01613	03212	45	00000	03227
X	RS	HIDE	HIDE	00063	01614	03213	23	03321	03321
	LQ	Q	6	00064	01615	03214	55	31000	00006
	QT	V17B	DON+1		01616	03215	51	03337	03334
	SP	HIDE	2	00066	01617	03216	31	03321	00002
	SA	HIDE	1	00067	01620	03217	32	03321	00001
	AT	UON+1	HIDE	00068	01621	03220	35	03334	03321
	IJ	DON	X+1	00069	01622	03221	41	03333	03214
XIT	MJ		FILL	00070	01623	03222	45	00000	30000
	SP	TEMP+5	2	00071	01624	03223	31	03327	00002
	SA	TEMP+5	1	00072	01625	03224	32	03327	00001
	SF	A	HIDE	00073	01626	03225	74	32000	03321
	TP	A	TEMP+5	00074	01627	03226	11	32000	03327
HELP	IJ	Q	HELP-4	00075	01630	03227	41	31000	03223
	MP	TEMP+3	COLT+1	00076	01631	03230	71	03325	03313
	LT	3	TEMP+6	00077	01632	03231	22	00003	03330
	SJ	L+1	L+4	00078	01633	03232	46	03233	03236
	RS	TEMP+6	V1		01634	03233	23	03330	02525
	SP	COLT	35	00080	01635	03234	31	03312	00043
	DV	TEMP+5	TEMP+5	00081	01636	03235	73	03327	03327
	MP	TEMP+5	TEMP+1	00082	01637	03236	71	03327	03323
	ZJ	L+3	L+1	00083	01640	03237	47	03242	03240
	TP	ZERO	Q		01641	03240	11	02505	31000
TCP	MJ		BET	00085	01642	03241	45	00000	03266
	SF	A	TEMP+8	00086	01643	03242	74	32000	03332
	TP	A	TEMP+1	00087	01644	03243	11	32000	03323
	RA	TEMP+6	TEMP+8	00088	01645	03244	21	03330	03332
	RA	TEMP+6	COLT+2	00089	01646	03245	21	03330	03314
	SJ	TCP-1	L+1	00090	01647	03246	46	03240	03247
	RA	TEMP+1	COLT+2	00091	01650	03247	21	03323	03314
	EJ	A	L+3	00092	01651	03250	43	32000	03253
	RA	TEMP+6	V1		01652	03251	21	03330	02525
	TP	COLT	TEMP+1	00094	01653	03252	11	03312	03323
F4	RJ	L	L+1	00095	01654	03253	37	03253	03254
	SP	TEMP+1		00096	01655	03254	31	03323	00000
	LT	29	Q	00097	01656	03255	22	00034	31000
	SP	TEMP+6	27	00098	01657	03256	31	03330	00033
	AT	Q	Q	00099	01660	03257	35	31000	31000
	EJ	A	L+3	00100	01661	03260	43	32000	03263
	TP	COLT+3	Q	00101	01662	03261	11	03315	31000
	MJ		BET	00102	01663	03262	45	00000	03266
	SP	TEMP		00103	01664	03263	31	03322	00000
	ZJ	L+1	BET	00104	01665	03264	47	03265	03266
	TN	Q	Q	00105	01666	03265	13	31000	31000
BET	TP	Q		00106	01667	03266	11	31000	00000
	RA	EXIT	V1		01670	03267	21	03117	02525
	MJ		EXIT	00108	01671	03270	45	00000	03117
F9	TP	HIDE	TEMP+1	00109	01672	03271	11	03321	03323
	TV	V36	F11		01673	03272	16	03341	03305
	RA	FILL	SCALER	00111	01674	03273	21	03305	03320
	MJ		F8	00112	01675	03274	45	00000	03302
F10	RA	TEMP+6	SCALER	00113	01676	03275	21	03330	03320
	RS	TEMP+6	V177B		01677	03276	23	03330	03340
	SJ	L+1	L+2	00115	01700	03277	46	03300	03301

STORE RESULT

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	RA	TEMP+6	V72		01701	03300	21	03330	03342	
	TV	TEMP+6	F11		00117	01702	03301	16	03330	03305
F8	SP	TEMP			00118	01703	03302	31	03322	00000
	ZJ	L+1	L+2		00119	01704	03303	47	03304	03305
	TN	TEMP+1	TEMP+1		00120	01705	03304	13	03323	03323
F11	LA	TEMP+1	FILL		00121	01706	03305	54	03323	30000
	LTJ		Q		00122	01707	03306	22	00000	31000
	MJ		BET		00123	01710	03307	45	00000	03266
CNST1			F10		00124	01711	03310	00	00000	03275
CNST2			F9		00125	01712	03311	00	00000	03271
COLT	B	200000000000			00126	01713	03312	20	00000	00000
	B	324464741135			00127	01714	03313	52	44647	41135
	B	201			00128	01715	03314	00	00000	00201
	B	377777777777			00129	01716	03315	37	77777	77777
CT	B	343277244615			00130	01717	03316	34	32772	44615
	B	311745447075			00131	01720	03317	31	17454	47075
SCALER					00132	01721	03320	00	00000	00000
HIDE					00133	01722	03321	00	00000	00000
TEMP	RSRV	9	9		00134	01723	03322			
DON	RSRV	2	2		00135	01734	03333			
V77B	B	77				01736	03335	00	00000	00077
V10B	B	10				01737	03336	00	00000	00010
V17B	B	17				01740	03337	00	00000	00017
V177B	B	177				01741	03340	00	00000	00177
V36			36			01742	03341	00	00000	00044
V72			72			01743	03342	00	00000	00110
LAST			V72+1			01744	03343	00	00000	03343
TEMP1	EGLS	TEMP+1								
	SETL		10B)							
IDEN					01745	00010		00	00000	00000
N					01746	00011		00	00000	00000
I					01747	00012		00	00000	00000
B					01750	00013		00	00000	00000
R		0000	0000		00006	01751	00014	00	00000	00000
S		0000	0000		00007	01752	00015	00	00000	00000
Y						01753	00016	00	00000	00000
		0000	0000		00008	01754	00017	00	00000	00000
INF1		0000	0000		00009	01755	00020	00	00000	00000
INF2		0000	0000		00010	01756	00021	00	00000	00000
INF3		0000	0000		00011	01757	00022	00	00000	00000
INF4		0000	0000		00012	01760	00023	00	00000	00000
INF5		0000	0000		00013	01761	00024	00	00000	00000
INF6		0000	0000		00014	01762	00025	00	00000	00000
INF7		0000	0000		00015	01763	00026	00	00000	00000
INF8		0000	0000		00016	01764	00027	00	00000	00000
INF9		0000	0000		00017	01765	00030	00	00000	00000
INF10		0000	0000		00018	01766	00031	00	00000	00000
INF11		0000	0000		00019	01767	00032	00	00000	00000
INF12		0000	0000		00020	01770	00033	00	00000	00000
		0000	0000		00021	01771	00034	00	00000	00000
RHO		0000	0000		00022	01772	00035	00	00000	00000
VARI						01773	00036	00	00000	00000
KKK						01774	00037	00	00000	00000
NOM						01775	00040	00	00000	00000
		0000	0000		00023	01776	00041	00	00000	00000
PSUBO	F	3.12	13	FISSIONS-KW+SEC	01777	00042		25	57060	12073
YSUBX	F	3	-3	XE135 ATOMS-FISSION	02000	00043		17	06111	56457
YSUBI	F	5.6	-2	I135 ATOMS-FISSION	02001	00044		17	47126	01014
YSUBP	F	1.4	-2	PR149 ATOMS-FISSION	02002	00045		17	27126	01014
LAMXE	F	2.1	-5	PROB-SEC DECAY XE135	02003	00046		16	15402	44501

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LAMI	F	2.9	-5	PROB-SEC DECAY I135	02004	00047	16	17464	24065
LAMPR	F	4.1	-6	PROB-SEC DECAY PR149	02005	00050	15	74231	12733
RZERO	F			0 FIRST MESH POINT	02006	00051	00	00000	00000
TIME	F			0 CURRENT TIME	02007	00052	00	00000	00000
EPSIL	F	.00001		.00001 CONV CRIT REAC	02011	00054	16	05174	26542
EPS2	F	.00001		.00001 CONV CRIT POWER	02012	00055	16	05174	26542
EPS3	F	.00001		.00001 CONV CRIT KZERO	02013	00056	16	05174	26542
EPS4	F	.00001		.00001	02014	00057	16	05174	26542
KO	F	1.0		1.0 DESIRED REACTIVITY	02015	00060	20	14000	00000
OMEGA	F			DIFF. ACCEL. FACTOR	02016	00061	00	00000	00000
DZDK	F	1.0		DZ-DK FIRST GUESS	02017	00062	20	14000	00000
QQ	F	0000	0000	POWER DENSITY KW-CM3	02020	00063	00	00000	00000
DELTS	F			TIME SINCE SHUTDOWN SEC	02021	00064	00	00000	00000
DTMAX	F				02022	00065	00	00000	00000
TAPE1	B	1		PROGRAM TAPE	02023	00066	00	00000	00000
TAPE2	B	2		BASIC LIBRARY TAPE	02024	00067	00	00000	00000
TAPE3	B	3		MICRO GROUP TAPE NEW	02025	00070	00	00000	00001
TAPE4	B	4		NUCLEAR CONSTANT TAPE	02026	00071	00	00000	00002
TAPE5	B	5		MICRO GROUP TAPE OLD	02027	00072	00	00000	00003
TAPE6	B	6		RAW DATA TAPE	02030	00073	00	00000	00004
TAPE7	B	7		INTERMEDIATE TAPE	02031	00074	00	00000	00005
TAPE8	B	10		OUTPUT TAPE	02032	00075	00	00000	00006
TAPE9	B	11		DUMP TAPE	02033	00076	00	00000	00007
TAPE10	B	12		OMM SERVICE LIBRARY	02034	00077	00	00000	00010
DIA1		0000	0000		02035	00100	00	00000	00011
DIA2		0000	0000		02036	00101	00	00000	00012
DIA3		0000	0000		0045	02037	00102	00	00000
DIA4		0000	0000		0046	02040	00103	00	00000
DIA5		0000	0000		0047	02041	00104	00	00000
DIA6		0000	0000		0048	02042	00105	00	00000
DIA7		0000	0000		0049	02043	00106	00	00000
DIA8		0000	0000		0050	02044	00107	00	00000
DIA9		0000	0000		0051	02045	00110	00	00000
DIA10		0000	0000		0052	02046	00111	00	00000
DIA11		0000	0000		0053	02047	00112	00	00000
DIA12		0000	0000		0054	02050	00113	00	00000
DIA13		0000	0000		0055	02051	00114	00	00000
DIA14		0000	0000		0056	02052	00115	00	00000
DIA15		0000	0000		0057	02053	00116	00	00000
DIA16		0000	0000		0058	02054	00117	00	00000
DIA17		0000	0000		0059	02055	00120	00	00000
DIA18		0000	0000		0060	02056	00121	00	00000
LISOP	RSRV	3	3		0061	02057	00122	00	00000
LENGY	RSRV	3	3		0062	02060	00123	00	00000
LAKBK	RSRV	3	3		0063	02061	00124	00	00000
LRDIF	RSRV	3	3			02062	00125	00	00000
LPTS	RSRV	3	3			02063	00126		
LREGN	RSRV	3	3			02066	00131		
LBSUO	RSRV	3	3			02071	00134		
LBSUN	RSRV	3	3			02074	00137		
LPHI	RSRV	3	3			02077	00142		
LCAPP	RSRV	3	3			02102	00145		
LPBKI	RSRV	3	3			02105	00150		
LSFKI	RSRV	3	3			02110	00153		
LMESH	RSRV	3	3			02113	00156		
						02116	00161		
						02121	00164		
						02124	00167		
						02127	00172		

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LBRMX	RSRV	3	3	02132	00175		
LPHKI	RSRV	3	3	02135	00200		
LNSMT	RSRV	3	3	02140	00203		
LNSET	RSRV	3	3	02143	00206		
LCAPD	RSRV	3	3	02146	00211		
LCAPT	RSRV	3	3	02151	00214		
LCPTI	RSRV	3	3	02154	00217		
LCAPF	RSRV	3	3	02157	00222		
LXKI	RSRV	3	3	02162	00225		
LMFKI	RSRV	3	3	02165	00230		
LPOIF	RSRV	3	3	02170	00233		
LKPXE	RSRV	3	3	02173	00236		
LLKIA	RSRV	3	3	02176	00241		
LLKIB	RSRV	3	3	02201	00244		
LNFKI	RSRV	3	3	02204	00247		
LNLFP	RSRV	3	3	02207	00252		
LNSKI	RSRV	3	3	02212	00255		
LNDKI	RSRV	3	3	02215	00260		
LNFPI	RSRV	3	3	02220	00263		
LNCKI	RSRV	3	3	02223	00266		
LNPKI	RSRV	3	3	02226	00271		
LNPKI	RSRV	3	3	02231	00274		
LNKE	RSRV	3	3	02234	00277		
LNKL	RSRV	3	3	02237	00302		
LSHUF	RSRV	3	3	02242	00305		
CRCO1	B			02245	00310	00	00000 00000
Z3	RSRV	3	3	02246	00311		
Z2	RSRV	3	3	02251	00314		
Z1	RSRV	3	3	02254	00317		
Z				02257	00322	00	00000 00000
DELTA	F			02260	00323	00	00000 00000
MU				02261	00324	00	00000 00000
BLOCK	B			02262	00325	00	00000 00000
NOCI	B			02263	00326	00	00000 00000
MNOO1	B			02264	00327	00	00000 00000
MNOO2	B			02265	00330	00	00000 00000
SUBR	RSRV	9	9	02266	00331		
MLM1	RSRV	4	4	02277	00342		
DRUM	B			02303	00346	00	00000 00000
MINCE	B			02304	00347	00	00000 00000
ISO				02305	00350	00	00000 00000
MARK1				02306	00351	00	00000 00000
MARK2				02307	00352	00	00000 00000
K3				02310	00353	00	00000 00000
STAGAT				02311	00354	00	00000 00000
INDEXS				02312	00355	00	00000 00000
DTWICE				02313	00356	00	00000 00000
ADMCFE	RSRV	3	3	02314	00357		
1STBP				02317	00362	00	00000 00000
DELTAT				02320	00363	00	00000 00000
LOKI	EQLS	LCAPD					
LTKI	EQLS	LCAPF					
LTKIJ	EQLS	LCPTI					
LFKI	EQLS	LCAPF					
LMKI	EQLS	LMFKI					
BK	EQLS	SUBR+3					
BK2	EQLS	SUBR+5					
BRITE	EQLS	SUBR+6					
WR2	EQLS	SUBR+8					
ALLOK	EQLS	SUBR					

CURRENT DZ-DK  
CURRENT REACTIVITY

PRINT ROUTINE WORD COUNT  
CONTROL WORD DIFF. MON.  
CONTROL WORD ADJ. MUN.  
SUBROUTINE EQUIVALENCES  
MONITOR ALARMS  
FIRST TEMP DRUM STORAGE  
FIRST TEMP CORE STORAGE  
XE+SM ISOTOPE NUMBER  
CONTROL WORD XE+SM CONCR

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ALL2 EQLS SUBR+2  
XS3 DMM 04  
END

02321 00364

27 47470 00307  
00000

TABLE V-2E

MICROSCOPIC-GROUP CROSS SECTIONS

SETL	1	1400R)							
MICRO	XS3 DMM 05								
CROE	MJ 0000	CR01			00001 01400	27	47470	00310	
CRO2	MS 0000	0000			0106 00002 01401	45	00000	01404	
CRO1	MJ 0000	FILL			0107 00003 01402	56	00000	00000	
	MP V5	Y			0108 00004 01403	45	00000	30000	
	AT V1	5Y1			00005 01404	71	03001	00016	
	TP B	B1			0114 00006 01405	35	02775	03044	
	RA B1	V1			0115 00007 01406	11	00013	03045	
	TP I	I3			0116 00010 01407	21	03045	02775	
	RA I3	V3			0117 00011 01410	11	00012	03046	
	TP V510	MXMA			0118 00012 01411	21	03046	02777	
	SP LLAST				00013 01412	11	03027	03047	
	TJ MINCE	TVMC			00014 01413	31	05234	00000	
	TJ LLAST	CORE1			00015 01414	42	00347	01417	
	MJ	TVMC1			00016 01415	16	05234	03174	
TVMC	TV MINCE	CORE1			00017 01416	45	00000	01420	
TVMC1	RA CORF1	V1			00020 01417	16	00347	03174	
RJALL	RJ ALL2	ALLOK			00021 01420	21	03174	02775	
	O CORE1	DRUM1			00022 01421	37	00333	00331	
	O VBL1	FILL			0121 00023 01422	00	03174	03176	NOP
	TP ZER0	DUMP			0122 00024 01423	00	03114	30000	NOP
	TV LVAL	DUMP			00025 01424	11	03113	03057	
	RA DUMP	MXMA			00026 01425	16	03215	03057	
	AT V2	CURE2			00027 01426	21	03057	03047	
	TU NCO1	CROW3			00030 01427	35	02776	03175	
	RA CROW3	UI			0123 00031 01430	15	03166	01432	
CROW3	TU FILL	CROW1			0124 00032 01431	21	01432	02756	
	TV LVAL	30			0125 00033 01432	15	30000	02015	
	SP TAPE2	MIC1			0126 00034 01433	16	03215	02015	
	TP A	MIC1			00035 01434	31	00071	00036	
	TV LIS0Y	MIC1			0128 00036 01435	11	32000	01440	
	RJ BK2	BK			0129 00037 01436	16	03207	01440	
MIC1	RJ REWND2	FILE			0130 00040 01437	37	00336	00334	
	SP INF1	REWIND			00041 01440	00	00000	30000	
CR06A	ZJ CRO4	0000			00042 01441	37	02740	02736	
CR08A	SP TAPES	0000			0133 00043 01442	31	00020	00000	
CR09	TP A	CR08A			0134 00044 01443	47	01464	01444	
CR09A	TV LENGV	30			00045 01444	31	00074	00036	
	RJ BK2	CR07			0136 00046 01445	11	32000	01450	
CR07	RJ REWNB2	CR07			0137 00047 01446	16	00131	01450	
	TU CRO9A	BK			0138 00050 01447	37	00336	00334	
	RA CRO42	FILL			00051 01450	00	00000	30000	
CR04Z	TV FILL	DNIFER			00052 01451	37	02740	02745	
	SP I	CR04Z			0141 00053 01452	15	01446	01454	
	AT U4	UI			0142 00054 01453	21	01454	02756	
	AT COR4X	CR04Y			0143 00055 01454	16	30000	01462	
	TU LENGV	4XCR0			00056 01455	31	00012	00017	
CR04X	RFB	FILL			0145 00057 01456	35	02761	32000	
CR04Y	TP FILL	CR04Y			0146 00060 01457	35	03172	01461	
4XCRO	MJ	CR04Y			0147 00061 01460	15	00131	01462	
CR04	TU CRO9A	4XCR0			00062 01461	75	30000	01463	
	RA CRO4W	FILL			0149 00063 01462	11	30000	30000	
CR04W	TU FILL	CR08			00064 01463	45	00000	01504	
	SP I	CR04W			0151 00065 01464	15	01446	01466	
	AT U4	UI			0152 00066 01465	21	01466	02756	
	AT COR4V	CR04U			0153 00067 01466	15	30000	01474	
	TV LENGV	15			00068 01467	31	00012	00017	
		A			0155 00071 01470	35	02761	32000	
		CR04V			0156 00072 01471	35	03173	01473	
		CR04U			0157 00073 01472	16	00131	01474	

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CR04V	RPB		4VCRO		00074 01473	75	30000	01475	
CR04U	TP	FILL	FILL		0159 00075 01474	11	30000	30000	
4VCRO	TP	INF2	A		00076 01475	11	00021	32000	
	ZJ	VCR04	CM08		00077 01476	47	01477	01504	
VCR04	SP	TAPES	30		00100 01477	31	00074	00036	
	TP	A	CM04T		0161 00101 01500	11	32000	01503	
	TV	LDNIW	REED+1		00102 01501	16	02752	02731	
	RJ	PA2	PASS		0162 00103 01502	37	02716	02714	
CR04T	O	FILL	FILL		0163 00104 01503	00	30000	30000	NOP
CR08	SP	TAPE3	30	SETUP	00105 01504	31	00072	00036	
	TP	A	CM010	TO WRITE	0165 00106 01505	11	32000	01513	
	TV	LENGY	CM010	GROUP	0166 00107 01506	16	00131	01513	
	SP	I	15	STRUCTURE	00110 01507	31	00012	00017	
	AT	U4	A		0168 00111 01510	35	02761	32000	
	TU	A	CM010	SIGMA TAPE	0169 00112 01511	15	32000	01513	
	RJ	#R2	BRITE	WRITE GROUP	0170 00113 01512	37	00341	00337	
CR010	O	FILL	FILL	STRUCTURE	0171 00114 01513	00	30000	30000	NOP
CR02A	TU	CR02W	CR02Z		0172 00115 01514	15	01522	01516	
	RA	CR02Z	U1	TRANSFER	0173 00116 01515	21	01516	02756	
CR02Z	TU	FILL	CR02Y		0174 00117 01516	15	30000	01524	
	SP	B	15	ISOP TABLE	00120 01517	31	00013	00017	
	AT	U1	A		0176 00121 01520	35	02756	32000	
	AT	CR02X	CM02X	FROM DRUM	0177 00122 01521	35	03167	01523	
CR02W	TV	LISOP	CR02Y		0178 00123 01522	16	00126	01524	
CR02X	RPB		MIC2	TO CORE	00124 01523	75	30000	01525	
CR02Y	TP	FILL	FILL		0180 00125 01524	11	30000	30000	
MIC2	SP	INF2	0000	TEST TO USE	0181 00126 01525	31	00021	00000	
	ZJ	MIC3	CR02B	OLD SIG TP	0182 00127 01526	47	01527	01542	
MIC3	SP	TAPES	30	READ	00130 01527	31	00074	00036	
	TP	A	MIC4	ISOTOPE	0184 00131 01530	11	32000	01533	
	TV	LISOS	MIC4	OLD	0185 00132 01531	16	03212	01533	
	RJ	BK2	BK	SIGMA	0186 00133 01532	37	00336	00334	
MIC4			FILL	TAPE	00134 01533	00	00000	30000	
	RJ	REWNO2	DNIEWR		00135 01534	37	02740	02745	
	SP	TAPES	30		00136 01535	31	00074	00036	
	TP	A	PASSX		00137 01536	11	32000	01541	
	TV	LDNIW	REED+1		00140 01537	16	02752	02731	
	RJ	PA2	PASS		00141 01540	37	02716	02714	
PASSX		FILL	FILL		00142 01541	00	30000	30000	
CR02B	TP	CR010	CM01C	WRITE	0189 00143 01542	11	01513	01547	
	TV	LISOP	CM01C	ISOTOPE	0190 00144 01543	16	00126	01547	
	SP	B1	15		00145 01544	31	03045	00017	
	TU	A	CM01C	LIST ON	0192 00146 01545	15	32000	01547	
	RJ	#R2	BRITE	SIGMA	0193 00147 01546	37	00341	00337	
CR01C	TT	FILL	FILL	TAPE	0194 00150 01547	15	30000	30000	NOP
CR01J	TP	MIC1	CM01E	SIT UP TO	0195 00151 01550	11	01440	01565	
	TV	LVAL	CM01E	READ XIF	0196 00152 01551	16	03215	01565	
	TP	MIC1	CM01S		0197 00153 01552	11	01440	01555	
	TV	LELEM	CM01S		00154 01553	16	03200	01555	
	RJ	BK2	BK	READ XIF	0199 00155 01554	37	00336	00334	
CR01S	O	0000	FILL		0200 00156 01555	00	00000	30000	NOP
	RJ	REWNO2	REWIND		00157 01556	37	02740	02736	
CR01R	SP	I	15		00160 01557	31	00012	00017	
	AT	U1	C2		00161 01560	35	02756	03032	
	SP	TAPES	30		00162 01561	31	00072	00036	
	TP	A	CM01H		0213 00163 01562	11	32000	01637	
	TU	C2	CM01H	WRITE	0214 00164 01563	15	03032	01637	
	RJ	BK2	BK	READ	0209 00165 01564	37	00336	00334	
CR01E		FILL	FILL	XIF	00166 01565	00	30000	30000	
	RJ	REWNO2	REWIND		00167 01566	37	02740	02736	

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TV	SU4	SUBY
TV	SU4N	SU39
TV	SU12	SU9A
TV	LSU40	SU4K
TV	LSU40	US16
TU	LVAL	OG1
SP	MOFA	15
AT	U1	TEMP
AT	UG1	OG1
AT	TEMP	TEMP
LQ	TEMP	A+21
TV	A	OG2
TV	UG2	CRO1H
RJ	SU2	SUM
OG1	FILL	SIG1
OG2	FILL	FILL
TV	LSU41	FILL
LQ	V7777B	SU4K
SP	I	A+15
QS	A	SCALE
TP	ZERO	KOR99
TV	UG2	KOR97
KOR99	RPV	L+2
KOR97	FA	FILL
TP	Q	TEMP
FD	F1	TEMP
TP	Q	C3
TV	UG2	KOR98
TP	I	TEMP
KOR98	RS	VI
FM	C3	FILL
TV	KOR98	L+1
TP	Q	FILL
RA	KOR98	V1
IJ	TEMP	KOR98
TV	LSU41	US16
TV	SU4D	SU9A
TV	SU42	SU39
RJ	WR2	BRITE
CRO1H	FILL	OF GROUP
TU	LISOP	FILL
TU	LISOF	TAPE
RA	CRO13	CRO1B
TP	LISOS	CRO13
CRO1B	FILL	U1
SP	TEMPN	CRO12
CRO2C	EJ	CKO12
CRO2D	SP	TEMPN
CRO16	ZJ	0000
CRO13	SP	TEST
MS	TEMPN	CRO2E
CRO12	SP	TEMPN EQ
CRO14	EJ	0000
	MJ	TEST NEW
		CRO16
		0000
		CRO28
		0000
		B. TEMP
		CRO26
		CRO12
		CROZ
		0000
		O TEMPN
		CRO24
		CRO17
		O TEMPN
		CRO28

00170	01567	16	04443	05076
00171	01570	16	04463	04626
00172	01571	16	05115	05104
00173	01572	16	03202	04623
00174	01573	16	03202	04505
00175	01574	15	03215	01605
00176	01575	31	05207	00017
00177	01576	35	02756	05232
00200	01577	35	01605	01605
00201	01600	35	05232	05232
00202	01601	55	05232	32025
00203	01602	16	32000	01607
00204	01603	16	01607	01637
00205	01604	37	04433	04431
00206	01605	00	30000	03251
00207	01606	00	30000	30000
00210	01607	00	30000	30000
00211	01610	16	03201	04623
00212	01611	55	03014	32017
00213	01612	31	00012	00017
00214	01613	53	32000	01616
00215	01614	11	03113	31000
00216	01615	16	01607	01617
00217	01616	75	10000	01620
00220	01617	64	31000	30000
00221	01620	11	31000	05232
00222	01621	67	03063	05232
00223	01622	11	31000	03033
00224	01623	16	01607	01626
00225	01624	11	00012	05232
00226	01625	23	05232	02775
00227	01626	66	03033	30000
00230	01627	16	01626	01630
00231	01630	11	31000	30000
00232	01631	21	01626	02775
00233	01632	41	05232	01626
00234	01633	16	03201	04505
00235	01634	16	04447	05104
00236	01635	16	04664	04626
00237	01636	37	00341	00337
00240	01637	00	30000	30000
00241	01640	15	00126	01644
00242	01641	15	03207	01653
00243	01642	21	01653	02756
00244	01643	15	03212	01657
00245	01644	11	30000	03067
00246	01645	31	03067	00000
00247	01646	43	03065	02607
00250	01647	31	00020	00000
00251	01650	47	01752	01651
00252	01651	31	00021	00000
00253	01652	47	01653	01752
00254	01653	31	30000	00000
00255	01654	42	03067	01741
00256	01655	43	03067	01657
00257	01656	56	00000	01726
00260	01657	31	30000	00000
00261	01660	42	03067	01730
00262	01661	43	03067	01663
00263	01662	45	00000	01752



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CRO17	SP	TAPE2	30	SET UP TO	00264	01663	31	00071	00036	
	TP	A	CK018	ONE BLOCK	0236	00265	01664	11	32000	01667
	TV	V12	CK018			00266	01665	16	03010	01667
	RJ	PA2	PASS	BYPASS RLO	0238	00267	01666	37	02716	02714
CRO18	O	FILL	FILL	ON BASIC L	0239	00270	01667	00	30000	30000
	TP	V9	C1			00271	01670	11	03005	03031
CRO31	SP	TAPES	30	ISOTOPE OF		00272	01671	31	00074	00036
MIC31	TP	A	CRO19	GROUP TAPE	0242	00273	01672	11	32000	01700
	SP	TAPE3	30			00274	01673	31	00072	00036
	TP	A	CK020		0244	00275	01674	11	32000	01714
	TV	LVAL	CRO20		0245	00276	01675	16	03215	01714
	TV	LVAL	CK019		0246	00277	01676	16	03215	01700
CRO23	RJ	BK2	BK	READ ISOTO	0247	00300	01677	37	00336	00334
CRO19	O	FILL	FILL	SIGMA TAPE	0248	00301	01700	00	30000	30000
	RJ	KEWNO2	DNIWER			00302	01701	37	02740	02745
	TU	LVAL	CK021	COUNT	0250	00303	01702	15	03215	01704
	TP	ZERO	C2	THE	0251	00304	01703	11	03113	03032
CRO21	SP	FILL	0000	LENGTH	0252	00305	01704	31	30000	00000
	EJ	FLAGO	CRO22	OF	0253	00306	01705	43	03065	01711
	RA	C2	U1	BLOCK	0254	00307	01706	21	03032	02756
	RA	CRO21	U1		0255	00310	01707	21	01704	02756
	MJ	0000	CRO21		0256	00311	01710	45	00000	01704
CRO22	RA	C2	U1		0257	00312	01711	21	03032	02756
	TU	C2	CK020	WRITE ISOT	0258	00313	01712	15	03032	01714
	RJ	WR2	BRITE	ON NEW MCS	0259	00314	01713	37	00341	00337
CRO20		FILL	FILL			00315	01714	00	30000	30000
CRO32	RJ	CRO32	CRO33	SWITCH	0261	00316	01715	37	01715	01716
CRO33	IJ	C1	CRO23		0262	00317	01716	41	03031	01677
	RJ	MB2	PASSB			00320	01717	37	02562	02554
	MJ		L+1			00321	01720	45	00000	01721
	RA	CRO12	U1			00322	01721	21	01657	02756
	RJ	CROW4	CROW1-1			00323	01722	37	02024	02014
	TV	CRO21+1	CROW4			00324	01723	16	01705	02024
	TV	LCRO33	CRO32			00325	01724	16	02570	01715
	TV	LVAL	CK0W1			00326	01725	16	03215	02015
CRO2	RA	CRO1B	U1	BUMP CRO1B	0263	00327	01726	21	01644	02756
	MJ	0000	CK01B		0264	00330	01727	45	00000	01644
CRO24	EJ	FLAGO	CRO29			00331	01730	43	03065	01752
	RJ	P02	PASSO			00332	01731	37	02567	02563
	SP	TAPES	30			00333	01732	31	00074	00036
	TP	A	CK025	ONE BLOCK	0266	00334	01733	11	32000	01737
	TV	V9	CRO25			00335	01734	16	03005	01737
	TV	LONIW	REED+1			00336	01735	16	02752	02731
	RJ	PA2	PASS	BYPASS ONE	0268	00337	01736	37	02716	02714
CRO25	O	FILL	FILL	BASIC LIBR	0269	00340	01737	00	30000	30000
	MJ		CRO12			00341	01740	45	00000	01657
CRO26	EJ	FLAGO	CK013+3			00342	01741	43	03065	01656
	RJ	MB2	PASSB			00343	01742	37	02562	02554
	MS		L			00344	01743	36	00000	01743
	SP	TAPE2	30			00345	01744	31	00071	00036
	TP	A	CRO27	ISOTOPE ON	0273	00346	01745	11	32000	01750
	TV	V12	CRO27			00347	01746	16	03010	01750
	RJ	PA2	PASS	BYPASS ISO	0275	00350	01747	37	02716	02714
CRO27	O	FILL	FILL	BASIC LIBR	0276	00351	01750	00	30000	30000
	MJ		CRO13			00352	01751	45	00000	01653
CRO28	SP	TAPE2	30	SET UP TO		00353	01752	31	00071	00036
	TP	A	CK029	READ INDIC	0280	00354	01753	11	32000	01756
	TV	LELEM	CRO29	BASIC LIBR	0281	00355	01754	16	03200	01756
	RJ	BK2	BK	READ IND B	0282	00356	01755	37	00336	00334
CRO29		FILL	FILL	FROM BASIC LIBRARY		00357	01756	00	00000	30000

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	RJ	REWIND2	REWIND		00360	01757	37	02740	02736	
	TP	TEMPN	A		00361	01760	11	03067	02000	
	EJ	NAMF	R0K26		00362	01761	43	05205	01767	
	TP	CRO29	RUC25	BYPASS	00363	01762	11	01756	01765	
	TV	V11	RUC25	ISOTOPE	00364	01763	16	03007	01765	
	RJ	PA2	PASS	ON	00365	01764	37	02716	02714	
ROC25		FILL	FILL	BASIC	00366	01765	00	30000	30000	
	MJ		CR028	LIBRARY	00367	01766	45	00000	01752	
R0K26	TP	MOFA1	MOFA1		00370	01767	11	05207	03052	
	RA	MOFA1	V1		0246	00371	01770	21	03052	02775
	MP	I	I		00372	01771	71	00012	00012	
	ST	I	A		0288	00373	01772	36	00012	02000
	MP	A	V3		00374	01773	71	32000	02777	
	DV	V2	3112		00375	01774	73	02776	03051	
	MP	V3	I		00376	01775	71	02777	00012	
	TP	A	31		0293	00377	01776	11	32000	03043
	AT	V1	311		0294	00400	01777	35	02775	03050
	RJ	ALL2	ALLOK		0295	00401	02000	37	00333	00331
	O	CORE2	DRUM2		0296	00402	02001	00	03175	03177
	O	VBL2	FILL		0297	00403	02002	00	03134	30000
	SP	TAPE3	30		00404	02003	31	00072	00036	NOP
	TP	A	CR030		0299	00405	02004	11	32000	02010
	TU	U5	CR030		0300	00406	02005	15	02762	02010
	TV	LELEM	CK030		0301	00407	02006	16	03200	02010
	RJ	WR2	WRITE	WRITE IND	0302	00410	02007	37	00341	00337
	O	FILL	FILL	ONNEW MCS6	0303	00411	02010	00	30000	30000
CRO30	SP	TAPE2	30		00412	02011	31	00071	00036	NOP
	RJ	CR032	MIC31	READ WRITE	0305	00413	02012	37	01715	01672
	RJ	CR032	CR023	READ WRITE	0306	00414	02013	37	01715	01677
	TP	ZERO	C2		0307	00415	02014	11	03113	03032
	TP	FILL	FILL		0308	00416	02015	11	30000	30000
CROW1	TU	CROW1	CROW2		0309	00417	02016	15	02015	02020
	RA	CROW1	UIV1		0310	00420	02017	21	02015	03015
CROW2	SP	FILL	0000		0311	00421	02020	31	30000	00000
	EJ	FLAG0	CK0W4		0312	00422	02021	43	03065	02024
	RA	C2	UI		0313	00423	02022	21	03032	02756
	MJ	0000	CROW1		0314	00424	02023	45	00000	02015
CROW4	RJ	CR032	CR022		0315	00425	02024	37	01715	01711
	TP	CR019	CK034		0316	00426	02025	11	01700	02030
	TV	LVAL	CK034		0317	00427	02026	16	03215	02030
CK037	RJ	BK2	BK	READ IN	0318	00430	02027	37	00336	00334
CK034		FILL	FILL	SET OF ENERGY POINTS	00431	02030	00	30000	30000	
	RJ	REWIND2	REWIND		00432	02031	37	02740	02736	
	TP	CR034	RUC34	READ IN	0321	00433	02032	11	02030	02035
	TV	LFUN	RUC34	CAPTURE	0322	00434	02033	16	03220	02035
	RJ	BK2	BK	BLOCK	0323	00435	02034	37	00336	00334
	O	FILL	FILL	FUN	0324	00436	02035	00	30000	30000
ROC34	RJ	REWIND2	REWIND		00437	02036	37	02740	02736	
	TV	SU4	SUBY	COMPUTE	0326	00440	02037	16	04443	02076
	TU	LFUN	R014	ISIG CAPT	0327	00441	02040	15	03220	02043
	TV	LFUN	R015	AND STORE	0328	00442	02041	16	03226	02045
	RJ	SU2	SUM	IN IFUN	0329	00443	02042	37	04433	04431
	O	FILL	SIG1		0330	00444	02043	00	30000	03251
R014	O	SIG2	SIG3		0331	00445	02044	00	03304	03340
	O	FILL	FILL		0332	00446	02045	00	30000	30000
R015	TU	LFUN	WROC2		0333	00447	02046	15	03226	02054
	TV	LITOT	WROC2		0334	00450	02047	16	03245	02054
	SP	31	31		00451	02050	31	03043	00017	
	AT	NCRP1	WROC1		0336	00452	02051	35	03170	02053
	RA	WROC1	UI		0337	00453	02052	21	02053	02756

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WROC1	RPB		WROC		00454 02053	75	30000	02055	
WROC2	TP	FILL	FILL		0339 00455 02054	11	30000	30000	
WROC	SP	MOFA	15		00456 02055	31	05207	00017	
	AT	CONRP	RO16		0341 00457 02056	35	03171	02061	
	TU	LFUN	RU16A		0342 00460 02057	15	05220	02062	
	TV	LTRA	RU16A		0343 00461 02060	16	03223	02062	
RO16	RPB		16R0	STONE SCAP	00462 02061	75	30000	02063	
RO16A	TP	FILL	FILL		0345 00463 02062	11	30000	30000	
16R0	TP	CR010	CKOZ1	WRITE	00464 02063	11	01513	02071	
	SP	31	15	ISCAP ON	00465 02064	31	03043	00017	
	TU	A	CKOZ1	SIG TAPE	0348 00466 02065	15	32000	02071	
	RA	CROZ1	UI	FROM IFUN	0349 00467 02066	21	02071	02756	
	TV	LIFUN	CKOZ1		0350 00470 02067	16	03226	02071	
	RJ	WR2	BRITE		0351 00471 02070	37	00341	00337	
CROZ1	O	FILL	FILL		0352 00472 02071	00	30000	30000	NOP
	TP	KOC34	CKOZ2	READ	0353 00473 02072	11	02035	02074	
	RJ	BK2	BK	FISSION	0354 00474 02073	37	00336	00334	
CROZ2	O	FILL	FILL	BLOCK	0355 00475 02074	00	30000	30000	NOP
	RJ	KEWND2	REWIND		00476 02075	37	02740	02736	
	TP	KO14	RU17	COMPUTE	0357 00477 02076	11	02043	02101	
	TP	KO15	RU18	ISIG-FISS	0358 00500 02077	11	02045	02103	
	RJ	SU2	SUM	AND STORE	0359 00501 02100	37	04433	04431	
RO17	O	FILL	SIG1	IN IFUN	0360 00502 02101	00	30000	02251	NOP
	O	SIG2	SIG3		0361 00503 02102	00	03304	03340	NOP
RO18	O	FILL	FILL		0362 00504 02103	00	30000	30000	NOP
	TP	31	C5		0363 00505 02104	11	03043	03034	
	RS	C5	V1		0364 00506 02105	23	03034	02775	
	TU	LIFUN	WKOC3		0365 00507 02106	15	03226	02111	
	TV	LITOF	WROC3		0366 00510 02107	16	03245	02111	
WROC5	TV	WROC3	WROC4		0367 00511 02110	16	02111	02112	
WROC3	FA	FILL	FILL		0368 00512 02111	64	30000	30000	
WROC4	TP	Q	FILL		0369 00513 02112	11	31000	30000	
	RA	WROC3	UIV1		0370 00514 02113	21	02111	03015	
	RA	WROC4	V1		0371 00515 02114	21	02112	02775	
	IJ	C5	WROC5		0372 00516 02115	41	03034	02110	
	TP	MOFA	C6	COMPUTE	0373 00517 02116	11	05207	03035	
	RS	C6	V1	SIG FISS	0374 00520 02117	23	03035	02775	
	TU	LFUN	CROZ3	PLUS TRA	0375 00521 02120	15	03220	02123	
	TV	LTRA	CROZ3	AND STORE	0376 00522 02121	16	03223	02123	
ROCZ3	TV	CROZ3	CROZ4	RESULTS	0377 00523 02122	16	02123	02124	
CROZ3	FA	FILL	FILL	IN	0378 00524 02123	64	30000	30000	
CROZ4	TP	Q	FILL	TRA	0379 00525 02124	11	31000	30000	
	RA	CROZ3	UIV1		0380 00526 02125	21	02123	03015	
	IJ	C6	ROCZ3		0381 00527 02126	41	03035	02122	
	TP	CROZ1	CKOZ5	WRITE IFIS	0382 00530 02127	11	02071	02131	
	RJ	WR2	BRITE	ON SIGMA	0383 00531 02130	37	00341	00337	
CROZ5	O	FILL	FILL	TAPE	0384 00532 02131	00	30000	30000	NOP
	TP	KOC34	CROZ6	READ NUF	0385 00533 02132	11	02035	02134	
	RJ	BK2	BK	INTO	0386 00534 02133	37	00336	00334	
CROZ6	O	FILL	FILL	FUN	0387 00535 02134	00	30000	30000	NOP
	RJ	KEWND2	REWIND		00536 02135	37	02740	02736	
	TV	SU4N	SU39	COMPUTE	0389 00537 02136	16	04463	04626	
	TV	SU12	SU9A	INUF AND	0390 00540 02137	16	05115	03104	
	TV	LSU40	SU4K		0391 00541 02140	16	05202	04623	
	TV	LSU40	US16		0392 00542 02141	16	03202	04505	
	TP	KO14	RO19	STORE	0393 00543 02142	11	02043	02145	
	TP	KO15	RO20		0394 00544 02143	11	02045	02147	
	RJ	SU2	SUM	INTO	0395 00545 02144	37	04433	04431	
RO19	O	FILL	SIG1		0396 00546 02145	00	30000	03251	NOP
	O	0000	0000	IFUN	0397 00547 02146	00	00000	00000	NOP

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R020	O	FILL	FILL		0398	00550	02147	00	30000	30000	NOP
	TV	LSU41	SU4K	COMPUTE	0399	00551	02150	16	03201	04623	
	TV	LSU41	US16		0400	00552	02151	16	03201	04505	
	TV	SU4D	SU9A		0401	00553	02152	16	04447	05104	
	TV	SU42	SU39	NUFI	0402	00554	02153	16	04664	04626	
	TU	LENGY	CRO85		0403	00555	02154	15	00131	04163	
	TV	LENGY	CRO85	AND	0404	00556	02155	16	00131	04163	
	RA	CRO85	UIV2		0405	00557	02156	21	02163	03025	
	TU	LIFUN	CRO86	STORE	0406	00560	02157	15	03226	02165	
	TV	LIFUN	CRO87		0407	00561	02160	16	03226	02166	
	TP	I	C3	IN	0408	00562	02161	11	00012	03033	
	RS	C3	V1		0409	00563	02162	23	03033	02775	
CRO85	FS	FILL	FILL	LIFUN	0410	00564	02163	65	30000	30000	
	TP	Q	DUMP		0411	00565	02164	11	31000	03057	
CRO86	FO	FILL	DUMP		0412	00566	02165	67	30000	03057	
CRO87	TP	Q	FILL		0413	00567	02166	11	31000	30000	
	RA	CRO85	UIV1		0414	00570	02167	21	02163	03015	
	RA	CRO86	U1		0415	00571	02170	21	02165	02756	
KR011	RA	CRO87	V1		0416	00572	02171	21	02166	02775	
	IJ	C3	CRO85		0417	00573	02172	41	03033	02163	
	TP	CROZ1	CROZ7		0418	00574	02173	11	02071	02200	
	SP	I	IS		0419	00575	02174	31	00012	00017	
	TU	A	CROZ7		0420	00576	02175	15	32000	02200	
	RA	CROZ7	U1	WRITE INUF	0421	00577	02176	21	02200	02756	
	RJ	WR2	BKITE	ON SIGMA	0422	00600	02177	37	00341	00337	
CROZ7	O	FILL	FILL	TAPE	0423	00601	02200	00	30000	30000	NOP
	TP	KOC34	CROZ8	READ SCAT	0424	00602	02201	11	02035	02203	
	RJ	BK2	BK	INTO	0425	00603	02202	37	00336	00334	
CROZ8	O	FILL	FILL	FUN	0426	00604	02203	00	30000	30000	NOP
	RJ	REWNB2	REWIND			00605	02204	37	02740	02736	
	TV	SU4	SUBY	COMPUTE	0428	00606	02205	16	04443	05076	
	TU	LIFUN	R021	ISCAT	0429	00607	02206	15	03220	02211	
	TV	LISCA	R022	L TOJ	0430	00610	02207	16	03231	02213	
	RJ	SU2	SUM	AND STORE	0431	00611	02210	37	04433	04431	
R021	O	FILL	SIG2	IN ISCA	0432	00612	02211	00	30000	03304	NOP
	O	SIG4	SIG1		0433	00613	02212	00	03407	03251	NOP
R022	O	FILL	FILL		0434	00614	02213	00	30000	30000	NOP
	TP	CROZ8	CROZ9	READ	0435	00615	02214	11	02203	02221	
	SP	MOFA	0000	MINUS MUO	0436	00616	02215	31	05207	00000	
	AT	CROZ9	A	INTO FUN	0437	00617	02216	35	02221	32000	
	AT	V1	CROZ9	PLUS	0438	00620	02217	35	02775	02221	
	RJ	BK2	BK	MOFA	0439	00621	02220	37	00336	00334	
CROZ9	O	FILL	FILL	PLUS 1	0440	00622	02221	00	30000	30000	NOP
	RJ	REWNB2	REWIND			00623	02222	37	02740	02736	
	TV	CROZ9	CROY1	COMPUTE	0442	00624	02223	16	02221	02231	
	TU	LIFUN	CROY1	TRA PLUS	0443	00625	02224	15	03220	02231	
	TV	LTRA	CROY2	SCAT	0444	00626	02225	16	03223	02232	
	TP	MOFA	C6		0445	00627	02226	11	05207	03035	
	RS	C6	V1	TIMES	0446	00630	02227	23	03035	02775	
CROY4	TV	CROY2	CROY3	1 MINUS	0447	00631	02230	16	02232	02233	
CROY1	FM	FILL	FILL	MUO AND	0448	00632	02231	66	30000	30000	
CROY2	FA	Q	FILL	STORE IN	0449	00633	02232	64	31000	30000	
CROY3	TP	Q	FILL	TRA	0450	00634	02233	11	31000	30000	
	RA	CROY1	UIV1		0451	00635	02234	21	02231	03015	
	RA	CROY2	V1		0452	00636	02235	21	02232	02775	
	IJ	C6	CROY4		0453	00637	02236	41	03035	02230	
	TP	KOC34	CROYS	READ	0454	00640	02237	11	02035	02241	
	RJ	BK2	BK	XSI IN	0455	00641	02240	37	00336	00334	
CROYS	O	FILL	FILL	INTO FUN	0456	00642	02241	00	30000	30000	NOP
	RJ	REWNB2	REWIND			00643	02242	37	02740	02736	

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	TV	SU4	SUBY	COMPUTE	0458	00644	02243	16	04443	05076	
	TV	LSU40	SU4K	IXSTIN	0459	00645	02244	16	03202	04623	
	TV	LSU40	US16	AND STORE	0460	00646	02245	16	03202	04505	
	TV	SU12	SU9A	IN	0461	00647	02246	16	05115	05104	
	TV	KR011	SU39	IXIN	0462	00650	02247	16	02171	04626	
	TU	LFUN	R023		0463	00651	02250	15	03220	02253	
	TV	LIXIN	R024		0464	00652	02251	16	03234	02255	
	RJ	SU2	SUM		0465	00653	02252	37	04433	04431	
R023	O	FILL	SIG1		0466	00654	02253	00	30000	03251	NOP
	O	0000	0000		0467	00655	02254	00	00000	00000	NOP
R024	O	FILL	FILL		0468	00656	02255	00	30000	30000	NOP
	TV	LSU41	SU4K			00657	02256	16	03201	04623	
	TV	LSU41	US16			00660	02257	16	03201	04505	
	TV	SU42	SU39			00661	02260	16	04664	04626	
	TP	V2	C6		0469	00662	02261	11	02776	03035	
	TP	KOC34	CROY6		0470	00663	02262	11	02035	02264	
CROY7	RJ	BK2	BK	READ SIGIN	0471	00664	02263	37	00336	00334	
CROY6	O	FILL	FILL	NUIN AND	0472	00665	02264	00	30000	30000	NOP
	RJ	MEWND2	REWIND			00666	02265	37	02740	04736	
	RA	CROY6	MOFA	INTO FUN	0474	00667	02266	21	02264	05207	
	RA	CROY6	V1	PLUS	0475	00670	02267	21	02264	02775	
	IJ	C6	CROY7		0476	00671	02270	41	03035	02263	
	TP	MOFA	C6		0477	00672	02271	11	05207	03035	
	RS	C6	V1	COMPUTE	0478	00673	02272	23	03035	02775	
	TU	LFUN	CROY8	TRA PLUS	0479	00674	02273	15	03220	02276	
	TV	LTRA	CROY8	SIGIN AND	0480	00675	02274	16	03223	02276	
CROY1	TV	CROY8	CROY9	STORE	0481	00676	02275	16	02276	02277	
CROY8	FA	FILL	FILL	INTO	0482	00677	02276	64	30000	30000	
CROY9	TP	Q	FILL	TRA	0483	00700	02277	11	31000	30000	
	RA	CROY8	U1V1		0484	00701	02300	21	02276	03015	
	IJ	C6	CROY1		0485	00702	02301	41	03035	02275	
	TV	LSUB2	SUBY		0486	00703	02302	16	03203	05076	
	TP	LFUN	CKOU1		0487	00704	02303	11	03220	02314	
	RA	CROU1	MOFA		0488	00705	02304	21	02314	05207	
	RA	CROU1	V1		0489	00706	02305	21	02314	02775	
	SP	CROU1	0000		0490	00707	02306	31	02314	00000	
	SA	MOFA	15			00710	02307	32	05207	00017	
	AT	U1	A		0492	00711	02310	35	02756	32000	
	TU	A	CROY2		0493	00712	02311	15	32000	02315	
	TV	LISX	CROY3		0494	00713	02312	16	03237	02317	
	RJ	TU2	TUM		0495	00714	02313	37	05145	05143	
CROY1	O	FILL	FILL		0496	00715	02314	00	30000	30000	NOP
CROY2	O	FILL	XINU		0497	00716	02315	00	30000	03447	NOP
	O	SINU	NUSI		0498	00717	02316	00	03730	04050	NOP
CROY3	IJ	FILL	FILL			00720	02317	00	30000	30000	
	TV	SU4	SUBY		0500	00721	02320	16	04443	05076	
	FS	F1	ALPHA		0501	00722	02321	65	03063	05206	
	TP	Q	ALPHA		0502	00723	02322	11	31000	03030	
	RJ	CROY70	CROY71		0503	00724	02323	37	02502	02406	
	TP	ZERO	WEET		0504	00725	02324	11	03113	03111	
	TV	LISSE	SET1		0505	00726	02325	16	03242	03066	
	TP	I	C3		0506	00727	02326	11	00012	03033	
	RS	C3	V1		0507	00730	02327	23	03033	02775	
	TV	LIT07	CROY68		0508	00731	02330	16	03245	02377	
	TV	LIT07	CK061		0509	00732	02331	16	03245	02364	
CROY69	SP	WEET	0000		0510	00733	02332	31	03111	00000	
	EJ	C3	CK072		0511	00734	02333	43	03033	02503	
	AT	V1	WEET		0512	00735	02334	35	02775	03111	
	TP	WEET	WEET		0513	00736	02335	11	03111	03112	
	RA	WEET	V1		0514	00737	02336	21	03112	02775	

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	RPV	3	KR069		00740	02337	75	10003	02341	
	TP	ZERO	DUMP		0516	00741	02340	11	03113	03057
KR069	TV	SET1	CK058			00742	02341	16	03066	02342
CR058	FA	DUMP	FILL	DUMP:PLUS	0518	00743	02342	64	03057	30000
	TP	Q	DUMP	SCA	0519	00744	02343	11	31000	03057
	TV	CR058	CR059		0520	00745	02344	16	02342	02346
	RA	CR059	VI		0521	00746	02345	21	02346	02775
CR059	FA	DUMP1	FILL		0522	00747	02346	64	03060	30000
	TP	Q	DUMP1		0523	00750	02347	11	31000	03060
	TV	CR059	CR060		0524	00751	02350	16	02346	02352
	RA	CR060	VI		0525	00752	02351	21	02352	02775
CR060	FA	DUMP2	FILL		0526	00753	02352	64	03061	30000
	TP	Q	DUMP2		0527	00754	02353	11	31000	03061
	TP	WEEJ	Q		0528	00755	02354	11	03112	31000
	RS	Q	VI		0529	00756	02355	23	31000	02775
	MP	Q	V3			00757	02356	71	31000	02777
	AT	CR058	CR059		0531	00760	02357	35	02342	02342
	SP	WEEJ	0000		0532	00761	02360	31	03112	00000
	EJ	I	CR061		0533	00762	02361	43	00012	02364
	AT	VI	WEEJ		0534	00763	02362	35	02775	03112
	MJ	0000	CR059		0535	00764	02363	45	00000	02342
CR061	FA	DUMP	FILL		0536	00765	02364	64	03057	30000
	TP	Q	DUMP		0537	00766	02365	11	31000	03057
	TV	CR061	CR063		0538	00767	02366	16	02364	02370
	RA	CR063	VI		0539	00770	02367	21	02370	02775
CR063	FA	DUMP1	FILL		0540	00771	02370	64	03060	30000
	TP	Q	DUMP		0541	00772	02371	11	31000	03060
	TV	CR063	CR065		0542	00773	02372	16	02370	02374
	RA	CR065	VI		0543	00774	02373	21	02374	02775
CR065	FA	DUMP2	FILL		0544	00775	02374	64	03061	30000
	TP	Q	DUMP2		0545	00776	02375	11	31000	03061
	RPB	3	CR067			00777	02376	75	30003	02400
CR068	TP	DUMP	FILL		0547	01000	02377	11	03057	30000
CR067	RA	CR068	V3		0548	01001	02400	21	02377	02777
	RA	CR061	V3		0549	01002	02401	21	02364	02777
	MP	WEEI	V3			01003	02402	71	03111	02777
	AT	SET1	SET1		0551	01004	02403	35	03066	03066
	AT	V3	SET1		0552	01005	02404	35	02777	03066
	MJ	0000	CR069		0553	01006	02405	45	00000	02332
CR071	TU	LENGY	CK041		0554	01007	02406	15	00131	02420
	TV	LISSE	CR056		0555	01010	02407	16	03242	02471
	TP	ZERO	WEEI		0556	01011	02410	11	03113	03111
	TU	LIXIN	CK046		0557	01012	02411	15	03234	02443
	RS	CR046	UI		0558	01013	02412	23	02443	02756
CR046	SP	WEEI	0000		0559	01014	02413	31	03111	00000
	EJ	70CR0	0000		0560	01015	02414	43	00012	02500
	AT	VI	WEEI		0561	01016	02415	35	02775	03111
	RA	CR041	UI		0562	01017	02416	21	02420	02756
	RPB	2	CR041			01020	02417	75	30002	02421
CR041	TP	FILL	EI	WEEI	0564	01021	02420	11	30000	03075
CR041	TU	LENGY	CR041			01022	02421	15	00131	02432
	RA	CR043	CR043		0566	01023	02422	21	02432	02756
	TV	LISCA	CR045		0567	01024	02423	16	03231	02441
	TV	LISX	CR046		0568	01025	02424	16	03237	02443
	RA	CR046	UI		0569	01026	02425	21	02443	02756
	TP	VI	WEEJ		0570	01027	02426	11	02775	03112
CR047	SP	WEEJ	0000	TEST	0571	01030	02427	31	03112	00000
	EJ	WEEI	CR046	WEEJ:WEEI	0572	01031	02430	43	03111	02413
	RPB	2	CR044			01032	02431	75	30002	02433
CR043	TP	FILL	EJ	EJ1	0574	01033	02432	11	30000	03077

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CRO44	FS	EI	EI1	COMPUTE	0575	01034	02433	65	03075	03076	
	TP	U	DUMP		0576	01035	02434	11	31000	03057	
	FS	EJ	EJ1	EI	0577	01036	02435	65	03077	03100	
	FD	U	DUMP		0578	01037	02436	67	31000	03057	
	TP	F1	DUMP			01040	02437	11	03063	03057	
	RJ	HOF2	HOFE	COMPUTE IN	0580	01041	02440	37	02613	02611	
CRO45	FM	HINT	FILL		0581	01042	02441	66	02711	30000	
	FD	U	ALPHB		0582	01043	02442	67	31000	03030	
CRO46	FI	FILL	FILL	COMPUTE	0583	01044	02443	02	30000	30000	
	FM	U	DUMP		0584	01045	02444	66	31000	03057	
	TP	U	SUM1		0585	01046	02445	11	31000	03072	
	TV	CRO45	CRO40		0586	01047	02446	16	02441	02452	
	RA	CRO49	V1		0587	01050	02447	21	02452	02775	
	TP	CRO46	CRO50		0588	01051	02450	11	02443	02454	
	RA	CRO50	V1		0589	01052	02451	21	02454	02775	
CRO49	FM	HINT	FILL	COMPUTE	0590	01053	02452	66	02711	30000	
	FD	U	ALPHB		0591	01054	02453	67	31000	03030	
CRO50	FI	FILL	FILL		0592	01055	02454	02	30000	30000	
	FM	U	DUMP		0593	01056	02455	66	31000	03057	
	TP	U	SUM2		0594	01057	02456	11	31000	03073	
	TV	CRO49	CRO52		0595	01060	02457	16	02452	02463	
	RA	CRO52	V1		0596	01061	02460	21	02463	02775	
	TP	CRO50	CRO53		0597	01062	02461	11	02454	02465	
	RA	CRO53	V1		0598	01063	02462	21	02465	02775	
CRO52	FM	HINT	FILL	COMPUTE	0599	01064	02463	66	02711	30000	
	FD	U	ALPHB		0600	01065	02464	67	31000	03030	
CRO53	FI	FILL	FILL		0601	01066	02465	02	30000	30000	
	FM	U	DUMP		0602	01067	02466	66	31000	03057	
	TP	U	SUM3		0603	01070	02467	11	31000	03074	
	RFB	3	CRO55			01071	02470	75	30003	02472	
CRO56	TP	SUM1	FILL		0605	01072	02471	11	03072	30000	
CRO55	RA	CRO45	V3		0606	01073	02472	21	02441	02777	
	RA	CRO46	V3		0607	01074	02473	21	02443	02777	
	RA	CRO43	U1		0608	01075	02474	21	02432	02756	
	RA	CRO56	V3		0609	01076	02475	21	02471	02777	
	RA	WEEJ	V1		0610	01077	02476	21	03112	02775	
	MJ	0000	CRO47		0611	01100	02477	45	00000	02427	
70CRO	TV	CRO56	56CRO		0612	01101	02500	16	02471	02501	
56CRO	TP	FLAGO	FILL		0613	01102	02501	11	03065	30000	
CRO70	MJ	0000	FILL		0614	01103	02502	45	00000	30000	
CRO72	TP	CON40	CKOU4		0615	01104	02503	11	03165	02512	
	TU	CROU1	CROU4		0616	01105	02504	15	02314	02512	
	TV	CROU1	CKOU4		0617	01106	02505	16	02314	02512	
	TP	CROU2	CROU5		0618	01107	02506	11	02315	02513	
	TV	LSUR2	SUBY		0619	01110	02507	16	03203	03076	
	TP	CROU3	CROU6		0620	01111	02510	11	02317	02515	
	RJ	TU2	TUM		0621	01112	02511	37	05145	03143	
CROU4	40	FILL	FILL			01113	02512	40	30000	30000	NOP
CROU5	0	FILL	XINU		0623	01114	02513	00	30000	03447	NOP
	0	SINU	NUSI		0624	01115	02514	00	03730	04050	NOP
CROU6	0	FILL	FILL	ISX	0625	01116	02515	00	30000	30000	NOP
	TV	SU403	SU9A3			01117	02516	16	04447	03104	
	TV	SU4	SUBY		0626	01120	02517	16	04443	03076	
	RJ	CRO70	CRO71		0627	01121	02520	37	02502	02406	
	SP	TAPE3	30			01122	02521	31	00072	00036	
	TP	A	CRO79		0629	01123	02522	11	32000	02530	
	SP	3112	15	ISSC I TO		01124	02523	31	03051	00017	
	TU	A	CRO70	J. ON		01125	02524	15	32000	02530	
	RA	CRO79	U1		0636	01126	02525	21	02530	02756	
	TV	LISSE	CRO79	TAPE	0637	01127	02526	16	03242	02530	

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	RJ	WR2	BRITE		0638	01130	02527	37	00341	00337	
CR079	O	FILL	FILL		0639	01131	02530	00	30000	30000	NOP
	TU	LTRA	CR078	COMPUTE	0640	01132	02531	15	03223	02534	
	TV	LIFUN	CKOR0	SIGMA	0641	01133	02532	16	03226	02536	
	RJ	SU2	SUM	TRANSPORT	0642	01134	02533	37	04433	04431	
CR078	O	FILL	SIG1		0643	01135	02534	00	30000	03251	NOP
	O	SIG2	SIG3	WRITE	0644	01136	02535	00	03304	03340	NOP
CR080	O	FILL	FILL	SIGTRON	0645	01137	02536	00	30000	30000	NOP
	TP	CROZ1	CROR1	SIGMA	0646	01140	02537	11	02071	02542	
	TV	LIFUN	CKOR1	TAPE	0647	01141	02540	16	03226	02542	
	RJ	WR2	BRITE		0648	01142	02541	37	00341	00337	
CR081	O	FILL	FILL		0649	01143	02542	00	30000	30000	NOP
	TP	CROZ1	CKOR2		0650	01144	02543	11	02071	02546	
	TV	LITOF	CROR2		0651	01145	02544	16	03245	02546	
	RJ	WR2	BRITE		0652	01146	02545	37	00341	00337	
CR082	O	FILL	FILL		0653	01147	02546	00	30000	30000	NOP
	TV	LVAL	CKOW1		0654	01150	02547	16	03215	02015	
	RJ	PB2	PASSR			01151	02550	37	02562	02554	
	MJ		CKOZ			01152	02551	45	00000	01726	
	MJ		CKOZ			01153	02552	45	00000	01726	
	MJ	0000	CKOZ		0655	01154	02553	45	00000	01726	
PASSB	RA	CR013	U4			01155	02554	21	01653	02761	
	TU	CR013	L+1			01156	02555	15	01653	02556	
	TP	FILL	A			01157	02556	11	30000	32000	
	EJ	FLAG0	PB2			01160	02557	45	03065	02562	
	RA	CR013	U1			01161	02560	21	01653	02756	
	RA	PB2	V1			01162	02561	21	02562	02775	
PB2	MJ		FILL			01163	02562	45	00000	30000	
PASSO	RA	CR012	U1			01164	02563	21	01657	02756	
	TU	CR012	L+1			01165	02564	15	01657	02565	
	TP	FILL	A			01166	02565	11	30000	32000	
	EJ	FLAG0	CR028			01167	02566	45	03065	01752	
PO2	MJ		FILL			01170	02567	45	00000	30000	
LCR033			CR033			01171	02570	00	00000	01716	
WIND	MJ	0000	#11		0656	01172	02571	45	00000	02574	
	MS	0000	0000		0657	01173	02572	56	00000	00000	
WI2	MJ	0000	FILL		0658	01174	02573	45	00000	30000	
WI1	TP	V1	TWIND			01175	02574	11	02775	02605	
	SP	TAPE2	12			01176	02575	31	00071	00014	
WI3	AT	WINDY	DUMP			01177	02576	35	02604	03057	
	EF		DUMP			01200	02577	17	00000	03057	
	SP	TAPE3	12			01201	02600	31	00072	00014	
	AT	WINDY	DUMP			01202	02601	35	02604	03057	
	EF		DUMP			01203	02602	17	00000	03057	
	MJ		W12			01204	02603	45	00000	02573	
WINDY	B	020020000000				01205	02604	02	00200	00000	
TWIND	B	020020040000				01206	02605	02	00200	40000	
V10E3	B	000000010000				01207	02606	00	00000	10000	
CR02E	RJ	W12	WIND		0658	01210	02607	37	02573	02571	
	MJ	0000	CKO2		0670	01211	02610	45	00000	01403	
HOF1	MJ	0000	HOF1		0671	01212	02611	45	00000	02614	
	MS	0000	0000		0672	01213	02612	56	00000	00000	
HOF2	MJ	0000	FILL		0673	01214	02613	45	00000	30000	
HOF1	FS	EJ	EJ1	COMPUTE PR	0674	01215	02614	65	03077	03100	
	FM	Q	ALPHA	EJ EJ1	0675	01216	02615	66	31000	03206	
	FM	Q	F2	COMPUTE	0676	01217	02616	66	31000	03064	
	TP	Q	HINT	2XALPHA	0677	01220	02617	11	31000	02711	
	FM	EJ1	ALPHA		0678	01221	02620	66	03100	03206	
	TP	Q	BURP		0679	01222	02621	11	31000	02712	
	SP	Q	0000		0680	01223	02622	31	31000	00000	

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	TJ	EI1	HOF7		0681	01224	02623	42	03076	02631
	FM	ALPHA	EJ		0682	01225	02624	66	05206	03077
	SP	Q	0000		0683	01226	02625	31	31000	00000
	TJ	EI	HOF8		0684	01227	02626	42	03075	02703
	SP	BURP	0000		0685	01230	02627	31	02712	00000
HOF7	MJ	0000	HOF7		0686	01231	02630	45	00000	02631
	TJ	EI	HOF3	IS EI IJ A	0687	01232	02631	42	03075	02634
	TP	ZERO	HINT		0688	01233	02632	11	03113	02711
	MJ	0000	HOF2		0689	01234	02633	45	00000	02613
HOF3	TJ	EI1	HOF4	IS EI1 EJ	0690	01235	02634	42	03076	02643
	FS	EI	BURP		0691	01236	02635	65	03075	02712
	TP	Q	BURP	E E EI	0692	01237	02636	11	31000	02712
	FM	Q	BURP		0693	01240	02637	66	31000	02712
	FD	Q	HINT		0694	01241	02640	67	31000	02711
	TP	Q	HINT		0695	01242	02641	11	31000	02711
	MJ	0000	HOF2		0696	01243	02642	45	00000	02613
HOF4	FM	EJ	ALPHA		0697	01244	02643	66	03077	02206
	TP	Q	BURP		0698	01245	02644	11	31000	02712
	SP	Q	0000		0699	01246	02645	31	31000	00000
	TJ	EI	HOF5	IS EI EJ A	0700	01247	02646	42	03075	02662
	FM	F2	ALPHA		0701	01250	02647	66	03064	02206
	TN	Q	Q		0702	01251	02650	13	31000	31000
	FM	Q	EJ1		0703	01252	02651	66	31000	03000
	FA	Q	EI1		0704	01253	02652	64	31000	03076
	FA	Q	EI		0705	01254	02653	64	31000	03075
	TP	Q	BURP		0706	01255	02654	11	31000	02712
	FS	EI	EI1		0707	01256	02655	65	03075	03076
	FM	BURP	BURP		0708	01257	02656	66	31000	02712
	FD	Q	HINT		0709	01260	02657	67	31000	02711
	TP	Q	HINT		0710	01261	02660	11	31000	02711
	MJ	0000	HOF2		0711	01262	02661	45	00000	02613
HOF5	TJ	EI1	HOF6	IS EI1 EJ	0712	01263	02662	42	03076	02700
	FM	F2	EJ1		0713	01264	02663	66	03064	03100
	TN	Q	Q		0714	01265	02664	13	31000	31000
	FA	Q	EJ		0715	01266	02665	64	31000	03077
	FM	Q	ALPHA		0716	01267	02666	66	31000	02206
	FA	Q	EI1		0717	01270	02667	64	31000	03076
	TP	Q	BURP1		0718	01271	02670	11	31000	02713
	FS	BURP	EI1		0719	01272	02671	65	02712	03076
	FM	BURP1	BURP1		0720	01273	02672	66	31000	02713
	FD	Q	HINT		0721	01274	02673	67	31000	02711
	FA	Q	EI		0722	01275	02674	64	31000	03075
	FS	BURP	BURP		0723	01276	02675	65	31000	02712
	TP	Q	HINT		0724	01277	02676	11	31000	02711
	MJ	0000	HOF2		0725	01300	02677	45	00000	02613
HOF6	FS	EI1	HOF2		0726	01301	02700	65	03075	03076
	TP	Q	HINT		0727	01302	02701	11	31000	02711
	MJ	0000	HOF2		0728	01303	02702	45	00000	02613
HOF8	FA	EJ	EJ1		0729	01304	02703	64	03077	03100
	FM	Q	ALPHA		0730	01305	02704	66	31000	02206
	FD	Q	F2		0731	01306	02705	67	31000	03064
	FS	Q	EI		0732	01307	02706	65	31000	03075
	TN	Q	HINT		0733	01310	02707	13	31000	02711
	MJ	0000	HOF2		0734	01311	02710	45	00000	02613
HINT						01312	02711	00	00000	00000
BURP						01313	02712	00	00000	00000
BURP1						01314	02713	00	00000	00000
PASS	MJ	0000	PA1	BYPASS	0738	01315	02714	45	00000	02720
	MS	0000	0000	N BLOCKS	0739	01316	02715	56	00000	00000
PA2	MJ		FILL		0740	01317	02716	45	00000	30000

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PAP	U	FILL	FILL
PA1	SP	PA2	15
	TU	A	PA3
PA3	TP	FILL	PAP
	TP	ZERO	NOUNT
	TV	PAP	NOUNT
	TH	PAP	REED
	TV	LVAL	REED
REEDA	RJ	BK2	BK
REED			FILL
	RJ	REWIND2	REWIND
	IJ	NOUNT	REEDA
BYE5	RA	PA2	VI
	TV	CREWD	REED+1
	MJ	0000	PA2
REWIND	MJ		REWIND
	MS		
REWIND2	MJ		FILL
REWIND1	SP	TAPE2	12
	AT	CREWD	DUMP
	EF		DUMP
	MJ		REWIND2
UNIWEK	SP	TAPES	12
	AT	CREWD	DUMP
	EF		DUMP
	MJ		REWIND
LREWD			REWIND
LDNIW			UNIWER
CREWD	B	020040000000	
BYE1			
BYE	B	020000400000	
U1		1	
U2		2	
U3		3	
U4		4	
U5		5	
U6		6	
U7		7	
U8		8	
U9		9	
U10		10	
U11		11	
U12		12	
U13		13	
U14		14	
U15		15	
V1			1
V2			2
V3			3
V4			4
V5			5
V6			6
V7			7
V8			8
V9			9
V10			10
V11			11
V12			12
V13			13
V14			14

0741	01320	02717	00	30000	30000	NOP
	01321	02720	31	02716	00017	
0743	01322	02721	15	32000	02722	
0744	01323	02722	11	30000	02717	
	01324	02723	11	03113	03056	
	01325	02724	16	02717	03056	
	01326	02725	11	02717	02730	
	01327	02726	16	03215	02730	
	01330	02727	37	00336	00334	
	01331	02730	00	00000	30000	
	01332	02731	37	02740	02736	
	01333	02732	41	03056	02727	
0752	01334	02733	21	02716	02775	
	01335	02734	16	02751	02731	
0753	01336	02735	45	00000	02716	
	01337	02736	45	00000	02741	
	01340	02737	56	00000	00000	
	01341	02740	45	00000	30000	
	01342	02741	31	00071	00014	
	01343	02742	35	02753	03057	
	01344	02743	17	00000	03057	
	01345	02744	45	00000	02740	
	01346	02745	31	00074	00014	
	01347	02746	35	02753	03057	
	01350	02747	17	00000	03057	
	01351	02750	45	00000	02740	
	01352	02751	00	00000	02736	
	01353	02752	00	00000	02745	
	01354	02753	02	00400	00000	
	01355	02754	00	00000	00000	
	01356	02755	02	00004	00000	
	01357	02756	00	00001	00000	
	01360	02757	00	00002	00000	
	01361	02760	00	00003	00000	
	01362	02761	00	00004	00000	
	01363	02762	00	00005	00000	
	01364	02763	00	00006	00000	
	01365	02764	00	00007	00000	
	01366	02765	00	00010	00000	
	01367	02766	00	00011	00000	
	01370	02767	00	00012	00000	
	01371	02770	00	00013	00000	
	01372	02771	00	00014	00000	
	01373	02772	00	00015	00000	
	01374	02773	00	00016	00000	
	01375	02774	00	00017	00000	
	01376	02775	00	00000	00001	
	01377	02776	00	00000	00002	
	01400	02777	00	00000	00003	
	01401	03000	00	00000	00004	
	01402	03001	00	00000	00005	
	01403	03002	00	00000	00006	
	01404	03003	00	00000	00007	
	01405	03004	00	00000	00010	
	01406	03005	00	00000	00011	
	01407	03006	00	00000	00012	
	01410	03007	00	00000	00013	
	01411	03010	00	00000	00014	
	01412	03011	00	00000	00015	
	01413	03012	00	00000	00016	

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V15			15
V7777B	B	00000000/777	
U1V1		1	1
U2V2		2	2
U3V3		3	3
U4V4		4	4
U5V5		5	5
U4V2		4	2
U6V3		6	3
U2V1		2	1
U1V2		1	2
U1V3		1	3
V510			510
ALPHB			
C1			
C2			
C3			
C5			
C6	0	0000	0000
4R1			
N1			
NR1			
I2			
N3			
3I	0	0000	0000
5Y1	0	0000	0000
B1	0	0000	0000
I3	0	0000	0000
MXMA	0	0000	0000
3I1	0	0000	0000
3I12	0	0000	0000
MOFA1	0	0000	0000
CT			
C10			
C11			
NOUNT			
DUMP			
DUMP1			
DUMP2			
DUMP3	0	0000	0000
F1	F	1	
F2	F	2	
FLAGO	B	37777777/777	
SET1			
TEMPN			
FRAC1			
FRAC2			
SUM1			
SUM2			
SUM3			
EI			
EI1			
EJ			
EJ1			
EK			
EK1			
SIK			
SIK1			
NIK			
NIK1			

01414	03013	00	00000	00017
01415	03014	00	00000	0/777
01416	03015	00	00001	00001
01417	03016	00	00002	00002
01420	03017	00	00003	00003
01421	03020	00	00004	00004
01422	03021	00	00005	00005
01423	03022	00	00004	00002
01424	03023	00	00006	00003
01425	03024	00	00002	00001
01426	03025	00	00001	00002
01427	03026	00	00001	00003
01430	03027	00	00000	00776
01431	03030	00	00000	00000
01432	03031	00	00000	00000
01433	03032	00	00000	00000
01434	03033	00	00000	00000
01435	03034	00	00000	00000
0788	01436	03035	00	00000 00000 NOP
01437	03036	00	00000	00000
01440	03037	00	00000	00000
01441	03040	00	00000	00000
01442	03041	00	00000	00000
01443	03042	00	00000	00000
0789	01444	03043	00	00000 00000 NOP
0790	01445	03044	00	00000 00000 NOP
0791	01446	03045	00	00000 00000 NOP
0792	01447	03046	00	00000 00000 NOP
0793	01450	03047	00	00000 00000 NOP
0794	01451	03050	00	00000 00000 NOP
0795	01452	03051	00	00000 00000 NOP
0796	01453	03052	00	00000 00000 NOP
01454	03053	00	00000	00000
01455	03054	00	00000	00000
01456	03055	00	00000	00000
01457	03056	00	00000	00000
01460	03057	00	00000	00000
01461	03060	00	00000	00000
01462	03061	00	00000	00000
0801	01463	03062	00	00000 00000 NOP
01464	03063	20	14000	00000
01465	03064	20	24000	00000
01466	03065	37	77777	77777
01467	03066	00	00000	00000
01470	03067	00	00000	00000
01471	03070	00	00000	00000
01472	03071	00	00000	00000
01473	03072	00	00000	00000
01474	03073	00	00000	00000
01475	03074	00	00000	00000
01476	03075	00	00000	00000
01477	03076	00	00000	00000
01500	03077	00	00000	00000
01501	03100	00	00000	00000
01502	03101	00	00000	00000
01503	03102	00	00000	00000
01504	03103	00	00000	00000
01505	03104	00	00000	00000
01506	03105	00	00000	00000
01507	03106	00	00000	00000

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ZIK				01510	03107	00	00000	00000			
ZIK1				01511	03110	00	00000	00000			
WEEI				01512	03111	00	00000	00000			
WEEJ				01513	03112	00	00000	00000			
ZERO				01514	03113	00	00000	00000			
VBL1	0	LISOT	LISOT	0834	01515	03114	00	03207	03207	NOP	
	0	V1	5Y1	0835	01516	03115	00	02775	03044	NOP	
	0	ZERO	ZERO	0836	01517	03116	00	03113	03113	NOP	
	0	LISOS	LISOS	0837	01520	03117	00	03212	03212	NOP	
	0	V1	5Y1	0838	01521	03120	00	02775	03044	NOP	
	0	ZERO	ZERO	0839	01522	03121	00	03113	03113	NOP	
	0	LISOP	LISOP	0840	01523	03122	00	00126	00126	NOP	
	0	V1	B	0841	01524	03123	00	02775	00013	NOP	
	0	ZERO	ZERO	0842	01525	03124	00	03113	03113	NOP	
	0	LENGY	LENGY	0843	01526	03125	00	00131	00131	NOP	
	0	V1	I3	0844	01527	03126	00	02775	03046	NOP	
	0	ZERO	ZERO	0845	01530	03127	00	03113	03113	NOP	
	0	LVAL	LVAL	0846	01531	03130	00	03215	03215	NOP	
	0	V1	MXMA	0847	01532	03131	00	02775	03047	NOP	
	0	ZERO	ZERO	0848	01533	03132	00	03113	03113	NOP	
	B	377777771777			01534	03133	37	77777	77777		
VBL2	0	LFUN	LFUN	0850	01535	03134	00	03220	03220	NOP	
	0	V3	MUFA1	0851	01536	03135	00	02777	03052	NOP	
	0	ZERO	ZERO	0852	01537	03136	00	03113	03113	NOP	
	0	LTRA	LTRA	0853	01540	03137	00	03223	03223	NOP	
	0	V1	MUFA	0854	01541	03140	00	02775	03207	NOP	
	0	ZERO	ZERO	0855	01542	03141	00	03113	03113	NOP	
	0	LIFUN	LIFUN	0856	01543	03142	00	03226	03226	NOP	
	0	V1	31	0857	01544	03143	00	02775	03043	NOP	
	0	ZERO	ZERO	0858	01545	03144	00	03113	03113	NOP	
	0	LISCA	LISCA	0859	01546	03145	00	03231	03231	NOP	
	0	V1	31	0860	01547	03146	00	02775	03043	NOP	
	0	ZERO	ZERO	0861	01550	03147	00	03113	03113	NOP	
	0	LIXIN	LIXIN	0862	01551	03150	00	03234	03234	NOP	
	0	V1	31	0863	01552	03151	00	02775	03043	NOP	
	0	ZERO	ZERO	0864	01553	03152	00	03113	03113	NOP	
	0	LISX	LISX	0865	01554	03153	00	03237	03237	NOP	
	0	V1	31	0866	01555	03154	00	02775	03043	NOP	
	0	ZERO	ZERO	0867	01556	03155	00	03113	03113	NOP	
	0	LISSE	LISSE	0868	01557	03156	00	03242	03242	NOP	
	0	V1	3112	0869	01560	03157	00	02775	03051	NOP	
	0	ZERO	ZERO	0870	01561	03160	00	03113	03113	NOP	
	0	LITOT	LITOT	0874	01562	03161	00	03245	03245	NOP	
	0	V1	31	0875	01563	03162	00	02775	03043	NOP	
	0	ZERO	ZERO	0876	01564	03163	00	03113	03113	NOP	
	B	377777771777			01565	03164	37	77777	77777		
CON40	40				01566	03165	40	00000	00000	NOP	
NCC1	0	LAKPK	0000	0880	01567	03166	00	00134	00000	NOP	
COR2X	RPB		MIC2		01570	03167	75	30000	01525		
NCRP1	RPB		1WROC		01571	03170	75	30000	02055		
CONRP	RPB		16RO		01572	03171	75	30000	02063		
COR4X	RPB		4XCRO		01573	03172	75	30000	01463		
COR4V	RPB		4VCRO		01574	03173	75	30000	01475		
CORE1	0	0000	1110	VBL1	0887	01575	03174	00	00000	00000	NOP
CORE2	0	0000	1000	VBL1	0888	01576	03175	00	00000	00000	NOP
DRUM1	0	0000	0900	VBL1	0889	01577	03176	00	00000	00000	NOP
DRUM2	0	0000	0900	VBL2	0890	01600	03177	00	00000	00000	NOP
LELEM	0	ELEM	ELEM		0891	01601	03200	00	03204	03204	NOP
LSU41	0	SU41	SU41		0892	01602	03201	00	04624	04624	NOP
LSU40	0	SU40	SU40		0893	01603	03202	00	04625	04625	NOP

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LSUBZ	0	SUBZ	SUBZ	0894	01604	03203	00	05116	05116	NOP
SUM1A					01605	03204	00	00000	00000	
SUM2A					01606	03205	00	00000	00000	
SUM3A					01607	03206	00	00000	00000	
LISOT	RSRV	3	3		01610	03207				
LISOS		FILL	FILL		01613	03212	00	30000	30000	
	0	FILL	FILL	0025	01614	03213	00	30000	30000	NOP
	0	V1	SY1	0026	01615	03214	00	02775	03044	NOP
LVAL		FILL	FILL		01616	03215	00	30000	30000	
	0	FILL	FILL	0028	01617	03216	00	30000	30000	NOP
	0	V1	MXMA	0029	01620	03217	00	02775	03047	NOP
LFUN		FILL	FILL		01621	03220	00	30000	30000	
	0	FILL	FILL	0031	01622	03221	00	30000	30000	NOP
	0	V3	MOFA1	0032	01623	03222	00	02777	03052	NOP
LTRA		FILL	FILL		01624	03223	00	30000	30000	
	0	FILL	FILL	0034	01625	03224	00	30000	30000	NOP
	0	V1	MOFA	0035	01626	03225	00	02775	03207	NOP
LIFUN		FILL	FILL		01627	03226	00	30000	30000	
	0	FILL	FILL	0037	01630	03227	00	30000	30000	NOP
	0	V1	3I	0038	01631	03230	00	02775	03043	NOP
LISCA		FILL	FILL		01632	03231	00	30000	30000	
	0	FILL	FILL	0040	01633	03232	00	30000	30000	NOP
	0	V1	3I	0041	01634	03233	00	02775	03043	NOP
LIXIN		FILL	FILL		01635	03234	00	30000	30000	
	0	FILL	FILL	0043	01636	03235	00	30000	30000	NOP
	0	V1	3I	0044	01637	03236	00	02775	03043	NOP
LISX		FILL	FILL		01640	03237	00	30000	30000	
	0	FILL	FILL	0046	01641	03240	00	30000	30000	NOP
	0	V1	3I	0047	01642	03241	00	02775	03043	NOP
LISSC		FILL	FILL		01643	03242	00	30000	30000	
	0	FILL	FILL	0049	01644	03243	00	30000	30000	NOP
	0	V1	3I12	0050	01645	03244	00	02775	03051	NOP
LITOT		FILL	FILL		01646	03245	00	30000	30000	
	0	FILL	FILL	0055	01647	03246	00	30000	30000	NOP
	0	V1	3I	0056	01650	03247	00	02775	03043	NOP
STOP	MS	0000	STOP	0105	01651	03250	56	00000	03250	
SIG1	MJ		S11	0	16	01652	03251	45	00000	03257
	MS	0000	0000	0	17	01653	03252	56	00000	00000
S12	MJ	0000	FILL	0	18	01654	03253	45	00000	30000
SIP1	0	FILL	FILL	0	19	01655	03254	00	30000	30000
SIP2	0	FILL	FILL	0	20	01656	03255	00	30000	30000
SIP3	0	FILL	FILL	0	21	01657	03256	00	30000	30000
S11	SP	S12	S15			01660	03257	31	03253	00017
	TU	A	S13	0	23	01661	03260	15	32000	03262
	RFB	3	S14			01662	03261	75	30003	03263
S13	TP	FILL	SIP1	0	25	01663	03262	11	30000	03254
S14	TU	SIP1	S15	0	26	01664	03263	15	03254	03272
	TV	SIP1	S15	0	27	01665	03264	16	03254	03272
	TU	SIP1	S16	0	28	01666	03265	15	03254	03274
	TV	SIP1	S16	0	29	01667	03266	16	03254	03274
	TV	SIP2	S17	0	30	01670	03267	16	03255	03276
	TV	SIP3	S19	0	31	01671	03270	16	03256	03301
	TU	SIP2	S18	0	32	01672	03271	15	03255	03300
S15	FS	FILL	FILL	0	33	01673	03272	65	30000	30000
	TP	Q	DUMP	0	34	01674	03273	11	31000	03057
S16	FA	FILL	FILL	0	35	01675	03274	64	30000	30000
	FM	Q	DUMP	0	36	01676	03275	66	31000	03057
S17	FM	Q	FILL	0	37	01677	03276	66	31000	30000
	FD	Q	F2	0	38	01700	03277	67	31000	03064
S18	FI	FILL	DUMP	0	39	01701	03300	02	30000	03057

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SI9	TP	Q	FILL	0 40	01702	03301	11	31000	30000	
	RA	SI2	V3	0 41	01703	03302	21	03253	02777	
	MJ	0000	SI2	0 42	01704	03303	45	00000	03253	
SIG2	MJ	0000	SG1	0016	01705	03304	45	00000	03312	
	MS	0000	0000	0017	01706	03305	56	00000	00000	
SG2	MJ	0000	FILL	0018	01707	03306	45	00000	30000	
SGP1	O	FILL	FILL	0019	01710	03307	00	30000	30000	NOP
SGP2	O	FILL	FILL	0020	01711	03310	00	30000	30000	NOP
SGP3	O	FILL	FILL	0021	01712	03311	00	30000	30000	NOP
SG1	SP	SG2	15		01713	03312	31	03306	00017	
	TU	A	SG3	0023	01714	03313	15	32000	03315	
	RPB	3	L+2		01715	03314	75	30003	03316	
SG3	TP	FILL	SGP1	0025	01716	03315	11	30000	03307	
	TU	SGP1	SG4	0026	01717	03316	15	03307	03327	
	TV	SGP1	SG4	0027	01720	03317	16	03307	03327	
	TU	SGP1	SG6	0028	01721	03320	15	03307	03331	
	TV	SGP1	SG6	0029	01722	03321	16	03307	03331	
	LQ	SGP2	A+21		01723	03322	55	03310	32025	
	TV	A	SG5	0031	01724	03323	16	32000	03333	
	SP	SGP2	15		01725	03324	31	03310	00017	
	TU	A	SG7	0033	01726	03325	15	32000	03334	
	TV	SGP3	SG8	0034	01727	03326	16	03311	03335	
SG4	FS	FILL	FILL	0035	01730	03327	65	30000	30000	
	TP	Q	DUMP	0036	01731	03330	11	31000	03057	
SG6	FD	FILL	FILL	0037	01732	03331	67	30000	30000	
	RJ	LN2	LN2	0038	01733	03332	37	04227	04225	
SG5	FM	Q	FILL	0039	01734	03333	66	31000	30000	
SG7	FI	FILL	DUMP	0040	01735	03334	02	30000	03057	
SG8	TP	Q	FILL	0041	01736	03335	11	31000	30000	
	RA	SG2	V3	0042	01737	03336	21	03306	02777	
	MJ	0000	SG2	0043	01740	03337	45	00000	03306	
SIG3	MJ	0000	IG1	0016	01741	03340	45	00000	03346	
	MS	0000	0000	0017	01742	03341	56	00000	00000	
IG2	MJ	0000	FILL	0018	01743	03342	45	00000	30000	
IGP1	O	FILL	FILL	0019	01744	03343	00	30000	30000	NOP
IGP2	O	FILL	FILL	0020	01745	03344	00	30000	30000	NOP
IGP3	O	FILL	FILL	0021	01746	03345	00	30000	30000	NOP
IG1	SP	IG2	15		01747	03346	31	03342	00017	
	TU	A	IG3	0023	01750	03347	15	32000	03351	
	RPB	3	IG4		01751	03350	75	30003	03352	
IG3	TP	FILL	IGP1	0025	01752	03351	11	30000	03343	
IG4	TV	IGP1	IG5	0026	01753	03352	16	03343	03366	
	SP	IGP1	15		01754	03353	31	03343	00017	
	TU	A	IG5	0028	01755	03354	15	32000	03366	
	TU	IGP1	IG6	0029	01756	03355	15	03343	03370	
	LQ	IGP1	A+21		01757	03356	55	03343	32025	
	TV	A	IG6	0031	01760	03357	16	32000	03370	
	TU	IG5	IG7	0032	01761	03360	15	03366	03372	
	TU	IGP1	IG8	0033	01762	03361	15	03343	03374	
	TV	IGP2	IG9	0034	01763	03362	16	03344	03375	
	LQ	IGP2	A+21		01764	03363	55	03344	32025	
	TV	A	IG10	0036	01765	03364	16	32000	03401	
	TV	IGP3	IG11	0037	01766	03365	16	03345	03404	
IG5	FM	FILL	FILL		01767	03366	66	30000	30000	
	TP	Q	DUMP	0039	01770	03367	11	31000	03057	
IG6	FM	FILL	FILL	0040	01771	03370	66	30000	30000	
	TP	Q	DUMP	0041	01772	03371	11	31000	03060	
IG7	FM	FILL	DUMP	0042	01773	03372	66	30000	03057	
	TN	Q	Q	0043	01774	03373	13	31000	31000	
IG8	FI	FILL	DUMP	0044	01775	03374	02	30000	03060	

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IG9	FM	Q	FILL	0045	01776	03375	66	31000	30000
	FD	Q	F3	0046	01777	03376	67	31000	05202
	TP	Q	DUMP2	0047	02000	03377	11	31000	03061
	FS	Q	DUMP	0048	02001	03400	65	03060	03057
IG10	FM	Q	FILL	0049	02002	03401	66	31000	30000
	FD	Q	F2	0050	02003	03402	67	31000	03064
	FA	Q	DUMP2	0051	02004	03403	64	31000	03061
IG11	TP	Q	FILL	0052	02005	03404	11	31000	30000
	RA	IG2	V3	0053	02006	03405	21	03342	02777
	MJ	0000	IG2	0054	02007	03406	45	00000	03342
SIG4	MJ	0000	IG1A	0016	02010	03407	45	00000	03415
	MS	0000	0000	0 17	02011	03410	56	00000	00000
IG2A	MJ	0000	FILL	0 18	02012	03411	45	00000	30000
IGP1A		FILL	FILL	0 19	02013	03412	00	30000	30000
IGP2A		FILL	FILL	0 20	02014	03413	00	30000	30000
IGP3A		FILL	FILL	0 21	02015	03414	00	30000	30000
IG1A	SP	IG2A	15		02016	03415	31	03411	00017
	TU	A	IG3A	0 23	02017	03416	15	32000	03420
	RPB	S	L+2		02020	03417	75	30003	03421
IG3A	TP	FILL	IGP1A	0 25	02021	03420	11	30000	03412
	LQ	IGP1A	A+21		02022	03421	55	03412	32025
	TV	A	IG4A	0 27	02023	03422	16	32000	03432
	TV	IGP1A	IG5A	0 28	02024	03423	16	03412	03434
	LQ	IGP2A	A+21		02025	03424	55	03413	32025
	TV	A	IG6A	0 30	02026	03425	16	32000	03436
	TU	IGP1A	IG7A	0 31	02027	03426	15	03412	03440
	TV	IGP1A	IG7A	0 32	02030	03427	16	03412	03440
	TV	IGP2A	IG8A	0 33	02031	03430	16	03413	03442
	TV	IGP3A	IG9A	0 34	02032	03431	16	03414	03444
IG4A	FD	F1	FILL	0 35	02033	03432	67	03063	30000
	TN	Q	DUMP	0 36	02034	03433	13	31000	03057
IG5A	FD	F1	FILL	0 37	02035	03434	67	03063	30000
	FA	Q	DUMP	0 38	02036	03435	64	31000	03057
IG6A	FM	Q	FILL	0 39	02037	03436	66	31000	30000
	TP	Q	DUMP	0 40	02040	03437	11	31000	03057
IG7A	FD	FILL	FILL	0 41	02041	03440	67	30000	30000
	RJ	LNK2	LNK	0042	02042	03441	37	04227	04225
IG8A	FM	Q	FILL	0 43	02043	03442	66	31000	30000
	FA	Q	DUMP	0 44	02044	03443	64	31000	03057
IG9A	TP	Q	FILL	0 45	02045	03444	11	31000	30000
	RA	IG2A	V3	0 46	02046	03445	21	03411	02777
	MJ	0000	IG2A	0 47	02047	03446	45	00000	03411
XINU	MJ	0000	INI	0 22	02050	03447	45	00000	03452
	MS	0000	0000	0 23	02051	03450	56	00000	00000
IN2	MJ	0000	FILL	0 24	02052	03451	45	00000	30000
INI	SP	IN2	15		02053	03452	31	03451	00017
	TU	A	IN3	0 26	02054	03453	15	32000	03455
	RPB	S	L+2		02055	03454	75	30005	03456
IN3	TP	FILL	INP1		02056	03455	11	30000	03560
	TV	INP5	L+5		02057	03456	16	03564	03463
	SP	INP4	15		02060	03457	31	03563	00017
	TU	A	L+5		02061	03460	15	32000	03465
	TP	ZIK	A		02062	03461	11	03107	32000
	ZJ	L+3	L+1		02063	03462	47	03465	03463
ZRES	TP	ZERO	FILL		02064	03463	11	03113	30000
	MJ		IN13+4	B3 EQUALS ZERO.	02065	03464	45	00000	03651
	TP	FILL	A	EXIT	02066	03465	11	30000	32000
	ZJ	IN4	L+1	M3 NOT ZERO, COMPT SET1.	02067	03466	47	03557	03467
	TU	INP2	IX1	M3 EQUALS ZERO.	02070	03467	15	03561	03505
	TU	INP2	IX3	COMPUTE SET2 OF A0*AI.	02071	03470	15	03561	03510

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	TU	INP3	IX4	ANU A2.	02072	03471	15	03562	03511	
	LQ	INP3	A+21		02073	03472	55	03562	32025	
	TV	A	IX1		02074	03473	16	32000	03509	
	LQ	INP4	A+21		02075	03474	55	03563	32025	
	TV	A	IX2		02076	03475	16	32000	03506	
	TV	A	IX5		02077	03476	16	32000	03512	
	TV	A	IX7		02100	03477	16	32000	03515	
	TV	INP2	IX4		02101	03500	16	03561	03511	
	TV	INP3	IX3		02102	03501	16	03562	03510	
	TV	INP3	IX6		02103	03502	16	03562	03514	
	SP	INP2	15		02104	03503	31	03561	00017	
	TU	A	IX6		02105	03504	15	32000	03514	
IX1	FM	FILL	FILL	B1 B2	02106	03505	66	30000	30000	
IX2	FD	Q	FILL	B3	02107	03506	67	31000	30000	
	TP	Q	A0	A0 SET2	02110	03507	11	31000	03725	
IX3	FM	FILL	FILL	B1 M2	02111	03510	66	30000	30000	
IX4	FI	FILL	FILL	B2 M1	02112	03511	02	30000	30000	
IX5	FD	Q	FILL	B3	02113	03512	67	31000	30000	
	TP	Q	A1	A1 SET2	02114	03513	11	31000	03726	
IX6	FM	FILL	FILL	M1 M2	02115	03514	66	30000	30000	
IX7	FD	Q	FILL	B3	02116	03515	67	31000	30000	
	TP	Q	A2	A2 SET2	02117	03516	11	31000	03727	
	TU	INP1	IX8		02120	03517	15	03560	03532	
	TU	INP1	IX11		02121	03520	15	03560	03540	
	TU	INP1	IX12		02122	03521	15	03560	03551	
	TV	INP1	IX9		02123	03522	16	03560	03534	
	TV	INP1	IX10		02124	03523	16	03560	03536	
	TV	INP1	IX12		02125	03524	16	03560	03551	
	LQ	INP1	A+21		02126	03525	55	03560	32025	
	TV	A	IX8		02127	03526	16	32000	03532	
	SP	INP1	15		02130	03527	31	03560	00017	
	TU	A	IX9		02131	03530	15	32000	03534	
	TV	INP5	IX13		02132	03531	16	03564	03553	
IX8	FM	FILL	FILL		02133	03532	66	30000	30000	
	TP	Q	DUMP		02134	03533	11	31000	03057	
IX9	FM	FILL	FILL		02135	03534	66	30000	30000	
	TP	Q	DUMP1		02136	03535	11	31000	03060	
IX10	FM	DUMP1	FILL		02137	03536	66	03060	30000	
	TP	Q	DUMP2		02140	03537	11	31000	03061	
IX11	FM	FILL	DUMP		02141	03540	66	30000	03057	
	FS	Q	DUMP2		02142	03541	65	31000	03061	
	FM	Q	A2		02143	03542	66	31000	03727	
	FD	Q	F3		02144	03543	67	31000	03202	
	TP	Q	DUMP2		02145	03544	11	31000	03061	
	FS	DUMP	DUMP1		02146	03545	65	03057	03060	
	FD	Q	F2		02147	03546	67	31000	03064	
	FP	A1	DUMP2		02150	03547	01	03726	03061	
	TP	Q	DUMP2		02151	03550	11	31000	03061	
IX12	FS	FILL	FILL		02152	03551	65	30000	30000	
	FP	A0	DUMP2		02153	03552	01	03725	03061	
IX13	TP	Q	FILL		02154	03553	11	31000	30000	
	TP	Q	A	M3 EQUALS ZERO	02155	03554	11	31000	32000	
	SJ	L+1	IN13+4		02156	03555	46	03556	03651	
	MS		ZRES	RESULT NEGATIVE.	02157	03556	56	00000	03463	
IN4	RJ	IX12	COEF		0 29	02160	03557	37	03655	03653
INP1		FILL	FILL		0 30	02161	03560	00	30000	30000
INP2		FILL	FILL		0 31	02162	03561	00	30000	30000
INP3		FILL	FILL		0 32	02163	03562	00	30000	30000
INP4		FILL	FILL		0 33	02164	03563	00	30000	30000
INP5		FILL	FILL		0 34	02165	03564	00	30000	30000



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	TV	INP4	IN9	0 43	02166	03565	16	03563	03631
	TV	INP1	IN10	0 45	02167	03566	16	03560	03633
	TU	INP1	IN11	0 46	02170	03567	15	03560	03635
	LQ	INP1	A+21		02171	03570	55	03560	32025
	TV	A	IN11	0 48	02172	03571	16	32000	03635
	TU	INP1	IN12	0 49	02173	03572	15	03560	03642
	TV	INP1	IN12	0 50	02174	03573	16	03560	03642
	TV	INP5	IN13	0 51	02175	03574	16	03564	03645
	LQ	INP1	A+15		02176	03575	55	03560	32017
	TU	A	IN10		02177	03576	15	32000	03633
	TU	INP1	JJJ1		02200	03577	15	03560	03611
	TV	INP1	JJJ1		02201	03600	16	03560	03611
	TV	INP4	JJJ2		02202	03601	16	03563	03612
	TU	INP4	JJJ3		02203	03602	15	03563	03606
	TV	INP4	JJJ4		02204	03603	16	03563	03607
	SP	INP1	15		02205	03604	31	03560	00017
	TU	A	JJJ4		02206	03605	15	32000	03607
JJJ3	TP	FILL	Q		02207	03606	11	30000	31000
JJJ4	FI	FILL	FILL		02210	03607	02	30000	30000
	TP	Q	DUMP		02211	03610	11	31000	03057
JJJ1	FS	FILL	FILL		02212	03611	65	30000	30000
JJJ2	FM	Q	FILL		02213	03612	66	31000	30000
	FD	Q	DUMP		02214	03613	67	31000	03057
	TP	Q	X		02215	03614	11	31000	04420
	FA	X	F1		02216	03615	64	04420	03063
	TP	Q	A		02217	03616	11	31000	32000
	SJ	HLT9	L+1		02220	03617	46	04430	03620
	TM	X	TEMP		02221	03620	12	04420	05232
	TP	M01	A		02222	03621	11	04426	32000
	TJ	TEMP	L+3		02223	03622	42	05232	03625
	RJ	LNXA2	LNXA		02224	03623	37	04365	04342
	MJ		L+4		02225	03624	45	00000	03630
	FA	X	F1		02226	03625	64	04420	03063
	RJ	LN2	LN2		02227	03626	37	04227	04225
	TP	Q	LN2B		02230	03627	11	31000	04424
	FM	Q	A2	0 59	02231	03630	66	31000	03727
IN9	FD	Q	FILL	0 60	02232	03631	67	31000	30000
	TP	Q	DUMP	0 61	02233	03632	11	31000	03057
IN10	FM	FILL	FILL	0 62	02234	03633	66	30000	30000
	TN	Q	Q	0 63	02235	03634	13	31000	31000
IN11	FI	FILL	FILL	0 64	02236	03635	02	30000	30000
	FM	Q	A1	0 65	02237	03636	66	31000	03726
	FD	Q	F2	0 66	02240	03637	67	31000	03064
	FA	Q	DUMP	0 67	02241	03640	64	31000	03057
	TP	Q	DUMP	0 68	02242	03641	11	31000	03057
IN12	FS	FILL	FILL	0 69	02243	03642	65	30000	30000
	FM	Q	A0	0 70	02244	03643	66	31000	03725
	FA	Q	DUMP	0 71	02245	03644	64	31000	03057
IN13	TP	Q	FILL	0 72	02246	03645	11	31000	30000
	TP	Q	A		02247	03646	11	31000	32000
	SJ	L+1	L+2		02250	03647	46	03650	03651
	MJ		ZSLP3		02251	03650	45	00000	05071
	RA	IN2	V5	0 73	02252	03651	21	03451	03001
	MJ	0000	IN2	0 74	02253	03652	45	00000	03451
COEF	MJ		X11	0 75	02254	03653	45	00000	03663
	MS			0 76	02255	03654	56	00000	00000
XI2	MJ		FILL	0 77	02256	03655	45	00000	30000
XIP1		FILL	FILL	0 78	02257	03656	00	30000	30000
XIP2		FILL	FILL	0 79	02260	03657	00	30000	30000
XIP3		FILL	FILL	0 80	02261	03660	00	30000	30000

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XIP4		FILL	FILL	0 81	02262	03661	00	30000	30000
XIP5		FILL	FILL	0 82	02263	03662	00	30000	30000
XI1	SP	XI2	15		02264	03663	31	03655	00017
	TU	A	XI3	0 84	02265	03664	15	32000	03666
	RPB	S	XI4		02266	03665	75	30005	03667
XI3	TP	FILL	XIP1	0 86	02267	03666	11	30000	03656
XI4	SP	XIP2	15		02270	03667	31	03657	00017
	TU	A	XI5	0 88	02271	03670	15	32000	03706
	TV	XIP3	XI5	0 89	02272	03671	16	03660	03706
	TV	XIP4	XI6	0 90	02273	03672	16	03661	03707
	LQ	XIP4	A+21		02274	03673	55	03661	32025
	TV	A	XI7	0 92	02275	03674	16	32000	03712
	TV	A	XI11	0 93	02276	03675	16	32000	03720
	TU	XIP2	XI8	0 94	02277	03676	15	03657	03713
	TU	XIP3	XI9	0 95	02300	03677	15	03660	03714
	TU	XIP2	XI12	0 96	02301	03700	15	03657	03721
	TV	XIP3	XI8	0 97	02302	03701	16	03660	03713
	TV	XIP2	XI9	0 98	02303	03702	16	03657	03714
	TV	XIP4	XI10	0 99	02304	03703	16	03661	03715
	LQ	XIP3	A+21		02305	03704	55	03660	32025
	TV	A	XI12	0 03	02306	03705	16	32000	03721
XI5	FM	FILL	FILL	0 04	02307	03706	66	30000	30000
XI6	FD	Q	FILL	0 05	02310	03707	67	31000	30000
	TP	Q	A1	0 06	02311	03710	11	31000	03726
	TN	Q	Q	0 07	02312	03711	13	31000	31000
XI7	FM	Q	FILL	0 08	02313	03712	66	31000	30000
XI8	FI	FILL	FILL	0 09	02314	03713	02	30000	30000
XI9	FI	FILL	FILL	0 10	02315	03714	02	30000	30000
XI10	FD	Q	FILL	0 11	02316	03715	67	31000	30000
	TP	Q	A0	0 12	02317	03716	11	31000	03725
	TN	Q	Q	0 13	02320	03717	13	31000	31000
XI11	FM	Q	FILL	0 14	02321	03720	66	31000	30000
XI12	FI	FILL	FILL	0 15	02322	03721	02	30000	30000
	TP	Q	A2	0 16	02323	03722	11	31000	03727
	RA	XI2	V5	0 17	02324	03723	21	03655	03001
	MJ	0000	XI2	0 18	02325	03724	45	00000	03655
A0					02326	03725	00	00000	00000
A1					02327	03726	00	00000	00000
A2					02330	03727	00	00000	00000
SINU	MJ		SN1	0022	02331	03730	45	00000	03740
	MS	0000	0000	0023	02332	03731	56	00000	00000
SN2	MJ	0000	FILL	0024	02333	03732	45	00000	30000
SNP1		FILL	FILL	0025	02334	03733	00	30000	30000
SNP2		FILL	FILL	0026	02335	03734	00	30000	30000
SNP3		FILL	FILL	0027	02336	03735	00	30000	30000
SNP4		FILL	FILL	0028	02337	03736	00	30000	30000
SNP5		FILL	FILL	0029	02340	03737	00	30000	30000
SN1	SP	SN2	15		02341	03740	31	03732	00017
	TU	A	SN3	0031	02342	03741	15	32000	03743
	RPB	S	L+2		02343	03742	75	30005	03744
SN3	TP	FILL	SNP1	0033	02344	03743	11	30000	03733
	TV	SNP5	L+5		02345	03744	16	03737	03751
	SP	SNP4	15		02346	03745	31	03736	00017
	TU	A	L+5		02347	03746	15	32000	03753
	TP	ZIK	A		02350	03747	11	03107	32000
	ZJ	L+3	L+1		02351	03750	47	03753	03751
ZRES2	TP	ZERO	FILL		02352	03751	11	03113	30000
	MJ		SN16+4		02353	03752	45	00000	04046
	TP	FILL	A		02354	03753	11	30000	32000
	ZJ	SN4	L+1		02355	03754	47	04011	03753

B3 EQUALS ZERO.

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	TU	SNP1	IX15	M3 EQUALS ZERO.	02356	03755	15	03733	03772
	TU	SNP1	IX16		02357	03756	15	03733	03777
	TU	SNP1	IX17		02360	03757	15	03733	04002
	TV	SNP1	IX14		02361	03760	16	03733	03770
	TV	SNP1	IX16		02362	03761	16	03733	03777
	TV	SNP1	IX17		02363	03762	16	03733	04002
	SP	SNP1	15		02364	03763	31	03733	00017
	TU	A	IX14		02365	03764	15	32000	03770
	LQ	SNP1	A+21		02366	03765	55	03733	32025
	TV	A	IX15		02367	03766	16	32000	03772
	TV	SNP5	IX18		02370	03767	16	03737	04005
IX14	FM	FILL	FILL		02371	03770	66	30000	30000
	TP	Q	DUMP		02372	03771	11	31000	03057
IX15	FM	FILL	FILL		02373	03772	66	30000	30000
	FS	Q	DUMP		02374	03773	65	31000	03057
	FM	Q	A2		02375	03774	66	31000	03727
	FD	Q	F2		02376	03775	67	31000	03064
	TP	Q	DUMP		02377	03776	11	31000	03057
IX16	FS	FILL	FILL		02400	03777	65	30000	30000
	FP	A1	DUMP		02401	04000	01	03726	03057
	TP	Q	DUMP		02402	04001	11	31000	03057
IX17	FD	FILL	FILL		02403	04002	67	30000	30000
	RJ	LNK2	LNK		02404	04003	37	04227	04225
	FP	A0	DUMP		02405	04004	01	03725	03057
IX18	TP	Q	FILL		02406	04005	11	31000	30000
	TP	Q	A	M3 EQUALS ZERO.	02407	04006	11	31000	32000
	SJ	L+1	SN16+4		02410	04007	46	04010	04046
	MS		ZRES2	RESULT NEGATIVE.	02411	04010	56	00000	03751
SN4	SP	SNP1	15		02412	04011	31	03733	00017
	TU	A	SN5		02413	04012	15	32000	04024
	LQ	SNP1	A+21		02414	04013	55	03733	32025
	TV	A	SN5		02415	04014	16	32000	04024
	LQ	SNP4	A+21		02416	04015	55	03736	32025
	TV	A	SN12	0045	02417	04016	16	32000	04030
	TV	SNP1	SN13	0046	02420	04017	16	03733	04032
	TU	SNP1	SN13	0047	02421	04020	15	03733	04032
	TU	SNP1	SN15	0048	02422	04021	15	03733	04036
	TV	SNP1	SN15	0049	02423	04022	16	03733	04036
	TV	SNP5	SN16	0050	02424	04023	16	03737	04042
SN5	FD	FILL	FILL		02425	04024	67	30000	30000
	RJ	LNK2	LNK		02426	04025	37	04227	04225
	FA	Q	LNKB		02427	04026	64	31000	04424
	FM	Q	A2	0060	02430	04027	66	31000	03727
SN12	FD	Q	FILL	0061	02431	04030	67	31000	30000
	TP	Q	DUMP	0062	02432	04031	11	31000	03057
SN13	FS	FILL	FILL	0063	02433	04032	65	30000	30000
	FM	Q	A1	0064	02434	04033	66	31000	03726
	FS	Q	DUMP	0065	02435	04034	65	31000	03057
	TP	Q	DUMP	0066	02436	04035	11	31000	03057
SN15	FD	FILL	FILL	0067	02437	04036	67	30000	30000
	RJ	LNK2	LNK	0068	02440	04037	37	04227	04225
	FM	Q	A0	0069	02441	04040	66	31000	03725
	FA	Q	DUMP	0070	02442	04041	64	31000	03057
SN16	TP	Q	FILL	0071	02443	04042	11	31000	30000
	TP	Q	A		02444	04043	11	31000	32000
	SJ	L+1	L+2		02445	04044	46	04045	04046
	MJ		ZSLP3	RESULT NEG; SET M3 ZERO.	02446	04045	45	00000	05071
	RA	SN2	V5		0072	02447	21	03732	03001
	MJ	0000	SN2		0073	02450	45	00000	03732
NUSI	MJ		US1		0 22	02451	45	00000	04060

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	MS			0 23	02452	04051	56	00000	00000
US2	MJ		FILL	0 24	02453	04052	45	00000	30000
USP1		FILL	FILL	0 25	02454	04053	00	30000	30000
USP2		FILL	FILL	0 26	02455	04054	00	30000	30000
USP3		FILL	FILL	0 27	02456	04055	00	30000	30000
USP4		FILL	FILL	0 28	02457	04056	00	30000	30000
USP5		FILL	FILL	0 29	02460	04057	00	30000	30000
US1	SP	US2	15		02461	04060	31	04052	00017
	TU	A	US3	0 31	02462	04061	15	32000	04063
	RPB	5	L+2		02463	04062	75	30005	04064
US3	TP	FILL	USP1		02464	04063	11	30000	04053
	TV	USP5	L+5		02465	04064	16	04057	04071
	SP	USP4	15		02466	04065	31	04056	00017
	TU	A	L+5		02467	04066	15	32000	04073
	TP	ZIK	A		02470	04067	11	03107	32000
	ZJ	L+3	L+1		02471	04070	47	04073	04071
ZRES3	TP	ZERO	FILL		02472	04071	11	03113	30000
	MJ		US16A+4		02473	04072	45	00000	04223
	TP	FILL	A		02474	04073	11	30000	32000
	ZJ	US4	L+1		02475	04074	47	04137	04075
	TU	USP1	IX19		02476	04075	15	04053	04106
	TU	USP1	IX22		02477	04076	15	04053	04123
	TV	USP1	IX20		02500	04077	16	04053	04110
	TV	USP1	IX21		02501	04100	16	04053	04121
	LQ	USP1	A+21		02502	04101	55	04053	32025
	TV	A	IX19		02503	04102	16	32000	04106
	SP	USP1	15		02504	04103	31	04053	00017
	TU	A	IX20		02505	04104	15	32000	04110
IX19	TV	USP5	IX23		02506	04105	16	04057	04133
	FM	FILL	FILL		02507	04106	66	30000	30000
	TP	Q	DUMP		02510	04107	11	31000	03057
IX20	FM	FILL	FILL		02511	04110	66	30000	30000
	TP	Q	DUMP1		02512	04111	11	31000	03060
	FM	DUMP1	DUMP1		02513	04112	66	03060	03060
	TP	Q	DUMP2		02514	04113	11	31000	03061
	FM	DUMP	DUMP		02515	04114	66	03057	03057
	FS	Q	DUMP2		02516	04115	65	31000	03061
	FM	Q	A2		02517	04116	66	31000	03727
	FD	Q	F4		02520	04117	67	31000	04403
	TP	Q	DUMP2		02521	04120	11	31000	03061
IX21	FM	DUMP1	FILL		02522	04121	66	03060	30000
	TP	Q	DUMP3		02523	04122	11	31000	03062
IX22	FM	FILL	DUMP		02524	04123	66	30000	03057
	FS	Q	DUMP3		02525	04124	65	31000	03062
	FD	Q	F3		02526	04125	67	31000	03202
	FP	A1	DUMP2		02527	04126	01	03726	03061
	TP	Q	DUMP2		02530	04127	11	31000	03061
	FS	DUMP	DUMP1		02531	04130	65	03057	03060
	FD	Q	F2		02532	04131	67	31000	03064
	FP	A0	DUMP2		02533	04132	01	03725	03061
IX23	TP	Q	FILL		02534	04133	11	31000	30000
	TP	Q	A		02535	04134	11	31000	32000
	SJ	L+1	US16A+4		02536	04135	46	04136	04223
	MS		ZRES3		02537	04136	56	00000	04071
	US4	TV	USP1		0 34	02540	16	04053	04156
	SP	USP1	15			02541	31	04053	00017
	TU	A	US5	0 36	02542	04141	15	32000	04156
	TU	USP1	US6	0 37	02543	04142	15	04053	04160
	LQ	USP1	A+21			02544	55	04053	32025
	TV	A	US6	0 39	02545	04144	16	32000	04160

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	LQ	USP4	A+21		02546	04145	55	04056	32025	
	TV	A	US12		02547	04146	16	32000	04204	
	TU	USP1	US13		0 48	02550	04147	15	04053	04206
	TV	USP1	US13		0 49	02551	04150	16	04053	04206
	TV	USP4	US14		0 50	02552	04151	16	04056	04207
	SP	USP4	15			02553	04152	31	04056	00017
	TU	A	US15		0 52	02554	04153	15	32000	04213
	TV	USP4	US15		0 53	02555	04154	16	04056	04213
	TV	USP5	US16A		0 54	02556	04155	16	04057	04217
US5	FM	FILL	FILL		0 55	02557	04156	66	30000	30000
	TN	Q	Q		0 56	02560	04157	15	31000	31000
US6	FI	FILL	FILL		0 57	02561	04160	02	30000	30000
	FD	Q	A0		0 58	02562	04161	66	31000	03725
	TP	Q	F2		0 59	02563	04162	67	31000	03064
	TP	US5	DUMP		0 60	02564	04163	11	31000	03057
	TV	US5	US7		0 61	02565	04164	11	04156	04171
	TU	US6	US8		0 62	02566	04165	16	04156	04172
	TV	US6	US9		0 63	02567	04166	15	04160	04174
	TV	US6	US9		0 64	02570	04167	16	04160	04174
	TV	US6	US10		0 65	02571	04170	16	04160	04175
US7	FM	FILL	FILL		0 66	02572	04171	66	30000	30000
US8	FM	Q	FILL		0 67	02573	04172	66	31000	30000
	TP	Q	DUMP1		0 68	02574	04173	11	31000	03060
US9	FM	FILL	FILL		0 69	02575	04174	66	30000	30000
US10	FM	Q	FILL		0 70	02576	04175	66	31000	30000
	FS	Q	DUMP1		0 71	02577	04176	65	31000	03060
	FM	Q	A1		0 72	02600	04177	66	31000	03726
	FD	Q	F3		0 73	02601	04200	67	31000	05202
	FA	Q	DUMP		0 74	02602	04201	64	31000	03057
	TP	Q	DUMP		0 75	02603	04202	11	31000	03057
	TP	LNXB	Q			02604	04203	11	04424	31000
US12	FM	Q	FILL		0 83	02605	04204	66	31000	30000
	TP	Q	DUMP1		0 84	02606	04205	11	31000	03060
US13	FS	FILL	FILL		0 85	02607	04206	65	30000	30000
US14	FM	Q	FILL		0 86	02610	04207	66	31000	30000
	FS	Q	DUMP1		0 87	02611	04210	65	31000	03060
	FM	Q	A2		0 88	02612	04211	66	31000	03727
	TP	Q	DUMP2		0 89	02613	04212	11	31000	03061
US15	FM	FILL	FILL		0 90	02614	04213	66	30000	30000
	TP	Q	DUMP1		0 91	02615	04214	11	31000	03060
	FD	DUMP2	DUMP1		0 92	02616	04215	67	03061	03060
	FA	Q	DUMP		0 93	02617	04216	64	31000	03057
US16A	TP	Q	FILL		0 94	02620	04217	11	31000	30000
	TP	Q	A			02621	04220	11	31000	32000
	SJ	L+1	L+2			02622	04221	46	04222	04223
	MJ		ZSLP3	RESULT NEG. SET M3 ZERO.		02623	04222	45	00000	05071
	RA	US2	V5		0 95	02624	04223	21	04052	03001
	MJ	0000	US2		0 96	02625	04224	45	00000	04052
LNx	MJO		L+3	FLOATING POINT	1	02626	04225	45	00000	04230
	MSO		L+1	NATURAL LOGARITHM	2	02627	04226	56	00000	04227
LNx2	MJO		FILL	USING FIXED POINT		02630	04227	45	00000	30000
	TP	Q	A	ARITHMETIC THIS	4	02631	04230	11	31000	32000
	SJ	L+2	L+1	ROUTINE OCCUPIES	5	02632	04231	46	04233	04232
	ZJ	L+4	L+1	77 CELLS INCLUDING	6	02633	04232	47	04236	04233
	RS	Q	Q	3 TEMPORARIES AND	7	02634	04233	25	31000	31000
	SP	L+50		20 CONSTANTS	8	02635	04234	31	04316	00000
	MJO		L-7		9	02636	04235	45	00000	04226
	LTO	9	L+45		10	02637	04236	22	00011	04313
	LQ	A	35		11	02640	04237	55	32000	00045
	TP	Q	L+44		12	02641	04240	11	31000	04314

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RP2 7 L+2  
 TJ L+46 L+2  
 TP L+52 Q  
 SP L+52  
 ST Q  
 SA L+51 15  
 TU A L+4  
 TP L+35 A  
 SS L+49 3  
 AT Q L+33  
 TP FILL Q  
 SP Q  
 SA L+31 35  
 LTO L+31  
 SP L+29  
 SS Q 37  
 DV L+28 L+28  
 MP Q  
 SS A 31  
 MP A L+40  
 LT I A  
 AT L+39 L+22  
 MP Q L+21  
 LTO A  
 AT L+22 Q  
 MP Q L+19  
 LTO 3 A  
 MA L+15 L+34  
 TP A Q  
 ZJ L+1 L+39  
 SF A L+28  
 LTO 28 Q  
 TP L+26 A  
 TJ L+29 L+2  
 SS L+29  
 AT L+29 L+7  
 TP Q A  
 SJ L+1 L+2  
 TN L+4 L+4  
 LQ L+3 27  
 AT Q Q  
 MJO L-51  
 B  
 TM FILL FILL  
 TM FILL FILL  
 B 465072010101  
 B 200000000000  
 B 21345340/440  
 B 230157701214  
 B 245775534516  
 B 265011714640  
 B 305316250212  
 B 327211743125  
 B 352601433477  
 B 17777  
 B 20006  
 B 201 L-10  
 B  
 B 063146314632

13 02642 04241 75 20007 04243  
 14 02643 04242 42 04320 04244  
 15 02644 04243 11 04327 31000  
 16 02645 04244 31 04330 00000  
 17 02646 04245 36 31000 31000  
 18 02647 04246 32 04331 00017  
 19 02650 04247 15 32000 04253  
 20 02651 04250 11 04313 32000  
 21 02652 04251 34 04332 00003  
 22 02653 04252 35 31000 04313  
 23 02654 04253 11 30000 31000  
 24 02655 04254 31 31000 00000  
 25 02656 04255 32 04314 00043  
 26 02657 04256 22 00000 04315  
 27 02660 04257 31 04314 00000  
 28 02661 04260 34 31000 00045  
 29 02662 04261 73 04315 04315  
 30 02663 04262 71 31000 31000  
 31 02664 04263 34 32000 00037  
 32 02665 04264 71 32000 04334  
 33 02666 04265 22 00001 32000  
 34 02667 04266 35 04335 04314  
 35 02670 04267 71 31000 04314  
 36 02671 04270 22 00000 32000  
 37 02672 04271 35 04317 31000  
 38 02673 04272 71 31000 04315  
 39 02674 04273 22 00003 32000  
 40 02675 04274 72 04313 04336  
 41 02676 04275 11 32000 31000  
 42 02677 04276 47 04277 04227  
 43 02700 04277 74 32000 04333  
 44 02701 04300 22 00034 31000  
 45 02702 04301 11 04333 32000  
 46 02703 04302 42 04337 04304  
 47 02704 04303 34 04340 00000  
 48 02705 04304 35 04341 04313  
 49 02706 04305 11 31000 32000  
 50 02707 04306 46 04307 04310  
 51 02710 04307 13 04313 04313  
 52 02711 04310 55 04313 00033  
 53 02712 04311 35 31000 31000  
 54 02713 04312 45 00000 04227  
 55 02714 04313 00 00000 00000  
 56 02715 04314 12 30000 30000  
 57 02716 04315 12 30000 30000  
 58 02717 04316 46 50720 10101  
 59 02720 04317 20 00000 00000  
 60 02721 04320 21 34534 07440  
 61 02722 04321 23 01577 01214  
 62 02723 04322 24 57755 32516  
 63 02724 04323 26 50117 14640  
 64 02725 04324 30 53162 50212  
 65 02726 04325 32 72117 63126  
 66 02727 04326 35 26014 33477  
 67 02730 04327 00 00000 17777  
 68 02731 04330 00 00000 20006  
 69 02732 04331 00 00000 04317  
 70 02733 04332 00 00000 00201  
 71 02734 04333 00 00000 00000  
 72 02735 04334 06 31463 14632

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B	125752527253		
B	26134413700		
B	44		
B	110		
B	175		
LNXA	FM	X	COMPUTE
	TP	Q	DUMP
	FD	Q	F2 X SQUARED
	TP	Q	X2 OVER 2.
	FM	X	DUMP
	TP	Q	DUMP
	FD	Q	F3
	TP	Q	X3
	FM	X	DUMP
	TP	Q	DUMP
	FD	Q	F4
	TP	Q	X4
	FM	X	DUMP
	FD	Q	F5
	FS	Q	X4
	FA	Q	X3
	FS	Q	X2
	FA	Q	X
	TP	Q	LNXB
LNXA2	MJ		FILL
LOLIM	TU	LEI	SUB+1 SET
	TU	LEI	SU9+1 UPPER
	TU	LEI	SU10+1 LIMIT
	TU	LEI	SUB2+1 TO
	TU	LEI	SU92+1 EI.
	TU	LEI	SU102+1
	TV	FILL	SUB+1 SET
	TV	FILL	SU9+1 LOWER
	TV	FILL	SU10+1 LIMIT
	TV	FILL	SUB2+1
	TV	FILL	SU92+1
	TV	FILL	SU102+1
LOLIM2	MJ		FILL
F4	F	4	EI
LEI	EI		EI
LEI1	EI1		EI1
LEK	EK		EK
LEK1	EK1		EK1
LLEI	LEI		LEI
LLEI1	LEI1		LEI1
LLEK	LEK		LEK
LLEK1	LEK1		LEK1
SLOPE1			
SLOPE2			
SLOPE3			
POO1	F	.001	
X2			
X3			
X4			
LNXB			RESULT
LNXC			
PO1	F	.01	
FS	F	5	
HLT9	MS		HLT9

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73	02736	04335	12	52525	25253
74	02737	04336	26	13441	37700
75	02740	04337	00	00000	00044
76	02741	04340	00	00000	00110
77	02742	04341	00	00000	00175
	02743	04342	66	04420	04420
	02744	04343	11	31000	03057
	02745	04344	67	31000	03064
	02746	04345	11	31000	04421
	02747	04346	66	04420	03057
	02750	04347	11	31000	03057
	02751	04350	67	31000	05202
	02752	04351	11	31000	04422
	02753	04352	66	04420	03057
	02754	04353	11	31000	03057
	02755	04354	67	31000	04403
	02756	04355	11	31000	04423
	02757	04356	66	04420	03057
	02760	04357	67	31000	04427
	02761	04360	65	31000	04423
	02762	04361	64	31000	04422
	02763	04362	65	31000	04421
	02764	04363	64	31000	04420
	02765	04364	11	31000	04424
	02766	04365	45	00000	30000
	02767	04366	15	04404	05101
	02770	04367	15	04404	05106
	02771	04370	15	04404	05112
	02772	04371	15	04404	05117
	02773	04372	15	04404	05125
	02774	04373	15	04404	05133
	02775	04374	16	30000	05101
	02776	04375	16	30000	05106
	02777	04376	16	30000	05112
	03000	04377	16	30000	05117
	03001	04400	16	30000	05125
	03002	04401	16	30000	05133
	03003	04402	45	00000	30000
	03004	04403	20	34000	00000
	03005	04404	00	03075	03075
	03006	04405	00	03076	03076
	03007	04406	00	03101	03101
	03010	04407	00	03102	03102
	03011	04410	00	04404	04404
	03012	04411	00	04405	04405
	03013	04412	00	04406	04406
	03014	04413	00	04407	04407
	03015	04414	00	00000	00000
	03016	04415	00	00000	00000
	03017	04416	00	00000	00000
	03020	04417	16	74061	11565
	03021	04420	00	00000	00000
	03022	04421	00	00000	00000
	03023	04422	00	00000	00000
	03024	04423	00	00000	00000
	03025	04424	00	00000	00000
	03026	04425	00	00000	00000
	03027	04426	7	25075	34122
	03030	04427	0	35000	00000
	03031	04430	56	00000	04430

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SUM	MJ	0000	SU1	0327	03032	04431	45	00000	04437
	MS	0008	0000	0328	03033	04432	56	00000	00000
SU2	MJ		FILL	0329	03034	04433	45	00000	30000
SUP1		FILL	FILL	0330	03035	04434	00	30000	30000
SUP2		FILL	FILL	0331	03036	04435	00	30000	30000
SUP3		FILL	FILL	0332	03037	04436	00	30000	30000
SU1	SP	SU2	15		03040	04437	31	04433	00017
	TU	A	SU3	0334	03041	04440	15	32000	04442
SU3A	RPB	3	SU4		03042	04441	75	30003	04443
SU3	TP	FILL	SUP1	0336	03043	04442	11	30000	04434
SU4	TV	SUP1	SU8	0337	03044	04443	16	04434	03100
	SP	SUP1	15		03045	04444	31	04434	00017
	TU	A	SU8	0339	03046	04445	15	32000	03100
	RA	SU8	U2	0340	03047	04446	21	05100	02757
SU4D	TU	SUP2	SU9	0341	03050	04447	15	04435	03105
	LQ	SUP2	A+21		03051	04450	55	04435	32025
	TV	A	SU9	0343	03052	04451	16	32000	03105
	RA	SU9	U2	0344	03053	04452	21	05105	02757
SU4M	TV	SUP3	SU40	0345	03054	04453	16	04436	04625
	TV	SUP2	SU10	0346	03055	04454	16	04435	03111
	SP	SUP2	15		03056	04455	31	04435	00017
	TU	A	SU10	0348	03057	04456	15	32000	03111
	RA	SU10	U2	0349	03060	04457	21	05111	02757
	TV	LSU6F	SW4	0350	03061	04460	16	05214	04751
	TV	LSU7B	SU7A	0351	03062	04461	16	05212	04555
SU43	TP	1	C4	0352	03063	04462	11	00012	03201
SU4N	RS	C4	V1	0353	03064	04463	23	05201	02775
	TU	LENGY	SU14	0354	03065	04464	15	00131	04473
	RA	SU14	U1	0355	03066	04465	21	04473	02756
SU4B	RPV	3	U4BS		03067	04466	75	10003	04470
	TP	ZERO	SUM1	0357	03070	04467	11	03113	03072
U4BS	TP	ZERO	MZIK		03071	04470	11	03113	03220
	TP	ZERO	MNIK	0359	03072	04471	11	03113	03217
SU4A	RPB	2	U14S		03073	04472	75	30002	04474
SU14	TP	FILL	E1	0361	03074	04473	11	30000	03075
U14S	TU	SU14	SU14A		03075	04474	15	04473	04633
	RA	SU14A	U1	0363	03076	04475	21	04633	02756
	TU	LVAL	SU38Y		03077	04476	15	03215	04554
	TV	LSU5X	SU52		03100	04477	16	05226	04572
	TV	LSU6X	SU62		03101	04500	16	05225	04757
	MJ	0000	SU21	0364	03102	04501	45	00000	04711
SU16	TP	E11	A		03103	04502	11	03076	32000
	TJ	EK	SU33		03104	04503	42	03101	04515
	TV	LSU34	ASU39		03105	04504	16	05222	04562
US16	MJ		SU41		03106	04505	45	00000	04624
SU34	FA	SUM1	SUM1A	0368	03107	04506	64	03072	03204
	TP	Q	SUM1	0369	03110	04507	11	31000	03072
	FA	SUM2	SUM2A	0370	03111	04510	64	03073	03205
	TP	Q	SUM2	0371	03112	04511	11	31000	03073
	FA	SUM3	SUM3A	0372	03113	04512	64	03074	03206
	TP	Q	SUM3	0373	03114	04513	11	31000	03074
SU31	RJ	SU31	SU33	0374	03115	04514	37	04514	04515
SU33	RPB	2	U36S		03116	04515	75	30002	04517
SU36	TP	FILL	EK	0376	03117	04516	11	30000	03101
U36S	RPB	2	SU38Z		03120	04517	75	30002	04521
SU37	TP	FILL	SIK	0378	03121	04520	11	30000	03103
SU38Z	FS	EK1	EK	0379	03122	04521	65	03102	03101
	TP	Q	U2LK	0380	03123	04522	11	31000	03211
	TP	EK1	A		03124	04523	11	03102	32000
	TJ	E1	L+3		03125	04524	42	03075	04527

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COMPUTE

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	RPV	6	L+4	EK1 GREATER OR EQ TO EI.	03126	04525	75	10006	04531
	TU	LLET	L+3	SET UPPER LIMIT TO EI.	03127	04526	15	04410	04531
	RPV	6	L+2	EK1 LESS THAN EI.	03130	04527	75	10006	04531
	TU	LLEK1	L+1	SET UPPER LIMIT TO EK1.	03131	04530	15	04413	04531
	TU	FILL	SU8+1	SET	03132	04531	15	30000	05101
	TU	FILL	SU9+1	UPPER	03133	04532	15	30000	05106
	TU	FILL	SU10+1	LIMIT.	03134	04533	15	30000	05112
	TU	FILL	SU82+1		03135	04534	15	30000	05117
	TU	FILL	SU92+1		03136	04535	15	30000	05125
	TU	FILL	SU102+1		03137	04536	15	30000	05133
	TP	E11	A		03140	04537	11	03076	32000
	TJ	EK	L+3		03141	04540	42	03101	04543
	RPV	6	L+4	E11 GREATER OR EQ TO EK.	03142	04541	75	10006	04545
	TU	LLET1	L+3	SET LOWER LIMIT TO E11.	03143	04542	15	04411	04545
	RPV	6	L+2	E11 LESS THAN EK.	03144	04543	75	10006	04545
	TU	LLEK	L+1	SET LOWER LIMIT TO EK.	03145	04544	15	04412	04545
	TV	FILL	SU8+1	SET	03146	04545	16	30000	05101
	TV	FILL	SU9+1	LOWER	03147	04546	16	30000	05106
	TV	FILL	SU10+1	LIMIT.	03150	04547	16	30000	05112
	TV	FILL	SU82+1		03151	04550	16	30000	05117
	TV	FILL	SU92+1		03152	04551	16	30000	05125
	TV	FILL	SU102+1		03153	04552	16	30000	05133
	TP	EK1	A		03154	04553	11	03102	32000
SU38Y	EJ	FILL	SU38X		03155	04554	43	30000	05141
SU7A	MJ		SU7B	0381	03156	04555	45	00000	04556
SU7B	RJ	SUBW	YSUB		03157	04556	37	05077	05034
	TP	E11	A		03160	04557	11	03076	32000
	TJ	EK	SU39A	E11 LESS THAN EK.	03161	04560	42	03101	04563
	MJ		SU3B	E11 GREATER OR EQ TO EK.	03162	04561	45	00000	04612
ASU39	RJ	ASU39	SU39A		03163	04562	37	04562	04563
SU39A	RS	SU36	U1	0385	03164	04563	23	04516	02756
	RS	SU37	U1	0386	03165	04564	23	04520	02756
	RS	SU7D	MNIK	0387	03166	04565	23	04605	05217
	RS	SU7F	MZIK	0388	03167	04566	23	04571	05220
	MJ		SU34	0389	03170	04567	45	00000	04506
SU5A	RPB	2	SU5Z		03171	04570	75	30002	04572
SU7F	TP	FILL	ZIK	0391	03172	04571	11	30000	03107
SU5Z	MJ		FILL		03173	04572	45	00000	30000
SU5X	TP	ZIK	A		03174	04573	11	03107	32000
	ZJ	SU5B	L+1		03175	04574	47	04601	04575
	TV	LSU5Y	SU5Z		03176	04575	16	05223	04572
	MJ		SU5B		03177	04576	45	00000	04601
SU5Y	TP	ZERO	ZIK		03200	04577	11	03113	03107
	MJ		SU5B		03201	04600	45	00000	04601
SU5B	SP	FUP1	3		03202	04601	31	05146	00003
	LTL		A		03203	04602	22	00000	32000
	ZJ	SU5C	SU5E	0394	03204	04603	47	04604	04607
SU5C	RPB	2	U7DS		03205	04604	75	30002	04606
SU7D	TP	FILL	NIK	0396	03206	04605	11	30000	03105
U7DS	MJ		SU7B		03207	04606	45	00000	04556
SU5E	TP	F1	NIK	0398	03210	04607	11	03063	03105
	TP	F1	NIK1	0399	03211	04610	11	03063	03106
	MJ		SU7B	0400	03212	04611	45	00000	04556
SU38	FS	EK1	E11	0401	03213	04612	65	03102	03076
	FD	Q	DELK	0402	03214	04613	67	31000	05211
	TP	Q	FRAC2	0403	03215	04614	11	31000	05071
38SU	FA	SUM1A	SUM1		03216	04615	64	03204	05072
	TP	Q	SUM1		03217	04616	11	31000	05072
	FA	SUM2A	SUM2		03220	04617	64	03205	05073
	TP	Q	SUM2		03221	04620	11	31000	05073

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	FA	SUM3A	SUM3		03222	04621	64	03206	03074	
	TP	Q	SUM3		03223	04622	11	31000	03074	
SU4K	MJ		SU41		0413	03224	45	00000	04624	
SU41	RPB	3	SU39	STORE		03225	04624	75	30003	04626
SU40	TP	SUM1	FILL	RESULTS	0415	03226	04625	11	03072	00000
SU39	RA	SU40	V3	MOD A6	0416	03227	04626	21	04625	02777
39SUA	RJ	39SUA	39SUR		0417	03230	04627	37	04627	04630
39SUB	RPV	3	9SUB3			03231	04630	75	10003	04632
	TP	ZERO	SUM1		0419	03232	04631	11	03113	03072
9SUB3	RPB	2	U14AS			03233	04632	75	30002	04634
SU14A	TP	FILL	EI		0421	03234	04633	11	30000	03075
U14AS	RA	SU14A	U1			03235	04634	21	04633	02756
	TP	EI1	A			03236	04635	11	03076	02000
	TJ	EK	L+2			03237	04636	42	03101	04640
	MJ		39SU			03240	04637	45	00000	04666
	FS	EI	EK		0425	03241	04640	65	03075	03101
	FD	Q	DELK		0426	03242	04641	67	31000	03211
	TP	Q	FRAC2		0427	03243	04642	11	31000	03071
	TU	LEI	SU8+1			03244	04643	15	04404	03101
	TU	LEI	SU9+1			03245	04644	15	04404	03106
	TU	LEI	SU10+1	SET UPPER LIMIT TO EI.		03246	04645	15	04404	03112
	TU	LEI	SU8Z+1			03247	04646	15	04404	03117
	TU	LEI	SU9Z+1			03250	04647	15	04404	03125
	TU	LEI	SU10Z+1			03251	04650	15	04404	03133
	TV	LEK	SU8+1	SET LOWER LIMIT TO EK.		03252	04651	16	04406	03101
	TV	LEK	SU9+1			03253	04652	16	04406	03106
	TV	LEK	SU10+1			03254	04653	16	04406	03112
	TV	LEK	SU8Z+1			03255	04654	16	04406	03117
	TV	LEK	SU9Z+1			03256	04655	16	04406	03125
	TV	LEK	SU10Z+1			03257	04656	16	04406	03133
	RJ	SUBW	YSUB			03260	04657	37	03077	03034
	IJ	C4	ASU39			03261	04660	41	05201	04562
40SU	TV	SU40	SU45		0435	03262	04661	16	04625	04662
SU45	TP	FLAGO	FILL	FLAGO	0436	03263	04662	11	03065	00000
SU41A	RJ	SU41A	SU42		0437	03264	04663	37	04663	04664
SU42	RA	SU2	V3		0438	03265	04664	21	04433	02777
	MJ		SU2	EXIT	0439	03266	04665	45	00000	04433
39SU	FS	EI1	EI1		0440	03267	04666	65	03075	03076
	FD	Q	DELK		0441	03270	04667	67	31000	03211
	TP	Q	FRAC2		0442	03271	04670	11	31000	03071
	TU	LEI	SU8+1			03272	04671	15	04404	03101
	TU	LEI	SU9+1			03273	04672	15	04404	03106
	TU	LEI	SU10+1	SET UPPER LIMIT TO EI.		03274	04673	15	04404	03112
	TU	LEI	SU8Z+1			03275	04674	15	04404	03117
	TU	LEI	SU9Z+1			03276	04675	15	04404	03125
	TU	LEI	SU10Z+1			03277	04676	15	04404	03133
	TV	LEI1	SU8+1	SET LOWER LIMIT TO EI1.		03300	04677	16	04405	03101
	TV	LEI1	SU9+1			03301	04700	16	04405	03106
	TV	LEI1	SU10+1			03302	04701	16	04405	03112
	TV	LEI1	SU8Z+1			03303	04702	16	04405	03117
	TV	LEI1	SU9Z+1			03304	04703	16	04405	03125
	TV	LEI1	SU10Z+1			03305	04704	16	04405	03133
	RJ	SUBW	YSUB			03306	04705	37	03077	03034
	IJ	C4	38SU		0443	03307	04706	41	03201	04615
	TV	L40SU	39SUA		0444	03310	04707	16	03221	04627
	MJ	0000	38SU		0445	03311	04710	45	00000	04615
SU21	TP	MOFA	C3	FIRST	0446	03312	04711	11	05207	03033
	RS	C3	V1		0447	03313	04712	23	03033	02775
	TU	LVAL	SU17		0448	03314	04713	15	03215	04716
	SP	C3	15			03315	04714	31	03033	00017

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AT	SU17	SU17	
SU17	SP	FILL	0000
	TJ	EI	SU18
	TU	SU17	SU17A
SU17A	SP	FILL	0000
	TJ	EI	SU19
	RS	SU17A	UI
	IJ	C3	SU17A
	MS	0000	ERR1
SU18	RS	SU17	UI
	IJ	C3	SU17
ERR1	MS		ERR1
	TP	A	E11 NOT IN
SU19	TU	SU17A	SU20
	RA	SU20	UI
SU20	TP	FILL	EK1
	TU	SU17A	SU36
	RS	SU36	UI
	SP	E11	0000
	TJ	EK	SU22
	TV	C07	SU2R
SU22	FS	EK1	EK
	TP	Q	DELK
	TU	SUP1	SU23
	LQ	C3	A+15
	AT	SU23	SU23
SU5Q	RPB	2	SW4
SU23	TP	FILL	S1K
SW4	MJ	0000	FILL
SU6E	TU	TUP2	SU23A
	LQ	C3	A+15
	AT	SU23A	SU23A
	RPB	2	SU6Z
SU23A	TP	FILL	Z1K
SU6Z	MJ		FILL
SU6X	TP	Z1K	A
	ZJ	SU6B	L+1
	TV	LSU6Y	SU6Z
	TV	LSUSY	SUSZ
	MJ		SU6B
SU6Y	TP	ZERO	Z1K
	MJ		SU6B
SU6B	TU	SU23A	SU7F
	RS	SU7F	UI
	TP	UI	MZ1K
	SP	TUP1	3
	LTL		A
	ZJ	SU6A	SU6D
SU6A	SP	TUP1	15
	TU	A	SU23R
	LQ	C3	A+15
	AT	SU23R	SU23R
	RPB	2	SU6C
SU23B	TP	FILL	NIK
SU6C	TU	SU23R	SU7D
	RS	SU7D	UI
	TP	UI	MNIK
	MJ	0000	SU6F
SU6D	TP	F1	NIK
	TP	F1	NIK1

0450	03316	04715	35	04716	04716
0451	03317	04716	31	00000	00000
0452	03320	04717	42	03075	04726
0453	03321	04720	15	04716	04721
0454	03322	04721	31	00000	00000
0455	03323	04722	42	03075	04731
0456	03324	04723	23	04721	02756
0457	03325	04724	41	03033	04721
0458	03326	04725	56	00000	04730
0459	03327	04726	23	04716	02756
0460	03330	04727	41	03033	04716
0461	03331	04730	56	00000	04730
0462	03332	04731	11	32000	03101
0463	03333	04732	15	04721	04734
0464	03334	04733	21	04734	02756
0465	03335	04734	11	00000	03102
0466	03336	04735	15	04721	04516
0467	03337	04736	23	04516	02756
0468	03340	04737	31	03076	00000
0469	03341	04740	42	03101	04742
0470	03342	04741	16	05213	05013
0471	03343	04742	65	03102	03101
0472	03344	04743	11	31000	03211
0473	03345	04744	15	04434	04750
	03346	04745	55	03033	32017
0475	03347	04746	35	04750	04750
	03350	04747	75	00002	04751
0477	03351	04750	11	00000	03103
0478	03352	04751	45	00000	00000
0479	03353	04752	15	05147	04756
	03354	04753	55	03033	32017
0481	03355	04754	35	04756	04756
	03356	04755	75	00002	04757
0483	03357	04756	11	00000	03107
	03360	04757	45	00000	00000
	03361	04760	11	03107	32000
	03362	04761	47	04767	04762
	03363	04762	16	05224	04757
	03364	04763	16	05223	04572
	03365	04764	45	00000	04767
	03366	04765	11	03113	03107
	03367	04766	45	00000	04767
0484	03370	04767	15	04756	04571
0485	03371	04770	23	04571	02756
0486	03372	04771	11	02756	05220
	03373	04772	31	05146	00003
	03374	04773	22	00000	32000
0489	03375	04774	47	04775	05007
	03376	04775	31	05146	00017
0491	03377	04776	15	32000	05002
	03400	04777	55	03033	32017
0493	03401	05000	35	05002	05002
	03402	05001	75	00002	05003
0495	03403	05002	11	00000	03105
0496	03404	05003	15	05002	04605
0497	03405	05004	23	04605	02756
0498	03406	05005	11	02756	05217
0499	03407	05006	45	00000	05011
0500	03410	05007	11	03063	03105
0501	03411	05010	11	03063	03106

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SU6F	TU	SU23	SU37		0502	03412	05011	15	04750	04520
	RS	SU37	U1		0503	03413	05012	23	04520	02756
SU28	RJ	SU2P	SU29		0504	03414	05013	37	05013	05014
SU29	RPV	0	L+2	E11 LESS THAN EK.		03415	05014	75	10006	05016
	TU	LLEK	LOLIM+6	SET LOWER LIMIT TO E11.		03416	05015	15	04412	04374
	RJ	LOLIM2	LOLIM			03417	05016	37	04402	04366
	FS	E1	EK			03420	05017	65	03075	03101
SU31A	FD	Q	DELK	FRACTION	0506	03421	05020	67	31000	05211
	TP	Q	FRAC3		0507	03422	05021	11	31000	05071
	RJ	SUBW	YSUB			03423	05022	37	05077	05034
	TP	SUM1A	SUM1			03424	05023	11	03204	03072
	TP	SUM2A	SUM2			03425	05024	11	03205	03073
	TP	SUM3A	SUM3			03426	05025	11	03206	03074
	MJ		SU16			03427	05026	45	00000	04502
SU30	RPV	0	L+2	E11 GREATER OR EQ TO EK.		03430	05027	75	10006	05031
	TU	LLE11	LOLIM+6	SET LOWER LIMIT TO E11.		03431	05030	15	04411	04374
	RJ	LOLIM2	LOLIM			03432	05031	37	04402	04366
	FS	E1	E11			03433	05032	65	03075	03076
	MJ		SU31A		0517	03434	05033	45	00000	05020
YSUB	FS	EK1	EK			03435	05034	65	03102	03101
	TP	Q	TEMP			03436	05035	11	31000	05232
	FS	SIK1	SIK			03437	05036	65	03104	03103
	FD	Q	TEMP			03440	05037	67	31000	05232
	TP	Q	SLOPE1			03441	05040	11	31000	04414
	TP	NIK	A			03442	05041	11	03105	32000
	ZJ	L+2	L+1			03443	05042	47	05044	05043
	TP	ZERO	NIK1			03444	05043	11	03113	03106
	FS	NIK1	NIK			03445	05044	65	03106	03105
	FD	Q	TEMP			03446	05045	67	31000	05232
	TP	Q	SLOPE2			03447	05046	11	31000	04415
	FS	ZIK1	ZIK			03450	05047	65	03110	03107
	FD	Q	TEMP			03451	05050	67	31000	05232
	TP	Q	SLOPE3			03452	05051	11	31000	04416
	FM	SLOPE1	EK			03453	05052	66	04414	03101
	TP	Q	SIK2			03454	05053	11	31000	05227
	FS	SIK	SIK2			03455	05054	65	03103	05227
	TP	Q	SIK2			03456	05055	11	31000	05227
	FM	SLOPE2	EK			03457	05056	66	04415	03101
	TP	Q	NIK2			03460	05057	11	31000	05230
	FS	NIK	NIK2			03461	05060	65	03105	05230
	TP	Q	NIK2			03462	05061	11	31000	05230
	TP	ZIK	A			03463	05062	11	03107	32000
	ZJ	L+1	SSET2			03464	05063	47	05064	05072
	FS	ZIK1	ZIK			03465	05064	65	03110	03107
	FD	Q	ZIK			03466	05065	67	31000	03107
	TP	Q	A			03467	05066	11	31000	32000
	TJ	P001	L+2			03470	05067	42	04417	05071
	MJ		SSET2			03471	05070	45	00000	05072
ZSLP3	TP	ZERO	SLOPE3			03472	05071	11	03113	04416
SSET2	FM	SLOPE3	EK			03473	05072	66	04416	03101
	TP	Q	ZIK2			03474	05073	11	31000	05231
	FS	ZIK	ZIK2			03475	05074	65	03107	05231
	TP	Q	ZIK2			03476	05075	11	31000	05231
SUR	MJ	0000	FILL		0518	03477	05076	45	00000	30000
SURW	MJ		FILL		0519	03500	05077	45	00000	30000
SUR	RJ	FILL	FILL		0520	03501	05100	37	30000	30000
		FILL	FILL			03502	05101	00	30000	30000
		SIK2	SLOPE1			03503	05102	00	05227	04414
SU5		FILL	SUM1A		0523	03504	05103	00	30000	05204
SU9A	MJ		SU9		0524	03505	05104	45	00000	05105

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SU9	RJ	FILL	FILL	0525	03506	05105	37	30000	30000
		FILL	FILL		03507	05106	00	30000	30000
		SIK2	SLOPE1		03510	05107	00	05227	04414
SU6		FILL	SUM2A	0528	03511	05110	00	30000	03205
SU10	RJ	FILL	FILL	0529	03512	05111	37	30000	30000
		FILL	FILL		03513	05112	00	30000	30000
		SIK2	SLOPE1		03514	05113	00	05227	04414
SU7		FILL	SUM3A	0532	03515	05114	00	30000	03206
SU12	MJ		SUBW	0533	03516	05115	45	00000	05077
SU#Z	RJ	FILL	FILL	0534	03517	05116	37	30000	30000
		FILL	FILL		03520	05117	00	30000	30000
		SIK2	SLOPE1		03521	05120	00	05227	04414
		NIK2	SLOPE2		03522	05121	00	05230	04415
		ZIK2	SLOPE3		03523	05122	00	05231	04416
		FILL	SUM1A		03524	05123	00	30000	03204
SU9Z	RJ	FILL	FILL	0538	03525	05124	37	30000	30000
		FILL	FILL		03526	05125	00	30000	30000
		SIK2	SLOPE1		03527	05126	00	05227	04414
		NIK2	SLOPE2		03530	05127	00	05230	04415
		ZIK2	SLOPE3		03531	05130	00	05231	04416
		FILL	SUM2A		03532	05131	00	30000	03205
SU10Z	RJ	FILL	FILL	0542	03533	05132	37	30000	30000
		FILL	FILL		03534	05133	00	30000	30000
		SIK2	SLOPE1		03535	05134	00	05227	04414
		NIK2	SLOPE2		03536	05135	00	05230	04415
		ZIK2	SLOPE3		03537	05136	00	05231	04416
		FILL	SUM3A		03540	05137	00	30000	03206
SU12Z	MJ		SUBW	0546	03541	05140	45	00000	05077
SU38X	TV	L40SU	39SUA		03542	05141	16	05221	04627
	MJ		SU4K		03543	05142	45	00000	04623
TUM	MJ		TU1	0547	03544	05143	45	00000	05152
	MS			0548	03545	05144	56	00000	00000
TU2	MJ		FILL	0549	03546	05145	45	00000	30000
TUP1		FILL	FILL	0550	03547	05146	00	30000	30000
TUP2		FILL	FILL	0551	03550	05147	00	30000	30000
TUP3		FILL	FILL	0552	03551	05150	00	30000	30000
TUP4		FILL	FILL	0553	03552	05151	00	30000	30000
TU1	SP	TU2	15		03553	05152	31	05145	00017
	TU	A	TU3	0555	03554	05153	15	32000	05155
	RPB	4	TU3A		03555	05154	75	30004	05156
TU3	TP	FILL	TUP1	0557	03556	05155	11	30000	05146
TU3A	TV	TUP2	SUBZ	0558	03557	05156	16	05147	05116
	SP	TUP2	15		03560	05157	31	05147	00017
	TU	A	SUBZ	0560	03561	05160	15	32000	05116
	RA	SUBZ	U2	0561	03562	05161	21	05116	02757
	TU	TUP3	SU9Z	0562	03563	05162	15	05150	05124
	LQ	TUP3	A+21		03564	05163	55	05150	32025
	TV	A	SU9Z	0564	03565	05164	16	32000	05124
	RA	SU9Z	U2	0565	03566	05165	21	05124	02757
	TV	TUP3	SU10Z	0566	03567	05166	16	05150	05132
	SP	TUP3	15		03570	05167	31	05150	00017
	TU	A	SU10Z	0568	03571	05170	15	32000	05132
	RA	SU10Z	U2	0569	03572	05171	21	05132	02757
	TV	LSU6E	SW4	0570	03573	05172	16	05215	04751
	TV	LSU5A	SU7A	0571	03574	05173	16	05216	04555
	TV	TUP4	SU40	0572	03575	05174	16	05151	04625
	TP	TUP1	SUP1	0573	03576	05175	11	05146	04434
	RJ	SU41A	SU43	0574	03577	05176	37	04663	04462
	RA	TU2	V4	0575	03600	05177	21	05145	03000
	MJ		TU2	0576	03601	05200	45	00000	05145

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C4				03602	05201	00	0000	00000
F3	F	3		03603	05202	20	26000	00000
COB			SU21	03604	05203	00	00000	04711
ELEM				03605	05204	00	00000	00000
NAME				03606	05205	00	00000	00000
ALPHA				03607	05206	00	00000	00000
MOFA				03610	05207	00	00000	00000
DELK				03611	05210	00	00000	00000
LSU7B	0	0000	SU7R	03612	05211	00	00000	00000
CO7			SU30	0624 03613	05212	00	00000	04556
LSU6F			SU6F	03614	05213	00	00000	05027
LSU6E			SU6E	03615	05214	00	00000	05011
LSUSA			SUSA	03616	05215	00	00000	04752
MNIK				03617	05216	00	00000	04570
MZIK				03620	05217	00	00000	00000
L40SU	0	40SU	40SU	03621	05220	00	00000	00000
LSU34			SU34	0637 03622	05221	00	04661	04661
LSU5Y			SU5Y	03623	05222	00	00000	04506
LSU6Y			SU6Y	03624	05223	00	00000	04577
LSU6X			SU6X	03625	05224	00	00000	04765
LSU5X			SU5X	03626	05225	00	00000	04760
SIK2				03627	05226	00	00000	04573
NIK2				03630	05227	00	00000	00000
ZIK2				03631	05230	00	00000	00000
TEMP				03632	05231	00	00000	00000
TEMP1				03633	05232	00	00000	00000
LLAST			LAST	03634	05233	00	00000	00000
LAST	XS3	DMM 05	10B)	03635	05234	00	00000	05235
	SETL			03636	05235	27	47470	00310
IDEN				03637	00010	00	00000	00000
N				03640	00011	00	00000	00000
I				03641	00012	00	00000	00000
B				03642	00013	00	00000	00000
R		0000	0000	0006 03643	00014	00	00000	00000
S		0000	0000	0007 03644	00015	00	00000	00000
Y				03645	00016	00	00000	00000
		0000	0000	0008 03646	00017	00	00000	00000
INF1		0000	0000	0009 03647	00020	00	00000	00000
INF2		0000	0000	0010 03650	00021	00	00000	00000
INF3		0000	0000	0011 03651	00022	00	00000	00000
INF4		0000	0000	0012 03652	00023	00	00000	00000
INF5		0000	0000	0013 03653	00024	00	00000	00000
INF6		0000	0000	0014 03654	00025	00	00000	00000
INF7		0000	0000	0015 03655	00026	00	00000	00000
INF8		0000	0000	0016 03656	00027	00	00000	00000
INF9		0000	0000	0017 03657	00030	00	00000	00000
INF10		0000	0000	0018 03660	00031	00	00000	00000
INF11		0000	0000	0019 03661	00032	00	00000	00000
INF12		0000	0000	0020 03662	00033	00	00000	00000
		0000	0000	0021 03663	00034	00	00000	00000
RHO		0000	0000	0022 03664	00035	00	00000	00000
VARI				03665	00036	00	00000	00000
KKK				03666	00037	00	00000	00000
NOM				03667	00040	00	00000	00000
		0000	0000	0023 03670	00041	00	00000	00000
PSUBO	F	3.12	13	03671	00042	25	57060	12073
YSUBX	F	3	-3	03672	00043	17	06111	56457
YSUBI	F	5.6	-2	03673	00044	17	47126	01014
YSUBP	F	1.4	-2	03674	00045	17	27126	01014
								FX-CHANGE CON+MESH+PS
								FX-REGION INDEX
								FX-ISOTOPE INDEX
								FISSIONS-KW+SEC
								XE135 ATOMS-FISSION
								I135 ATOMS-FISSION
								PR149 ATOMS-FISSION

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LAMXE	F	2.1	-5	PROB-SEC DECAY XE135	03675	00046	16	15402	44501
LAMI	F	2.9	-5	PROB-SEC DECAY I135	03676	00047	16	17464	24065
LAMPR	F	4.1	-6	PROB-SEC DECAY PR149	03677	00050	15	74231	12733
RZERO	F			0 FIRST MESH POINT	03700	00051	00	00000	00000
TIME	F			0 CURRENT TIME	03701	00052	00	00000	00000
EPSIL	F	•00001		•00001 CONV CRIT REAC	03702	00053	00	00000	00000
EPS2	F	•00001		•00001 CONV CRIT POWER	03703	00054	16	05174	26542
EPS3	F	•00001		•00001 CONV CRIT ZERO	03704	00055	16	05174	26542
EPS4	F	•00001		•00001	03705	00056	16	05174	26542
K0	F	1.0		1.0 DESIRED REACTIVITY	03706	00057	16	05174	26542
OMEGA	F			DIFF. ACCEL. FACTOR	03707	00060	20	14000	00000
UZDK	F	1.0		DZ-OK FIRST GUESS	03710	00061	00	00000	00000
QQ	F	0000	0000	POWER DENSITY KW-CM3	03711	00062	20	14000	00000
DELTS	F			TIME SINCE SHUTDOWN SEC	0036 03712	00063	00	00000	00000
UTMAX	F				03713	00064	00	00000	00000
TAPE1	B	1		PROGRAM TAPE	03714	00065	00	00000	00000
TAPE2	B	2		BASIC LIBRARY TAPE	03715	00066	00	00000	00000
TAPE3	B	3		MICRO GROUP TAPE NEW	03716	00067	00	00000	00000
TAPE4	B	4		NUCLEAR CONSTANT TAPE	03717	00070	00	00000	00001
TAPE5	B	5		MICRO GROUP TAPE OLD	03720	00071	00	00000	00002
TAPE6	B	6		RAW DATA TAPE	03721	00072	00	00000	00003
TAPE7	B	7		INTERMEDIATE TAPE	03722	00073	00	00000	00004
TAPE8	B	10		OUTPUT TAPE	03723	00074	00	00000	00005
TAPE9	B	11		DUMP TAPE	03724	00075	00	00000	00006
TAPE10	B	12		OMM SERVICE LIBRARY	03725	00076	00	00000	00007
DIA1		0000	0000		03726	00077	00	00000	00010
DIA2		0000	0000		03727	00100	00	00000	00011
DIA3		0000	0000		03730	00101	00	00000	00012
DIA4		0000	0000		0045 03731	00102	00	00000	00000
DIA5		0000	0000		0046 03732	00103	00	00000	00000
DIA6		0000	0000		0047 03733	00104	00	00000	00000
DIA7		0000	0000		0048 03734	00105	00	00000	00000
DIA8		0000	0000		0049 03735	00106	00	00000	00000
DIA9		0000	0000		0050 03736	00107	00	00000	00000
DIA10		0000	0000		0051 03737	00110	00	00000	00000
DIA11		0000	0000		0052 03740	00111	00	00000	00000
DIA12		0000	0000		0053 03741	00112	00	00000	00000
DIA13		0000	0000		0054 03742	00113	00	00000	00000
DIA14		0000	0000		0055 03743	00114	00	00000	00000
DIA15		0000	0000		0056 03744	00115	00	00000	00000
DIA16		0000	0000		0057 03745	00116	00	00000	00000
DIA17		0000	0000		0058 03746	00117	00	00000	00000
DIA18		0000	0000		0059 03747	00120	00	00000	00000
LISOP	RSRV	3	3		0060 03750	00121	00	00000	00000
LENGY	RSRV	3	3		0061 03751	00122	00	00000	00000
LAKBK	RSRV	3	3		0062 03752	00123	00	00000	00000
LRDIF	RSRV	3	3		0063 03753	00124	00	00000	00000
LPTS	RSRV	3	3		03754	00125	00	00000	00000
LREGN	RSRV	3	3		03755	00126			
LBSUO	RSRV	3	3		03760	00131			
LBSUN	RSRV	3	3		03763	00134			
LPHI	RSRV	3	3		03766	00137			
LCAPP	RSRV	3	3		03771	00142			
LPBKI	RSRV	3	3		03774	00145			
LSFKI	RSRV	3	3		03777	00150			

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LMESH	RSRV	3	3	04021	00172		
LBRMX	RSRV	3	3	04024	00175		
LPHKI	RSRV	3	3	04027	00200		
LNSMT	RSRV	3	3	04032	00203		
LNJET	RSRV	3	3	04035	00206		
LCAPD	RSRV	3	3	04040	00211		
LCAPT	RSRV	3	3	04043	00214		
LCPTI	RSRV	3	3	04046	00217		
LCAPF	RSRV	3	3	04051	00222		
LXKI	RSRV	3	3	04054	00225		
LMFKI	RSRV	3	3	04057	00230		
LPDIF	RSRV	3	3	04062	00233		
LKPXE	RSRV	3	3	04065	00236		
LLKIA	RSRV	3	3	04070	00241		
LLKIB	RSRV	3	3	04073	00244		
LNFKI	RSRV	3	3	04076	00247		
LNLP	RSRV	3	3	04101	00252		
LNSKI	RSRV	3	3	04104	00255		
LNDKI	RSRV	3	3	04107	00260		
LNFP	RSRV	3	3	04112	00263		
LNCKI	RSRV	3	3	04115	00266		
LNPKI	RSRV	3	3	04120	00271		
LNPKI	RSRV	3	3	04123	00274		
LNKE	RSRV	3	3	04126	00277		
LNKL	RSRV	3	3	04131	00302		
LSHUF	RSRV	3	3	04134	00305		
CRCO1	B			04137	00310	00	00000 00000
Z3	RSRV	3	3	04140	00311		
Z2	RSRV	3	3	04143	00314		
Z1	RSRV	3	3	04146	00317		
Z				04151	00322	00	00000 00000
DELTA	F			04152	00323	00	00000 00000
MU				04153	00324	00	00000 00000
BLOCK	B			04154	00325	00	00000 00000
NOCI	B			04155	00326	00	00000 00000
MNOO1	B			04156	00327	00	00000 00000
MNOO2	B			04157	00330	00	00000 00000
SUBR	RSRV	9	9	04160	00331		
MLM1	RSRV	4	4	04171	00342		
DRUM	B			04175	00346	00	00000 00000
MINCE	B			04176	00347	00	00000 00000
ISO				04177	00350	00	00000 00000
MARK1				04200	00351	00	00000 00000
MARK2				04201	00352	00	00000 00000
K3				04202	00353	00	00000 00000
STAGAT				04203	00354	00	00000 00000
INDEXS				04204	00355	00	00000 00000
OTWICE				04205	00356	00	00000 00000
ADMCFE	RSRV	3	3	04206	00357		
1STBP				04211	00362	00	00000 00000
DELTAT				04212	00363	00	00000 00000
LOKI	EQLS	LCAPD					
LTKI	EQLS	LCAPF					
LTKIJ	EQLS	LCPTI					
LFKI	EQLS	LCAPF					
LMKI	EQLS	LMFKI					
BK	EQLS	SUBR+3					
BK2	EQLS	SUBR+5					
WRITE	EQLS	SUBR+6					
WR2	EQLS	SUBR+8					

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ALLOK. EQLS SUBR.  
ALL2 EQLS SUBR+2  
END

00000

TABLE V-2F

## NUCLEAR-CONSTANTS PREPARER

	SETL	I	14003				
	X53	DMM 06		00001	01400	27	47470 00311
NCON	MJ	0000	CLEAR	00002	01401	45	00000 01404
	MS	0000	0000	00003	01402	56	00000 00000
NCON2	MJ	0000	FILL	00004	01403	45	00000 30000
CLEAR	TO	S	SP1	00005	01404	11	00015 03570
	RA	SP1	V1	00006	01405	21	03570 03644
	SP	TAPE3	12	00007	01406	31	00072 00014
	AT	CDUMP	DUMP99	00010	01407	35	03243 03244
	TO	TAPE4	MARK2	00011	01410	11	00073 00352
	TV	MIK11	MT3	00012	01411	16	03560 02027
	TV	MIK23	NL2	00013	01412	16	03562 02145
	TV	MIK25	NEXTG	00014	01413	16	03555 02007
	TO	B	BTEST	00015	01414	11	00013 03516
CL433	TU	PARM1	CL44	00016	01415	15	03571 01416
CL44	SP	FILL	0000	00017	01416	31	30000 00000
CL45	ZJ	THEZ	THENC	00020	01417	47	01504 01420
THENC	TO	HELP	NEXTA	00021	01420	11	03543 01776
	SP	TAPE3	30	00022	01421	31	00072 00036
	TO	A	RO1	00023	01422	11	32000 01741
	TO	A	COMB1	00024	01423	11	32000 01746
	TO	A	ROB88	00025	01424	11	32000 01757
	TO	A	RDC88	00026	01425	11	32000 01762
	TO	A	RDD88	00027	01426	11	32000 01765
	TO	A	RDE88	00028	01427	11	32000 01770
	TO	A	RDF88	00029	01430	11	32000 01773
	SP	TAPE4	30	00022	01431	31	00073 00036
	TO	A	ITLD2	00023	01432	11	32000 01622
	TO	A	WRIT8	00024	01433	11	32000 01661
	TO	VO	BUTST	00025	01434	11	03624 03521
	TO	VO	TIJCN	00026	01435	11	03624 03615
	TO	VO	PBCNT	00027	01436	11	03624 03573
	TO	VO	NCBMP	00040	01437	11	03624 03563
	TP	I	IPLS3	00041	01440	11	00012 03607
	RA	IPLS3	V3	00042	01441	21	03607 03646
	TP	IPLS3	IPLS2	00043	01442	11	03607 03606
	RS	IPLS2	V1	00044	01443	23	03606 03644
	MP	I	R	00045	01444	71	00012 00014
	TO	A	RI	00046	01445	11	32000 03602
	TO	RI	SAM	00047	01446	11	03602 03605
	RA	RI	V1	00050	01447	21	03602 03644
	TO	I	HELL	00051	01450	11	00012 03536
	RS	HELL	V1	00052	01451	23	03536 03644
	MP	I	HELL	00053	01452	71	00012 03536
	DV	V2	HELL	00054	01453	73	03645 03536
	TO	HELL	HELL9	00055	01454	11	03536 03542
	MP	HELL9	V3	00056	01455	71	03542 03646
	AT	V1	HELL9	00057	01456	35	03644 03542
	MP	HELL	R	00060	01457	71	03536 00014
	AT	V1	HELL	00061	01460	35	03644 03536
	TO	HELL	JONES	00062	01461	11	03536 03546
	RA	JONES	V1	00063	01462	23	03546 03644
	TO	I	TEMP1	00064	01463	11	00012 03612
	MP	V3	TEMP1	00065	01464	71	03646 03612
	TO	A	TEMP1	00066	01465	11	32000 03612
	RA	TEMP1	V1	00067	01466	21	03612 03644
	TO	TEMP1	HELL1	00070	01467	11	03612 03537
	TO	I	HELL3	00071	01470	11	00012 03540
	RA	HELL2	V1	00072	01471	21	03540 03644
	MP	R	V4	00073	01472	71	00014 03647

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9 IS SCAT  
HELL IS TJ

TABLE V-2F  
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	AT	V1	HELL8		00044	01473	35	03644	03541	
	SP	LLAST			00075	01474	31	04126	00000	
	TJ	MINCE	TPMC		00076	01475	42	00347	01501	
	TP	LLAST	CORE1		00077	01476	11	04126	03751	
	RA	CORE1	V1		00100	01477	21	03751	03644	
	MJ		ALKIN		00101	01500	45	00000	01507	
TPMC	TP	MINCE	CORE1		00102	01501	11	00347	03751	
	RA	CORE1	V1		00103	01502	21	03751	03644	
	MJ	0000	ALKIN		00104	01503	45	00000	01507	
THEZ	TV	MIK22	NL?		00105	01504	16	03561	02145	
	TV	MIKE6	NEXTG		00106	01505	16	03556	02007	
	MJ	0000	THEMC		00107	01506	45	00000	01420	
ALKIN	RJ	ALL2	ALLOR		00110	01507	37	00333	00331	
	O	CORE1	DRUM1		00111	01510	00	03751	03750	NUP
	O	VARBL	0000		00112	01511	00	03776	00000	NUP
	TU	ZPKI	HAR1		00113	01512	15	03742	01514	
	RA	HAR1	U1		00114	01513	21	01514	03625	
HAR1	TU	FILL	HAR3		00115	01514	15	30000	01527	
HAR1	TU	FILL	HAR3		00115	01514	15	30000	01527	
	TV	LP3KI	HAR3		00116	01515	16	00164	01527	
	TV	LAKBK	EAKBK		00117	01516	16	00134	01754	
	TU	LAKBK+1	EAKBK		00118	01517	15	00135	01754	
	LO	V7777B	A+15		00121	01520	55	03564	32017	
	SP	HELL8	15		00122	01521	31	03541	00017	
	QS	A	BKAR		00123	01522	53	32000	01753	
	SP	RI	15		00124	01523	31	03602	00017	
	TU	A	HAR2		00125	01524	15	32000	01526	
	RA	HAR2	UUU3		00126	01525	21	01526	03740	
HAR2	R0B	FILL	L+2	BRING IN PBKI	00127	01526	75	60000	01530	
HAR3	TP	FILL	FILL	MATRIX	00120	01527	11	30000	30000	
	TP	I	IIIII		00121	01530	11	00012	03757	
	RA	IIIII	V3		00122	01531	21	03757	03646	
	SP	IIIII	15		00123	01532	31	03757	00017	
	TU	A	HAR4		00124	01533	15	32000	01541	
	TU	ZENGY	HAR5		00125	01534	15	03744	01536	
	RA	HAR5	U1		00126	01535	21	01536	03625	
HAR5	TU	FILL	HAR6		00127	01536	15	30000	01542	
	TV	LENGY	HAR6		00140	01537	16	00131	01542	
	RA	HAR4	UUU3		00141	01540	21	01541	03740	
HAR4	R0B	FILL	L+2	BRING IN	00142	01541	75	60000	01543	
HAR6	TP	FILL	FILL	ENGY	00143	01542	11	30000	30000	
	MP	S	I		00144	01543	71	00015	00012	
	SP	A	15		00145	01544	31	32000	00017	
	TU	A	HAR15		00146	01545	15	32000	01553	
	TU	ZSFKI	HAR17		00147	01546	15	03743	01550	
	RA	HAR17	U1		00120	01547	21	01550	03625	
HAR17	TU	FILL	HAR16		00121	01550	15	30000	01554	
	TV	LSFKI	HAR16		00122	01551	16	00167	01554	
	RA	HAR15	UUU3		00123	01552	21	01553	03740	
HAR15	R0B	FILL	L+2	BRING IN	00124	01553	75	60000	01555	
HAR16	TP	FILL	FILL	SFKI	00125	01554	11	30000	30000	
HAR16	TP	FILL	FILL	SFKI	00125	01554	11	30000	30000	
	RS	IIIII	V1		00126	01555	23	03757	03644	
	MP	R	IIIII		00127	01556	71	00014	03757	
	SP	A	15		00120	01557	31	32000	00017	
	TU	A	HAR9		00101	01560	15	32000	01566	
	TU	ZPHKI	HAR8		00102	01561	15	03745	01563	
	RA	HAR8	U1		00103	01562	21	01563	03625	
HAR8	TU	FILL	HAR10		00104	01563	15	30000	01567	
	TV	LPHKI	HAR10		00105	01564	16	00200	01567	

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	RA	HAR9	UUU3		00196 01565	21	01566	03740
HAR9	RFB	FILL	L+2	BRING IN	00197 01566	75	60000	01570
HAR10	TP	FILL	FILL	PHKI	00170 01567	11	30000	30000
	MP	B	9		00171 01570	71	00013	00014
	SP	A	15		00172 01571	31	32000	00017
	TU	A	HAR13		00173 01572	15	32000	01600
	TU	ZBRMX	HAR12		00174 01573	15	03746	01575
	RA	HAR12	U1		00175 01574	21	01575	03625
HAR12	TU	FILL	HAR14		00176 01575	15	30000	01601
	TV	LERMA	HAR14		00177 01576	16	00175	01601
	RA	HAR13	UUU3		00200 01577	21	01600	03740
HAR13	RFB	FILL	L+2	BRING IN THE	00201 01600	75	60000	01602
HAR14	TP	FILL	FILL	BRMX	00202 01601	11	30000	30000
HAR20	SP	B	15		00203 01602	31	00013	00017
	TU	A	HAR22		00204 01603	15	32000	01611
	TU	ZISOP	HAR21		00205 01604	15	03747	01606
	RA	HAR21	U1		00206 01605	21	01606	03625
HAR21	TU	FILL	HAR23		00207 01606	15	30000	01612
	TV	LISOP	HAR23		00210 01607	16	00126	01612
	RA	HAR22	UUU3		00211 01610	21	01611	03740
HAR22	RFB	FILL	L+2	BRING ISOP	00212 01611	75	60000	01613
HAR23	TP	FILL	FILL		00213 01612	11	30000	30000
	TU	PARM1	CHRIG		00214 01613	15	03571	01614
CHRIG	SP	FILL	0000		00215 01614	31	30000	00000
	ZJ	CHRIY	COMM		00216 01615	47	01616	01711
CHRIY	TU	MXC100	L+1		00217 01616	15	01626	01617
ITLD3	TU	FILL	L+1		00220 01617	15	30000	01620
	TV	FILL	ITLD2		00221 01620	16	30000	01622
ITLDH	RJ	BK2	BK		00222 01621	37	00336	00334
ITLD2			FILL		00223 01622	00	00000	30000
	MJ		CHRTX		00224 01623	45	00000	01633
	RA	ITLD3	U1		00225 01624	21	01617	03625
	MJ		ITLD3		00226 01625	45	00000	01617
MXC100		LDKI			00227 01626	00	00211	00000
MXC101		LTKI			00220 01627	00	00214	00000
		LTKIJ			00221 01630	00	00217	00000
		LFKI			00222 01631	00	00222	00000
		LMKI			00223 01632	00	00230	00000
CHRIX	RPV	4	L+2		00224 01633	75	10004	01635
	TV	LDKI	UNDO		00225 01634	16	00211	01640
	MP	R	I		00226 01635	71	00014	00012
	ST	V1	RIM1		00227 01636	36	03644	03574
	TP	RIM1	RIMX		00240 01637	11	03574	03601
UNDO	FM	F3	FILL		00241 01640	66	03533	30000
	TP	Q	FILL		00242 01641	11	31000	30000
	FP	F1	FILL		00243 01642	67	03532	30000
	TP	Q	FILL		00244 01643	11	31000	30000
	REU	4	L+2		00245 01644	75	20004	01646
	RA	UNDO	V1		00246 01645	21	01640	03644
	IJ	RIMX	UNDO		00247 01646	41	03601	01640
	RJ	WIN2	WINOE	REWIND NUCN TAPE	00220 01647	37	03235	03233
	MJ	0000	COMM		00221 01640	45	00000	01711
LEAVE	MP	R	I	EXIT	00222 01651	71	00014	00012
	AT	V1	VLADO		00223 01652	35	03644	03621
	SP	VLADO	15		00224 01653	31	03621	00017
	TU	A	WRIT8		00225 01654	15	32000	01661
	TV	LDKI	WRIT8		00226 01655	16	00211	01661
	LS	MIK11	A+21		00227 01656	55	03560	32024
	TV	Q	WRIT9		00200 01657	16	31000	01662
WRITE	RJ	WR2	BRITE		00201 01660	37	00341	00337

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WRIT8		FILL	FILL		00292	01661	00	30000	30000
WRIT9	MJ	0000	FILL	WRIT7	00293	01662	45	00000	30000
WRIT7	TV	LTKI	WRIT8		00294	01663	16	00214	01661
	RA	WRIT9	V3		00295	01664	21	01662	03646
	MJ	0000	WRITE		00296	01665	45	00000	01660
	SP	HELL	15		00297	01666	31	03536	00017
	TV	A	WRIT8		00298	01667	15	32000	01661
	RA	WRIT9	V5		00299	01670	21	01662	03650
	TV	LTKIJ	WRIT8		00272	01671	16	00217	01661
	MJ	0000	WRITE		00273	01672	45	00000	01660
	TV	LFKI	WRIT8		00274	01673	16	00222	01661
	SP	VLADO	15		00275	01674	31	03621	00017
	TV	A	WRIT8		00276	01675	15	32000	01661
	RA	WRIT9	V5		00277	01676	21	01662	03650
	MJ	0000	WRITE		00300	01677	45	00000	01660
	TV	LXKI	WRIT8		00301	01700	16	00225	01661
	RA	WRIT9	V3		00302	01701	21	01662	03646
	MJ	0000	WRITE		00303	01702	45	00000	01660
	TV	LMKI	WRIT8		00304	01703	16	00230	01661
	RA	WRIT9	V3		00305	01704	21	01662	03646
	MJ	0000	WRITE		00306	01705	45	00000	01660
	RJ	REW2	REWIND	REWIND	00307	01706	37	03226	03224
	RJ	WIN2	WIND	BOTH TAPES	00310	01707	37	03235	03233
	MJ	0000	NCOM2		00311	01710	45	00000	01403
COMM	TV	LFIS	RDB88		00312	01711	16	04104	01757
	TV	LNUI	RDC88		00313	01712	16	04107	01762
	TV	LSCAT	RDB88		00314	01713	16	04112	01765
	TV	LTRAN	RDE88		00315	01714	16	04120	01770
	TV	LTOTL	RDF88		00316	01715	16	04115	01773
	TV	LXET	RD1		00317	01716	16	04101	01741
	TV	LINDI	COM81		00340	01717	16	04123	01746
	TV	DUD	RDF99		00341	01720	16	03525	01775
COMM1	TV	PARM1	COMM2		00342	01721	15	03571	01722
COMM2	SP	FILL	0000		00343	01722	31	30000	00000
	ZJ	COMM4	COMM9		00344	01723	47	01724	01736
COMM4	TV	PARM2	COMM6		00345	01724	15	03572	01725
COMM6	TP	FILL	BM1		00346	01725	11	30000	03517
	RS	BM1	V1		00347	01726	23	03517	03644
	MP	V10	BM1		00320	01727	71	03655	03517
	AT	V2	BM1		00321	01730	35	03645	03517
COMM8	EF		DUMP99		00322	01731	17	00000	03244
	IJ	BM1	COMM8		00323	01732	41	03517	01731
	TV	MTKE9	MT3		00324	01733	16	03565	02027
	TV	MIKE1	RDF99		00325	01734	16	03553	01775
	MJ	0000	RDA		00326	01735	45	00000	01743
COMM9	EF		DUMP99	PASS 2ST 2 BLOCKS	00327	01736	17	00000	03244
	EF		DUMP99		00340	01737	17	00000	03244
RDX	RJ	BK2	BK		00341	01740	37	00336	00334
RD1			FILL		00342	01741	00	00000	30000
	MJ		GIN		00343	01742	45	00000	02342
RDA	IJ	BTEST	L+2		00344	01743	41	03516	01745
	MJ		GIN		00345	01744	45	00000	02342
	RJ	BK2	SK		00346	01745	37	00336	00334
COM81			FILL	INDIK BLOCK	00347	01746	00	00000	30000
	MJ		GIN		00320	01747	45	00000	02342
	EF		DUMP99		00321	01750	17	00000	03244
	EF		DUMP99		00322	01751	17	00000	03244
	EF		DUMP99		00323	01752	17	00000	03244
BKAB	R9B		L+2		00324	01753	75	30000	01755
EAKBK	TP	FILL	FILL		00325	01754	11	30000	30000

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	EF		DUMBO		00326	01755	17	00000	03244
	RJ	BK2	BK		00327	01756	37	00336	00334
RDB88			FILL		00328	01757	00	00000	30000
	MJ		GIN		00329	01760	45	00000	02342
	RJ	BK2	BK		00322	01761	37	00336	00334
RDC88			FILL		00323	01762	00	00000	30000
	MJ		GIN		00324	01763	45	00000	02342
	RJ	BK2	BK		00325	01764	37	00336	00334
RDD88			FILL		00326	01765	00	00000	30000
	MJ		GIN		00327	01766	45	00000	02342
	RJ	BK2	BK		00328	01767	37	00336	00334
RDE88			FILL		00329	01770	00	00000	30000
	MJ		GIN		00332	01771	45	00000	02342
	RJ	BK2	BK		00333	01772	37	00336	00334
RDF88		0	FILL		00334	01773	00	00000	30000
	MJ		GIN		00335	01774	45	00000	02342
RDF99	MJ	0000	FILL		00336	01775	45	00000	30000
NEXTA	TV	MARY	RDF99		00337	01776	16	03551	01775
	MJ	0000	RDA		00400	01777	45	00000	01743
NEXTR	RA	NL1	U4		00401	02000	21	02142	03630
	RA	EAKBK	U4		00402	02001	21	01754	03630
	TU	NL1	NE1		00403	02002	15	02142	02003
NE1	SP	FILL	0000		00404	02003	31	30000	00000
	EJ	FLAGU	NEXTH		00405	02004	43	03530	02006
	MJ	0000	NNL1		00406	02005	45	00000	02141
NEXTH	RA	EAKBK	U1		00407	02006	21	01754	03625
NEXTG	MJ	0000	FILL		00410	02007	45	00000	30000
MUCK	TU	LEIN	SC221		00411	02010	15	04076	02300
	TV	LPHKI	SC221		00412	02011	16	00200	02300
	TU	LSCAT	SC223		00413	02012	15	04112	02302
	TV	LENGY	SC223		00414	02013	16	00131	02302
	TU	LTRAN	SS1		00415	02014	15	04120	02237
	TV	LTOTL	SS1		00416	02015	16	04115	02237
	TV	LFISS	SS2		00417	02016	16	04104	02240
	TU	LEIN	SS3		00420	02017	15	04076	02241
	TV	LPHKI	SS3		00421	02020	16	00200	02241
	TU	LENGY	SS6		00422	02021	15	00131	02244
THEIN	TV	LEIN	MT2		00423	02022	16	04076	02026
	TU	LENGY	MT2		00424	02023	15	00131	02026
MT	RJ	EINV2	EINV		00425	02024	37	02421	02417
MT1	0	I	0000		00426	02025	00	00012	00000
MT2	0	FILL	FILL		00427	02026	00	30000	30000
MT3	MJ	0000	FILL		00430	02027	45	00000	30000
NCX	TP	I	AAA	START XK1	00431	02030	11	00012	03677
	RS	AAA	V1		00432	02031	23	03677	03644
	SP	R	15		00433	02032	31	00014	00017
	TU	A	XK3		00434	02033	15	32000	02045
	RA	XK3	VVV1		00435	02034	21	02045	03622
	TH	LENGY	XK1		00436	02035	15	00131	02042
	TV	LENGY	XK1		00437	02036	16	00131	02042
	RA	XK1	U1V2		00440	02037	21	02042	03673
	TU	LXE1	XK2		00441	02040	15	04101	02044
	TV	LXKI	XK4		00442	02041	16	00225	02046
XK1	FS	FILL	FILL	ENGY ENGY	00443	02042	65	30000	30000
	TP	0	E1		00444	02043	11	31000	03763
XK2	FD	FILL	E1	XE1	00445	02044	67	30000	03763
XK3	RPV	FILL	L+2	R	00446	02045	75	40000	02047
XK4	TP	0	FILL	XK1	00447	02046	11	31000	30000
	RA	XK2	U1		00450	02047	21	02044	03625
	RA	XK4	R		00451	02050	21	02046	00014

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	RA	XK1	U1V1		00432	02051	21	02042	03663
	IJ	AAA	XK1		00433	02052	41	03677	02042
	TV	LXKI	XK5		00434	02053	16	00225	02055
	RA	XK5	SAM		00435	02054	21	02055	03605
XK5	TP	FLAGU	FILL	END XKO	00436	02055	11	03530	30000
BUCK	MP	R	I		00437	02056	71	00014	00012
	TP	A	PBCNT		00438	02057	11	32000	03573
	SP	PBCNT	15		00439	02060	31	03573	00017
	TP	A	PBCNT		00440	02061	11	32000	03573
	TU	PBCNT	PBIN		00441	02062	15	03573	02066
	RA	PBIN	UUU3		00442	02063	21	02066	03740
	TU	LPBK1	P1		00443	02064	15	00164	02067
	TV	LTKI	P1		00444	02065	16	00214	02067
PBIN	RPB	FILL	L+2		00445	02066	75	60000	02070
P1	TP	FILL	FILL		00446	02067	11	30000	30000
	TV	P1	P2		00447	02070	16	02067	02072
	RA	P2	SAM		00448	02071	21	02072	03605
P2	TP	FLAGU	FILL		00449	02072	11	03530	30000
	TU	PBCNT	CLERD		00450	02073	15	03573	02076
	RA	CLERD	VVV1		00451	02074	21	02076	03622
	TV	LDKI	OGRE		00452	02075	16	00211	02077
CLERD	RPV	FILL	L+2		00453	02076	75	40000	02100
OGRE	TP	FO	FILL		00500	02077	11	03531	30000
	TV	OGRE	OGR8		00501	02100	16	02077	02102
	RA	OGR8	SAM		00502	02101	21	02102	03605
OGR8	TP	FLAGU	FILL		00503	02102	11	03530	30000
	TU	PRCNT	CLERM		00504	02103	15	03573	02106
	RA	CLERM	VVV1		00505	02104	21	02106	03622
	TV	LMKI	OGR6		00506	02105	16	00230	02107
CLERM	RPV	FILL	L+2		00507	02106	75	40000	02110
OGR6	TP	FO	FILL		00510	02107	11	03531	30000
	TV	OGR6	OGR7		00511	02110	16	02107	02112
	RA	OGR7	SAM		00512	02111	21	02112	03605
OGR7	TP	FLAGU	FILL		00513	02112	11	03530	30000
	TU	PBCNT	CLERF		00514	02113	15	03573	02116
	RA	CLERF	VVV1		00515	02114	21	02116	03622
	TV	LFKI	ORGY		00516	02115	16	00222	02117
CLERF	RPV	FILL	L+2		00517	02116	75	40000	02120
ORGY	TP	FO	FILL		00520	02117	11	03531	30000
	TV	ORGY	ORGB		00521	02120	16	02117	02122
	RA	ORGB	SAM		00522	02121	21	02122	03605
ORGB	TP	FLAGU	FILL		00523	02122	11	03530	30000
	TP	BELL	BELL		00524	02123	11	03536	03520
	SP	BELL	15		00525	02124	31	03520	00017
	TP	A	BELL		00526	02125	11	32000	03520
	TU	BELL	CTKIJ		00527	02126	15	03520	02131
	RA	CTKIJ	VVV1		00528	02127	21	02131	03622
	TV	LTKIJ	OGLE		00529	02130	16	00217	02132
CTKIJ	RPV	FILL	L+2		00532	02131	75	40000	02133
OGLE	TP	FO	FILL		00533	02132	11	03531	30000
	TV	OGLE	OGLE		00534	02133	16	02132	02135
	RA	OGLE	JONES		00535	02134	21	02135	03546
OGL8	TP	FLAGU	FILL		00536	02135	11	03530	30000
NXL1	RJ	CODE2	CODER	ENTER DECODER	00537	02136	37	03263	03264
		TEST2	FILL		00540	02137	00	03251	30000
NXL666	TU	LAKBK	NL1		00541	02140	15	00134	02142
NNL1	RPB	4	L+2		00542	02141	75	30004	02143
NLI	TP	FILL	NLK		00543	02142	11	30000	03752
	TP	NLK3	NLKX		00544	02143	11	03755	03756
	RS	NLKX	V1		00545	02144	23	03736	03644

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NL2	MJ	0000	FILL	00546	02145	45	00000	30000	
NL3	TP	NLXX	NLK7	00547	02146	11	03736	03737	
	LO	NLKZ	15	00550	02147	55	03737	00017	
	SO	PARM2	15	00551	02150	31	03572	00017	
NL4	TU	A	NL4	00552	02151	15	32000	02153	
	RA	NL4	NLK7	00553	02152	21	02153	03737	
	TP	FILL	NLK1	00554	02153	11	30000	03753	
NL5	MJ	0000	NL9	00555	02154	45	00000	02166	
	TP	NLK	NLKZ	00556	02155	11	03752	03737	
	RS	NLKZ	V1	00557	02156	23	03737	03644	
NL6	MP	R	NLK7	00560	02157	71	00014	03737	
	TP	A	NLKZ	00561	02160	11	32000	03737	
	RA	NLKZ	NLKX	00562	02161	21	03737	03736	
NL9	LO	NLKZ	15	00563	02162	55	03737	00017	
	TU	LBRMX	NL6	00564	02163	15	00175	02165	
	RA	NL6	NLK7	00565	02164	21	02165	03737	
NL9	TP	FILL	NLK1	00566	02165	11	30000	03753	
	TV	LFKI	ZF1	00567	02166	16	00222	02255	
	TV	LPKI	ZF2	00568	02167	16	00222	02256	
NL9	TV	LTKI	T01	00571	02170	16	00214	02265	
	TV	LTKI	T02	00572	02171	16	00214	02266	
	TV	LTKIJ	S1	00573	02172	16	00217	02310	
NL9	TV	LTKIJ	S2	00574	02173	16	00217	02311	
	TV	LDKI	T1	00575	02174	16	00211	02261	
	TV	LDKI	T2	00576	02175	16	00211	02262	
NL9	TV	LMKI	MKI2	00577	02176	16	00230	02252	
	TV	LMKI	MKI3	00600	02177	16	00230	02253	
	TV	LNKI	N1	00601	02200	16	04107	02254	
NL9	TP	NLK3	NCBMP	00602	02201	11	03755	03563	
	RS	NCBMP	V1	00603	02202	23	03563	03644	
	RA	ZF1	NCBMP	00604	02203	21	02255	03563	
NL9	RA	ZF2	NCBMP	00605	02204	21	02256	03563	
	RA	T1	NCBMP	00606	02205	21	02261	03563	
	RA	T2	NCBMP	00607	02206	21	02262	03563	
NL9	RA	T01	NCBMP	00610	02207	21	02265	03563	
	RA	T02	NCBMP	00611	02210	21	02266	03563	
	RA	S1	NCBMP	00612	02211	21	02310	03563	
NL9	RA	S2	NCBMP	00613	02212	21	02311	03563	
	RA	MKI2	NCBMP	00614	02213	21	02252	03563	
	RA	MKI3	NCBMP	00615	02214	21	02253	03563	
LISI	TU	LSFKI	FIS	00616	02215	15	00167	02246	
	TU	LSFKI	TRA	00617	02216	15	00167	02257	
	TU	LSFKI	TOT	00620	02217	15	00167	02263	
LISI	TP	NLK2	ORE	00621	02220	11	03754	03567	
	RS	ORE	V1	00622	02221	23	03567	03644	
	MP	I	ORE	00623	02222	71	00012	03567	
LISI	TP	A	ORE	00624	02223	11	32000	03567	
	SO	ORE	15	00625	02224	31	03567	00017	
	TP	A	ORE	00626	02225	11	32000	03567	
LISI	TP	V1	HEMA	00627	02226	11	03644	03544	
	SO	HEMA	15	00620	02227	31	03544	00017	
	TP	A	HEMA	00621	02230	11	32000	03544	
LISI	RA	FIS	ORE	00622	02231	21	02246	03567	
	RA	TRA	ORE	00623	02232	21	02257	03567	
	RA	TOT	ORE	00624	02233	21	02263	03567	
JAZBO	TP	NLK3	KKKKK	00625	02234	11	03755	03756	
	TP	V1	IIIII	00626	02235	11	03644	03757	
	TP	MRES2	MRES	00627	02236	37	02623	02621	
SIGMA	TP	FILL	FILL	00640	02237	00	30000	30000	NUP
	SS2	0	0000	FILL	00641	02240	00	00000	30000

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SS3	Q	FILL	FILL	00642	02241	00	30000	30000	NOP
SS4	Q	KKKKK	IIIII	00643	02242	00	03756	03757	NOP
SS5	Q	BUTST	I	00644	02243	00	03521	00012	NOP
SS6	Q	FILL	FILL	00645	02244	00	30000	30000	NOP
FIS	TP	E1	RRR	00646	02245	11	03763	03577	
	FM	FILL	SIG	00647	02246	66	30000	03767	
	FM	Q	NLKI	00648	02247	66	31000	03753	
	FM	Q	E1	00649	02250	66	31000	03763	DELTA E
TP	Q	RRPR	00652	02251	11	31000	03600		
MKT2	FA	Q	FILL	00653	02252	64	31000	30000	
MKT3	TP	Q	FILL	00654	02253	11	31000	30000	MPKI
N1	FM	RRRR	FILL	00655	02254	66	03600	30000	
ZF1	FA	Q	FILL	00656	02255	64	31000	30000	
ZF2	TP	Q	FILL	00657	02256	11	31000	30000	
TRA	FM	FILL	SIG2	00660	02257	66	30000	03771	
T1	FM	Q	NLKI	00661	02260	66	31000	03753	
	FA	Q	FILL	00662	02261	64	31000	30000	
T2	TP	Q	FILL	00663	02262	11	31000	30000	
TOY	FM	FILL	SIG4	00664	02263	66	30000	03773	
TO1	FM	Q	NLKI	00665	02264	66	31000	03753	
	FA	Q	FILL	00666	02265	64	31000	30000	
TO2	TP	Q	FILL	00667	02266	11	31000	30000	
	TP	R	LOWR	00670	02267	11	00014	03550	
	SP	IIIII	0000	00671	02270	31	03757	00000	
EJ	VI		MAY	00672	02271	43	03644	02315	
	TU	LSFKI	SCAB	00673	02272	15	00167	02304	
RA	SCAB		ORE	00674	02273	21	02304	03567	
TP	IIIII		TIJCN	00675	02274	11	03757	03615	
RS	TIJCN		V2	00676	02275	23	03615	03645	
TP	VI		JJJ	00677	02276	11	03644	03774	
SCA	KJ	SCTR2	SCTR	00700	02277	37	03034	03033	
SCZZ1	Q	FILL	FILL	00701	02300	00	30000	30000	NOP
SCZZ2	Q	NLK3	0000	00702	02301	00	03755	00000	NOP
SCZZ3	Q	FILL	FILL	00703	02302	00	30000	30000	NOP
SCZZ4	Q	IIIII	JJJ	00704	02303	00	03757	03774	NOP
SCAB	FM	FILL	SIG3	00705	02304	66	30000	03772	
S1	FM	Q	NLKI	00706	02305	66	31000	03753	
	FM	Q	E1	00707	02306	66	31000	03763	
	FD	Q	RRR	00710	02307	67	31000	03577	
S2	FA	Q	FILL	00711	02310	64	31000	30000	
	TP	Q	FILL	00712	02311	11	31000	30000	
KAY	IJ	TIJCN	MORE	00713	02312	41	03615	02335	
	RA	S1	LOWR	00714	02313	21	02310	03550	
MAY	RA	S2	LOWR	00715	02314	21	02311	03550	
	RA	T2	LOWR	00716	02315	21	02262	03550	
RA	T1	LOWR		00717	02316	21	02261	03550	
RA	MK12	LOWR		00720	02317	21	02252	03550	
RA	MK13	LOWR		00721	02320	21	02253	03550	
RA	TRA	HEMA		00722	02321	21	02257	03544	
RA	ZF1	LOWR		00723	02322	21	02255	03550	
RA	ZF2	LOWR		00724	02323	21	02256	03550	
RA	PIS	HEMA		00725	02324	21	02246	03544	
RA	TO1	LOWR		00726	02325	21	02265	03550	
RA	TO2	LOWR		00727	02326	21	02266	03550	
RA	TOT	HEMA		00730	02327	21	02263	03544	
RED88	RA	N1	VI	00731	02330	21	02254	03644	
	SP	I	0000	00732	02331	31	00012	00000	
EJ	IIIII		NEXTR	00733	02332	43	03757	02000	
	RA	IIIII	VI	00734	02333	21	03757	03644	
	MJ	0000	SIGMA	00735	02334	45	00000	02236	

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MORE	RA	S2	LOWR	00726	02335	21	02311	03550
	RA	S1	LOPP	00727	02336	21	02310	03550
	RA	SCAB	HEMA	00740	02337	21	02304	03544
	RA	JJJ	V1	00741	02340	21	03774	03644
	MJ	0000	SCA	00742	02341	45	00000	02277
GIN	RPV	4	L+2	00743	02342	75	10004	02344
	TV	LK1	AND	00744	02343	16	00211	02346
	MP	R	I	00745	02344	71	00014	00012
	ST	V1	RIM1	00746	02345	36	03644	03574
AND	PA	P3	FILL	00747	02346	66	03533	30000
	TO	0	FILL	00720	02347	11	31000	30000
	FO	F1	FILL	00721	02350	67	03532	30000
	TO	0	FILL	00722	02351	11	31000	30000
	ROU	4	L+2	00723	02352	75	20004	02354
	RA	AND	V1	00724	02353	21	02346	03644
	IJ	RIM1	AND	00725	02354	41	03574	02346
ENUG	TP	R	COUNTX	00726	02355	11	00014	02411
	RS	COUNTX	V1	00727	02356	23	02411	03644
	SP	R	15	00728	02357	31	00014	00017
	TO	A	COUNTW	00729	02360	11	32000	02414
	TU	LFKI	ENUGA	00722	02361	15	00222	02363
	TO	VO	TALY	00723	02362	11	03624	02415
ENUGA	TP	FILL	A	00724	02363	11	30000	32000
	ZJ	L+1	L+5	00725	02364	47	02365	02371
	RA	ENUGA	V1	00726	02365	21	02363	03625
	RA	TALY	V1	00727	02366	21	02415	03644
	IJ	COUNTX	ENUGA	00728	02367	41	02411	02363
	MJ		TONIC	00729	02370	45	00000	02416
	TP	I	COUNTY	00722	02371	11	00012	02412
	RS	COUNTY	V2	00723	02372	23	02412	03645
	TU	ENUGA	ENUGG	00724	02373	15	02363	02375
	RA	ENUGG	COUNTW	00725	02374	21	02375	02414
ENUGG	TP	FILL	A	00726	02375	11	30000	32000
	ZJ	ENUGA+2	L+1	00727	02376	47	02365	02377
	IJ	COUNTY	ENUGG-1	01000	02377	41	02412	02374
	TV	LXKI	ENUGB	01001	02400	16	00225	02404
	TO	I	COUNTZ	01002	02401	11	00012	02413
	RS	COUNTZ	V1	01003	02402	23	02413	03644
	RA	ENUGB	TALY	01004	02403	21	02404	02415
ENUGB	TP	VO	FILL	01005	02404	11	03624	30000
	RA	L=1	R	01006	02405	21	02404	00014
	IJ	COUNTZ	ENUGB	01007	02406	41	02413	02404
	RA	ENUGG	R	01008	02407	21	02375	00014
	MJ		ENUGA+2	01009	02410	45	00000	02365
COUNTX				01010	02411	00	00000	00000
COUNTY				01011	02412	00	00000	00000
COUNTZ				01012	02413	00	00000	00000
COUNTW				01013	02414	00	00000	00000
TALY				01014	02415	00	00000	00000
TONIC	MJ	0000	LEAVE	01015	02416	45	00000	01651
EINV	MJ	0000	BEGIN	01016	02417	45	00000	02422
	MS	0000	0000	01017	02420	56	00000	00000
EINV2	MJ	0000	FILL	01018	02421	45	00000	30000
BEGIN	SP	EINV2	15	01019	02422	31	02421	00017
	TU	A	BE1	01020	02423	15	32000	02424
BE1	SP	FILL	0000	01021	02424	31	30000	00000
	TU	A	BE2	01022	02425	15	32000	02426
BE2	TO	FILL	ITER1	01023	02426	11	30000	03710
	TU	BE2	AAS	01024	02427	15	02426	02467
	RA	EINV2	V1	01025	02430	21	02421	03644

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	SP	EINV2	15	01022	02431	31	02421	00017
	TU	A	BE22	01023	02432	15	32000	02433
BE22	SP	FILL	0000	01024	02433	31	30000	00000
	TV	A	AB	01025	02434	16	32000	02520
	TU	A	AA	01026	02435	15	32000	02445
	TP	A	Q	01027	02436	11	32000	31000
	LO	Q	21	01040	02437	55	31000	00025
	TV	Q	AA	01041	02440	16	31000	02445
	RA	AA	U1	01042	02441	21	02445	03625
	TP	VI	ICOUN	01043	02442	11	03644	03735
	SP	V1	0000	01044	02443	31	03644	00000
	EJ	ICOUN	AAT	01045	02444	43	03735	02451
AA	FA	FILL	FILL	01046	02445	64	30000	30000
	FD	Q	F2	01047	02446	67	31000	03534
	TP	Q	AAA	01050	02447	11	31000	03677
	MJ	0000	AAX	01051	02450	45	00000	02455
AAT	TU	AA	AAT2	01052	02451	15	02445	02453
	TV	AA	AAT2	01053	02452	16	02445	02453
AAT2	FA	FILL	FILL	01054	02453	64	30000	30000
	TP	Q	AAA	01055	02454	11	31000	03677
AAX	TU	AA	AA1	01056	02455	15	02445	02460
	TV	AA	AAT	01057	02456	16	02445	02460
	RA	AA1	V2	01060	02457	21	02460	03645
AA1	FA	FILL	FILL	01061	02460	64	30000	30000
	FD	Q	F2	01062	02461	67	31000	03534
	TP	Q	BBB	01063	02462	11	31000	03700
	TU	AA	AA2	01064	02463	15	02445	02470
	TV	AA	AA2	01065	02464	16	02445	02470
	RA	AA2	UIV3	01066	02465	21	02470	03674
	SP	ICOUN	0000	01067	02466	31	03735	00000
AAS	EJ	FILL	AAS1	01070	02467	43	30000	02474
AA2	FA	FILL	FILL	01071	02470	64	30000	30000
	FD	Q	F2	01072	02471	67	31000	03534
	TP	Q	CCC	01073	02472	11	31000	03701
	MJ	0000	XAA	01074	02473	45	00000	02500
AAS1	TU	AA2	AAS3	01075	02474	15	02470	02476
	TV	AA2	AAS3	01076	02475	16	02470	02476
AAS3	FA	FILL	FILL	01077	02476	64	30000	30000
	TP	Q	CCC	01100	02477	11	31000	03701
XAA	FS	BBB	AAA	01101	02500	65	03700	03677
	TP	Q	DIFF	01102	02501	11	31000	03702
	FS	CCC	AAA	01103	02502	65	03701	03677
	TP	Q	DIFF1	01104	02503	11	31000	03703
	FS	CCC	BBB	01105	02504	65	03701	03700
	TP	Q	DIFF2	01106	02505	11	31000	03704
	FA	CCC	BBB	01107	02506	64	03701	03700
	TP	Q	DIFF3	01110	02507	11	31000	03705
	FA	CCC	AAA	01111	02510	64	03701	03677
	TP	Q	DIFF4	01112	02511	11	31000	03706
	FA	BBB	AAA	01113	02512	64	03700	03677
	TP	Q	DIFF5	01114	02513	11	31000	03707
	FM	DIFF	DIFF1	01115	02514	66	03702	03703
	FM	Q	DIFF2	01116	02515	66	31000	03704
	TP	Q	QUATL	01117	02516	11	31000	03712
	FD	F1	QUATL	01120	02517	67	03532	03712
AB	TP	Q	FILL	01121	02520	11	31000	30000
	TV	AB	AB1	01122	02521	16	02520	02525
	RA	AB1	V1	01123	02522	21	02525	03644
	FM	AAA	DIFF3	01124	02523	66	03677	03705
	FM	Q	DIFF2	01125	02524	66	31000	03704

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AB1	FM	Q	FILL	01146	02525	13	31000	30000
	TV	AB1	AB2	01147	02526	16	02525	02532
	RA	AB2	V1	01150	02527	21	02532	03644
	FM	BBB	DIFF4	01151	02530	66	03700	03706
	FM	Q	DIFF1	01152	02531	66	31000	03703
AB2	TP	Q	FILL	01153	02532	11	31000	30000
	TV	AB2	AB3	01154	02533	16	02532	02537
	RA	AB3	V1	01155	02534	21	02537	03644
	FM	DIFF3	DIFF	01156	02535	66	03707	03702
	FM	Q	CCC	01157	02536	66	31000	03701
AB3	TN	Q	FILL	01140	02537	13	31000	30000
	TV	AB3	AB4	01141	02540	16	02537	02546
	RA	AB4	V1	01142	02541	21	02546	03644
	FM	AAA	BBB	01143	02542	66	03677	03700
	FM	Q	CCC	01144	02543	66	31000	03701
	TP	Q	TEMP8	01145	02544	11	31000	03711
	FM	TEMP8	DIFF2	01146	02545	66	03711	03704
AB4	TP	Q	FILL	01147	02546	11	31000	30000
	TV	AB4	AB5	01150	02547	16	02546	02552
	RA	AB5	V1	01151	02550	21	02552	03644
	FM	TEMP8	DIFF1	01152	02551	66	03711	03703
AB5	TN	Q	FILL	01153	02552	13	31000	30000
	TV	AB5	AB6	01154	02553	16	02552	02556
	RA	AB6	V1	01155	02554	21	02556	03644
	FM	TEMP8	DIFF	01156	02555	66	03711	03702
AB6	TP	Q	FILL	01157	02556	11	31000	30000
	TV	AB6	AB7	01160	02557	16	02556	02562
	RA	AB7	V1	01161	02560	21	02562	03644
	FM	AAA	DIFF2	01162	02561	66	03677	03704
AB7	TP	Q	FILL	01163	02562	11	31000	30000
	TV	AB7	AB8	01164	02563	16	02562	02566
	RA	AB8	V1	01165	02564	21	02566	03644
	FM	BBB	DIFF1	01166	02565	66	03700	03703
AB8	TN	Q	FILL	01167	02566	13	31000	30000
	TV	AB8	AB9	01170	02567	16	02566	02572
	RA	AB9	V1	01171	02570	21	02572	03644
	FM	CCC	DIFF	01172	02571	66	03701	03702
AB9	TP	Q	FILL	01173	02572	11	31000	30000
	TV	AB	BULT	01174	02573	16	02520	02602
	LO	AB	A+15	01175	02574	55	02520	32017
	TIJ	A	BULT	01176	02575	15	32000	02602
	RA	BULT	U1	01177	02576	21	02602	03625
	TP	V8	DUMP	01200	02577	11	03653	03523
	TV	AB	STAR	01201	02600	16	02520	02603
	RA	STAR	V1	01202	02601	21	02603	03644
BULT	FM	FILL	FILL	01203	02602	66	30000	30000
STAR	TP	Q	FILL	01204	02603	11	31000	30000
	RA	BULT	U1	01205	02604	21	02602	03625
	RA	STAR	V1	01206	02605	21	02603	03644
	IJ	DUMP	BULT	01207	02606	41	03523	02602
	TV	AB	L+1	01210	02607	16	02520	02610
	TP	F1	FILL	01211	02610	11	03532	30000
	SP	ICOUN		01212	02611	31	03735	00000
	EJ	ITEST	THRU	01213	02612	43	03710	02617
	RA	ICOUN	V1	01214	02613	21	03735	03644
	RA	AA	U1V1	01215	02614	21	02445	03663
	RA	AB	V10	01216	02615	21	02520	03655
	M-I	0000	AA	01217	02616	45	00000	02445
THRU	RA	EINV2	V1	01220	02617	21	02421	03644
	M-J	0000	EINV2	01221	02620	45	00000	02421

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MRES	MJ	0000	SETIN	01242	02621	45	00000	02632	
	MS	0000	0000	01243	02622	56	00000	00000	
MRES2	M.I	0000	FILL	01244	02623	45	00000	30000	
SET1	0	FILL	FILL	01245	02624	00	30000	30000	NUP
SET2	0	0000	FILL	01246	02625	00	00000	30000	NUP
SET3	0	FILL	FILL	01247	02626	00	30000	30000	NUP
SET4	0	FILL	FILL	01248	02627	00	30000	30000	NUP
SET5	0	FILL	FILL	01249	02630	00	30000	30000	NUP
SET6	0	FILL	FILL	01242	02631	00	30000	30000	NUP
SETIN	SP	MRES2	IS	01243	02632	31	02623	00017	
	TU	A	SET	01244	02633	15	32000	02653	
	TP	VO	II	01245	02634	11	03624	03722	
	TP	VO	C1	01246	02635	11	03624	03760	
	TP	VO	C2	01247	02636	11	03624	03761	
	TP	VC	C3	01240	02637	11	03624	03762	
	TP	VO	SIG	01241	02640	11	03624	03767	
	TP	VO	SIG1	01242	02641	11	03624	03770	
	TP	VO	SIG2	01243	02642	11	03624	03771	
	TP	VO	SIG4	01244	02643	11	03624	03773	
	TP	VO	JAZZ	01245	02644	11	03624	03723	
	TP	VO	DEM	01246	02645	11	03624	03775	
	TP	VO	CCNY	01247	02646	11	03624	03724	
	TP	VO	IJCN	01240	02647	11	03624	03725	
	TP	VO	INVP	01241	02650	11	03624	03726	
	TP	VO	KIBMP	01242	02651	11	03624	03727	
	RDB	6	L+2	01243	02652	75	30006	02654	
SET	TP	FILL	SET1	01244	02653	11	30000	02624	
	TV	SET4	OKK2	01245	02654	16	02627	02720	
	TV	SET2	FISX	01246	02655	16	02625	02754	
	TV	CSET	CE1	01247	02656	16	03730	02734	
	TU	SET5	BU	01240	02657	15	02630	02765	
	TV	SET1	TTO	01241	02660	16	02624	03007	
	LD	SET1	Z1	01242	02661	55	02624	00025	
	TV	Q	TR	01243	02662	16	31000	03002	
	TV	SET4	ALPHA	01244	02663	16	02627	02664	
ALPHA	MP	V3	FILL	01245	02664	71	03646	30000	
	TP	A	IJCN	01246	02665	11	32000	03725	
	TU	SET3	CEVAL	01247	02666	15	02626	02733	
	TV	SET3	CEVAL	01240	02667	16	02626	02733	
	TU	SET4	OKK1	01241	02670	15	02627	02707	
	TV	SET4	OKK1	01242	02671	16	02627	02715	
	SP	SET4	IS	01243	02672	31	02627	00017	
	TU	A	AL1	01244	02673	15	32000	02674	
AL1	TP	FILL	JAZZ	01245	02674	11	30000	03723	
	TV	JAZZ	II	01246	02675	16	03723	03722	
	SP	JAZZ	IS	01247	02676	31	03723	00017	
	TU	A	II	01300	02677	15	32000	03722	
	TU	SET6	BET1	01301	02700	15	02631	02706	
	TV	SET6	CAP1	01302	02701	16	02631	02772	
	LD	SET6	Z1	01303	02702	55	02631	00025	
	TV	Q	BET1	01304	02703	16	31000	02706	
	RA	BET1	II	01305	02704	21	02706	03722	
BETA	R.J	DELE2	DELE	01306	02705	37	03167	03165	
BET1	0	FILL	FILL	01307	02706	00	30000	30000	NUP
OKK1	TP	FILL	KIBMP	01310	02707	11	30000	03727	
	RS	KIBMP	V1	01311	02710	23	03727	03644	
	TP	I	JOE	01312	02711	11	00012	03731	
	RA	JOE	V2	01313	02712	21	03731	03645	
OKK	MP	KIBMP	JOE	01314	02713	71	03727	03731	
	TP	A	KIBMP	01315	02714	11	32000	03727	

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OKK1	RA	KIBMP	FILL	01316	02715	21	03727	30000
	RA	CEVAL	KIBMP	01317	02716	21	02733	03727
	RS	CEVAL	V1	01320	02717	23	02733	03644
OKK2	MP	V10	FILL	01321	02720	71	03655	30000
	TP	A	INVBP	01322	02721	11	32000	03726
	RS	INVBP	V9	01323	02722	23	03726	03654
	SP	INVBP	0000	01324	02723	31	03726	00000
	LTR	15	INVBP	01325	02724	22	10017	03726
	RA	CEVAL	INVBP	01326	02725	21	02733	03726
	TJ	CEVAL	CE2	01327	02726	15	02733	02740
	RS	CE2	U1	01330	02727	23	02740	03625
	TP	V2	CCNT	01331	02730	11	03645	03724
OKK3A	TP	VO	Q	01332	02731	11	03624	31000
OKK3	R0B	3	L+2	01333	02732	75	30003	02734
CEVAL	FT	FILL	FILL	01334	02733	02	30000	30000
CE1	TP	Q	FILL	01335	02734	11	31000	30000
	RA	CEVAL	U3	01336	02735	21	02733	03627
	TV	CE1	CE2	01337	02736	16	02734	02740
	TV	CE1	CE3	01340	02737	16	02734	02741
CE2	FM	FILL	FILL	01341	02740	66	30000	30000
CE3	TP	Q	FILL	01342	02741	11	31000	30000
	RA	CE1	V1	01343	02742	21	02734	03644
	IJ	CCNT	OKK3A	01344	02743	41	03724	02731
	TP	VO	Q	01345	02744	11	03624	31000
DENOX	R0B	3	L+2	01346	02745	75	30003	02747
DDE2	FT	C1	E1	01347	02746	02	03760	03763
	TP	Q	DEN	01350	02747	11	31000	03775
	RS	I3CN	V3	01351	02750	23	03725	03644
	RA	FISX	I3CN	01352	02751	21	02754	03725
	TP	VO	Q	01353	02752	11	03624	31000
	R0B	3	L+2	01354	02753	75	30003	02755
FISX	FT	C1	FILL	01355	02754	02	03760	30000
	FD	Q	DEN	01356	02755	67	31000	03775
	TP	Q	SIG	01357	02756	11	31000	03767
	TP	SIG	A	01350	02757	11	03767	32000
	S1	L+1	BU	01361	02760	46	02761	02765
	SP	FISX	15	01362	02761	31	02754	00017
	TII	A	L+1	01363	02762	15	32000	02763
	FD	FILL	E1	01364	02763	67	30000	03763
	TP	Q	SIG	01365	02764	11	31000	03767
BU	SP	FILL	0000	01366	02765	31	30000	00000
	ZJ	CAP	TRO	01367	02766	47	02767	02777
CAP	RA	CAP1	I3CN	01370	02767	21	02772	03725
	TP	VO	Q	01371	02770	11	03624	31000
	R0B	3	L+2	01372	02771	75	30003	02773
CAP1	FT	C1	FILL	01373	02772	02	03760	30000
	TP	Q	SIG1	01374	02773	11	31000	03770
	FD	SIG1	DEN	01375	02774	67	03770	03775
	TP	Q	SIG1	01376	02775	11	31000	03770
	MJ	0000	OUT	01377	02776	45	00000	03031
TRO	RA	TR	I3CN	01400	02777	21	03002	03725
	TP	VO	Q	01401	03000	11	03624	31000
	R0B	3	L+2	01402	03001	75	30003	03003
TR	FT	C1	FILL	01403	03002	02	03760	30000
	TP	Q	SIG2	01404	03003	11	31000	03771
	RA	TTO	I3CN	01405	03004	21	03007	03725
	TP	VO	Q	01406	03005	11	03624	31000
	R0B	3	L+2	01407	03006	75	30003	03010
TTO	FT	C1	FILL	01410	03007	02	03760	30000
	TP	Q	SIG4	01411	03010	11	31000	03773

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	FD	SIG2	DEN	01412	03011	67	03771	03775	
	TP	Q	SIG2	01413	03012	11	31000	03771	
	TP	SIG2	A	01414	03013	11	03771	32000	
	SJ	L+1	L+5	01415	03014	46	03015	03021	
	SP	TR	15	01416	03015	31	03002	00017	
	TU	A	L+1	01417	03016	15	32000	03017	
	FD	FILL	E1	01420	03017	67	30000	03763	
	TP	Q	SIG2	01421	03020	11	31000	03771	
	FD	SIG4	DEN	01422	03021	67	03773	03775	
	TP	Q	SIG4	01423	03022	11	31000	03773	
	TP	SIG4	A	01424	03023	11	03773	32000	
	SJ	L+1	OUT	01425	03024	46	03025	03031	
	SP	TTO	15	01426	03025	31	03007	00017	
	TU	A	L+1	01427	03026	15	32000	03027	
	FD	FILL	E1	01420	03027	67	30000	03763	
	TP	Q	SIG4	01421	03030	11	31000	03773	
OUT	RA	MRES2	V6	01422	03031	21	02623	03651	
	MJ	0000	MRES2	01423	03032	45	00000	02623	
SCTR	MJ	0000	SIG31	01424	03033	45	00000	03035	
SCTR2	MJ	0000	FILL	01425	03034	45	00000	30000	
SIG31	SP	SCTR2	15	01426	03035	31	03034	00017	
	TU	A	SIG32	01427	03036	15	32000	03040	
	ROB	4	L+2	01440	03037	75	30004	03041	
SIG32	TP	FILL	SIG88	01441	03040	11	30000	03042	
	MJ	0000	SIG36	01442	03041	45	00000	03046	
SIG88	Q	FILL	FILL	01443	03042	00	30000	30000	NUP
SIG33	Q	FILL	0000	01444	03043	00	30000	00000	NUP
SIG34	Q	FILL	FILL	01445	03044	00	30000	30000	NUP
SIG35	Q	FILL	FILL	01446	03045	00	30000	30000	NUP
SIG36	TU	SIG88	SIG8	01447	03046	15	03042	03101	
	TV	SIG88	SIG8	01420	03047	16	03042	03101	
	TP	I	BUMP	01421	03050	11	00012	03713	
	RA	BUMP	V2	01422	03051	21	03713	03645	
	TU	SIG37	SIG37	01423	03052	15	03043	03053	
SIG37	TP	FILL	BUMPP	01424	03053	11	30000	03714	
	RS	BUMPP	V1	01425	03054	23	03714	03644	
	MP	BUMP	BUMPP	01426	03055	71	03713	03714	
	TP	A	BUMPP	01427	03056	11	32000	03714	
	TV	SIG35	SIG38	01400	03057	16	03045	03060	
SIG38	RA	BUMPP	FILL	01421	03060	21	03714	30000	
	RA	SIG8	BUMPP	01402	03061	21	03101	03714	
SIG39	TP	JJJ	BUMPE	01403	03062	11	03774	03715	
	MP	V10	BUMPE	01404	03063	71	03655	03715	
	TP	A	BUMPE	01405	03064	11	32000	03715	
	RS	BUMPE	V10	01406	03065	23	03715	03655	
	SP	BUMPE	15	01407	03066	31	03715	00017	
	TP	A	BUMPE	01470	03067	11	32000	03715	
	RA	SIG8	BUMPE	01471	03070	21	03101	03715	
	LO	SIG8	A+21	01472	03071	55	03101	32025	
	TV	Q	SIGG	01473	03072	16	31000	03102	
	RA	SIG8	U1	01474	03073	21	03101	03625	
	TV	CJAZZ	SIGP	01475	03074	16	03716	03103	
	TP	V2	CONTE	01476	03075	11	03645	03717	
	RS	SIG8	V1	01477	03076	23	03101	03644	
SIGA	TP	VO	Q	01500	03077	11	03624	31000	
SIGD	ROB	3	L+2	01501	03100	75	30003	03102	
SIGB	FT	FILL	FILL	01502	03101	02	30000	30000	
SIGG	FM	Q	FILL	01503	03102	66	31000	30000	
SIGP	TP	Q	FILL	01504	03103	11	31000	30000	
	RA	SIGP	V1	01505	03104	21	03103	03644	

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	RA	SIG8	U3	01506	03105	21	03101	03627	
	IJ	CONIE	SIGA	01507	03106	41	03717	03077	
	TV	SIG34	SIG5	01510	03107	16	03044	03122	
	SP	SIG34	15	01511	03110	31	03044	00017	
	TU	A	SIG5	01512	03111	15	32000	03122	
	SP	SIG35	15	01513	03112	31	03045	00017	
	TH	A	SIG77	01514	03113	15	32000	03114	
SIG77	TP	FILL	JJ	01515	03114	11	30000	03720	
	SP	JJ	15	01516	03115	31	03720	00017	
	TR	A	UJVJ	01517	03116	11	32000	03721	
	RA	UJVJ	JJ	01520	03117	21	03721	03720	
	RA	SIG5	UJVJ	01521	03120	21	03122	03721	
	RI	DELE2	DELE	01522	03121	37	03167	03165	
SIG5	Q	FILL	FILL	01523	03122	00	30000	30000	NUP
	TP	VO	Q	01524	03123	11	03624	31000	
	ROB	J	L+2	01525	03124	75	30003	03126	
	FI	C1	E1	01526	03125	02	03760	03763	
	TP	Q	DENOM	01527	03126	11	31000	03766	
	SP	SIG35	15	01528	03127	31	03045	00017	
	TU	A	SIG43	01529	03130	15	32000	03140	
	TU	SIG35	SIG42	01532	03131	15	03045	03132	
SIG42	TP	FILL	BUMPP	01533	03132	11	30000	03713	
	TP	BUMP	BUMPP	01534	03133	11	03713	03714	
	RS	BUMP	V1	01535	03134	23	03713	03644	
	RS	BUMPP	V2	01536	03135	23	03714	03645	
	MP	BUMP	BUMPP	01537	03136	71	03713	03714	
	DV	V2	BUMPP	01540	03137	73	03645	03713	
SIG43	TP	FILL	BUMPP	01541	03140	11	30000	03714	
	RS	BUMPP	V1	01542	03141	23	03714	03644	
	RA	BUMP	BUMPP	01543	03142	21	03713	03714	
	MP	BUMP	V3	01544	03143	71	03713	03646	
	TP	A	BUMPP	01545	03144	11	32000	03714	
	L3	SIG34	A+21	01546	03145	55	03044	32025	
	TV	Q	SIG45	01547	03146	16	31000	03152	
	RA	SIG45	BUMPP	01520	03147	21	03152	03714	
	TP	VO	Q	01521	03150	11	03624	31000	
	ROB	J	L+2	01522	03151	75	30003	03153	
SIG45	FI	C1	FILL	01523	03152	02	03760	30000	
	FO	Q	DENOM	01524	03153	67	31000	03766	
	TP	Q	SIG3	01525	03154	11	31000	03772	
	TP	SIG3	A	01526	03155	11	03772	32000	
	SJ	L+1	L+5	01527	03156	46	03157	03163	
	SP	SIG43	15	01560	03157	31	03152	00017	
	TU	A	L+1	01561	03160	15	32000	03161	
	FO	FILL	E1	01562	03161	67	30000	03763	
	TP	Q	SIG3	01563	03162	11	31000	03772	
	RA	SCTR2	V4	01564	03163	21	03034	03647	
	MJ	0000	SCTR2	01565	03164	45	00000	03034	
DELE	MJ	0000	DE1	01566	03165	45	00000	03170	
	MS	0000	U000	01567	03166	56	00000	00000	
DELE2	MJ	0000	FILL	01570	03167	45	00000	30000	
DE1	SP	DELE2	15	01571	03170	31	03167	00017	
	TU	A	DE2	01572	03171	15	32000	03172	
DE2	SP	FILL	0000	01573	03172	31	30000	00000	
	TH	A	DE3	01574	03173	15	32000	03176	
	TV	A	DE3	01575	03174	16	32000	03176	
	RA	DE3	V1	01576	03175	21	03176	03644	
DE3	FC	FILL	FILL	01577	03176	65	30000	30000	
	TP	Q	E1	01600	03177	11	31000	03763	
	TU	DE3	DE4	01601	03200	15	03176	03203	

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	TV	DE3	DE4	01602	03201	16	03176	03203
	RS	DE4	V1	01603	03202	23	03203	03644
DE4	FM	FILL	FILL	01604	03203	66	30000	30000
	TP	Q	E3	01605	03204	11	31000	03765
	TU	DE4	DE5	01606	03205	15	03203	03210
	TV	DE4	DE5	01607	03206	16	03203	03210
	RA	DE5	UV1	01610	03207	21	03210	03663
DE5	FM	FILL	FILL	01611	03210	66	30000	30000
	FS	Q	E3	01612	03211	65	31000	03765
	FN	Q	F2	01613	03212	67	31000	03534
	TN	Q	E3	01614	03213	13	31000	03765
	TV	DE5	DE6	01615	03214	16	03210	03217
	TU	DE5	DE6	01616	03215	15	03210	03217
	RS	DE6	U1	01617	03216	23	03217	03625
DE6	FM	FILL	FILL	01620	03217	67	30000	30000
	RT	LNK2	LNK	01641	03220	37	03402	03400
	TP	Q	E2	01642	03221	11	31000	03764
	RA	DELE2	V1	01643	03222	21	03167	03644
	MJ	0000	DELE2	01644	03223	45	00000	03167
REWIND	MJ		REW1	01645	03224	45	00000	03227
	MS			01646	03225	56	00000	00000
REW2	MJ		FILL	01647	03226	45	00000	30000
REW1	SP	TAPE3	12	01620	03227	31	00072	00014
	AT	CONRW	DUMP	01621	03230	35	03242	03523
	EF		DUMP	01622	03231	17	00000	03523
WINDE	MJ		REW2	01623	03232	45	00000	03226
	MJ		WIN1	01624	03233	45	00000	03236
	MS			01625	03234	56	00000	00000
WIN2	MJ		FILL	01626	03235	45	00000	30000
WIN1	SP	TAPE4	12	01627	03236	31	00073	00014
	AT	CONRW	DUMP	01640	03237	35	03242	03523
	EF		DUMP	01641	03240	17	00000	03523
	MJ		WIN2	01642	03241	45	00000	03235
CONRW	B	020020000000		01643	03242	07	00200	00000
CDUMP	B	020006400001		01644	03243	02	00064	00001
DUMP99				01645	03244	00	00000	00000
BMIN1				01646	03245	00	00000	00000
CODE				01647	03246	00	00000	00000
LEXIT			CODE2	01620	03247	00	00000	03263
PRM1				01621	03250	00	00000	00000
TEST2			3	01622	03251	00	00000	00003
LLAM		FILL	FILL	01623	03252	00	30000	30000
LDISC		FILL	FILL	01624	03253	00	30000	30000
VCO24			C0244	01625	03254	00	00000	03325
VCO18			C018	01626	03255	00	00000	03304
VCO34			C034	01627	03256	00	00000	03342
VV2			V2	01600	03257	00	00000	03645
VCO51			C051	01601	03260	00	00000	03356
VV4			V4	01602	03261	00	00000	03647
VCO23			C023	01603	03262	00	00000	03315
CODE2	MJ	0000	FILL	01604	03263	45	00000	30000
CODER	SP	CODE2	15	01605	03264	31	03263	00017
	TU	A	C077	01606	03265	15	32000	03266
C077	TP	FILL	PRM1	01607	03266	11	30000	03250
	TU	PRM1	C01	01610	03267	15	03250	03274
	RA	CODE2	V1	01671	03270	21	03263	03644
	TV	VCO23	C088	01672	03271	16	03262	03324
	TV	VCO23	C022	01673	03272	16	03262	03311
	TV	VV4	C0233	01674	03273	16	03261	03316
C01	SP	FILL	0000	01675	03274	31	30000	00000
			FIX					

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	ZJ	C0339	C03		01676 03275	47	03276	03301
C0339	EJ	V2	SPCAL		01677 03276	43	03645	03364
C02	TV	LEXIT	C024	SET NC EXT	01700 03277	16	03247	03323
	MJ	0000	BURN		01701 03300	45	00000	03302
C03	TV	VC024	C024		01702 03301	16	03254	03323
BURN	TU	LAKBK	C021		01703 03302	15	00134	03310
	TV	LAKBK	C023		01704 03303	16	00134	03315
C018	TU	LISOP	C022		01705 03304	15	00126	03311
	TS	B	BMIN1		01706 03305	11	00013	03245
	RS	BMIN1	V1	B COUNTER	01707 03306	23	03245	03644
C020	TP	V1	CODE		01710 03307	11	03644	03246
C021	SP	FILL	0000	ISO OF AKB	01711 03310	31	30000	00000
C022	EJ	FILL	FILL	ISO LIST	01712 03311	43	30000	30000
	RA	C022	U1		01713 03312	21	03311	03625
	RA	CODE	V1		01714 03313	21	03246	03644
	IJ	BMIN1	C021		01715 03314	41	03245	03310
C023	TP	CODE	FILL	AKBK	01716 03315	11	03246	30000
C0233	RA	C023	FILL		01717 03316	21	03315	30000
	SP	C023	IS		01720 03317	31	03315	00017
	TU	A	C025		01741 03320	15	32000	03322
	TU	A	C021		01722 03321	15	32000	03310
C025	SP	FILL	0000		01743 03322	31	30000	00000
C024	EJ	FLAGU	FILL	EXIT. OR LM	01724 03323	43	03530	30000
C088	MJ	0000	FILL		01725 03324	45	00000	30000
C0244	TV	LDESC	C031		01726 03325	16	03253	03327
	TV	LLAM	C032		01727 03326	16	03252	03330
C031	TP	CODE	FILL	DESC	01720 03327	11	03246	30000
C032	TP	CODE	FILL	LAM	01721 03330	11	03246	30000
	TU	LDESC	C033		01722 03331	15	03253	03333
	RA	C033	U1		01723 03332	21	03333	03625
C033	SP	FILL	0000	A ZERO	01724 03333	31	30000	00000
	ZJ	C0333	C041		01725 03334	47	03335	03345
C0333	TU	C033	C021		01726 03335	15	03333	03310
	LO	C033	A*21		01727 03336	55	03333	32025
	TV	0	C023		01740 03337	16	31000	03315
	TV	VC034	C022		01741 03340	16	03256	03311
	MJ	0000	C018		01742 03341	45	00000	03304
C034	TV	LDESC	C035		01743 03342	16	03253	03344
	RA	C035	V1		01744 03343	21	03344	03644
C035	TP	CODE	FILL		01745 03344	11	03246	30000
C041	TU	LDESC	C021		01746 03345	15	03253	03310
	TV	LDESC	C023		01747 03346	16	03253	03315
	RA	C021	U2		01720 03347	21	03310	03626
	RA	C023	V2		01721 03350	21	03315	03645
	TV	VV2	C0233		01722 03351	16	03257	03316
	TV	VC051	C024		01723 03352	16	03260	03323
	TV	VC023	C022		01724 03353	16	03262	03311
	TV	VC018	C089		01725 03354	16	03255	03324
	MJ	0000	C018		01726 03355	45	00000	03304
C051	TU	LLAM	C021		01727 03356	15	03252	03310
	TV	LLAM	C023		01720 03357	16	03252	03315
	RA	C021	U2		01721 03360	21	03310	03626
	RA	C023	V2		01722 03361	21	03315	03645
	TV	LEXIT	C024		01723 03362	16	03247	03323
	MJ	0000	C018		01724 03363	45	00000	03304
SPCAL	SP	PRM1	IS		01725 03364	31	03250	00017
	TU	A	SPC44		01726 03365	15	32000	03370
	TS	V1	CODE		01727 03366	11	03644	03246
	TU	LISOP	SPC45		01710 03367	15	00126	03371
SPC44	SP	FILL	0000		01711 03370	31	30000	00000

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SPC45	EJ	FILL	SPC46		01772 03371	43	30000	03375
	RA	CODE	V1		01773 03372	21	03246	03644
	RA	SPC45	U1		01774 03373	21	03371	03625
	M.I	0000	SPC44		01775 03374	45	00000	03370
SPC46	TV	PRM1	SPC47		01776 03375	16	03250	03376
SPC47	TP	CODE	FILL		01777 03376	11	03246	30000
	M.I	0000	CODE2		02000 03377	45	00000	03263
LNx	M.I0		L+3	FLOATING POINT	1 02001 03400	45	00000	03403
	Mx0		L+1	NATURAL LOGARITHM	2 02002 03401	56	00000	03402
LNx2	M.I0		FILL	USING FIXED POINT	02003 03402	45	00000	30000
	TP	Q	A	ARITHMETIC THIS	4 02004 03403	11	31000	32000
	SJ	L+2	L+1	ROUTINE OCCUPIES	5 02005 03404	46	03406	03405
	ZJ	L+4	L+1	77 CELLS INCLUDING	6 02006 03405	47	03411	03406
	Rx	Q	Q	3 TEMPORARIES AND	7 02007 03406	23	31000	31000
	SP	L+50		20 CONSTANTS	8 02010 03407	31	03471	00000
	M.I0		L-7		9 02011 03410	45	00000	03401
	L+0	9	L+45		10 02012 03411	22	00011	03466
	LQ	A	35		11 02013 03412	55	32000	00043
	TP	Q	L+44		12 02014 03413	11	31000	03467
	R+2	7	L+2		13 02015 03414	75	20007	03416
	TJ	L+46	L+2		14 02016 03415	42	03473	03417
	TP	L+52	Q		15 02017 03416	11	03502	31000
	SP	L+52	Q		16 02020 03417	31	03503	00000
	ST	Q	Q		17 02021 03420	36	31000	31000
	SA	L+51	15		18 02022 03421	32	03504	00017
	TJ	A	L+4		19 02023 03422	15	32000	03426
	TP	L+35	A		20 02024 03423	11	03466	32000
	SS	L+49	3		21 02025 03424	34	03505	00003
	AT	Q	L+33		22 02026 03425	35	31000	03466
	TP	FILL	Q		23 02027 03426	11	30000	31000
	SP	Q			24 02030 03427	31	31000	00000
	SA	L+31	35		25 02031 03430	32	03467	00043
	L+0		L+31		26 02032 03431	22	00000	03470
	SP	L+29			27 02033 03432	31	03467	00000
	SS	Q	37		28 02034 03433	34	31000	00045
	DV	L+28	L+28		29 02035 03434	73	03470	03470
	MP	Q	Q		30 02036 03435	71	31000	31000
	SS	A	31		31 02037 03436	34	32000	00037
	MP	A	L+40		32 02040 03437	71	32000	03507
	LY	I	A		33 02041 03440	22	00001	32000
	AT	L+39	L+22		34 02042 03441	35	03510	03467
	MP	Q	L+21		35 02043 03442	71	31000	03467
	L+0		A		36 02044 03443	22	00000	32000
	AT	L+22	Q		37 02045 03444	35	03472	31000
	MP	Q	L+19		38 02046 03445	71	31000	03470
	L+0	3	A		39 02047 03446	22	00003	32000
	MA	L+15	L+34		40 02050 03447	72	03466	03511
	TP	A	Q		41 02051 03450	11	32000	31000
	ZJ	L+1	L-39		42 02052 03451	47	03452	03402
	SE	A	L+28		43 02053 03452	74	32000	03506
	L+0	28	Q		44 02054 03453	22	00034	31000
	TP	L+26	A		45 02055 03454	11	03506	32000
	TJ	L+29	L+2		46 02056 03455	42	03512	03457
	SS	L+29			47 02057 03456	34	03513	00000
	AT	L+29	L+7		48 02060 03457	35	03514	03466
	TP	Q	A		49 02061 03460	11	31000	32000
	SJ	L+1	L+2		50 02062 03461	46	03462	03463
	TN	L+4	L+4		51 02063 03462	13	03466	03466
	LQ	L+3	27		52 02064 03463	55	03466	00033
	AT	Q	Q		53 02065 03464	35	31000	31000

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M 10	L-51
B	
TM	FILL FILL
TM	FILL FILL
B	465072010101
B	200000000000
B	213453407440
B	230157701214
B	245775532516
B	265011714640
B	305316250212
B	327211763126
B	352601433477
B	17777
B	20006
B	201
B	
B	063146314632
B	125252525253
B	261344137700
B	44
B	110
B	175

BRMP	0	0000	0000
BTEST			
BMI	0	0000	0000
BELL	0	0000	0000
BUTST	0	0000	0000
COUNT	0	0000	0000
DUMP	0	0000	0000
DAMN	0	0000	ICNT
DUD	0	0000	MUCK
DUD8	0	0000	NET
EL90	M.I	0000	GIN
FLAGU	B	37777777777	
F0	F	0	
F1	F	1	
F3	F	3	
F2	F	2	
FIUP	0	F1	0000
HELL	0	0000	0000
HELL1	0	0000	0000
HELL2	0	0000	0000
HELL8	0	0000	0000
HELL9	0	0000	0000
HELP	TV	MARY	RDF99
HEMA	0	0000	0000
ICNT	0	0000	0000
JONES	0	0000	0000
JOAN	0	LSFKI	0000
LOWR	0	0000	0000
MARY	0	0000	NXL1
MIKE	0	0000	NCX
MIKE1	0	0000	MUCK
MIKE3	0	0000	NXL3
MIKE5	0	LDKI	NEXTA
MIKE6	0	0000	GIN
MIKE9	0	0000	NXL1
MIK11	0	WRITT	NCX

54	02006	03465	45	00000	03402
55	02007	03466	00	00000	00000
56	02070	03467	12	30000	30000
57	02071	03470	12	30000	30000
58	02072	03471	46	50720	10101
59	02073	03472	20	00000	00000
60	02074	03473	21	34534	07440
61	02075	03474	23	01577	01214
62	02076	03475	24	57755	32516
63	02077	03476	26	50117	14640
64	02100	03477	30	53162	50212
65	02101	03500	32	72117	63126
66	02102	03501	35	26014	33477
67	02103	03502	00	00000	17777
68	02104	03503	00	00000	20006
69	02105	03504	00	00000	03472
70	02106	03505	00	00000	00201
71	02107	03506	00	00000	00000
72	02110	03507	06	31463	14632
73	02111	03510	17	52525	25253
74	02112	03511	26	13441	37700
75	02113	03512	00	00000	00044
76	02114	03513	00	00000	00110
77	02115	03514	00	00000	00175
02116	03515	00	00000	00000	NUP
02117	03516	00	00000	00000	
02120	03517	00	00000	00000	NUP
02121	03520	00	00000	00000	NUP
02122	03521	00	00000	00000	NUP
02123	03522	00	00000	00000	NUP
02124	03523	00	00000	00000	NUP
02125	03524	00	00000	03545	NUP
02126	03525	00	00000	02010	NUP
02127	03526	00	00000	02003	NUP
02130	03527	45	00000	02342	
02131	03530	37	77777	77777	
02132	03531	00	00000	00000	
02133	03532	20	14000	00000	
02134	03533	20	26000	00000	
02135	03534	20	24000	00000	
02136	03535	00	03532	00000	NUP
02137	03536	00	00000	00000	NUP
02140	03537	00	00000	00000	NUP
02141	03540	00	00000	00000	NUP
02142	03541	00	00000	00000	NUP
02143	03542	00	00000	00000	NUP
02144	03543	16	03551	01775	
02145	03544	00	00000	00000	NUP
02146	03545	00	00000	00000	NUP
02147	03546	00	00000	00000	NUP
02150	03547	00	00167	00000	NUP
02151	03550	00	00000	00000	NUP
02152	03551	00	00000	02136	NUP
02153	03552	00	00000	02030	NUP
02154	03553	00	00000	02010	NUP
02155	03554	00	00000	03741	NUP
02156	03555	00	00211	01776	
02157	03556	00	00000	02342	NUP
02160	03557	00	00000	02136	NUP
02161	03560	00	01663	02030	NUP

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MIK22	0	0000	NL3	02192	03561	00	00000	02146	NUP
MIK23	0	0000	NL5	02193	03562	00	00000	02155	NUP
NCRMP	0	0000	0000	02194	03563	00	00000	00000	NUP
V7777B	B	000000007777		02195	03564	00	00000	07777	
MTKE9			NXL666	02196	03565	00	00000	02140	
OVER	TP	0	FILL	02197	03566	11	31000	30000	
ORE	0	0000	0000	02198	03567	00	00000	00000	NUP
SP1				02199	03570	00	00000	00000	
PARM1		TEST7	TEST7	02192	03571	00	03611	03611	
PARM2		ISO	FILL	02193	03572	00	00350	30000	
PBCNT	0	0000	0000	02194	03573	00	00000	00000	NUP
RIM1	0	0000	0000	02195	03574	00	00000	00000	NUP
RR	0	0000	0000	02196	03575	00	00000	00000	NUP
RM1	0	0000	0000	02197	03576	00	00000	00000	NUP
RRR	0	0000	0000	02200	03577	00	00000	00000	NUP
RRRR	0	0000	0000	02201	03600	00	00000	00000	NUP
RIMX	0	0000	0000	02202	03601	00	00000	00000	NUP
RI	0	0000	0000	02203	03602	00	00000	00000	NUP
RYE	0	0000	0000	02204	03603	00	00000	00000	NUP
SSS3	0	0000	0016	02205	03604	00	00000	00000	NUP
SAM	0	0000	0000	02206	03605	00	00000	00000	NUP
IPLS2				02207	03606	00	00000	00000	
IPLS3				02210	03607	00	00000	00000	
TEMP	0	0000	0000	02211	03610	00	00000	00000	NUP
TEST7	0	0000	0000	02212	03611	00	00000	00000	NUP
TEMP1	0	0000	0000	02213	03612	00	00000	00000	NUP
TEMP2	0	0000	0000	02214	03613	00	00000	00000	NUP
TUSHI	0	F1UP	0000	02215	03614	00	03535	00000	NUP
TIJCN	0	0000	0000	02216	03615	00	00000	00000	NUP
TWOIA	0	0000	0000	02217	03616	00	00000	00000	NUP
VI	0	0000	0000	02220	03617	00	00000	00000	NUP
VODKA	0	0000	0000	02221	03620	00	00000	00000	NUP
VLADO	0	0000	0000	02222	03621	00	00000	00000	NUP
VVVI	B	001000000000		02223	03622	00	10000	00000	
WEEI	0	0000	0000	02224	03623	00	00000	00000	NUP
VO				02225	03624	00	00000	00000	
U1	1			02226	03625	00	00001	00000	
U2	2			02227	03626	00	00002	00000	
U3	3			02220	03627	00	00003	00000	
U4	4			02221	03630	00	00004	00000	
U5	5			02222	03631	00	00005	00000	
U6	6			02223	03632	00	00006	00000	
U7	7			02224	03633	00	00007	00000	
U8	8			02225	03634	00	00010	00000	
U9	9			02226	03635	00	00011	00000	
U10	10			02227	03636	00	00012	00000	
U11	11			02240	03637	00	00013	00000	
U12	12			02241	03640	00	00014	00000	
U13	13			02242	03641	00	00015	00000	
U14	14			02243	03642	00	00016	00000	
U15	15			02244	03643	00	00017	00000	
V1			1	02245	03644	00	00000	00001	
V2			2	02246	03645	00	00000	00002	
V3			3	02247	03646	00	00000	00003	
V4			4	02220	03647	00	00000	00004	
V5			5	02221	03650	00	00000	00005	
V6			6	02222	03651	00	00000	00006	
V7			7	02223	03652	00	00000	00007	
V8			8	02224	03653	00	00000	00010	
V9			9	02225	03654	00	00000	00011	

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V10		10	02226	03655	00	00000	00012	
V11		11	02227	03656	00	00000	00013	
V12		12	02228	03657	00	00000	00014	
V13		13	02229	03658	00	00000	00015	
V14		14	02230	03659	00	00000	00016	
V15		15	02231	03660	00	00000	00017	
U1V1	1	1	02232	03661	00	00001	00001	
U2V2	2	2	02233	03662	00	00002	00002	
U3V3	3	3	02234	03663	00	00003	00003	
U4V4	4	4	02235	03664	00	00004	00004	
U5V5	5	5	02236	03665	00	00005	00005	
U4V2	4	2	02237	03666	00	00004	00002	
U6V3	6	3	02238	03667	00	00006	00003	
U2V1	2	1	02239	03668	00	00002	00001	
U1V2	1	2	02240	03669	00	00001	00002	
U1V3	1	3	02241	03670	00	00001	00003	
XHALL	0	0000	0000	02242	03671	00	00000	NUP
ZHALL	0	0000	0000	02243	03672	00	00000	NUP
AAA	0	0000	0000	02244	03673	00	00000	NUP
BBB	0	0000	0000	02245	03674	00	00000	NUP
CCC	0	0000	0000	02246	03675	00	00000	NUP
DIFF	0	0000	0000	02247	03676	00	00000	NUP
DIFF1	0	0000	0000	02248	03677	00	00000	NUP
DIFF2	0	0000	0000	02249	03678	00	00000	NUP
DIFF3	0	0000	0000	02250	03679	00	00000	NUP
DIFF4	0	0000	0000	02251	03680	00	00000	NUP
DIFF5	0	0000	0000	02252	03681	00	00000	NUP
ITEST	0	0000	0000	02253	03682	00	00000	NUP
TEMP8	0	0000	0000	02254	03683	00	00000	NUP
QUAIL	0	0000	0000	02255	03684	00	00000	NUP
BUMP	0	0000	0000	02256	03685	00	00000	NUP
BUMPP	0	0000	0000	02257	03686	00	00000	NUP
BUMPE	0	0000	0000	02258	03687	00	00000	NUP
CAZZ	0	C1	C1	02259	03688	00	03760	NUP
CONIE	0	0000	0000	02260	03689	00	00000	NUP
JJ	0	0000	0000	02261	03690	00	00000	NUP
UJVJ	0	0000	0000	02262	03691	00	00000	NUP
II	0	0000	0000	02263	03692	00	00000	NUP
JAZZ	0	0000	0000	02264	03693	00	00000	NUP
CCNT	0	0000	0000	02265	03694	00	00000	NUP
I3CN	0	0000	0000	02266	03695	00	00000	NUP
INVSP	0	0000	0000	02267	03696	00	00000	NUP
KISMP	0	0000	0000	02268	03697	00	00000	NUP
CSET	0	0000	C1	02269	03698	00	00000	NUP
JOE	0	0000	0000	02270	03699	00	00000	NUP
GEE	0	0000	0000	02271	03700	00	00000	NUP
WHIZ	0	0000	0000	02272	03701	00	00000	NUP
APE	0	0000	0000	02273	03702	00	00000	NUP
ICOUN	0	0000	0000	02274	03703	00	00000	NUP
NLXX	0	0000	0000	02275	03704	00	00000	NUP
NLXZ	0	0000	0000	02276	03705	00	00000	NUP
UUU3	B	000000000000		02277	03706	00	30000	NUP
NXL3				02278	03707	00	00000	NUP
ZPKI	LPKI			02279	03708	00	00164	00000
ZSFKI	LSFKI			02280	03709	00	00167	00000
ZENGY	LENGY			02281	03710	00	00131	00000
ZPHKI	LPHKI			02282	03711	00	00200	00000
ZSOMX	LSOMX			02283	03712	00	00175	00000
LISOP				02284	03713	00	00126	00000
DRUM1	0	0000	1100	02285	03714	00	00000	NUP

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CORE1	0	0000	1100	02322 03751	00	00000	00000	NUP
NLK	0	0000	0000	02323 03752	00	00000	00000	NUP
NLK1	0	0000	0000	02324 03753	00	00000	00000	NUP
NLK2	0	0000	0000	02325 03754	00	00000	00000	NUP
NLK3	0	0000	0000	02326 03755	00	00000	00000	NUP
KKKKK	0	0000	0000	02327 03756	00	00000	00000	NUP
TTTTT	0	0000	0000	02328 03757	00	00000	00000	NUP
C1	0	0000	0000	02329 03760	00	00000	00000	NUP
C2	0	0000	0000	02330 03761	00	00000	00000	NUP
C3	0	0000	0000	02331 03762	00	00000	00000	NUP
E	0	0000	0000	02332 03763	00	00000	00000	NUP
E1	0	0000	0000	02333 03764	00	00000	00000	NUP
E2	0	0000	0000	02334 03765	00	00000	00000	NUP
E3	0	0000	0000	02335 03766	00	00000	00000	NUP
DENOM	0	0000	0000	02336 03767	00	00000	00000	NUP
SIG	0	0000	0000	02337 03770	00	00000	00000	NUP
SIG1	0	0000	0000	02338 03771	00	00000	00000	NUP
SIG2	0	0000	0000	02339 03772	00	00000	00000	NUP
SIG3	0	0000	0000	02340 03773	00	00000	00000	NUP
SIG4	0	0000	0000	02341 03774	00	00000	00000	NUP
JJJ	0	0000	0000	02342 03775	00	00000	00000	NUP
DEN	0	0000	0000	02343 03776	00	00211	00211	
VARBL		LDKI	LDKI	02400 03777	00	03644	03602	
		V1	RI	02401 04000	00	03624	03624	
		VO	VO	02402 04001	00	00214	00214	
		LTKI	LTKI	02403 04002	00	03644	03602	
		V1	RI	02404 04003	00	03624	03624	
		VO	VO	02405 04004	00	00217	00217	
		LTKIJ	LTKIJ	02406 04005	00	03644	03536	
		V1	HELL	02407 04006	00	03624	03624	
		VO	VO	02410 04007	00	00222	00222	
		LFKI	LFKI	02411 04010	00	03644	03602	
		V1	RI	02412 04011	00	03624	03624	
		VO	VO	02413 04012	00	00225	00225	
		LXXI	LXXI	02414 04013	00	03644	03602	
		V1	RI	02415 04014	00	03624	03624	
		VO	VO	02416 04015	00	04076	04076	
		LEIN	LEIN	02417 04016	00	03655	00012	
		V10	I	02420 04017	00	03624	03624	
		VO	VO	02421 04020	00	04101	04101	
		LXEI	LXET	02422 04021	00	03644	03540	
		V1	HELL2	02423 04022	00	03624	03624	
		VO	VO	02424 04023	00	00134	00134	
		LAKBK	LAKBK	02425 04024	00	03644	03541	
		V1	HELL3	02426 04025	00	03624	03624	
		VO	VO	02427 04026	00	04104	04104	
		LFISS	LFISS	02428 04027	00	03644	03537	
		V1	HELL1	02431 04030	00	03624	03624	
		VO	VO	02432 04031	00	04107	04107	
		LNUI	LNUI	02433 04032	00	03644	03537	
		V1	HELL1	02434 04033	00	03624	03624	
		VO	VO	02435 04034	00	04112	04112	
		LSCAT	LSCAT	02436 04035	00	03644	03542	
		V1	HELL9	02437 04036	00	03624	03624	
		VO	VO	02440 04037	00	04115	04115	
		LTOTL	LTOTL	02441 04040	00	03644	03537	
		V1	HELL1	02442 04041	00	03624	03624	
		VO	VO	02443 04042	00	04120	04120	
		LTRAN	LTRAN	02444 04043	00	03644	03537	
		V1	HELL1					

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	VO	VO	02445	04044	00	03624	03624
	LMKI	LMKI	02446	04045	00	00230	00230
	VI	RI	02447	04046	00	03644	03607
	VO	VO	02448	04047	00	03624	03624
	LINDI	LINDI	02449	04048	00	04123	04123
	VI	V4	02450	04049	00	03644	03647
	VO	VO	02451	04050	00	03624	03624
	LSFKI	LSFKI	02452	04051	00	00167	00167
	S	I	02453	04052	00	00015	00012
	VO	VO	02454	04053	00	03624	03624
	LENGY	LENGY	02455	04054	00	00131	00131
	VI	IPLS3	02456	04055	00	03644	03607
	VO	VO	02457	04056	00	03624	03624
	LBRMX	LBRMX	02458	04057	00	00175	00175
	B	R	02459	04058	00	00013	00014
	VO	VO	02460	04059	00	03624	03624
	LPBKI	LPBKI	02461	04060	00	00164	00164
	I	R	02462	04061	00	00012	00014
	VO	VO	02463	04062	00	03624	03624
	LPHKI	LPHKI	02464	04063	00	00200	00200
	R	IPLS2	02465	04064	00	00014	03606
	VO	VO	02466	04065	00	03624	03624
	LISOP	LISOP	02467	04066	00	00126	00126
	VI	B	02468	04067	00	03644	00013
	VO	VO	02469	04068	00	03624	03624
	B	3777777777	02470	04069	37	77777	77777
LEIN	FILL	FILL	02471	04070	00	30000	30000
	FILL	FILL	02472	04071	00	30000	30000
	V10	I	02473	04072	00	03655	00012
LXEI	FILL	FILL	02474	04073	00	30000	30000
	FILL	FILL	02475	04074	00	30000	30000
	VI	HELL2	02476	04075	00	03644	03540
LFISS	FILL	FILL	02477	04076	00	30000	30000
	FILL	FILL	02478	04077	00	30000	30000
	VI	HELL1	02479	04078	00	03644	03537
LNUI	FILL	FILL	02480	04079	00	30000	30000
	FILL	FILL	02481	04080	00	30000	30000
	VI	HELL1	02482	04081	00	03644	03537
LSCAT	FILL	FILL	02483	04082	00	30000	30000
	FILL	FILL	02484	04083	00	30000	30000
	VI	HELL9	02485	04084	00	03644	03542
LTOTL	FILL	FILL	02486	04085	00	30000	30000
	FILL	FILL	02487	04086	00	30000	30000
	VI	HELL1	02488	04087	00	03644	03537
LTRAN	FILL	FILL	02489	04088	00	30000	30000
	FILL	FILL	02490	04089	00	30000	30000
	VI	HELL1	02491	04090	00	03644	03537
LINDI	FILL	FILL	02492	04091	00	30000	30000
	FILL	FILL	02493	04092	00	30000	30000
	VI	V4	02494	04093	00	03644	03647
LLAST	FILL	LAST	02495	04094	00	00000	04127
LAST	X93 SFTL	DMX 06 10B)	02496	04095	27	47470	00311
IDEN			02497	04096	00	00000	00000
N			02498	04097	00	00000	00000
I			02499	04098	00	00000	00000
B			02500	04099	00	00000	00000
R	0000	0000	0006	02501	00	00000	00000
S	0000	0000	0007	02502	00	00000	00000
Y			02503	04100	00	00000	00000
			02504	04101	00	00000	00000
			02505	04102	00	00000	00000
			02506	04103	00	00000	00000
			02507	04104	00	00000	00000
			02508	04105	00	00000	00000
			02509	04106	00	00000	00000
			02510	04107	00	00000	00000
			02511	04108	00	00000	00000
			02512	04109	00	00000	00000
			02513	04110	00	00000	00000
			02514	04111	00	00000	00000
			02515	04112	00	00000	00000
			02516	04113	00	00000	00000
			02517	04114	00	00000	00000
			02518	04115	00	00000	00000
			02519	04116	00	00000	00000
			02520	04117	00	00000	00000
			02521	04118	00	00000	00000
			02522	04119	00	00000	00000
			02523	04120	00	00000	00000
			02524	04121	00	00000	00000
			02525	04122	00	00000	00000
			02526	04123	00	00000	00000
			02527	04124	00	00000	00000
			02528	04125	00	00000	00000
			02529	04126	00	00000	00000
			02530	04127	00	00000	00000

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INF1	0000	0000	0008	2540	00017	00	00000	00000
INF2	0000	0000	0009	2541	00020	00	00000	00000
INF3	0000	0000	0010	2542	00021	00	00000	00000
INF4	0000	0000	0011	2543	00022	00	00000	00000
INF5	0000	0000	0012	2544	00023	00	00000	00000
INF6	0000	0000	0013	2545	00024	00	00000	00000
INF7	0000	0000	0014	2546	00025	00	00000	00000
INF8	0000	0000	0015	2547	00026	00	00000	00000
INF9	0000	0000	0016	2550	00027	00	00000	00000
INF10	0000	0000	0017	2551	00030	00	00000	00000
INF11	0000	0000	0018	2552	00031	00	00000	00000
INF12	0000	0000	0019	2553	00032	00	00000	00000
RHO	0000	0000	0020	2554	00033	00	00000	00000
	0000	0000	0021	2555	00034	00	00000	00000
	0000	0000	0022	2556	00035	00	00000	00000
VARI				2557	00036	00	00000	00000
KKK			FX-CHANGE CONTMESH/PS	2560	00037	00	00000	00000
NON			FX-REGION INDEX	2561	00040	00	00000	00000
			FX-ISOTOPE INDEX	2562	00041	00	00000	00000
PSUBO	F	3.12	13	2563	00042	25	57060	12073
YSUBX	F	3	-3	2564	00043	17	06111	56457
YSUBI	F	5.6	-2	2565	00044	17	47126	01014
YSUBP	F	1.4	-2	2566	00045	17	27126	01014
LAMXE	F	2.1	-5	2567	00046	16	15402	44501
LAMI	F	2.9	-5	2570	00047	16	17464	24065
LAMPR	F	4.1	-6	2571	00050	15	74231	12733
				2572	00051	00	00000	00000
RZERO	F			2573	00052	00	00000	00000
TIME	F			2574	00053	00	00000	00000
EPS1L	F	.00001		2575	00054	16	05174	26542
EPS2	F	.00001		2576	00055	16	05174	26542
EPS3	F	.00001		2577	00056	16	05174	26542
EPS4	F	.00001		2600	00057	16	05174	26542
K0	F	1.0		2601	00060	20	14000	00000
OMEGA	F			2602	00061	00	00000	00000
DZDK	F	1.0		2603	00062	20	14000	00000
				2604	00063	00	00000	00000
QQ	F			2605	00064	00	00000	00000
DELTS	F			2606	00065	00	00000	00000
DTMAX	F			2607	00066	00	00000	00000
				2610	00067	00	00000	00000
TAPE1	B	1		2611	00070	00	00000	00001
TAPE2	B	2		2612	00071	00	00000	00002
TAPE3	B	3		2613	00072	00	00000	00003
TAPE4	B	4		2614	00073	00	00000	00004
TAPE5	B	5		2615	00074	00	00000	00005
TAPE6	B	6		2616	00075	00	00000	00006
TAPE7	B	7		2617	00076	00	00000	00007
TAPE8	B	10		2620	00077	00	00000	00010
TAPE9	B	11		2621	00100	00	00000	00011
TAPE10	B	12		2622	00101	00	00000	00012
				2623	00102	00	00000	00000
DIA1	0000	0000		0046	2624	00103	00	00000
DIA2	0000	0000		0047	2625	00104	00	00000
DIA3	0000	0000		0048	2626	00105	00	00000
DIA4	0000	0000		0049	2627	00106	00	00000
DIA5	0000	0000		0050	2620	00107	00	00000
DIA6	0000	0000		0051	2621	00110	00	00000
DIA7	0000	0000		0052	2622	00111	00	00000
DIA8	0000	0000		0053	2623	00112	00	00000

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DIA9	0000	0000	0054	02624	00113	00	00000	00000
DIA10	0000	0000	0055	02625	00114	00	00000	00000
DIA11	0000	0000	0056	02626	00115	00	00000	00000
DIA12	0000	0000	0057	02627	00116	00	00000	00000
DIA13	0000	0000	0058	02640	00117	00	00000	00000
DIA14	0000	0000	0059	02641	00120	00	00000	00000
DIA15	0000	0000	0060	02642	00121	00	00000	00000
DIA16	0000	0000	0061	02643	00122	00	00000	00000
DIA17	0000	0000	0062	02644	00123	00	00000	00000
DIA18	0000	0000	0063	02645	00124	00	00000	00000
LISOP	RSRV	3		02646	00125			
LISOP	RSRV	3		02647	00126			
LENGY	RSRV	3		02622	00131			
LAKBK	RSRV	3		02625	00134			
LRDIF	RSRV	3		02600	00137			
LPTS	RSRV	3		02603	00142			
LREGN	RSRV	3		02606	00145			
LBSUO	RSRV	3		02611	00150			
LBSUN	RSRV	3		02614	00153			
LPHT	RSRV	3		02617	00156			
LCAPP	RSRV	3		02702	00161			
LPBKI	RSRV	3		02705	00164			
LSFKI	RSRV	3		02710	00167			
LMESH	RSRV	3		02713	00172			
LBRMX	RSRV	3		02716	00175			
LPHKI	RSRV	3		02721	00200			
LNSMT	RSRV	3		02724	00203			
LNKET	RSRV	3		02727	00206			
LCAPO	RSRV	3		02732	00211			
LCAPT	RSRV	3		02735	00214			
LCPTI	RSRV	3		02740	00217			
LCAPP	RSRV	3		02743	00222			
LXKI	RSRV	3		02746	00225			
LMFKI	RSRV	3		02721	00230			
LPDIF	RSRV	3		02734	00233			
LKPXE	RSRV	3		02737	00236			
LLKTA	RSRV	3		02762	00241			
LLKTB	RSRV	3		02705	00244			
LNFKI	RSRV	3		02710	00247			
LNLP	RSRV	3		02713	00252			
LNSKI	RSRV	3		02716	00255			
LNDKI	RSRV	3		03001	00260			
LNFP	RSRV	3		03004	00263			
LNCKI	RSRV	3		03007	00266			
LNRKI	RSRV	3		03012	00271			
LNPKI	RSRV	3		03015	00274			
LNKE	RSRV	3		03020	00277			
LNKL	RSRV	3		03023	00302			
LSHUF	RSRV	3		03026	00305			
CRC01	B			03021	00310	00	00000	00000
Z3	RSRV	3		03022	00311			
Z2	RSRV	3		03025	00314			
Z1	RSRV	3		03040	00317			
Z				03043	00322	00	00000	00000
DELTA	F		CURRENT AZ-OK	03044	00323	00	00000	00000
MU			CURRENT REACTIVITY	03045	00324	00	00000	00000
BLOCK	B			03046	00325	00	00000	00000
NDCT	B		PRINT ROUTINE WORD COUNT	03047	00326	00	00000	00000
MNO01	B		CONTROL WORD DIFF. MON.	03020	00327	00	00000	00000
MNO02	B		CONTROL WORD ADJ. MON.	03021	00330	00	00000	00000

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SUBR	RSRV	9	9	SUBROUTINE EQUIVALENCES	03092 00331			
MLM1	RSRV	4	4	MONITOR ALARMS	03093 00342			
DRUM	8			FIRST TEMP DRUM STORAGE	03097 00346	00	00000	00000
MINCE	8			FIRST TEMP CORE STORAGE	03070 00347	00	00000	00000
ISO				XE+SM ISOTOPE NUMBER	03071 00350	00	00000	00000
MARK1				CONTROL WORD XE+SM CONCR	03072 00351	00	00000	00000
MARK2					03073 00352	00	00000	00000
K3					03074 00353	00	00000	00000
STAGAT					03075 00354	00	00000	00000
INDEXS					03076 00355	00	00000	00000
DTWICE					03077 00356	00	00000	00000
ADMCFE	RSRV	3	3		03100 00357			
ISTBP					03103 00362	00	00000	00000
DELTAT					03104 00363	00	00000	00000
LDKI	EQLS	LCAPU						
LTKI	EQLS	LCAPT						
LTKIJ	EQLS	LCPTI						
LFKI	EQLS	LCAPF						
LMKI	EQLS	LMPKI						
BK	EQLS	SUBR+3						
BK2	EQLS	SUBR+5						
BRITE	EQLS	SUBR+6						
WR2	EQLS	SUBR+8						
ALLOK	EQLS	SUBR						
ALL2	EQLS	SUBR+2						
END								
							00000	
							00000	
							00000	

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NUCLEAR-CONSTANTS CORRECTOR

SETL	I	1400B1					
NCFIX	Xc3	DMM U7	L+3	00001	01400	27	47470 00312
	MJ			00002	01401	45	00000 01404
NCFIX2	MR			00003	01402	36	00000 00000
	M.I	FILL		00004	01403	45	00000 30000
	TP	TEST7	FOR CORRECTOR ROUTINE	00005	01404	11	03452 03617
	TP	LLAST	SET UP CORE1	00006	01405	11	04142 32000
	T.J	MINCE	TPMC	00007	01406	42	00347 01411
	TP	LLAST	COPE1	00010	01407	11	04142 03757
TPMC	HI	TPMC+1		00011	01410	45	00000 01412
	TP	MINCE	CORE1	00012	01411	11	00347 03757
	RA	CORE1	V1	00013	01412	21	03757 03652
	TP	I	IPLS3	00014	01413	11	00012 03615
	RA	IPLS3	V3	00015	01414	21	03615 03654
	TP	IPLS3	IPLS2	00016	01415	11	03615 03614
	RE	IPLS2	V1	00017	01416	23	03614 03652
	MP	I	R	00020	01417	71	00012 00014
	TP	A	RI	00021	01420	11	32000 03610
	TP	RI	SAM	00022	01421	11	03610 03613
	RA	RI	V1	00023	01422	21	03610 03652
	TP	I	HELL	00024	01423	11	00012 03544
	RS	HELL	V1	00025	01424	23	03544 03652
	MP	I	HELL	00026	01425	71	00012 03544
	DV	V2	HELL	00027	01426	73	03653 03544
	TP	HELL	HELL9	00030	01427	11	03544 03550
	MP	HELL9	V3	00031	01430	71	03550 03654
	AT	V1	HELL9	00032	01431	35	03652 03550
	MP	HELL	R	00033	01432	71	03544 00014
	AT	V1	HELL	00034	01433	35	03652 03544
	TP	HELL	JONES	00035	01434	11	03544 03554
	RS	JONES	V1	00036	01435	23	03554 03652
	TP	I	TEMP1	00037	01436	11	00012 03620
	MP	V3	TEMP1	00040	01437	71	03654 03620
	TP	A	TEMP1	00041	01440	11	32000 03620
	RA	TEMP1	V1	00042	01441	21	03620 03652
	TP	TEMP1	HELL1	00043	01442	11	03620 03545
	TP	I	HELL2	00044	01443	11	00012 03546
	RA	HELL2	V1	00045	01444	21	03546 03652
	MP	R	V4	00046	01445	71	00014 03655
	AT	V1	HELL8	00047	01446	35	03652 03547
	R.I	ALL2	ALLOK	00050	01447	37	00333 00331
		CORE1	DRUM1	00051	01450	00	03757 03756
		VARBL	FILL	00052	01451	00	04004 30000
	SP	MARK1		00053	01452	31	00351 00000
	Z.I	ZSUM	CRI	00054	01453	47	01456 01454
CRI	TP	VO	E1	00055	01454	11	03632 03771
	M.I	L+2		00056	01455	45	00000 01457
ZSUM	TP	V1	E1	00057	01456	11	03652 03771
	TI	TTXE	LLL99	00060	01457	15	01520 01466
	TV	LAKBK	EAKBK	00061	01460	16	00134 02024
	TU	LAKBK+1	EAKBK	00062	01461	15	00135 02024
	LD	V7777B	A+15	00063	01462	55	03572 32017
	SP	HELLB	15	00064	01463	31	03547 00017
	QS	A	BKAB	00065	01464	53	32000 02023
	RA	L+1	U1	00066	01465	21	01466 03633
LLL99	TI	FILL	LLL96	00067	01466	15	30000 01474
	TV	LNKET	LLL96	00070	01467	16	00206 01474
	SP	R	15	00071	01470	31	00014 00017
	TU	A	L+2	00072	01471	15	32000 01473
	RA	L+1	UUU3	00073	01472	21	01473 03746

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LLL95	ROB		L+2	00074	01473	75	30000	01475
LLL96	TP	FILL	FILL	00075	01474	11	30000	30000
	IJ	E1	L+2	00076	01475	41	03771	01477
	MJ		LL883	00077	01476	45	00000	01504
	TUJ	TTTSM	LLL97	00100	01477	15	01521	01501
	RA	LLL97	U1	00101	01500	21	01501	03633
LLL97	TU	FILL	LLL96	00102	01501	15	30000	01474
	TV	LNSMT	LLL96	00103	01502	16	00203	01474
	MJ		LLL95	00104	01503	45	00000	01473
LL883	SP	MARK1		00105	01504	31	00351	00000
	ZJ	XESUM	CRIT	00106	01505	47	01506	01515
XESUM	TP	V1	ISO	00107	01506	11	03652	00350
	TV	LNXET	PARM2	00110	01507	16	00206	03600
LL333	RJ	NCON2	CLEAR	00111	01510	37	01524	01525
	TP	V2	ISO	00112	01511	11	03653	00350
	TV	LNSMT	PARM2	00113	01512	16	00203	03600
	RJ	NCON2	CLEAR	00114	01513	37	01524	01525
	MJ		NCFTX2	00115	01514	45	00000	01403
CRIT	TV	LNXET	PARM2	00116	01515	16	00206	03600
	RJ	NCON2	CLEAR	00117	01516	37	01524	01525
	MJ		NCFTX2	00120	01517	45	00000	01403
TTTSE		LNXET		00121	01520	00	00206	00000
TTTSM		LNSMT		00122	01521	00	00203	00000
NCON	MJ	0000	CLEAR	00123	01522	45	00000	01525
	MS	0000	0000	00124	01523	56	00000	00000
NCON2	MJ	0000	FILL	00125	01524	45	00000	30000
CLEAR	TP	S	SP1	00126	01525	11	00015	03576
	RA	SF1	V1	00127	01526	21	03576	03652
	SP	TAPE3	12	00120	01527	31	00072	00014
	AT	CDUMP	DUMP99	00121	01530	35	03252	03253
	TP	TAPE4	MARK2	00122	01531	11	00073	00352
	TV	MIK11	MT3	00123	01532	16	03566	02077
	TV	MIK23	NL2	00124	01533	16	03570	02215
	TV	MIKE3	NEXTG	00125	01534	16	03563	02057
CL433	TUJ	PARM1	CL44	00126	01535	15	03577	01536
CL44	SP	FILL	0000	00127	01536	31	30000	00000
CL45	ZJ	THEZ	THEMC	00140	01537	47	01561	01540
THEMC	TP	HELP	NEXTA	00141	01540	11	03551	02046
	SP	TAPE3	30	00142	01541	31	00072	00036
	TP	A	R01	00143	01542	11	32000	02013
	TP	A	COMB1	00144	01543	11	32000	02016
	TP	A	RDB98	00145	01544	11	32000	02027
	TP	A	RDC88	00146	01545	11	32000	02032
	TP	A	RDB88	00147	01546	11	32000	02035
	TP	A	RDE88	00120	01547	11	32000	02040
	TP	A	RDF88	00121	01550	11	32000	02043
	SP	TAPE4	30	00122	01551	31	00073	00036
	TP	A	ITLD2	00123	01552	11	32000	01672
	TP	A	WRITS	00124	01553	11	32000	01733
	TP	VO	BUTST	00125	01554	11	03632	03527
	TP	VO	TIJCN	00126	01555	11	03632	03623
	TP	VO	PBCNT	00127	01556	11	03632	03601
	TP	VO	NCBMP	00100	01557	11	03632	03571
	MJ	0000	ALKIN	00101	01560	45	00000	01564
THEZ	TV	MIK22	NL2	00102	01561	16	03567	02215
	TV	MIKE6	NEXTG	00103	01562	16	03564	02057
	MJ	0000	THEMC	00104	01563	45	00000	01540
ALKIN	TUJ	ZPBK1	HAR1	00105	01564	15	03750	01566
	RA	HAR1	U1	00106	01565	21	01566	03633
HAR1	TUJ	FILL	HAR3	00107	01566	15	30000	01574

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	TV	LPBK1	HAR3		00170 01567	16	00164	01574
	SP	RI	15		00171 01570	31	03610	00017
	TU	A	HAR2		00172 01571	15	32000	01573
	RA	HAR2	UUU3		00173 01572	21	01573	03744
HAR2	RPB	FILL	L+2	BRING IN PBKI	00174 01573	75	60000	01575
HAR3	TP	FILL	FILL	MATRIX	00175 01574	11	30000	30000
	TP	I	YYYY		00176 01575	11	00012	03765
	RA	IIIII	V3		00177 01576	21	03765	03654
	SP	IIIII	15		00200 01577	31	03765	00017
	TU	A	HAR4		00201 01600	15	32000	01606
	TU	ZENGY	HAR5		00202 01601	15	03752	01603
	RA	HAR5	U1		00203 01602	21	01603	03633
HAR5	TU	FILL	HAR6		00204 01603	15	30000	01607
	TV	LENGY	HAR6		00205 01604	16	00131	01607
	RA	HAR4	UUU3		00206 01605	21	01606	03744
HAR4	RPB	FILL	L+2	BRING IN	00207 01606	75	60000	01610
HAR6	TP	FILL	FILL	ENGY	00210 01607	11	30000	30000
	MP	S	I		00211 01610	71	00015	00012
	SP	A	15		00212 01611	31	32000	00017
	TU	A	HAR15		00213 01612	15	32000	01620
	TU	ZSFKI	HAR17		00214 01613	15	03751	01615
	RA	HAR17	U1		00215 01614	21	01615	03633
HAR17	TU	FILL	HAR16		00216 01615	15	30000	01621
	TV	LSFKI	HAR16		00217 01616	16	00167	01621
	RA	HAR15	UUU3		00220 01617	21	01620	03744
HAR15	RPB	FILL	L+2	BRING IN	00221 01620	75	60000	01622
HAR16	TP	FILL	FILL	SFKI	00222 01621	11	30000	30000
	RC	YYYY	V1		00223 01622	23	03765	03652
	MP	R	IIIII		00224 01623	71	00014	03765
	SP	A	15		00225 01624	31	32000	00017
	TU	A	HAR9		00226 01625	15	32000	01633
	TU	ZPHKI	HAR9		00227 01626	15	03753	01630
	RA	HAR8	U1		00220 01627	21	01630	03633
HAR8	TU	FILL	HAR10		00221 01630	15	30000	01634
	TV	LPHKI	HAR10		00222 01631	16	00200	01634
	RA	HAR9	UUU3		00223 01632	21	01633	03744
HAR9	RPB	FILL	L+2	BRING IN	00224 01633	75	60000	01635
HAR10	TP	FILL	FILL	PHKI	00225 01634	11	30000	30000
	MP	B	R		00226 01635	71	00013	00014
	SP	A	15		00227 01636	31	32000	00017
	TU	A	HAR13		00240 01637	15	32000	01645
	TU	ZBRMX	HAR12		00241 01640	15	03754	01642
	RA	HAR12	U1		00242 01641	21	01642	03633
HAR12	TU	FILL	HAR14		00243 01642	15	30000	01646
	TV	LERMX	HAR14		00244 01643	16	00175	01646
	RA	HAR13	UUU3		00245 01644	21	01645	03744
HAR13	RPB	FILL	L+2	BRING IN THE	00246 01645	75	60000	01647
HAR14	TP	FILL	FILL	BRMX	00247 01646	11	30000	30000
HAR20	SP	B	15		00250 01647	31	00013	00017
	TU	A	HAR22		00251 01650	15	32000	01656
	TU	ZISOP	HAR21		00252 01651	15	03755	01653
	RA	HAR21	U1		00253 01652	21	01653	03633
HAR21	TU	FILL	HAR23		00254 01653	15	30000	01657
	TV	LISOP	HAR23		00255 01654	16	00126	01657
	RA	HAR22	UUU3		00256 01655	21	01656	03744
HAR22	RPB	FILL	L+2	BRING ISOP	00257 01656	75	60000	01660
HAR23	TP	FILL	FILL		00260 01657	11	30000	30000
	TU	PARMI	CHRTG		00261 01660	15	03577	01661
CHRTG	SP	FILL	0000		00262 01661	31	30000	00000
	ZJ	CHRTY	COMM		00263 01662	47	01663	01763

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CHRY	TH	MXC100	ITLD3	READ NUCLEAR CONSTANTS	00204 01663	15	01676	01667
	TP	V6	RIM1		00205 01664	11	03657	03602
JJAB	IJ	RIM1	ITLD3		00206 01665	41	03602	01667
	RJ		CHRY		00207 01666	45	00000	01705
ITLD3	TI	FILL	L+1	FOR CORRECTOR	00210 01667	15	30000	01670
	TV	FILL	ITLD2		00271 01670	16	30000	01672
ITLDH	RJ	BK2	BK		00272 01671	37	00336	00334
ITLD2			FILL		00273 01672	00	00000	30000
	MJ		CHRY		00274 01673	45	00000	01705
	RA	ITLD3	UI		00275 01674	21	01667	03633
	MJ		JJAB		00276 01675	45	00000	01665
MXC100					00277 01676	00	01677	00000
MXC101		MXC101			00300 01677	00	00211	00000
		LDKI			00301 01700	00	00214	00000
		LTKI			00302 01701	00	00217	00000
		LTKIJ			00303 01702	00	00222	00000
		LFKI			00304 01703	00	00225	00000
		LXKI			00305 01704	00	00230	00000
		LMKI			00306 01705	75	10004	01707
CHRY	REV	4	L+2		00307 01706	16	00211	01712
	TV	LDKI	UNDO		00310 01707	71	00014	00012
	MP	R	I		00311 01710	36	03652	03602
	ST	V1	RIM1		00312 01711	11	03602	03607
UNDO	TP	RIM1	RIMX		00313 01712	66	03541	30000
	F4	F3	FILL		00314 01713	11	31000	30000
	TP	Q	FILL		00315 01714	67	03540	30000
	FD	F1	FILL		00316 01715	11	31000	30000
	TP	Q	FILL		00317 01716	75	20004	01720
	RBU	4	L+2		00320 01717	21	01712	03652
	RA	UNDO	V1		00321 01720	41	03607	01712
	IJ	RIMX	UNDO		00342 01721	37	03244	03242
	RJ	WIN2	WINDE	REWIND NUCLEON TAPE	00343 01722	45	00000	01763
	MJ	0000	COMM		00344 01723	71	00014	00012
LEAVE	MP	R	I	EXIT	00345 01724	35	03652	03627
	AT	V1	VLADD		00346 01725	31	03627	00017
	SP	VLADD	15		00347 01726	15	32000	01733
	TH	A	WRIT8		00350 01727	16	00211	01733
	TV	LDKI	WRIT9		00351 01730	55	03566	32025
	LO	MIK11	A+21		00352 01731	16	31000	01734
	TV	Q	WRIT9		00353 01732	37	00341	00337
WRITE	RJ	WR2	BRITE		00354 01733	00	30000	30000
WRIT8		FILL	FILL		00355 01734	45	00000	30000
WRIT9	MJ	0000	FILL	WRIT	00356 01735	16	00214	01733
WRIT	TV	LTKI	WRIT8		00357 01736	21	01734	03654
	RA	WRIT9	V3		00340 01737	45	00000	01732
	MJ	0000	WRITE		00341 01740	31	03544	00017
	SP	HELL	15		00342 01741	15	32000	01733
	TH	A	WRIT8		00343 01742	21	01734	03656
	RA	WRIT9	V5		00344 01743	16	00217	01733
	TV	LTKIJ	WRIT8		00345 01744	45	00000	01732
	MJ	0000	WRITE		00346 01745	16	00222	01733
	TV	LFKI	WRIT8		00347 01746	31	03627	00017
	SP	VLADD	15		00350 01747	15	32000	01733
	TH	A	WRIT8		00351 01750	21	01734	03656
	RA	WRIT9	V5		00352 01751	45	00000	01732
	MJ	0000	WRITE		00353 01752	16	00225	01733
	TV	LXKI	WRIT8		00354 01753	21	01734	03654
	RA	WRIT9	V3		00355 01754	45	00000	01732
	MJ	0000	WRITE		00356 01755	16	00230	01733
	TV	LMKI	WRIT8		00357 01756	21	01734	03654
	RA	WRIT9	V3					

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	MJ	0000	WRITE		00300	01757	45	00000	01732
	RJ	REW2	REWND	REWIND	00301	01760	37	03235	03233
	RJ	WIN2	WINDE	BOTH TAPES	00302	01761	37	03244	03242
	MJ	0000	NCOR2		00303	01762	45	00000	01524
COMM	TV	LFISS	RDB88		00304	01763	16	04120	02027
	TV	LNUI	ROC88		00305	01764	16	04123	02032
	TV	LSCAT	RDR88		00306	01765	16	04126	02035
	TV	LTRAN	RDE88		00307	01766	16	04134	02040
	TV	LTOTL	RDF88		00310	01767	16	04131	02043
	TV	LXET	ROI		00311	01770	16	04115	02013
	TV	LINDI	COM91		00312	01771	16	04137	02016
	TV	DUD	RDF99		00313	01772	16	03533	02045
COMM1	TU	PARM1	COMM2		00314	01773	15	03577	01774
COMM2	SP	FILL	0000		00315	01774	31	30000	00000
	ZJ	COMM4	COMM9		00316	01775	47	01776	02010
COMM4	TI	PARM2	COMM6		00317	01776	15	03000	01777
COMM6	TP	FILL	SM1		00400	01777	11	30000	03525
	RS	BM1	VI		00401	02000	23	03525	03652
	MP	VIO	BM1		00402	02001	71	03663	03525
	AT	V2	BM1		00403	02002	35	03653	03525
COMM8	EF		DUMP99		00404	02003	17	00000	03253
	IJ	BM1	COMM8		00405	02004	41	03525	02003
	TV	MTKE9	MT3		00406	02005	16	03573	02077
	TV	MIKE1	RDF99		00407	02006	16	03561	02045
	MJ	0000	RDA		00410	02007	45	00000	02015
COMM9	EF		DUMP99	PASS 2ST 2 BLOCKS	00411	02010	17	00000	03253
	EF		DUMP99		00412	02011	17	00000	03253
RDX	RJ	BK2	BK		00413	02012	37	00336	00334
RD1			FILL		00414	02013	00	00000	30000
	MJ		GIN		00415	02014	45	00000	02412
RDA	RJ	BK2	BK		00416	02015	37	00336	00334
COM81			FILL	INDIK BLOCK	00417	02016	00	00000	30000
			GIN		00420	02017	45	00000	02412
	EF		DUMP99		00421	02020	17	00000	03253
	EF		DUMP99		00422	02021	17	00000	03253
	EF		DUMP99		00423	02022	17	00000	03253
BK88	RDB		L+2		00424	02023	75	30000	02025
EAKBK	TP	FILL	FILL		00445	02024	11	30000	30000
	EF		DUMP99		00446	02025	17	00000	03253
	RJ	BK2	BK		00447	02026	37	00336	00334
RDB88			FILL		00450	02027	00	00000	30000
	MJ		GIN		00451	02030	45	00000	02412
	RJ	BK2	BK		00452	02031	37	00336	00334
RDC88			FILL		00453	02032	00	00000	30000
	MJ		GIN		00454	02033	45	00000	02412
	RJ	BK2	BK		00455	02034	37	00336	00334
RDD88			FILL		00456	02035	00	00000	30000
	MJ		GIN		00457	02036	45	00000	02412
	RJ	BK2	BK		00458	02037	37	00336	00334
RDE88			FILL		00441	02040	00	00000	30000
	MJ		GIN		00442	02041	45	00000	02412
	RJ	BK2	BK		00443	02042	37	00336	00334
RDF88		0	FILL		00444	02043	00	00000	30000
	MJ		GIN		00445	02044	45	00000	02412
RDF99	MJ	0000	FILL		00446	02045	45	00000	30000
NEXTA	TV	MARY	RDF99		00447	02046	16	03557	02045
	MJ	0000	RDA		00450	02047	45	00000	02015
NEXTR	RA	NL1	U8		00451	02050	21	02212	03636
	RA	EAKBK	U4		00452	02051	21	02024	03636
	TU	NL1	NE1		00453	02052	15	02212	02053

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NE1	SP	FILL	0000		00424 02053	31	30000	00000
	EJ	FLAG9	NEXTH		00425 02054	43	03536	02056
	M.I	0000	NNL1		00426 02055	45	00000	02211
NEXTH	RA	EAKBK	U1		00427 02056	21	02024	03633
NEXTG	MJ	0009	FILL		00400 02057	45	00000	30000
MUCK	TU	LEIN	SCZ71		00401 02060	15	04112	02350
	TV	CPHKI	SCZ71		00402 02061	16	00200	02350
	TU	LSCAT	SCZ23		00403 02062	15	04126	02352
	TV	LENGY	SCZ23		00404 02063	16	00131	02352
	TU	LTRAN	SS1		00405 02064	15	04134	02307
	TV	LTOTL	SS1		00406 02065	16	04131	02307
	TV	LFISS	SS2		00407 02066	16	04120	02310
	TU	LEIN	SS3		00410 02067	15	04112	02311
	TV	CPHKI	SS3		00411 02070	16	00200	02311
	TU	LENGY	SS6		00412 02071	15	00131	02314
THEIN	TV	LEIN	MT2		00413 02072	16	04112	02076
	TU	LENGY	MT2		00414 02073	15	00131	02076
MT	RJ	EINV2	EINV		00415 02074	37	02430	02426
MT1	Q	I	0000		00416 02075	00	00012	00000
MT2	Q	FILL	FILL		00417 02076	00	30000	30000
MT3	M.I	0000	FILL		00500 02077	45	00000	30000
NEX	TP	I	AAA	START-XK1	00501 02100	11	00012	03705
	RS	AAA	V1		00502 02101	23	03705	03652
	SP	R	15		00503 02102	31	00014	00017
	TU	A	XK3		00504 02103	15	32000	02115
	RA	XK3	VV1		00505 02104	21	02115	03630
	TU	LENGY	XK1		00506 02105	15	00131	02112
	TV	LENGY	XK1		00507 02106	16	00131	02112
	RA	XK1	U1V2		00510 02107	21	02112	03701
	TU	LXE1	XK2		00511 02110	15	04115	02114
	TV	LXK1	XK4		00512 02111	16	00225	02116
XK1	FS	FILL	FILL	ENGY ENGY	00513 02112	65	30000	30000
	TP	Q	E1		00514 02113	11	31000	03771
XK2	FT	FILL	E1	XE1	00515 02114	67	30000	03771
XK3	RPV	FILL	L+2	R	00516 02115	75	40000	02117
XK4	TP	Q	FILL	XK1	00517 02116	11	31000	30000
	RA	XK2	U1		00520 02117	21	02114	03633
	RA	XK4	R		00521 02120	21	02116	00014
	RA	XK1	U1V1		00522 02121	21	02112	03671
	TJ	AAA	XK1		00523 02122	41	03705	02112
	TV	LXK1	XK5		00524 02123	16	00225	02125
	RA	XK5	SAM		00525 02124	21	02125	03613
XK5	TP	FLAG9	FILL	ENG-XK0	00526 02125	11	03536	30000
BUCK	MP	R	I		00527 02126	71	00014	00012
	TP	A	PBCNT		00520 02127	11	32000	03601
	SP	PBCNT	15		00521 02130	31	03601	00017
	TP	A	PBCNT		00522 02131	11	32000	03601
	TU	PBCNT	PBIN		00523 02132	15	03601	02136
	RA	PBIN	UUU3		00524 02133	21	02136	03746
	TU	LPBK1	P1		00525 02134	15	00164	02137
	TV	LTK1	P1		00526 02135	16	00214	02137
PBTN	RPV	FILL	L+2		00527 02136	75	60000	02140
P1	TP	FILL	FILL		00540 02137	11	30000	30000
	TV	P1	P2		00541 02140	16	02137	02142
	RA	P2	SAM		00542 02141	21	02142	03613
P2	TP	FLAG9	FILL		00543 02142	11	03536	30000
	TU	PBCNT	CLERD		00544 02143	15	03601	02146
	RA	CLEAD	VV1		00545 02144	21	02146	03630
	TV	LDK1	OGRF		00546 02145	16	00211	02147
CLERD	RPV	FILL	L+2		00547 02146	75	40000	02150

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OGRE	TP	FO	FILL	00590	02147	11	03537	30000
	TV	OGRE	OGR <sup>a</sup>	00591	02150	16	02147	02152
	RA	OGR <sup>a</sup>	SAM	00592	02151	21	02152	03613
OGR8	TP	FLAGU	FILL	00593	02152	11	03536	30000
	TU	PBCNT	CLERM	00594	02153	15	03601	02156
	RA	CLERM	VVV1	00595	02154	21	02156	03630
	TV	LKXI	OGR6	00596	02155	16	00230	02157
CLERM	ROV	FILL	L+2	00597	02156	75	40000	02160
OGR6	TP	FO	FILL	00598	02157	11	03537	30000
	TV	OGR6	OGR7	00599	02160	16	02157	02162
	RA	OGR7	SAM	00602	02161	21	02162	03613
OGR7	TP	FLAGU	FILL	00603	02162	11	03536	30000
	TU	PBCNT	CLERF	00604	02163	15	03601	02166
	RA	CLERF	VVV1	00605	02164	21	02166	03630
	TV	LFXI	ORGY	00606	02165	16	00222	02167
CLERF	ROV	FILL	L+2	00607	02166	75	40000	02170
ORGY	TP	FO	FILL	00610	02167	11	03537	30000
	TV	ORGY	ORGR	00611	02170	16	02167	02172
	RA	ORGR	SAM	00612	02171	21	02172	03613
ORGR	TP	FLAGU	FILL	00613	02172	11	03536	30000
	TP	HELL	BELL	00614	02173	11	03544	03526
	SP	BELL	IS	00615	02174	31	03526	00017
	TP	A	BELL	00616	02175	11	32000	03526
	TU	BELL	CTKIJ	00617	02176	15	03526	02201
	RA	CTKIJ	VVV1	00600	02177	21	02201	03630
	TV	LTKIJ	OGLE	00601	02200	16	00217	02202
CTKIJ	ROV	FILL	L+2	00602	02201	75	40000	02203
OGLE	TP	FO	FILL	00603	02202	11	03537	30000
	TV	OGLE	OGLE	00604	02203	16	02202	02205
	RA	OGLE	JONES	00605	02204	21	02205	03554
OGLE	TP	FLAGU	FILL	00606	02205	11	03536	30000
NXL1	RJ	CODE2	CODER	00607	02206	37	03272	03273
		TEST2	FILL	00610	02207	00	03260	30000
NXL656	TU	LAKBK	NL1	00611	02210	15	00134	02212
NNL1	ROV	4	L+2	00612	02211	75	30004	02213
NL1	TP	FILL	NLK	00613	02212	11	30000	03760
	TP	NLK3	NLKX	00614	02213	11	03763	03744
	RC	NLKX	V1	00615	02214	23	03744	03652
NL2	M.I	0000	FILL	00616	02215	45	00000	30000
NL3	TP	NLKX	NLKZ	00617	02216	11	03744	03745
	LQ	NLKZ	IS	00620	02217	55	03745	00017
	SP	PARM2	IS	00621	02220	31	03600	00017
	TU	A	NL4	00622	02221	15	32000	02223
	RA	NL4	NLKZ	00623	02222	21	02223	03745
NL4	TP	FILL	NLK1	00624	02223	11	30000	03761
	MJ	0000	NL9	00625	02224	45	00000	02236
NL5	TP	NLK	NLKZ	00626	02225	11	03760	03745
	RS	NLKZ	V1	00627	02226	23	03745	03652
	MP	R	NLKZ	00630	02227	71	00014	03745
	TP	A	NLK7	00631	02230	11	32000	03745
	RA	NLKZ	NLKX	00632	02231	21	03745	03744
	LQ	NLKZ	IS	00633	02232	55	03745	00017
	TU	LBRMX	NL6	00634	02233	15	00175	02235
	RA	NL6	NLKZ	00635	02234	21	02235	03745
NL6	TP	FILL	NLK1	00636	02235	11	30000	03761
NL9	TV	LFXI	ZF1	00637	02236	16	00222	02325
	TV	LFXI	ZF2	00640	02237	16	00222	02326
	TV	LTKI	T01	00641	02240	16	00214	02335
	TV	LTKI	T02	00642	02241	16	00214	02336
	TV	LTKIJ	S1	00643	02242	16	00217	02360

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	TV	LTKI	S2	00644	02243	16	00217	02361	
	TV	LDKI	T1	00645	02244	16	00211	02331	
	TV	LDKI	T2	00646	02245	16	00211	02332	
	TV	LMKI	MKI2	00647	02246	16	00230	02322	
	TV	LMKI	MKI1	00650	02247	16	00230	02323	
	TV	LNUT	N1	00651	02250	16	04123	02324	
	TP	NLK3	NCBMP	00652	02251	11	03763	03571	
	RS	NCBMP	V1	00653	02252	23	03571	03652	
	RA	ZF1	NCBMP	00654	02253	21	02325	03571	
	RA	ZF2	NCBMP	00655	02254	21	02326	03571	
	RA	T1	NCBMP	00656	02255	21	02331	03571	
	RA	T2	NCBMP	00657	02256	21	02332	03571	
	RA	TO1	NCBMP	00658	02257	21	02335	03571	
	RA	TO2	NCBMP	00659	02258	21	02336	03571	
	RA	S1	NCBMP	00662	02261	21	02360	03571	
	RA	S2	NCBMP	00663	02262	21	02361	03571	
	RA	MKI2	NCBMP	00664	02263	21	02322	03571	
	RA	MKI3	NCBMP	00665	02264	21	02323	03571	
LISI	TH	LSFKI	FIS	00666	02265	15	00167	02314	
	TH	LSFKI	TRA	00667	02266	15	00167	02327	
	TH	LSFKI	TOT	00670	02267	15	00167	02333	
	TP	NLK2	ORE	00671	02270	11	03762	03575	
	RS	ORE	V1	00672	02271	23	03575	03652	
	MP	I	ORE	00673	02272	71	00012	03575	
	TP	A	ORE	00674	02273	11	32000	03575	
	SP	ORE	15	00675	02274	31	03575	00017	
	TP	A	ORE	00676	02275	11	32000	03575	
	TP	VI	HEMA	00677	02276	11	03652	03552	
	SP	HEMA	15	00700	02277	31	03552	00017	
	TP	A	HEMA	00701	02300	11	32000	03552	
	RA	FIS	ORE	00702	02301	21	02316	03575	
	RA	TRA	ORE	00703	02302	21	02327	03575	
	RA	TOT	ORE	00704	02303	21	02333	03575	
JAZBO	TP	NLK3	KKXKK	00705	02304	11	03763	03764	
	TP	V1	IIIII	00706	02305	11	03652	03765	
SIGMA	RJ	MRES2	MRES	00707	02306	37	02632	02630	
SS1	Q	FILL	FILL	00710	02307	00	30000	30000	NUP
SS2	Q	0000	FILL	00711	02310	00	00000	30000	NUP
SS3	Q	FILL	FILL	00712	02311	00	30000	30000	NUP
SS4	Q	KKXKK	TTTTI	00713	02312	00	03764	03765	NUP
SS5	Q	BUTST	I	00714	02313	00	03527	00012	NUP
SS6	Q	FILL	FILL	00715	02314	00	30000	30000	NUP
	TP	E1	RRR	00716	02315	11	03771	03605	
FIS	FM	FILL	SIS	00717	02316	66	30000	03775	
	FM	Q	NLK1	00720	02317	66	31000	03761	
	FM	Q	E1	00721	02320	66	31000	03771	
	TP	Q	RRRR	00722	02321	11	31000	03605	
MKI2	FA	Q	FILL	00723	02322	64	31000	30000	
MKI3	TP	Q	FILL	00724	02323	11	31000	30000	
N1	FM	RRRR	FILL	00725	02324	66	03606	30000	
ZF1	FA	Q	FILL	00726	02325	64	31000	30000	
ZF2	TP	Q	FILL	00727	02326	11	31000	30000	
TRA	FM	FILL	SIG2	00720	02327	66	30000	03777	
	FM	Q	NLK1	00721	02330	66	31000	03761	
	TP	Q	FILL	00722	02331	64	31000	30000	
T1	FA	Q	FILL	00723	02332	11	31000	30000	
T2	TP	Q	FILL	00724	02333	66	30000	04001	
TOT	FM	FILL	SIG4	00725	02334	66	31000	03761	
	FM	Q	NLK1	00726	02335	64	31000	30000	
TO1	FA	Q	FILL	00726	02335	64	31000	30000	
TO2	TP	Q	FILL	00727	02336	11	31000	30000	

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	TP	R	LOWR	00740	02337	11	00014	03556	
	SP	IIIII	0000	00741	02340	31	03765	00000	
	EJ	V1	MAY	00742	02341	43	03652	02365	
	TJ	LSPK1	SCAB	00743	02342	15	00167	02354	
	RA	SCAB	ORE	00744	02343	21	02354	03575	
	TP	IIIII	TIJCN	00745	02344	11	03765	03623	
	RE	TIJCN	V2	00746	02345	23	03623	03653	
	TP	V1	JJJ	00747	02346	11	03652	04002	
SCA	R.I	SCTR2	SCTR	00750	02347	37	03043	03042	
SCZ21	A	FILL	FILL	00751	02350	00	30000	30000	NUP
SCZ22	A	NLK3	0000	00752	02351	00	03763	00000	NUP
SCZ23	A	FILL	FILL	00753	02352	00	30000	30000	NUP
SCZ24	A	IIIII	FILL	00754	02353	00	03765	04002	NUP
SCAB	FM	FILL	SIG3	00755	02354	66	30000	04000	
	FM	Q	NLK1	00756	02355	66	31000	03761	
	FM	Q	E1	00757	02356	66	31000	03771	
	FD	Q	RRR	00760	02357	67	31000	03605	
S1	FA	Q	FILL	00761	02360	64	31000	30000	
S2	TP	Q	FILL	00762	02361	11	31000	30000	
	IJ	TIJCN	MORE	00763	02362	41	03623	02405	
KAY	RA	S1	LOWR	00764	02363	21	02360	03556	
	RA	S2	LOWR	00765	02364	21	02361	03556	
MAY	RA	T2	LOWR	00766	02365	21	02332	03556	
	RA	T1	LOWR	00767	02366	21	02331	03556	
	RA	MK12	LOWR	00770	02367	21	02322	03556	
	RA	MK13	LOWR	00771	02370	21	02323	03556	
	RA	TRA	HEMA	00772	02371	21	02327	03552	
	RA	ZF1	LOWR	00773	02372	21	02325	03556	
	RA	ZF2	LOWR	00774	02373	21	02326	03556	
	RA	FIS	HEMA	00775	02374	21	02316	03552	
	RA	T01	LOWR	00776	02375	21	02335	03556	
	RA	T02	LOWR	00777	02376	21	02336	03556	
	RA	T0T	HEMA	01000	02377	21	02333	03552	
	RA	NI	VI	01001	02400	21	02324	03652	
RED88	SP	I	0000	01002	02401	31	00012	00000	
	EJ	IIIII	NEXTR	01003	02402	43	03765	02050	
	RA	IIIII	VI	01004	02403	21	03765	03652	
	MJ	0000	SIGMA	01005	02404	45	00000	02306	
MORE	RA	S2	LOWR	01006	02405	21	02361	03556	
	RA	S1	LOWR	01007	02406	21	02360	03556	
	RA	SCAB	HEMA	01010	02407	21	02354	03552	
	RA	JJJ	VI	01011	02410	21	04002	03652	
	MJ	0000	SCA	01012	02411	45	00000	02347	
GIN	REV	4	L+2	01013	02412	75	10004	02414	
	TV	LDKI	AND	01014	02413	16	00211	02416	
	MP	R	I	01015	02414	71	00014	00012	
	ST	V1	RIM1	01016	02415	36	03652	03602	
AND	FM	F3	FILL	01017	02416	66	03541	30000	
	TP	Q	FILL	01020	02417	11	31000	30000	
	FD	F1	FILL	01021	02420	67	03540	30000	
	TP	Q	FILL	01022	02421	11	31000	30000	
	REV	4	L+2	01023	02422	75	20004	02424	
	RA	AND	VI	01024	02423	21	02416	03652	
	IJ	RIM1	AND	01025	02424	41	03602	02416	
TONIC	MJ	0000	LEAVE	01026	02425	45	00000	01723	
EINV	MJ	0000	REGTM	01027	02426	45	00000	02431	
	MS	0000	0000	01030	02427	56	00000	00000	
EINV2	MJ	0000	FILL	01031	02430	45	00000	30000	
BEGIN	SP	EINV2	15	01032	02431	31	02430	00017	
	TU	A	BE1	01033	02432	15	32000	02433	

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BE1	SP	FILL	0000	01034	02433	31	30000	00000
	TU	A	BE2	01035	02434	15	32000	02435
BE2	TP	FILL	ITEST	01036	02435	11	30000	03716
	TU	BE2	AAS	01037	02436	15	02435	02476
	RA	EINV2	V1	01040	02437	21	02430	03652
	SP	EINV2	15	01041	02440	31	02430	00017
	TU	A	BE22	01042	02441	15	32000	02442
BE22	SP	FILL	0000	01043	02442	31	30000	00000
	TV	A	AB	01044	02443	16	32000	02527
	TU	A	AA	01045	02444	15	32000	02454
	TP	A	Q	01046	02445	11	32000	31000
	LD	Q	21	01047	02446	55	31000	00025
	TV	Q	AA	01048	02447	16	31000	02454
	RA	AA	U1	01049	02450	21	02454	03633
	TP	V1	ICOUN	01042	02451	11	03652	03743
	SP	V1	0000	01043	02452	31	03652	00000
	EJ	ICOUN	AAT	01044	02453	43	03743	02460
AA	FA	FILL	FILL	01045	02454	64	30000	30000
	FD	Q	F2	01046	02455	67	31000	03542
	TP	Q	AAA	01047	02456	11	31000	03705
	MJ	0000	AAX	01048	02457	45	00000	02464
AAT	TU	AA	AAT2	01049	02460	15	02454	02467
	TV	AA	AAT3	01042	02461	16	02454	02462
AAT2	FA	FILL	FILL	01043	02462	64	30000	30000
	TP	Q	AAA	01044	02463	11	31000	03705
AAX	TU	AA	AA1	01045	02464	15	02454	02467
	TV	AA	AA1	01046	02465	16	02454	02467
	RA	AA1	V2	01047	02466	21	02467	03653
AA1	FA	FILL	FILL	01048	02467	64	30000	30000
	FD	Q	F2	01049	02470	67	31000	03542
	TP	Q	BBB	01042	02471	11	31000	03704
	TU	AA	AA2	01043	02472	15	02454	02477
	TV	AA	AA2	01044	02473	16	02454	02477
	RA	AA2	U1V3	01045	02474	21	02477	03702
	SP	ICOUN	0000	01046	02475	31	03743	00000
AAS	EJ	FILL	AAS1	01047	02476	43	30000	02503
AA2	FA	FILL	FILL	01048	02477	64	30000	30000
	FD	Q	F2	01101	02500	67	31000	03542
	TP	Q	CCC	01102	02501	11	31000	03707
	MJ	0000	XAA	01103	02502	45	00000	02507
AAS1	TU	AA2	AAS3	01104	02503	15	02477	02505
	TV	AA2	AAS3	01105	02504	16	02477	02505
AAS3	FA	FILL	FILL	01106	02505	64	30000	30000
	TP	Q	CCC	01107	02506	11	31000	03707
XAA	FS	BBB	AAA	01110	02507	65	03706	03705
	TP	Q	DIFF	01111	02510	11	31000	03710
	FS	CCC	AAA	01112	02511	65	03707	03705
	TP	Q	DIFF1	01113	02512	11	31000	03711
	FS	CCC	BBB	01114	02513	65	03707	03706
	TP	Q	DIFF2	01115	02514	11	31000	03712
	FA	CCC	BBB	01116	02515	64	03707	03706
	TP	Q	DIFF3	01117	02516	11	31000	03713
	FA	CCC	AAA	01120	02517	64	03707	03705
	TP	Q	DIFF4	01121	02520	11	31000	03714
	FA	BBB	AAA	01122	02521	64	03706	03705
	TP	Q	DIFF5	01123	02522	11	31000	03715
	FM	DIFF	DIFF1	01124	02523	66	03710	03711
	FM	Q	DIFF2	01125	02524	66	31000	03712
	TP	Q	QUATL	01126	02525	11	31000	03720
	FD	F1	QUATL	01127	02526	67	03540	03720

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AB	TO	Q	FILL	01130 02527	11	31000	30000
	TV	AB	AB1	01131 02530	16	02527	02534
	RA	AB1	VI	01132 02531	21	02534	03652
AB1	FM	AAA	DIFF3	01133 02532	66	03705	03713
	FM	Q	DIFF2	01134 02533	66	31000	03712
	TN	Q	FILL	01135 02534	13	31000	30000
	TV	AB1	AB2	01136 02535	16	02534	02541
	RA	AB2	VI	01137 02536	21	02541	03652
	FM	BBB	DIFF4	01140 02537	66	03706	03714
AB2	FM	Q	DIFF1	01141 02540	66	31000	03711
	TO	Q	FILL	01142 02541	11	31000	30000
	TV	AB2	AB3	01143 02542	16	02541	02546
	RA	AB3	VI	01144 02543	21	02546	03652
	FM	DIFF5	DIFF	01145 02544	66	03715	03710
	FM	Q	CCC	01146 02545	66	31000	03707
AB3	TN	Q	FILL	01147 02546	13	31000	30000
	TV	AB3	AB4	01150 02547	16	02546	02555
	RA	AB4	VI	01151 02550	21	02555	03652
	FM	AAA	BBB	01152 02551	66	03705	03706
	FM	Q	CCC	01153 02552	66	31000	03707
	TO	Q	TEMP8	01154 02553	11	31000	03717
AB4	FM	TEMP8	DIFF2	01155 02554	66	03717	03712
	TO	Q	FILL	01156 02555	11	31000	30000
	TV	AB4	AB5	01157 02556	16	02555	02561
	RA	AB5	VI	01160 02557	21	02561	03652
	FM	TEMP8	DIFF1	01161 02560	66	03717	03711
	TN	Q	FILL	01162 02561	13	31000	30000
AB5	TV	AB5	AB6	01163 02562	16	02561	02565
	RA	AB6	VI	01164 02563	21	02565	03652
	FM	TEMP8	DIFF	01165 02564	66	03717	03710
AB6	TO	Q	FILL	01166 02565	11	31000	30000
	TV	AB6	AB7	01167 02566	16	02565	02571
	RA	AB7	VI	01170 02567	21	02571	03652
AB7	FM	AAA	DIFF2	01171 02570	66	03705	03712
	TO	Q	FILL	01172 02571	11	31000	30000
	TV	AB7	AB8	01173 02572	16	02571	02575
	RA	AB8	VI	01174 02573	21	02575	03652
	FM	BBB	DIFF1	01175 02574	66	03706	03711
	TN	Q	FILL	01176 02575	13	31000	30000
AB8	TV	AB8	AB9	01177 02576	16	02575	02601
	RA	AB9	VI	01200 02577	21	02601	03652
	FM	CCC	DIFF	01201 02600	66	03707	03710
AB9	TO	Q	FILL	01202 02601	11	31000	30000
	TV	AB	NULT	01203 02602	16	02527	02611
	LO	AB	A+15	01204 02603	55	02527	32017
	TU	A	NULT	01205 02604	15	32000	02611
	RA	NULT	U1	01206 02605	21	02611	03633
	TP	V8	DUMP	01207 02606	11	03661	03531
NULT	TV	AB	STO	01210 02607	16	02527	02612
	RA	STO	VI	01211 02610	21	02612	03652
	FM	FILL	FILL	01212 02611	66	30000	30000
STO	TO	Q	FILL	01213 02612	11	31000	30000
	RA	NULT	U1	01214 02613	21	02611	03633
	RA	STO	VI	01215 02614	21	02612	03652
	IJ	DUMP	NULT	01216 02615	41	03531	02611
	TV	AB	L+1	01217 02616	16	02527	02617
	TP	F1	FILL	01220 02617	11	03940	30000
SP	ICOUN			01221 02620	31	03743	00000
	EJ	ITEST	THRU	01222 02621	43	03716	02626
	RA	ICOUN	VI	01223 02622	21	03743	03652

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	RA	AA	U1V1	01224	02623	21	02454	03671	
	RA	AB	V10	01245	02624	21	02527	03663	
	MJ	0000	AA	01246	02625	45	00000	02454	
THRU	RA	E1NV2	V1	01247	02626	21	02430	03652	
	MJ	0000	E1NV2	01240	02627	45	00000	02430	
MRES	MJ	0000	SETIN	01241	02630	45	00000	02641	
	MS	0000	0000	01242	02631	56	00000	00000	
MRES2	MJ	0000	FILL	01243	02632	45	00000	30000	
SET1	0	FILL	FILL	01244	02633	00	30000	30000	NOP
SET2	0	0000	FILL	01245	02634	00	00000	30000	NOP
SET3	0	FILL	FILL	01246	02635	00	30000	30000	NOP
SET4	0	FILL	FILL	01247	02636	00	30000	30000	NOP
SET5	0	FILL	FILL	01240	02637	00	30000	30000	NOP
SET6	0	FILL	FILL	01241	02640	00	30000	30000	NOP
SETIN	SP	MRES2	15	01242	02641	31	02632	00017	
	TU	A	SET	01243	02642	15	32000	02662	
	TP	VO	I1	01244	02643	11	03632	03730	
	TP	VO	C1	01245	02644	11	03632	03766	
	TP	VO	C2	01246	02645	11	03632	03767	
	TP	VO	C3	01247	02646	11	03632	03770	
	TP	VO	SIG	01240	02647	11	03632	03775	
	TP	VO	SIG1	01241	02650	11	03632	03774	
	TP	VO	SIG2	01242	02651	11	03632	03777	
	TP	VO	SIG4	01243	02652	11	03632	04001	
	TP	VO	JAZZ	01244	02653	11	03632	03731	
	TP	VO	DEN	01245	02654	11	03632	04003	
	TP	VO	CCNT	01246	02655	11	03632	03732	
	TP	VO	I3CN	01247	02656	11	03632	03733	
	TP	VO	INVPP	01240	02657	11	03632	03734	
	TP	VO	KIRMP	01241	02660	11	03632	03735	
SET	ROB	6	L+2	01242	02661	75	30000	02663	
	TP	FILL	SET1	01243	02662	11	30000	02633	
	TV	SET4	OKK2	01244	02663	16	02636	02727	
	TV	SET2	P1SY	01245	02664	16	02634	02763	
	TV	CSET	CE1	01246	02665	16	03736	02743	
	TU	SET5	HU	01247	02666	15	02637	02774	
	TV	SET1	TTO	01240	02667	14	02633	03014	
	LO	SET1	21	01241	02670	55	02633	00025	
	TV	0	TR	01242	02671	16	31000	03011	
ALPHA	TV	SET4	ALPHA	01243	02672	16	02636	02673	
	MP	V3	FILL	01244	02673	71	03654	30000	
	TP	A	I3CN	01245	02674	11	32000	03733	
	TU	SET3	CEVAL	01246	02675	15	02635	02742	
	TV	SET3	CEVAL	01247	02676	16	02635	02742	
	TU	SET4	OKK1	01300	02677	15	02636	02716	
	TV	SET4	OKK1	01301	02700	16	02636	02724	
	SP	SET4	15	01302	02701	31	02636	00017	
ALT	TU	A	AL1	01303	02702	15	32000	02703	
	TP	FILL	JAZZ	01304	02703	11	30000	03731	
	TV	JAZZ	I1	01305	02704	16	03731	03730	
	SP	JAZZ	15	01306	02705	31	03731	00017	
	TU	A	I1	01307	02706	15	32000	03730	
	TU	SET6	BET1	01310	02707	15	02640	02715	
	TV	SET6	CAP1	01311	02710	16	02640	03001	
	LO	SET6	21	01312	02711	55	02640	00025	
	TV	0	BET1	01313	02712	16	31000	02715	
	RA	BET1	I1	01314	02713	21	02715	03730	
BETA	RJ	BELE2	BELE	01315	02714	37	03176	03174	
BET1	0	FILL	FILL	01316	02715	00	30000	30000	NOP
OKK1	TP	FILL	KIRMP	01317	02716	11	30000	03735	

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	RS	KIBMP	V1	01320	02717	23	03735	03652
	TP	I	JOE	01321	02720	11	00012	03737
	RA	JOE	V2	01322	02721	21	03737	03653
OKK	MP	KIBMP	JOE	01323	02722	71	03735	03737
	TP	A	KIBMP	01324	02723	11	32000	03735
OKK1	RA	KIBMP	FILL	01325	02724	21	03735	30000
	RA	CEVAL	KIBWP	01326	02725	21	02742	03735
	RS	CEVAL	V1	01327	02726	23	02742	03652
OKK2	MP	V10	FILL	01320	02727	71	03663	30000
	TP	A	INVBP	01321	02730	11	32000	03734
	RS	INVBP	V9	01322	02731	23	03734	03662
	SP	INVBP	0000	01323	02732	31	03734	00000
	LTR	IS	INVRP	01324	02733	22	10017	03734
	RA	CEVAL	INVRP	01325	02734	21	02742	03734
	TH	CEVAL	CE2	01326	02735	15	02742	02747
	RS	CE2	UI	01327	02736	23	02747	03633
	TP	V2	CCNT	01340	02737	11	03653	03732
OKK3A	TP	VO	Q	01341	02740	11	03632	31000
OKK3	ROB	3	L+2	01342	02741	75	30003	02743
CEVAL	FI	FILL	FILL	01343	02742	02	30000	30000
CE1	TP	Q	FILL	01344	02743	11	31000	30000
	RA	CEVAL	U3	01345	02744	21	02742	03635
	TV	CE1	CE2	01346	02745	16	02743	02747
	TV	CE1	CE3	01347	02746	16	02743	02750
CE2	FM	FILL	FILL	01320	02747	66	30000	30000
CE3	TP	Q	FILL	01321	02750	11	31000	30000
	RA	CE1	V1	01322	02751	21	02743	03652
	IJ	CCNT	OKK3A	01323	02752	41	03732	02740
	TP	VO	Q	01324	02753	11	03632	31000
DENOX	ROB	3	L+2	01325	02754	75	30003	02756
DDEZ	FI	C1	E1	01326	02755	02	03766	03771
	TP	Q	DEM	01327	02756	11	31000	04003
	RS	I3CN	V3	01320	02757	23	03733	03654
	RA	FISX	I3CN	01321	02760	21	02763	03733
	TP	VO	Q	01322	02761	11	03632	31000
	ROB	3	L+2	01323	02762	75	30003	02764
FISX	FI	C1	FILL	01324	02763	02	03766	30000
	FD	Q	DEM	01325	02764	67	31000	04003
	TP	Q	SIG	01326	02765	11	31000	03775
	TP	SIG	A	01327	02766	11	03775	32000
	SJ	L+1	BU	01370	02767	46	02770	02774
	SP	FISX	15	01371	02770	31	02763	00017
	TH	A	L+1	01372	02771	15	32000	02772
	FD	FILL	E1	01373	02772	67	30000	03771
	TP	Q	SIG	01374	02773	11	31000	03775
BU	SP	FILL	0000	01375	02774	31	30000	00000
	ZJ	CAP	TRO	01376	02775	47	02776	03006
CAP	RA	CAP1	I3CN	01377	02776	21	03001	03733
	TP	VO	Q	01400	02777	11	03632	31000
	ROB	3	L+2	01401	03000	75	30003	03002
CAP1	FI	C1	FILL	01402	03001	02	03766	30000
	TP	Q	SIG1	01403	03002	11	31000	03776
	FD	SIG1	DEN	01404	03003	67	03776	04003
	TP	Q	SIG1	01405	03004	11	31000	03776
	MJ	0000	OUT	01406	03005	45	00000	03040
TRO	RA	TR	I3CN	01407	03006	21	03011	03733
	TP	VO	Q	01410	03007	11	03632	31000
	ROB	3	L+2	01411	03010	75	30003	03012
TR	FI	C1	FILL	01412	03011	02	03766	30000
	TP	Q	SIG2	01413	03012	11	31000	03777

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	RA	TTO	ISGN	01414	03013	21	03016	03733	
	TP	VO	Q	01415	03014	11	03632	31000	
	RFB	3	L+2	01416	03015	75	30003	03017	
TTO	PT	C1	FILL	01417	03016	02	03766	30000	
	TP	Q	SIG4	01420	03017	11	31000	04001	
	FN	SIG2	DEN	01421	03020	67	03777	04003	
	TP	Q	SIG2	01422	03021	11	31000	03777	
	TP	SIG2	A	01423	03022	11	03777	32000	
	SJ	L+1	L+5	01424	03023	46	03024	03030	
	SP	TR	15	01425	03024	31	03011	00017	
	TII	A	L+1	01426	03025	15	32000	03026	
	FN	FILL	E1	01427	03026	67	30000	03771	
	TP	Q	SIG2	01430	03027	11	31000	03777	
	FN	SIG4	DEN	01431	03030	67	04001	04003	
	TP	Q	SIG4	01432	03031	11	31000	04001	
	TP	SIG4	A	01433	03032	11	04001	32000	
	SJ	L+1	OUT	01434	03033	46	03034	03040	
	SP	TTO	15	01435	03034	31	03016	00017	
	TII	A	L+1	01436	03035	15	32000	03036	
	FN	FILL	E1	01437	03036	67	30000	03771	
	TP	Q	SIG4	01440	03037	11	31000	04001	
OUT	RA	MRES2	VO	01441	03040	21	02432	03657	
	MJ	0000	MRES2	01442	03041	45	00000	02632	
SCTR	MJ	0000	SIG31	01443	03042	45	00000	03044	
SCTR2	MJ	0000	FILL	01444	03043	45	00000	30000	
SIG31	SP	SCTR2	15	01445	03044	31	03043	00017	
	TII	A	SIG32	01446	03045	15	32000	03047	
	RFB	4	L+2	01447	03046	75	30004	03050	
SIG32	TP	FILL	SIG88	01450	03047	11	30000	03051	
	MJ	0000	SIG36	01451	03050	45	00000	03055	
SIG88	TP	FILL	FILL	01452	03051	00	30000	30000	NUP
SIG33	TP	FILL	0000	01453	03052	00	30000	00000	NUP
SIG34	TP	FILL	FILL	01454	03053	00	30000	30000	NUP
SIG35	TP	FILL	FILL	01455	03054	00	30000	30000	NUP
SIG36	TII	SIG88	SIG8	01456	03055	15	03051	03110	
	TV	SIG88	SIG8	01457	03056	16	03051	03110	
	TP	I	BUMP	01460	03057	11	00012	03721	
	RA	BUMP	V2	01461	03060	21	03721	03653	
	TII	SIG33	SIG37	01462	03061	15	03052	03062	
SIG37	TP	FILL	BUMPP	01463	03062	11	30000	03722	
	RE	BUMPP	V1	01464	03063	23	03722	03652	
	MP	BUMP	BUMPP	01465	03064	71	03721	03722	
	TP	A	BUMPP	01466	03065	11	32000	03722	
	TV	SIG35	SIG38	01467	03066	16	03054	03067	
SIG38	RA	BUMPP	FILL	01470	03067	21	03722	30000	
	RA	SIG8	BUMPP	01471	03070	21	03110	03722	
SIG39	TP	JJJ	BUMPE	01472	03071	11	04002	03723	
	MP	V10	BUMPE	01473	03072	71	03663	03723	
	TP	A	BUMPE	01474	03073	11	32000	03723	
	RE	BUMPE	V10	01475	03074	23	03723	03663	
	SP	BUMPE	15	01476	03075	31	03723	00017	
	TP	A	BUMPE	01477	03076	11	32000	03723	
	RA	SIG8	BUMPE	01500	03077	21	03110	03723	
	LA	SIG8	A+21	01501	03100	55	03110	32025	
	TV	Q	SIG8	01502	03101	16	31000	03111	
	RA	SIG8	U1	01503	03102	21	03110	03633	
	TV	CJAZZ	SIG8	01504	03103	16	03724	03112	
	TP	V2	CONTE	01505	03104	11	03653	03725	
	RE	SIG8	V1	01506	03105	23	03110	03652	
SIGA	TP	VO	Q	01507	03106	11	03632	31000	

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SIGD	R0B	3	L+2	01510	03107	75	30003	03111	
SIGB	FY	FILL	FILL	01511	03110	02	30000	30000	
SIGG	FM	Q	FILL	01512	03111	66	31000	30000	
SIGP	YB	Q	FILL	01513	03112	11	31000	30000	
	RA	SIGP	V1	01514	03113	21	03112	03652	
	RA	SIGB	UJ	01515	03114	21	03110	03635	
	IJ	CONTC	SIG4	01516	03115	41	03725	03106	
	TV	SIG34	SIG5	01517	03116	16	03053	03131	
	SP	SIG34	15	01520	03117	31	03053	00017	
	TU	A	SIG5	01521	03120	15	32000	03131	
	SP	SIG35	15	01522	03121	31	03054	00017	
	TU	A	SIG77	01523	03122	15	32000	03123	
SIG77	TO	FILL	JJ	01524	03123	11	30000	03726	
	SP	JJ	15	01525	03124	31	03726	00017	
	TO	A	UJVVJ	01526	03125	11	32000	03727	
	RA	UJVVJ	JJ	01527	03126	21	03727	03726	
	RA	SIG5	UJVVJ	01520	03127	21	03131	03727	
	RJ	DELE2	DELE	01521	03130	37	03176	03174	
SIG5	Q	FILL	FILL	01522	03131	00	30000	30000	NUP
	TO	VO	Q	01523	03132	11	03632	31000	
	R0B	3	L+2	01524	03133	75	30003	03135	
	FY	C1	E1	01525	03134	02	03766	03771	
	TO	Q	DENOM	01526	03135	11	31000	03774	
	SP	SIG35	15	01527	03136	31	03054	00017	
	TU	A	SIG43	01540	03137	15	32000	03147	
	TU	SIG35	SIG42	01541	03140	15	03054	03141	
SIG42	TO	FILL	BUMP	01542	03141	11	30000	03721	
	TO	BUMP	BUMPP	01543	03142	11	03721	03722	
	RS	BUMP	V1	01544	03143	23	03721	03652	
	RS	BUMPP	V2	01545	03144	23	03722	03653	
	MP	BUMP	BUMPP	01546	03145	71	03721	03722	
SIG43	OV	V2	BUMP	01547	03146	73	03653	03721	
	TO	FILL	BUMPP	01520	03147	11	30000	03722	
	RS	BUMPP	V1	01521	03150	23	03722	03652	
	RA	BUMP	BUMPP	01522	03151	21	03721	03722	
	MP	BUMP	V3	01523	03152	71	03721	03654	
	TO	A	BUMPP	01524	03153	11	32000	03722	
	LQ	SIG34	A+21	01525	03154	55	03053	32025	
	TV	Q	SIG15	01526	03155	16	31000	03161	
	RA	SIG43	BUMPP	01527	03156	21	03161	03722	
	TO	VO	Q	01500	03157	11	03632	31000	
	R0B	3	L+2	01501	03160	75	30003	03162	
SIG45	FY	C1	FILL	01502	03161	02	03766	30000	
	FM	Q	DENOM	01503	03162	67	31000	03774	
	TO	Q	SIG3	01504	03163	11	31000	04000	
	YB	SIG3	A	01505	03164	11	04000	32000	
	SJ	L+1	L+5	01506	03165	46	03166	03172	
	SP	SIG45	15	01507	03166	31	03161	00017	
	YU	A	L+1	01570	03167	15	32000	03170	
	FM	FILL	E1	01571	03170	67	30000	03771	
	TO	Q	SIG3	01572	03171	11	31000	04000	
	RA	SCTR2	V4	01573	03172	21	03043	03653	
DELE	M.J	0000	SCT02	01574	03173	45	00000	03043	
	M.J	0000	DE1	01575	03174	45	00000	03177	
	MS	0000	0000	01576	03175	56	00000	00000	
DELE2	M.J	0000	FILL	01577	03176	45	00000	30000	
DE1	SP	DELE2	15	01600	03177	31	03176	00017	
	TU	A	DE2	01601	03200	15	32000	03201	
DE2	SP	FILL	0000	01602	03201	31	30000	00000	
	TU	A	DE3	01603	03202	15	32000	03205	

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	TV	A	DE3	01604	03203	16	32000	03205	
	RA	DE3	V1	01605	03204	21	03205	03652	
DE3	FS	FILL	FILL	01606	03205	65	30000	30000	
	TP	Q	E1	01607	03206	11	31000	03771	
	TIJ	DE3	DE4	01610	03207	15	03205	03212	
	TV	DE3	DE4	01611	03210	16	03205	03212	
	RS	DE4	V1	01612	03211	23	03212	03652	
DE4	FM	FILL	FILL	01613	03212	66	30000	30000	
	TP	Q	E3	01614	03213	11	31000	03773	
	TIJ	DE4	DE5	01615	03214	15	03212	03217	
	TV	DE4	DE5	01616	03215	16	03212	03217	
	RA	DE5	UIV1	01617	03216	21	03217	03671	
DE5	FM	FILL	FILL	01620	03217	66	30000	30000	
	FS	Q	E3	01641	03220	65	31000	03773	
	FM	Q	F2	01642	03221	67	31000	03542	
	FM	Q	E3	01643	03222	13	31000	03773	
	TV	DE5	DE6	01644	03223	16	03217	03226	
	TIJ	DE5	DE6	01645	03224	15	03217	03226	
	RS	DE6	U1	01646	03225	23	03226	03631	
DE6	FM	FILL	FILL	01647	03226	67	30000	30000	
	RJ	LNX2	LNX	01650	03227	37	03411	03407	
	TP	Q	E2	01651	03230	11	31000	03772	
	RA	DELE2	V1	01652	03231	21	03176	03652	
	MJ	0000	DELE2	01653	03232	45	00000	03176	
REWIND	MJ		REW1	REWIND	01654	03233	45	00000	03236
	MS				01655	03234	56	00000	00000
REW2	MJ		FILL	TAPE 3	01656	03235	45	00000	30000
REWI	SP	TAPE3	I2		01657	03236	31	00072	00014
	AT	CONRW	DUMP		01640	03237	35	03251	03531
	EF		DUMP		01641	03240	17	00000	03531
	MJ		REW2		01642	03241	45	00000	03235
WINDE	MJ		WIN1	REWIND	01643	03242	45	00000	03245
	MS				01644	03243	56	00000	00000
	MJ		FILL	TAPE 4	01645	03244	45	00000	30000
WIN2	SP	TAPE4	I2		01646	03245	31	00073	00014
WIN1	AT	CONRW	DUMP		01647	03246	35	03251	03531
	EF		DUMP		01650	03247	17	00000	03531
	MJ		WIN2		01651	03250	45	00000	03244
CONRW	B	020020000000			01652	03251	02	00200	00000
CDUMP	B	020006400001			01653	03252	02	00064	00001
DUMP99					01654	03253	00	00000	00000
BMIN1					01655	03254	00	00000	00000
CODE					01656	03255	00	00000	00000
LEXIT			CODE2		01657	03256	00	00000	03272
PRM1					01600	03257	00	00000	00000
TEST2			3		01651	03260	00	00000	00001
LLAM		FILL	FILL		01662	03261	00	30000	30000
LDESC		FILL	FILL		01663	03262	00	30000	30000
VC024			C0244		01664	03263	00	00000	03334
VC018			C018		01665	03264	00	00000	03313
VC034			C034		01666	03265	00	00000	03351
VV2			V2		01667	03266	00	00000	03653
VC051			C051		01670	03267	00	00000	03365
VV4			V4		01671	03270	00	00000	03655
VC023			C023		01672	03271	00	00000	03324
CODE2	MJ	0000	FILL		01673	03272	45	00000	30000
CODER	SP	C0DE2	15		01674	03273	31	03272	00017
	TIJ	A	C077		01675	03274	15	32000	03275
CO77	TP	FILL	PRM1		01676	03275	11	30000	03257
	TIJ	PRM1	C01		01677	03276	15	03257	03303

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	RA	CODE2	V1		01700 03277	21	03272	03652
	TV	VC023	C088		01701 03300	16	03271	03333
	TV	VC023	C022		01702 03301	16	03271	03320
	TV	VV4	C0233		01703 03302	16	03270	03325
C01	SP	FILL	0000	FIX	01704 03303	31	30000	00000
	ZJ	C0339	C03		01705 03304	47	03305	03310
C0339	EJ	V2	SPCAL		01706 03305	43	03053	03373
C02	TV	LEXIT	C028	SET MC EXT	01707 03306	16	03256	03332
	MJ	0000	BURN		01710 03307	45	00000	03311
C03	TV	VC024	C024		01711 03310	16	03263	03332
BURN	TU	LAKBK	C021		01712 03311	15	00134	03317
	TV	LAKBK	C023		01713 03312	16	00134	03324
C018	TU	LISOP	C022		01714 03313	15	00126	03320
	TP	B	BMIN1		01715 03314	11	00013	03254
	RE	BMIN1	V1	B COUNTER	01716 03315	23	03254	03652
C020	TP	VI	CODE		01717 03316	11	03652	03255
C021	SP	FILL	0000	ISO OF AKB	01740 03317	31	30000	00000
C022	EJ	FILL	FILL	ISO LIST	01741 03320	43	30000	30000
	RA	CO22	U1		01742 03321	21	03326	03633
	RA	CODE	V1		01743 03322	21	03255	03652
	IJ	BMIN1	C021		01744 03323	41	03254	03317
C023	TP	CODE	FILL	AKBK	01745 03324	11	03255	30000
C0233	RA	C023	FILL		01746 03325	21	03324	30000
	SP	C023	IS		01747 03326	31	03324	00017
	TI	A	C025		01730 03327	15	32000	03331
	TI	A	C021		01731 03330	15	32000	03317
C025	SP	FILL	0000		01732 03331	31	30000	00000
C024	EJ	FLAG0	FILL	EXIT OR LH	01733 03332	43	03336	30000
C088	MJ	0000	FILL		01734 03333	45	00000	30000
C0244	TV	LDESC	C031		01735 03334	16	03262	03336
	TV	LLAM	C033		01736 03335	16	03261	03337
C031	TP	CODE	FILL	DESC	01737 03336	11	03255	30000
C032	TP	CODE	FILL	LAM	01740 03337	11	03255	30000
	TI	LDESC	C033		01741 03340	15	03262	03342
	RA	C033	U1		01742 03341	21	03342	03633
C033	SP	FILL	0000	A ZERO	01743 03342	31	30000	00000
	ZJ	C0333	C041		01744 03343	47	03344	03354
C0333	TI	C033	C021		01745 03344	15	03342	03317
	LQ	C033	A+21		01746 03345	55	03342	32025
	TV	U	C023		01747 03346	16	31000	03320
	TV	VC034	C022		01730 03347	16	03265	03320
	MJ	0000	C019		01731 03350	45	00000	03313
C034	TV	LDESC	C035		01732 03351	16	03262	03363
	RA	C035	V1		01733 03352	21	03353	03652
C035	TP	CODE	FILL		01734 03353	11	03255	30000
C041	TU	LDESC	C021		01735 03354	15	03262	03317
	TV	LDESC	C023		01736 03355	16	03262	03324
	RA	C021	U2		01737 03356	21	03317	03634
	RA	C023	V2		01700 03357	21	03324	03653
	TV	VV2	C0233		01701 03360	16	03266	03325
	TV	VC031	C024		01702 03361	16	03267	03332
	TV	VC023	C022		01703 03362	16	03271	03320
	TV	VC018	C088		01704 03363	16	03264	03333
	MJ	0000	C018		01705 03364	45	00000	03313
C031	TI	LLAM	C021		01706 03365	16	03261	03317
	TV	LLAM	C023		01707 03366	16	03261	03324
	RA	C021	U2		01710 03367	21	03317	03634
	RA	C023	V2		01711 03370	21	03324	03653
	TV	LEXIT	C024		01712 03371	16	03256	03332
	MJ	0000	C019		01713 03372	45	00000	03313

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SPCAL	SP	PRM1	15		01774	03373	31	03257	00017	
	TIJ	A	SPC44		01775	03374	15	32000	03377	
	TP	V1	CODE		01776	03375	11	03652	03255	
	TIJ	L150P	SPC45		01777	03376	15	00126	03400	
SPC44	SP	FILL	0000		02000	03377	31	30000	00000	
SPC45	EJ	FILL	SPC46		02001	03400	43	30000	03404	
	RA	CODE	V1		02002	03401	21	03255	03652	
	RA	SPC45	U1		02003	03402	21	03400	03633	
	MJ	0000	SPC44		02004	03403	45	00000	03377	
SPC46	TV	PRM1	SPC47		02005	03404	16	03257	03405	
SPC47	TP	CODE	FILL		02006	03405	11	03255	30000	
	MJ	0000	CODE2		02007	03406	45	00000	03272	
LNK	MJO		L+3	FLOATING POINT	1	02010	03407	45	00000	03412
	MJO		L+1	NATURAL LOGARITHM	2	02011	03410	56	00000	03411
LNK2	MJO		FILL	USING FIXED POINT	3	02012	03411	45	00000	30000
	TP	Q	A	ARITHMETIC THIS	4	02013	03412	11	31000	32000
	SJ	L+2	L+1	ROUTINE OCCUPIES	5	02014	03413	46	03415	03414
	ZJ	L+4	L+1	77 CELLS INCLUDING	6	02015	03414	47	03420	03415
	SC	Q	Q	3 TEMPORARIES AND	7	02016	03415	23	31000	31000
	SP	L+50		20 CONSTANTS	8	02017	03416	31	03500	00000
	MJO		L-7		9	02020	03417	45	00000	03410
	LYO	9	L+05		10	02021	03420	22	00011	03475
	LO	A	35		11	02022	03421	55	32000	00043
	TP	Q	L+44		12	02023	03422	11	31000	03476
	RO2	7	L+2		13	02024	03423	75	20007	03425
	TJ	L+46	L+2		14	02025	03424	42	03502	03426
	TP	L+52	Q		15	02026	03425	11	03511	31000
	SP	L+52	Q		16	02027	03426	31	03512	00000
	ST	Q	Q		17	02030	03427	36	31000	31000
	SA	L+51	15		18	02031	03430	32	03513	00017
	TIJ	A	L+4		19	02032	03431	15	32000	03435
	TP	L+35	A		20	02033	03432	11	03475	32000
	SC	L+49	3		21	02034	03433	34	03514	00003
	AT	Q	L+33		22	02035	03434	35	31000	03475
	TP	FILL	Q		23	02036	03435	11	30000	31000
	SP	Q	Q		24	02037	03436	31	31000	00000
	SA	L+31	35		25	02040	03437	32	03476	00043
	LTO		L+31		26	02041	03440	22	00000	03477
	SP	L+29			27	02042	03441	31	03476	00000
	SC	Q	37		28	02043	03442	34	31000	00045
	OV	L+28	L+2A		29	02044	03443	73	03477	03477
	MO	Q	Q		30	02045	03444	71	31000	31000
	SC	A	31		31	02046	03445	34	32000	00037
	MP	A	L+40		32	02047	03446	71	32000	03516
	LT	1	A		33	02050	03447	22	00001	32000
	AT	L+39	L+22		34	02051	03450	38	03517	03476
	MP	Q	L+21		35	02052	03451	71	31000	03476
	LTO		A		36	02053	03452	22	00000	32000
	AT	L+22	Q		37	02054	03453	35	03501	31000
	MP	Q	L+19		38	02055	03454	71	31000	03477
	LTO	3	A		39	02056	03455	22	00003	32000
	MA	L+15	L+34		40	02057	03456	72	03475	03520
	TP	A	Q		41	02060	03457	11	32000	31000
	ZJ	L+1	L-30		42	02061	03460	47	03461	03411
	SP	A	L+28		43	02062	03461	74	32000	03515
	LTO	28	Q		44	02063	03462	22	00034	31000
	TP	L+26	A		45	02064	03463	11	03515	32000
	TJ	L+29	L+2		46	02065	03464	42	03521	03466
	SC	L+29			47	02066	03465	34	03522	00000
	AT	L+29	L+7		48	02067	03466	35	03523	03475

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				49	02070	03467	11	31000	32000	
S.1	L+1	L+2		50	02071	03470	46	03471	03472	
TN	L+4	L+4		51	02072	03471	13	03475	03475	
LN	L+3	27		52	02073	03472	55	03475	00033	
AT	Q	Q		53	02074	03473	35	31000	31000	
M.10		L=51		54	02075	03474	45	00000	03411	
				55	02076	03475	00	00000	00000	
T4	FILL	FILL		56	02077	03476	12	30000	30000	
T4	FILL	FILL		57	02100	03477	12	30000	30000	
B	465072010101			58	02101	03500	46	50720	10101	
B	200000000000			59	02102	03501	20	00000	00000	
B	213453407440			60	02103	03502	21	34534	07440	
B	230157701214			61	02104	03503	23	01577	01214	
B	245775532516			62	02105	03504	24	57755	32516	
B	265011714640			63	02106	03505	26	50117	14640	
B	305316250212			64	02107	03506	30	53162	50212	
B	327211763126			65	02110	03507	32	72117	63126	
B	352601433477			66	02111	03510	35	26014	33477	
B	17777			67	02112	03511	00	00000	17777	
B	20006			68	02113	03512	00	00000	20006	
		L=10		69	02114	03513	00	00000	03501	
B	201			70	02115	03514	00	00000	00201	
B				71	02116	03515	00	00000	00000	
B	063146314632			72	02117	03516	06	31463	14632	
B	125222525253			73	02140	03517	12	52525	25253	
B	261344137700			74	02141	03520	26	13441	37700	
B	44			75	02142	03521	00	00000	00044	
B	110			76	02143	03522	00	00000	00110	
B	175			77	02144	03523	00	00000	00175	
BRBMP	C	0000	0000		02145	03524	00	00000	00000	NUP
BMI	C	0000	0000		02146	03525	00	00000	00000	NUP
BELL	C	0000	0000		02147	03526	00	00000	00000	NUP
BUTST	C	0000	0000		02140	03527	00	00000	00000	NUP
COUNT	C	0000	0000		02141	03530	00	00000	00000	NUP
DUMP	C	0000	0000		02142	03531	00	00000	00000	NUP
DAMN	C	0000	ICNT		02143	03532	00	00000	03553	NUP
DUD	C	0000	MUCK		02144	03533	00	00000	02060	NUP
DUD8	C	0000	NE1		02145	03534	00	00000	02053	NUP
ELBO	M.1	0000	GIN		02146	03535	45	00000	02412	
FLAGO	B	377777777777			02147	03536	37	77777	77777	
FO	F	0			02140	03537	00	00000	00000	
F1	F	1			02141	03540	20	14000	00000	
F3	F	3			02142	03541	20	26000	00000	
F2	F	2			02143	03542	20	24000	00000	
F1UP	C	F1	0000		02144	03543	00	03540	00000	NUP
HELL	C	0000	0000		02145	03544	00	00000	00000	NUP
HELL1	C	0000	0000		02146	03545	00	00000	00000	NUP
HELL2	C	0000	0000		02147	03546	00	00000	00000	NUP
HELL8	C	0000	0000		02140	03547	00	00000	00000	NUP
HELL9	C	0000	0000		02141	03550	00	00000	00000	NUP
HELP	TV	MARY	RDF99		02142	03551	16	03557	02045	
HEMA	C	0000	0000		02143	03552	00	00000	00000	NUP
ICNT	C	0000	0000		02144	03553	00	00000	00000	NUP
JONES	C	0000	0000		02145	03554	00	00000	00000	NUP
JOAN	C	LSPKI	0000		02146	03555	00	00167	00000	NUP
LOWR	C	0000	0000		02147	03556	00	00000	00000	NUP
MARY	C	0000	NXL1		02160	03557	00	00000	02206	NUP
MIKE	C	0000	NEX		02141	03560	00	00000	02100	NUP
MIKE1	C	0000	MUCK		02102	03561	00	00000	02060	NUP
MIKE3	C	0000	NXL3		02103	03562	00	00000	03747	NUP

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MIKE5		LDKI	NEXTA	02104 03563	00 00211 02046	
MIKE6	0	0000	GIN	02105 03564	00 00000 02412	NUP
MIKE9	0	0000	NXL1	02106 03565	00 00000 02206	NUP
MIK11	0	WRIT	NEW	02107 03566	00 01735 02100	NUP
MIK22	0	0000	NL3	02170 03567	00 00000 02216	NUP
MIK23	0	0000	NL5	02171 03570	00 00000 02225	NUP
NCRMP	0	0000	0000	02172 03571	00 00000 00000	NUP
V7777B	B	000000007777		02173 03572	00 00000 07777	
MTKE9			NXL466	02174 03573	00 00000 02210	
OVER	0	0	FILL	02175 03574	11 31000 30000	
ORE	0	0000	0000	02176 03575	00 00000 00000	NUP
SP1				02177 03576	00 00000 00000	
PARM1		TEST7	TEST7	02200 03577	00 03617 03617	
PARM2		ISO	FILL	02201 03600	00 00350 30000	
PBCNT	0	0000	0000	02202 03601	00 00000 00000	NUP
RTM1	0	0000	0000	02203 03602	00 00000 00000	NUP
RR	0	0000	0000	02204 03603	00 00000 00000	NUP
RM1	0	0000	0000	02205 03604	00 00000 00000	NUP
RRR	0	0000	0000	02206 03605	00 00000 00000	NUP
RRRR	0	0000	0000	02207 03606	00 00000 00000	NUP
RIMX	0	0000	0000	02210 03607	00 00000 00000	NUP
RI	0	0000	0000	02211 03610	00 00000 00000	NUP
RYE	0	0000	0000	02212 03611	00 00000 00000	NUP
SSS3	0	0000	0016	02213 03612	00 00000 00000	NUP
SAM	0	0000	0000	02214 03613	00 00000 00000	NUP
IPLS2				02215 03614	00 00000 00000	
IPLS3				02216 03615	00 00000 00000	
TEMP	0	0000	0000	02217 03616	00 00000 00000	NUP
TEST7	0	0000	0000	02240 03617	00 00000 00000	NUP
TEMP1	0	0000	0000	02221 03620	00 00000 00000	NUP
TEMP2	0	0000	0000	02222 03621	00 00000 00000	NUP
TUSHI	0	FILL	0000	02243 03622	00 03543 00000	NUP
TIJCN	0	0000	0000	02224 03623	00 00000 00000	NUP
TWOTA	0	0000	0000	02245 03624	00 00000 00000	NUP
VI	0	0000	0000	02226 03625	00 00000 00000	NUP
VOKA	0	0000	0000	02227 03626	00 00000 00000	NUP
VLADO	0	0000	0000	02220 03627	00 00000 00000	NUP
VVV1	B	001000000000		02231 03630	00 10000 00000	
WEEI	0	0000	0000	02222 03631	00 00000 00000	NUP
U0				02233 03632	00 00000 00000	
U1		1		02224 03633	00 00001 00000	
U2		2		02235 03634	00 00002 00000	
U3		3		02226 03635	00 00003 00000	
U4		4		02227 03636	00 00004 00000	
U5		5		02240 03637	00 00005 00000	
U6		6		02241 03640	00 00006 00000	
U7		7		02242 03641	00 00007 00000	
U8		8		02243 03642	00 00010 00000	
U9		9		02244 03643	00 00011 00000	
U10		10		02245 03644	00 00012 00000	
U11		11		02246 03645	00 00013 00000	
U12		12		02247 03646	00 00014 00000	
U13		13		02220 03647	00 00015 00000	
U14		14		02221 03650	00 00016 00000	
U15		15		02222 03651	00 00017 00000	
V1			1	02223 03652	00 00000 00001	
V2			2	02224 03653	00 00000 00002	
V3			3	02225 03654	00 00000 00003	
V4			4	02226 03655	00 00000 00004	
V5			5	02227 03656	00 00000 00005	

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V6			6	^2200 03657	00 00000 00006	
V7			7	^2201 03660	00 00000 00007	
V8			8	^2202 03661	00 00000 00010	
V9			9	^2203 03662	00 00000 00011	
V10			10	^2204 03663	00 00000 00012	
V11			11	^2205 03664	00 00000 00013	
V12			12	^2206 03665	00 00000 00014	
V13			13	^2207 03666	00 00000 00015	
V14			14	^2210 03667	00 00000 00016	
V15			15	^2211 03670	00 00000 00017	
U1V1		1	1	^2272 03671	00 00001 00001	
U2V2		2	2	^2273 03672	00 00002 00002	
U3V3		3	3	^2274 03673	00 00003 00003	
U4V4		4	4	^2275 03674	00 00004 00004	
U5V5		5	5	^2276 03675	00 00005 00005	
U4V2		4	2	^2277 03676	00 00004 00002	
U6V3		6	3	^2300 03677	00 00006 00003	
U2V1		2	1	^2301 03700	00 00002 00001	
U1V2		1	2	^2302 03701	00 00001 00002	
U1V3		1	3	^2303 03702	00 00001 00003	
XHALL	0	0000	0000	^2304 03703	00 00000 00000	NUP
ZHALL	0	0000	0000	^2305 03704	00 00000 00000	NUP
AAA	0	0000	0000	^2306 03705	00 00000 00000	NUP
BBB	0	0000	0000	^2307 03706	00 00000 00000	NUP
CCC	0	0000	0000	^2310 03707	00 00000 00000	NUP
DIFF	0	0000	0000	^2311 03710	00 00000 00000	NUP
DIFF1	0	0000	0000	^2312 03711	00 00000 00000	NUP
DIFF2	0	0000	0000	^2313 03712	00 00000 00000	NUP
DIFF3	0	0000	0000	^2314 03713	00 00000 00000	NUP
DIFF4	0	0000	0000	^2315 03714	00 00000 00000	NUP
DIFF5	0	0000	0000	^2316 03715	00 00000 00000	NUP
ITEST	0	0000	0000	^2317 03716	00 00000 00000	NUP
TEMP8	0	0000	0000	^2320 03717	00 00000 00000	NUP
QUAIL	0	0000	0000	^2321 03726	00 00000 00000	NUP
BUMP	0	0000	0000	^2322 03721	00 00000 00000	NUP
BUMPP	0	0000	0000	^2323 03722	00 00000 00000	NUP
BUMPE	0	0000	0000	^2324 03723	00 00000 00000	NUP
CJAZZ	0	C1	C1	^2325 03724	00 03766 03765	NUP
CONIE	0	0000	0000	^2326 03725	00 00000 00000	NUP
JJ	0	0000	0000	^2327 03726	00 00000 00000	NUP
UJVV	0	0000	0000	^2330 03727	00 00000 00000	NUP
II	0	0000	0000	^2331 03730	00 00000 00000	NUP
JAZZ	0	0000	0000	^2332 03731	00 00000 00000	NUP
CCNT	0	0000	0000	^2333 03732	00 00000 00000	NUP
I3CN	0	0000	0000	^2334 03733	00 00000 00000	NUP
INVP	0	0000	0000	^2335 03734	00 00000 00000	NUP
KIBMP	0	0000	0000	^2336 03735	00 00000 00000	NUP
CSET	0	0000	C1	^2337 03736	00 00000 03766	NUP
JOE	0	0000	0000	^2340 03737	00 00000 00000	NUP
GEE	0	0000	0000	^2341 03740	00 00000 00000	NUP
WHIZ	0	0000	0000	^2342 03741	00 00000 00000	NUP
APE	0	0000	0000	^2343 03742	00 00000 00000	NUP
ICOUN	0	0000	0000	^2344 03743	00 00000 00000	NUP
NLXX	0	0000	0000	^2345 03744	00 00000 00000	NUP
NLKZ	0	0000	0000	^2346 03745	00 00000 00000	NUP
UUU3	B	003000000000		^2347 03746	00 30000 00000	
NXL3				^2350 03747	00 00000 00000	
ZPSKI		LPSKI		^2351 03750	00 00164 00000	
ZSFKI		LSFKI		^2352 03751	00 00167 00000	
ZENGY		LENGY		^2353 03752	00 00131 00000	

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ZPHKI		LPHKI		02374	03753	00	00200	00000	
ZBRMX		LBRMX		02375	03754	00	00175	00000	
ZISOP		LISOP		02376	03755	00	00126	00000	
DRUM1	0	0000	1100	02377	03756	00	00000	00000	NUP
CORE1	0	0000	0000	02380	03757	00	00000	00000	NUP
NLK	0	0000	0000	02381	03760	00	00000	00000	NUP
NLK1	0	0000	0000	02382	03761	00	00000	00000	NUP
NLK2	0	0000	0000	02383	03762	00	00000	00000	NUP
NLK3	0	0000	0000	02384	03763	00	00000	00000	NUP
KKKKK	0	0000	0000	02385	03764	00	00000	00000	NUP
IIIII	0	0000	0000	02386	03765	00	00000	00000	NUP
C1	0	0000	0000	02387	03766	00	00000	00000	NUP
C2	0	0000	0000	02390	03767	00	00000	00000	NUP
C3	0	0000	0000	02391	03770	00	00000	00000	NUP
E1	0	0000	0000	02372	03771	00	00000	00000	NUP
E2	0	0000	0000	02373	03772	00	00000	00000	NUP
E3	0	0000	0000	02374	03773	00	00000	00000	NUP
DENOM	0	0000	0000	02375	03774	00	00000	00000	NUP
SIG	0	0000	0000	02376	03775	00	00000	00000	NUP
SIG1	0	0000	0000	02377	03776	00	00000	00000	NUP
SIG2	0	0000	0000	02400	03777	00	00000	00000	NUP
SIG3	0	0000	0000	02401	04000	00	00000	00000	NUP
SIG4	0	0000	0000	02402	04001	00	00000	00000	NUP
JJJ	0	0000	0000	02403	04002	00	00000	00000	NUP
DEN	0	0000	0000	02404	04003	00	00000	00000	NUP
VARBL		LDKI	LDKI	02405	04004	00	00211	00211	
		V1	RI	02406	04005	00	03652	03610	
		VO	VO	02407	04006	00	03632	03632	
		LTKI	LTKI	02410	04007	00	00214	00214	
		V1	RI	02411	04010	00	03652	03610	
		VO	VO	02412	04011	00	03632	03632	
		LTKIJ	LTKIJ	02413	04012	00	00217	00217	
		V1	HELL	02414	04013	00	03652	03544	
		VO	VO	02415	04014	00	03632	03632	
		LFKI	LFKI	02416	04015	00	00222	00222	
		V1	RI	02417	04016	00	03652	03610	
		VO	VO	02420	04017	00	03632	03632	
		LXKI	LXKI	02421	04020	00	00225	00225	
		V1	RI	02422	04021	00	03652	03610	
		VO	VO	02423	04022	00	03632	03632	
		LEIN	LEIN	02444	04023	00	04112	04112	
		V10	I	02445	04024	00	03663	00012	
		VO	VO	02446	04025	00	03632	03632	
		LXEI	LXEI	02447	04026	00	04115	04115	
		V1	HELL2	02420	04027	00	03652	03546	
		VO	VO	02421	04030	00	03632	03632	
		LAKBK	LAKBK	02432	04031	00	00134	00134	
		V1	HELL8	02433	04032	00	03652	03547	
		VO	VO	02424	04033	00	03632	03632	
		LFISS	LFISS	02425	04034	00	04120	04120	
		V1	HELL1	02426	04035	00	03652	03545	
		VO	VO	02427	04036	00	03632	03632	
		LNUI	LNUI	02440	04037	00	04123	04123	
		V1	HELL1	02441	04040	00	03652	03545	
		VO	VO	02442	04041	00	03632	03632	
		LSCAT	LSCAT	02443	04042	00	04126	04126	
		V1	HELL9	02444	04043	00	03652	03550	
		VO	VO	02445	04044	00	03632	03632	
		LTOTL	LTOTL	02446	04045	00	04131	04131	
		V1	HELL1	02447	04046	00	03652	03545	

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	VO	VO	02420	04047	00	03632	03632
	LTRAN	LTRAN	02421	04050	00	04134	04134
	V1	HELL1	02422	04051	00	03652	03652
	VO	VO	02423	04052	00	03632	03632
	LMKI	LMKI	02424	04053	00	00230	00230
	V1	RI	02425	04054	00	03652	03610
	VO	VO	02426	04055	00	03632	03632
	LINDI	LINDI	02427	04056	00	04137	04137
	V1	V4	02428	04057	00	03652	03655
	VO	VO	02429	04058	00	03632	03632
	LSFKI	LSFKI	02430	04059	00	00167	00167
	S	I	02431	04060	00	00015	00012
	VO	VO	02432	04061	00	03632	03632
	LENGY	LENGY	02433	04062	00	00131	00131
	V1	IPLS3	02434	04063	00	03652	03615
	VO	VO	02435	04064	00	03632	03632
	LBRMX	LBRMX	02436	04065	00	00175	00175
	B	R	02437	04066	00	00013	00014
	VO	VO	02438	04067	00	03632	03632
	LPBKI	LPBKI	02439	04068	00	00164	00164
	I	R	02440	04069	00	00012	00014
	VO	VO	02441	04070	00	03632	03632
	LPHKI	LPHKI	02442	04071	00	00200	00200
	R	IPLS2	02443	04072	00	00014	03614
	VO	VO	02444	04073	00	03632	03632
	LISOP	LISOP	02445	04074	00	00126	00126
	V1	3	02446	04075	00	03652	00013
	VO	VO	02447	04076	00	03632	03632
VARBX	LNKET	LNKET	02448	04077	00	00206	00206
	V1	R	02449	04078	00	03652	00014
	VO	VO	02450	04079	00	03632	03632
	LNSMT	LNSMT	02451	04080	00	00203	00203
	V1	R	02452	04081	00	03652	00014
	VO	VO	02453	04082	00	03632	03632
	B	377777777777	02454	04083	00	03632	03632
LEIN	FILL	FILL	02455	04111	37	77777	77777
	FILL	FILL	02456	04112	00	30000	30000
	FILL	FILL	02457	04113	00	30000	30000
	V10	I	02458	04114	00	03663	00013
LXET	FILL	FILL	02459	04115	00	30000	30000
	FILL	FILL	02460	04116	00	30000	30000
	V1	HELL2	02461	04117	00	03652	03546
LFISS	FILL	FILL	02462	04118	00	30000	30000
	FILL	FILL	02463	04119	00	30000	30000
	V1	HELL1	02464	04120	00	03652	03545
LNUI	FILL	FILL	02465	04121	00	30000	30000
	FILL	FILL	02466	04122	00	30000	30000
	V1	HELL1	02467	04123	00	03652	03545
LSCAT	FILL	FILL	02468	04124	00	30000	30000
	FILL	FILL	02469	04125	00	30000	30000
	V1	HELL9	02470	04126	00	03652	03550
LTOTL	FILL	FILL	02471	04127	00	30000	30000
	FILL	FILL	02472	04128	00	30000	30000
	V1	HELL1	02473	04129	00	03652	03545
LTRAN	FILL	FILL	02474	04130	00	30000	30000
	FILL	FILL	02475	04131	00	30000	30000
	V1	HELL1	02476	04132	00	03652	03545
LINDI	FILL	FILL	02477	04133	00	30000	30000
	FILL	FILL	02478	04134	00	30000	30000
	V1	V4	02479	04135	00	03652	03655
LLAST	FILL	LAST	02480	04136	00	00000	04143
	FILL	FILL	02481	04137	00	30000	30000
	V1	V4	02482	04138	00	03652	03655
	FILL	FILL	02483	04139	00	30000	30000
	V1	V4	02484	04140	00	03652	03655
	FILL	FILL	02485	04141	00	30000	30000
	V1	V4	02486	04142	00	03652	03655
	FILL	FILL	02487	04143	00	30000	30000

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LAST	X43	BMM 07		02544	04143	27	47470	00312	
IDEN	SETL		10R1						
N				02545	00010	00	00000	00000	
I				02546	00011	00	00000	00000	
B				02547	00012	00	00000	00000	
R	0000	0000		02550	00013	00	00000	00000	
S	0000	0000		0006	02551	00014	00	00000	
Y				0007	02552	00015	00	00000	
INF1	0000	0000			02553	00016	00	00000	
INF2	0000	0000		0008	02554	00017	00	00000	
INF3	0000	0000		0009	02555	00020	00	00000	
INF4	0000	0000		0010	02556	00021	00	00000	
INF5	0000	0000		0011	02557	00022	00	00000	
INF6	0000	0000		0012	02560	00023	00	00000	
INF7	0000	0000		0013	02561	00024	00	00000	
INF8	0000	0000		0014	02562	00025	00	00000	
INF9	0000	0000		0015	02563	00026	00	00000	
INF10	0000	0000		0016	02564	00027	00	00000	
INF11	0000	0000		0017	02565	00030	00	00000	
INF12	0000	0000		0018	02566	00031	00	00000	
RHO	0000	0000		0019	02567	00032	00	00000	
VARI	0000	0000		0020	02570	00033	00	00000	
KKK			FX-CHANGE CON+MESH+PB	0021	02571	00034	00	00000	
NOM			FX-REGION INDEX	0022	02572	00035	00	00000	
			FX-ISOTOPE INDEX		02573	00036	00	00000	
PSUB0	F	3.12	13		02574	00037	00	00000	
YSUBX	F	3	-3		02575	00040	00	00000	
YSUB1	F	5.6	-2		0023	02576	00041	00	00000
YSUBP	F	1.4	-2	FISSIONS=KW+SEC	02577	00042	25	57060 12073	
LAMXE	F	2.1	-5	XE135 ATOMS-FISSION	02600	00043	17	06111 56457	
LAMT	F	2.9	-5	I135 ATOMS-FISSION	02601	00044	17	47126 01014	
LAMPR	F	4.1	-6	PR149 ATOMS-FISSION	02602	00045	17	27126 01014	
				PROR-SEC DECAY XE135	02603	00046	16	15402 44501	
				PROR-SEC DECAY I135	02604	00047	16	17464 24065	
				PROR-SEC DECAY PR149	02605	00050	15	74231 12733	
RZERO	F			0 FIRST MESH POINT	02606	00051	00	00000 00000	
TIME	F			0 CURRENT TIME	02607	00052	00	00000 00000	
EPS1L	F	.00001		.00001 CONV CRIT REAC	02610	00053	00	00000 00000	
EPS2	F	.00001		.00001 CONV CRIT POWER	02611	00054	16	05174 26542	
EPS3	F	.00001		.00001 CONV CRIT KZERO	02612	00055	16	05174 26542	
EPS4	F	.00001		.00001	02613	00056	16	05174 26542	
KO	F	1.0		1.0 DESIRED REACTIVITY	02614	00057	16	05174 26542	
OMEGA	F			DIFF. ACCEL. FACTOR	02615	00060	20	14000 00000	
DZDK	F	1.0		DZ=OK FIRST GUESS	02616	00061	00	00000 00000	
QQ	F	0000	0000		02617	00062	20	14000 00000	
DELTS	F			POWER DENSITY KW=CM3	0036	02620	00063	00	00000 00000
DTMAX	F			TIME SINCE SHUTDOWN SEC	02621	00064	00	00000 00000	
TAPE1	B	1			02622	00065	00	00000 00000	
TAPE2	B	2		PROGRAM TAPE	02623	00066	00	00000 00000	
TAPE3	B	3		BASIC LIBRARY TAPE	02624	00067	00	00000 00000	
TAPE4	B	4		MICRO GROUP TAPE NEW	02624	00067	00	00000 00000	
TAPE5	B	5		NUCLEAR CONSTANT TAPE	02627	00072	00	00000 00003	
TAPE6	B	6		MICRO GROUP TAPE OLD	02630	00073	00	00000 00004	
TAPE7	B	7		RAW DATA TAPE	02621	00074	00	00000 00005	
TAPE8	B	10		INTERMEDIATE TAPE	02632	00075	00	00000 00005	
TAPE9	B	11		OUTPUT TAPE	02633	00076	00	00000 00007	
TAPE10	B	12		DUMP TAPE	02624	00077	00	00000 00010	
				DMN SERVICE LIBRARY	02635	00100	00	00000 00011	
					02636	00101	00	00000 00012	

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		0000	0000	0045	02617	00102	00	00000	00000
DIA1		0000	0000	0046	02640	00103	00	00000	00000
DIA2		0000	0000	0047	02641	00104	00	00000	00000
DIA3		0000	0000	0048	02642	00105	00	00000	00000
DIA4		0000	0000	0049	02643	00106	00	00000	00000
DIA5		0000	0000	0050	02644	00107	00	00000	00000
DIA6		0000	0000	0051	02645	00110	00	00000	00000
DIA7		0000	0000	0052	02646	00111	00	00000	00000
DIA8		0000	0000	0053	02647	00112	00	00000	00000
DIA9		0000	0000	0054	02648	00113	00	00000	00000
DIA10		0000	0000	0055	02649	00114	00	00000	00000
DIA11		0000	0000	0056	02642	00115	00	00000	00000
DIA12		0000	0000	0057	02643	00116	00	00000	00000
DIA13		0000	0000	0058	02644	00117	00	00000	00000
DIA14		0000	0000	0059	02645	00120	00	00000	00000
DIA15		0000	0000	0060	02646	00121	00	00000	00000
DIA16		0000	0000	0061	02647	00122	00	00000	00000
DIA17		0000	0000	0062	02648	00123	00	00000	00000
DIA18		0000	0000	0063	02649	00124	00	00000	00000
					02652	00125	00	00000	00000
LISOP	RSRV	3	3		02653	00126			
LENGY	RSRV	3	3		02656	00131			
LAKBK	RSRV	3	3		02671	00134			
LRDIF	RSRV	3	3		02674	00137			
LPYS	RSRV	3	3		02677	00142			
LREGN	RSRV	3	3		02702	00145			
LBSUO	RSRV	3	3		02705	00150			
LBSUN	RSRV	3	3		02710	00153			
LPHI	RSRV	3	3		02713	00156			
LCAPP	RSRV	3	3		02716	00161			
LPBKI	RSRV	3	3		02721	00164			
LSFKI	RSRV	3	3		02724	00167			
LMESH	RSRV	3	3		02727	00172			
LBRMX	RSRV	3	3		02732	00175			
LPHKI	RSRV	3	3		02735	00200			
LNSMT	RSRV	3	3		02740	00203			
LNXYT	RSRV	3	3		02743	00206			
LCAPD	RSRV	3	3		02746	00211			
LCAPT	RSRV	3	3		02751	00214			
LCPTI	RSRV	3	3		02754	00217			
LCAPF	RSRV	3	3		02757	00222			
LXKI	RSRV	3	3		02762	00225			
LMFKI	RSRV	3	3		02765	00230			
LPDIF	RSRV	3	3		02770	00233			
LKPXE	RSRV	3	3		02773	00236			
LLKTA	RSRV	3	3		02776	00241			
LLKTB	RSRV	3	3		03001	00244			
LNFKI	RSRV	3	3		03004	00247			
LNLP	RSRV	3	3		03007	00252			
LNSKI	RSRV	3	3		03012	00255			
LNDKI	RSRV	3	3		03015	00260			
LNFP	RSRV	3	3		03020	00263			
LNCKI	RSRV	3	3		03023	00266			
LNRI	RSRV	3	3		03026	00271			
LNPKI	RSRV	3	3		03031	00274			
LNKE	RSRV	3	3		03034	00277			
LNKL	RSRV	3	3		03037	00302			
LSHUF	RSRV	3	3		03042	00305			
CRCO1	B				03045	00310	00	00000	00000
Z3	RSRV	3	3		03046	00311			

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Z2	R5RV	3	3		03021	00314			
Z1	R5RV	3	3		03024	00317			
Z					03027	00322	00	00000	00000
DELTA	F			CURRENT AZ-BK	03030	00323	00	00000	00000
MU				CURRENT REACTIVITY	03031	00324	00	00000	00000
BLOCK	B				03032	00325	00	00000	00000
NDC1	B			PRINT ROUTINE WORD COUNT	03033	00326	00	00000	00000
MN001	B			CONTROL WORD DJF. MON.	03034	00327	00	00000	00000
MN002	B			CONTROL WORD DJF. MON.	03035	00330	00	00000	00000
SUBR	R5RV	9	9	SUBROUTINE EQUIVALENCES	03036	00331			
MLM1	R5RV	4	4	MONITOR ALARMS	03037	00342			
DRUM	B			FIRST TEMP DRUM STORAGE	03103	00346	00	00000	00000
MINCE	B			FIRST TEMP CORE STORAGE	03104	00347	00	00000	00000
ISO				XE+SM ISOTOPE NUMBER	03105	00350	00	00000	00000
MARK1				CONTROL WORD XE+SM CONCR	03106	00351	00	00000	00000
MARK2					03107	00352	00	00000	00000
K3					03110	00353	00	00000	00000
STAGAT					03111	00354	00	00000	00000
INDEXS					03112	00355	00	00000	00000
DTWICE					03113	00356	00	00000	00000
ADMCFE	R5RV	3	3		03114	00357			
ISTBP					03117	00362	00	00000	00000
DELTAT					03140	00363	00	00000	00000
LDK1	EQLS	LCAP0							
LTK1	EQLS	LCAPT							
LTK1J	EQLS	LCPTI							
LFK1	EQLS	LCAPF							
LMK1	EQLS	LMFK1							
BK	EQLS	SUBR+3							
BK2	EQLS	SUBR+5							
BRYE	EQLS	SUBR+6							
WR2	EQLS	SUBR+8							
ALLOK	EQLS	SUBR							
ALL2	EQLS	SUBR+2							
	EQLS								00000

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DIFFUSION THEORY

	SETL		1400A						
	X53	UMM 10		0001	01400	27	07470	00403	
DIFUS	MJ	0000	DIF1	0014	0002 01401	45	00000	01404	
	MS	0000		0015	0003 01402	56	00000	00000	
DIF2	MJ	0000	FILL	0016	0004 01403	45	00000	30000	
DIF1	TP	N	N1		0005 01404	11	00011	03557	
	RA	N1	V1	0024	0006 01405	21	03557	03420	
	SP	N	0000	0025	0007 01406	31	00011	00000	
	AT	K	NR	0026	0010 01407	35	00014	03553	
	ST	V1	NR1	0027	0011 01410	36	03420	03556	
	TP	I	I3	0028	0012 01411	11	00012	03560	
	RA	I3	V3	0029	0013 01412	21	03560	03422	
	MP	NR	V2		0014 01413	71	03553	03421	
	TP	A	2NR	0031	0015 01414	11	32000	03561	
	SP	I	0000	0032	0016 01415	31	00012	00000	
	ST	V1	A	0033	0017 01416	36	03420	32000	
	MP	A	R		0020 01417	71	32000	00014	
	MP	A	I		0021 01420	71	32000	00012	
	DV	V2	R112		0022 01421	73	03421	03554	
	TP	K112	PLUS1		0023 01422	11	03554	03564	
	RA	PLUS1	V1		0024 01423	21	03564	03420	
	SP	N	0000	0039	0025 01424	31	00011	00000	
	AT	V3	N3	0040	0026 01425	35	03422	03555	
	TP	K	R1		0027 01426	11	00014	03562	
	RA	K1	V1		0030 01427	21	03562	03420	
	TP	I	I2		0031 01430	11	00012	03563	
	RA	I2	V2		0032 01431	21	03563	03421	
	TP	MN002	MN2		0033 01432	11	00330	03115	
	TP	MN2	A		0034 01433	11	03115	32000	
	ZJ	L+1	NRK		0035 01434	47	01435	01451	
	TP	TAPE6	MARK2		0036 01435	11	00075	00352	
	TU	LV10	3ITER		0037 01436	15	03505	01452	
	TP	N1	I5		0040 01437	31	03557	00017	
	TP	A	UN1		0041 01440	11	32000	03101	
	AT	CON200	INVO		0042 01441	35	03111	02723	
	TP	INVO	INV2		0043 01442	11	02723	02723	
	TP	INVO	REVO		0044 01443	11	02723	03024	
	TP	INVO	REV2		0045 01444	11	02723	03026	
	TV	LINV4	INV2		0046 01445	16	03104	02725	
	TV	LREV2	REVO		0047 01446	16	03106	03024	
	TV	LREV4	REV2		0050 01447	16	03107	03026	
	MJ		3ITER		0051 01450	45	00000	01452	
	TP	TAPE4	MARK2		0052 01451	11	00073	00352	
NRM	TP	INF3	ITERAT		0053 01452	11	00022	03544	
3ITER	SP	LLAS7			0054 01453	31	03751	00000	
	TJ	MINCE	TVMC		0055 01454	42	00347	01460	
	TV	LLAS7	CORE1		0056 01455	16	03751	03644	
	RA	CORE1	V1		0057 01456	21	03644	03420	
	MJ		RJALL		0060 01457	45	00000	01462	
	TVMC	MINCE	CORE1		0061 01460	16	00347	03644	
	RA	CORE1	V1		0062 01461	21	03644	03420	
	RJALL	ALL2	ALL0K		0063 01462	37	00333	00331	
	O	CORE1	DRUM1		0042 0064 01463	00	03644	03645	NOP
	O	VAREL	FILL		0043 0065 01464	00	03646	30000	NOP
	TP	ZERO	CT	SETUP TO	0044 0066 01465	11	03447	03546	
	TU	LCON2	IDF2	BRING ENGY	0045 0067 01466	15	03610	01473	
	TV	LIDF6	IDF5	FROM DRUM	0046 0070 01467	16	03611	01504	
	SP	I3	I5	TO CORE	0071 01470	31	03560	00017	
IDFO	AT	K7	FID2	K	0048 0072 01471	35	03636	01500	

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I0F1	TU	I0F2	I0F3		0049	00073	01472	15	01473	01474
I0F2	TU	FILL	FID1	CON	0050	00074	01473	15	30000	01476
I0F3	TU	FILL	I0F4		0051	00075	01474	15	30000	01477
	RA	FID1	U1		0052	00076	01475	21	01476	03401
FID1	TU	FILL	FID3	DRUM ADD	0053	00077	01476	15	30000	01501
I0F4	TV	FILL	FID3	CORE ADD	0054	00100	01477	16	30000	01501
FID2	RPH		FID4			00101	01500	75	30000	01502
FID3	TP	FILL			0056	00102	01501	11	30000	30000
FID4	RA	I0F2	U1		0057	00103	01502	21	01473	03401
	IJ	CT	I0F1		0058	00104	01503	41	03546	01472
I0F5	RJ	I0F5	I0F6		0059	00105	01504	37	01504	01505
I0F6	TP	V2	CT	RDIF PTS	0060	00106	01505	11	03421	03546
	SP	R	15	REGN DRUM		00107	01506	31	00014	00017
	RJ	I0F5	I0F0	TO CORE	0062	00110	01507	37	01504	01471
I0F7	TP	V1	CT	BSUN BSUN	0063	00111	01510	11	03420	03546
	SP	I	15	DRUM TO		00112	01511	31	00012	00017
	RJ	I0F5	I0F0	CORE	0065	00113	01512	37	01504	01471
I0F8	TP	ZERO	CT	PHI	0066	00114	01513	11	03447	03546
	SP	N1	15	FROM DRUM		00115	01514	31	03557	00017
	RJ	I0F5	I0F0	TO CORE	0068	00116	01515	37	01504	01471
	SP	NR	15	COMPUTE		00117	01516	31	03553	00017
	AT	K3DIF	H82Z	POWER		00120	01517	35	03633	01525
	TU	CON1	H82X	APPROXIMATION		00121	01520	15	03620	01522
	RA	H82X	U1	FROM PSUBO		00122	01521	21	01522	03401
H82X	TV	FILL	H82Y	AND OQ		00123	01522	16	30000	01526
	FM	F2P5	PSUB0	STORE		00124	01523	66	03455	00042
	FM			RESULT		00125	01524	66	31000	00064
H82Z	RPH		H82W	ON		00126	01525	75	10000	01527
H82Y	TP	Q	FILL	DRUM		00127	01526	11	31000	30000
H82W	SP	H82Y	15	THEN BRING		00130	01527	31	01526	00017
	TU	A	H82V	POWER APPROX		00131	01530	15	32000	01535
	TV	LCAPP	H82V	FROM		00132	01531	16	00161	01535
	SP	NR	15	DRUM		00133	01532	31	03553	00017
	AT	K5	H82U	TO		00134	01533	35	03634	01534
H82U	RPH		FID8A	CORE		00135	01534	75	30000	01536
H82V	TP	FILL	FILL			00136	01535	11	30000	30000
FID8A	SP	N3	15			00137	01536	31	03555	00017
	AT	K8	FID8B		0086	00140	01537	35	03637	01544
	TU	CON9	FID8C		0087	00141	01540	15	03630	01542
	RA	FID8E	U1		0088	00142	01541	21	01542	03401
FID8C	TU	FILL	FID8D	MESH	0089	00143	01542	15	30000	01545
	TV	LMESH	FID8D	DRUM TO	0090	00144	01543	16	00172	01545
FID8B	RPH		FID8E			00145	01544	75	30000	01546
FID8D	TP	FILL	FILL		0092	00146	01545	11	30000	30000
FID8E	SP	R	15			00147	01546	31	00014	00017
	AT	K9	FID8G		0094	00150	01547	35	03640	01554
	TU	CON10	FID8E		0095	00151	01550	15	03631	01552
	RA	FID8F	U1		0096	00152	01551	21	01552	03401
FID8F	TU	FILL	FID8H		0097	00153	01552	15	30000	01555
	TV	LREGN	FID8H		0098	00154	01553	16	00145	01555
FID8G	RPH		FID8I			00155	01554	75	30000	01556
FID8H	TP	FILL	FILL		0100	00156	01555	11	30000	30000
FID8I	TU	LMESH	FID8J		0101	00157	01556	16	00172	01561
	TV	LMESH	FID8J		0102	00160	01557	16	00172	01561
	RA	FID8J	U2V1		0103	00161	01560	21	01561	03446
FID8J	FS	FILL	FILL		0104	00162	01561	65	30000	30000
	TP	Q	OIFR		0105	00163	01562	11	31000	03502
	SP	MARK2	30			00164	01563	31	00352	00036
	TP	A	RUNC1		0107	00165	01564	11	32000	01567
	TV	LCAPD	RUNC1		0108	00166	01565	16	00211	01567

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	RJ	BK2	BK	0109	00167	01566	37	00336	00334	
RUNC1	O	0000	FILL	0110	00170	01567	00	00000	30000	NOP
	MJ			0111	00171	01570	45	00000	00000	
	TP	RUNC1	RUNC2	0112	00172	01571	11	01567	01574	
	TV	LCAPF	RUNC2	0113	00173	01572	16	00214	01574	
	RJ	BK2	BK	0114	00174	01573	37	00336	00334	
RUNC2	O	0000	FILL	0115	00175	01574	00	00000	30000	NOP
	MJ			0116	00176	01575	45	00000	00000	
	TP	RUNC2	RUNC3	0117	00177	01576	11	01574	01601	
	TV	LCPTI	RUNC3	0118	00200	01577	16	00217	01601	
	RJ	BK2	BK	0119	00201	01600	37	00336	00334	
RUNC3	O	0000	FILL	0120	00202	01601	00	00000	30000	NOP
	MJ			0121	00203	01602	45	00000	00000	
	TP	RUNC3	RUNC4	0122	00204	01603	11	01601	01606	
	TV	LCAPF	RUNC4	0123	00205	01604	16	00222	01606	
	RJ	BK2	BK	0124	00206	01605	37	00336	00334	
RUNC4	O	0000	FILL	0125	00207	01606	00	00000	30000	NOP
	MJ			0126	00210	01607	45	00000	00000	
	TP	RUNC4	RUNC5	0127	00211	01610	11	01606	01613	
	TV	LXK1	RUNC5		00212	01611	16	00225	01613	
	RJ	BK2	BK	0129	00213	01612	37	00336	00334	
RUNC5	O	0000	FILL	0130	00214	01613	00	00000	30000	NOP
	MJ			0131	00215	01614	45	00000	00000	
	TP	RUNC5	RUNC6		00216	01615	11	01613	01620	
	TV	LMFKI	RUNC6		00217	01616	16	00230	01620	
	RJ	BK2	BK		00220	01617	37	00336	00334	
RUNC6	O		FILL		00221	01620	00	00000	30000	
	MJ				00222	01621	45	00000	00000	
	RJ	NEW2	REWIND		00223	01622	37	02646	02644	
TUC8	TU	CON	IDF32		00224	01623	15	03627	01644	
	RA	IDF32	U1	0134	00225	01624	21	01644	03401	
	TP	MN2	A		00226	01625	11	03115	32000	
	ZJ	L+1	IDF32		00227	01626	47	01627	01644	
	RS	I	COUNT		00230	01627	11	00012	03547	
	RS	COUNT	VI		00231	01630	23	03547	03420	
	TU	LENGY	E1E2		00232	01631	15	00131	01635	
	TV	LENGY	E1E2		00233	01632	16	00131	01635	
	RA	E1E2	U1V2		00234	01633	21	01635	03100	
	TV	LEDIF	EDIF1		00235	01634	16	03605	01640	
E1E2	FS	FILL	FILL		00236	01635	05	30000	30000	
	TP		TEMP		00237	01636	11	31000	03102	
	FM	Q	TEMP		00240	01637	06	31000	03102	
EDIF1	TP	Q	FILL	DELTA E1	00241	01640	11	31000	30000	
	RA	E1E2	U1V1		00242	01641	21	01635	03437	
	RA	EDIF1	VI		00243	01642	21	01640	03420	
	IJ	COUNT	E1E2		00244	01643	41	03547	01635	
IDF32	TV	FILL	IDF31		0135	00245	16	30000	02362	
	TU	LPHT	IDF31		0136	00246	15	00156	02362	
	SP	N1	15		00247	01646	31	03557	00017	
	AT	K30	IDF30		0138	00250	35	03642	02361	
	TV	LWEEP	H31		0139	00251	16	03577	02075	
	TV	LWEEP	H32		0140	00252	16	03602	02077	
	TV	LWEEP	H39		0141	00253	16	03577	02270	
	RA	H39	N		0142	00254	21	02270	00011	
	TV	H39	H3B		0143	00255	16	02270	02267	
	RS	H39	VI		0144	00256	23	02270	03420	
	TV	LWEEP	H40		0145	00257	16	03602	02274	
	RA	H40	N		0146	00260	21	02274	00011	
	TV	H40	H41		0147	00261	16	02274	02277	
	RS	H40	VI		0148	00262	23	02274	03420	

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	TP	RHO	TRHO	0149	00263	01662	11	00035	03467
	TP	ZERO	MU1	0150	00264	01663	11	03447	03505
	RS	TRHO	V1	0151	00265	01664	23	03467	03420
H82A	TV	LCAPP	H30	0152	00266	01665	16	00211	02045
	TU	LBSUO	H30	0153	00267	01666	15	00150	02045
	TV	LCAPP	H30B	0154	00270	01667	16	00214	02065
	TU	LXKI	SETH4		00271	01670	15	00225	03545
	TP	ZERO	SETC7	0156	00272	01671	11	03447	03526
	TV	LCAPP	SEH17	0157	00273	01672	16	00211	03523
	TU	LCAPP	SEH23	0158	00274	01673	15	00214	03525
	TV	LBSUN	H35	0159	00275	01674	16	00153	02243
	TP	I	ENEY	0160	00276	01675	11	00012	03515
	RS	ENEY	V1	0161	00277	01676	23	03515	03420
	TV	LPHI	SEH28	0162	00300	01677	16	00156	03522
	RA	SEH28	N	0163	00301	01700	21	03522	00011
	TV	LCAPP	SEH73	0164	00302	01701	16	00222	03521
	SP	N	0000	0165	00303	01702	31	00014	00000
	ST	V1	A	0166	00304	01703	36	03420	32000
	AT	SEH73	SEH73	0167	00305	01704	35	03521	03521
	TV	LCAPP	H26A	0168	00306	01705	16	00161	01715
	SP	N	0000	0169	00307	01706	31	00011	00000
	AT	N	A	0170	00310	01707	35	00014	32000
	AT	H26A	H26A	0171	00311	01710	35	01715	01715
	SP	N	0000	0172	00312	01711	31	00011	00000
	SA	N	15	0174	00313	01712	32	00014	00017
	AT	K6	H26B	0174	00314	01713	35	03635	01714
H26B	RPV	A	H42		00315	01714	75	10000	01716
H26A	TP	ZERO	FILL	0176	00316	01715	11	03447	30000
H42	TU	LMESH	H13	0177	00317	01716	15	00172	02103
	TU	LPTS	HUF12	0178	00320	01717	15	00142	02100
	TV	LPHI	SETH6	0179	00321	01720	16	00156	03527
	TU	SETH4	H4		00322	01721	15	03545	01773
	RA	H1	U1	0180	00323	01722	21	02103	03401
	TP	H1	SETH1	0181	00324	01723	11	02103	03463
	TV	SEH17	H17	0182	00325	01724	16	03523	02146
	TV	SEH17	H19	0183	00326	01725	16	03523	02151
	TU	SEH23	H23	0184	00327	01726	15	03525	02154
	TV	LCAPP	H4	0185	00330	01727	16	00161	01773
	TV	LWEER	H8	0186	00331	01730	16	03577	02161
	TV	LWEER	H9	0187	00332	01731	16	03577	02166
	RA	H9	V1	0188	00333	01732	21	02166	03420
	TV	LWEEQ	H10	0189	00334	01733	16	03602	02170
	TV	LWEEQ	H11	0190	00335	01734	16	03602	02172
	RA	H11	V1	0191	00336	01735	21	02172	03420
	TP	N	POINT	0192	00337	01736	11	00011	03462
	RS	POINT	V2	0193	00340	01737	23	03462	03421
	TU	LCPT1	SETH6	0194	00341	01740	15	00217	03527
	H42B	RJ	H42F	0195	00342	01741	37	01741	01742
H42C	TP	ZERO	DUMP	0196	00343	01742	11	03447	03456
	SP	I	0000	0197	00344	01743	31	00012	00000
	ST	ENEY	DUMP	0198	00345	01744	36	03515	03456
	RS	DUMP	V1	0199	00346	01745	23	03456	03420
	TP	DUMP	Q		00347	01746	11	03456	31000
	RS	DUMP	V1	0201	00350	01747	23	03456	03420
	MP	Q	DUMP		00351	01750	71	31000	03456
	MP	A	R		00352	01751	71	32000	00014
	DV	V2	DUMP		00353	01752	73	03421	03456
	LQ	DUMP	A+15		00354	01753	55	03456	32017
	AT	SETH6	SETH6	0206	00355	01754	35	03527	03527
	TU	CONP	DSETA	0208	00356	01755	15	03627	01757

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	RA	USETA	U1	0209	00357	01756	21	01757	03401
USETA	TU	FILL	DFA2	0410	00360	01757	15	30000	02011
	TV	LPHI	DFA2	0411	00361	01760	16	00156	02011
	SP	N1	15		00362	01761	31	03557	00017
	AT	K20	DFA1	0413	00363	01762	35	03641	02010
	TP	SETH6	H6	0414	00364	01763	11	03527	02020
	TP	SETC7	C7	0415	00365	01764	11	03526	03543
	TV	LCAPH	DFA3	0216	00366	01765	16	03574	01774
	TP	K	COUNT		00367	01766	11	00014	03547
	RS	COUNT	V1		00370	01767	23	03547	03420
	TU	LPTS	L+1		00371	01770	15	00142	01771
ADD	TP	FILL	C1		00372	01771	11	30000	03535
	RA	L-1	U1		00373	01772	21	01771	03401
H4	FM	FILL	FILL		00374	01773	66	30000	30000
DFA3	TP	Q	FILL		00375	01774	11	31000	30000
	RA	H4	V1		00376	01775	21	01773	03420
	RA	DFA3	V1		00377	01776	21	01774	03420
	IJ	C1	H4		00400	01777	41	03535	01773
	RA	H4	U1		00401	02000	21	01773	03401
	IJ	COUNT	ADD		00402	02001	41	03547	01773
DFA1A	TP	NR1	C1	0223	00403	02002	11	03556	03535
	TV	LDFAB	DFA7	0217	00404	02003	16	03614	02020
	TU	LPTS	DFH6	0224	00405	02004	15	00142	02010
	TV	LH6	H6DF	0225	00406	02005	16	03617	02010
	IJ	C7	DFA1	0226	00407	02006	41	03543	02010
	MJ	0000	TUF30	0227	00410	02007	45	00000	02004
DFA1	RFB	DFA4	ONE GROUP OF PHIS		00411	02010	75	30000	02010
DFA2	TP	FILL	DRUM TO CR	0429	00412	02011	11	30000	30000
DFA4	TV	LPHI	H6	0230	00413	02012	16	00156	02020
	TV	LCAPH	DFA5	0231	00414	02013	16	03574	02021
	TV	LCAPH	DFA6	0232	00415	02014	16	03574	02022
UFH6	TP	FILL	PTS	0233	00416	02015	11	30000	03547
H6DF	RJ	H6DF	FILL	0234	00417	02016	37	02016	30000
H6DG	RS	COUNT	V1	0235	00420	02017	23	03547	03420
H6	FM	FILL	FILL	0236	00421	02020	66	30000	30000
DFA5	FA	Q	FILL	0237	00422	02021	64	31000	30000
DFA6	TP	Q	FILL	0238	00423	02022	11	31000	30000
DFA7	RJ	DFA7	DFA8	0239	00424	02023	37	02023	02024
DFA8	IJ	COUNT	DFA10	0240	00425	02024	41	03547	02034
	RA	UFH6	U1	0241	00426	02025	21	02015	03401
	RA	H6	U1	0242	00427	02026	21	02020	03401
	RA	UFA5	V1	0243	00430	02027	21	02021	03420
	RA	UFA6	V1	0244	00431	02030	21	02022	03420
	TV	LDF10	DFA7	0245	00432	02031	16	03612	02023
	IJ	C1	DFH6	0246	00433	02032	41	03535	02015
	MJ	F	DFA12	0247	00434	02033	45	00000	02040
DFA10	RA	H6	V1	0248	00435	02034	21	02020	03420
	RA	UFA5	V1	0249	00436	02035	21	02021	03420
	RA	UFA6	V1	0250	00437	02036	21	02022	03420
	IJ	C1	H6	0251	00440	02037	41	03535	02020
DFA12	SP	N1	15		00441	02040	31	03557	00017
	AT	DFA2	DFA2	0253	00442	02041	35	02011	02011
	MJ	0000	DFA1A	0254	00443	02042	45	00000	02002
TUF30	TU	LCAPH	DF30	0255	00444	02043	15	03574	02071
	FM	LCAPH	H16	0256	00445	02044	15	03574	02140
H30	FM	FILL	FILL	0257	00446	02045	66	30000	30000
	TP	Q	DUMP1	0258	00447	02046	11	31000	03457
	TV	H30	H33	0259	00450	02047	16	02020	03450
H33	FS	DUMP1	FILL	0260	00451	02050	65	03557	00017
	TN	Q	WECC	0261	00452	02051	13	03557	00017

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					0262	00453	02052	15	02045	02053
H34	TU	H30	H34		0263	00454	02053	66	30000	03502
	FM	FILL	DIFR		0264	00455	02054	64	31000	03532
	FA	Q	WEEC	B SUB 0	0265	00456	02055	11	31000	03531
	TP	Q	WEEB		0266	00457	02056	15	02045	02057
	TU	H30	H30A		0267	00460	02057	65	30000	03450
H30A	FS	FILL	F1		0268	00461	02060	67	31000	03451
	FD	Q	F2		0269	00462	02061	13	31000	03457
	TN	Q	DUMP1		0270	00463	02062	66	03502	03502
	FM	DIFR	DIFR		0271	00464	02063	66	31000	03457
	FM	Q	DUMP1		0272	00465	02064	11	31000	03457
	TP	Q	DUMP1		0273	00466	02065	66	31000	30000
H30B	FM	Q	FILL		0274	00467	02066	64	31000	03531
	FA	Q	WEEB		0275	00470	02067	11	31000	03531
	TP	Q	WEEB		0276	00471	02070	11	03447	03530
	TP	ZERO	WEEA		0277	00472	02071	11	30000	03476
DF30	FM	FILL	BIGH		0278	00473	02072	66	03476	03457
	TP	BIGH	DUMP1		0279	00474	02073	11	31000	03533
	TP	Q	WEED		0280	00475	02074	67	03532	03531
	FD	WEEC	WEEB	COMPUTE	0281	00476	02075	11	31000	30000
H31	TP	Q	FILL	P SHN SPO	0282	00477	02076	67	03533	03531
	FD	WEED	WEER		0283	00500	02077	11	31000	30000
H32	TP	Q	FILL	QBNPO TO 0	0284	00501	02100	11	30000	03550
HDF12	TP	FILL	KOUNT		0285	00502	02101	23	03550	03420
F12HE	RS	KOUNT	V1			00503	02102	75	30003	02104
H12	RPB	3	H15		0287	00504	02103	11	30000	03472
H1	TP	FILL	WEERM	BRNG CURPI	0288	00505	02104	65	03473	03472
H15	FS	WEER	WEERM	BRNG CURDF	0289	00506	02105	11	31000	03470
	TP	Q	DELR		0290	00507	02106	65	03474	03473
	FS	WEERP	WEER		0291	00510	02107	11	31000	03471
	TP	Q	DELRP	COMPUTE	0292	00511	02110	64	03473	03474
H14	FA	WEER	WEERP	R SUB N	0293	00512	02111	67	31000	03451
	FD	Q	F2	P ONE HALF	0294	00513	02112	11	31000	03466
	TP	Q	RRHOP		0295	00514	02113	64	03472	03473
	FA	WEERM	WEER	COMP R SUBN	0296	00515	02114	67	31000	03451
	FD	Q	F2	M ONE HALF	0297	00516	02115	11	31000	03464
	TP	Q	RRHOM		0298	00517	02116	11	03473	03465
	TP	WEER	RRHO			00520	02117	11	03467	32000
	TP	TRHO	A		0300	00521	02120	47	02121	02133
H3	ZU	H3	H24A		0301	00522	02121	46	02122	02125
H25	SJ	H25	H29			00523	02122	75	10003	02124
	RPV	3	PH24A		0303	00524	02123	11	03450	03464
	TP	F1	RRHOM			00525	02124	45	00000	02133
PH24A	MJ		H24A		0305	00526	02125	66	03464	03464
H29	FM	RRHOM	RRHOM		0306	00527	02126	11	31000	03464
	TP	Q	RRHOM		0307	00530	02127	66	03465	03465
	FM	RRHO	RRHO		0308	00531	02130	11	31000	03465
	TP	Q	RRHO			00532	02131	66	03466	03466
	FM	RRHOP	RRHOP		0310	00533	02132	11	31000	03466
	TP	Q	RRHOP		0311	00534	02133	31	03473	00000
H24A	SJ	WEER	0000	TEST BDRY	0312	00535	02134	41	03550	02136
H24C	IJ	KOUNT	HF16A		0313	00536	02135	45	00000	02203
HF16A	MJ		H13		0314	00537	02136	16	03616	02201
	TV	LH12	H1JP		0315	00540	02137	21	02140	03401
DF16A	RA	H16	U1		0316	00541	02140	11	30000	03476
H16	TP	FILL	BIGH		0317	00542	02141	11	03476	31000
	TP	BIGH	Q		0318	00543	02142	37	02142	02143
H7	RJ	H7	H7P1		0319	00544	02143	66	03465	03470
H7P1	FM	RRHO	DELR	COMPUTE	0320	00545	02144	66	31000	03476
	FM	Q	BIGH	D SHN SPT	0321	00546	02145	11	31000	03533
	TP	Q	WEED							

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H17	FM	KRHOP	FILL	COMPUTE	0222	00547	02146	66	03466	30000
	FD	Q	DEL RP	C SBN SPI	0223	00550	02147	67	31000	03470
	TP	Q	WEEC		0224	00551	02150	11	31000	03532
H19	FM	KRHOM	FILL	COMPUTE	0225	00552	02151	66	03464	30000
	FD	Q	DEL RP	A SBN SPI	0226	00553	02152	67	31000	03470
	TP	Q	WEEA		0227	00554	02153	11	31000	03530
H23	FM	FILL	DEL RP			00555	02154	66	30000	03471
	FM	Q	RRHO			00556	02155	66	31000	03465
	FA	Q	WEEA			00557	02156	64	31000	03530
	FA	Q	WEEC			00560	02157	64	31000	03532
	TP	Q	WEEB	B SBN SPI	0330	00561	02160	11	31000	03531
H8	FM	WEEA	FILL	COMPUTE	0331	00562	02161	66	03530	30000
	TN	Q	DUMP	DENOMINA	0332	00563	02162	13	31000	03456
	FA	WEEB	DUMP	TOR	0333	00564	02163	64	03531	03456
	TP	Q	DUMP		0334	00565	02164	11	31000	03456
	FD	WEEC	DUMP	COMPUTE	0335	00566	02165	67	03532	03456
H9	TP	Q	FILL	P SUB N	0336	00567	02166	11	31000	30000
	TP	WEED	Q		0337	00570	02167	11	03533	31000
H10	FI	WEEA	FILL	COMPUTE	0338	00571	02170	02	03530	30000
	FD	Q	DUMP	Q SUB N	0339	00572	02171	67	31000	03456
H11	TP	Q	FILL		0340	00573	02172	11	31000	30000
	RA	H1	UI		0341	00574	02173	21	02103	03401
	RA	H8	VI		0342	00575	02174	21	02161	03420
	RA	H9	VI		0343	00576	02175	21	02166	03420
	RA	H10	VI		0344	00577	02176	21	02170	03420
	RA	H11	VI		0345	00600	02177	21	02172	03420
	RA	SETH6	VI	H12 OR	0346	00601	02200	21	03527	03420
HIJP	IJ	POINT	FILL	HDF12	0347	00602	02201	41	03462	30000
	MJ	0000	H35A		0348	00603	02202	45	00000	02242
H13	RA	HDF12	UI		0349	00604	02203	21	02100	03401
	TV	LHD12	HIJP		0350	00605	02204	16	03615	02201
	RJ	H7	DF16A		0351	00606	02205	37	02142	02137
	TP	BIGH	BIGHM		0352	00607	02206	11	03476	03475
	RJ	H7	DF16A		0353	00610	02207	37	02142	02137
	FM	DEL RP	BIGHM	COMPUTE	0354	00611	02210	66	03470	03475
	FI	DEL RP	BIGH		0355	00612	02211	02	03471	03476
	FM	Q	RRHO		0356	00613	02212	66	31000	03465
	FD	Q	F2		0357	00614	02213	67	31000	03451
	TP	Q	WEED		0358	00615	02214	11	31000	03533
	TV	H17	H18	COMPUTE	0359	00616	02215	16	02146	02216
H18	FM	KRHOM	FILL	BOUNDARY	0360	00617	02216	66	03464	30000
	FD	Q	DEL RP	A SBN SPI	0361	00620	02217	67	31000	03470
	TP	Q	WEEA		0362	00621	02220	11	31000	03530
	TU	H23	H21		0363	00622	02221	15	02154	02232
	RA	H17	VI		0364	00623	02222	21	02146	03420
	RA	H19	VI		0365	00624	02223	21	02151	03420
	RA	H23	UI		0366	00625	02224	21	02154	03401
	TU	H23	H22		0367	00626	02225	15	02154	02233
	TV	H17	H20	COMPUTE	0368	00627	02226	16	02146	02227
H20	FM	KRHOP	FILL	BOUNDARY	0369	00630	02227	66	03466	30000
	FD	Q	DEL RP	C SBN SPI	0370	00631	02230	67	31000	03471
	TP	Q	WEEC		0371	00632	02231	11	31000	03532
H21	FM	FILL	DEL RP		0372	00633	02232	66	30000	03470
H22	FI	FILL	DEL RP		0373	00634	02233	02	30000	03471
	FM	Q	RRHO	BOUNDARY	0374	00635	02234	66	31000	03465
	FD	Q	F2	B SUB N	0375	00636	02235	67	31000	03451
	FA	Q	WEEA	SUPER	0376	00637	02236	64	31000	03530
	FA	Q	WEEC		0377	00640	02237	64	31000	03532
	TP	Q	WEEB		0378	00641	02240	11	31000	03531
	MJ	0000	H8		0379	00642	02241	45	00000	02161

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H35A	TV	H17	H36	0380	00643	02242	16	02146	02245
H35	FS	F1	FILL	0381	00644	02243	65	03450	30000
	TP	Q	DUMPI	0382	00645	02244	11	31000	03457
H36	FM	Q	FILL	0383	00646	02245	66	31000	30000
	TP	Q	WEEA	0384	00647	02246	11	31000	03530
	TV	H35	H37	0385	00650	02247	16	02243	02250
H37	FM	DEL R	FILL	0386	00651	02250	66	03470	30000
	FA	Q	WEEA	0387	00652	02251	64	31000	03530
	TP	Q	WEEB	0388	00653	02252	11	31000	03531
	FM	DIFR	DIFR	0389	00654	02253	66	03502	03502
	FM	Q	DUMPI	0390	00655	02254	66	31000	03457
	FD	Q	F2	0391	00656	02255	67	31000	03451
	TP	Q	DUMPI	0392	00657	02256	11	31000	03457
	TU	H23	H23A	0393	00660	02257	15	02154	02260
H23A	FM	FILL	DUMPI	0394	00661	02260	66	30000	03457
	FA	Q	WEEB	0395	00662	02261	64	31000	03531
	TP	Q	WEEB	0396	00663	02262	11	31000	03531
	TP	ZERO	WEEC	0397	00664	02263	11	03447	03532
	RJ	H7	DF16A	0398	00665	02264	37	02142	02137
	FM	Q	DUMPI	0399	00666	02265	66	31000	03457
	TP	Q	WEEC	0400	00667	02266	11	31000	03533
H38	TP	ZERO	FILL	0401	00670	02267	11	03447	30000
H39	FM	WEEA	FILL	0402	00671	02270	66	03530	30000
	TP	Q	DUMP	0403	00672	02271	11	31000	03456
	FS	WEEB	DUMP	0404	00673	02272	65	03531	03456
	TP	Q	DUMP	0405	00674	02273	11	31000	03456
H40	FM	WEEA	FILL	0406	00675	02274	66	03530	30000
	FA	Q	WEEC	0407	00676	02275	64	31000	03533
	FD	Q	DUMP	0408	00677	02276	67	31000	03456
H41	TP	Q	FILL	0409	00700	02277	11	31000	30000
H83	RJ	H83	H82	0410	00701	02300	37	02300	02301
H82	TU	LWEEQ	H26	0411	00702	02301	15	03602	02332
	SP	N	15	0412	00703	02302	31	00011	00017
	AT	H26	H26	0413	00704	02303	35	02332	02332
	TU	LWEEP	H27	0414	00705	02304	15	03577	02333
	SP	N	15	0415	00706	02305	31	00011	00017
	AT	H27	H27	0416	00707	02306	35	02333	02333
	TV	SEH28	H28	0417	00710	02307	16	03522	02334
	TV	SEH28	H27	0418	00711	02310	16	03522	02333
	RA	H27	V1	0419	00712	02311	21	02333	03420
	TV	SEH73	H73	0420	00713	02312	16	03521	02340
	TV	LCAPP	H69	0421	00714	02313	16	00161	02341
	RA	H69	N	0422	00715	02314	21	02341	00011
	RA	H69	R	0423	00716	02315	21	02341	00014
	RA	H69	N	0424	00717	02316	21	02341	00011
	RA	H69	R	0425	00720	02317	21	02341	00014
	RS	H69	V1	0426	00721	02320	23	02341	03420
	TP	NR1	C2	0427	00722	02321	11	03556	03536
	TU	LPTS	H71Z	0428	00723	02322	15	00142	02331
	TP	LPTS	H71Y	0429	00724	02323	15	00142	02345
	SP	N	15	0430	00725	02324	31	00014	00017
	ST	U1	Q	0431	00726	02325	36	03401	31000
	AT	H71Z	H71Z	0432	00727	02326	35	02331	02331
	TP	H71Z	H71Y	0433	00730	02327	11	02331	02345
	RS	H71Y	U1	0434	00731	02330	23	02345	03401
H71Z	TP	FILL	LOUNT	0435	00732	02331	11	30000	03551
H26	TP	FILL	Q	0436	00733	02332	11	30000	31000
H27	FI	FILL	FILL	0437	00734	02333	02	30000	30000
H28	TP	Q	FILL	0438	00735	02334	11	31000	30000
	RS	H26	U1	0439	00736	02335	23	02332	03401

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	RS	M27	U1V1	IN PHI	0440	00737	02336	23	02333	03437
	RS	M28	V1	MATRIX	0441	00740	02337	23	02334	03420
H73	FM	Q	FILL	FIND FXPHI	0442	00741	02340	66	31000	30000
H69	FA	Q	FILL	COMPUTE	0443	00742	02341	64	31000	30000
	TV	H69	H70	THE NUMERA	0444	00743	02342	16	02341	02343
H70	TP	Q	FILL	FOR P SR N	0445	00744	02343	11	31000	30000
H71	IJ	LOUNT	H75		0446	00745	02344	41	03551	02357
H71Y	TP	FILL	LOUNT		0447	00746	02345	11	30000	03551
	RS	H71Y	U1		0448	00747	02346	23	02345	03401
H72	RS	H73	V1		0449	00750	02347	23	02340	03420
	RS	H69	V1		0450	00751	02350	23	02341	03420
	SP	H28	15			00752	02351	31	02334	00017
	TU	A	UF72		0452	00753	02352	15	32000	02354
	RA	UF72	U1		0453	00754	02353	21	02354	03401
DF72	TP	FILL	Q		0454	00755	02354	11	30000	31000
	IJ	C2	H73		0455	00756	02355	41	03536	02340
	MJ		IDF30			00757	02356	45	00000	02361
H75	RS	H69	V1		0457	00760	02357	23	02341	03420
	IJ	C2	H26		0458	00761	02360	41	03536	02332
IDF30	RFB		IDF33	PHIS		00762	02361	75	30000	02363
IDF31	TP	FILL	FILL	COME	0460	00763	02362	11	30000	30000
IDF33	RA	IDF31	N1	TO DRUM	0461	00764	02363	21	02362	03557
	RA	SEH17	R		0462	00765	02364	21	03523	00014
	LQ	K	A+15			00766	02365	35	00014	32017
	AT	SEH23	SEH23		0464	00767	02366	35	03525	03525
	RA	SEH73	R		0465	00770	02367	21	03521	00014
	RA	H30	U1		0466	00771	02370	21	02045	03401
	RA	H30	R		0467	00772	02371	21	02045	00014
	KA	SETH4	Q			00773	02372	21	03545	31000
	RA	SETC7	V1		0469	00774	02373	21	03526	03420
	RA	H35	V1		0470	00775	02374	21	02243	03420
	RA	H30B	R		0471	00776	02375	21	02065	00014
	IJ	ENEGY	H42		0472	00777	02376	41	03515	01716
	TP	I	C5		0473	01000	02377	11	00012	03541
	RS	C5	V1		0474	01001	02400	23	03541	03420
	TV	LHFKI	SEH43	IDF33+		01002	02401	16	00230	03520
	TV	LPHI	SEH55		0476	01003	02402	16	00156	03517
	TV	H61	H62		0477	01004	02403	16	03567	02476
	TU	CONB	PHDCW		0478	01005	02404	15	03627	02406
	RA	PHDCW	U1		0479	01006	02405	21	02406	03401
PHDCW	TU	FILL	PHDCY		0480	01007	02406	15	30000	02426
	TV	LPHI	PHDCY		0481	01010	02407	16	00156	02426
	SP	N1	15			01011	02410	31	03557	00017
	AT	K50	PHDCZ		0483	01012	02411	35	03643	02425
	RPV	2	H67			01013	02412	75	10002	02414
	TP	ZERO	SUM1		0485	01014	02413	11	03447	03500
H67	TU	LMESH	H47		0486	01015	02414	15	00172	02434
	TV	SEH43	H43		0487	01016	02415	16	03520	02465
	TV	SEH43	H44		0488	01017	02416	16	03520	02466
	TU	LPTS	H95Z		0489	01020	02417	15	00142	02422
	TU	LPTS	H95Y		0490	01021	02420	15	00142	02453
	RA	H95Y	U1		0491	01022	02421	21	02453	03401
H95Z	TP	FILL	MOUNT		0492	01023	02422	11	30000	03552
	TU	LPTS	H95		0493	01024	02423	15	00142	02424
H95	TP	FILL	C7		0494	01025	02424	11	30000	03543
PHDCZ	RFB		PHDCX			01026	02425	75	30000	02427
PHDCY	TP	FILL	FILL		0496	01027	02426	11	30000	30000
PHDCX	TU	LPTS	H94			01030	02427	15	00142	02636
	RA	H94	U1		0498	01031	02430	21	02636	03401
	TP	N	C4	CTR C4 TON	0499	01032	02431	11	00011	03540

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	TV	SEH55	H55	0500	01033	02432	16	03517	02467
H65	RPB	J	H52		01034	02433	75	30003	02435
H47	TP	FILL	WEERM	0502	01035	02434	11	30000	03472
H52	TP	WEER	RKHO	0503	01036	02435	11	03473	03465
	TP	TRHO	A		01037	02436	11	03467	32000
	ZJ	H48	H46	0505	01040	02437	47	02440	02445
H48	SJ	H49	H50	0506	01041	02440	46	02441	02443
H49	TP	F1	RKHO	0507	01042	02441	11	03450	03465
	MJ	0000	H46	0508	01043	02442	45	00000	02445
H50	FM	RRHO	RKHO	0509	01044	02443	66	03465	03465
	TP	Q	RRHO	0510	01045	02444	11	31000	03465
	SP	WEER	0000	0511	01046	02445	31	03473	00000
H46	SP	WEER	0000	0512	01047	02446	41	03552	02450
H66	IJ	MOUNT	H56	0513	01050	02447	45	00000	02452
	MJ		H54	0514	01051	02450	16	03570	02504
H56	TV	H60	H58	0515	01052	02451	45	00000	02460
	MJ	0000	H68	0516	01053	02452	21	02466	03420
H54	RA	H44	VI	0517	01054	02453	11	30000	03552
H95Y	TP	FILL	MOUNT	0518	01055	02454	21	02453	03401
	RA	H95Y	UI	0519	01056	02455	31	03552	00000
	SP	MOUNT	0000	0520	01057	02456	43	03540	02460
	EJ	C4	H68	0521	01060	02457	23	03552	03420
	RS	MOUNT	VI	0522	01061	02460	65	03473	03472
H68	FS	WEER	WEERM	0523	01062	02461	11	31000	03470
	TP	Q	DEL RP	0524	01063	02462	65	03474	03473
	FS	WEERP	WEER	0525	01064	02463	11	31000	03471
	TP	Q	DEL RP	0526	01065	02464	37	02464	02465
H96	RJ	H96	H43	0527	01066	02465	66	03470	30000
H43	FM	DEL RP	FILL	0528	01067	02466	02	03471	30000
H44	FI	DEL RP	FILL	0529	01070	02467	66	31000	30000
H55	FM	Q	RKHO	0530	01071	02470	66	31000	03465
	FA	Q	SUM1	0531	01072	02471	64	31000	03500
	TP	Q	SUM1	0532	01073	02472	11	31000	03500
H53	FA	DEL RP	DEL RP	0533	01074	02473	64	03470	03471
	FM	Q	RRHO	0534	01075	02474	64	31000	03465
	TP	Q	DUMP	0535	01076	02475	11	31000	03456
H62	MJ	0000	FILL	0536	01077	02476	45	00000	30000
H53C	FA	Q	SUM2	0537	01100	02477	64	31000	03501
	TP	Q	SUM2	0538	01101	02500	11	31000	03501
H93	IJ	C7	H64	0539	01102	02501	41	03543	02503
	MJ		H94	0540	01103	02502	45	00000	02636
H64	RA	H55	V1	0541	01104	02503	21	02467	03420
H58	RJ	H58	H57	0542	01105	02504	37	02504	02505
H57	RA	H43	V1	0543	01106	02505	21	02465	03420
H59	RA	H47	UI	0545	01107	02506	21	02434	03401
	IJ	C4	H65	0546	01110	02507	41	03540	02433
	TV	LH93	H62	0547	01111	02510	16	03613	02476
	SP	N1	15		01112	02511	31	03557	00017
	AT	PHDCY	PHDCY	0549	01113	02512	35	02426	02426
	RA	SEH43	R	0550	01114	02513	21	03520	00014
	IJ	C5	H67	0551	01115	02514	41	03541	02414
	FD	SUM1	SUM2	0552	01116	02515	67	03500	03501
	FD	Q	PSUBO		01117	02516	67	31000	00042
	FD	Q	Q		01120	02517	67	31000	00064
	TP	Q	MU		01121	02520	11	31000	00324
WRITE	TV	LCAPP	H76	0557	01122	02521	15	00161	02532
	TV	LCAPP	H77	0558	01123	02522	16	00161	02533
	TP	N	C5	0559	01124	02523	11	00011	03541
	RA	C5	R	0560	01125	02524	21	03541	00014
	RA	H77	C5	0561	01126	02525	21	02533	03541

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	SP	CS	15		01127	02526	31	03541	00017	
	AT	H76	H76		0563	01130	02527	35	02532	04532
	RS	CS	VI		0564	01131	02530	23	03541	03420
	TP	CS	DUMP2		0565	01132	02531	11	03541	03460
H76	FD	FILL	MU	DIVIDE	0566	01133	02532	67	30000	00324
H77	TP	Q	FILL	SUMS	0567	01134	02533	11	31000	30000
	RA	H76	UI	BY MU THRY	0568	01135	02534	21	02532	03401
	RA	H77	VI	COMPUTING	0569	01136	02535	21	02533	03420
	TP	ZERO	DUMP1		0570	01137	02536	11	03447	03457
	IJ	CS	H76	P SUB N.	0571	01140	02537	41	03541	02532
	FS	MU	MU1		0572	01141	02540	65	00324	03505
	TM	Q	Q		0573	01142	02541	12	31000	31000
	FS	Q	EPSIL		0574	01143	02542	65	31000	00054
	SP	ZERO	0000		0575	01144	02543	31	03447	00000
	TP	Q	A		0576	01145	02544	11	31000	32000
	SJ	H78	H78Z		0577	01146	02545	46	02547	02546
H78Z	TP	VI	DUMP1		0578	01147	02546	11	03420	03457
H78	TP	MU	MU1		0579	01150	02547	11	00324	03505
	TV	LCAPP	H79	IMPKOVE	0580	01151	02550	16	00161	02557
	RA	H79	N		0581	01152	02551	21	02557	00011
	RA	H79	R	THE	0582	01153	02552	21	02557	00014
	TV	LCAPP	H81		0583	01154	02553	16	00161	02567
	TU	LCAPP	H79	APPROX	0584	01155	02554	15	00161	02557
	TV	LPDIF	H879		0585	01156	02555	16	00233	02572
	TV	H79	H80		0586	01157	02556	16	02557	02563
H79	FS	FILL	FILL	OF	0587	01160	02557	65	30000	30000
	TU	H79	H79A		0588	01161	02560	15	02557	02561
H79A	TP	FILL	DUMP		0589	01162	02561	11	30000	03456
	FM	Q	OMEGA		0590	01163	02562	66	31000	00061
H80	FS	Q	FILL		0591	01164	02563	65	31000	30000
	TP	Q	A	STICK THESE 3 CARDS BETWEEN H80 AND H81.		01165	02564	11	31000	32000
	SJ	H81	L+1			01166	02565	46	02567	02566
	TN	ZERO	Q			01167	02566	13	03447	31000
H81	TN	Q	FILL		0592	01170	02567	13	31000	30000
	TU	H79A	H79B		0593	01171	02570	15	02561	02571
H79B	FS	FILL	DUMP		0594	01172	02571	65	30000	03456
H879	TP	Q	FILL		0595	01173	02572	11	31000	30000
	SP	H81	15	PERFORM		01174	02573	31	02567	00017
	TU	A	L+1	RELATIVE		01175	02574	15	32000	02575
	TP	FILL	A	CONVERGENCE		01176	02575	11	30000	32000
	ZJ	L+1	L+3	TEST		01177	02576	47	02577	02601
	TV	H81	L+1			01200	02577	16	02567	02600
	FD	Q	FILL			01201	02600	67	31000	30000
	TM	Q	DUMP			01202	02601	12	31000	03456
	FS	DUMP	EPS2		0597	01203	02602	65	03456	00055
	SP	ZERO	0000		0598	01204	02603	31	03447	00000
	TP	Q	A		0599	01205	02604	11	31000	32000
	SJ	H81A	DIVG		0600	01206	02605	46	02606	02634
H81A	RA	H79	UIV1		0601	01207	02606	21	02557	03437
	RA	H80	VI		0602	01210	02607	21	02563	03420
	RA	H81	VI		0603	01211	02610	21	02567	03420
	RA	H879	VI		0604	01212	02611	21	02572	03420
	IJ	DUMP2	H79		0605	01213	02612	41	03460	02557
	TP	MN2	A			01214	02613	11	03115	32000
	ZJ	L+1	TPO			01215	02614	47	02615	02622
	TP	INF5	A			01216	02615	11	00024	32000
	ZJ	L+1	TPO			01217	02616	47	02617	02622
	RJ	INVRT2	INVRT			01220	02617	37	02756	02676
	TP	CON201	BACK			01221	02620	11	03112	02626
	MJ		TPO+1			01222	02621	45	00000	02623

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TP0	TP	CON202	BACK	01223	02622	11	03113	02626	
	TP	CON100	Q	01224	02623	11	02673	31000	
	IJ	ITEPAT	DIF2	01225	02624	41	03544	01403	
	MJ		CONV1	01226	02625	45	00000	04654	
BACK	RJ	FILL	FILL	01227	02626	37	30000	30000	
	TP	DUMP1	A	01230	02627	11	03497	32000	
	ZJ	RESEF	CONV1	0614	01231	02630	47	02631	02654
RESET	TU	IDF32	32IDF	0615	01232	02631	15	01644	02632
32IDF	TV	FILL	IDF31	0616	01233	02632	16	30000	02362
	MJ		H82A	0617	01234	02633	45	00000	01665
DIVG	TP	V1	DUMP1	0618	01235	02634	11	03420	03457
	MJ	0000	H81A	0619	01236	02635	45	00000	02608
H94	TP	FILL	C7	0620	01237	02636	11	30000	03543
	RA	H94	U1	0621	01240	02637	21	02636	03401
	MJ		H93	0622	01241	02640	45	00000	02501
H59A	RA	H43	V2	0623	01242	02641	21	02465	03421
	RA	H44	V1	0624	01243	02642	21	02466	03420
	MJ	0000	H59	0625	01244	02643	45	00000	02508
REWND	MJ		REW1		01245	02644	45	00000	02647
	MS				01246	02645	36	00000	00000
REW2	MJ		FILL		01247	02646	45	00000	30000
REW1	SP	MARK2	12		01250	02647	31	00352	00014
	AT	CONRW	DUMP		01251	02650	35	02653	03456
	EF		DUMP		01252	02651	17	00000	03456
	MJ		REW2		01253	02652	45	00000	02646
CONRW	B	020020000000			01254	02653	02	00200	00000
CONV1	RJ	FLUX2	FLUX	REPLACE CONV1	01255	02654	37	03117	03116
	TV	LCAPP+1	L+5	CAPP FROM CORE TO	01256	02655	16	00162	02662
	TU	LCAPP	L+4	DRUM	01257	02656	15	00161	02662
	SP	NR	15		01260	02657	31	03553	00017
	AT	CONSF	L+1		01261	02660	35	02675	02661
	RPB		L+2		01262	02661	75	30000	02663
	TP	FILL	FILL		01263	02662	11	30000	30000
TOPRNT	TP	MN2	A		01264	02663	11	03115	32000
	ZJ	L+1	GORV+1		01265	02664	47	02665	02671
	RJ	INVRT2	INVRT		01266	02665	37	02756	02676
	TP	CON203	Q		01267	02666	11	03114	31000
	MJ		DIF2		01270	02667	45	00000	01403
GORV	RJ	REVRT2	REVRT		01271	02670	37	03057	02777
	TP	CON101	Q		01272	02671	11	02674	31000
	MJ		DIF2		01273	02672	45	00000	01403
CON100			BACK		01274	02673	00	00000	02626
CON101	40				01275	02674	40	00000	00000
CONST	RPB		TOPRNT		01276	02675	75	30000	02663
INVRT	TP	V1	WEET		01277	02676	11	03420	03103
	TP	I	A		01300	02677	11	00012	32000
	DV	V2	COUNT		01301	02700	73	03421	03547
	ZJ	L+2	L+1		01302	02701	47	02703	02702
	RS	COUNT	V1		01303	02702	23	03547	03420
	TV	LPHI	INV1		01304	02703	16	00156	02724
	TV	LPHI	INV3		01305	02704	16	00156	02726
	RA	INV3	NI		01306	02705	21	02726	03557
	TU	LPHI+1	INV1		01307	02706	15	00157	02724
	TU	LPHI+1	INV3		01310	02707	15	00157	02726
	TV	LEDIF	INV5		01311	02710	16	03605	02737
	TV	LEDIF	INV7		01312	02711	16	03605	02741
	TP	I	A		01313	02712	11	00012	32000
ST	V1		TEMP		01314	02713	36	03420	03102
MP	A		UNI		01315	02714	71	32000	03101
AT	INV3		INV3		01316	02715	35	02726	02726

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INV	RA	INV5	TEMP	01317	02716	21	02737	03102
	TP	I	A	01320	02717	11	00012	32000
	ST	WEEI	A	01321	02720	36	03103	32000
	AT	VI	A	01322	02721	35	03420	32000
	EJ	WEEI	INV10	01323	02722	43	03103	02757
INV0	RFB		INV2	01324	02723	75	30000	02725
INV1	TP	FILL	FILL	01325	02724	11	30000	30000
INV2	RFB		INV4	01326	02725	75	30000	02727
INV3	TP	FILL	FILL	01327	02726	11	30000	30000
INV4	TP	N	KOUNT	01330	02727	11	00011	03550
	TU	LPHI	INV5	01331	02730	15	00156	02737
	TU	LPHI	INV7	01332	02731	15	00156	02741
	RA	INV7	UNI	01333	02732	21	02741	03101
	LQ	INV1	A+21	01334	02733	55	02724	32025
	TV	A	INV8	01335	02734	16	32000	02742
	LQ	INV3	A+21	01336	02735	55	02726	32025
	TV	A	INV6	01337	02736	16	32000	02740
INV5	FD	FILL	FILL	01340	02737	67	30000	30000
INV6	TP	Q	FILL	01341	02740	11	31000	30000
INV7	FD	FILL	FILL	01342	02741	67	30000	30000
INV8	TP	Q	FILL	01343	02742	11	31000	30000
	RA	INV5	UI	01344	02743	21	02737	03401
	RA	INV6	VI	01345	02744	21	02740	03420
	RA	INV7	UI	01346	02745	21	02741	03401
	RA	INV8	VI	01347	02746	21	02742	03420
	IJ	KOUNT	INV5	01350	02747	41	03550	02737
INV9	RA	WEEI	VI	01351	02750	21	03103	03420
	RA	INV1	UNI	01352	02751	21	02724	03101
	RS	INV3	UNI	01353	02752	23	02726	03101
	RS	INV5	VI	01354	02753	23	02737	03420
	RA	INV7	VI	01355	02754	21	02741	03420
	IJ	COUNT	INV	01356	02755	41	03547	02717
INVRT2	MJ		FILL	01357	02756	45	00000	30000
INV10	TP	INV0	INV11	01360	02757	11	02723	02762
	TP	INV1	INV12	01361	02760	11	02724	02763
	TV	LINV13	INV11	01362	02761	16	03105	02762
INV11	RFB		FILL	01363	02762	75	30000	30000
INV12	TP	FILL	FILL	01364	02763	11	30000	30000
INV13	TP	N	KOUNT	01365	02764	11	00011	03550
	TP	INV5	INV14	01366	02765	11	02737	02771
	TU	LPHI	INV14	01367	02766	15	00156	02771
	LQ	INV12	A+21	01370	02767	55	02763	32025
	TV	A	INV15	01371	02770	16	32000	02772
INV14	FD	FILL	FILL	01372	02771	67	30000	30000
INV15	TP	Q	FILL	01373	02772	11	31000	30000
	RA	INV14	UI	01374	02773	21	02771	03401
	RA	INV15	VI	01375	02774	21	02772	03420
	IJ	KOUNT	INV14	01376	02775	41	03550	02771
	MJ		INV9	01377	02776	45	00000	02750
REVRT	TP	VI	WEEI	01400	02777	11	03420	03103
	TP	I	A	01401	03000	11	00012	32000
	DV	V2	COUNT	01402	03001	73	03421	03547
	ZJ	L+2	L+1	01403	03002	47	03004	03003
	RS	COUNT	VI	01404	03003	23	03547	03420
	TV	LPHI	REV1	01405	03004	16	00156	03025
	TV	LPHI	REV3	01406	03005	16	00156	03027
	RA	REV3	NI	01407	03006	21	03027	03557
	TU	LPHI+1	REV1	01410	03007	15	00157	03025
	TU	LPHI+1	REV3	01411	03010	15	00157	03027
	TV	LEDIF	REV5	01412	03011	16	03605	03040

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	TV	LEDIF	REV7	01413	03012	16	03605	03042
	TP	I	A	01414	03013	11	00012	32000
	ST	V1	TEMP	01415	03014	36	03420	03102
	MP	A	UNI	01416	03015	71	32000	03101
	AT	REV3	REV3	01417	03016	35	03027	03027
	RA	REV7	TEMP	01420	03017	21	03042	03102
REV	TP	I	A	01421	03020	11	00012	32000
	ST	WEE1	A	01422	03021	36	03103	32000
	AT	V1	A	01423	03022	35	03420	32000
	EJ	WEE1	REV10	01424	03023	43	03103	03060
REV0	KPB		REV2	01425	03024	75	30000	03026
REV1	TP	FILL	FILL	01426	03025	11	30000	30000
REV2	RFB		REV4	01427	03026	75	30000	03030
REV3	TP	FILL	FILL	01430	03027	11	30000	30000
REV4	TP	N	KOUNT	01431	03030	11	00011	03550
	TU	LPHI	REV5	01432	03031	15	00156	03040
	TU	LPHI	REV7	01433	03032	15	00156	03042
	RA	REV7	UNI	01434	03033	21	03042	03101
	LQ	REV1	A+21	01435	03034	55	03025	32025
	TV	A	REV8	01436	03035	16	32000	03043
	LQ	REV3	A+21	01437	03036	55	03027	32025
	TV	A	REV6	01440	03037	16	32000	03041
REV5	FM	FILL	FILL	01441	03040	66	30000	30000
REV6	TP	Q	FILL	01442	03041	11	31000	30000
REV7	FM	FILL	FILL	01443	03042	66	30000	30000
REV8	TP	Q	FILL	01444	03043	11	31000	30000
	RA	REV5	U1	01445	03044	21	03040	03401
	RA	REV6	V1	01446	03045	21	03041	03420
	RA	REV7	U1	01447	03046	21	03042	03401
	RA	REV8	V1	01450	03047	21	03043	03420
REV9	IJ	KOUNT	REV5	01451	03050	41	03550	03040
	RA	WEE1	V1	01452	03051	21	03103	03420
	RA	REV1	UNI	01453	03052	21	03025	03101
	RS	REV3	UNI	01454	03053	23	03027	03101
	RA	REV5	V1	01455	03054	21	03040	03420
	RS	REV7	V1	01456	03055	23	03042	03420
REVRT2	IJ	COUNT	REV	01457	03056	41	03547	03020
	MJ		FILL	01460	03057	45	00000	30000
REV10	TP	REV0	REV11	01461	03060	11	03024	03063
	TP	REV1	REV12	01462	03061	11	03025	03064
	TV	REV13	REV11	01463	03062	16	03110	03063
REV11	RFB		FILL	01464	03063	75	30000	30000
REV12	TP	FILL	FILL	01465	03064	11	30000	30000
REV13	TP	N	KOUNT	01466	03065	11	00011	03550
	TP	REV5	REV14	01467	03066	11	03040	03072
	TU	LPHI	REV14	01470	03067	15	00156	03072
	LQ	REV12	A+21	01471	03070	55	03064	32025
	TV	A	REV15	01472	03071	16	32000	03073
REV14	FM	FILL	FILL	01473	03072	66	30000	30000
REV15	TP	Q	FILL	01474	03073	11	31000	30000
	RA	REV14	U1	01475	03074	21	03072	03401
	RA	REV15	V1	01476	03075	21	03073	03420
	IJ	KOUNT	REV14	01477	03076	41	03550	03072
	MJ		REV9	01500	03077	45	00000	03051
U1V2		1	2	01501	03100	00	00001	00002
UNI				01502	03101	00	00000	00000
TEMP				01503	03102	00	00000	00000
WEE1				01504	03103	00	00000	00000
LINV4			INV4	01505	03104	00	00000	02727
LINV13			INV13	01506	03105	00	00000	02764

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LREV2		REV2	01507	03106	00	00000	03026		
LREV4		REV4	01510	03107	00	00000	03030		
LREV13		REV13	01511	03110	00	00000	03065		
CON200	RPB	INV2	01512	03111	75	30000	02725		
CON201	RJ	REVRT	01513	03112	37	03057	02777		
CON202	RJ	BACK	01514	03113	37	02626	02627		
CON203	60	GURV	01515	03114	60	00000	02670		
MN2			01516	03115	00	00000	00000		
FLUX	MJ	AND0	0044	01517	03116	45	00000	03120	
FLUX2	MJ	FILL	0045	01520	03117	45	00000	30000	
AND0	TP	ITALY	0046	01521	03120	11	00012	03355	
	RS	ITALY		01522	03121	23	03355	03420	
	TP	V1		01523	03122	11	03420	03366	
	TV	LPTSM	FLU1	0049	01524	03123	16	03571	03131
	TV	LPTSM	FLU3	0050	01525	03124	16	03571	03133
	TU	LPTS	FLU3	0051	01526	03125	15	00142	03133
	SP	K	15		01527	03126	31	00014	00017
	AT	KYOS1	FLU2		01530	03127	35	03344	03132
	RA	FLU3	V1	0054	01531	03130	21	03133	03420
FLU1	TP	VO	FILL	0055	01532	03131	11	03365	30000
FLU2	RPB	FLU3+1			01533	03132	75	30000	03134
FLU3	TP	FILL		0057	01534	03133	11	30000	30000
	TP	I	IPI	0058	01535	03134	11	00012	03356
	RA	IPI	V1	0059	01536	03135	21	03356	03420
	TP	N	UNP1	0060	01537	03136	11	00011	03363
	RA	UNP1	V1	0061	01540	03137	21	03363	03420
	SP	UNP1	15		01541	03140	31	03363	00017
	TP	A	UNP1	0063	01542	03141	11	32000	03363
	TP	I	IUN2	0064	01543	03142	11	00012	03357
	RA	IUN2	V2	0065	01544	03143	21	03357	03421
	MP	K	IUN2		01545	03144	71	00014	03357
	SP	A	15		01546	03145	31	32000	00017
	AT	KYOS2	HAR1		01547	03146	35	03345	03156
	TV	LPHKI	HAR11	0069	01550	03147	16	00200	03157
	TP	UNP1	A		01551	03150	11	03363	32000
	AT	KYOS3	YOSP		01552	03151	35	03346	03163
	TV	LPHI	YOS	0072	01553	03152	16	00156	03164
	TU	LLPHE	YOS3	0073	01554	03153	15	03350	03155
	RA	YOS3	U1	0074	01555	03154	21	03155	03401
YOS3	TU	FILL	YOS	0075	01556	03155	15	30000	03164
HAR1	RPV	HAR2			01557	03156	75	10000	03160
HAR11	TP	FILL	CLEAR PHKI	0077	01560	03157	11	03365	30000
HAR2	TU	LMESS	HAR6	0078	01561	03160	15	00172	03211
	TV	LMESS	HAR6	0079	01562	03161	16	00172	03211
	TV	LPHI	HAR7		01563	03162	16	00156	03212
YOSP	RPB	YUS+1			01564	03163	75	30000	03165
YOS	TP	FILL		0081	01565	03164	11	30000	30000
	RA	HAR6	U1V1	0082	01566	03165	21	03211	03437
	TV	LPHKI	HAR8	0083	01567	03166	16	00200	03213
	TV	LPHKI	HAR9	0084	01570	03167	16	00200	03214
	TV	LPHKI	HAR9	0085	01571	03170	16	00200	03204
	TU	LPTSM	HAR3	0086	01572	03171	15	03571	03202
	RA	YOS	UNP1	0087	01573	03172	21	03164	03363
	RA	HAR3	U1	0088	01574	03173	21	03202	03401
	RA	HAR8	VX	0089	01575	03174	21	03213	03366
	RA	HAR9	VX	0090	01576	03175	21	03214	03366
	RA	VX	V1	0091	01577	03176	21	03366	03420
	TP	K	RTALY	0092	01600	03177	11	00014	03360
	RS	RTALY		0093	01601	03200	23	03360	03420
	TU	UDELK	HAR7	0094	01602	03201	15	03362	03212

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HAR3	TP	FILL	GALOP		0095	01603	03202	11	30000	03354
	RS	GALOP	VI	REGN CNT	0096	01604	03203	23	03354	03420
HAR4	TP	VO	FILL	COLUM 1	0097	01605	03204	11	03365	30000
HAR44	TP	VI	ESTER		0098	01606	03205	11	03420	03352
	TP	UI	UX1		0099	01607	03206	11	03401	03361
HAR5	RJ	DELV2	DELVN		0100	01610	03207	37	03255	03254
	O	KHO	P1		0101	01611	03210	00	00035	03367
	O	FILL	FILL	MESH	0102	01612	03211	00	30000	30000
HAR6	FM	FILL	FILL	DEL PHK	0103	01613	03212	66	30000	30000
HAR7	FA	Q	FILL	PMKT	0104	01614	03213	64	31000	30000
HAR8	FA	Q	FILL	PMKT	0105	01615	03214	11	31000	30000
HAR9	TP	Q	FILL	PMKT	0106	01616	03215	21	03212	03361
	RA	HAR7	UX1		0107	01617	03216	11	03365	03361
	TP	VO	UX1		0108	01620	03217	21	03211	03437
	RA	HAR6	U1V1		0109	01621	03220	21	03212	03420
	RA	HAR7	VI		0110	01622	03221	41	03354	03207
	IJ	GALOP	HAR5		0111	01623	03222	21	03212	03401
	RA	HAR7	U1		0112	01624	03223	41	03352	03207
	IJ	ESTER	HAR5		0113	01625	03224	21	03213	03357
	RA	HAR6	IUN2		0114	01626	03225	21	03214	03357
	RA	HAR9	IUN2		0115	01627	03226	23	03211	03437
	RS	HAR6	U1V1		0116	01630	03227	23	03212	03364
	RS	HAR7	U3V1		0117	01631	03230	21	03204	03357
	RA	HAR4	IUN2		0118	01632	03231	21	03202	03401
	RA	HAR3	U1		0119	01633	03232	41	03360	03202
	IJ	ITALY	HAR3	NEXT COLM	0121	01634	03233	41	03355	03160
	IJ	ITALY	HAR2		0122	01635	03234	11	00014	03360
	TP	R	RTALY		0123	01636	03235	23	03360	03420
	RS	RTALY	VI	LAST COLM	0124	01637	03236	16	00200	03240
	TV	LPHKI	LSTC		0125	01640	03237	21	03240	03356
	RA	LSTC	IP1		0126	01641	03240	11	03365	30000
LSTC	TP	VO	FILL	PHKI	0127	01642	03241	21	03240	03357
	RA	LSTC	IUN2		0128	01643	03242	41	03360	03240
	IJ	RTALY	LSTC			01644	03243	71	00014	03357
	MP	R	IUN2			01645	03244	31	32000	00017
	SP	A	15			01646	03245	35	03347	03252
	AT	KYOS4	YOS4A			01647	03246	15	03391	03250
	TU	LLPHK	YOS4Z			01650	03247	21	03250	03401
	RA	YOS4Z	U1			01651	03250	16	30000	03253
YOS4Z	TV	FILL	YOS4B			01652	03251	15	00200	03253
	TU	LPHKI	YOS4B			01653	03252	75	30000	03117
LYOS4A	RPB		FLUX2			01654	03253	11	30000	30000
YOS4B	TP	FILL				0142	01655	45	00000	03256
DELVN	MJ	0000	RILEY			0143	01656	45	00000	30000
DELV2	MJ	0000	FILL			0145	01657	31	03255	00017
RILEY	SP	DELV2	15			0145	01660	15	32000	03261
	TU	A	CHUKR			01661	03260	75	30002	03262
	RPB	Z	L+2			0147	01662	11	30000	03370
CHUKR	TP	FILL	PAR1			0148	01663	11	03420	03375
	TP	VI	SHRTP			0149	01664	15	03371	03300
	TU	PAR2	LEAD			0150	01665	16	03371	03300
	TV	PAR2	LEAD			0151	01666	23	03300	03420
	RS	LEAD	VI				01667	75	10010	03270
	RPV	8	ALYYY			0153	01670	15	03372	03270
	TU	SSAM	ALYYY			0154	01671	15	30000	03321
ALYYY	TU	FILL	LEAD0			0155	01672	16	30000	03301
	TV	FILL	CRAFT			0156	01673	16	30000	03313
	TV	FILL	LONG3				01674	16	30000	03315
	TV	FILL	LONG6			0157	01675	16	30000	03317
	TV	FILL	LONG7			0158	01676	16	30000	03322
	TV	FILL	LEAD4							

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	TV	FILL	HUDIE	0159	01677	03276	16	30000	03326	
	TV	FILL	HUDI7	0160	01700	03277	16	30000	03330	
LEAD	FS	FILL	FILL	0161	01701	03300	65	30000	30000	
CRAWF	TP	Q	FILL	0162	01702	03301	11	31000	30000	
	TU	PAR1	BELLY	0163	01703	03302	15	03370	03303	
BELLY	SP	FILL	0000	0164	01704	03303	31	30000	00000	
	ZJ	IDA	LEAD0	0165	01705	03304	47	03305	03321	
IDA	TU	PAR1	IRENE	0166	01706	03305	15	03370	03307	
	SP	VI	0000	0167	01707	03306	31	03420	00000	
IRENE	EJ	FILL	LEAD1	0168	01710	03307	43	30000	03324	
	TV	PAR1	LONG4	0169	01711	03310	16	03370	03314	
	TU	PAR2	LONG3	0170	01712	03311	15	03371	03313	
	TV	PAR2	LONG3	0171	01713	03312	16	03371	03313	
LONG3	FM	FILL	FILL	0172	01714	03313	66	30000	30000	
LONG4	FM	Q	FILL	0173	01715	03314	66	31000	30000	
LONG6	FM	Q	FILL	0174	01716	03315	66	31000	30000	
	FM	Q	F2	0175	01717	03316	66	30000	03451	
LONG7	TP	Q	FILL	0176	01720	03317	11	31000	30000	
	MJ	0000	BAYOU	0177	01721	03320	45	00000	03331	
LEAD0	FD	FILL	F2	0178	01722	03321	67	30000	03451	
LEAD4	TP	Q	FILL	0179	01723	03322	11	31000	30000	
	MJ	0000	BAYOU	0180	01724	03323	45	00000	03331	
LEAD1	TU	PAR2	HUDIE	0181	01725	03324	15	03371	03326	
	TV	PAR1	HUDIE	0182	01726	03325	16	03370	03327	
HUDIE	FM	FILL	FILL	0183	01727	03326	66	30000	30000	
HUDIE	FM	Q	FILL	0184	01730	03327	66	31000	30000	
HUDI7	TP	Q	FILL	0185	01731	03330	11	31000	30000	
BAYOU	SP	SHRIP	0000	0186	01732	03331	31	03375	00000	
	ZJ	GUMBO	GTOUT	0187	01733	03332	47	03333	03340	
GUMBO	TP	VO	SHRIP	0188	01734	03333	11	03365	03375	
	RA	LEAD	UIV1	0189	01735	03334	21	03300	03437	
	RPV	B	ALYYY		01736	03335	75	20010	03270	
	RA	ALYYY	UI	0191	01737	03336	21	03270	03401	
	MJ	0000	ALYYY	0192	01740	03337	45	00000	03270	
GTOUT	RA	DELV2	V2	0193	01741	03340	21	03255	03421	
	FA	DELVM	DELVP	0194	01742	03341	64	03400	03376	
	TP	Q	DELVT	0195	01743	03342	11	31000	03377	
	MJ	0000	DELVT	0196	01744	03343	45	00000	03255	
KYOS1	RPB		FLUX+1		01745	03344	75	30000	03134	
KYOS2	RPV		HAR2		01746	03345	75	10000	03160	
KYOS3	RPB		YOS+1		01747	03346	75	30000	03165	
KYOS4	RPB		FLUX2		01750	03347	75	30000	03117	
LLPHI	0	LPHI	0000	0004	01751	03350	00	00156	00000	NOP
LLPHK		LPHKI	LPHKI		01752	03351	00	00200	00200	
ESTER	0	0000	0000	0023	01753	03352	00	00000	00000	NOP
UXI	0	0000	0000	0024	01754	03353	00	00000	00000	NOP
GALOP	0	0000	0000	0025	01755	03354	00	00000	00000	NOP
ITALY	0	0000	0000	0026	01756	03355	00	00000	00000	NOP
IP1	0	0000	0000	0027	01757	03356	00	00000	00000	NOP
IUN2	0	0000	0000	0028	01760	03357	00	00000	00000	NOP
RTALY	0	0000	0000	0029	01761	03360	00	00000	00000	NOP
UX1	0	0000	0000	0030	01762	03361	00	00000	00000	NOP
UDELV	0	DELVP	0000	0031	01763	03362	00	03376	00000	NOP
UNP1	0	0000	0000	0034	01764	03363	00	00000	00000	NOP
U3V1		3	1		01765	03364	00	00003	00001	
VO					01766	03365	00	00000	00000	
VX	0	0000	0000	0038	01767	03366	00	00000	00000	NOP
PI	F	3.1415920536			01770	03367	20	26220	77325	
PAR1	0	0000	0000	0133	01771	03370	00	00000	00000	NOP
PAR2	0	0000	0000	0134	01772	03371	00	00000	00000	NOP

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SSAM	0	SAM62	0000	0135	01773	03372	00	03373	00000	NOP
SAM62	0	DELVM	DELVM	0136	01774	03373	00	03400	03400	NOP
SAM63	0	DELVP	DELVP	0137	01775	03374	00	03376	03376	NOP
SHRIP	0	0000	0000	0138	01776	03375	00	00000	00000	NOP
DELVP	0	0000	0000	0139	01777	03376	00	00000	00000	NOP
DELVT	0	0000	0000	0140	02000	03377	00	00000	00000	NOP
DELVM	0	0000	0000	0141	02001	03400	00	00000	00000	NOP
U1		1			02002	03401	00	00001	00000	
U2		2			02003	03402	00	00002	00000	
U3		3			02004	03403	00	00003	00000	
U4		4			02005	03404	00	00004	00000	
U5		5			02006	03405	00	00005	00000	
U6		6			02007	03406	00	00006	00000	
U7		7			02010	03407	00	00007	00000	
U8		8			02011	03410	00	00010	00000	
U9		9			02012	03411	00	00011	00000	
U10		10			02013	03412	00	00012	00000	
U11		11			02014	03413	00	00013	00000	
U12		12			02015	03414	00	00014	00000	
U13		13			02016	03415	00	00015	00000	
U14		14			02017	03416	00	00016	00000	
U15		15			02020	03417	00	00017	00000	
V1			1		02021	03420	00	00000	00001	
V2			2		02022	03421	00	00000	00002	
V3			3		02023	03422	00	00000	00003	
V4			4		02024	03423	00	00000	00004	
V5			5		02025	03424	00	00000	00005	
V6			6		02026	03425	00	00000	00006	
V7			7		02027	03426	00	00000	00007	
V8			8		02030	03427	00	00000	00010	
V9			9		02031	03430	00	00000	00011	
V10			10		02032	03431	00	00000	00012	
V11			11		02033	03432	00	00000	00013	
V12			12		02034	03433	00	00000	00014	
V13			13		02035	03434	00	00000	00015	
V14			14		02036	03435	00	00000	00016	
V15			15		02037	03436	00	00000	00017	
U1V1		1	1		02040	03437	00	00001	00001	
U2V2		2	2		02041	03440	00	00002	00002	
U3V3		3	3		02042	03441	00	00003	00003	
U4V4		4	4		02043	03442	00	00004	00004	
U5V5		5	5		02044	03443	00	00005	00005	
U4V2		4	2		02045	03444	00	00004	00002	
U6V3		6	3		02046	03445	00	00006	00003	
U2V1		2	1		02047	03446	00	00002	00001	
ZERO					02050	03447	00	00000	00000	
F1	F	1			02051	03450	20	14000	00000	
F2	F	2			02052	03451	20	24000	00000	
F3	F	3			02053	03452	20	26000	00000	
F4	F	4			02054	03453	20	34000	00000	
FPI	F	3.1415927			02055	03454	20	20220	71327	
F2P5	F	2.5			02056	03455	20	25000	00000	
DUMP					02057	03456	00	00000	00000	
DUMP1					02060	03457	00	00000	00000	
DUMP2					02061	03460	00	00000	00000	
DUMP3					02062	03461	00	00000	00000	
POINT					02063	03462	00	00000	00000	
SETH1					02064	03463	00	00000	00000	
RRHOM					02065	03464	00	00000	00000	
RRHO					02066	03465	00	00000	00000	

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RRHOP				02067	03466	00	00000	00000	
TRHO				02070	03467	00	00000	00000	
DELR				02071	03470	00	00000	00000	
DELRP				02072	03471	00	00000	00000	
WEERM				02073	03472	00	00000	00000	
WEER				02074	03473	00	00000	00000	
WEERP				02075	03474	00	00000	00000	
BIGHM				02076	03475	00	00000	00000	
BIGH				02077	03476	00	00000	00000	
SUM				02100	03477	00	00000	00000	
SUM1				02101	03500	00	00000	00000	
SUM2				02102	03501	00	00000	00000	
DIFR				02103	03502	00	00000	00000	
QPHI				02104	03503	00	00000	00000	
QP				02105	03504	00	00000	00000	
MU1				02106	03505	00	00000	00000	
CAPE				02107	03506	00	00000	00000	
				02110	03507	00	00000	00000	
				02111	03510	00	00000	00000	
				02112	03511	00	00000	00000	
E1				02113	03512	00	00000	00000	
E2				02114	03513	00	00000	00000	
E3				02115	03514	00	00000	00000	
ENEGY				02116	03515	00	00000	00000	
PIRHO				02117	03516	00	00000	00000	
SEH55				02120	03517	00	00000	00000	
SEH43				02121	03520	00	00000	00000	
SEH73				02122	03521	00	00000	00000	
SEH28				02123	03522	00	00000	00000	
SEH17				02124	03523	00	00000	00000	
SEH91				02125	03524	00	00000	00000	
SEH23				02126	03525	00	00000	00000	
SETC7				02127	03526	00	00000	00000	
SETH6	FM	FILL	FILL	0691	02130	66	30000	30000	
WEEA				02131	03530	00	00000	00000	
WEEB				02132	03531	00	00000	00000	
WEEC				02133	03532	00	00000	00000	
WEED				02134	03533	00	00000	00000	
RDIF				02135	03534	00	00000	00000	
C1				02136	03535	00	00000	00000	
C2				02137	03536	00	00000	00000	
C3				02140	03537	00	00000	00000	
C4				02141	03540	00	00000	00000	
C5				02142	03541	00	00000	00000	
C6				02143	03542	00	00000	00000	
C7				02144	03543	00	00000	00000	
ITERAT				02145	03544	00	00000	00000	
SETH4				02146	03545	00	00000	00000	
CT	0	0000	0000	0704	02147	03546	00	00000	NOP
COUNT	0	0000	0000	0705	02150	03547	00	00000	NOP
KOUNT	0	0000	0000	0706	02151	03550	00	00000	NOP
LOUNT	0	0000	0000	0707	02152	03551	00	00000	NOP
MOUNT	0	0000	0000	0708	02153	03552	00	00000	NOP
NR	0	0000	0000	0709	02154	03553	00	00000	NOP
RII2	0	0000	0000	0710	02155	03554	00	00000	NOP
N3	0	0000	0000	0711	02156	03555	00	00000	NOP
NR1	0	0000	0000	0712	02157	03556	00	00000	NOP
N1	0	0000	0000	0713	02160	03557	00	00000	NOP
I3	0	0000	0000	0714	02161	03560	00	00000	NOP
2NR	0	0000	0000	0715	02162	03561	00	00000	NOP

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				STICK THESE 2 CARDS BETWEEN 2NR AND H63*			
R1				02163	03562	00	00000 00000
I2				02164	03563	00	00000 00000
PLUS1				02165	03564	00	00000 00000
LV10		INF4	INF4	02166	03565	00	00023 00023
H63	0	FILL	H64	0716 02167	03566	00	30000 02503 NOP
H61		H53C	H53C	02170	03567	00	02477 02477
H60		FILL	H59	02171	03570	00	30000 02506
LPTSM		FILL	FILL	02172	03571	00	30000 30000
		FILL	FILL	02173	03572	00	30000 30000
		FILL	FILL	02174	03573	00	30000 30000
LCAPH		FILL	FILL	02175	03574	00	30000 30000
	0	FILL	FILL	0736 02176	03575	00	30000 30000 NOP
	0	V1	NR	0737 02177	03576	00	03420 03553 NOP
LWEEP		FILL	FILL	02200	03577	00	30000 30000
	0	FILL	FILL	0739 02201	03600	00	30000 30000 NOP
	0	V1	NI	0740 02202	03601	00	03420 03557 NOP
LWEEQ		FILL	FILL	02203	03602	00	30000 30000
	0	FILL	FILL	0742 02204	03603	00	30000 30000 NOP
	0	V1	NI	0743 02205	03604	00	03420 03557 NOP
LEDIF		FILL	FILL	02206	03605	00	30000 30000
		FILL	FILL	02207	03606	00	30000 30000
		FILL	FILL	02210	03607	00	30000 30000
LCON2		CON2	CON2	0744 02211	03610	00	03621 03621
LIDF6		IDF6	IDF6	0745 02212	03611	00	01505 01505
LDF10		DFA10	DFA10	0746 02213	03612	00	02034 02034
LH93	0	H93	H93	0747 02214	03613	00	02501 02501 NOP
LDFAB	0	DFAB	DFAB	0748 02215	03614	00	02024 02024 NOP
LHD12	0	HDF12	HDF12	0749 02216	03615	00	02100 02100 NOP
LH12	0	H12	H12	0750 02217	03616	00	02102 02102 NOP
LH6	0	H6	H6	0751 02220	03617	00	02020 02020 NOP
CON1		LCAPP	LCAPP	0752 02221	03620	00	00161 00161
CON2		LENGY	LENGY	0753 02222	03621	00	00131 00131
CON3		LRDIF	LRDIF	0754 02223	03622	00	00137 00137
CON4		LPTS	LPTS	0755 02224	03623	00	00142 00142
CON5		LREGN	LREGN	0756 02225	03624	00	00145 00145
CON6		LBSUO	LBSUO	0757 02226	03625	00	00150 00150
CON7		LBSUN	LBSUN	0758 02227	03626	00	00153 00153
CON8		LPHT	LPHT	0759 02230	03627	00	00156 00156
CON9	0	LMESH	LMESH	0760 02231	03630	00	00172 00172 NOP
CON10	0	LREGN	LREGN	0761 02232	03631	00	00145 00145 NOP
K2	0	0000	0000	0762 02233	03632	00	00000 00000 NOP
K3DIF	RPV		H82W	02234	03633	75	10000 01527
K5	RPB		FID8A	02235	03634	75	30000 01536
K6	RPV		H42	02236	03635	75	10000 01710
K7	RPB		FID4	02237	03636	75	30000 01502
K8	RPB		FID8E	02240	03637	75	30000 01546
K9	RPB		FID8I	02241	03640	75	30000 01556
K20	RPB		DFA4	02242	03641	75	30000 02012
K30	RPB		IDF33	02243	03642	75	30000 02363
K50	RPB		PHDCX	02244	03643	75	30000 02427
CORE1	0	0000	0950	0773 02245	03644	00	00000 00000 NOP
DRUM1	0	0000	0950	0774 02246	03645	00	00000 00000 NOP
VARBL		LENGY	LENGY	0775 02247	03646	00	00131 00131
		V1	I3	0776 02250	03647	00	03420 03560
		ZERO	ZERO	0777 02251	03650	00	03447 03447
		LRDIF	LRDIF	02252	03651	00	00137 00137
		V1	R	02253	03652	00	03420 00014
		ZERO	ZERO	02254	03653	00	03447 03447
		LPTS	LPTS	02255	03654	00	00142 00142
		V1	R	02256	03655	00	03420 00014

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ZERO	ZERO	02257	03656	00	03447	03447	
LREGN	LREGN	02260	03657	00	00145	00145	
VI	R	02261	03660	00	03420	00014	
ZERO	ZERO	02262	03661	00	03447	03447	
LMESH	LMESH	02263	03662	00	00172	00172	
VI	N3	02264	03663	00	03420	03555	
ZERO	ZERO	02265	03664	00	03447	03447	
LBSUO	LBSUO	0778	02266	03665	00	00150	00150
VI	I	0779	02267	03666	00	03420	00012
ZERO	ZERO	0780	02270	03667	00	03447	03447
LBSUN	LBSUN	0781	02271	03670	00	00153	00153
VI	I	0782	02272	03671	00	03420	00012
ZERO	ZERO	0783	02273	03672	00	03447	03447
LPHI	LPHI	0784	02274	03673	00	00156	00156
V2	N1		02275	03674	00	03421	03557
ZERO	ZERO	0786	02276	03675	00	03447	03447
LCAPP	LCAPP	0787	02277	03676	00	00161	00161
VI	2NR	0788	02300	03677	00	03420	03561
ZERO	ZERO	0789	02301	03700	00	03447	03447
LCAPB	LCAPB	0790	02302	03701	00	00211	00211
I	R	0791	02303	03702	00	00012	00014
ZERO	ZERO	0792	02304	03703	00	03447	03447
LCAPT	LCAPT	0793	02305	03704	00	00214	00214
I	R	0794	02306	03705	00	00012	00014
ZERO	ZERO	0795	02307	03706	00	03447	03447
LCPTI	LCPTI	0796	02310	03707	00	00217	00217
VI	PLUS1		02311	03710	00	03420	03564
ZERO	ZERO	0798	02312	03711	00	03447	03447
LCAPP	LCAPP	0799	02313	03712	00	00222	00222
I	R	0800	02314	03713	00	00012	00014
ZERO	ZERO	0801	02315	03714	00	03447	03447
LXXI	LXXI		02316	03715	00	00225	00225
I	R	0803	02317	03716	00	00012	00014
ZERO	ZERO	0804	02320	03717	00	03447	03447
LMFKI	LMFKI		02321	03720	00	00230	00230
I	R		02322	03721	00	00012	00014
ZERO	ZERO		02323	03722	00	03447	03447
O	LPOIF	0805	02324	03723	00	00233	00233
VI	NR	0806	02325	03724	00	03420	03553
ZERO	ZERO	0807	02326	03725	00	03447	03447
LCAPH	LCAPH	0808	02327	03726	00	03574	03574
VI	NR	0809	02330	03727	00	03420	03553
ZERO	ZERO	0810	02331	03730	00	03447	03447
LWEEP	LWEEP	0811	02332	03731	00	03577	03577
VI	N1	0812	02333	03732	00	03420	03557
ZERO	ZERO	0813	02334	03733	00	03447	03447
LWEEG	LWEEG	0814	02335	03734	00	03602	03602
VI	N1	0815	02336	03735	00	03420	03557
ZERO	ZERO	0816	02337	03736	00	03447	03447
LPTSM	LPTSM		02340	03737	00	03571	03571
VI	R		02341	03740	00	03420	00014
ZERO	ZERO		02342	03741	00	03447	03447
LPHKI	LPHKI		02343	03742	00	00200	00200
I2	I2		02344	03743	00	00014	03563
ZERO	ZERO		02345	03744	00	03447	03447
LEDIF	LEDIF		02346	03745	00	03605	03605
VI	I		02347	03746	00	03420	00012
ZERO	ZERO		02350	03747	00	03447	03447
B	3777777777		02351	03750	37	77777	77777
LLAST	LAST		02352	03751	00	00000	03752

STICK THESE 6 CARDS IN

AT THE END OF THE VARBL

TABLE BEFORE THE FLAGO.

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LAST	XS3 SETL	DMM 10	10B)	02353 03752	27 47470 00403
IDEN				02354 00010	00 00000 00000
N				02355 00011	00 00000 00000
I				02356 00012	00 00000 00000
B				02357 00013	00 00000 00000
R	0000	0000		0006 02360 00014	00 00000 00000
S	0000	0000		0007 02361 00015	00 00000 00000
Y				02362 00016	00 00000 00000
	0000	0000		0008 02363 00017	00 00000 00000
INF1	0000	0000		0009 02364 00020	00 00000 00000
INF2	0000	0000		0010 02365 00021	00 00000 00000
INF3	0000	0000		0011 02366 00022	00 00000 00000
INF4	0000	0000		0012 02367 00023	00 00000 00000
INF5	0000	0000		0013 02370 00024	00 00000 00000
INF6	0000	0000		0014 02371 00025	00 00000 00000
INF7	0000	0000		0015 02372 00026	00 00000 00000
INF8	0000	0000		0016 02373 00027	00 00000 00000
INF9	0000	0000		0017 02374 00030	00 00000 00000
INF10	0000	0000		0018 02375 00031	00 00000 00000
INF11	0000	0000		0019 02376 00032	00 00000 00000
INF12	0000	0000		0020 02377 00033	00 00000 00000
	0000	0000		0021 02400 00034	00 00000 00000
RHO	0000	0000		0022 02401 00035	00 00000 00000
VAPI			FX-CHANGE CON+MESH+PB	02402 00036	00 00000 00000
KKK			FX-REGION INDEX	02403 00037	00 00000 00000
NOM			FX-ISOTOPE INDEX	02404 00040	00 00000 00000
	0000	0000		0023 02405 00041	00 00000 00000
PSUBO	F	3.12	13	02406 00042	25 57060 12073
YSUBX	F	3	-3	02407 00043	17 06111 50457
YSUBI	F	3.6	-2	02410 00044	17 47126 01014
YSUBP	F	1.4	-2	02411 00045	17 27126 01014
LAMXE	F	2.1	-5	02412 00046	16 15402 44501
LAMI	F	2.9	-5	02413 00047	16 17464 24065
LAMPR	F	4.	-6	02414 00050	15 74231 12733
				02415 00051	00 00000 00000
RZERO	F			02416 00052	00 00000 00000
TIME	F			02417 00053	00 00000 00000
EPSIL	F	.00001		02420 00054	16 05174 26542
EPS2	F	.00001		02421 00055	16 05174 26542
EPS3	F	.00001		02422 00056	16 05174 26542
EPS4	F	.00001		02423 00057	16 05174 26542
K0	F	1.0		02424 00060	20 14000 00000
OMEGA	F			02425 00061	00 00000 00000
DZDK	F	1.0		02426 00062	20 14000 00000
		0000	0000	0036 02427 00063	00 00000 00000
QQ	F			02430 00064	00 00000 00000
UELTS	F			02431 00065	00 00000 00000
DTMAX	F			02432 00066	00 00000 00000
				02433 00067	00 00000 00000
TAPE1	B	1		02434 00070	00 00000 00001
TAPE2	B	2		02435 00071	00 00000 00002
TAPE3	B	3		02436 00072	00 00000 00003
TAPE4	B	4		02437 00073	00 00000 00004
TAPES	B	5		02440 00074	00 00000 00005
TAPE6	B	6		02441 00075	00 00000 00006
TAPE7	B	7		02442 00076	00 00000 00007
TAPE8	B	10		02443 00077	00 00000 00010
TAPE9	B	11		02444 00100	00 00000 00011
TAPE10	B	12		02445 00101	00 00000 00012

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DIA1	0000	0000	0045	02446	00102	00	00000	00000
DIA2	0000	0000	0046	02447	00103	00	00000	00000
DIA3	0000	0000	0047	02450	00104	00	00000	00000
DIA4	0000	0000	0048	02451	00105	00	00000	00000
DIA5	0000	0000	0049	02452	00106	00	00000	00000
DIA6	0000	0000	0050	02453	00107	00	00000	00000
DIA7	0000	0000	0051	02454	00110	00	00000	00000
DIA8	0000	0000	0052	02455	00111	00	00000	00000
DIA9	0000	0000	0053	02456	00112	00	00000	00000
DIA10	0000	0000	0054	02457	00113	00	00000	00000
DIA11	0000	0000	0055	02460	00114	00	00000	00000
DIA12	0000	0000	0056	02461	00115	00	00000	00000
DIA13	0000	0000	0057	02462	00116	00	00000	00000
DIA14	0000	0000	0058	02463	00117	00	00000	00000
DIA15	0000	0000	0059	02464	00120	00	00000	00000
DIA16	0000	0000	0060	02465	00121	00	00000	00000
DIA17	0000	0000	0061	02466	00122	00	00000	00000
DIA18	0000	0000	0062	02467	00123	00	00000	00000
			0063	02470	00124	00	00000	00000
				02471	00125	00	00000	00000
LISOP	RSRV	3		02472	00126			
LENGY	RSRV	3		02475	00131			
LAKBK	RSRV	3		02500	00134			
LRDIF	RSRV	3		02503	00137			
LPTS	RSRV	3		02506	00142			
LREGN	RSRV	3		02511	00145			
LBSUO	RSRV	3		02514	00150			
LBSUN	RSRV	3		02517	00153			
LPHI	RSRV	3		02522	00156			
LCAPP	RSRV	3		02525	00161			
LPEKI	RSRV	3		02530	00164			
LSFKI	RSRV	3		02533	00167			
LMESH	RSRV	3		02536	00172			
LBRMX	RSRV	3		02541	00175			
LPHKI	RSRV	3		02544	00200			
LNSMT	RSRV	3		02547	00203			
LNXET	RSRV	3		02552	00206			
LCAPD	RSRV	3		02555	00211			
LCAPT	RSRV	3		02560	00214			
LCPTI	RSRV	3		02563	00217			
LCAPP	RSRV	3		02566	00222			
LXKI	RSRV	3		02571	00225			
LMFKI	RSRV	3		02574	00230			
LPOIF	RSRV	3		02577	00233			
LKPXE	RSRV	3		02602	00236			
LLKIA	RSRV	3		02605	00241			
LLKIB	RSRV	3		02610	00244			
LNFKI	RSRV	3		02613	00247			
LNLP	RSRV	3		02616	00252			
LNSKL	RSRV	3		02621	00255			
LNDKI	RSRV	3		02624	00260			
LNFP	RSRV	3		02627	00263			
LNCKI	RSRV	3		02632	00266			
LNPKI	RSRV	3		02635	00271			
LNPKI	RSRV	3		02640	00274			
LNKE	RSRV	3		02643	00277			
LNKL	RSRV	3		02646	00302			
LSHUF	RSRV	3		02651	00305			
CRCO1	B			02654	00310	00	00000	00000
Z3	RSRV	3		02655	00311			

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Z2	RSRV	3	3
Z1	RSRV	3	3
Z			
DELTA	F		
MU			
BLOCK	B		
NDCI	B		
MNCO1	B		
MNCO2	B		
SUBR	RSRV	9	9
MLM1	RSRV	4	4
URUM	B		
MINCE	B		
ISO			
MARK1			
MARK2			
K3			
STAGAT			
INDEXS			
UTWICE			
ADMCFE	RSRV	3	3
1STBP			
DELTA1			
LKI	EQLS	LCAPD	
LTKI	EQLS	LCAPT	
LTKIJ	EQLS	LCPTI	
LFKI	EQLS	LCAPP	
LMKI	EQLS	LMFKI	
BK	EQLS	SUBR+3	
BK2	EQLS	SUBR+5	
BRITE	EQLS	SUBR+6	
WR2	EQLS	SUBR+8	
ALLOK	EQLS	SUBR	
ALL2	EQLS	SUBR+2	
END			

CURRENT DZ-DK  
CURRENT REACTIVITY  
  
PRINT ROUTINE WORD COUNT  
CONTROL WORD DIFF. MON.  
CONTROL WORD ADJ. MON.  
SUBROUTINE EQUIVALENCES  
MONITOR ALARMS  
FIRST TEMP DRUM STORAGE  
FIRST TEMP CORE STORAGE  
XE+SM ISOTOPE NUMBER  
CONTROL WORD XE+SM CONC

02660	00314		
02663	00317		
02666	00322	00	00000 00000
02667	00323	00	00000 00000
02670	00324	00	00000 00000
02671	00325	00	00000 00000
02672	00326	00	00000 00000
02673	00327	00	00000 00000
02674	00330	00	00000 00000
02675	00331		
02706	00342		
02712	00346	00	00000 00000
02713	00347	00	00000 00000
02714	00350	00	00000 00000
02715	00351	00	00000 00000
02716	00352	00	00000 00000
02717	00353	00	00000 00000
02720	00354	00	00000 00000
02721	00355	00	00000 00000
02722	00356	00	00000 00000
02723	00357		
02726	00362	00	00000 00000
02727	00363	00	00000 00000

00000  
00000

TABLE V-2I

BURNUP

START	SETL 1	1400B		00001 01400	27	47470	00404
	X53	OMM 11		00002 01401	45	00000	01404
	MJ	L+3	OMM BURNUP.	00003 01402	58	00000	01403
	MS	L+1		00004 01403	45	00000	30000
	MJ	FILL		00005 01404	37	02036	02034
	CALL	BNUP	EVALUATE DEL 0.	00006 01405	71	00013	00014
	MP	B	R	00007 01406	11	32000	04102
	TP	A	SBRP3	00010 01407	35	03623	03555
	AT	LBUEQ	CORE1	00011 01410	15	03741	03555
	TU	V0	CORE1	00012 01411	11	03741	03556
	TP	V0	DRUM1	00013 01412	71	04102	03716
	MP	SBRP3	V5	00014 01413	35	03714	04102
	AT	V3	SBRP3	00015 01414	37	00333	00331
	CALL	ALLOK	RE-ALLOCATE CORE STG.	00016 01415	00	03555	03556
	OO	CORE1	DRUM1	00017 01416	00	04052	00000
	OO	VBL1		00020 01417	11	00362	32000
	TP	ISTBP	A	00021 01420	47	01421	01423
	ZJ	L+1	L+3	00022 01421	37	01714	01715
	RJ	INP	INP+1	00023 01422	45	00000	01424
	MJ	L+2		00024 01423	37	01727	01730
	RJ	KST	RST+1	00025 01424	37	01752	01753
	RJ	SRT	SRT+1	00026 01425	37	01441	01442
	RJ	BKW	BKW+1	00027 01426	11	00354	32000
	TP	STAGAT	A	00030 01427	47	01430	01432
	ZJ	L+1	L+3	00031 01430	37	01674	01675
	RJ	BEG	BEG+1	00032 01431	45	00000	01435
	MJ	L+4		00033 01432	37	01465	01466
	RJ	ACT	ACT+1	00034 01433	37	01516	01517
	RJ	HAV	HAV+1	00035 01434	37	01547	01550
	RJ	DBL	OBL+1	00036 01435	37	01606	01607
	RJ	ADM	ADM+1	00037 01436	37	01766	01767
	RJ	TRS	TRS+1	00040 01437	37	02012	02013
	RJ	OUT	OUT+1	00041 01440	45	00000	01403
	MJ	START+2	EXIT.	00042 01441	45	00000	30000
	MJ	FILL	BACKWARD DIFFERENCES.	00043 01442	11	04061	32000
BKW	TP	LNTH	A	00044 01443	35	03720	32000
	AT	V7	A	00045 01444	16	32000	01453
	TV	A	BKW2	00046 01445	35	03674	32000
	AT	U2	A	00047 01446	15	32000	01447
	TU	A	L+1	00050 01447	11	30000	04104
	TP	FILL	WKGSTG	00051 01450	15	03623	01452
	TU	LBUEQ	BKW1+1	00052 01451	11	03714	04105
BKW1	TP	V3	WKGSTG+1	00053 01452	11	30000	04106
	TP	FILL	WKGSTG+2	00054 01453	65	04106	30000
BKW2	FS	WKGSTG+2	NEW DEL - OLD DEL.	00055 01454	16	01453	01455
	TV	L-1	L+1	00056 01455	11	04106	30000
	TP	WKGSTG+2	FILL	00057 01456	11	31000	04106
	TP	Q	WKGSTG+2	00060 01457	23	01453	03712
	RS	BKW2	V1	00061 01460	41	04105	01453
	TU	WKGSTG+1	BKW2	00062 01461	21	01452	03673
	RA	BKW1+1	U1	00063 01462	21	01453	03722
	RA	BKW2	VV	00064 01463	41	04104	01451
	IJ	WKGSTG	BKW1	00065 01464	45	00000	01441
	MJ	BKW	FILL	00066 01465	45	00000	30000
ACT	MJ	FILL	ACCURACY TEST	00067 01466	11	04061	32000
	TP	LNTH	A	00070 01467	35	03674	32000
	AT	U2	A	00071 01470	15	32000	01471
	TU	A	L+1	00072 01471	11	30000	04104
	TP	FILL	WKGSTG				
			NO. VARBL5 -1.				

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TABLE V-2I  
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	AT	U1	A		00073 01472	35	03673	32000
	TU	A	ACT1	LOC. OF 1ST N.	00074 01473	15	32000	01501
	AT	U1	A		00075 01474	35	03673	32000
	TU	A	ACT2	LOC. OF 1ST DEL 3.	00076 01475	15	32000	01505
	TV	LVARVL	ACT3		00077 01476	16	04064	01507
	FM	EPS4	FP20	SET HALV THRESHOLD TO	00100 01477	66	00057	04076
	TP	Q	EP55	20 TIMES DBL THRSMLD.	00101 01500	11	31000	04101
ACT1	TM	FILL	WKGSTG+1	N.	00102 01501	12	30000	04105
	TP	NMIN	A		00103 01502	11	04077	32000
	TJ	WKGSTG+1	L+2		00104 01503	42	04105	01505
	TP	NMIN	WKGSTG+1		00105 01504	11	04077	04105
ACT2	FM	FILL	DEL TAT	DEL 3 TIMES DELTA T.	00106 01505	66	30000	00363
	FD	Q	WKGSTG+1		00107 01506	67	31000	04105
ACT3	TM	Q	FILL		00110 01507	12	31000	30000
	IJ	WKGSTG	L+2		00111 01510	41	04104	01512
	MJ		ACT		00112 01511	45	00000	01465
	RA	ACT1	U5		00113 01512	21	01501	03677
	RA	ACT2	U5		00114 01513	21	01505	03677
	RA	ACT3	VI		00115 01514	21	01507	03712
	MJ		ACT1		00116 01515	45	00000	01501
HAV	MJ	FILL	ACT1	HALVING TEST.	00117 01516	45	00000	30000
	TP	LNTH	A		00120 01517	11	04061	32000
	AT	U2	A		00121 01520	35	03674	32000
	TU	A	L+1		00122 01521	15	32000	01522
	SP	FILL	15		00123 01522	31	30000	00017
	AT	HAVC1	A		00124 01523	35	01540	32000
	TU	A	HAV1		00125 01524	15	32000	01527
	TU	LVARVL	HAV1+1		00126 01525	15	04064	01530
	TP	EP55	A		00127 01526	11	04101	32000
HAV1	RP	FILL	HAV		00130 01527	75	30000	01516
	TJ	FILL	L+1		00131 01530	42	30000	01531
	FM	FLIHAF	DEL TAT	HALVE NOW.	00132 01531	66	04073	00363
	TP	Q	DEL TAT		00133 01532	11	31000	00363
	RPB	6	L+2	LOAD HALVING MATRIX.	00134 01533	75	30006	01535
	TP	HAVC2	WKGSTG		00135 01534	11	01541	04104
	RJ	CHG	CHG+1	CHANGE DELS.	00136 01535	37	01642	01643
	RJ	ACT	ACT+1	GET NEW ACC. TEST.	00137 01536	37	01465	01466
	MJ		HAV1-1		00140 01537	45	00000	01526
HAVC1	B	002000100000			00141 01540	00	20001	00000
HAVC2	F	*5			00142 01541	20	04000	00000
	F	*125			00143 01542	17	64000	00000
	F	*0625			00144 01543	17	54000	00000
	F	*25			00145 01544	17	74000	00000
	F	*125			00146 01545	17	64000	00000
	F	*125			00147 01546	17	64000	00000
	F	*125			00150 01547	45	00000	30000
DBL	MJ	FILL	FILL	DOUBLING TEST.	00151 01550	11	00363	32000
	TP	DEL TAT	A	DONT DOUBLE IF DELTA T	00152 01551	42	00066	01553
	TJ	UTMAX	L+2	IS TOO LARGE.	00153 01552	45	00000	01576
	MJ		NODBL		00154 01553	11	04061	32000
	TP	LNTH	A		00155 01554	35	03674	32000
	AT	U2	A		00156 01555	15	32000	01556
	TU	A	L+1		00157 01556	11	30000	04104
	TP	FILL	WKGSTG	NO. OF NS =1.	00160 01557	15	04064	01560
	TU	LVARVL	OBL1		00161 01560	11	30000	32000
DBL1	TP	FILL	A		00162 01561	42	00057	01563
	TJ	EPS4	L+2		00163 01562	45	00000	01576
	MJ		NODBL		00164 01563	21	01560	03673
	RA	OBL1	U1		00165 01564	41	04104	01560
	IJ	WKGSTG	OBL1		00166 01565	11	00356	32000
	TP	UTWICE	A	DOUBLE NOW.				

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Code	Field	Value	Description	Code	Field	Value	Description
	EJ	V1	NODBL	00107	01506	43	03712 01570
	TP	V1	NO DOUBLING TWICE IN SUCCESSION.	00170	01507	11	03712 00356
	FA	DELTAT		00171	01570	64	00363 00363
	TP	U		00172	01571	11	31000 00363
	RFB	6	LOAD DOUBLING MATRIX.	00173	01572	75	30006 01574
	TP	DBLC1		00174	01573	11	01600 04104
	RJ	CHG		00175	01574	37	01642 01643
	MJ			00176	01575	45	00000 01547
NODBL	TP	V2		00177	01576	11	03713 00356
	MJ			00200	01577	45	00000 01547
DBLC1	F	2.0		00201	01600	20	24000 00000
	F	1.0		00202	01601	57	63777 77777
	F	0		00203	01602	00	00000 00000
	F	4.0		00204	01603	20	34000 00000
	F	4.0		00205	01604	57	43777 77777
	F	8.0		00206	01605	20	44000 00000
ADM	MJ		FILL	00207	01606	45	00000 30000
	FA	TIME	ADAMS INTEGRATION. ADVANCE T.	00210	01607	64	00053 00363
	TP	Q		00211	01610	11	31000 00053
	TP	LNTH		00212	01611	11	04061 32000
	TV	A		00213	01612	16	32000 01613
	TP	TIME		00214	01613	11	00053 30000
	AT	V1		00215	01614	35	03712 32000
	TV	A		00216	01615	16	32000 01616
	TP	DELTAT		00217	01616	11	00363 30000
	AT	U2		00220	01617	35	03674 32000
	TU	A		00221	01620	15	32000 01621
	TP	FILL	NO. NS -1.	00222	01621	11	30000 04104
	AT	USV2		00223	01622	35	04072 32000
	TU	A		00224	01623	15	32000 01630
	TV	A		00225	01624	16	32000 01633
	TV	A		00226	01625	16	32000 01634
	AT	V1		00227	01626	35	03712 32000
	TV	A		00230	01627	16	32000 01632
ADM1	TP	FILL	DEL O.	00231	01630	11	30000 31000
	RFB	3		00232	01631	75	30003 01633
ADM2	FI	ADMCF		00233	01632	02	00357 30000
	FP	DELTAT		00234	01633	01	00363 30000
	TP	Q	STORE NEW N.	00235	01634	11	31000 30000
	IJ	WKGSTG		00236	01635	41	04104 01637
	MJ			00237	01636	45	00000 01606
	RA	ADM1		00240	01637	21	01630 03677
	RPU	3		00241	01640	75	20003 01630
	RA	ADM2		00242	01641	21	01632 03716
CHG	MJ		MODIFY DIFFS. FOR NEW TIME STEP.	00243	01642	45	00000 30000
	TP	LNTH		00244	01643	11	04061 32000
	AT	U2		00245	01644	35	03674 32000
	TU	A		00246	01645	15	32000 01646
	TP	FILL		00247	01646	11	30000 04115
	AT	U2V4		00250	01647	35	04070 32000
	TU	A		00251	01650	15	32000 01653
	TV	A		00252	01651	16	32000 01666
CHG1	RFB	3	OLD DELS TO WKGSTG.	00253	01652	75	30003 01654
	TP	FILL		00254	01653	11	30000 04112
	FM	WKGSTG+2	M13 TIMES DEL 3.	00255	01654	66	04106 04112
	FI	WKGSTG+1	M12 TIMES DEL 2.	00256	01655	02	04105 04113
	FI	WKGSTG	M11 TIMES DEL 1.	00257	01656	02	04104 04114
	TP	Q	NEW DEL 1.	00260	01657	11	31000 04114
	FM	WKGSTG+4	M23 TIMES DEL 3.	00261	01660	66	04110 04112
	FI	WKGSTG+3	M22 TIMES DEL 2.	00262	01661	02	04107 04113

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	TP	Q	WKGSTG+7	NEW DEL 2.	00203	01662	11	31000	04113
	FH	WKGSTG+5	WKGSTG+6	M33 TIMES DEL 3.	00204	01663	66	04111	04112
	TP	Q	WKGSTG+6	NEW DEL 3.	00205	01664	11	31000	04112
	RPB	J	L+2		00206	01665	75	30003	01667
CHG2	TP	WKGSTG+6	FILL	NEW DELS TO NTH.	00207	01666	11	04112	30000
	IJ	WKGSTG+9	L+2		00210	01667	41	04115	01671
	MJ		CHG		00211	01670	45	00000	01642
	RA	CHG1+1	U5		00212	01671	21	01653	03677
	RA	CHG2	V5		00213	01672	21	01666	03716
	MJ		CHG1		00214	01673	45	00000	01652
BEG	MJ		FILL	BEGIN INTERGRATION.	00215	01674	45	00000	30000
	IJ	INDEXS	L+3		00216	01675	41	00355	01700
	TP	VO	STAGAT	CLOSE STAGAT WHEN DONE	00217	01676	11	03741	00354
	MJ		BEG		00300	01677	45	00000	01674
	EJ	V3	BEG3		00301	01700	43	03714	01704
	EJ	V2	BEG2		00302	01701	43	03713	01706
	EJ	V1	BEG1		00303	01702	43	03712	01710
	EJ	VO	BEG0		00304	01703	43	03741	01712
BEG3	RPV	J	BEG	SET COEFFS. TO 0.	00305	01704	75	10003	01674
	TP	VO	ADMCFE		00306	01705	11	03741	00357
BEG2	TP	FL1HAF	ADMCFE+2	SET 1/2	00307	01706	11	04073	00361
	MJ		BEG		00310	01707	45	00000	01674
BEG1	TP	FL512S	ADMCFE+1	SET 5/12.	00311	01710	11	04074	00360
	MJ		BEG		00312	01711	45	00000	01674
BEG0	TP	FL3PTH	ADMCFE	SET 3/8.	00313	01712	11	04075	00357
	MJ		BEG		00314	01713	45	00000	01674
INP	MJ		FILL	READ NTH TAPE.	00315	01714	45	00000	30000
	SP	TAPE7	12		00316	01715	31	00076	00014
	AT	REWIND	A		00317	01716	35	04103	32000
	EF		A		00320	01717	17	00000	32000
	SP	TAPE7	30		00321	01720	31	00076	00036
	TP	A	L+3		00322	01721	11	32000	01724
	TV	LNTH	L+2		00323	01722	16	04061	01724
	CALL	BK			00324	01723	37	00336	00334
	B				00325	01724	00	00000	00000
	MS		L+1		00326	01725	36	00000	01726
	MJ		INP		00327	01726	45	00000	01714
RST	MJ		FILL	SET UP STARTING PROCED.	00330	01727	45	00000	30000
	MP	B	R		00331	01730	71	00013	00014
	ST	V1	WKGSTG		00332	01731	36	03712	04104
	TP	V1	ISTRP		00333	01732	11	03712	00362
	TP	V4	INDEXS		00334	01733	11	03715	00355
	TP	V2	DTWICE		00335	01734	11	03713	00356
	TP	V1	STAGAT		00336	01735	11	03712	00354
	TP	INDT	DELTAT		00337	01736	11	04100	00363
	MP	WKGSTG	U5	5 TIMES SN-11.	00340	01737	71	04104	03677
	AT	RSTC1	A		00341	01740	35	01751	32000
	TU	A	L+2		00342	01741	15	32000	01743
	TV	LNTH	L+2		00343	01742	16	04061	01744
	RP	FILL	L+2	CLEAR NTH BLOCK.	00344	01743	75	30000	01745
	TP	VO	FILL		00345	01744	11	03741	30000
	TV	LNTH	L+2		00346	01745	16	04061	01747
	RA	L+1	V2		00347	01746	21	01747	03713
	TP	WKGSTG	FILL		00350	01747	11	04104	30000
	MJ		RST		00351	01750	45	00000	01727
RSTC1	B	001001000000			00352	01751	00	10010	00000
SRT	MJ		FILL	TRANSFER BRM VALUES TO NTH.	00353	01752	45	00000	30000
	TU	LNTH	L+2		00354	01753	15	04061	01755
	RA	L+1	U2		00355	01754	21	01755	03674
	TP	FILL	WKGSTG		00356	01755	11	30000	04104

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	TV	LNTH	SRT1	00337	01756	16	04061	01761
	RA	SRT1	V3	00300	01757	21	01761	03714
	TU	LBRMX	SRT1	00301	01760	15	00175	01761
SRT1	TP	FILL	FILL	00302	01761	11	30000	30000
	IJ	#KGSFG	L+2	00303	01762	41	04104	01764
	MJ		SRT	00304	01763	45	00000	01752
	RA	SRT1	U1V5	00305	01764	21	01761	04067
	MJ		SRT1	00306	01765	45	00000	01761
TRS	MJ		FILL	00307	01766	45	00000	30000
	TP	LNTH	A	00310	01767	11	04061	32000
	AT	U2	A	00311	01770	35	03674	32000
	TU	A	L+1	00312	01771	15	32000	01772
	TP	FILL	#KGSFG	00313	01772	11	30000	04104
	TP	#KGSFG	#KGSFG+1	00314	01773	11	04104	04105
	AT	U1	A	00315	01774	35	03673	32000
	TU	A	TRS1	00316	01775	15	32000	01777
	TV	LBRMX	TRS1	00317	01776	15	00175	01777
TRS1	TP	FILL	FILL	00400	01777	11	30000	30000
	RA	TRS1	USV1	00401	02000	21	01777	04071
	IJ	#KGSFG	TRS1	00402	02001	41	04104	01777
	SP	#KGSFG+1	15	00403	02002	31	04105	00017
	AT	TRSC1	A	00404	02003	35	02011	32000
	TU	A	L+3	00405	02004	15	32000	02007
	TU	LBRMX	L+3	00406	02005	15	00175	02010
	TV	LBRMX+1	L+2	00407	02006	15	00176	02010
	RP	FILL	TRS	00410	02007	75	30000	01766
	TP	FILL	FILL	00411	02010	11	30000	30000
TRSC1	B	003000100000		00412	02011	00	30001	00000
OUT	MJ		FILL	00413	02012	45	00000	30000
	SP	TAPE7	12	00414	02013	31	00076	00014
	AT	REWIND	A	00415	02014	35	04103	32000
	EF		A	00416	02015	17	00000	32000
	SP	TAPE7	30	00417	02016	31	00076	04036
	TP	A	L+8	00420	02017	11	32000	02027
	TV	LNTH	L+7	00421	02020	16	04061	02027
	TU	LNTH	L+2	00422	02021	15	04061	02023
	RA	L+1	U2	00423	02022	21	02023	03674
	MP	FILL	U5	00424	02023	71	30000	03677
	AT	UB	A	00425	02024	35	03702	32000
	TU	A	L+2	00426	02025	15	32000	02027
	CALL	WRITE		00427	02026	37	00341	00337
	B			00430	02027	00	00000	00000
	SP	TAPE7	12	00431	02030	31	00076	00014
	AT	REWIND	A	00432	02031	35	04103	32000
	EF		A	00433	02032	17	00000	32000
	MJ		OUT	00434	02033	45	00000	02012
BNUP	MJ	0000	DIGIT	0184	00435	45	00000	02037
	MS	0000	0000	0185	00436	56	00000	00000
BNUP2	MJ	0000	FILL	0186	00437	45	00000	30000
DIGIT	TP	V1	BUTST	0187	00440	11	03712	03543
	MP	B	R		00441	71	00013	00014
	TP	A	BR		00442	11	32000	03765
	TP	B	BCOUNT		00443	11	00013	03617
	MP	S	I		00444	71	00015	00012
	TP	A	S1		00445	11	32000	03766
	TP	I	IPLS3		00446	11	00012	03767
	TP	N	N3		00447	11	00011	03770
	RA	N3	V3		00450	21	03770	03714
	RA	IPLS3	V3		00451	21	03767	03714
	TP	I	R1PS2		00452	11	00012	03771

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	RA	RIPS2	V2	00453	02052	21	03771	03713	
	MP	R	RIPS2	00454	02053	71	00014	03771	
	TP	A	RIPS2	00455	02054	11	32000	03771	
	TP	UOKE	NXTIS	0188	00456	02055	11	03566	03616
	MP	K	V4		00457	02056	71	00014	03715
	TP	A	HELL3	0190	00460	02057	11	32000	03600
	RA	HELL3	V1	0191	00461	02060	21	03600	03712
	MP	V3	I		00462	02061	71	03714	00012
	TP	A	HELL4	0193	00463	02062	11	32000	03601
	RA	HELL4	V1	0194	00464	02063	21	03601	03712
	TP	VO	CORE1		00465	02064	11	03741	03555
	SP	LLAST			00466	02065	31	04116	00000
	TJ	MINCE	DLSTM		00467	02066	42	00347	02071
	TV	LLAST	CORE1		00470	02067	16	04116	03555
	MJ		L+2		00471	02070	45	00000	02072
DLSTM	TV	MINCE	CORE1		00472	02071	16	00347	03555
	RA	CORE1	V1		00473	02072	21	03555	03712
	RJ	ALL2	ALLOK	0195	00474	02073	37	00333	00331
	O	CORE1	DRUM1	0196	00475	02074	00	03555	03556
	O	VARBL	0000	0197	00476	02075	00	03774	00000
	SP	FAPE3	30		00477	02076	31	00072	00036
	TP	A	BLO55		00500	02077	11	32000	02203
	TP	A	BLOK0		00501	02100	11	32000	02206
	TP	A	BLOK1		00502	02101	11	32000	02211
	TU	LAKRK+1	EAKBK		00503	02102	15	00135	02214
	TV	LAKRK	EAKBK		00504	02103	16	00134	02214
	LQ	V7777B	A+15		00505	02104	55	03751	32017
	SP	HELL3	15		00506	02105	31	03600	00017
	QS	A	BKAB		00507	02106	53	32000	02213
	SP	FAPE3	30		00510	02107	31	00072	00036
	TP	A	BLOK0		00511	02110	11	32000	02226
	TP	A	BLOK1		00512	02111	11	32000	02231
	TU	LDLS1	DLSZ		00513	02112	15	03755	02117
	TV	LDLSS1	MJ5	SETUP JUMP	00514	02113	16	03754	02127
	SP	BR	15	SETUPS TO BRING BRMX IN	00515	02114	31	03765	00017
DLSY	AT	KDLS	DLSRP	FROM DRUM TO CORE	00516	02115	35	03753	02124
	TU	DLSZ	L+2		00517	02116	15	02117	02120
DLSZ	TU	FILL	L+3		00520	02117	15	30000	02122
	TU	FILL	L+3		00521	02120	15	30000	02123
	RA	L+1	U1		00522	02121	21	02122	03673
	TU	FILL	L+3		00523	02122	15	30000	02125
	TV	FILL	L+2		00524	02123	16	30000	02125
DLSRP	RPB		DLSZ		00525	02124	75	30000	02126
	TP	FILL	FILL		00526	02125	11	30000	30000
DLSSJ	RA	DLSZ	U1		00527	02126	21	02117	03673
	MJ5		FILL		00530	02127	45	00000	30000
DLSSF	RA	MJ5	V3	MODIFICATIONS TO BRING	00531	02130	21	02127	03714
	SP	SI	15	SFKI FROM DRUM TO CORE	00532	02131	31	03766	00017
	MJ		DLSY		00533	02132	45	00000	02115
	RA	MJ5	V3	MODIFICATION S TO BRING	00534	02133	21	02127	03714
	SP	IPLS3	15	LENGY FROM DRUM TO CORE	00535	02134	31	03767	00017
	MJ		DLSY		00536	02135	45	00000	02115
	RA	MJ5	V3	MODIFICATIONS TO BRING	00537	02136	21	02127	03714
	SP	RIPS2	15	PHKI FROM DRUM TO CORE	00540	02137	31	03771	00017
	MJ		DLSY		00541	02140	45	00000	02115
	RA	MJ5	V3	MODIFICATIONS TO BRING	00542	02141	21	02127	03714
	SP	B	15	ISOP FROM DRUM TO CORE	00543	02142	31	00013	00017
	MJ		DLSY		00544	02143	45	00000	02115
	RA	MJ5	V3	BRING IN	00545	02144	21	02127	03714
	SP	R	15	MESH	00546	02145	31	00014	00017

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	MJ		DLSY		00547	02146	45	00000	02115	
	RA		V3		00550	02147	21	02127	03714	
	SP	N3	15		00551	02150	31	03770	00017	
	MJ		DLSY		00552	02151	45	00000	02115	
	TU	LENGY	INVR2		0198	00553	02152	15	00131	02160
	TV	LEIN	INVR2		0199	00554	02153	16	03645	02160
	SP	TAPE3	12			00555	02154	31	00072	00014
	AT	DLSEF	DUMP88			00556	02155	35	03752	03772
INVR5	RJ	EINV2	EINV		0200	00557	02156	37	02500	02476
	O	I	0000		0201	00560	02157	00	00012	00000
INVR2	O	FILL	FILL		0202	00561	02160	00	30000	30000
	RJ	MTPV2	MTPVK	PHI K OVER V K		00562	02161	37	03356	03354
	TV	LDSE6	BLOK0		0203	00563	02162	16	03631	02206
	TV	LLAM	BLOKL		0204	00564	02163	16	03634	02211
	TV	LCAP	BLOKC			00565	02164	16	03637	02226
	TV	LFISS	BLOK6		0207	00566	02165	16	03642	02231
	TV	LINDI	BLO55			00567	02166	16	03626	02203
	SP	BR	15			00570	02167	31	03765	00017
	TU	A	VIPER			00571	02170	15	32000	02173
	TV	LBUEQ	MAMBA		0214	00572	02171	16	03623	02174
	RA	VIPER	UUU1			00573	02172	21	02173	03750
VIPER	RPV		L+2			00574	02173	75	10000	02175
MAMBA	TP	F0	FILL	CLR BUEQ	0216	00575	02174	11	03745	30000
	EF		DUMP88	PASS GRP STRUCTURE		00576	02175	17	00000	03772
	EF		DUMP88	PASS ISOP LIST		00577	02176	17	00000	03772
	EF		DUMP88	PASS XE1		00600	02177	17	00000	03772
BLOK5	IJ	BCOUNT	L+2			00601	02200	41	03617	02202
	MJ		ELFIN			00602	02201	45	00000	02472
	RJ	BK2	BK			00603	02202	37	00336	00334
BLO55	MJ		FILL	INDICATIVE		00604	02203	00	00000	30000
	RJ	BK2	BK			00605	02204	45	00000	02472
	MJ		ELFIN			00606	02205	37	00336	00334
BLOK0	RJ	BK2	BK			00607	02206	00	00000	30000
	MJ	0000	FILL	DESCENDANT		00610	02207	45	00000	02472
BLOK6	RJ	BK2	BK			00611	02210	37	00336	00334
BLOKL	MJ	0000	FILL	LAMBDA		00612	02211	00	00000	30000
BKAB	RPB		ELFIN		0229	00613	02212	45	00000	02472
EAKBK	TP	FILL	L+2	BRING IN AKBK FROM		00614	02213	75	30000	02215
	EF		FILL	DRUM TO CORE		00615	02214	11	30000	30000
	EF		DUMP88	BYPASS AKBK ON SIG TAPE		00616	02215	17	00000	03772
	TU	LAKBK	L+1			00617	02216	15	00134	02217
	TP	FILL	A			00620	02217	11	30000	32000
	EJ	FLAG0	L+4			00621	02220	45	03574	02224
	RA	L-2	U4			00622	02221	21	02217	03676
	RA	EAKBK	U4			00623	02222	21	02214	03676
	MJ		L-4			00624	02223	45	00000	02217
	RA	EAKBK	U1			00625	02224	21	02214	03673
BLOK8	RJ	BK2	BK			00626	02225	37	00336	00334
BLOK0	MJ	0000	FILL	CAPTURE		00627	02226	00	00000	30000
	RJ	BK2	BK		0237	00630	02227	45	00000	02472
BLOK9	MJ	0000	ELFIN			00631	02230	37	00336	00334
BLOK0	RJ	BK2	BK			00632	02231	00	00000	30000
	MJ	0000	FILL	FISSION		00633	02232	45	00000	02472
	EF		DUMP88	PASS NUT BLOCK		00634	02233	17	00000	03772
	EF		DUMP88	PASS SCAT BLOCK		00635	02234	17	00000	03772
	EF		DUMP88	PASS TRAN BLOCK		00636	02235	17	00000	03772
	EF		DUMP88	PASS TOTAL BLOCK		00637	02236	17	00000	03772
	MJ	0000	MAINA		0249	00640	02237	45	00000	02242
COSMO	RA	MZ1	U4	NXT REGION	0251	00641	02240	21	02245	03676
	MJ	0000	MAIN2		0252	00642	02241	45	00000	02244

NOP  
NOP

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MAINA	RJ	CODE2	CODER		00643 02242	37	03263	03264	
	TU	LAKPK	MZ1	SET AKBK	00644 02243	15	00134	02245	
MAIN2	RPB	4	L+2		00645 02244	75	30004	02246	
MZ1	TP	FILL	NLK	AKBK	0255 00646 02245	11	30000	03650	
	TU	MZ1	MZ2		0256 00647 02246	15	02245	02250	
	SP	FLAGO	0000	TST AK END	0257 00640 02247	31	03574	00000	
MZ2	EJ	FILL	BLOK5		00641 02250	43	30000	02200	
FLAME	TP	NLK3	EASY		0259 00642 02251	11	03653	03573	
	RS	EASY	V1		0260 00643 02252	23	03573	03712	
	TP	I	JOHN		0261 00644 02253	11	00012	03610	
	RA	JOHN	V2		0262 00645 02254	21	03610	03713	
	MP	JOHN	EASY	I+2 RY K-1	00646 02255	71	03610	03573	
	AT	V1	EASY		0264 00647 02256	35	03712	03573	
	TP	NLK	JOHN	TO GET THE	0265 00640 02257	11	03650	03610	
	RS	JOHN	V1	CURRENT	0266 00641 02260	23	03610	03712	
	TP	NLK3	SHELD	CONCENTRAT	0267 00642 02261	11	03653	03661	
	RS	SHELD	V1		0268 00643 02262	23	03661	03712	
	MP	K	JOHN		00644 02263	71	00014	03610	
	AT	SHELD	JOHN		0270 00645 02264	35	03661	03610	
	TU	LBRMX	PANDA		0271 00646 02265	15	00175	02271	
	SP	JOHN	15		00647 02266	31	03610	00017	
	TP	A	JOHN		0273 00640 02267	11	32000	03610	
PANDA	RA	PANDA	JOHN		0274 00641 02270	21	02271	03610	
	TP	FILL	NLK1	FIX CONCEN	0275 00642 02271	11	30000	03651	
	TV	LSFKI	WW2		0276 00643 02272	16	00167	02326	
	TP	NLK2	JOHN		0277 00644 02273	11	03652	03610	
	RS	JOHN	V1		0278 00645 02274	23	03610	03712	
	MP	I	JOHN		00646 02275	71	00012	03610	
	TP	A	JOHN		0280 00647 02276	11	32000	03610	
	RA	WW2	JOHN		0281 00700 02277	21	02326	03610	
	TP	V1	SHELD		0282 00701 02300	11	03712	03661	
OOZE	TV	LPHKI	WW1		0283 00702 02301	16	00200	02324	
	RA	WW1	EASY		0284 00703 02302	21	02324	03573	
	TV	LCAP	HH6		00704 02303	16	03637	02323	
	TV	LFISS	HH2		0286 00705 02304	16	03642	02317	
	TU	LEIN	HH3		0287 00706 02305	15	03645	02320	
	TV	LPHKI	HH3		0288 00707 02306	16	00200	02320	
	TU	LENGY	HH6		0289 00710 02307	15	00131	02323	
	TP	V1	IIIII		0290 00711 02310	11	03712	03608	
	TP	FO	SUMC		0291 00712 02311	11	03745	03662	
	TP	FO	SUMF		0292 00713 02312	11	03745	03663	
	TP	I	ALLI		0293 00714 02313	11	00012	03542	
	RS	ALLI	V1	COUNTER	0294 00715 02314	23	03542	03712	
HEAT	RJ	MRES2	MRES		0295 00716 02315	37	02702	02700	
HH1		FILL	FILL		00717 02316	00	30000	30000	
HH2	O	FILL	FILL	FIS	0297 00720 02317	00	30000	30000	NOP
HH3	O	FILL	FILL	EIN PHI	0298 00721 02320	00	30000	30000	NOP
HH4	O	NLK3	IIIII		0299 00722 02321	00	03653	03606	NOP
HH5	O	BUTST	I		0300 00723 02322	00	03543	00012	NOP
HH6	O	FILL	FILL	ENG CAPT	0301 00724 02323	00	30000	30000	NOP
WW1	FM	SIG	FILL	FIS FLUX	0302 00725 02324	66	03664	30000	
	FM	Q	E1		0303 00726 02325	66	31000	03570	
WW2	FM	Q	FILL	SHIELD	0304 00727 02326	66	31000	30000	
	FA	Q	SUMF		0305 00730 02327	64	31000	03663	
	TP	Q	SUMF		0306 00731 02330	11	31000	03663	
	TV	WW1	WW3		0307 00732 02331	16	02324	02333	
	TV	WW2	WW4		0308 00733 02332	16	02326	02335	
WW3	FM	SIG1	FILL	CAP FLUX	0309 00734 02333	66	03665	30000	
	FM	Q	E1		0310 00735 02334	66	31000	03570	
WW4	FM	Q	FILL	SHIELD	0311 00736 02335	66	31000	30000	

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	FA	Q	SUMC		0312	00737	02336	64	31000	03662
	TP	Q	SUMC		0313	00740	02337	11	31000	03662
	RA	IIIII	VI		0314	00741	02340	21	03606	03712
	RA	WW1	VI		0315	00742	02341	21	02324	03712
	RA	WW2	SHELD		0316	00743	02342	21	02326	03661
	IJ	ALLI	HEAT		0317	00744	02343	41	03542	02315
	FM	SUMC	UNITS			00745	02344	66	03662	03654
	TP	Q	SUMC			00746	02345	11	31000	03662
	FM	SUMF	UNITS			00747	02346	66	03663	03654
	TP	Q	SUMF			00750	02347	11	31000	03663
NOMOI	TV	LBUEQ	LA1		0318	00751	02350	16	03623	02377
	TV	LBUEQ	LA2		0319	00752	02351	16	03623	02400
	TP	NLK3	RUBIO		0320	00753	02352	11	03653	03660
	RS	RUBIO	VI	KM1 TO RUB	0321	00754	02353	23	03660	03712
	TP	NLK	AARON		0322	00755	02354	11	03650	03541
	RS	AARON	VI	AM1 TO ARR	0323	00756	02355	23	03541	03712
	MP	K	AARON			00757	02356	71	00014	03541
	AT	RUBIO	AARON	RAMPKM1	0325	00760	02357	35	03660	03541
	RA	LA1	AARON		0326	00761	02360	21	02377	03541
	RA	LA2	AARON		0327	00762	02361	21	02400	03541
	TU	LLAM	L+1			00763	02362	15	03634	02363
	TP	FILL	A			00764	02363	11	30000	32000
	EJ	FLAGO	LA998			00765	02364	43	03574	02371
	TV	LLAMAD	DIL98			00766	02365	16	03622	02405
	TV	LLAM	LAA1		0328	00767	02366	16	03634	02374
	RA	LAA1	VI		0329	00770	02367	21	02374	03712
	MJ		L+3			00771	02370	45	00000	02373
LA998	TV	LVO	LAA1			00772	02371	16	03620	02374
	TV	LCOSMO	DIL98			00773	02372	16	03621	02405
LAMMY	FA	SUMC	SUMF		0330	00774	02373	64	03662	03663
LAA1	FA	Q	FILL	LAM	0331	00775	02374	64	31000	30000
	FM	NLK1			0332	00776	02375	66	31000	03651
	TN	Q	ROBIN		0333	00777	02376	13	31000	03657
LA1	FA	ROBIN	FILL	BUEQ	0334	01000	02377	64	03657	30000
LA2	TP	Q	FILL	BUEQ DESTR	0335	01001	02400	11	31000	30000
	TU	LDESE	LA3		0336	01002	02401	15	03631	02404
	TU	LDESC	LA21		0337	01003	02402	15	03631	02407
	RA	LA21	UI		0338	01004	02403	21	02407	03673
LA3	TP	FILL	A	DESC	0339	01005	02404	11	30000	32000
DIL98	EJ	FLAGO	FILL			01006	02405	43	03574	30000
	ZJ	LA21	FUSON		0341	01007	02406	47	02407	02422
LA21	TP	FILL	BUILD	CAP DESC	0342	01010	02407	11	30000	03544
	RS	BUILD	VI		0343	01011	02410	23	03544	03712
	MP	BUILD	R			01012	02411	71	03544	00014
	AT	RUBIO	BUILD		0345	01013	02412	35	03660	03544
	SJ	FUSON	L+1			01014	02413	46	02422	02414
	TV	LBUEQ	LB3		0347	01015	02414	16	03623	02421
	RA	LB3	BUILD			01016	02415	21	02421	03544
	TV	LB3	LB2			01017	02416	16	02421	02420
LB1	FM	NLK1	SUMC		0350	01020	02417	66	03651	03662
LB2	FA	Q	FILL		0351	01021	02420	64	31000	30000
LB3	TP	Q	FILL		0352	01022	02421	11	31000	30000
FUSON	TU	LDESE	FUS1		0354	01023	02422	15	03631	02424
	RA	FUS1	U2		0355	01024	02423	21	02424	03674
FUS1	SP	FILL	0000	FISS	0356	01025	02424	31	30000	00000
	EJ	FLAGO	LAMAD		0357	01026	02425	43	03574	02446
	ST	VI	BUILD		0358	01027	02426	36	03712	03544
	MP	BUILD	R			01030	02427	71	03544	00014
	AT	RUBIO	BUILD		0360	01031	02430	35	03660	03544
	TV	LBUEQ	FSS1		0361	01032	02431	16	03623	02442

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	TV	LBUEQ	FSS2		0362	01033	02432	16	03623	02443
	RA	FSS1	BUILD		0363	01034	02433	21	02442	03544
	RA	FSS2	BUILD		0364	01035	02434	21	02443	03544
	LO	FUS1	A+21			01036	02435	55	02424	32025
	TV	A	FSS		0366	01037	02436	16	32000	02441
	RA	FSS	VI		0367	01040	02437	21	02441	03712
	FM	SUMF	NLK1		0368	01041	02440	66	03663	03651
FSS	FM	Q	FILL	ISO FISSY	0369	01042	02441	66	31000	30000
FSS1	FA	Q	FILL	BUEQ	0370	01043	02442	64	31000	30000
FSS2	TP	Q	FILL	BUEQ	0371	01044	02443	11	31000	30000
	RA	FUS1	U2		0372	01045	02444	21	02424	03674
	MJ	0000	FUS1		0373	01046	02445	45	00000	02424
LAMAD	TU	LLAM	MAD1		0374	01047	02446	15	03634	02450
	RA	MAD1	U2		0375	01050	02447	21	02450	03674
MAD1	SP	FILL	0000	LAM	0376	01051	02450	31	30000	00000
	EJ	FLAGO	COSMO		0377	01052	02451	43	03574	02240
	TU	MAD1	MAD		0378	01053	02452	15	02450	02453
MAD	TP	FILL	BUILD	LAM	0379	01054	02453	11	30000	03544
	RS	BUILD	VI		0380	01055	02454	23	03544	03712
	MP	BUILD	R			01056	02455	71	03544	00014
	AT	RUB10	BUILD		0382	01057	02456	35	03660	03544
	TV	LBUEQ	BURRR		0383	01060	02457	16	03623	02466
	TV	LBUEQ	BURRR		0384	01061	02460	16	03623	02467
	RA	BURRR	BURRR		0385	01062	02461	21	02466	03544
	RA	BURRR	BUILD		0386	01063	02462	21	02467	03544
	TU	MAD	MAN		0387	01064	02463	15	02453	02465
	RA	MAN	U1		0388	01065	02464	21	02465	03673
MAN	FM	FILL	NLK1	LAM CONST	0389	01066	02465	66	30000	03651
BURRR	FA	Q	FILL	BUEQ	0390	01067	02466	64	31000	30000
BURRR	TP	Q	FILL	BUEQ	0391	01070	02467	11	31000	30000
	RA	MAD1	U2	FOR DECAY	0392	01071	02470	21	02450	03674
	MJ	0000	MAD1		0393	01072	02471	45	00000	02450
ELFIN	SP	TAPE3	12			01073	02472	31	00072	00014
	AT	KONREW	DUMP88			01074	02473	35	03773	03772
	EF		DUMP88			01075	02474	17	00000	03772
	MJ		BNUP2			01076	02475	45	00000	02036
EINV	MJ	0000	BEGIN		0446	01077	02476	45	00000	02501
	MS	0000	0000		0447	01100	02477	56	00000	00000
EINV2	MJ	0000	FILL		0448	01101	02500	45	00000	30000
BEGIN	SP	EINV2	15			01102	02501	31	02500	00017
	TU	A	BE1		0450	01103	02502	15	32000	02503
BE1	SP	FILL	0000		0451	01104	02503	31	30000	00000
	TU	A	BE2		0452	01105	02504	15	32000	02505
BE2	TP	FILL	ITEST		0453	01106	02505	11	30000	03603
	TU	BE2	AAS		0454	01107	02506	15	02505	02546
	RA	EINV2	VI		0455	01110	02507	21	02500	03712
	SP	EINV2	15			01111	02510	31	02500	00017
	TU	A	BE22		0457	01112	02511	15	32000	02512
BE22	SP	FILL	0000		0458	01113	02512	31	30000	00000
	TV	A	AB		0459	01114	02513	16	32000	02577
	TU	A	AA		0460	01115	02514	15	32000	02524
	TP	A	Q		0461	01116	02515	11	32000	31000
	LO	Q	21			01117	02516	55	31000	00025
	TV	Q	AA		0463	01120	02517	16	31000	02524
	RA	AA	U1		0464	01121	02520	21	02524	03673
	TP	VI	ICOUN		0465	01122	02521	11	03712	03607
	SP	VI	0000		0466	01123	02522	31	03712	00000
	EJ	ICOUN	AAT		0467	01124	02523	43	03607	02530
AA	FA	FILL	FILL		0468	01125	02524	64	30000	30000
	FD	Q	F2		0469	01126	02525	67	31000	03747

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	TP	Q	AAA	0470	01147	02526	11	31000	03540
	MJ	0000	AAx	0471	01130	02527	45	00000	02534
AAT	TU	AA	AAT2	0472	01131	02530	15	02524	02532
	TV	AA	AAT2	0473	01132	02531	16	02524	02532
AAT2	FA	FILL	FILL	0474	01133	02532	64	30000	30000
	TP	Q	AAA	0475	01134	02533	11	31000	03540
AAx	TU	AA	AA1	0476	01135	02534	15	02524	02537
	TV	AA	AA1	0477	01136	02535	16	02524	02537
	RA	AA1	V2	0478	01137	02536	21	02537	03713
AA1	FA	FILL	FILL	0479	01140	02537	64	30000	30000
	FD	Q	F2	0480	01141	02540	67	31000	03747
	TP	Q	9BB	0481	01142	02541	11	31000	03545
	TU	AA	AA2	0482	01143	02542	15	02524	02547
	TV	AA	AA2	0483	01144	02543	16	02524	02547
	RA	AA2	U1V3	0484	01145	02544	21	02547	03744
	SP	ICOUN	0000	0485	01146	02545	31	03607	00000
AAS	EJ	FILL	AAS1	0486	01147	02546	43	30000	02553
AA2	FA	FILL	FILL	0487	01130	02547	64	30000	30000
	FD	Q	F2	0488	01131	02550	67	31000	03747
	TP	Q	CCC	0489	01132	02551	11	31000	03547
	MJ	0000	XAA	0490	01133	02552	45	00000	02557
AAS1	TU	AA2	AAS3	0491	01134	02553	15	02547	02555
	TV	AA2	AAS3	0492	01135	02554	16	02547	02555
AAS3	FA	FILL	FILL	0493	01136	02555	64	30000	30000
	TP	Q	CCC	0494	01137	02556	11	31000	03547
XAA	FS	BBB	AAA	0495	01160	02557	65	03545	03540
	TP	Q	DIFF	0496	01161	02560	11	31000	03557
	FS	CCC	AAA	0497	01162	02561	65	03547	03540
	TP	Q	DIFF1	0498	01163	02562	11	31000	03560
	FS	CCC	BBB	0499	01164	02563	65	03547	03545
	TP	Q	DIFF2	0500	01165	02564	11	31000	03561
	FA	CCC	BBB	0501	01166	02565	64	03547	03545
	TP	Q	DIFF3	0502	01167	02566	11	31000	03562
	FA	CCC	AAA	0503	01170	02567	64	03547	03540
	TP	Q	DIFF4	0504	01171	02570	11	31000	03563
	FA	BBB	AAA	0505	01172	02571	64	03545	03540
	TP	Q	DIFF5	0506	01173	02572	11	31000	03564
	FM	UIFF	DIFF1	0507	01174	02573	66	03557	03560
	FM	Q	DIFF2	0508	01175	02574	66	31000	03561
	TP	Q	QUAIL	0509	01176	02575	11	31000	03656
	FD	F1	QUAIL	0510	01177	02576	67	03746	03656
AB	TP	Q	FILL	0511	01200	02577	11	31000	30000
	TV	AB	AB1	0512	01201	02600	16	02577	02604
	RA	AB1	V1	0513	01202	02601	21	02604	03712
	FM	AAA	DIFF3	0514	01203	02602	66	03540	03562
	FM	Q	DIFF2	0515	01204	02603	66	31000	03561
AB1	TN	Q	FILL	0516	01205	02604	13	31000	30000
	TV	AB1	AB2	0517	01206	02605	16	02604	02611
	RA	AB2	V1	0518	01207	02606	21	02611	03712
	FM	BBB	DIFF4	0519	01210	02607	66	03545	03563
	FM	Q	DIFF1	0520	01211	02610	66	31000	03560
AB2	TP	Q	FILL	0521	01212	02611	11	31000	30000
	TV	AB2	AB3	0522	01213	02612	16	02611	02616
	RA	AB3	V1	0523	01214	02613	21	02616	03712
	FM	UIFF5	DIFF	0524	01215	02614	66	03564	03557
	FM	Q	CCC	0525	01216	02615	66	31000	03547
AB3	TN	Q	FILL	0526	01217	02616	13	31000	30000
	TV	AB3	AB4	0527	01220	02617	16	02616	02625
	RA	AB4	V1	0528	01221	02620	21	02625	03712
	FM	AAA	BBB	0529	01222	02621	66	03540	03545



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	FM	Q	CCC	0530	01243	02622	06	31000	03547	
	TP	Q	TEMP8	0531	01244	02623	11	31000	03671	
	FM	TEMP8	DIFF2	0532	01245	02624	06	03671	03561	
AB4	TP	Q	FILL	0533	01246	02625	11	31000	30000	
	TV	AB4	AB5	0534	01247	02626	16	02625	02631	
	RA	AB5	VI	0535	01248	02627	21	02631	03712	
	FM	TEMP8	DIFF1	0536	01249	02630	06	03671	03560	
AB5	TN	Q	FILL	0537	01252	02631	13	31000	30000	
	TV	AB5	AB6	0538	01253	02632	16	02631	02635	
	RA	AB6	VI	0539	01254	02633	21	02635	03712	
	FM	TEMP8	DIFF	0540	01255	02634	06	03671	03557	
AB6	TP	Q	FILL	0541	01256	02635	11	31000	30000	
	TV	AB6	AB7	0542	01257	02636	16	02635	02641	
	RA	AB7	VI	0543	01240	02637	21	02641	03712	
	FM	AAA	DIFF2	0544	01241	02640	06	03540	03561	
AB7	TP	Q	FILL	0545	01242	02641	11	31000	30000	
	TV	AB7	AB8	0546	01243	02642	16	02641	02645	
	RA	AB8	VI	0547	01244	02643	21	02645	03712	
	FM	BBB	DIFF1	0548	01245	02644	06	03545	03560	
AB8	TN	Q	FILL	0549	01246	02645	13	31000	30000	
	TV	AB8	AB9	0550	01247	02646	16	02645	02651	
	RA	AB9	VI	0551	01250	02647	21	02651	03712	
	FM	CCC	DIFF	0552	01251	02650	06	03547	03557	
AB9	TP	Q	FILL	0553	01252	02651	11	31000	30000	
	TV	AB	AULT		01253	02652	16	02577	02661	
	LQ	AB	A+15		01254	02653	55	02577	32017	
	TU	A	AULT		01255	02654	15	32000	02661	
	RA	AULT	UI		01256	02655	21	02661	03673	
	TP	VB	DUMP		01257	02656	11	03721	03567	
	TV	AB	STAY		01200	02657	16	02577	02662	
	RA	STAY	VI		01261	02660	21	02662	03712	
AULT	FM	FILL	FILL		01262	02661	06	30000	30000	
STAY	TP	Q	FILL		01263	02662	11	31000	30000	
	RA	AULT	UI		01264	02663	21	02661	03673	
	RA	STAY	VI		01265	02664	21	02662	03712	
	IJ	DUMP	AULT		01266	02665	41	03567	02661	
	TV	AB	L+1		01267	02666	16	02577	02667	
	TP	F1	FILL		01270	02667	11	03746	30000	
	SP	ICOUN			01271	02670	31	03607	00000	
	EJ	ITEST	THRU	0555	01272	02671	43	03603	02676	
	RA	ICOUN	VI	0556	01273	02672	21	03607	03712	
	RA	AA	U1V1	0557	01274	02673	21	02524	03731	
	RA	AB	V10	0558	01275	02674	21	02577	03723	
	MJ	0000	AA	0559	01276	02675	45	00000	02524	
	THRU	RA	VI	0560	01277	02676	21	02500	03712	
	MJ	0000	E1NV2	0561	01300	02677	45	00000	02500	
MRES	MJ	0000	SETIN	0562	01301	02700	45	00000	02711	
	MS	0000	0000	0563	01302	02701	56	00000	00000	
MRES2	MJ	0000	FILL	0564	01303	02702	45	00000	30000	
SET1	0	FILL	FILL	0565	01304	02703	00	30000	30000	NOP
SET2	0	0000	FILL	0566	01305	02704	00	00000	30000	NOP
SET3	0	FILL	FILL	0567	01306	02705	00	30000	30000	NOP
SET4	0	FILL	FILL	0568	01307	02706	00	30000	30000	NOP
SET5	0	FILL	FILL	0569	01310	02707	00	30000	30000	NOP
SET6	0	FILL	FILL	0570	01311	02710	00	30000	30000	NOP
SETIN	SP	MRES2	15		01312	02711	31	02702	00017	
	TU	A	SET	0572	01313	02712	15	32000	02732	
	TP	VO	I1	0573	01314	02713	11	03741	03605	
	TP	VO	C1	0574	01315	02714	11	03741	03552	
	TP	VO	C2	0575	01316	02715	11	03741	03553	

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	TP	VO	C3	0576	01317	02716	11	03741	03554	
	TP	VO	SIG	0577	01320	02717	11	03741	03664	
	TP	VO	SIG1	0578	01321	02720	11	03741	03665	
	TP	VO	SIG2	0579	01322	02721	11	03741	03666	
	TP	VO	SIG4	0580	01323	02722	11	03741	03670	
	TP	VO	JAZZ	0581	01324	02723	11	03741	03613	
	TP	VO	DEN	0582	01325	02724	11	03741	03565	
	TP	VO	CCNT	0583	01326	02725	11	03741	03550	
	TP	VO	I3CN	0584	01327	02726	11	03741	03604	
	TP	VO	INVRP	0585	01330	02727	11	03741	03602	
	TP	VO	KI3MP	0586	01331	02730	11	03741	03612	
	RPB	6	L+2		01332	02731	75	30006	02733	
SET	TP	FILL	SET1	0588	01333	02732	11	30000	02703	
	TV	SET4	OKK2	0589	01334	02733	16	02706	02777	
	TV	SET2	FISX	0590	01335	02734	16	02704	03033	
	TV	CSET	CE1	0591	01336	02735	16	03551	03013	
	TU	SET5	BU	0592	01337	02736	15	02707	03044	
	TV	SET1	TTO	0593	01340	02737	16	02703	03074	
	LQ	SET1	21		01341	02740	55	02703	00025	
	TV	Q	TR	0595	01342	02741	16	31000	03067	
ALPHA	TV	SET4	ALPHA	0596	01343	02742	16	02706	02743	
	MP	V3	FILL		01344	02743	71	03714	30000	
	TP	A	I3CN	0598	01345	02744	11	32000	03604	
	TU	SET3	CEVAL	0599	01346	02745	15	02705	03012	
	TV	SET3	CEVAL	0600	01347	02746	16	02705	03012	
	TU	SET4	OKK1	0601	01350	02747	15	02706	02766	
	TV	SET4	OKK1	0602	01351	02750	16	02706	02774	
	SP	SET4	15		01352	02751	31	02706	00017	
	TU	A	AL1	0604	01353	02752	15	32000	02753	
AL1	TP	FILL	JAZZ	0605	01354	02753	11	30000	03613	
	TV	JAZZ	II	0606	01355	02754	16	03613	03605	
	SP	JAZZ	15		01356	02755	31	03613	00017	
	TU	A	II	0608	01357	02756	15	32000	03605	
	TU	SET6	BET1	0609	01350	02757	15	02710	02765	
	TV	SET6	CAP1	0610	01351	02760	16	02710	03051	
	LQ	SET6	21		01352	02761	55	02710	00025	
	TV	Q	BET1	0612	01353	02762	16	31000	02765	
	RA	BET1	II	0613	01354	02763	21	02765	03605	
BETA	RJ	DELE2	DELE	0614	01355	02764	37	03106	03104	
BET1	O	FILL	FILL	0615	01356	02765	00	30000	30000	NOP
OKK1	TP	FILL	KI3MP	0616	01357	02766	11	30000	03612	
	RS	KI3MP	V1	0617	01370	02767	23	03612	03712	
	TP	I	JOE	0618	01371	02770	11	00012	03611	
	RA	JOE	V2	0619	01372	02771	21	03611	03713	
OKK	MP	KI3MP	JOE		01373	02772	71	03612	03611	
	TP	A	KI3MP	0621	01374	02773	11	32000	03612	
OKK1	RA	KI3MP	FILL	0622	01375	02774	21	03612	30000	
	RA	CEVAL	KI3MP	0623	01376	02775	21	03012	03612	
	RS	CEVAL	V1	0624	01377	02776	23	03012	03712	
OKK2	MP	V10	FILL		01400	02777	71	03723	30000	
	TP	A	INVRP	0626	01401	03000	11	32000	03602	
	RS	INVRP	V9	0627	01402	03001	23	03602	03722	
	SP	INVRP	0000	0628	01403	03002	31	03602	00000	
	LTR	15	INVRP		01404	03003	22	10017	03602	
	RA	CEVAL	INVRP	0630	01405	03004	21	03012	03602	
	TU	CEVAL	CE2	0631	01406	03005	15	03012	03017	
	RS	CE2	U1	0632	01407	03006	23	03017	03673	
	TP	V2	CCNT	0633	01410	03007	11	03713	03550	
OKK3A	TP	VO	Q	0634	01411	03010	11	03741	31000	
OKK3	RPB	3	L+2		01412	03011	75	30003	03013	

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CEVAL	FI	FILL	FILL	0636	01413	03012	02	30000	30000
CE1	TP	Q	FILL	0637	01414	03013	11	31000	30000
	RA	CEVAL	U3	0638	01415	03014	21	03012	03675
	TV	CE1	CE2	0639	01416	03015	16	03013	03017
	TV	CE1	CE3	0640	01417	03016	16	03013	03020
CE2	FM	FILL	FILL	0641	01420	03017	66	30000	30000
CE3	TP	Q	FILL	0642	01421	03020	11	31000	30000
	RA	CE1	V1	0643	01422	03021	21	03013	03712
	IJ	CCNT	OKK3A	0644	01423	03022	41	03550	03010
	TP	VO	Q	0645	01424	03023	11	03741	31000
DENOX	RFB	3	L+2		01425	03024	75	30003	03026
DDE2	FI	C1	E1	0647	01426	03025	02	03552	03570
	TP	Q	DEN	0648	01427	03026	11	31000	03565
	RS	I3CN	V3	0649	01430	03027	23	03604	03714
	RA	FISX	I3CN	0650	01431	03030	21	03033	03604
	TP	VO	Q	0651	01432	03031	11	03741	31000
	RFB	3	L+2		01433	03032	75	30003	03034
FISX	FI	C1	FILL	0653	01434	03033	02	03552	30000
	FD	Q	DEN	0654	01435	03034	67	31000	03565
	TP	Q	SIG	0655	01436	03035	11	31000	03664
	TP	SIG	A		01437	03036	11	03664	32000
	SJ	MT900	BU		01440	03037	46	03040	03044
MT900	SP	FISX	15		01441	03040	31	03033	00017
	TU	A	MT901		01442	03041	15	32000	03042
MT901	FD	FILL	E1		01443	03042	67	30000	03570
	TP	Q	SIG		01444	03043	11	31000	03664
	SP	FILL	0000	0656	01445	03044	31	30000	00000
BU	ZJ	CAP	TRO	0657	01446	03045	47	03046	03064
CAP	RA	CAP1	I3CN	0658	01447	03046	21	03051	03604
	TP	VO	Q	0659	01450	03047	11	03741	31000
	RFB	3	L+2		01451	03050	75	30003	03052
CAP1	FI	C1	FILL	0661	01452	03051	02	03552	30000
	TP	Q	SIG1	0662	01453	03052	11	31000	03665
	FD	SIG1	DEN	0663	01454	03053	67	03665	03565
	TP	Q	SIG1	0664	01455	03054	11	31000	03665
	TP	SIG1	A		01456	03055	11	03665	32000
	SJ	MT950	OUTA		01457	03056	46	03057	03102
MT950	SP	CAP1	15		01460	03057	31	03051	00017
	TU	A	MT951		01461	03060	15	32000	03061
MT951	FD	FILL	E1		01462	03061	67	30000	03570
	TP	Q	SIG1		01463	03062	11	31000	03665
	MJ		OUTA		01464	03063	45	00000	03102
TRO	RA	TR	I3CN	0666	01465	03064	21	03067	03604
	TP	VO	Q	0667	01466	03065	11	03741	31000
	RFB	3	L+2		01467	03066	75	30003	03070
TR	FI	C1	FILL	0669	01470	03067	02	03552	30000
	TP	Q	SIG2	0670	01471	03070	11	31000	03666
	RA	TTO	I3CN	0671	01472	03071	21	03074	03604
	TP	VO	Q	0672	01473	03072	11	03741	31000
	RFB	3	L+2		01474	03073	75	30003	03075
TTO	FI	C1	FILL	0674	01475	03074	02	03552	30000
	TP	Q	SIG4	0675	01476	03075	11	31000	03670
	FD	SIG2	DEN	0676	01477	03076	67	03666	03565
	TP	Q	SIG2	0677	01500	03077	11	31000	03666
	FD	SIG4	DEN	0678	01501	03100	67	03670	03565
	TP	Q	SIG4	0679	01502	03101	11	31000	03670
					01503	03102	21	02702	03717
OUTA	RA	MRES2	V6	0681	01504	03103	45	00000	02702
	MJ	0000	MRES2	0682	01505	03104	45	00000	03107
DELE	MJ	0000	DE1	0683	01506	03105	56	00000	00000
	MS	0000	0000						

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DELE2	MJ	0000	FILL	0684	01507	03106	45	00000	30000
DE1	SP	DELE2	15		01510	03107	31	03106	00017
TU	A		DE2	0686	01511	03110	15	32000	03111
DE2	SP	FILL	0000	0687	01512	03111	31	30000	00000
TU	A		DE3	0688	01513	03112	15	32000	03115
TV	A		DE3	0689	01514	03113	16	32000	03115
RA	UE3		VI	0690	01515	03114	21	03115	03712
DE3	FS	FILL	FILL	0691	01516	03115	65	30000	30000
TP	Q		E1	0692	01517	03116	11	31000	03570
TU	DE3		DE4	0693	01520	03117	15	03115	03122
TV	UE3		DE4	0694	01521	03120	16	03115	03122
RS	DE4		VI	0695	01522	03121	23	03122	03712
DE4	FM	FILL	FILL	0696	01523	03122	66	30000	30000
TP	Q		E3	0697	01524	03123	11	31000	03572
TU	DE4		DE5	0698	01525	03124	15	03122	03127
TV	DE4		DE5	0699	01526	03125	16	03122	03127
RA	DE5		U1V1	0700	01527	03126	21	03127	03731
DE5	FM	FILL	FILL	0701	01530	03127	66	30000	30000
FS	Q		E3	0702	01531	03130	65	31000	03572
FD	Q		F2	0703	01532	03131	67	31000	03747
TN	Q		E3	0704	01533	03132	13	31000	03572
TV	DE5		DE6	0705	01534	03133	16	03127	03136
TU	DE5		DE6	0706	01535	03134	15	03127	03136
RS	DE6		U1	0707	01536	03135	23	03136	03673
DE6	FD	FILL	FILL	0708	01537	03136	67	30000	30000
RJ	LNx2		LNx		01540	03137	37	03145	03143
TP	Q		E2	0710	01541	03140	11	31000	03571
RA	DELE2		VI	0711	01542	03141	21	03106	03712
MJ	0000		DELE2	0712	01543	03142	45	00000	03106
LNx	MJO		L+3	1	01544	03143	45	00000	03146
MJO	MJO		L+1	2	01545	03144	56	00000	03145
LNx2	MJO		FILL	3	01546	03145	45	00000	30000
TP	Q		A	4	01547	03146	11	31000	32000
SJ	L+2		L+1	5	01550	03147	46	03151	03150
ZJ	L+4		L+1	6	01551	03150	47	03154	03151
RS	Q		Q	7	01552	03151	23	31000	31000
SP	L+50			8	01553	03152	31	03234	00000
MJO			L-7	9	01554	03153	45	00000	03144
LTO	9		L+45	10	01555	03154	22	00011	03231
LQ	A		35	11	01556	03155	55	32000	00043
TP	Q		L+44	12	01557	03156	11	31000	03232
RP2	7		L+2	13	01558	03157	75	20007	03161
TJ	L+46		L+2	14	01559	03160	42	03236	03162
TP	L+52		Q	15	01562	03161	11	03245	31000
SP	L+52			16	01563	03162	31	03246	00000
ST	Q		Q	17	01564	03163	36	31000	31000
SA	L+51		15	18	01565	03164	32	03247	00017
TU	A		L+4	19	01566	03165	15	32000	03171
TP	L+35		A	20	01567	03166	11	03231	32000
SS	L+49		3	21	01570	03167	34	03250	00003
AT	Q		L+33	22	01571	03170	35	31000	03231
TP	FILL		Q	23	01572	03171	11	30000	31000
SP	Q			24	01573	03172	31	31000	00000
SA	L+31		35	25	01574	03173	32	03232	00043
LTO			L+31	26	01575	03174	22	00000	03233
SP	L+29			27	01576	03175	31	03232	00000
SS	Q		37	28	01577	03176	34	31000	00045
DV	L+28		L+28	29	01600	03177	73	03233	03233
MP	Q		Q	30	01601	03200	71	31000	31000
SS	A		31	31	01602	03201	34	32000	00037

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MP	A	L+40	32	01603	03202	71	32000	03252
LT	I	A	33	01604	03203	22	00001	32000
AT	L+39	L+22	34	01605	03204	35	03253	03232
MP	Q	L+21	35	01606	03205	71	31000	03232
LTO		A	36	01607	03206	22	00000	32000
AT	L+22	Q	37	01610	03207	35	03235	31000
MP	Q	L+19	38	01611	03210	71	31000	03233
LTO	3	A	39	01612	03211	22	00003	32000
MA	L+15	L+34	40	01613	03212	72	03231	03254
TP	A	Q	41	01614	03213	11	32000	31000
ZJ	L+1	L-39	42	01615	03214	47	03215	03145
SF	A	L+28	43	01616	03215	74	32000	03251
LTO	28	Q	44	01617	03216	22	00034	31000
TP	L+26	A	45	01620	03217	11	03251	32000
TJ	L+29	L+2	46	01621	03220	42	03255	03222
SS	L+29		47	01622	03221	34	03256	00000
AT	L+29	L+7	48	01623	03222	35	03257	03231
TP	Q	A	49	01624	03223	11	31000	32000
SJ	L+1	L+2	50	01625	03224	46	03225	03226
TN	L+4	L+4	51	01626	03225	13	03231	03231
LQ	L+3	27	52	01627	03226	55	03231	00033
AT	Q	Q	53	01630	03227	35	31000	31000
MJO		L-51	54	01631	03230	45	00000	03145
B			55	01632	03231	00	00000	00000
TM	FILL	FILL	56	01633	03232	12	30000	30000
TM	FILL	FILL	57	01634	03233	12	30000	30000
B	465072010101		58	01635	03234	46	50720	10101
B	200000000000		59	01636	03235	20	00000	00000
B	213453407440		60	01637	03236	21	34534	07440
B	230157701214		61	01640	03237	23	01577	01214
B	245775532516		62	01641	03240	24	57755	32516
B	265011714640		63	01642	03241	26	50117	14640
B	305316250212		64	01643	03242	30	53162	50212
B	327211763126		65	01644	03243	32	72117	63126
B	352601433477		66	01645	03244	35	26014	33477
B	17777		67	01646	03245	00	00000	17777
B	20006		68	01647	03246	00	00000	20006
B	201	L-10	69	01650	03247	00	00000	03235
B	063146314632		70	01651	03250	00	00000	00201
B	125252522523		71	01652	03251	00	00000	00000
B	261344137700		72	01653	03252	06	31463	14632
B	44		73	01654	03253	12	52525	25253
B	110		74	01655	03254	26	13441	37700
B	175		75	01656	03255	00	00000	00044
MJ	0000	MRES2	76	01657	03256	00	00000	00110
			77	01660	03257	00	00000	00175
			0715	01661	03260	45	00000	02702
				01662	03261	00	00000	00000
				01663	03262	00	00000	00000
BMINI				01664	03263	45	00000	30000
CODE1				01665	03264	15	00134	03346
CODE2	MJ	FILL	EXIT	01666	03265	37	03341	03342
CODER	TU	LAKBK	DEC21	01667	03266	15	00134	03270
	RJ	DECO2	DECOD	01670	03267	16	00134	03272
	TU	LAKBK	CO22	01671	03270	31	30000	00000
	TV	LAKBK	CO23	01672	03271	43	03574	03276
CO22	SP	FILL	AK	01673	03272	11	03262	30000
	EJ	FLAGO	CO24	01674	03273	21	03270	03676
CO23	TP	CODE	FILL	AK	01675	21	03272	03715
	RA	CO22	U4		01676	45	00000	03270
	RA	CO23	V4					
	MJ		CO22					

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C024	TU	LDESE	C025		01677	03276	15	03631	03277		
C025	SP	FILL		DESC	01700	03277	31	30000	00000		
	EJ	FLAGO	C041		01701	03300	43	03574	03327		
	TV	LDESE	C0255		01702	03301	16	03631	03302		
C0255	TP	CODE	FILL	DESC	01703	03302	11	03262	30000		
	TU	LDESE	C026		01704	03303	15	03631	03303		
	RA	C026	U1		01705	03304	21	03305	03673		
C026	SH	FILL		CAPT DESC	01706	03305	31	30000	00000		
	ZJ	C0266	C031		01707	03306	47	03307	03314		
C0266	TU	C026	DEC21		01710	03307	15	03305	03346		
	RJ	DEC02	DEC00		01711	03310	37	03341	03342		
	LQ	C026	A+21		01712	03311	55	03305	32025		
	TV	Q	C027		01713	03312	16	31000	03313		
C027	TP	CODE	FILL	CAPT DESC	01714	03313	11	03262	30000		
C031	TU	LDESE	C032		01715	03314	15	03631	03316		
	RA	C032	U2		01716	03315	21	03316	03674		
C032	SP	FILL		FISS DESC	01717	03316	31	30000	00000		
	EJ	FLAGO	C041		01720	03317	43	03574	03327		
	TU	C032	DEC21		01721	03320	15	03316	03346		
	RJ	DEC02	DEC00		01722	03321	37	03341	03342		
	LQ	C032	A+21		01723	03322	55	03316	32025		
	TV	Q	C033		01724	03323	16	31000	03324		
C033	TP	CODE	FILL	FISS DESC	01725	03324	11	03262	30000		
	RA	C032	U2		01726	03325	21	03316	03674		
	MJ		C032		01727	03326	45	00000	03316		
C041	TU	LLAM	C042		01730	03327	15	03634	03330		
C042	SP	FILL		DECAY	01731	03330	31	30000	00000		
	EJ	FLAGO	CODE2		01732	03331	43	03574	03263		
	TU	C042	DEC21		01733	03332	15	03330	03346		
	RJ	DEC02	DEC00		01734	03333	37	03341	03342		
	LQ	C042	A+21		01735	03334	55	03330	32025		
	TV	Q	C043		01736	03335	16	31000	03336		
C043	TP	CODE	FILL	DECAY	01737	03336	11	03262	30000		
	RA	C042	U2		01740	03337	21	03330	03674		
	MJ		C042		01741	03340	45	00000	03330		
DEC02			FILL	EXIT	01742	03341	45	00000	30000		
DEC00	TP	B	BMIN1		01743	03342	11	00013	03261		
	RS	BMIN1	VI		01744	03343	23	03261	03712		
	TP	VI	CODE		01745	03344	11	03712	03262		
	TU	LISOP	DEC22		01746	03345	15	00126	03347		
DEC21	SP	FILL		TP DECODE	01747	03346	31	30000	00000		
DEC22	EJ	FILL	DEC02		01750	03347	43	30000	03341		
	RA	DEC22	U1		01751	03350	21	03347	03673		
	RA	CODE	VI		01752	03351	21	03262	03712		
	TJ	BMIN1	DEC21		01753	03352	41	03261	03346		
	MS		L		01754	03353	56	00000	03353		
MTPVK	MJ	0000	MTBU	THIS	0754	01755	03354	45	00000	03357	
	MS	0000	MTPV2	ROUTINE	0755	01756	03355	56	00000	03356	
MTPV2	MJ	0000	FILL	COMPUTES	0756	01757	03356	45	00000	30000	
MTBU	TP	VO	MTNNN	THE REGION	0757	01760	03357	11	03741	03432	
	TP	VI	MTKKK	VOLUMES	0758	01761	03360	11	03712	03433	
	TP	LHESH	MTLOR	VK AND	0759	01762	03361	11	00172	03434	
	RA	MTLOR	U1V1	DIVIDES	0760	01763	03362	21	03434	03731	
	TV	LPHKE	MTBUB	THE PHIKI	0761	01764	03363	16	00200	03417	
	TU	LREGN	MTBU4	BY VK TO	0762	01765	03364	15	00145	03375	
MTBU1	TP	MTLOR	MTBU2	GIVE THE	0763	01766	03365	11	03434	03370	
	RJ	DELV2	DELVN	AVERAGE	0764	01767	03366	37	03437	03436	
	O	KHO	PI	FLUX IN KI	0765	01770	03367	00	00035	03655	NOP
MTBU2	O	FILL	FILL		0766	01771	03370	00	30000	30000	NOP
2UBTM	TP	DELVP	MTKVV		0767	01772	03371	11	03534	03435	

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MTBU3	RA	MTNNN	VI	BUMP N	0768	01773	03372	21	03432	03712
	RA	MTLOR	UIV1		0769	01774	03373	21	03434	03731
	SP	MTNNN	0000	END OF	0770	01775	03374	31	03432	00000
MTBU4	EJ	FILL	MTBU6	REGN TEST	0771	01776	03375	43	30000	03405
	TP	MTLOR	MTBU5		0772	01777	03376	11	03434	03401
	RJ	DELV2	DELVN		0773	02000	03377	37	03437	03436
	O	KHO	PI		0774	02001	03400	00	00035	03655
MTBU5	O	FILL	FILL		0775	02002	03401	00	30000	30000
	FA	DELVT	MTKVV	INTEGRATE	0776	02003	03402	64	03535	03435
	TP	Q	MTKVV	DELV OVER	0777	02004	03403	11	31000	03435
	MJ	0000	MTBU3	K	0778	02005	03404	45	00000	03372
MTBU6	TP	MTLOR	MTBU7	LAST N IN	0779	02006	03405	11	03434	03410
	RJ	DELV2	DELVN	K	0780	02007	03406	37	03437	03436
	O	KHO	PI		0781	02010	03407	00	00035	03655
MTBU7	O	FILL	FILL		0782	02011	03410	00	30000	30000
	FA	DELVM	MTKVV		0783	02012	03411	64	03536	03435
	TP	Q	MTKVV		0784	02013	03412	11	31000	03435
	FD	F1	MTKVV		0785	02014	03413	67	03746	03435
	TP	Q	MTKVV		0786	02015	03414	11	31000	03435
	TP	I	MTIII		0787	02016	03415	11	00012	03431
	RA	MTIII	FILL	PHKI TIMES	0788	02017	03416	21	03431	03712
MTBU8	FM	MTKVV	FILL	I OVER VK	0789	02020	03417	66	03435	30000
	TV	MTBU8	MTBU9		0790	02021	03420	16	03417	03421
MTBU9	TP	Q	FILL		0791	02022	03421	11	31000	30000
	RA	MTBU8	VI		0792	02023	03422	21	03417	03712
	IJ	MTIII	MTBU8		0793	02024	03423	41	03431	03417
	SP	MTKKK	0000		0794	02025	03424	31	03433	00000
	EJ	R	MTPV2	EXIT	0795	02026	03425	43	00014	03356
	AT	VI	MTKKK	BUMP K	0796	02027	03426	35	03712	03433
	RA	MTBU4	UI		0797	02030	03427	21	03375	03673
	MJ	0000	2UBTM		0798	02031	03430	45	00000	03371
MTIII	O	0000	0000		0799	02032	03431	00	00000	00000
MTNNN	O	0000	0000		0800	02033	03432	00	00000	00000
MTKKK	O	0000	0000		0801	02034	03433	00	00000	00000
MTLOR	O	0000	0000		0802	02035	03434	00	00000	00000
MTKVV	O	0000	0000		0803	02036	03435	00	00000	00000
DELVN	MJ		RILEY		0804	02037	03436	45	00000	03440
DELV2	MJ		FILL		0805	02040	03437	45	00000	30000
RILEY	SP	DELV2	15		0806	02041	03440	31	03437	00017
	TU	A	CHUKR		0807	02042	03441	15	32000	03443
	RPB	2	CHUKR+1		0808	02043	03442	75	30002	03444
CHUKR	TP	FILL	PAR1		0809	02044	03443	11	30000	03526
	TP	VI	SHRIP		0810	02045	03444	11	03712	03533
	TU	PAR2	LEAD		0811	02046	03445	15	03527	03462
	TV	PAR2	LEAD		0812	02047	03446	16	03527	03462
	RS	LEAD	VI		0813	02050	03447	23	03462	03712
	RPV	8	L+2		0814	02051	03450	75	10010	03452
	TU	SSAM	ALYYY		0815	02052	03451	15	03530	03452
ALYYY	TU	FILL	LEAD0		0816	02053	03452	15	30000	03503
	TV	FILL	CRAWF		0817	02054	03453	16	30000	03463
	TV	FILL	LONG1		0818	02055	03454	16	30000	03475
	TV	FILL	LONG6		0819	02056	03455	16	30000	03477
	TV	FILL	LONG7		0820	02057	03456	16	30000	03501
	TV	FILL	LEAD4		0821	02058	03457	16	30000	03504
	TV	FILL	HUDIE		0822	02059	03460	16	30000	03510
	TV	FILL	HUDI7		0823	02062	03461	16	30000	03512
LEAD	FS	FILL	FILL		0824	02063	03462	65	30000	30000
CRAWF	TP	Q	FILL		0825	02064	03463	11	31000	30000
	TU	PAR1	BELLY		0826	02065	03464	15	03526	03465
BELLY	SP	FILL	0000		0827	02066	03465	31	30000	00000

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IDA	ZJ	IDA	LEAD0	0827	02097	03466	47	03467	03503
	TU	PAR1	IRENE	0828	02070	03467	15	03526	03471
	SP	V1	0000	0829	02071	03470	31	03712	00000
IRENE	EJ	FILL	LEAD1	0830	02072	03471	43	30000	03506
	TV	PAR1	LONG4	0831	02073	03472	16	03526	03476
	TU	PAR2	LONG3	0832	02074	03473	15	03527	03475
	TV	PAR2	LONG5	0833	02075	03474	16	03527	03475
LONG3	FM	FILL	FILL	0834	02076	03475	66	30000	30000
LONG4	FM	Q	FILL	0835	02077	03476	66	31000	30000
LONG6	FM	Q	FILL	0836	02100	03477	66	31000	30000
	FM	Q	F2	0837	02101	03500	66	31000	03747
LONG7	TP	Q	FILL	0838	02102	03501	11	31000	30000
	MJ		BAYOU	0839	02103	03502	45	00000	03513
LEAD0	FD	FILL	F2	0840	02104	03503	67	30000	03747
LEAD4	TP	Q	FILL	0841	02105	03504	11	31000	30000
	MJ		BAYOU	0842	02106	03505	45	00000	03513
LEAD1	TU	PAR2	HUOIE	0843	02107	03506	15	03527	03510
	TV	PAR1	HUOIE	0844	02110	03507	16	03526	03511
HUOIE	FM	FILL	FILL	0845	02111	03510	66	30000	30000
HUOIE	FM	Q	FILL	0846	02112	03511	66	31000	30000
HUOIE7	TP	Q	FILL	0847	02113	03512	11	31000	30000
BAYOU	SP	SHRIP	0000	0848	02114	03513	31	03533	00000
	ZJ	GUMBO	GTOUT	0849	02115	03514	47	03515	03522
GUMBO	TP	VO	SHRIP	0850	02116	03515	11	03741	03533
	RA	LEAD	UIV1	0851	02117	03516	21	03462	03731
	RPU	8	L+2		02120	03517	75	20010	03521
	RA	ALYYY	UI	0853	02121	03520	21	03452	03673
	MJ		ALYYY	0854	02122	03521	45	00000	03452
GTOUT	RA	UEL2	V2	0855	02123	03522	21	03437	03713
	FA	DELVM	DELVP	0856	02124	03523	64	03536	03534
	TP	Q	DELVT	0857	02125	03524	11	31000	03535
	MJ		DELV2	0858	02126	03525	45	00000	03437
PAR1				0859	02127	03526	00	00000	00000
PAR2				0860	02130	03527	00	00000	00000
SSAM		SAM62		0861	02131	03530	00	03531	00000
SAM62		DELVM	DELVM	0862	02132	03531	00	03536	03536
SAM63		DELVP	DELVP	0863	02133	03532	00	03534	03534
SHRIP				0864	02134	03533	00	00000	00000
DELVP				0865	02135	03534	00	00000	00000
DELVT				0866	02136	03535	00	00000	00000
DELVM				0867	02137	03536	00	00000	00000
APE	0	0000	0000	0072	02140	03537	00	00000	00000
AAA	0	0000	0000	0073	02141	03540	00	00000	00000
AARON	0	0000	0000	0074	02142	03541	00	00000	00000
ALLI	0	0000	0000	0075	02143	03542	00	00000	00000
BUTST	0	0000	0000	0076	02144	03543	00	00000	00000
BUILD	0	0000	0000	0077	02145	03544	00	00000	00000
BBB	0	0000	0000	0078	02146	03545	00	00000	00000
COBRA	0	0000	0000	0079	02147	03546	00	00000	00000
CCC	0	0000	0000	0080	02130	03547	00	00000	00000
CCNT	0	0000	0000	0081	02131	03550	00	00000	00000
CSET	0	0000	C1	0082	02132	03551	00	00000	03552
C1	0	0000	0000	0083	02133	03552	00	00000	00000
C2	0	0000	0000	0084	02134	03553	00	00000	00000
C3	0	0000	0000	0085	02135	03554	00	00000	00000
COPE1	0	0000	1000	0086	02136	03555	00	00000	00000
DRUM1	0	0000	1000	0087	02137	03556	00	00000	00000
DIFF	0	0000	0000	0088	02100	03557	00	00000	00000
DIFF1	0	0000	0000	0089	02161	03560	00	00000	00000
DIFF2	0	0000	0000	0090	02102	03561	00	00000	00000

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DIFF3	0	0000	0000	0091	02163	03562	00	00000	00000	NOP
DIFF4	0	0000	0000	0092	02164	03563	00	00000	00000	NOP
DIFF5	0	0000	0000	0093	02165	03564	00	00000	00000	NOP
DEN	0	0000	0000	0094	02166	03565	00	00000	00000	NOP
DUKE	MJ	0000	BLOKS	0095	02167	03566	45	00000	02200	
DUMP	0	0000	0000	0096	02170	03567	00	00000	00000	NOP
E1					02171	03570	00	00000	00000	
E2					02172	03571	00	00000	00000	
E3					02173	03572	00	00000	00000	
EASY	0	0000	0000	0100	02174	03573	00	00000	00000	NOP
FLAGO	B	37777777777			02175	03574	37	77777	77777	
GEE	0	0000	0000	0102	02176	03575	00	00000	00000	NOP
GONE	0	0000	0000	0103	02177	03576	00	00000	00000	NOP
GIL	MJ	0000	BNUF2	0104	02200	03577	45	00000	02036	
HELL3	0	0000	0000	0105	02201	03600	00	00000	00000	NOP
HELL4	0	0000	0000	0106	02202	03601	00	00000	00000	NOP
INVBP	0	0000	0000	0107	02203	03602	00	00000	00000	NOP
ITEST	0	0000	0000	0108	02204	03603	00	00000	00000	NOP
I3CN	0	0000	0000	0109	02205	03604	00	00000	00000	NOP
II	0	0000	0000	0110	02206	03605	00	00000	00000	NOP
IIIII	0	0000	0000	0111	02207	03606	00	00000	00000	NOP
ICOUN	0	0000	0000	0112	02210	03607	00	00000	00000	NOP
JOHN	0	0000	0000	0113	02211	03610	00	00000	00000	NOP
JOE	0	0000	0000	0114	02212	03611	00	00000	00000	NOP
KIBMP	0	0000	0000	0115	02213	03612	00	00000	00000	NOP
JA7Z	0	0000	0000	0116	02214	03613	00	00000	00000	NOP
LOW0	0	0000	FO	0117	02215	03614	00	00000	03745	NOP
LOW1	0	0000	F1	0118	02216	03615	00	00000	03746	NOP
NXTIS					02217	03616	00	00000	00000	
BCOUNT					02220	03617	00	00000	00000	
LVO		VO	VO		02221	03620	00	03741	03741	
LCOSMO		COSMO	COSMO		02222	03621	00	02240	02240	
LLAMAD		LAMAD	LAMAD		02223	03622	00	02446	02446	
LBUEQ	RSRV	3	3		02224	03623				
LINDI		FILL	FILL		02227	03626	00	30000	30000	
		FILL	FILL		02230	03627	00	30000	30000	
		V1	V4		02231	03630	00	03712	03715	
LDESC	RSRV	3	3		02232	03631				
LLAM	RSRV	3	3		02235	03634				
LCAP	RSRV	3	3		02240	03637				
LFISS	RSRV	3	3		02243	03642				
LEIN	RSRV	3	3		02246	03645				
NLK	0	0000	0000	0143	02221	03650	00	00000	00000	NOP
NLK1	0	0000	0000	0144	02222	03651	00	00000	00000	NOP
NLK2	0	0000	0000	0145	02223	03652	00	00000	00000	NOP
NLK3	0	0000	0000	0146	02224	03653	00	00000	00000	NOP
UNITS	F	1	-24		02225	03654	06	14653	70246	
PI	F	3,1415927			02226	03655	20	26220	77327	
QUAIL	0	0000	0000	0147	02227	03656	00	00000	00000	NOP
ROBIN	0	0000	0000	0148	02228	03657	00	00000	00000	NOP
RUBIO	0	0000	0000	0149	02229	03660	00	00000	00000	NOP
SHELD	0	0000	0000	0150	02232	03661	00	00000	00000	NOP
SUMC	0	0000	0000	0151	02233	03662	00	00000	00000	NOP
SUMF	0	0000	0000	0152	02234	03663	00	00000	00000	NOP
SIG	0	0000	0000	0153	02235	03664	00	00000	00000	NOP
SIG1	0	0000	0000	0154	02236	03665	00	00000	00000	NOP
SIG2	0	0000	0000	0155	02237	03666	00	00000	00000	NOP
SIG3	0	0000	0000	0156	02240	03667	00	00000	00000	NOP
SIG4	0	0000	0000	0157	02271	03670	00	00000	00000	NOP
TEMP8	0	0000	0000	0158	02272	03671	00	00000	00000	NOP

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WHIZ	0	0000	0000	0159	02273	03672	00	00000	00000	NOP
U1		1			02274	03673	00	00001	00000	
U2		2			02275	03674	00	00002	00000	
U3		3			02276	03675	00	00003	00000	
U4		4			02277	03676	00	00004	00000	
U5		5			02300	03677	00	00005	00000	
U6		6			02301	03700	00	00006	00000	
U7		7			02302	03701	00	00007	00000	
U8		8			02303	03702	00	00010	00000	
U9		9			02304	03703	00	00011	00000	
U10		10			02305	03704	00	00012	00000	
U11		11			02306	03705	00	00013	00000	
U12		12			02307	03706	00	00014	00000	
U13		13			02310	03707	00	00015	00000	
U14		14			02311	03710	00	00016	00000	
U15		15			02312	03711	00	00017	00000	
V1			1		02313	03712	00	00000	00001	
V2			2		02314	03713	00	00000	00002	
V3			3		02315	03714	00	00000	00003	
V4			4		02316	03715	00	00000	00004	
V5			5		02317	03716	00	00000	00005	
V6			6		02320	03717	00	00000	00006	
V7			7		02321	03720	00	00000	00007	
V8			8		02322	03721	00	00000	00010	
V9			9		02323	03722	00	00000	00011	
V10			10		02324	03723	00	00000	00012	
V11			11		02325	03724	00	00000	00013	
V12			12		02326	03725	00	00000	00014	
V13			13		02327	03726	00	00000	00015	
V14			14		02330	03727	00	00000	00016	
V15			15		02331	03730	00	00000	00017	
U1V1		1	1		02332	03731	00	00001	00001	
U2V2		2	2		02333	03732	00	00002	00002	
U3V3		3	3		02334	03733	00	00003	00003	
U4V4		4	4		02335	03734	00	00004	00004	
U5V5		5	5		02336	03735	00	00005	00005	
U4V2		4	2		02337	03736	00	00004	00002	
U6V3		6	3		02340	03737	00	00006	00003	
U2V1		2	1		02341	03740	00	00002	00001	
V0					02342	03741	00	00000	00000	
V19			19		02343	03742	00	00000	00023	
U1V2		1	2		02344	03743	00	00001	00002	
U1V3		1	3		02345	03744	00	00001	00003	
F0	F				02346	03745	00	00000	00000	
F1	F	1			02347	03746	20	14000	00000	
F2	F	2			02350	03747	20	24000	00000	
UUU1	B	001000000000			02351	03750	00	10000	00000	
V7777B	B	000000000777			02352	03751	00	00000	0777	
DLSEF	B	020006400001			02353	03752	02	00064	00001	
KDLS	RPB		DL SJ		02354	03753	75	30000	02126	
LDLSSF		DLSSF	DLSSF		02355	03754	00	02130	02130	
L0LS1		DL S1	DL S1		02356	03755	00	03756	03756	
DL S1		LBRMX	LBRMX	BR	02357	03756	00	00175	00175	
DL S2		LSFKI	LSFKI	SI	02358	03757	00	00167	00167	
DL S3		LENGY	LENGY	I+3	02359	03760	00	00131	00131	
DL S4		LPHKI	LPHKI	RI+2	02362	03761	00	00200	00200	
DL S5		LISOP	LISOP	B	02363	03762	00	00126	00126	
DL S6		LREGN	LREGN		02364	03763	00	00145	00145	
DL S7		LMESH	LMESH		02365	03764	00	00172	00172	
BR					02366	03765	00	00000	00000	

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SI			02307	03766	00	00000	00000
IPLS3			02310	03767	00	00000	00000
N3			02311	03770	00	00000	00000
RIPS2			02312	03771	00	00000	00000
DUMP88			02313	03772	00	00000	00000
KONRE#	B	020020000000	02314	03773	02	00200	00000
VARBL		LBRMX	02315	03774	00	00175	00175
		B	02316	03775	00	00013	00014
		VO	02317	03776	00	03741	03741
		LBUEQ	02400	03777	00	03623	03623
		B	02401	04000	00	00013	00014
		VO	02402	04001	00	03741	03741
		LINDI	02403	04002	00	03626	03626
		V1	02404	04003	00	03712	03715
		VO	02405	04004	00	03741	03741
		LDESC	02406	04005	00	03631	03631
		V1	02407	04006	00	03712	03742
		VO	02410	04007	00	03741	03741
		LLAM	02411	04010	00	03634	03634
		V1	02412	04011	00	03712	03722
		VO	02413	04012	00	03741	03741
		LAKRK	02414	04013	00	00134	00134
		V1	02415	04014	00	03712	03600
		VO	02416	04015	00	03741	03741
		LCAP	02417	04016	00	03637	03637
		V1	02420	04017	00	03712	03601
		VO	02421	04020	00	03741	03741
		LFISS	02422	04021	00	03642	03642
		V1	02423	04022	00	03712	03601
		VO	02424	04023	00	03741	03741
		LEIN	02425	04024	00	03645	03645
		I	02426	04025	00	00012	03723
		VO	02427	04026	00	03741	03741
		LSFKI	02428	04027	00	00167	00167
		S	02431	04030	00	00015	00012
		VO	02432	04031	00	03741	03741
		LENGY	02433	04032	00	00131	00131
		V1	02434	04033	00	03712	03767
		VO	02435	04034	00	03741	03741
		LPHKI	02436	04035	00	00200	00200
		V1	02437	04036	00	03712	03771
		VO	02440	04037	00	03741	03741
		LISOP	02441	04040	00	00126	00126
		V1	02442	04041	00	03712	00013
		VO	02443	04042	00	03741	03741
		LREGN	02444	04043	00	00145	00145
		V1	02445	04044	00	03712	00014
		VO	02446	04045	00	03741	03741
		LMESH	02447	04046	00	00172	00172
		V1	02450	04047	00	03712	03770
		VO	02451	04050	00	03741	03741
	B	37777777/777	02452	04051	37	77777	77777
VBL1	00	LNTN	02453	04052	00	04061	04061
	00	V1	02454	04053	00	03712	04102
	00	VO	02455	04054	00	03741	03741
	00	LVARVL	02456	04055	00	04064	04064
	00	B	02457	04056	00	00013	00014
	00	VO	02460	04057	00	03741	03741
LNTN	B	37777777/777	02461	04060	37	77777	77777
	RSRV	3	02462	04061			

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LVARVL	RSRV	3	3	02405	04064		
UIV5	00	1	5	02410	04067	00	00001 00005
U2V4	00	2	4	02411	04070	00	00002 00004
U5V1	00	5	1	02412	04071	00	00005 00001
U5V2	00	5	2	02413	04072	00	00005 00002
FL1HAF	F	.5		02414	04073	20	04000 00000
FL512S	F	.41666667		02415	04074	17	76525 22254
FL38TH	F	.375		02416	04075	17	76000 00000
FP20	F	20.0		02417	04076	20	55000 00000
NMIN	F	.000017		02500	04077	16	14351 54707
INDT	F	10000.		02501	04100	21	64704 00000
EP55	F			02502	04101	00	00000 00000
5BRP3	B			02503	04102	00	00000 00000
REWIND	B	020020000000		02504	04103	02	00200 00000
WKGSTG	RSRV	10	10	02505	04104		
LLAST			LAST	02517	04116	00	00000 04117
LAST	XS3	DMM 11		02520	04117	27	47470 00404
	SETL		1081				
IDEN				02521	00010	00	00000 00000
N				02522	00011	00	00000 00000
I				02523	00012	00	00000 00000
B				02524	00013	00	00000 00000
R		0000	0000	0006	02525	00014	00 00000 00000
S		0000	0000	0007	02526	00015	00 00000 00000
Y					02527	00016	00 00000 00000
INF1		0000	0000	0008	02520	00017	00 00000 00000
INF2		0000	0000	0009	02521	00020	00 00000 00000
INF3		0000	0000	0010	02522	00021	00 00000 00000
INF4		0000	0000	0011	02523	00022	00 00000 00000
INF5		0000	0000	0012	02524	00023	00 00000 00000
INF6		0000	0000	0013	02525	00024	00 00000 00000
INF7		0000	0000	0014	02526	00025	00 00000 00000
INF8		0000	0000	0015	02527	00026	00 00000 00000
INF9		0000	0000	0016	02520	00027	00 00000 00000
INF10		0000	0000	0017	02541	00030	00 00000 00000
INF11		0000	0000	0018	02542	00031	00 00000 00000
INF12		0000	0000	0019	02543	00032	00 00000 00000
RHO		0000	0000	0020	02544	00033	00 00000 00000
VARI				0021	02545	00034	00 00000 00000
KKK				0022	02546	00035	00 00000 00000
NOM		0000	0000		02547	00036	00 00000 00000
PSUB0	F	3.12	13		02520	00037	00 00000 00000
YSUBX	F	3	-3		02521	00040	00 00000 00000
YSUBI	F	5.6	-2		0023	02522	00 00000 00000
YSUBP	F	1.4	-2		02523	00041	00 00000 00000
LAMXE	F	2.1	-5		02523	00042	25 57060 12073
LAMI	F	2.9	-5		02524	00043	17 06111 56457
LAMPR	F	4.1	-6		02525	00044	17 47126 01014
RZERO	F				02526	00045	17 27126 01014
TIME	F				02527	00046	16 15402 44501
EPSIL	F	.00001			02520	00047	16 17464 24065
EPS2	F	.00001			02501	00050	15 74231 12733
EPS3	F	.00001			02502	00051	00 00000 00000
EPS4	F	.00001			02503	00052	00 00000 00000
KO	F	1.0			02504	00053	00 00000 00000
OMEGA	F				02505	00054	16 05174 26542
					02506	00055	16 05174 26542
					02507	00056	16 05174 26542
					02510	00057	16 05174 26542
					02511	00060	20 14000 00000
					02512	00061	00 00000 00000

INITIAL DELTA T.

EF CODE REWIND.

FX-CHANGE CON+MESH+PB  
FX-REGION INDEX  
FX-ISOTOPE INDEX

FISSIONS-KW+SEC  
XE135 ATOMS-FISSION  
I135 ATOMS-FISSION  
PR149 ATOMS-FISSION  
PROB-SEC DECAY XE135  
PROB-SEC DECAY I135  
PROB-SEC DECAY PR149

0 FIRST MESH POINT  
0 CURRENT TIME  
.00001 CONV CRIT REAC  
.00001 CONV CRIT POWER  
.00001 CONV CRIT KZERO  
.00001  
1.0 DESIRED REACTIVITY  
DIFF. ACCEL. FACTOR

TABLE V-2I  
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DZDK	F	1.0		DZ-DK FIRST GUESS	02573	00062	20	14000	00000
		0000	0000		0036	02574	00063	00	00000
QQ	F			POWER DENSITY KW-CM3	02575	00064	00	00000	00000
DELTS	F			TIME SINCE SHUTDOWN SEC	02576	00065	00	00000	00000
DTMAX	F				02577	00066	00	00000	00000
					02600	00067	00	00000	00000
TAPE1	B	1		PROGRAM TAPE	02601	00070	00	00000	00001
TAPE2	B	2		BASIC LIBRARY TAPE	02602	00071	00	00000	00002
TAPE3	B	3		MICRO GROUP TAPE NEW	02603	00072	00	00000	00003
TAPE4	B	4		NUCLEAR CONSTANT TAPE	02604	00073	00	00000	00004
TAPE5	B	5		MICRO GROUP TAPE OLD	02605	00074	00	00000	00005
TAPE6	B	6		RAW DATA TAPE	02606	00075	00	00000	00006
TAPE7	B	7		INTERMEDIATE TAPE	02607	00076	00	00000	00007
TAPE8	B	10		OUTPUT TAPE	02610	00077	00	00000	00010
TAPE9	B	11		DUMP TAPE	02611	00100	00	00000	00011
TAPE10	B	12		DMM SERVICE LIBRARY	02612	00101	00	00000	00012
		0000	0000		0045	02613	00102	00	00000
DIA1		0000	0000		0046	02614	00103	00	00000
DIA2		0000	0000		0047	02615	00104	00	00000
DIA3		0000	0000		0048	02616	00105	00	00000
DIA4		0000	0000		0049	02617	00106	00	00000
DIA5		0000	0000		0050	02620	00107	00	00000
DIA6		0000	0000		0051	02621	00110	00	00000
DIA7		0000	0000		0052	02622	00111	00	00000
DIA8		0000	0000		0053	02623	00112	00	00000
DIA9		0000	0000		0054	02624	00113	00	00000
DIA10		0000	0000		0055	02625	00114	00	00000
DIA11		0000	0000		0056	02626	00115	00	00000
DIA12		0000	0000		0057	02627	00116	00	00000
DIA13		0000	0000		0058	02630	00117	00	00000
DIA14		0000	0000		0059	02631	00120	00	00000
DIA15		0000	0000		0060	02632	00121	00	00000
DIA16		0000	0000		0061	02633	00122	00	00000
DIA17		0000	0000		0062	02634	00123	00	00000
DIA18		0000	0000		0063	02635	00124	00	00000
						02636	00125	00	00000
LISOP	RSRV	3	3			02637	00126		
LENGY	RSRV	3	3			02642	00131		
LAKBK	RSRV	3	3			02645	00134		
LROIF	RSRV	3	3			02650	00137		
LPTS	RSRV	3	3			02653	00142		
LREGN	RSRV	3	3			02656	00145		
LBSUO	RSRV	3	3			02661	00150		
LBSUN	RSRV	3	3			02664	00153		
LPMT	RSRV	3	3			02667	00156		
LCAPP	RSRV	3	3			02672	00161		
LPBKI	RSRV	3	3			02675	00164		
LSFKI	RSRV	3	3			02700	00167		
LMESH	RSRV	3	3			02703	00172		
LBRMX	RSRV	3	3			02706	00175		
LPHKI	RSRV	3	3			02711	00200		
LNSMT	RSRV	3	3			02714	00203		
LNKET	RSRV	3	3			02717	00206		
LCAPD	RSRV	3	3			02722	00211		
LCAPT	RSRV	3	3			02725	00214		
LCPTI	RSRV	3	3			02730	00217		
LCAPF	RSRV	3	3			02733	00222		
LXKI	RSRV	3	3			02736	00225		
LMFKI	RSRV	3	3			02741	00230		
LPDIF	RSRV	3	3			02744	00233		

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LKPXE	RSRV	3	3	02747	00236			
LLKIA	RSRV	3	3	02752	00241			
LLKIB	RSRV	3	3	02755	00244			
LNFKI	RSRV	3	3	02760	00247			
LNLP	RSRV	3	3	02763	00252			
LNSKI	RSRV	3	3	02766	00255			
LNDKI	RSRV	3	3	02771	00260			
LNFP	RSRV	3	3	02774	00263			
LNCKI	RSRV	3	3	02777	00266			
LNPKI	RSRV	3	3	03002	00271			
LNKE	RSRV	3	3	03005	00274			
LNKL	RSRV	3	3	03010	00277			
LSHUF	RSRV	3	3	03013	00302			
CRCO1	B			03016	00305			
Z3	RSRV	3	3	03021	00310	00	00000	00000
Z2	RSRV	3	3	03022	00311			
Z1	RSRV	3	3	03025	00314			
Z				03030	00317			
DELTA	F			03033	00322	00	00000	00000
MU				03034	00323	00	00000	00000
BLOCK	B			03035	00324	00	00000	00000
NDCI	B			03036	00325	00	00000	00000
MNO01	B			03037	00326	00	00000	00000
MNO02	B			03040	00327	00	00000	00000
SUBR	RSRV	9	9	03041	00330	00	00000	00000
MLM1	RSRV	4	4	03042	00331			
URUM	B			03053	00342			
MINCE	B			03057	00346	00	00000	00000
ISO				03060	00347	00	00000	00000
MARK1				03061	00350	00	00000	00000
MARK2				03062	00351	00	00000	00000
K3				03063	00352	00	00000	00000
STAGAT				03064	00353	00	00000	00000
INDEXS				03065	00354	00	00000	00000
DTWICE				03066	00355	00	00000	00000
ADMCFE	RSRV	3	3	03067	00356	00	00000	00000
1STBP				03070	00357			
DELTA				03073	00362	00	00000	00000
LDKI	EQLS	LCAPD		03074	00363	00	00000	00000
LTKI	EQLS	LCAPT						
LTKIJ	EQLS	LCPTI						
LFKI	EQLS	LCAPF						
LMKI	EQLS	LMFKI						
BK	EQLS	SUBR+3						
BK2	EQLS	SUBR+5						
BRITE	EQLS	SUBR+6						
WR2	EQLS	SUBR+8						
ALLOK	EQLS	SUBR						
ALL2	EQLS	SUBR+2						
END							00000	00000

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TABLE V-2J

CRITICALITY

	SETL	1	1400R1		00001	01400	27	47470	00405
	X53	DMM. 12			00002	01401	45	00000	01404
CRTCAL	MJ		L+3		00003	01402	56	00000	00000
	MS				00004	01403	45	00000	30000
	TP	N	FILL		00005	01404	11	00011	02147
	RA	N3	V3		00006	01405	21	02147	02127
	TP	MINCE	CORE1	ALLOCATE	00007	01406	11	00347	02140
	RJ	ALL2	ALLOK	FOR ISOP	00010	01407	37	00353	00331
		CORE1	DRUM1	VECTOR	00011	01410	00	02140	02141
			FILL		00012	01411	00	01413	30000
IARBL	MJ	IARBL	GU		00013	01412	45	00000	01436
		0000	LISOP		00014	01413	00	00126	00126
	VI	LISOP	B		00015	01414	00	02130	00013
		ZERO	ZERO		00016	01415	00	02125	02125
		LRDIR	LRDIR		00017	01416	00	00137	00137
	VI		R		00020	01417	00	02130	00014
		ZERO	ZERO		00021	01420	00	02125	02125
		LPTS	LPTS		00022	01421	00	00142	00142
	VI		R		00023	01422	00	02130	00014
		ZERO	ZERO		00024	01423	00	02125	02125
		LREGN	LREGN		00025	01424	00	00145	00145
	VI		R		00026	01425	00	02130	00014
		ZERO	ZERO		00027	01426	00	02125	02125
		LMESH	LMESH		00030	01427	00	00172	00172
	VI		N3		00031	01430	00	02130	02147
		ZERO	ZERO		00032	01431	00	02125	02125
		LPBKI	LPBKI		00033	01432	00	00164	00164
			I		00034	01433	00	00014	00012
		ZERO	ZERO		00035	01434	00	02125	02125
	B	7777777/777			00036	01435	37	77777	77777
GO	SP	K3	0000	TEST	00037	01436	31	00353	00000
	ZJ	CC105	CC0	K3	00040	01437	47	01532	01440
CC0	TP	ZERO	CRCO1		00041	01440	11	02125	00310
	TP	ZERO	Z0		00042	01441	11	02125	02126
	TP	UZDK	DELTA		00043	01442	11	00062	00323
	TP	VI	K3	SET K3	00044	01443	11	02130	00353
	SP	VARI	0000	IS VARI	00045	01444	31	00036	00000
	RS	A	VI	1	00046	01445	23	32000	02130
	ZJ	CC1	DC12	NO YES	00047	01446	47	01447	01454
CC1	RS	A	VI	2	00050	01447	23	32000	02130
	ZJ	CC2	CC7	NO YES	00051	01450	47	01451	01514
CC2	RS	A	VI	3	00052	01451	23	32000	02130
	ZJ	CC3	CC10	NO YES	00053	01452	47	01453	01527
CC3	MS		CC3		00054	01453	56	00000	01453
DC12	TU	CCC9	DC13		00055	01454	15	02123	01456
	RA	DC13	UI		00056	01455	21	01456	02131
DC13	TU	FILL	DC14		00057	01456	15	30000	01463
	TV	LISOP	DC14		00059	01457	16	00126	01463
	SP	B	15		00061	01460	31	00013	00017
	AT	CCR	DC135		00062	01461	35	02122	01462
DC135	RFB	U	DC14+1		00063	01462	75	30000	01464
DC14	TP	FILL	FILL		00064	01463	11	30000	30000
	TU	LISOP	CC405	GET CODE	00065	01464	15	00126	01467
	TP	VI	ISOCT	NUMBER	00066	01465	11	02130	02143
CC404	SP	NOM	0000	FOR	00067	01466	31	00040	00000
CC405	EJ	FILL	CC407	ISOTOPE	00070	01467	43	30000	01476
	RA	CC405	UI	IN NOM	00071	01470	21	01467	02131
	RA	ISOCT	VI	AND STORE	00072	01471	21	02143	02130
	TP	B	CCTP1	IN ISOCT	00073	01472	11	00013	02133

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	RS	CCTP1	ISOCT		00074	01473	23	02133	02143
	SJ	CC406	CC404		00075	01474	46	01475	01466
CC406	MS		CC406		00076	01475	36	00000	01475
CC407	TU	CCC1	CC5	CHANGE	00077	01476	15	02113	01500
	RA	CC5	UI	CONCENTRA	00100	01477	21	01500	02131
CC5	TU	FILL	CC6	TION	00101	01500	15	30000	01512
	TP	ISOCT	CCTP1		00102	01501	11	02143	02133
	RS	CCTP1	VI		00103	01502	23	02133	02130
	MP	K	CCTP1		00104	01503	71	00014	02133
	AT	KKK	A		00105	01504	35	00037	32000
	ST	VI	A		00106	01505	36	02130	32000
	LTR	IS	A		00107	01506	22	10017	32000
	RA	A	CC6		00110	01507	21	32000	01512
CC501	TP	A	CC6		00111	01510	11	32000	01512
CC6	RJ	L	L+1		00112	01511	37	01511	01512
	TP	FILL	Z		00113	01512	11	30000	00322
	MJ	0000	CC11		00114	01513	45	00000	01555
CC7	TU	CCC2	CC8	CHANGE	00115	01514	15	02174	01516
	RA	CC8	UI	DELTA R	00116	01515	21	01516	02131
CC8	TU	FILL	CC9		00117	01516	15	30000	01525
	SP	KKK	0000		00120	01517	31	00037	00000
	RS	A	VI		00121	01520	23	32000	02130
	LTR	IS	A		00122	01521	22	10017	32000
	RA	A	CC9		00123	01522	21	32000	01525
	TP	A	CC9		00124	01523	11	32000	01525
CC801	RJ	L	L+1		00125	01524	37	01524	01525
CC9	TP	FILL	Z		00126	01525	11	30000	00322
	MJ	0000	CC11		00127	01526	45	00000	01555
CC10	RJ	L	L+1		00130	01527	37	01527	01530
	TP	F	Z		00131	01530	11	02132	00322
	MJ	0000	CC11		00132	01531	45	00000	01555
CC105	TV	L1054	CC501		00133	01532	16	02157	01511
	TV	L1054	CC801		00134	01533	16	02157	01524
	TV	L1054	CC10		00135	01534	16	02157	01527
	MJ		CC0+4		00136	01535	45	00000	01444
	FS	MU	K1	COMPUTE	00137	01536	65	00324	00320
	TP	Q	CCTP1	DELTA	00140	01537	11	31000	02133
	TM	CCTP1	CCTP2		00141	01540	12	02133	02134
	FS	DELK	CCTP2	IS DENO	00142	01541	65	02150	02134
	TP	Q	A	TOO SM	00143	01542	11	31000	32000
	SJ	CC107	CC106	NO. YES	00144	01543	46	01551	01544
CC106	TP	CCTP1	A		00145	01544	11	02133	32000
	SJ	CC108	CC109		00146	01545	46	01546	01550
CC108	TN	DELK	CCTP1		00147	01546	13	02150	02133
	MJ	0	CC107		00150	01547	45	00000	01551
CC109	TP	DELK	CCTP1		00151	01550	11	02150	02133
CC107	FS	Z	Z1		00152	01551	65	00322	00317
	FD	Q	CCTP1		00153	01552	67	31000	02133
	TP	Q	DELTA		00154	01553	11	31000	00323
	MJ	0000	CC11		00155	01554	45	00000	01555
CC11	RPB	7	CC111+1		00156	01555	75	30007	01557
CC111	TP	Z2	Z3		00157	01556	11	00314	00311
	FS	MU	K0	K MINUS K0	00160	01557	65	00324	00060
	TP	MU	Z1+1		00161	01560	11	00324	00320
	TP	DELTA	Z1+2		00162	01561	11	00323	00321
	TM	Q	CCTP1	COMPARE	00163	01562	12	31000	02133
	MS2		L+1	WITH	00164	01563	56	20000	01564
	FS	EPS3	CCTP1	EPSILON 3	00165	01564	65	00056	02133
	TP	Q	A		00166	01565	11	31000	32000
	SJ	CC13	CC12		00167	01566	46	01573	01567

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TABLE V-2J

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CC12	RA	CRC01	V1	LESS THAN	00170	01567	21	00310	02130
	TP	ZERO	K3	SET K3 TOO	00171	01570	11	02125	00353
	TP	M1	Q	EXIT TO	00172	01571	11	02144	31000
	MJ		CNTCAL+2	PRINT END	00173	01572	45	00000	01403
CC13	FS	K0	K1		00174	01573	65	00060	00320
	FM	Q	DELTA		00175	01574	66	31000	00323
	FA	Q	Z1		00176	01575	64	31000	00317
	TP	Q	Z		00177	01576	11	31000	00322
	FS	NEARO	Z		00200	01577	65	02136	00322
	TP	Q	A		00201	01600	11	31000	32000
	SJ	CC17	CC14		00202	01601	46	01610	01602
CC14	TP	NEARO	Z	SET Z TO 0	00203	01602	11	02136	00322
	SP	40	0000		00204	01603	31	02126	00000
	ZJ	CC15	CC16		00205	01604	47	01605	01606
CC15	MS		CC15	Z STILL 0	00206	01605	58	00000	01605
CC16	TP	V1	Z0	SET Z0 TO1	00207	01606	11	02130	02126
	MJ	0000	CC18		00210	01607	45	00000	01611
CC17	TP	ZERO	Z0	SET Z0 TOO	00211	01610	11	02125	02126
CC18	RA	CRC01	V1		00212	01611	21	00310	02130
	TP	CRC01	A		00213	01612	11	00310	32000
	RS	A	V3	IS C 3	00214	01613	23	32000	02127
	SJ	CC21	CC19		00215	01614	46	01617	01615
CC19	ZJ	CC20	CC22	NOT LESS	00216	01615	47	01616	01621
CC20	MS		CC20	GREATER	00217	01616	56	00000	01616
CC21	TV	CCC3	SWX	LESS	00220	01617	16	02115	02106
	MJ	0000	CC25		00221	01620	45	00000	01673
CC22	TP	Z1	Z1R	SHOULD	00222	01621	11	00317	02152
	TP	Z2	Z2R	AITKENS	00223	01622	11	00314	02153
	TP	Z3	Z3R	METHOD	00224	01623	11	00311	02154
	RA	Z1R	RND1	BE USED	00225	01624	21	02152	02151
	RA	Z2R	RND1		00226	01625	21	02153	02151
	RA	Z3R	RND1		00227	01626	21	02154	02151
	SP	Z1R	0000		00230	01627	31	02152	00000
	LTL	Z4	A		00231	01630	22	00030	32000
	LTR	12	Z1R		00232	01631	22	10014	02152
	SP	Z2R	0000		00233	01632	31	02153	00000
	LTL	Z4	A		00234	01633	22	00030	32000
	LTR	12	Z2R		00235	01634	22	10014	02153
	SP	Z3R	0000		00236	01635	31	02154	00000
	LTL	Z4	A		00237	01636	22	00030	32000
	LTR	12	Z3R		00240	01637	22	10014	02154
	FS	Z1R	Z2R		00241	01640	65	02152	02153
	SP	Q	0000		00242	01641	31	31000	00000
	ZJ	CC221	CC24	NO	00243	01642	47	01643	01672
CC221	FS	Q	Z2R		00244	01643	65	31000	02153
	FA	Q	Z3R		00245	01644	64	31000	02154
	SP	Q	0000		00246	01645	31	31000	00000
	ZJ	CC222	CC24	YES NO	00247	01646	47	01647	01672
CC222	FS	Z1	Z2	USE	00250	01647	65	00317	00314
	TP	Q	CCTP1	AITKENS	00251	01650	11	31000	02133
	FS	Q	Z2	METHOD	00252	01651	65	31000	00314
	FA	Q	Z3	FOR NEXT	00253	01652	64	31000	00311
	TP	Q	CCTP2	Z	00254	01653	11	31000	02134
	TP	CCTP1	A		00255	01654	11	02133	32000
	SJ	CC223	CC224		00256	01655	46	01656	01660
CC223	TP	CCTP2	A		00257	01656	11	02134	32000
	SJ	CC24	CC225	DONT DO	00260	01657	46	01672	01662
CC224	TP	CCTP2	A		00261	01660	11	02134	32000
	SJ	CC225	CC24	DO DONT	00262	01661	46	01662	01672
CC225	FM	CCTP1	CCTP1		00263	01662	66	02133	02133

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	FD	Q	CCTP2		00204	01663	67	31000	02134
	FS	Q	Z1		00205	01664	65	31000	00317
	TN	Q	Z		00206	01665	13	31000	00322
	FS	Z	NEARO		00207	01666	65	00322	02136
	TP	Q	A		00210	01667	11	31000	32000
	SJ	CC23	CC28		00211	01670	46	01671	01672
CC23	TP	NEARO	Z	SET Z TO 0	00212	01671	11	02136	00322
CC24	TV	CCC4	SWX		00213	01672	16	02116	02106
CC25	SP	VARI	0000	IS VARI	00214	01673	31	00036	00000
	RS	A	VI	I	00215	01674	23	32000	02130
	ZJ	CC26	CC29	NO YES	00216	01675	47	01676	01703
CC26	RS	A	VI	2	00217	01676	23	32000	02130
	ZJ	CC27	CC36	NO YES	00300	01677	47	01700	01726
CC27	RS	A	VI	3	00301	01700	23	32000	02130
	ZJ	CC28	CC28	NO YES	00302	01701	47	01702	02054
CC28	MS		CC28		00303	01702	36	00000	01702
CC29	TU	CCC5	CC30		00304	01703	15	02117	01705
	RA	CC30	UI		00305	01704	21	01705	02131
CC30	TV	FILL	CC32		00306	01705	16	30000	01712
	TV	CC32	CC33		00307	01706	16	01712	01716
	SP	N	15		00310	01707	31	00014	00017
	AT	CCC6	CC31		00311	01710	35	02120	01711
CC31	RPV	0	CC32+1	CLEAR N	00312	01711	75	10000	01713
CC32	TP	ZERO	FILL	VECTOR	00313	01712	11	02125	30000
	RA	CC33	KKK	AND 3	00314	01713	21	01716	00037
	RS	CC33	VI	STORE	00315	01714	23	01716	02130
	FS	Z	Z1	DELTA Z	00316	01715	65	00322	00317
CC33	TP	Q	FILL	IN IT	00317	01716	11	31000	30000
	TU	CC6	CCTP1	STORE Z	00320	01717	15	01512	02133
	LQ	CCTP1	Z1	IN	00321	01720	55	02133	00025
	TV	CCTP1	CC34	BRMX	00322	01721	16	02133	01722
CC34	TP	Z	FILL	MATRIX	00323	01722	11	00322	30000
	TP	ISOCY	ISO		00324	01723	11	02143	00350
	TP	ZERO	MARK1		00325	01724	11	02125	00351
	MJ	0008	SWX		00326	01725	45	00000	02106
CC36	TU	CC911	CCTP1	STORE Z	00327	01726	15	01525	02133
	LQ	CCTP1	Z1	IN	00330	01727	55	02133	00025
	TV	CCTP1	CC37	ROIF	00331	01730	16	02133	01731
CC37	TP	Z	FILL	VECTOR	00332	01731	11	00322	30000
DTOC	TU	CON10	DC1		00333	01732	15	02052	01734
	RA	DC1	U1		00334	01733	21	01734	02131
DC1	TU	FILL	DC3		00335	01734	15	30000	01741
	TV	LRDIE	DC3		00336	01735	16	00137	01741
	SP	R	15		00337	01736	31	00014	00017
	AT	K10	DC2		00340	01737	35	02050	01740
DC2	RPB	Q	DC4		00341	01740	75	30000	01742
DC3	TP	FILL	FILL		00342	01741	11	30000	30000
DC4	TU	CON11	DC5		00343	01742	15	02053	01744
	RA	DC5	U1		00344	01743	21	01744	02131
DC5	TU	FILL	DC7		00345	01744	15	30000	01751
	TV	LPTS	DC7		00346	01745	16	00142	01751
	SP	R	15		00347	01746	31	00014	00017
	AT	K11	DC6		00350	01747	35	02051	01750
DC6	RPB	Q	DC8		00351	01750	75	30000	01752
DC7	TP	FILL	FILL		00352	01751	11	30000	30000
DC8	RJ	NK2	NK		00353	01752	37	01756	01754
	MJ	0000	SWX		00354	01753	45	00000	02106
NK	MJ	0008	NK2A	COMPUTE	00355	01754	45	00000	01757
	MS	0008	NK2	R.AT.EACH	00356	01755	56	00000	01756
NK2	MJ	0000	FILL	MESH PT.	00357	01756	45	00000	30000

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NK2A	TU	LPTS	NK8		00300	01757	15	00142	02003
	TV	LROIF	NK6		00301	01760	16	00137	01775
	TV	LMESH	NK3	MESH INDEX	00302	01761	16	00172	01767
	TV	LMESH	NK7	IN EACH	00303	01762	16	00172	02000
	RA	NK7	VI		00304	01763	21	02000	02130
	TV	LREGN	NK9	REGION	00305	01764	16	00145	02006
	TP	NZERO	NKE3		00306	01765	11	00052	02042
	RPV	2	NK3+1		00307	01766	75	10002	01770
NK3	TP	NKE3	FILL	INITIAL R	00310	01767	11	02042	30000
	TP	ZERO	NKE1		00311	01770	11	02125	02040
		VI	NKE2		00312	01771	11	02130	02041
NK4	TP	VI	NKE4	INIT. COUNT	00313	01772	11	02130	02043
NK5	RA	NKE1	VI	INC. N	00314	01773	21	02040	02130
	RA	NK7	VI		00315	01774	21	02000	02130
NK6	FA	NKE3	FILL	INC. R	00316	01775	64	02042	30000
	TP	Q	NKE3		00317	01776	11	31000	02042
	RPV	2	NK7+1		00400	01777	75	10002	02001
NK7	TP	Q	FILL	STORE R	00401	02000	11	31000	30000
	SP	ZERO	0000		00402	02001	31	02125	00000
	TP	NKE4	A		00403	02002	11	02043	32000
NK8	EJ	FILL	NK9	LAST IN K	00404	02003	43	30000	02006
	AT	VI	NKE4	NO	00405	02004	35	02130	02043
	MJ		NK5		00406	02005	45	00000	01773
NK9	TP	NKE1	FILL	STORE	00407	02006	11	02040	30000
	SP	ZERO	0000		00410	02007	31	02125	00000
	TP	NKE2	A	NSUBK	00411	02010	11	02041	32000
	EJ	K	NK2B		00412	02011	43	00014	02017
	AT	VI	NKE2	LAST K	00413	02012	35	02130	02041
	RA	NK6	VI		00414	02013	21	01775	02130
	RA	NK8	UI		00415	02014	21	02003	02131
	RA	NK9	VI		00416	02015	21	02006	02130
	MJ	0000	NK4		00417	02016	45	00000	01772
NK2B	TU	CON12	NK2C		00420	02017	15	02044	02021
	RA	NK2C	UI		00421	02020	21	02021	02131
NK2C	TV	FILL	NK2E		00422	02021	16	30000	02026
	TU	LMESH	NK2E		00423	02022	15	00172	02026
	SP	N3	15		00424	02023	31	02147	00017
	AT	K12	NK2D		00425	02024	35	02046	02025
NK2D	RPB	0	NK2F		00426	02025	75	30000	02027
NK2E	TP	FILL	FILL		00427	02026	11	30000	30000
NK2F	TU	CON13	NK2G		00430	02027	15	02045	02031
	RA	NK2G	UI		00431	02030	21	02031	02131
NK2G	TV	FILL	NK2I		00432	02031	16	30000	02036
	TU	LREGN	NK2I		00433	02032	15	00145	02036
	SP	K	15		00434	02033	31	00014	00017
	AT	K13	NK2H		00435	02034	35	02047	02035
	RPB	0	NK2J		00436	02035	75	30000	02037
NK2H	TP	FILL	FILL		00437	02036	11	30000	30000
NK2J	MJ		NK2		00440	02037	45	00000	01756
NKE1		0000	0000	N	00441	02040	00	00000	00000
NKE2		0000	0000	K	00442	02041	00	00000	00000
NKE3		0000	0000	R	00443	02042	00	00000	00000
NKE4		0000	0000	COUNTER	00444	02043	00	00000	00000
CON12		LMESH	LMESH		00445	02044	00	00172	00172
CON13		LREGN	LREGN		00446	02045	00	00145	00145
K12	RPB	0	NK2F		00447	02046	75	30000	02027
K13	RPB	0	NK2J		00450	02047	75	30000	02037
K10	RPB	0	DC4		00451	02050	75	30000	01742
K11	RPB	0	DC8		00452	02051	75	30000	01752
CON10		LROIF	LROIF		00453	02052	00	00137	00137

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CON11		LPTS	LPTS		00424	02053	00	00142	00142
DC85	TU	CCC7	DC9	GET	00425	02054	15	02121	02056
	RA	DC9	U1	B SQ D	00426	02055	21	02056	02131
DC9	TU	FILL	DC11	MATRIX	00427	02056	15	30000	02066
	TV	LPBKI	DC11	FROM DRUM	00428	02057	16	00164	02066
	MP	K	I		00429	02060	71	00014	00012
	ST	VI	INDEX		00430	02061	36	02130	02137
	AT	VI	A		00431	02062	35	02130	32000
	LTR	IS	A		00434	02063	22	10017	32000
	AT	CCC10	DC10		00435	02064	35	02124	02065
DC10	RFB	U	DC11+1		00436	02065	75	30000	02067
DC11	TP	FILL	FILL		00437	02066	11	30000	30000
	TV	LPBKI	CC39		00440	02067	16	00164	02071
	TV	LPBKI	CC40		00441	02070	16	00164	02072
CC39	FM	Z	FILL	MULTIPLY	00442	02071	66	00322	30000
CC40	TP	Q	FILL	BY Z	00443	02072	11	31000	30000
	RA	CC39	VI		00444	02073	21	02071	02130
	RA	CC40	VI		00445	02074	21	02072	02130
	IJ	INDEX	CC39		00446	02075	41	02137	02071
	TU	CCC7	CC41	STONE NEW	00447	02076	15	02121	02100
	RA	CC41	U1	B SQ D	00500	02077	21	02100	02131
CC41	TV	FILL	CC43	MATRIX	00501	02100	16	30000	02104
	TU	LPBKI	CC43	ON DRUM	00502	02101	15	00164	02104
	TU	DC10	CC42		00503	02102	15	02065	02103
CC42	RFB	0	CC43+1		00504	02103	75	30000	02105
CC43	TP	FILL	FILL		00505	02104	11	30000	30000
	MJ	0000	SWX		00506	02105	45	00000	02106
SWX	MJ	0008	FILL		00507	02106	45	00000	30000
	TP	P2	Q	EXIT TO	00510	02107	11	02145	31000
	MJ		CRTCAL+2	MONITOR	00511	02110	45	00000	01403
CC45	TP	P3	Q	EXIT TO	00512	02111	11	02146	31000
	MJ		CNTCAL+2	PRINT 3RD	00513	02112	45	00000	01403
CCC1		LBRMX	LBRMX		00514	02113	00	00175	00175
CCC2		LROIF	LROIF		00515	02114	00	00137	00137
CCC3		0000	CC44		00516	02115	00	00000	02107
CCC4		0000	CC45		00517	02116	00	00000	02111
CCC5		LNXET	LNXET		00520	02117	00	00206	00206
CCC6	RPV	0	CC32+1		00541	02120	75	10000	01713
CCC7		LPBKI	LPBKI		00522	02121	00	00164	00164
CCC8	RFB	0	DC14+1		00523	02122	75	30000	01464
CCC9		LISOP	LISOP		00524	02123	00	00126	00126
CCC10	RFB	0	DC11+1		00525	02124	75	30000	02067
ZERO		0000	0000		00526	02125	00	00000	00000
Z0		0008	0000		00527	02126	00	00000	00000
V3			3		00530	02127	00	00000	00003
V1			1		00531	02130	00	00000	00001
U1			1		00532	02131	00	00001	00000
F1	F	1	1		00533	02132	20	14000	00000
CCTP1		0000	0000		00534	02133	00	00000	00000
CCTP2		0000	0000		00535	02134	00	00000	00000
U1V1		1	1		00536	02135	00	00001	00001
NEARO	F	1	-10		00537	02136	13	76676	33766
INDEX		0000	0000		00540	02137	00	00000	00000
CORE1		0000	0000		00541	02140	00	00000	00000
DRUM1		0000	0000		00542	02141	00	00000	00000
V2			2		00543	02142	00	00000	00002
ISOCT		0000	0000		00544	02143	00	00000	00000
KTREE	EQLS	Z3+1							
UZDK3	EQLS	Z3+2							
K2	EQLS	Z2+1							

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DZDK2	EGLS	Z2+2					
K1	EGLS	Z1+1					
DZDK1	EGLS	Z1+2					
P1				00545	02144	00	00000 00000
P2	B33	4		00546	02145	40	00000 00000
P3	B33	6		00547	02146	60	00000 00000
N3				00550	02147	00	00000 00000
DELK	F		-6	00551	02150	15	54143 30750
RND1	B	00000000	0000	00552	02151	00	00000 04000
Z1R		0000	0000	00553	02152	00	00000 00000
Z2R		0000	0000	00554	02153	00	00000 00000
Z3R		0000	0000	00555	02154	00	00000 00000
U3				00556	02155	00	00003 00000
FLAGO	B	37777777	7777	00557	02156	37	77777 77777
L1054		CC105+4	CC105+4	00550	02157	00	01536 01536
LLAST			LAST	00551	02160	00	00000 02161
LAST	XS3	DM112		00552	02161	27	47470 00405
IDEN	SETL		IOB1	00553	00010	00	00000 00000
N				00554	00011	00	00000 00000
I				00555	00012	00	00000 00000
B				00556	00013	00	00000 00000
R	0000	0000		0006	00507	00	00000 00000
S	0000	0000		0007	00570	00	00000 00000
Y				00571	00016	00	00000 00000
	0000	0000		0008	00572	00	00000 00000
INF1	0000	0000		0009	00573	00	00000 00000
INF2	0000	0000		0010	00574	00	00000 00000
INF3	0000	0000		0011	00575	00	00000 00000
INF4	0000	0000		0012	00576	00	00000 00000
INF5	0000	0000		0013	00577	00	00000 00000
INF6	0000	0000		0014	00600	00	00000 00000
INF7	0000	0000		0015	00601	00	00000 00000
INF8	0000	0000		0016	00602	00	00000 00000
INF9	0000	0000		0017	00603	00	00000 00000
INF10	0000	0000		0018	00604	00	00000 00000
INF11	0000	0000		0019	00605	00	00000 00000
INF12	0000	0000		0020	00606	00	00000 00000
RHO	0000	0000		0021	00607	00	00000 00000
VARI			FX-CHANGE CON+MESH+PB	0022	00610	00	00000 00000
KKK			FX-REGION INDEX	00611	00036	00	00000 00000
NOM			FX-ISOTOPE INDEX	00612	00037	00	00000 00000
	0000	0000		00613	00040	00	00000 00000
PSUBO	F	3.12	13	0023	00614	00	00000 00000
YSUBX	F	3	-3	00615	00042	25	57060 12073
YSUBI	F	5.6	-2	00616	00043	17	06111 56457
YSUBP	F	1.4	-2	00617	00044	17	47126 01014
LAMXE	F	2.1	-5	00620	00045	17	27126 01014
LAMI	F	2.9	-5	00621	00046	16	15402 44501
LAMPR	F	4.1	-6	00622	00047	16	17464 24065
RZERO	F		0	00623	00050	15	74231 12733
TIME	F		0	00624	00051	00	00000 00000
EPSIL	F	.00001		00625	00052	00	00000 00000
EPS2	F	.00001		00626	00053	00	00000 00000
EPS3	F	.00001		00627	00054	16	05174 26542
EPS4	F	.00001		00630	00055	16	05174 26542
K0	F	1.0		00631	00056	16	05174 26542
OMEGA	F		1.0	00632	00057	16	05174 26542
			DIFF ACCEL FACTOR	00633	00060	20	14000 00000
				00634	00061	00	00000 00000

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DZDK	F	1.0		DZ-OK FIRST GUESS	00625	00062	20	14000	00000
		0000	0000		0036	00626	00063	00	00000
QQ	F			POWER DENSITY KW-CM3	00627	00064	00	00000	00000
DELTS	F			TIME SINCE SHUTDOWN SEC	00640	00065	00	00000	00000
DTMAX	F				00641	00066	00	00000	00000
					00642	00067	00	00000	00000
TAPE1	B	1		PROGRAM TAPE	00643	00070	00	00000	00001
TAPE2	B	2		BASIC LIBRARY TAPE	00644	00071	00	00000	00002
TAPE3	B	3		MICRO GROUP TAPE NEW	00645	00072	00	00000	00003
TAPE4	B	4		NUCLEAR CONSTANT TAPE	00646	00073	00	00000	00004
TAPE5	B	5		MICRO GROUP TAPE OLD	00647	00074	00	00000	00005
TAPE6	B	6		RAW DATA TAPE	00650	00075	00	00000	00006
TAPE7	B	7		INTERMEDIATE TAPE	00651	00076	00	00000	00007
TAPE8	B	10		OUTPUT TAPE	00652	00077	00	00000	00010
TAPE9	B	11		DUMP TAPE	00653	00100	00	00000	00011
TAPE10	B	12		DMM SERVICE LIBRARY	00654	00101	00	00000	00012
		0000	0000		0045	00625	00102	00	00000
DIA1		0000	0000		0046	00626	00103	00	00000
DIA2		0000	0000		0047	00627	00104	00	00000
DIA3		0000	0000		0048	00628	00105	00	00000
DIA4		0000	0000		0049	00629	00106	00	00000
DIA5		0000	0000		0050	00630	00107	00	00000
DIA6		0000	0000		0051	00631	00108	00	00000
DIA7		0000	0000		0052	00632	00109	00	00000
DIA8		0000	0000		0053	00633	00110	00	00000
DIA9		0000	0000		0054	00634	00111	00	00000
DIA10		0000	0000		0055	00635	00112	00	00000
DIA11		0000	0000		0056	00636	00113	00	00000
DIA12		0000	0000		0057	00637	00114	00	00000
DIA13		0000	0000		0058	00638	00115	00	00000
DIA14		0000	0000		0059	00639	00116	00	00000
DIA15		0000	0000		0060	00640	00117	00	00000
DIA16		0000	0000		0061	00641	00118	00	00000
DIA17		0000	0000		0062	00642	00119	00	00000
DIA18		0000	0000		0063	00643	00120	00	00000
					00700	00125	00	00000	00000
LISOP	RSRV	3	3		00701	00126			
LENGY	RSRV	3	3		00704	00131			
LAKBK	RSRV	3	3		00707	00134			
LRDIF	RSRV	3	3		00712	00137			
LPTS	RSRV	3	3		00715	00142			
LREGN	RSRV	3	3		00720	00145			
LBSUO	RSRV	3	3		00723	00150			
LBSUN	RSRV	3	3		00726	00153			
LPHI	RSRV	3	3		00731	00156			
LCAPP	RSRV	3	3		00734	00161			
LPBKI	RSRV	3	3		00737	00164			
LSFKI	RSRV	3	3		00742	00167			
LMESH	RSRV	3	3		00745	00172			
LBRMX	RSRV	3	3		00750	00175			
LPHKI	RSRV	3	3		00753	00200			
LNSMT	RSRV	3	3		00756	00203			
LNKET	RSRV	3	3		00759	00206			
LCAPD	RSRV	3	3		00764	00211			
LCAPT	RSRV	3	3		00767	00214			
LCPTI	RSRV	3	3		00772	00217			
LCAPF	RSRV	3	3		00775	00222			
LXKI	RSRV	3	3		01000	00225			
LMFKI	RSRV	3	3		01003	00230			
LPDIF	RSRV	3	3		01006	00233			

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LKPXE	RSRV	3	3	01011	00236			
LLK1A	RSRV	3	3	01014	00241			
LLK1B	RSRV	3	3	01017	00244			
LNFKI	RSRV	3	3	01022	00247			
LNLP	RSRV	3	3	01025	00252			
LNSKI	RSRV	3	3	01030	00255			
LNDKI	RSRV	3	3	01033	00260			
LNFP	RSRV	3	3	01036	00263			
LNCKI	RSRV	3	3	01041	00266			
LNRKI	RSRV	3	3	01044	00271			
LNPKI	RSRV	3	3	01047	00274			
LNKE	RSRV	3	3	01052	00277			
LNKL	RSRV	3	3	01055	00302			
LSHUF	RSRV	3	3	01060	00305			
CRCO1	B			01063	00310	00	00000	00000
Z3	RSRV	3	3	01064	00311			
Z2	RSRV	3	3	01067	00314			
Z1	RSRV	3	3	01072	00317			
Z				01075	00322	00	00000	00000
DELTA	F			01076	00323	00	00000	00000
MU				01077	00324	00	00000	00000
BLOCK	B			01100	00325	00	00000	00000
NDCI	B			01101	00326	00	00000	00000
MNOO1	B			01102	00327	00	00000	00000
MNOO2	B			01103	00330	00	00000	00000
SUBR	RSRV	9	9	01104	00331			
MLM1	RSRV	4	4	01115	00342			
DRUM	B			01141	00346	00	00000	00000
MINCE	B			01142	00347	00	00000	00000
ISO				01143	00350	00	00000	00000
MARK1				01144	00351	00	00000	00000
MARK2				01145	00352	00	00000	00000
K3				01146	00353	00	00000	00000
STAGAT				01147	00354	00	00000	00000
INDEXS				01149	00355	00	00000	00000
DTWICE				01141	00356	00	00000	00000
ADMCFE	RSRV	3	3	01132	00357			
ISTBP				01135	00362	00	00000	00000
DELTAT				01136	00363	00	00000	00000
LKI	EQLS	LCAPD						
LKI	EQLS	LCAPT						
LKI	EQLS	LCPT1						
LFKI	EQLS	LCAPF						
LMKI	EQLS	LMFKI						
BK	EQLS	SUBR+3						
BK2	EQLS	SUBR+5						
BRITE	EQLS	SUBR+6						
WR2	EQLS	SUBR+8						
ALLOK	EQLS	SUBR						
ALL2	EQLS	SUBR+2						
END						00000		
						00000		

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TABLE V-2K

NEUTRON BALANCE

SETL	I	(400B)					
SETL	I	(400B)					
XS3	DMM	15		00001	01400	27	47470 00406
NBAL	MJ	L+3		00002	01401	45	00000 01404
QUITQ	MS	L+1		00003	01402	56	00000 01403
NBAL2	MJ	0000	FILL	0012	00004	45	00000 30000
TP	I		IMINI		00005	11	00012 02274
RS	I		VI	0014	00006	23	02274 02411
TP	N		RMINI	R MINUS 1	0015	11	00014 02341
RS	K		VI		0016	23	02341 02411
TP	K		UIVR	UIVR	0017	11	00014 02356
RA	K		UIVR	UI	0018	21	02356 02372
TP	K		URVR		0019	11	00014 02355
SP	R		15		0014	31	00014 00017
TU	A		URVR	URVR	0021	15	32000 02355
TP	N		UNPS1		0022	11	00011 02352
RA	A		UNPS1	VI	0023	21	02352 02411
SP	A		UNPS1	15	0020	31	02352 00017
TP	A		UNPS1	U, N PLUS 1	0025	11	32000 02352
TP	N		NPLS3		0026	11	00011 02333
RA	A		NPLS3	N, PLUS 3	0027	21	02333 02413
TP	N		IPLS2		0028	11	00012 02271
RA	A		IPLS2	I PLUS 2	0029	21	02271 02412
TP	N		IPLS3		0026	11	02271 02272
RA	A		IPLS3	VI	0027	21	02272 02411
MP	N		I		0030	71	00014 00012
TP	A		RI	R TIMES I	0031	11	32000 02337
MP	K		IMINI	RI MINUS 1	0032	71	02337 02274
DV	V2		RI	DIVIDED BY TWO	0033	73	02412 02340
TP	N		NR		0037	11	00011 02334
RA	A		NR	N PLUS R	0038	21	02334 00014
TP	N		NP1		0039	11	00011 02336
RA	A		NP1	N PLUS 1	0040	21	02336 02411
TP	N		NR	N PLUS R	0041	11	02334 02335
RS	K		NR	MINUS 1	0042	23	02335 02411
TP	A		LLAST	A	0042	11	02705 30000
TJ	A		MINCE	TPMC	0043	42	00347 01445
TP	A		LLAST	CORE 1	0044	11	02705 02262
MJ	A		MINCE	TPMC+	0045	45	00000 01446
TPMC	A		MINCE	CORE 1	0046	11	00347 02262
RA	A		CORE 1	VI	0047	21	02262 02411
RJ	A		ALL2	ALLOK	0043	37	00333 00331
O	A		CORE 1	DRUM 1	0044	00	02262 02266
O	A		VARBL	FILL	0045	00	02443 30000
TV	K		KIN1	IN100	0046	16	02275 01475
TP	V		COUNT		0054	11	02417 02261
TU	K		KIN	IN201	0048	15	02277 01464
SP	K		KI	15	0056	31	02337 00017
AT	K		KIN3	IN201	0050	35	02310 01471
TU	A		TEM38	IN203	0051	15	02344 01470
TU	A		TEM37	IN202	0052	15	02343 01467
MJ	A		0000	IN199	0053	45	00000 01466
IN200	SP	A	15		0063	31	32000 00017
IN201	AT	KIN3	IN204	BRING IN	0055	35	02310 01471
IN201	TU	FILL	IN202	PBKI_MESH	0056	15	30000 01467
IN199	RA	IN202	IN203	PHKI_RDIF	0057	15	01467 01470
IN202	TU	FILL	IN205	CAPP_REGN	0058	21	01467 02372
IN203	TV	FILL	IN205	AND_PTS	0059	15	30000 01472
IN204	RPB		IN204		0060	16	30000 01472
					0072	75	30000 01473

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IN205	TP	FILL	FILL	0062	00073	01472	11	30000	30000
IN206	RA	IN201	U1	0063	00074	01473	21	01464	02372
	RA	IN100	V2	0064	00075	01474	21	01475	02412
IN100	IJ	COUNT	FILL	0065	00076	01475	41	02261	30000
	MJ	0000	READ5	0066	00077	01476	45	00000	01515
	SP	NPLS3	0000	0067	00100	01477	31	02333	00000
	MJ	0000	IN200	0068	00101	01500	45	00000	01462
	MP	K	IPLS2		00102	01501	71	00014	02271
	MJ	0000	IN200	0070	00103	01502	45	00000	01462
	SP	K	0000	0071	00104	01503	31	00014	00000
	MJ	0000	IN200	0072	00105	01504	45	00000	01462
	SP	NR	0000	0073	00106	01505	31	02334	00000
	MJ	0000	IN200	0074	00107	01506	45	00000	01462
	SP	K	0000	0075	00110	01507	31	00014	00000
	MJ	0000	IN200	0076	00111	01510	45	00000	01462
	SP	K	0000	0077	00112	01511	31	00014	00000
	MJ	0000	IN200	0078	00113	01512	45	00000	01462
	SP	IPLS3			00114	01513	31	02272	00000
	MJ		IN200		00115	01514	45	00000	01462
READ5	SP	TAPE4	30		00116	01515	31	00073	00036
	TP	A	READ8	0080	00117	01516	11	32000	01524
	TP	V4	COUNT		00120	01517	11	02414	02261
READ9	TU	MAYS2	READ6		00121	01520	15	02371	01521
READ6	TU	FILL	READ7	READ TKI	0084	00122	15	30000	01522
READ7	TV	FILL	READ8	TO NCKI	0085	00123	16	30000	01524
	RJ	BK2	BK	TIJ TO TIJ		00124	37	00336	00334
READ8	RO	0000	FILL	FKI TO NFB	0087	00125	00	00000	30000
	MS	0000	9999		0088	00126	56	00000	00000
	RA	READ6	U1	XKI TO NFK	0089	00127	21	01521	02372
	IJ	COUNT	READ6		0090	00130	41	02261	01521
	RJ	REWIND2	REWIND			00131	37	02676	02674
	TP	I	IMIN2			00132	11	00012	02276
	RS	IMIN2	V2	I MINUS 2		00133	23	02276	02412
	TP	IMIN2	COUN2			00134	11	02276	02264
	TU	LENGY	EXT2			00135	15	00131	01544
	TV	LENGY	EXT2			00136	16	00131	01544
	RA	EXT2	U2V3			00137	21	01544	02441
	TV	LTKIJ	EXT3			00140	16	00217	01545
	TV	LTKIJ	EXT4			00141	16	00217	01546
	TP		COUN1			00142	11	00014	02263
EXT1	TP	COUN1	COUNT			00143	11	02263	02261
	RS	COUNT	V1			00144	23	02261	02411
EXT2	FS	FILL	FILL	E1 E1		00145	65	30000	30000
EXT3	FM	Q	FILL	TKIJ		00146	66	31000	30000
EXT4	TP	Q	FILL	TKIJ		00147	11	31000	30000
	RA	EXT3	V1			00150	21	01545	02411
	RA	EXT4	V1			00151	21	01546	02411
	IJ	COUNT	EXT2			00152	41	02261	01544
	RA	COUN1	R			00153	21	02263	00014
	RA	EXT2	UIV1			00154	21	01544	02430
	IJ	COUN2	EXT1			00155	41	02264	01542
	TP	VO	COUN2			00156	11	02370	02264
	TP	VO	COUN1			00157	11	02370	02263
	TU	LTKIJ	EXT24			00160	15	00217	01570
	TV	LTKIJ	EXT25			00161	16	00217	01571
EXT22	TU	LENGY	EXT23			00162	15	00131	01566
	TV	LENGY	EXT23			00163	16	00131	01566
	RA	EXT23	UIV2			00164	21	01566	02440
	TP	K	COUNT			00165	11	00014	02261
	RS	COUNT	V1			00166	23	02261	02411

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EXT23	FS	FILL	FILL	EI	EI	00167	01566	65	30000	30000	
	TP	Q	COUN4			00170	01567	11	31000	02265	
EXT24	FD	FILL	COUN4	TKIJ		00171	01570	67	30000	02265	
EXT25	TP	Q	FILL	TKIJ		00172	01571	11	31000	30000	
	RA	EXT24	U1			00173	01572	21	01570	02372	
	RA	EXT25	V1			00174	01573	21	01571	02411	
	IJ	COUN2	EXT24			00175	01574	41	02261	01570	
	RA	EXT23	U1V1			00176	01575	21	01566	02430	
	IJ	COUN2	EXT23-2			00177	01576	41	02264	01564	
	RA	COUN1	V1			00200	01577	21	02263	02411	
	TP	COUN1	COUN2			00201	01600	11	02263	02264	
	IJ	IMIN2	EXT23			00202	01601	41	02276	01561	
MTPK3	TP	VO	MTNNN	STAKT_LKPY		0092	00203	01602	11	02370	02325
	TP	V1	MTKKK	OR_KP		0093	00204	01603	11	02411	02326
	TP	LMESH	MTPK8			0094	00205	01604	11	00172	01631
	RA	MTPK8	U1V1			0095	00206	01605	21	01631	02430
	TP	MTPK8	MTPK4			0096	00207	01606	11	01631	01614
	TV	LKPXE	MTP12			0097	00210	01607	16	00236	01641
	TU	LCAPP	MTLOP			0098	00211	01610	15	00161	02327
	TU	LREGN	MTP10			0099	00212	01611	15	00145	01635
	RJ	DELV2	DELVN			0100	00213	01612	37	02552	02551
	O	RHO	PI			0101	00214	01613	00	00035	02652
						0102	00215	01614	00	30000	30000
MTPK4	O	FILL	FILL			0103	00216	01615	11	02647	02650
MTPK5	TP	DELVP	DELVT			0104	00217	01616	15	02327	01617
	TU	MTLOP	MTPK6			0105	00220	01617	11	30000	02330
MTPK6	TP	FILL	MTPPP			0106	00221	01620	11	02370	02331
	TP	VO	MTKVV			0107	00222	01621	66	02680	02330
MTPK7	FM	DELVT	MTPPP			0108	00223	01622	64	31000	02331
	FA	Q	MTKVV			0109	00224	01623	11	31000	02331
	TP	Q	MTKVV			0110	00225	01624	21	02325	02411
	RA	MTNNN	V1			0111	00226	01625	21	02327	02372
	RA	MTLOP	U1			0112	00227	01626	21	01631	02430
	RA	MTPK8	U1V1			0113	00230	01627	37	02552	02551
	RJ	DELV2	DELVN			0114	00231	01630	00	00035	02652
	O	RHO	PI			0115	00232	01631	00	30000	30000
MTPK8	O	FILL	FILL			0116	00233	01632	15	02327	01633
	TU	MTLOP	MTPK9			0117	00234	01633	11	30000	02330
MTPK9	TP	FILL	MTPPP			0118	00235	01634	31	02325	00000
	SP	MTNNN	0000			0119	00236	01635	43	30000	01637
MTP10	EJ	FILL	MTP11			0120	00237	01636	45	00000	01621
	MJ	0000	MTPK7			0121	00240	01637	66	02651	02330
MTP11	FM	DELVM	MTPPP			0122	00241	01640	64	31000	02331
	FA	Q	MTKVV			0123	00242	01641	11	31000	30000
MTP12	TP	Q	FILL			0124	00243	01642	31	02326	00000
	SP	MTKKK	0000			0125	00244	01643	43	00014	01651
	EJ	R	NUTD			0126	00245	01644	35	02411	02326
	AT	V1	MTKKK			0127	00246	01645	21	01641	02411
	RA	MTP12	V1			0128	00247	01646	21	01635	02372
	RA	MTP10	U1			0129	00250	01647	21	02327	02372
	MJ	0000	MTPK5	END_KP		0130	00251	01650	45	00000	01615
	NUTD	KT	15	START_NDK1		00252	01651	31	02337	00017	
	AT	KIN4	DD22			0133	00253	01652	35	02311	01654
DD777	TV	LNDK1	DDD1			0134	00254	01653	16	00260	01655
DD22	RPV		DDD1+			00255	01654	75	10000	01656	
DDD1	TP	FO	FILL			0136	00256	01655	11	02442	30000
	TP	K	YR			0137	00257	01656	11	00014	02365
	TP	IMINI	ITALY			0138	00260	01657	11	02274	02273
	RS	ITALY	V1			0139	00261	01660	23	02273	02411
	TU	LTKIJ	DUDA			0140	00262	01661	15	00217	01666

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DDDG	TP	YR	XR	0141	00263	01662	11	02365	02362
	RS	XR	VI	0142	00264	01663	23	02362	02411
	TV	LNDK	DDDA	0143	00265	01664	16	00260	01666
	TV	LNDK	DDDB	0144	00266	01665	16	00260	01667
UDDA	FA	FILL	FILL	0145	00267	01666	64	30000	30000
UDDB	TP	Q	FILL	0146	00270	01667	11	31000	30000
	RA	UDDA	UIV	0147	00271	01670	21	01666	02430
	RA	UDDB	VI	0148	00272	01671	21	01667	02411
	IJ	XR	DDDA	0149	00273	01672	41	02362	01666
	RA	YR	R	0150	00274	01673	21	02365	00014
	IJ	ITALY	DDDG	0151	00275	01674	41	02273	01662
	TP	IMINI	ITALY	0152	00276	01675	11	02274	02273
	TU	LNDK	DDDC	0153	00277	01676	15	00260	01706
	TV	LNDK	DDDE	0154	00300	01677	16	00260	01707
	RS	ITALY	VI	0155	00301	01700	23	02273	02411
	TP	VI	VX	0156	00302	01701	11	02411	02361
DDD3	TV	LPHK	DDDH	0157	00303	01702	16	00200	01706
	TP	IMINI	RTALY	0158	00304	01703	11	02341	02342
	RA	UDDA	VX	0159	00305	01704	21	01706	02361
	RA	VX	VI	0160	00306	01705	21	02361	02411
UDD4	FM	FILL	FILL	0161	00307	01706	66	30000	30000
UDD5	TP	Q	FILL	0162	00310	01707	11	31000	30000
	RA	UDD4	VI	0163	00311	01710	21	01706	02372
	RA	UDD5	VI	0164	00312	01711	21	01707	02411
	RA	UDD4	IPLS2		00313	01712	21	01706	02271
	IJ	ITALY	DDDI		00314	01713	41	02342	01706
	IJ	ITALY	DDDJ	END	00315	01714	41	02273	01702
NUTS	TP	IMINI	RTALY	START	0168	00316	11	02341	02342
	SP	TAPE4	30		00317	01716	31	00073	00036
	TP	A	PASS99		00320	01717	11	32000	01723
	TP	A	RED99		00321	01720	11	32000	01726
	TV	V2	PASS99		00322	01721	16	02412	01723
	RJ	PA2	PASS		00323	01722	37	02666	02654
PASS99	TP	FILL	FILL		00324	01723	00	30000	30000
	TV	LTKIJ	RED99		00325	01724	16	00217	01726
	RJ	BK2	BK		00326	01725	37	00336	00334
RED99	TP	FILL	FILL	READ	00327	01726	00	30000	30000
	RJ	REWND2	RE#ND		00330	01727	37	02676	02674
	RJ	REWND2	RE#ND		00331	01730	37	02676	02674
	SP	K	15		00332	01731	31	02337	00017
	AT	KIN4A	SSS3		00333	01732	35	02312	01734
	TV	LNSK	SS4		0172	00334	16	00255	01735
SSS3	RPV		SS4+		00335	01734	75	10000	01736
SS4	TP	FO	FILL		0174	00336	11	02442	30000
	TP	VO	VXX		0175	00337	11	02370	02357
	TP	VO	UX		0176	00340	11	02370	02353
	TP	K	XUR		0177	00341	11	00014	02363
	SP	XUR	15		00342	01741	31	02363	00017
	TP	A	XUR		0179	00343	11	32000	02363
	TP	VO	XI		0180	00344	11	02370	02364
	TP	I	IBMP		0181	00345	11	00012	02270
	RA	IBMP	V2		00346	01745	21	02270	02412
SSK	TP	IMINI	ITALY		0183	00347	11	02274	02273
	RS	ITALY	VI		0184	00350	23	02273	02411
	TP	VO	GOUNT		0185	00351	11	02370	02267
	TU	LTKIJ	SSSX		0186	00352	15	00217	01763
	TV	LNSK	SSSA		0187	00353	16	00255	01764
	TV	LNSK	SSSB		0188	00354	16	00255	01765
	TP	VO	VXX		0189	00355	11	02370	02360
	RA	SSSX	UX		0190	00356	21	01763	02353

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	RA	SSSA	VXX	0191	00357	01756	21	01764	02357	
	RA	SSSB	VXX	0192	00360	01757	21	01765	02357	
SSSAA	TV	LPHK1	SSSX	0193	00361	01760	16	00200	01763	
	RA	SSSX	XI	0194	00362	01761	21	01763	02364	
SSSAZ	RA	SSSX	V1	0195	00363	01762	21	01763	02411	
SSSX	FM	FILL	FILL	0196	00364	01763	66	30000	30000	
SSSA	FA	Q	FILL	0197	00365	01764	64	31000	30000	
SSSB	TP	Q	FILL	0198	00366	01765	11	31000	30000	
	RA	SSSX	XUR	0199	00367	01766	21	01763	02363	
	IJ	COUNT	SSSAZ	0200	00370	01767	41	02267	01762	
	RA	SSSA	R	0201	00371	01770	21	01764	00014	
	RA	SSSB	R	0202	00372	01771	21	01765	00014	
	RA	VXX	V1	0203	00373	01772	21	02360	02411	
	TP	VXX	COUNT	0204	00374	01773	11	02360	02267	
	IJ	ITALY	SSSAA	0205	00375	01774	41	02273	01760	
	RA	UX	U1	0206	00376	01775	21	02353	02372	
	RA	VXX	V1	0207	00377	01776	21	02357	02411	
	RA	XI	IBMP	0208	00400	01777	21	02364	02270	
	IJ	ITALY	SSK	END NSKI	0209	00401	02000	41	02342	01746
	TP	V2	COUNT	00402	02001	11	02412	02264		
	TU	TEMP3	NB96	0211	00403	02002	15	02345	02007	
NB95	TU	LPHK1	NB99	COMPUTE	0212	00404	02003	15	00200	02014
	RA	NB99	U1	NDKI NLP	0213	00405	02004	21	02014	02372
	TP	VO	VX	AND NFBK	00406	02005	11	02370	02361	
	TP	MINI	COUNT	PART OF	0215	00407	02006	11	02341	02263
NB96	TU	FILL	NB98	NCKI	0216	00410	02007	15	30000	02011
NB97	TP	MINI	COUNT		0217	00411	02010	11	02274	02261
NB98	TV	FILL	NB99		0218	00412	02011	16	30000	02014
	RA	NB99	VX		0219	00413	02012	21	02014	02361
	TV	NB99	NB100		0220	00414	02013	16	02014	02015
NB99	FM	FILL	FILL		0221	00415	02014	66	30000	30000
NB100	TP	Q	FILL		0222	00416	02015	11	31000	30000
	RA	NB99	U1VR		0223	00417	02016	21	02014	02356
	RA	NB100	R		0224	00420	02017	21	02015	00014
	IJ	COUNT	NB99		0225	00421	02020	41	02261	02014
	RA	VX	V1		0226	00422	02021	21	02361	02411
	RA	NB99	U2		0227	00423	02022	21	02014	02373
	IJ	COUNT	NB97		0228	00424	02023	41	02263	02010
	RA	NB96	U1		0229	00425	02024	21	02007	02372
	IJ	COUNT	NB95	END	0230	00426	02025	41	02264	02003
	TP	KI	COUNT	START NCKI	00427	02026	11	02337	02261	
	RS	COUNT	V1		0232	00430	02027	23	02261	02411
	TU	LNCKI	NB304		00431	02030	15	00266	02034	
	TV	LNCKI	NB304		0234	00432	02031	16	00260	02034
	TV	LNLP	NB305		0235	00433	02032	16	00252	02035
	TV	LNCKI	NB306		0236	00434	02033	16	00266	02036
NB304	FS	FILL	FILL	CKI NDKI	00435	02034	65	30000	30000	
NB305	FS	Q	FILL	NLP	0238	00436	02035	65	31000	30000
NB306	TP	Q	FILL	CKI	0239	00437	02036	11	31000	30000
	RA	NB304	U1V1		00440	02037	21	02034	02430	
	RA	NB305	V1		0241	00441	02040	21	02035	02411
	RA	NB306	V1		0242	00442	02041	21	02036	02411
	IJ	COUNT	NB304	END NDKI	00443	02042	41	02261	02034	
	TP	MINI	COUNT	START NFKI	0244	00444	02043	11	02274	02263
	TV	LNFKI	FK25		0245	00445	02044	16	00247	02051
	TU	LNFKI	FK24		0246	00446	02045	15	00247	02050
FK23	TV	LKPXE	FK24		0247	00447	02046	16	00236	02050
	TP	MINI	COUNT		0248	00450	02047	11	02341	02261
FK24	FM	FILL	FILL	XKI KPXE	0249	00451	02050	66	30000	30000
FK25	TP	Q	FILL	NFKI	0250	00452	02051	11	31000	30000

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RA	FK24	UIV1		0251	00453	02052	21	02050	02430
RA	FK25	V1		0252	00454	02053	21	02051	02411
IJ	COUNT	FK24		0253	00455	02054	41	02261	02050
IJ	COUNT	FK23	END NFKI	0254	00456	02055	41	02263	02046
TV	LDKI	LL2	STANT LKIA		00457	02056	16	00211	02110
TV	LLKIB	LB7	AND LKIR	0256	00460	02057	16	00244	02121
TV	LLKIA	LL3		0257	00461	02060	16	00241	02111
TP	IMINI	ITALY		0258	00462	02061	11	02274	02273
TP	UNPS1	FA			00463	02062	11	02352	02000
AT	KIN4B	NC23			00464	02063	35	02313	02070
TV	LPHI	NC24		0260	00465	02064	16	00196	02071
TU	LDPHI	NC22		0261	00466	02065	15	02323	02067
RA	NC22	UI		0262	00467	02066	21	02067	02372
NC22	TU	FILL	NC24	0263	00470	02067	15	00000	02071
NC23	RPB		NC24+1		00471	02070	75	00000	02072
NC24	TP	FILL		0265	00472	02071	11	00000	00000
RA	NC24	UNPS1	PHI FROM				21	02071	02352
TV	LPHI	LL	CORE	0266	00473	02072	16	00156	02106
TV	LPTS	LG		0268	00475	02074	16	00142	02102
TU	LPHI	LB4		0269	00476	02075	15	00156	02116
TV	LPHI	LB4		0270	00477	02076	16	00156	02116
RA	LB4	UI		0271	00500	02077	21	02116	02372
TP	KMINI	RTALY		0272	00501	02100	11	02341	02342
TV	LRDIF	LL1		0273	00502	02101	16	00137	02107
RA	LL	FILL		0274	00503	02102	21	02106	00000
LG	SP	LL	15		00504	02103	31	02106	00017
TU	A	LL		0276	00505	02104	15	00000	02106
RS	LL	UI		0277	00506	02105	23	02106	02372
LL	FS	FILL	FILL	0278	00507	02106	65	00000	00000
LL1	FD	Q	FILL	0279	00510	02107	67	00000	00000
LL2	FM	Q	FILL	0280	00511	02110	66	00000	00000
LL3	TP	Q	FILL	0281	00512	02111	11	00000	00000
TV	LL1	LB5		0282	00513	02112	16	02107	02117
TV	LL2	LB6		0283	00514	02113	16	02110	02120
SP	LG	15			00515	02114	31	02102	00017
TU	A	LB8		0285	00516	02115	15	00000	02123
LB4	FS	FILL	FILL	0286	00517	02116	65	00000	00000
LB5	FD	Q	FILL	0287	00520	02117	67	00000	00000
LB6	FM	Q	FILL	0288	00521	02120	66	00000	00000
LB7	TP	Q	FILL	0289	00522	02121	11	00000	00000
RA	LB7	V1		0290	00523	02122	21	02121	02411
LB8	SP	FILL	15		00524	02123	31	00000	00017
AT	LB4	LB4		0292	00525	02124	35	02116	02116
LG	LB4	A+21			00526	02125	55	02116	02025
TV	A	LB4		0294	00527	02126	16	00000	02116
RS	LB4	V1		0295	00530	02127	23	02116	02411
RA	LL2	V1		0296	00531	02130	21	02110	02411
RA	LL1	V1		0297	00532	02131	21	02107	02411
RA	LL3	V1		0298	00533	02132	21	02111	02411
RA	LG	V1		0299	00534	02133	21	02102	02411
IJ	RTALY	LG		0300	00535	02134	41	02342	02102
IJ	ITALY	NC23	END	0301	00536	02135	41	02273	02070
TU	LNRKI	NR35	STANT NRKI	0302	00537	02136	15	00266	02146
TV	LNDKI	NR35		0303	00540	02137	16	00260	02146
TV	LLKIA	NR37		0304	00541	02140	16	00241	02150
TV	LLKIB	NR38		0305	00542	02141	16	00244	02151
TV	LNLK	NR36		0306	00543	02142	16	00252	02147
TV	LNRKI	NR39		0307	00544	02143	16	00271	02152
TP	RI	COUNT		0308	00545	02144	11	02337	02261
RS	COUNT	V1		0309	00546	02145	23	02261	02411

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NR35	FA	FILL	FILL	NCKI	NCKI	0210	00547	02146	64	30000	30000
NR36	FA	Q	FILL	NLP		0311	00550	02147	64	31000	30000
NR37	FA	Q	FILL	KIA		0312	00551	02150	64	31000	30000
NR38	FA	Q	FILL	KIB		0313	00552	02151	64	31000	30000
NR39	TP	Q	FILL	NRKI		0214	00553	02152	11	31000	30000
	RPU	5	L+2				00554	02153	75	20005	02155
	RA	NR35	V1			0316	00555	02154	21	02146	02411
	RA	NR35	U1			0317	00556	02155	21	02146	02372
	IJ	COUNT	NR35	END NRKI		0318	00557	02156	41	02261	02146
	TV	LNPKE	NP35	START NPKE		0319	00560	02157	16	00274	02175
	TV	LNFKE	NP34			0320	00561	02160	16	00247	02174
	TU	LNSKE	NP34			0321	00562	02161	15	00255	02174
	MP	K	IMINI				00563	02162	71	00014	02274
	ST	V1	COUNT				00564	02163	36	02411	02261
	RA	NP34	R				00565	02164	21	02174	00014
	RA	NP35	R				00566	02165	21	02175	00014
	TV	LNPKE	NP22				00567	02166	16	00274	02173
	TU	LNFKE	NP22				00570	02167	15	00247	02173
	SP	K	15				00571	02170	31	00014	00017
	AT	KIN3A	NP21				00572	02171	35	02314	02172
NP21	RPB		NP22+1				00573	02172	75	30000	02174
NP22	TP	FILL	FILL				00574	02173	11	30000	30000
NP34	FA	FILL	FILL	NSKI	NPKI	0324	00575	02174	64	30000	30000
NP35	TP	Q	FILL		NPKI	0325	00576	02175	11	31000	30000
	RA	NP34	U1V1			0326	00577	02176	21	02174	02430
	RA	NP35	V1			0327	00600	02177	21	02175	02411
	IJ	COUNT	NP34	END NPKI		0328	00601	02200	41	02261	02174
	TU	LKIA	NL34	START KL		0329	00602	02201	15	00241	02215
	TV	LKIB	NL34			0330	00603	02202	16	00244	02215
	TV	LNL	NL35			0331	00604	02203	16	00252	02216
	TP	IMINI	COUNT			0332	00605	02204	11	02274	02263
	TV	LNKL	NL22				00606	02205	16	00302	02211
	SP	R	15				00607	02206	31	00014	00017
	AT	KIN4C	NL21				00610	02207	35	02315	02210
NL21	RPV		NL22+1				00611	02210	75	10000	02212
NL22	TP	FO	FILL	CLEAR	NKL		00612	02211	11	02442	30000
NL33	TV	LNKL	NL36			0333	00613	02212	16	00302	02217
	TV	LNKL	NL37			0334	00614	02213	16	00302	02220
	TP	RMINI	COUNT			0335	00615	02214	11	02341	02261
NL34	FA	FILL	FILL	LKIA	LKIB	0336	00616	02215	64	30000	30000
NL35	FA	Q	FILL	NLP		0337	00617	02216	64	31000	30000
NL36	FA	Q	FILL	NKL		0338	00620	02217	64	31000	30000
NL37	TP	Q	FILL	NKL		0339	00621	02220	11	31000	30000
	RPU	5	L+2				00622	02221	75	20003	02223
	RA	NL35	V1			0341	00623	02222	21	02216	02411
	RA	NL34	U1V1			0342	00624	02223	21	02215	02430
	IJ	COUNT	NL34			0343	00625	02224	41	02261	02215
	IJ	COUNT	NL33	END NKL		0344	00626	02225	41	02263	02212
	TP	VO	UXVX	START NKE			00627	02226	11	02370	02354
	TP	VO	VX				00630	02227	11	02370	02361
	TV	LNKE	KEPS1				00631	02230	16	00277	02253
	TP	RMINI	RTALY				00632	02231	11	02341	02342
KEPS7	TU	LNPKE	KEPS8				00633	02232	15	00274	02242
	TV	LNRKE	KEPS8				00634	02233	16	00271	02242
	TV	LNPKE	KEPS9				00635	02234	16	00274	02245
	RA	KEPS8	UXVX				00636	02235	21	02242	02354
	RA	KEPS9	VX				00637	02236	21	02245	02361
	TP	VO	COUNT				00640	02237	11	02370	02263
	TP	VO	COUNT				00641	02240	11	02370	02264
	TP	IMINI	ITALY				00642	02241	11	02274	02273

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KEPS8	FS	FILL	FILL	NPKI	NRKI	00643	02242	65	30000	30000	
	FA	Q	COUN1			00644	02243	64	31000	02263	
	TP	Q	COUN1			00645	02244	11	31000	02263	
KEPS9	FA	COUN2	FILL	NPKI		00646	02245	64	02264	30000	
	TP	Q	COUN2			00647	02246	11	31000	02264	
	RA	KEPS8	URVR			00650	02247	21	02242	02355	
	RA	KEPS9	R			00651	02250	21	02245	00014	
	IJ	ITALY	KEPS8			00652	02251	41	02273	02242	
	FD	COUN1	COUN2			00653	02252	67	02263	02264	
KEPS11	TM	Q	FILL	NKE		00654	02253	12	31000	30000	
	RA	KEPS11	VI			00655	02254	21	02253	02411	
	RA	UXVX	U1V1			00656	02255	21	02354	02430	
	RA	VX	V1			00657	02256	21	02361	02411	
	IJ	ITALY	KEPS7			00660	02257	41	02342	02232	
	MJ		NBAL2			00661	02260	45	00000	01403	
COUNT	0	0000	0000			0367	00662	02261	00	00000	00000
CORE1	0	0000	0900			0368	00663	02262	00	00000	00000
COUN1	0	0000	0000			0369	00664	02263	00	00000	00000
COUN2	0	0000	0000			0370	00665	02264	00	00000	00000
COUN4	0	0000	0000			0371	00666	02265	00	00000	00000
URUM1	0	0000	0000			0372	00667	02266	00	00000	00000
GOUNT	0	0000	0000			0373	00670	02267	00	00000	00000
IBMP	0	0000	0000			0374	00671	02270	00	00000	00000
IPLS2	0	0000	0000			0375	00672	02271	00	00000	00000
IPLS3	0	0000	0000			00673	02272	00	00000	00000	
ITALY	0	0000	0000			0377	00674	02273	00	00000	00000
IMIN1	0	0000	0000			0378	00675	02274	00	00000	00000
KIN1	0	0000	IN100			0379	00676	02275	00	00000	01475
IMIN2	0	0000	0000			00677	02276	00	00000	00000	
KKIN	0	KIN2	0000			0380	00700	02277	00	02300	00000
KIN2	0	LPHKI	LPHKI			0381	00701	02300	00	00164	00164
	0	LMESH	LMESH			0382	00702	02301	00	00172	00172
	0	LPHKI	LPHKI			0383	00703	02302	00	00200	00200
	0	LRDIF	LRDIF			0384	00704	02303	00	00137	00137
	0	LCAPP	LCAPP			0385	00705	02304	00	00161	00161
	0	LREGN	LREGN			0386	00706	02305	00	00145	00145
	0	LPTS	LPTS			0387	00707	02306	00	00142	00142
	0	LNGY	LNGY			00710	02307	00	00131	00131	
KIN3	RPB		IN206			00711	02310	75	30000	01473	
KIN4	RPV		DUD1+			00712	02311	75	10000	01656	
KIN4A	RPV		SS4+			00713	02312	75	10000	01736	
KIN4B	RPB		NC24+			00714	02313	75	30000	02072	
KIN3A	RPB		NP22+			00715	02314	75	30000	02174	
KIN4C	RPB		NL22+			00716	02315	75	30000	02212	
LLDK1	0	LDKI	0000			00717	02316	00	00211	00000	
LLNCK	0	LNCKI	0000			0391	00720	02317	00	00266	00000
LLTKJ	0	LTJKI	0000			0392	00721	02320	00	00217	00000
LLNFB	0	LNFBK	0000			0393	00722	02321	00	00263	00000
LLNFK	0	LNFKI	0000			0394	00723	02322	00	00247	00000
LDPHI	0	LPHI	0000			0395	00724	02323	00	00156	00000
LLKI	0	LLKIA	LLKIB			0396	00725	02324	00	00241	00244
MTNKN	0	0000	0000			0397	00726	02325	00	00000	00000
MTKKK	0	0000	0000			0398	00727	02326	00	00000	00000
MTLOP	0	0000	0000			0399	00730	02327	00	00000	00000
MTPPP	0	0000	0000			0400	00731	02330	00	00000	00000
MTKVV	0	0000	0000			0401	00732	02331	00	00000	00000
MAYS	0	LLNCK	0000			0402	00733	02332	00	02317	00000
NPLS3	0	0000	0000			0404	00734	02333	00	00000	00000
NR	0	0000	0000			0405	00735	02334	00	00000	00000
NRM1	0	0000	0000			0406	00736	02335	00	00000	00000

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NP1	0	0000	0000	0407	00737	02336	00	00000	00000	NOP
RI	0	0000	0000	0408	00740	02337	00	00000	00000	NOP
RIIM1	0	0000	0000	0410	00741	02340	00	00000	00000	NOP
RMIN1	0	0000	0000	0411	00742	02341	00	00000	00000	NOP
RTALY	0	0000	0000	0412	00743	02342	00	00000	00000	NOP
TEM37	0	LFBK	0000	0413	00744	02343	00	00164	00000	NOP
TEM38	0	LNL	LNL	0414	00745	02344	00	00252	00252	NOP
TEMP3	0	TEMP4	0000	0415	00746	02345	00	02346	00000	NOP
TEMP4	0	LNCK	0000		00747	02346	00	00266	00000	
	0	LNL	0000	0417	00750	02347	00	00252	00000	NOP
	0	LNFBK	0000	0418	00751	02350	00	00263	00000	NOP
	0	LNCK	0000	0419	00752	02351	00	00266	00000	NOP
UNPS1	0	0000	0000	0421	00753	02352	00	00000	00000	NOP
UX	0	0000	0000	0422	00754	02353	00	00000	00000	NOP
UXVX	0	0000	0000	0423	00755	02354	00	00000	00000	NOP
URVR	0	0000	0000	0424	00756	02355	00	00000	00000	NOP
U1VR	0	0000	0000	0425	00757	02356	00	00000	00000	NOP
VXX	0	0000	0000	0426	00760	02357	00	00000	00000	NOP
VVX	0	0000	0000	0427	00761	02360	00	00000	00000	NOP
VX	0	0000	0000	0428	00762	02361	00	00000	00000	NOP
XR	0	0000	0000	0429	00763	02362	00	00000	00000	NOP
XUR	0	0000	0000	0430	00764	02363	00	00000	00000	NOP
XI	0	0000	0000	0431	00765	02364	00	00000	00000	NOP
YR	0	0000	0000	0432	00766	02365	00	00000	00000	NOP
YOUNT	0	0000	0000	0433	00767	02366	00	00000	00000	NOP
ZOUNT	0	0000	0000	0434	00770	02367	00	00000	00000	NOP
VO	0	0000	0000	0435	00771	02370	00	00000	00000	NOP
MAYSZ		LDK			00772	02371	00	02316	00000	
U1	1				00773	02372	00	00001	00000	
U2	2				00774	02373	00	00002	00000	
U3	3				00775	02374	00	00003	00000	
U4	4				00776	02375	00	00004	00000	
U5	5				00777	02376	00	00005	00000	
U6	6				01000	02377	00	00006	00000	
U7	7				01001	02400	00	00007	00000	
U8	8				01002	02401	00	00010	00000	
U9	9				01003	02402	00	00011	00000	
U10	10				01004	02403	00	00012	00000	
U11	11				01005	02404	00	00013	00000	
U12	12				01006	02405	00	00014	00000	
U13	13				01007	02406	00	00015	00000	
U14	14				01010	02407	00	00016	00000	
U15	15				01011	02410	00	00017	00000	
V1	1				01012	02411	00	00000	00001	
V2	2				01013	02412	00	00000	00002	
V3	3				01014	02413	00	00000	00003	
V4	4				01015	02414	00	00000	00004	
V5	5				01016	02415	00	00000	00005	
V6	6				01017	02416	00	00000	00006	
V7	7				01020	02417	00	00000	00007	
V8	8				01021	02420	00	00000	00010	
V9	9				01022	02421	00	00000	00011	
V10	10				01023	02422	00	00000	00012	
V11	11				01024	02423	00	00000	00013	
V12	12				01025	02424	00	00000	00014	
V13	13				01026	02425	00	00000	00015	
V14	14				01027	02426	00	00000	00016	
V15	15				01030	02427	00	00000	00017	
U1V1	1	1			01031	02430	00	00001	00001	
U2V2	2	2			01032	02431	00	00002	00002	

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U3V3	3	3	01033	02432	00	00003	00003		
U4V4	4	4	01034	02433	00	00004	00004		
U5V5	5	5	01035	02434	00	00005	00005		
U4V2	4	2	01036	02435	00	00004	00002		
U6V3	6	3	01037	02436	00	00006	00003		
U2V1	2	1	01040	02437	00	00002	00001		
U1V2	1	2	01041	02440	00	00001	00002		
U2V3	2	3	01042	02441	00	00002	00003		
FO	0	0000	0445	01043	02442	00	00000	00000	NOP
VARBL	0	LCAPP	0446	01044	02443	00	00161	00161	NOP
	0	V1	0447	01045	02444	00	02411	02334	NOP
	0	VO	0448	01046	02445	00	02370	02370	NOP
	0	LNLP	0449	01047	02446	00	00252	00252	NOP
	0	I	0450	01050	02447	00	00012	00014	NOP
	0	VO	0451	01051	02450	00	02370	02370	NOP
	0	LPTS	0452	01052	02451	00	00142	00142	NOP
	0	V1	0453	01053	02452	00	02411	00014	NOP
	0	VO	0454	01054	02453	00	02370	02370	NOP
	0	LPHI	0455	01055	02454	00	00156	00156	NOP
	0	V1	0456	01056	02455	00	02411	02336	NOP
	0	VO	0457	01057	02456	00	02370	02370	NOP
	0	LMESH	0458	01060	02457	00	00172	00172	NOP
	0	V1	0459	01061	02460	00	02411	02333	NOP
	0	VO	0460	01062	02461	00	02370	02370	NOP
	0	LPHKI	0461	01063	02462	00	00200	00200	NOP
	0	R	0462	01064	02463	00	00014	02271	NOP
	0	VO	0463	01065	02464	00	02370	02370	NOP
	0	LTKIJ	0464	01066	02465	00	00217	00217	NOP
	0	V1	0465	01067	02466	00	02411	02340	NOP
	0	VO	0466	01070	02467	00	02370	02370	NOP
	0	LNDKI	0467	01071	02470	00	00260	00260	NOP
	0	I	0468	01072	02471	00	00012	00014	NOP
	0	VO	0469	01073	02472	00	02370	02370	NOP
	0	LNSKI	0470	01074	02473	00	00255	00255	NOP
	0	I	0471	01075	02474	00	00012	00014	NOP
	0	VO	0472	01076	02475	00	02370	02370	NOP
	0	LNFKI	0473	01077	02476	00	00247	00247	NOP
	0	I	0474	01100	02477	00	00012	00014	NOP
	0	VO	0475	01101	02500	00	02370	02370	NOP
	0	LNKL	0476	01102	02501	00	00302	00302	NOP
	0	I	0477	01103	02502	00	00012	00014	NOP
	0	VO	0478	01104	02503	00	02370	02370	NOP
	0	LNCKI	0479	01105	02504	00	00266	00266	NOP
	0	I	0480	01106	02505	00	00012	00014	NOP
	0	VO	0481	01107	02506	00	02370	02370	NOP
	0	LLKIA	0482	01110	02507	00	00241	00241	NOP
	0	I	0483	01111	02510	00	00012	00014	NOP
	0	VO	0484	01112	02511	00	02370	02370	NOP
	0	LLKIB	0485	01113	02512	00	00244	00244	NOP
	0	I	0486	01114	02513	00	00012	00014	NOP
	0	VO	0487	01115	02514	00	02370	02370	NOP
	0	LNPKI	0488	01116	02515	00	00271	00271	NOP
	0	I	0489	01117	02516	00	00012	00014	NOP
	0	VO	0490	01120	02517	00	02370	02370	NOP
	0	LNPKI	0491	01121	02520	00	00274	00274	NOP
	0	I	0492	01122	02521	00	00012	00014	NOP
	0	VO	0493	01123	02522	00	02370	02370	NOP
	0	LNFBK	0494	01124	02523	00	00263	00263	NOP
	0	I	0495	01125	02524	00	00012	00014	NOP
	0	VO	0496	01126	02525	00	02370	02370	NOP

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0	LKPXE	LKPXE	0497	01127	02526	00	00236	00236	NOP
0	I	R	0498	01130	02527	00	00012	00014	NOP
0	VO	VO	0499	01131	02530	00	02370	02370	NOP
0	LREGN	LREGN	0500	01132	02531	00	00145	00145	NOP
0	VI	R	0501	01133	02532	00	02411	00014	NOP
0	VO	VO	0502	01134	02533	00	02370	02370	NOP
0	LRDIF	LRDIF	0503	01135	02534	00	00137	00137	NOP
0	VI	R	0504	01136	02535	00	02411	00014	NOP
0	VO	VO	0505	01137	02536	00	02370	02370	NOP
0	LNKE	LNKE	0506	01140	02537	00	00277	00277	NOP
0	VI	R	0507	01141	02540	00	02411	00014	NOP
0	VO	VO	0508	01142	02541	00	02370	02370	NOP
	LDKI	LDKI		01143	02542	00	00211	00211	
	I	R		01144	02543	00	00012	00014	
	VO	VO		01145	02544	00	02370	02370	
	LNGY	LNGY		01146	02545	00	00131	00131	
	VI	IPLS3		01147	02546	00	02411	02272	
	VO	VO		01150	02547	00	02370	02370	
				01151	02550	37	77777	77777	
DELVN	MJ	RILEY	0685	01152	02551	45	00000	02553	
DELV2	MJ	FILL	0686	01153	02552	45	00000	30000	
RILEY	SP	DELV2		01154	02553	31	02552	00017	
	TU	A	CHUKR	0688	01155	02554	15	30000	02556
	RPB	2	CHUKR+1		01156	02555	75	30002	02557
CHUKR	TP	FILL	PAR1	0690	01157	02556	11	30000	02641
	TP	VI	SHRTP	0691	01160	02557	11	02411	02646
	TU	PAR2	LEAD	0692	01161	02560	15	02642	02575
	TV	PAR2	LEAD	0693	01162	02561	16	02642	02575
	RS	LEAD	VI	0694	01163	02562	23	02575	02411
	RPV	9	L+2		01164	02563	75	10010	02565
	TU	SSAM	ALYYY	0696	01165	02564	15	02643	02565
ALYYY	TU	FILL	LEAD0	0697	01166	02565	15	30000	02616
	TV	FILL	CRAWF	0698	01167	02566	16	30000	02576
	TV	FILL	LONG3	0699	01170	02567	16	30000	02610
	TV	FILL	LONG6		01171	02570	16	30000	02612
	TV	FILL	LONG7	0700	01172	02571	16	30000	02614
	TV	FILL	LEAD4	0701	01173	02572	16	30000	02617
	TV	FILL	HUDIE	0702	01174	02573	16	30000	02623
	TV	FILL	HUDI7	0703	01175	02574	16	30000	02625
LEAD	FS	FILL	FILL	0704	01176	02575	65	30000	30000
CRAWF	TP	Q	FILL	0705	01177	02576	11	31000	30000
	TU	PAR1	BELLY	0706	01200	02577	15	02641	02600
BELLY	SP	FILL	0000	0707	01201	02600	31	30000	00000
	ZJ	IDA	LEAD0	0708	01202	02601	47	02602	02616
IDA	TU	PAR1	IRENE	0709	01203	02602	15	02641	02604
	SP	VI	0000	0710	01204	02603	31	02411	00000
IRENE	EJ	FILL	LEAD1	0711	01205	02604	43	30000	02621
	TV	PAR1	LONG4	0712	01206	02605	16	02641	02611
	TU	PAR2	LONG3	0713	01207	02606	15	02642	02610
	TV	PAR2	LONG3	0714	01210	02607	16	02642	02610
LONG3	FM	FILL	FILL	0715	01211	02610	66	30000	30000
LONG4	FM	Q	FILL	0716	01212	02611	66	31000	30000
LONG6	FM	Q	FILL	0717	01213	02612	66	31000	30000
	FM	Q	F2	0718	01214	02613	66	31000	02653
LONG7	TP	Q	FILL	0719	01215	02614	11	31000	30000
	MJ		BAYOU	0720	01216	02615	45	00000	02626
LEAD0	FD	FILL	F2	0721	01217	02616	67	30000	02653
LEAD4	TP	Q	FILL	0722	01220	02617	11	31000	30000
	MJ		BAYOU	0723	01221	02620	45	00000	02626
LEAD1	TU	PAR2	HUDIE	0724	01222	02621	15	02642	02623

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HUDIE	FM	FILL	FILL	0725	01223	02622	16	02641	02624
HUDIE	FM	U	FILL	0726	01224	02623	66	30000	30000
HUDI7	TP	U	FILL	0727	01225	02624	66	31000	30000
BAYOU	SP	SHRIP	0000	0728	01226	02625	11	31000	30000
	ZJ	GUMBO	GTOUT	0729	01227	02626	31	02646	00000
GUMBO	TP	VO	SHRIP	0730	01230	02627	47	02630	02635
	RA	LEAD	U1V1	0731	01231	02630	11	02370	02646
	RPV	S	L+2	0732	01232	02631	21	02575	02430
	RA	ALYYV	U1		01233	02632	75	20010	02634
	MJ		ALYYV	0734	01234	02633	21	02565	02372
GTOUT	RA	DELV2	V2	0735	01235	02634	45	00000	02565
	FA	DELVM	DELVP	0736	01236	02635	21	02552	02412
	TP	U	DELVT	0737	01237	02636	64	02651	02647
	MJ		DELV2	0738	01240	02637	11	31000	02650
PAR1				0739	01241	02640	45	00000	02552
PAR2				0740	01242	02641	00	00000	00000
SSAM		SAM62		0741	01243	02642	00	00000	00000
SAM62		DELVM	DELVM	0742	01244	02643	00	02644	00000
SAM63		DELVP	DELVP	0743	01245	02644	00	02651	02651
SHRIP				0744	01246	02645	00	02647	02647
DELVP				0745	01247	02646	00	00000	00000
DELVT				0746	01250	02647	00	00000	00000
DELVM				0747	01251	02650	00	00000	00000
PI	F	3.141592/		0748	01252	02651	00	00000	00000
F2	F	2			01253	02652	20	26220	77327
PASS	MJ		L+4		01254	02653	20	24000	00000
	MS				01255	02654	45	00000	02660
PA2	MJ		FILL		01256	02655	56	00000	00000
PAP			FILL		01257	02656	45	00000	30000
	SP	PA2	15		01260	02657	00	00000	30000
	TU	A	PA3		01261	02660	31	02656	00017
PA3	TP	FILL	PAP		01262	02661	15	32000	02662
	LO	PAP	A+18		01263	02662	11	30000	02657
	AT	PAP	A		01264	02663	55	02657	32022
	TP	VO	DUMP47		01265	02664	35	02657	32000
	TV	A	DUMP67		01266	02665	11	02370	02704
	RA	UUMP67	CONS6		01267	02666	16	32000	02704
	EF		DUMP67		01270	02667	21	02704	02673
	RA	PA2	V1		01271	02670	17	00000	02704
CONS6	B	020006400000	PA2		01272	02671	21	02656	02411
REWIND	MJ		L+3		01273	02672	45	00000	02656
REWIND2	MS				01274	02673	02	00064	00000
	MJ		FILL		01275	02674	45	00000	02677
	SP	TAPE4			01276	02675	56	00000	00000
	AT	CREWB	DUMP67		01277	02676	45	00000	30000
	EF		DUMP47		01300	02677	31	00073	00014
	MJ		REWIND2		01301	02700	35	02703	02704
CREWD	B	020020000000			01302	02701	17	00000	02704
DUMP67					01303	02702	45	00000	02676
LLAST			LAST		01304	02703	02	00200	00000
LAST	X53	DMM 13			01305	02704	00	00000	00000
	SETL		10B)		01306	02705	00	00000	02706
IDEN					01307	02706	27	47470	00406
N					01310	00010	00	00000	00000
I					01311	00011	00	00000	00000
B					01312	00012	00	00000	00000
R	0000	0000			01313	00013	00	00000	00000
S	0000	0000			0006	01314	00014	00	00000
					0007	01315	00015	00	00000

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				01316	00016	00	00000	00000	
		0000	0000	0008	01317	00017	00	00000	
INF1		0000	0000	0009	01320	00020	00	00000	
INF2		0000	0000	0010	01321	00021	00	00000	
INF3		0000	0000	0011	01322	00022	00	00000	
INF4		0000	0000	0012	01323	00023	00	00000	
INF5		0000	0000	0013	01324	00024	00	00000	
INF6		0000	0000	0014	01325	00025	00	00000	
INF7		0000	0000	0015	01326	00026	00	00000	
INF8		0000	0000	0016	01327	00027	00	00000	
INF9		0000	0000	0017	01330	00030	00	00000	
INF10		0000	0000	0018	01331	00031	00	00000	
INF11		0000	0000	0019	01332	00032	00	00000	
INF12		0000	0000	0020	01333	00033	00	00000	
RHO		0000	0000	0021	01334	00034	00	00000	
VARI				0022	01335	00035	00	00000	
KKK					01336	00036	00	00000	
NOM					01337	00037	00	00000	
					01340	00040	00	00000	
		0000	0000	0023	01341	00041	00	00000	
PSUBO	F	3.12	13		01342	00042	25	57060	
YSUBX	F	5.1	-3	FISSIONS-KW+SEC	01343	00043	17	06111	
YSUBI	F	5.6	-2	XE135 ATOMS-FISSION	01344	00044	17	47126	
YSUBP	F	1.4	-2	I135 ATOMS-FISSION	01345	00045	17	27126	
LAMXE	F	2.1	-5	PR149 ATOMS-FISSION	01346	00046	16	15402	
LAMI	F	2.9	-5	PROB-SEC DECAY XE135	01347	00047	16	17464	
LAMPR	F	4.1	-6	PROB-SEC DECAY I135	01350	00050	15	74231	
RZERO	F			0	01351	00051	00	00000	
TIME	F			0	01352	00052	00	00000	
EPSIL	F	0.0001		0	01353	00053	00	00000	
EPS2	F	0.0001		0	01354	00054	16	05174	
EPS3	F	0.0001		0	01355	00055	16	05174	
EPS4	F	0.0001		0	01356	00056	16	05174	
KO	F	1.0		0	01357	00057	16	05174	
OMEGA	F			1.0	01360	00060	20	14000	
DZDK	F	1.0		DIFF. ACCEL. FACTOR	01361	00061	00	00000	
QQ	F	0.000	0.000	DZ-DK FIRST GUESS	01362	00062	20	14000	
DELTS	F			POWER DENSITY KW-CENT	01363	00063	00	00000	
DTMAX	F			TIME SINCE SHUTDOWN, SEC	01364	00064	00	00000	
TAPE1	B	1			01367	00067	00	00000	
TAPE2	B	2		PROGRAM TAPE	01370	00070	00	00000	
TAPE3	B	3		BASIC LIBRARY TAPE	01371	00071	00	00000	
TAPE4	B	4		MICKO GROUP TAPE NEW	01372	00072	00	00000	
TAPE5	B	5		NUCLEAR CONSTANT TAPE	01373	00073	00	00000	
TAPE6	B	6		MICKO GROUP TAPE OLD	01374	00074	00	00000	
TAPE7	B	7		RAW DATA TAPE	01375	00075	00	00000	
TAPE8	B	10		INTERMEDIATE TAPE	01376	00076	00	00000	
TAPE9	B	11		OUTPUT TAPE	01377	00077	00	00000	
TAPE10	B	12		DUMP TAPE	01400	00100	00	00000	
DIA1		0000	0000	DDM SERVICE LIBRARY	01401	00101	00	00000	
DIA2		0000	0000		0045	01402	00102	00	00000
DIA3		0000	0000		0046	01403	00103	00	00000
DIA4		0000	0000		0047	01404	00104	00	00000
DIA5		0000	0000		0048	01405	00105	00	00000
DIA6		0000	0000		0049	01406	00106	00	00000
DIA7		0000	0000		0050	01407	00107	00	00000
					0051	01410	00110	00	00000
					0052	01411	00111	00	00000

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UIA8	0000	0000	0053	01412	00112	00	00000	00000
UIA9	0000	0000	0054	01413	00113	00	00000	00000
UIA10	0000	0000	0055	01414	00114	00	00000	00000
UIA11	0000	0000	0056	01415	00115	00	00000	00000
UIA12	0000	0000	0057	01416	00116	00	00000	00000
UIA13	0000	0000	0058	01417	00117	00	00000	00000
UIA14	0000	0000	0059	01420	00120	00	00000	00000
UIA15	0000	0000	0060	01421	00121	00	00000	00000
UIA16	0000	0000	0061	01422	00122	00	00000	00000
UIA17	0000	0000	0062	01423	00123	00	00000	00000
UIA18	0000	0000	0063	01424	00124	00	00000	00000
				01425	00125	00	00000	00000
				01426	00126			
LISOP	RSRV	3		01431	00131			
LENGY	RSRV	3		01434	00134			
LAKBK	RSRV	3		01437	00137			
LRDIF	RSRV	3		01442	00142			
LPTS	RSRV	3		01445	00145			
LREGN	RSRV	3		01450	00150			
LBSUO	RSRV	3		01453	00153			
LBSUN	RSRV	3		01456	00156			
LPHI	RSRV	3		01461	00161			
LCAPP	RSRV	3		01464	00164			
LPBKI	RSRV	3		01467	00167			
LSFKI	RSRV	3		01472	00172			
LMESH	RSRV	3		01475	00175			
LBMX	RSRV	3		01500	00200			
LPBKI	RSRV	3		01503	00203			
LNSMT	RSRV	3		01506	00206			
LNJET	RSRV	3		01511	00211			
LCAPD	RSRV	3		01514	00214			
LCAPT	RSRV	3		01517	00217			
LCPTI	RSRV	3		01522	00222			
LCAPP	RSRV	3		01525	00225			
LXKI	RSRV	3		01530	00230			
LMFKI	RSRV	3		01533	00233			
LPDIF	RSRV	3		01536	00236			
LKPXE	RSRV	3		01541	00241			
LLKIA	RSRV	3		01544	00244			
LLKIB	RSRV	3		01547	00247			
LNFKI	RSRV	3		01552	00252			
LNLP	RSRV	3		01555	00255			
LNSKI	RSRV	3		01560	00260			
LNDKI	RSRV	3		01563	00263			
LNFP	RSRV	3		01566	00266			
LNCKI	RSRV	3		01571	00271			
LNRKI	RSRV	3		01574	00274			
LNPKI	RSRV	3		01577	00277			
LNKE	RSRV	3		01602	00302			
LNKL	RSRV	3		01605	00305			
LSHUF	RSRV	3		01610	00310	00	00000	00000
CRCO1	B			01611	00311			
Z3	RSRV	3		01614	00314			
Z2	RSRV	3		01617	00317			
Z1	RSRV	3		01622	00322	00	00000	00000
Z				01623	00323	00	00000	00000
DELTA			CURRENT DZ-DK	01624	00324	00	00000	00000
MU			CURRENT REACTIVITY	01625	00325	00	00000	00000
BLOCK	B			01626	00326	00	00000	00000
NOCI	B		PRINT ROUTINE WORD COUNT	01627	00327	00	00000	00000
MNOO1	B		CONTROL WORD DIFF. MON.					

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MN002	B		CONTROL WORD ADJ. MUN.	01630	00330	00	00000	00000
SUBR	RSRV	9	SUBROUTINE EQUIVALENCES	01631	00331			
MLM1	RSRV	4	MONITOR ALARMS	01642	00342			
URUM	B		FIRST TEMP DRUM STORAGE	01646	00346	00	00000	00000
MINCE	B		FIRST TEMP CORE STORAGE	01647	00347	00	00000	00000
ISO			XE+SM ISOTOPE NUMBER	01650	00350	00	00000	00000
MARK1			CONTROL WORD XE+SM CONCR	01651	00351	00	00000	00000
MARK2				01652	00352	00	00000	00000
K3				01653	00353	00	00000	00000
STAGAT				01654	00354	00	00000	00000
INDEXS				01655	00355	00	00000	00000
DTWICE				01656	00356	00	00000	00000
ADMCFE	RSRV	3		01657	00357			
ISTBP				01662	00362	00	00000	00000
DELTAT				01663	00363	00	00000	00000
LNFBK	EQLS	LNFP						
LDK1	EQLS	LCAPD						
LTKI	EQLS	LCAPT						
LTKIJ	EQLS	LCPTI						
LFKI	EQLS	LCAPF						
LMKI	EQLS	LMFKI						
BK1	EQLS	SUBR+3						
BK2	EQLS	SUBR+5						
BRITE	EQLS	SUBR+6						
WR2	EQLS	SUBR+8						
ALLOK	EQLS	SUBR						
ALL2	EQLS	SUBR+2						
END							00000	



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	TP	VI	DILON	0059	00072	01471	11	01740	01713
	TP	I	CASEY	0060	00073	01472	11	00012	01712
	RS	CASEY	VI	0061	00074	01473	23	01712	01740
BUENO	TU	FILL	ADK13	0062	00075	01474	15	30000	01506
	TP	I	BLIMP	0063	00076	01475	11	00012	01710
	RS	BLIMP	OILON	0064	00077	01476	23	01710	01713
	MP	BLIMP	R	0065	00100	01477	71	01710	00014
	TP	A	BLIMP	0066	00101	01500	11	32000	01710
	SP	BLIMP	15	0067	00102	01501	31	01710	00017
	TP	A	BLIMP	0068	00103	01502	11	32000	01710
	RA	ADK13	BLIMP	0069	00104	01503	21	01506	01710
	TP	K	SWAMI	0070	00105	01504	11	00014	01722
	RS	SWAMI	VI	0071	00106	01505	23	01722	01740
ADK13	TP	FILL	FILL	0072	00107	01506	11	30000	30000
	RA	ADK13	UIV1	0073	00110	01507	21	01506	01745
	IJ	SWAMI	ADK13	0074	00111	01510	41	01722	01506
	RA	DILON	VI	0075	00112	01511	21	01713	01740
	IJ	CASEY	BUENO	0076	00113	01512	41	01712	01474
	TU	LSHUF	ADK22	0077	00114	01513	15	00305	01515
BRAVO	RFB		L+2	0078	00115	01514	75	30000	01516
ADK22	TP	FILL	FILL	0079	00116	01515	11	30000	30000
	TV	ADK22	ADK14	0080	00117	01516	16	01515	01520
	RA	ADK14	RI	0081	00120	01517	21	01520	01720
ADK14	TP	FLAGO	FILL	0082	00121	01520	11	01753	30000
ADK15	MJ	0000	FILL	0083	00122	01521	45	00000	30000
PETE	RA	ADK15	V4	0084	00123	01522	21	01521	01743
	TV	LTKI	ADK22	0085	00124	01523	16	00214	01515
	TU	STAR2	BUENO	0086	00125	01524	15	01726	01474
	MJ	0000	ADK12	0087	00126	01525	45	00000	01470
	RA	ADK15	V4	0088	00127	01526	21	01521	01743
	TV	LXKI	ADK22	0089	00130	01527	16	00225	01515
	TU	STAR3	BUENO	0090	00131	01530	15	01727	01474
	MJ	0000	ADK12	0091	00132	01531	45	00000	01470
	RA	ADK15	V4	0092	00133	01532	21	01521	01743
	TV	LFKI	ADK22	0093	00134	01533	16	00222	01515
	TU	STAR4	BUENO	0094	00135	01534	15	01730	01474
	MJ	0000	ADK12	0095	00136	01535	45	00000	01470
MOSES	SP	RI	15	0096	00137	01536	31	01720	00017
	TP	U7777B	Q	0097	00140	01537	11	01754	31000
	QS	A	MOS2	0098	00141	01540	53	32000	01543
	TU	LFKI	MOS3	0099	00142	01541	15	00222	01544
	TV	LMKI	MOS3	0099	00143	01542	16	00230	01544
MOS2	RFB		L+2	0100	00144	01543	75	30000	01545
MOS3	TP	FILL	FILL	0101	00145	01544	11	30000	30000
	TV	MOS3	MOS4	0102	00146	01545	16	01544	01547
	RA	MOS4	RI	0103	00147	01546	21	01547	01720
MOS4	TP	FLAGO	FILL	0104	00150	01547	11	01753	30000
TIJ	TU	LTKIJ	DOPE	0105	00151	01550	15	00217	01600
	TP	I	A	0106	00152	01551	11	00012	32000
	EJ	VI	GANA-2	0107	00153	01552	43	01740	01622
	TU	ADK12	DK12A	0108	00154	01553	15	01470	01555
	RA	DK12A	U1	0109	00155	01554	21	01555	01746
DK12A	TV	FILL	DOPE	0110	00156	01555	16	30000	01600
	TP	I	COUNT	0110	00157	01556	11	00012	01711
	RS	COUNT	V2	0111	00160	01557	23	01711	01741
	SP	R	15	0112	00161	01560	31	00014	00017
	TP	A	UR	0113	00162	01561	11	32000	01731
	TP	U7777B	Q	0114	00163	01562	11	01754	31000
	QS	A	ALPHP	0115	00164	01563	53	32000	01607
	TV	LTKIJ	ALPHA	0116	00165	01564	16	00217	01610

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RA	ALPHA	R11M1	0114	0016	01566	23	01610	00014
RS	ALPHA	R	0114	0016	01566	23	01610	00014
TP	V2	VX	0115	00170	01567	11	01741	01735
TP	UR	UR	0116	00171	01570	11	01731	01732
TP	UR	UR	0117	00172	01571	11	01731	01732
RA	UR	UR	0118	00173	01572	21	01733	01731
TP	UR	UR	0119	00174	01573	11	01737	01734
TP	UR	UR	0119	00174	01573	11	01737	01734
TP	UR	UR	0118	00173	01572	21	01733	01731
TP	UR	UR	00176	01575	01575	11	01754	01757
OS	A	DOP8	00177	01576	01576	53	00000	01577
DOP8	RFB	L+2	00200	01577	01577	75	00000	01601
TP	FILL	I	0123	00201	01600	11	00000	00000
TP	FILL	IMINX	0124	00202	01601	11	00012	01714
RS	VX	IMINX	0125	00203	01602	23	01714	01735
TU	OKI28	OKI28	00204	01603	01603	15	01555	01604
TU	FILL	ALPHA	00205	01604	01604	15	00000	01610
TP	UR	UR	0127	00206	01605	11	01732	01736
RA	ALPHA	UR	0128	00207	01606	21	01610	01734
RFB	L+2	R	00210	01607	01607	75	00000	01611
TP	FILL	ALPHA	00211	01610	01610	11	00000	00014
RS	ALPHA	R	00212	01611	01611	23	01610	00014
RA	UR	UR	00213	01612	01612	21	01610	01736
RA	UR	UR	00214	01613	01613	21	01736	01731
IJ	IMINX	ALPHA	00215	01614	01614	41	01714	01607
RA	UR	UR	00216	01615	01615	21	01732	01731
RA	VX	V1	00217	01616	01616	21	01735	01740
RA	UR	UR	00218	01617	01617	21	01734	01733
RA	UR	UR	00220	01617	01617	21	01734	01733
RA	UR	UR	00221	01620	01620	21	01733	01731
IJ	COUNT	BETA	00222	01621	01621	41	01711	01601
TV	LTKU	GAMA	00223	01622	01622	16	00217	01624
RA	GAMA V	R11M1	00224	01623	01623	21	01624	01717
TP	FILL	FLAG	00225	01624	01624	11	01753	00000
TP	MARK2	MARK2	00226	01625	01625	11	00075	00352
TV	LDIU	JUMPR	00227	01626	01626	16	01755	01643
SP	TAP6	30	00230	01627	01627	31	00075	00036
TP	A	NCWR	00231	01630	01630	11	00000	01640
TP	VI	COUNT	00232	01631	01631	11	01740	01711
TU	L+1	VARB	00233	01632	01632	15	01660	01636
SP	MIG	MIG	00234	01633	01633	31	01720	00017
TU	A	NCWR	00235	01634	01634	15	00000	01640
RA	NCWR	U1	00236	01635	01635	21	01640	01746
TV	FILL	NCWR	00237	01636	01636	16	00000	01640
RJ	BRITE	NR2	00240	01637	01637	37	00341	00337
RA	FILL	U3	00241	01640	01640	00	00000	00000
RA	L-3	U3	00242	01641	01641	21	01636	01750
IJ	COUNT	L-4	00243	01642	01642	41	01711	01636
RJ	FILL	JUMPR	00244	01643	01643	37	01643	00000
TP	V2	COUNT	00245	01644	01644	11	01741	01711
TV	LGOUT	JUMPR	00246	01645	01645	16	01756	01643
MJ	SEAD	SEAD	00247	01646	01646	45	00000	01633
SP	MIMI	MIMI	00250	01647	01647	31	01717	00017
MJ	SEAD	SEAD	00251	01650	01650	45	00000	01634
MJ	TAP4	12	00252	01651	01651	31	00073	00014
AT	KONREW	DUMPR8	00253	01652	01652	35	01707	01706
SP	TAP6	12	00254	01653	01653	17	00000	01706
EF	AT	DUMPR8	00256	01655	01655	35	01707	01706
EF	AT	DUMPR8	00257	01656	01656	17	00000	01706
MJ	ADU2	ADU2	00259	01657	01657	45	00000	01403
OU	LOKI	LOKI	00261	01660	01660	04	00211	00211
VARB	OU	LOKI	00261	01660	01660	04	00211	00211

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0	VI	RI	0145	00262	01661	00	01740	01720	NOP	
0	VO	VO	0146	00263	01662	00	01737	01737	NOP	
04	LTKI	LTKI		00264	01663	04	00214	00214	NOP	
0	VI	RI	0148	00265	01664	00	01740	01720	NOP	
0	VO	VO	0149	00266	01665	00	01737	01737	NOP	
04	LTKIJ	LTKIJ		00267	01666	04	00217	00217	NOP	
0	VI	PLUS1		00270	01667	00	01740	01721	NOP	
0	VO	VO	0152	00271	01670	00	01737	01737	NOP	
04	LFKI	LFKI		00272	01671	04	00222	00222	NOP	
0	VI	RI	0154	00273	01672	00	01740	01720	NOP	
0	VO	VO	0155	00274	01673	00	01737	01737	NOP	
04	LXKI	LXKI		00275	01674	04	00225	00225	NOP	
0	VI	RI	0157	00276	01675	00	01740	01720	NOP	
0	VO	VO	0158	00277	01676	00	01737	01737	NOP	
04	LMKI	LMKI		00300	01677	04	00230	00230	NOP	
0	VI	RI	0160	00301	01700	00	01740	01720	NOP	
0	VO	VO	0161	00302	01701	00	01737	01737	NOP	
	LSHUF	LSHUF		00303	01702	00	00305	00305		
	VI	RI		00304	01703	00	01740	01720		
0	VO	VO	0164	00305	01704	00	01737	01737	NOP	
B	3777777777			00306	01705	37	77777	77777		
DUMP88				00307	01706	00	00000	00000		
KONREW	B	02002000000		00310	01707	02	00200	00000		
BLIMP	0	0000	0000	0187	00311	01710	00	00000	00000	NOP
COUNT	0	0000	0000	0188	00312	01711	00	00000	00000	NOP
CASEY	0	0000	0000	0189	00313	01712	00	00000	00000	NOP
DILON	0	0000	0000	0190	00314	01713	00	00000	00000	NOP
IMINX	0	0008	0000	0192	00315	01714	00	00000	00000	NOP
LOBAC	0	0000	RAMJN	0193	00316	01715	00	00000	01440	NOP
PABLO	0	0000	PETE	0194	00317	01716	00	00000	01522	NOP
RIIMI	0	0000	0000	0195	00320	01717	00	00000	00000	NOP
RI	0	0008	0000	0196	00321	01720	00	00000	00000	NOP
PLUS1					00322	01721	00	00000	00000	
SWAMI	0	0000	0000	0198	00323	01722	00	00000	00000	NOP
SAM	0	0000	0006	0199	00324	01723	00	00000	00000	NOP
SAM88	0	0000	0000	0200	00325	01724	00	00000	00000	NOP
STAR1	0	LDKI	0000	0201	00326	01725	00	00211	00000	NOP
STAR2	0	LTKI	0000	0202	00327	01726	00	00214	00000	NOP
STAR3	0	LFKI	0000	0203	00330	01727	00	00222	00000	NOP
STAR4	0	LMKI	0000	0204	00331	01730	00	00230	00000	NOP
UR	0	0000	0000	0205	00332	01731	00	00000	00000	NOP
UYR	0	0000	0000	0206	00333	01732	00	00000	00000	NOP
UZR	0	0000	0000	0207	00334	01733	00	00000	00000	NOP
UKR	0	0008	0000	0208	00335	01734	00	00000	00000	NOP
VX	0	0000	0000	0209	00336	01735	00	00000	00000	NOP
UXR	0	0008	0000	0210	00337	01736	00	00000	00000	NOP
VO	0	0000	0000	0211	00340	01737	00	00000	00000	NOP
V1					00341	01740	00	00000	00001	
V2					00342	01741	00	00000	00002	
V3					00343	01742	00	00000	00003	
V4					00344	01743	00	00000	00004	
V5					00345	01744	00	00000	00005	
U1V1	1	1			00346	01745	00	00001	00001	
U1					00347	01746	00	00001	00000	
U2	2				00350	01747	00	00002	00000	
U3	13				00351	01750	00	00003	00000	
URUM1	0	0000	0400	0220	00352	01751	00	00000	00000	NOP
GORE1			FILL		00353	01752	00	00000	30000	
ELAGO	B	3777777777			00354	01753	37	77777	77777	
U7777B	B	00077770000			00355	01754	00	07777	00000	

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LOTIJ			DOTIJ	00356	01755	00	00000	01647
LGOUT			WINDE	00357	01756	00	00000	01651
LLAST			LAST	00360	01757	00	00000	01760
LAST	XS3	0MM 14		00361	01760	27	47470	00407
	SETL		1081					
IDEN				00362	00010	00	00000	00000
N				00363	00011	00	00000	00000
I				00364	00012	00	00000	00000
B				00365	00013	00	00000	00000
R	0000		0000	0006	00366	00014	00	00000
S	0000		0000	0007	00367	00015	00	00000
Y				00370	00016	00	00000	00000
	0000		0000	0008	00371	00017	00	00000
INF1	0000		0000	0009	00372	00020	00	00000
INF2	0000		0000	0010	00373	00021	00	00000
INF3	0000		0000	0011	00374	00022	00	00000
INF4	0000		0000	0012	00375	00023	00	00000
INF5	0000		0000	0013	00376	00024	00	00000
INF6	0000		0000	0014	00377	00025	00	00000
INF7	0000		0000	0015	00400	00026	00	00000
INF8	0000		0000	0016	00401	00027	00	00000
INF9	0000		0000	0017	00402	00030	00	00000
INF10	0000		0000	0018	00403	00031	00	00000
INF11	0000		0000	0019	00404	00032	00	00000
INF12	0000		0000	0020	00405	00033	00	00000
	0000		0000	0021	00406	00034	00	00000
RHO	0000		0000	0022	00407	00035	00	00000
VARI			FX-CHANGE CON+MESH+P	00410	00036	00	00000	00000
KKK			FX-REGION INDEX	00411	00037	00	00000	00000
NOM			FX-ISOTOPE INDEX	00412	00040	00	00000	00000
	0000			00413	00041	00	00000	00000
PSUB0	F	3.12	13	FISSIONS-KW+SEC	00414	00042	25	57060 12073
YSUBX	F	3	-3	XE135 ATOMS-FISSION	00415	00043	17	06111 56457
YSUBI	F	5.6	-2	I135 ATOMS-FISSION	00416	00044	17	47126 01014
YSUBP	F	1.4	-2	PR149 ATOMS-FISSION	00417	00045	17	27126 01014
LAMXE	F	2.1	-5	PROB-SEC DECAY XE135	00420	00046	16	15402 44501
LAMI	F	2.9	-5	PROB-SEC DECAY I135	00421	00047	16	17464 24065
LAMPR	F	4.1	-6	PROB-SEC DECAY PR149	00422	00050	15	74231 12733
				00423	00051	00	00000	00000
RZERO	F			0 FIRST MESH POINT	00424	00052	00	00000 00000
TIME	F			0 CURRENT TIME	00425	00053	00	00000 00000
EPSIL	F	.00001		.00001 CONV CRIT REAC	00426	00054	16	05174 26542
EPS2	F	.00001		.00001 CONV CRIT POWER	00427	00055	16	05174 26542
EPS3	F	.00001		.00001 CONV CRIT KZERO	00430	00056	16	05174 26542
EPS4	F	.00001		.00001	00431	00057	16	05174 26542
K0	F	1.0		1.0 DESIRED REACTIVITY	00432	00060	20	14000 00000
OMEGA	F			DIFF. ACCEL. FACTOR	00433	00061	00	00000 00000
DZDK	F	1.0		DZ-DK FIRST GUESS	00434	00062	20	14000 00000
		0000	0000		00435	00063	00	00000 00000
QQ	F			POWER DENSITY KW-CM3	00436	00064	00	00000 00000
DELTS	F			TIME SINCE SHUTDOWN, SEC	00437	00065	00	00000 00000
DTMAX	F				00440	00066	00	00000 00000
					00441	00067	00	00000 00000
					00442	00070	00	00000 00001
TAPE1	B	1		PROGRAM TAPE	00443	00071	00	00000 00002
TAPE2	B	2		BASIC LIBRARY TAPE	00444	00072	00	00000 00003
TAPE3	B	3		MICRO GROUP TAPE NEW	00445	00073	00	00000 00004
TAPE4	B	4		NUCLEAR CONSTANT TAPE	00446	00074	00	00000 00005
TAPE5	B	5		MICRO GROUP TAPE OLD	00447	00075	00	00000 00006
TAPE6	B	6		RAW DATA TAPE	00448	00076	00	00000 00007
TAPE7	B	7		INTERMEDIATE TAPE				

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TAPE8	B	10	OUTPUT TAPE	00431	00077	00	00000	00010
TAPE9	B	11	DUMP TAPE	00432	00100	00	00000	00011
TAPE10	B	12	DMM SERVICE LIBRARY	00433	00101	00	00000	00012
		0000		00434	00102	00	00000	00000
DIA1		0000		00435	00103	00	00000	00000
DIA2		0000		00436	00104	00	00000	00000
DIA3		0000		00437	00105	00	00000	00000
DIA4		0000		00438	00106	00	00000	00000
DIA5		0000		00439	00107	00	00000	00000
DIA6		0000		00440	00110	00	00000	00000
DIA7		0000		00441	00111	00	00000	00000
DIA8		0000		00442	00112	00	00000	00000
DIA9		0000		00443	00113	00	00000	00000
DIA10		0000		00444	00114	00	00000	00000
DIA11		0000		00445	00115	00	00000	00000
DIA12		0000		00446	00116	00	00000	00000
DIA13		0000		00447	00117	00	00000	00000
DIA14		0000		00448	00120	00	00000	00000
DIA15		0000		00449	00121	00	00000	00000
DIA16		0000		00450	00122	00	00000	00000
DIA17		0000		00451	00123	00	00000	00000
DIA18		0000		00452	00124	00	00000	00000
				00453	00125	00	00000	00000
LISOP	RSRV	3		00500	00126			
LENGY	RSRV	3		00503	00131			
LAKBK	RSRV	3		00506	00134			
LRDIF	RSRV	3		00511	00137			
LPTS	RSRV	3		00514	00142			
LREGN	RSRV	3		00517	00145			
LBSUO	RSRV	3		00522	00150			
LBSUN	RSRV	3		00525	00153			
LPHI	RSRV	3		00530	00156			
LCAPP	RSRV	3		00533	00161			
LPHKI	RSRV	3		00536	00164			
LSFKI	RSRV	3		00541	00167			
LMESH	RSRV	3		00544	00172			
LBRMX	RSRV	3		00547	00175			
LPHKI	RSRV	3		00552	00200			
LNSMT	RSRV	3		00555	00203			
LNSET	RSRV	3		00560	00206			
LCAPD	RSRV	3		00563	00211			
LCAPT	RSRV	3		00566	00214			
LCPTI	RSRV	3		00571	00217			
LCAPP	RSRV	3		00574	00222			
LXKI	RSRV	3		00577	00225			
LMFKI	RSRV	3		00602	00230			
LPDIF	RSRV	3		00605	00233			
LKPXE	RSRV	3		00610	00236			
LLKIA	RSRV	3		00613	00241			
LLKIB	RSRV	3		00616	00244			
LNFKI	RSRV	3		00621	00247			
LNLP	RSRV	3		00624	00252			
LNSKI	RSRV	3		00627	00255			
LNDKI	RSRV	3		00632	00260			
LNFP	RSRV	3		00635	00263			
LNCKI	RSRV	3		00640	00266			
LNPKI	RSRV	3		00643	00271			
LNPKI	RSRV	3		00646	00274			
LNKE	RSRV	3		00651	00277			
LNKL	RSRV	3		00654	00302			

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LSHUF	RSRV	3	3		00607	00305		
CRCO1	B				00602	00310	00	00000 00000
Z3	RSRV	3	3		00603	00311		
Z2	RSRV	3	3		00606	00314		
Z1	RSRV	3	3		00611	00317		
Z					00614	00322	00	00000 00000
DELTA	F			CURRENT DZ-DK	00615	00323	00	00000 00000
MU				CURRENT REACTIVITY	00616	00324	00	00000 00000
BLOCK	B				00617	00325	00	00000 00000
NDCI	B			PRINT ROUTINE WORD COUNT	00700	00326	00	00000 00000
MN001	B			CONTROL WORD DIFF. MON.	00701	00327	00	00000 00000
MN002	B			CONTROL WORD ADJ. MON.	00702	00330	00	00000 00000
SUBR	RSRV	9	9	SUBROUTINE EQUIVALENCES	00703	00331		
MLM1	RSRV	4	4	MONITOR ALARMS	00714	00342		
DRUM	B			FIRST TEMP DRUM STORAGE	00720	00346	00	00000 00000
MINCE	B			FIRST TEMP COKE STORAGE	00721	00347	00	00000 00000
ISO				XE+SM ISOTOPE NUMBER	00722	00350	00	00000 00000
MARK1				CONTROL WORD XE+SM CONCR	00723	00351	00	00000 00000
MARK2					00724	00352	00	00000 00000
K3					00725	00353	00	00000 00000
STAGAT					00726	00354	00	00000 00000
INDEXS					00727	00355	00	00000 00000
DTWICE					00730	00356	00	00000 00000
ADMCFE	RSRV	3	3		00731	00357		
1STBP					00734	00362	00	00000 00000
DELTA1					00735	00363	00	00000 00000
LCK1	EQLS	LCAPD						
LTKI	EQLS	LCAPT						
LTKIJ	EQLS	LCPTI						
LFK1	EQLS	LCAPP						
LMK1	EQLS	LMFKI						
BK	EQLS	SUBR+3						
BK2	EQLS	SUBR+5						
BRITE	EQLS	SUBR+6						
WR2	EQLS	SUBR+8						
ALLOK	EQLS	SUBR						
ALL2	EQLS	SUBR+2						
END								00000
								00000

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TAVLE V-2M  
XENON SAMARIUM

SETL	I	140081					
XESUM	XE3	DMM 15			00091	01400	27 47470 00410
	M.I		MUSEX		00092	01401	45 00000 01404
	MC				00093	01402	56 00000 00000
XESU2	MJ		FILL		00094	01403	45 00000 30000
MUSEX	TP	I	IPLS3		00095	01404	11 00012 03370
	RA	IPLS3	V3		0018	00096	01405 21 03370 03417
	TP	R	RPLS1		0019	00097	01406 11 00014 03371
	RA	RPLS1	V1		0020	00010	01407 21 03371 03362
	TP	N	NPLS3		0021	00011	01410 11 00011 03372
	RA	NPLS3	V3		0022	00012	01411 21 03372 03417
	TP	I	IPLS2		0023	00013	01412 11 00012 03373
	RA	IPLS2	V2		0024	00014	01413 21 03373 03363
	TP	LLAST	A			00015	01414 11 03465 32000
	TJ	MINCE	TPMC			00016	01415 42 00347 01420
	TP	LLAST	CORE1			00017	01416 11 03465 03366
	MJ		TPMC+1			00020	01417 45 00000 01421
TPMC	TP	MINCE	CORE1			00021	01420 11 00347 03366
	RA	CORE1	V1			00022	01421 21 03366 03362
	RJ	ALL2	ALL0K		0025	00023	01422 37 00333 00331
	R	CORE1	DRUM1		0026	00024	01423 00 03366 03367
	R	VAREL	0000		0027	00025	01424 00 03254 00000
	SP	R	15			00026	01425 31 00014 00017
	AT	CONS1	XS2			00027	01426 35 03246 01432
	TU	A	XS4		0030	00020	01427 15 32000 01436
	TV	LKNSU	XS3		0031	00021	01430 16 03453 01433
	TV	LKNXE	XS5		0032	00022	01431 16 03450 01437
XS2	ROV		XS3+1			00023	01432 75 10000 01434
XS3	TP	FO	FILL	CLEAR KNQU	0034	00024	01433 11 03425 30000
	FM	LAMXE	UNITS		0035	00025	01434 66 00046 03433
	TP	Q	COUNT			00026	01435 11 31000 03419
XS4	ROV		XS5+1			00027	01436 75 10000 01440
XS5	TP	COUNT	FILL			00040	01437 11 03410 30000
	TV	KBAR6	BAR5	SETUP'S TO	0039	00041	01440 16 03345 01452
	TP	V5	COUNT		0040	00042	01441 11 03420 03410
	TU	KKBAR	BAR4	DRUM TO CR	0041	00043	01442 15 03346 01446
	SP	NPLS3	0000	TP A	0042	00044	01443 31 03372 00000
BAR8	SA	V1	15			00045	01444 32 03362 00017
	AT	KBAR2	BAR2		0044	00046	01445 35 03347 01453
BAR4	TU	FILL	BAR99		0045	00047	01446 15 30000 01451
	TU	BAR99	BAR98		0046	00020	01447 15 01451 01452
	RA	BAR99	U1		0047	00021	01450 2 01451 03357
	RA	BAR99	U1		0047	00021	01450 21 01451 03357
BAR99	TU	FILL	BAR3		0048	00022	01451 15 30000 01454
BAR98	TV	FILL	BAR3		0049	00023	01452 16 30000 01454
BAR2	ROB		BAR3+1			00024	01453 75 30000 01455
BAR3	TP	FILL	FILL		0051	00025	01454 11 30000 30000
	RA	BAR4	U1		0052	00026	01455 21 01446 03357
	RA	BAR6	V2		0053	00027	01456 21 01457 03363
BAR6	IJ	COUNT	FILL		0054	00020	01457 41 03410 30000
	MJ		BAR98		0055	00021	01460 45 00000 01473
	MP	IPLS2	R			00022	01461 71 03373 00014
	MJ		BAR8	PHKI	0057	00023	01462 45 00000 01444
	MP	I	S			00024	01463 71 00012 00015
	MJ		BAR8	SFKI	0059	00025	01464 45 00000 01444
	TP	IPLS3	A			00026	01465 11 03370 32000
	MJ		BAR9	ENGY	0061	00027	01466 45 00000 01444
	MP	R	V2			00020	01467 71 00014 03363
	MJ		BAR9	BRMX	0063	00021	01470 45 00000 01444
	MP	V1	R			00022	01471 71 03362 00014

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	MJ	0000	BARR		0065	00673	01472	45	00000	01444
BAR88	SP	TAPE4	30			00074	01473	31	00073	00036
	TP	A	KP7+1			00075	01474	11	32000	01505
	TP	A	KP8			00076	01475	11	32000	01507
	TV	V5	KP7+1			00077	01476	16	03420	01505
	SP	TAPE3	30			00100	01477	31	00072	00036
	TP	A	ZS8+1			00101	01500	11	32000	01700
	TP	A	ZS10			00102	01501	11	32000	01724
	TP	A	ZS51+1			00103	01502	11	32000	02004
	TV	LMK1	KP8			00104	01503	16	00230	01507
KP7	RJ	PA2	PASS			00105	01504	37	03210	03206
			FILL			00106	01505	00	00000	30000
	RJ	BK2	BK			00107	01506	37	00336	00334
KP8			FILL	MKI		00110	01507	00	00000	30000
	MJ		KP9		0074	00111	01510	45	00000	01511
KP9	RJ	REWNO2	REWNO			00112	01511	37	03227	03228
ANDO	TV	LPTSM	FLU1		0077	00113	01512	16	03434	01520
	TV	LPTSM	FLU3		0078	00114	01513	16	03434	01522
	TU	LPTS	FLU3		0079	00115	01514	15	00142	01522
	SP	R	15			00116	01515	31	00014	00017
	AT	CONS2	FLU2			00117	01516	35	03247	01521
	RA	FLU3	V1		0082	00120	01517	21	01922	03362
FLU1	TP	VO	FILL		0083	00121	01520	11	03361	30000
FLU2	ROB		FLU1+1			00122	01521	75	30000	01523
FLU3	TP	FILL	FILL		0085	00123	01522	11	30000	30000
	SP	R	15			00124	01523	31	00014	00017
	AT	CONS3	HAR1			00125	01524	35	03250	01526
	TV	LKV	HAR1		0088	00126	01525	16	03461	01527
HAR1	REV		HAR2			00127	01526	75	10000	01530
HAR11	TP	VO	FILL	CLEAN KV	0090	00120	01527	11	03361	30000
HAR2	TU	LMESH	HAR6		0091	00121	01530	15	00172	01550
	TV	LMESH	HAR6		0092	00122	01531	16	00172	01550
	RA	HAR6	U1V1		0093	00123	01532	21	01550	03360
	TV	LKV	HAR6		0094	00124	01533	16	03461	01551
	TV	LKV	HAR9		0095	00125	01534	16	03461	01552
	TU	LPTSM	HAR3		0096	00126	01535	15	03434	01542
	RA	HAR3	U1		0097	00127	01536	21	01542	03357
	TP	R	RTALY		0098	00140	01537	11	00014	03353
	RS	RTALY	V1		0099	00141	01540	23	03353	03362
	TU	ODELP	HAR9		0100	00142	01541	15	03355	01551
HAR3	TP	FILL	GALOP		0101	00143	01542	11	30000	03352
	RS	GALOP	V1		0102	00144	01543	23	03352	03362
HAR44	TP	V1	ESTER		0103	00145	01544	11	03362	03350
	TP	U1	UX1		0104	00146	01545	11	03357	03354
HAR5	RJ	DELV2	DELVN		0105	00147	01546	37	02151	02150
		RHO	PI		0106	00120	01547	00	00036	03432
HAR6		FILL	FILL	MESH	0107	00121	01550	00	30000	30000
HAR8	FA	FILL	FILL	DEL KV	0108	00122	01551	64	30000	30000
HAR9	TP	Q	FILL	KV	0109	00123	01552	11	31000	30000
	RA	HAR8	UX1		0110	00124	01553	21	01551	03354
	TP	VO	UX1		0111	00125	01554	11	03361	03354
	RA	HAR6	U1V1		0112	00126	01555	21	01550	03360
	IJ	GALOP	HAR5		0113	00127	01556	41	03352	01546
	RA	HAR8	U1		0114	00100	01557	21	01551	03357
	IJ	ESTER	HAR5		0115	00101	01560	41	03350	01546
	RA	HAR8	V1		0116	00102	01561	21	01551	03362
	RA	HAR9	V1		0117	00103	01562	21	01552	03362
	RS	HAR6	U1V1		0118	00104	01563	23	01550	03360
	RS	HAR8	U3		0119	00105	01564	23	01551	03364
	RA	HAR3	U1		0120	00106	01565	21	01542	03357

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	IJ	RTALY	HARR		0121	00107	01566	41	03353	01542
	TO	UI	UIVR		0122	00170	01567	11	03357	03375
	RA	UIVR	R		0123	00171	01570	21	03375	00014
	TO	I	IMINI		0124	00172	01571	11	00012	03376
	RS	IMINI	V1		0125	00173	01572	23	03376	03362
	TO	R	COUN1		0126	00174	01573	11	00014	03411
	RS	COUN1	V1		0127	00175	01574	23	03411	03362
	SO	R	IS			00176	01575	31	00014	00017
	AT	CONS4	KP776			00177	01576	35	03251	01600
	TV	LKP	KP777		0130	00200	01577	16	03445	01601
KP776	ROV		KP777+1			00201	01600	75	10000	01602
KP777	TO	FO		CLEAM KP	0132	00202	01601	11	03425	30000
	TU	LPHKI	KP20		0133	00203	01602	15	00200	01612
	TV	LKP	KP21		0134	00204	01603	16	03445	01613
	TV	LKP	KP22		0135	00205	01604	16	03445	01614
	RA	KP20	U1	FOR PHKI1	0136	00206	01605	21	01612	03357
KP19	TO	VO	VX		0137	00207	01606	11	03361	03356
	TV	LMKI	KP20		0138	00210	01607	16	00230	01612
	RA	KP20	VX		0139	00211	01610	21	01612	03356
KP20	TO	IMINI	COUNT		0140	00212	01611	11	03376	03410
	FM	FILL	FILL	PHKI MKI	0141	00213	01612	66	30000	30000
KP21	FA	Q	FILL	SUM KPPRM	0142	00214	01613	64	31000	30000
KP22	TO	Q	FILL		0143	00215	01614	11	31000	30000
	RA	KP20	UIVR		0144	00216	01615	21	01612	03375
	IJ	COUNT	KP20		0145	00217	01616	41	03410	01612
	RA	KP20	U2		0146	00240	01617	21	01612	03427
	RA	KP21	V1		0147	00241	01620	21	01613	03362
	RA	KP22	V1		0148	00242	01621	21	01614	03362
	RA	VX	V1		0149	00243	01622	21	03356	03362
KP977	IJ	COUN1	KP19		0152	00244	01623	41	03411	01607
KP23	TO	R	COUNT		0153	00245	01624	11	00014	03410
KP877	RS	COUNT	V1		0154	00246	01625	23	03410	03362
	TU	LKP	KP24		0155	00247	01626	15	03445	01631
	TV	LKV	KP24		0156	00240	01627	16	03461	01631
	TV	LKP	KP25		0157	00241	01630	16	03445	01632
KP24	FO	FILL	FILL	KPPRM KV	0158	00242	01631	67	30000	30000
KP25	TO	Q	FILL	KP	0159	00243	01632	11	31000	30000
	RA	KP24	UIV1		0160	00244	01633	21	01631	03360
	RA	KP25	V1		0161	00245	01634	21	01632	03362
	IJ	COUNT	KP24		0162	00246	01635	41	03410	01631
	TU	LENGY	DYL?		0163	00247	01636	15	00131	01642
	TV	LEIN	DYL?		0164	00240	01637	16	03456	01642
DYL	RJ	EINV2	EINV		0165	00241	01640	37	02525	02523
	Q	I	0000		0166	00242	01641	00	00012	00000
DYL2	Q	FILL	FILL		0167	00243	01642	00	30000	30000
	TV	LKV	LAMR6		0168	00244	01643	16	03461	01652
	TU	LPHKI	LAMR6		0169	00245	01644	15	00200	01652
	TV	LPHKI	LAMR7		0170	00246	01645	16	00200	01653
	TO	R	COUN1		0171	00247	01646	11	00014	03411
	RS	COUN1	V1		0172	00240	01647	23	03411	03362
LAMR5	TO	I	COUNT		0173	00241	01650	11	00012	03410
	RA	COUNT	V1		0174	00242	01651	21	03410	03362
LAMR6	FO	FILL	FILL	PHKI KV	0175	00243	01652	67	30000	30000
LAMR7	TO	Q	FILL		0176	00244	01653	11	31000	30000
	RA	LAMR6	U1		0177	00245	01654	21	01652	03357
	RA	LAMR7	V1		0178	00246	01655	21	01653	03362
	IJ	COUNT	LAMR6		0179	00247	01656	41	03410	01652
	RA	LAMR6	V1		0180	00240	01657	21	01652	03362
	IJ	COUN1	LAMR5		0181	00241	01660	41	03411	01650
KP26	TU	LEIN	ZSS?	SET MRES	0182	00242	01661	15	03456	01761

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	TV	LFIS	KRUM		0183	00203	01662	16	03442	01760
	TV	LPHKI	ZS32	DITO	0184	00204	01663	16	00200	01761
	TU	LENGY	ZS34	DITO	0185	00205	01664	15	00131	01764
	TV	LCAP	ZS36	DITO	0186	00206	01665	16	03437	01764
	TV	VZS50	ZS211	TO SUMAR	0187	00207	01666	16	03403	01736
	TU	LLKNX	ZS22		0188	00210	01667	15	03404	01737
	TU	LLKNX	ZS23		0189	00211	01676	15	03404	01740
	TV	V6	ZS8+1			00212	01671	16	03421	01700
	MP	V4	R			00273	01672	71	03365	00014
	SA	V1	I3			00274	01673	32	03362	00017
	AT	CONS	RPEAT			00275	01674	35	03245	01710
	TU	LAKK+1	RPEAT+1			00276	01675	15	00135	01711
	TV	LAKBK	RPEAT+1			00277	01676	16	00134	01711
ZS8	RJ	PA2	PAS4			00300	01677	37	03210	03206
			FILL			00301	01700	00	00000	30000
ZS87	SP	QBLK2	I3			00302	01701	31	03343	00017
	TU	A	ZS9+2		0196	00303	01702	15	32000	01721
	TP	V1	COUN1			00304	01703	11	03362	03411
	TP	ZS8+1	ZS8A+2			00305	01704	11	01700	01707
ZS8A	TV	V1	ZS8A+2			00306	01705	16	03362	01707
	RJ	PA2	PAS4	BYPASS AKBK		00307	01706	37	03210	03206
			FILL			00310	01707	00	00000	30000
RPEAT	R08		L+2			00311	01710	75	30000	01712
	TP	FILL	FILL			00312	01711	11	30000	30000
	TU	LAKBK	L+1			00313	01712	15	00134	01713
	TP	FILL	A			00314	01713	11	30000	32000
	EJ	FLAGO	L+4			00315	01714	43	03431	01720
	RA	L-2	U4			00316	01715	21	01713	03430
	RA	RPEAT+1	U4			00317	01716	21	01711	03430
	MJ		L-4			00340	01717	45	00000	01713
	RA	RPEAT+1	U1			00341	01720	21	01711	03357
ZS992	TU	FILL	ZS991	QBLK2	0198	00342	01721	15	30000	01722
ZS991	TV	FILL	ZS10		0199	00343	01722	16	30000	01724
ZS9	RJ	SK2	BK			00344	01723	37	00336	00334
ZS10			FILL			00345	01724	00	00000	30000
	MJ	0000	ZS9		0202	00346	01725	45	00000	01723
	RA	ZS992	U1		0203	00347	01726	21	01721	03357
	IJ	COUN1	ZS992		0204	00350	01727	41	03411	01721
	TU	LAKBK	ZS21		0205	00351	01730	15	00134	01734
ZS20	TV	LSPK1	ZS36		0206	00352	01731	16	00167	01765
	TV	LPHKI	ZS37		0207	00353	01732	16	00200	01766
	R08	4	ZS21+1			00354	01733	75	30004	01735
ZS21	TP	FILL	NLK	AKBK	0209	00355	01734	11	30000	02241
	SP	FLAGO	0000		0210	00356	01735	31	03431	00000
ZS211	EJ	NLK	FILL	ZS50 ZS60	0211	00357	01736	43	02241	30000
ZS22	TV	FILL	ZS34	KRXE KNSH	0212	00340	01737	16	30000	01770
ZS23	TV	FILL	ZS39	KRXE KNSU	0213	00341	01740	16	30000	01771
ZS24	RE	NLK2	V1		0214	00342	01741	23	02243	03362
	MP	I	NLK2			00343	01742	71	00012	02243
	TP	A	NLK2		0216	00344	01743	11	32000	02243
	RA	ZS36	NLK2	SFKI BUMP	0217	00345	01744	21	01765	02243
	TP	NLK3	COUNT		0218	00346	01745	11	02244	03410
	RS	COUNT	V1		0219	00347	01746	23	03410	03362
	RA	ZS38	COUNT	DELTA CON	0220	00350	01747	21	01770	03410
	RA	ZS39	COUNT	BUMP	0221	00351	01750	21	01771	03410
	MP	IPLS2	COUNT			00352	01751	71	03373	03410
	AT	V1	COUNT		0223	00353	01752	35	03362	03410
	RA	ZS37	COUNT	PNKI BUMP	0224	00354	01753	21	01766	03410
	TP	V1	IIIII		0225	00355	01754	11	03362	03406
	TP	IMINI	COUNT		0226	00356	01755	11	03376	03410

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ZS31	RJ	MRES2	MRES		0227	00327	01756	37	02311	02307
	Q	FILL	FILL	NOT FILLED	0228	00390	01757	00	30000	30000
KRUSH	Q	0000	FILL		0229	00391	01760	00	00000	30000
ZS32	Q	FILL	FILL	EIN PHKT	0230	00392	01761	00	30000	30000
ZS33	Q	MLK3	IIIII		0231	00393	01762	00	02244	03406
ZS34	Q	BUTST	I		0232	00394	01763	00	02267	00012
ZS35	Q	FILL	FILL	ENGY CAPT	0233	00395	01764	00	30000	30000
ZS36	FM	SIG1	FILL	CAP SFKT	0234	00396	01765	66	02261	30000
ZS37	FM	Q	FILL	PHKT	0235	00397	01766	66	31000	30000
	FM	Q	EI	DELTA E	0236	00398	01767	66	31000	02363
ZS38	FA	Q	FILL	KNXE	0237	00371	01770	64	31000	30000
ZS39	TP	Q	FILL	KNXE	0238	00372	01771	11	31000	30000
	RA	IIIII	V1		0239	00373	01772	21	03406	03362
	RA	ZS36	V1		0240	00374	01773	21	01765	03362
	RA	ZS37	V1		0241	00375	01774	21	01766	03362
	IJ	COUNT	ZS31		0242	00376	01775	41	03410	01756
	RA	ZS21	U4		0243	00377	01776	21	01734	03430
	MJ	0000	ZS20	NEXT REGON	0244	00400	01777	45	00000	01731
ZS50	RA	ZS22	U3		0245	00401	02000	21	01737	03364
	RA	ZS23	U3		0246	00402	02001	21	01740	03364
	TV	V7	ZS51+1			00403	02002	16	03422	02004
ZS51	RJ	PA2	PA55			00404	02003	37	03210	03206
			FILL			00405	02004	00	00000	30000
	MJ	0000	ZS52		0252	00406	02005	45	00000	02004
ZS52	TV	LZ560	ZS211		0253	00407	02006	16	03402	01736
	MJ	0000	ZS87		0254	00410	02007	45	00000	01701
ZS60	RJ	WINDE2	WINDE			00411	02010	37	03236	03234
ZS61	FA	YSUB1	YSUBX			00412	02011	64	00044	00043
	TP	Q	COUNT	YI AND YXE	0258	00413	02012	11	31000	03410
	FM	LAMXE	DELTS		0259	00414	02013	66	00046	00065
	TN	Q	Q			00415	02014	13	31000	31000
	RJ	EXP+2	EXP			00416	02015	37	03103	03101
	TP	Q	COUN1			00417	02016	11	31000	03411
	FM	LAMI	DELTS		0262	00420	02017	66	00047	00065
	TN	Q	Q			00421	02020	13	31000	31000
	RJ	EXP+2	EXP			00422	02021	37	03103	03101
	TP	Q	COUN2			00423	02022	11	31000	03412
	FM	LAMPR	DELTS		0265	00424	02023	66	00050	00065
	TN	Q	Q			00425	02024	13	31000	31000
	RJ	EXP+2	EXP			00426	02025	37	03103	03101
	TP	Q	COUN3			00427	02026	11	31000	03413
	FM	LAMI	LAMXE		0274	00420	02027	65	00047	00046
	FM	Q	UNITS		0275	00421	02030	66	31000	03433
	TP	Q	VX		0276	00422	02031	11	31000	03356
	FM	COUN1	COUN2		0277	00423	02032	65	03411	03412
	FM	Q	YSUB1		0278	00424	02033	67	31000	00044
	FM	Q	VX		0279	00425	02034	67	31000	03356
	TP	Q	COUN2		0280	00426	02035	11	31000	03412
	FM	F1	COUN3		0281	00427	02036	65	03426	03413
	FM	Q	YSURP		0282	00440	02037	66	31000	00045
	FM	Q	LAMPR		0283	00441	02040	67	31000	00050
	FM	Q	UNITS		0284	00442	02041	67	31000	03433
	TP	Q	COUN5		0285	00443	02042	11	31000	03415
	TP	YSUBP	COUN3		0286	00444	02043	11	00045	03413
	TP	F1	COUN4		0287	00445	02044	11	03426	03414
XS106	TV	LKNXE	XS112		0288	00446	02045	16	03450	02057
	TV	LKNXE	XS108		0289	00447	02046	16	03450	02053
	TV	VXS11	XS113		0290	00420	02047	16	03416	02064
XS107	TP	R	VX		0291	00421	02050	11	00014	03356
	RS	VX	V1		0292	00422	02051	23	03356	03362

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	TV	LKP	XS110		0293	00423	02052	16	03445	02056
XS108	FD	COUNT	FILL	KNXE KNSU	0294	00424	02053	67	03410	30000
	FM	0	COUNT		0295	00425	02054	66	31000	03411
	PA	0	COUNT		0296	00426	02055	64	31000	03412
XS110	FM	0	FILL	KP	0297	00427	02056	66	31000	30000
XS112	TP	0	FILL	KNXE KNSU	0298	00400	02057	11	31000	30000
	RA	XS108	V1		0299	00401	02060	21	02053	03362
	RA	XS110	V1		0300	00402	02061	21	02056	03362
	RA	XS112	V1		0301	00403	02062	21	02057	03362
	IJ	VX	XS108		0302	00404	02063	41	03356	02053
XS113	MJ		FILL	XS114	0303	00465	02064	45	00000	30000
XS114	ROB	3	L+2		00406	02065		75	30003	02067
	TP	COUNT	COUNT	FOR SUMAR	0305	00407	02066	11	03413	03410
	RA	XS113	V6		0306	00470	02067	21	02064	03421
	RA	XS108	V1	PASS FLAGO	0307	00471	02070	21	02053	03362
	RA	XS112	V1		0308	00472	02071	21	02057	03362
	MJ		XS107		0309	00473	02072	45	00000	02050
	TP	V1	COUNT		0310	00474	02073	11	03362	03410
	TU	LKNXE	AJUST		0311	00475	02074	15	03450	02103
	TV	LBRMX	AJUST		0312	00476	02075	16	00175	02103
	TU	LKNXE	AJU1		0313	00477	02076	15	03450	02104
	TV	LBRMX	AJU1		0314	00500	02077	16	00175	02104
	TV	LKNXE	AJU2		0315	00501	02100	16	03450	02105
XS115	TP	R	VX		0316	00502	02101	11	00014	03356
	RS	VX	V1		0317	00503	02102	23	03356	03362
AJUST	FS	FILL	FILL	FIX BRMX	0318	00504	02103	65	30000	30000
AJU1	TP	FILL	FILL	FOR XE SU	0319	00505	02104	11	30000	30000
AJU2	TP	0	FILL	AND PUT	0320	00506	02105	11	31000	30000
	RA	AJUST	U1V1	CHANGE IN	0321	00507	02106	21	02103	03360
	RA	AJU1	U1V1	KNXE KNSU	0322	00510	02107	21	02104	03360
	RA	AJU2	V1		0323	00511	02110	21	02105	03362
	IJ	VX	AJUST		0324	00512	02111	41	03356	02103
	RA	AJUST	U1		0325	00513	02112	21	02103	03357
	RA	AJU1	U1		0326	00514	02113	21	02104	03357
	RA	AJU2	V1		0327	00515	02114	21	02105	03362
	IJ	COUNT	XS115		0328	00516	02115	41	03410	02101
	TP	V1	COUNT		0329	00517	02116	11	03362	03410
	TU	XS106	XS116		0330	00520	02117	15	02045	02123
	TU	LLNXXE	XS117		0331	00521	02120	15	03377	02122
XS118	RA	XS117	U1		0332	00522	02121	21	02122	03357
XS117	TV	FILL	XS119		0333	00523	02122	16	30000	02127
XS116	TU	FILL	XS119		0334	00524	02123	15	30000	02127
	SP	R	15		00525	02124		31	00014	00017
	AT	KXS99	XS120		0336	00526	02125	35	03401	02126
XS120	ROB		XS119+1		00527	02126		75	30000	02130
XS119	TP	FILL	FILL		0338	00530	02127	11	30000	30000
	RA	XS116	U3		0339	00531	02130	21	02123	03364
	TU	LLNSU	XS117		0340	00532	02131	15	03400	02122
	IJ	COUNT	XS118		0341	00533	02132	41	03410	02121
	TU	LBRMX	XS432		0342	00534	02133	15	00175	02144
	TP	R	AAA		0343	00535	02134	11	00014	02505
	RA	AAA	R		0344	00526	02135	21	02505	00014
	SP	AAA	15		00537	02136		31	02505	00017
	AT	CONS5	XS431		00540	02137		35	03252	02143
	TU	LLBRM	XS430		0347	00541	02140	15	03464	02142
	RA	XS430	U1		0348	00542	02141	21	02142	03357
XS430	TV	FILL	XS432	DRUM BRMX	0349	00543	02142	16	30000	02144
XS431	ROB		XS432+1		00544	02143		75	30000	02145
XS432	TP	FILL	FILL	CORE DRUM	0351	00545	02144	11	30000	30000
	TP	V1	MARK1	FOR NC	0352	00546	02145	11	03362	00351

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	TO	V1	ISO	CORCTOR	0353	00547	02146	11	03362	00350
	MJ		XESU2		0354	00550	02147	45	00000	01403
DELVN	MJ		RILEY		0355	00551	02150	45	00000	02152
DELV2	MJ		FILL		0356	00552	02151	45	00000	00000
RILEY	SP	DELV2	IS			00553	02152	31	02151	00017
	TU	A	CHUKR		0358	00554	02153	15	32000	02155
	ROV	2	CHUKR*1			00555	02154	75	30002	02156
CHUKR	TO	FILL	PAR1		0360	00556	02155	11	30000	02245
	TO	V1	SHRIP		0361	00557	02156	11	03362	02252
	TU	PAR2	LEAD		0362	00558	02157	15	02246	02174
	TV	PAR2	LEAD		0363	00559	02160	16	02246	02174
	RS	LEAD	V1		0364	00562	02161	23	02174	03362
	ROV	8	ALYYY			00563	02162	75	10010	02164
	TU	SSAM	ALYYY		0366	00564	02163	15	02247	02164
ALYYY	TU	FILL	LEAD0		0367	00565	02164	15	30000	02215
	TV	FILL	CRAWF		0368	00566	02165	16	30000	02175
	TV	FILL	LONG3		0369	00567	02166	16	30000	02207
	TV	FILL	LONG6			00570	02167	16	30000	02211
	TV	FILL	LONG7		0370	00571	02170	16	30000	02213
	TV	FILL	LEAD4		0371	00572	02171	16	30000	02216
	TV	FILL	HUDIE		0372	00573	02172	16	30000	02222
	TV	FILL	HUDI7		0373	00574	02173	16	30000	02224
LEAD	FC	FILL	FILL		0374	00575	02174	65	30000	30000
CRAWF	TO	O	FILL		0375	00576	02175	11	31000	30000
	TU	PAR1	BELLY		0376	00577	02176	15	02245	02177
BELLY	SP	FILL	0000		0377	00600	02177	31	30000	00000
	ZJ	IDA	LEAD0		0378	00601	02200	47	02201	02215
IDA	TU	PAR1	IRENE		0379	00602	02201	15	02245	02203
	SP	V1	0000		0380	00603	02202	31	03362	00000
IRENE	EJ	FILL	LEAD1		0381	00604	02203	43	30000	02220
	TV	PAR1	LONG4		0382	00605	02204	16	02245	02210
	TU	PAR2	LONG3		0383	00606	02205	15	02246	02207
	TV	PAR2	LONG5		0384	00607	02206	16	02246	02207
LONG3	FM	FILL	FILL		0385	00610	02207	66	30000	30000
LONG4	FM	O	FILL		0386	00611	02210	66	31000	30000
LONG6	FM	O	FILL		0387	00612	02211	66	31000	30000
	FM	O	F2		0388	00613	02212	66	31000	02240
LONG7	TO	O	FILL		0389	00614	02213	11	31000	30000
	MJ		BAYOU		0390	00615	02214	45	00000	02225
LEAD0	FM	FILL	F2		0391	00616	02215	67	30000	02240
LEAD4	TO	O	FILL		0392	00617	02216	11	31000	30000
	MJ		BAYOU		0393	00620	02217	45	00000	02225
LEAD1	TU	PAR2	HUDIE		0394	00621	02220	15	02246	02222
	TV	PAR1	HUDIE		0395	00622	02221	16	02245	02223
HUDIE	FM	FILL	FILL		0396	00623	02222	66	30000	30000
HUDIE	FM	O	FILL		0397	00624	02223	66	31000	30000
HUDI7	TO	O	FILL		0398	00625	02224	11	31000	30000
BAYOU	SP	SHRIP	0000		0399	00626	02225	31	02252	00000
	ZJ	GUMBO	GTOUT		0400	00627	02226	67	02227	02234
GUMBO	TO	VO	SHRIP		0401	00630	02227	11	03361	02252
	RA	LEAD	UIV1		0402	00631	02230	21	02174	03360
	ROV	8	L*2			00632	02231	75	20010	02233
	RA	ALYYY	U1		0404	00633	02232	21	02164	03357
	MJ		ALYYY		0405	00634	02233	45	00000	02164
GTOUT	RA	DELV2	V2		0406	00635	02234	21	02151	03363
	FA	DELVM	DELVP		0407	00636	02235	64	02255	02253
	TO	O	DELVT		0408	00637	02236	11	31000	02254
	MJ		DELV2		0409	00640	02237	45	00000	02151
F2	F	2				00641	02240	20	24000	00000
NLK					0411	00642	02241	00	00000	00000

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NLK1				0412	00643	02242	00	00000	00000	
NLK2				0413	00644	02243	00	00000	00000	
NLK3				0414	00645	02244	00	00000	00000	
PAR1				0415	00646	02245	00	00000	00000	
PAR2				0416	00647	02246	00	00000	00000	
SSAM		SAM62		0417	00650	02247	00	02250	00000	
SAM62		DELVM	DELVM	0418	00651	02250	00	02255	02255	
SAM63		DELVP	DELVP	0419	00652	02251	00	02253	02253	
SHRTP				0420	00653	02252	00	00000	00000	
DELVP				0421	00654	02253	00	00000	00000	
DELVT				0422	00655	02254	00	00000	00000	
DELVM				0423	00656	02255	00	00000	00000	
V9				00657	02256		00	00000	00011	
UIV2		1	2	00660	02257		00	00001	00002	
SIG	0	0000	0000	0426	00691	02260	00	00000	00000	NUP
SIG1	0	0000	0000	0427	00692	02261	00	00000	00000	NUP
SIG2	0	0000	0000	0428	00693	02262	00	00000	00000	NUP
SIG4	0	0000	0000	0429	00694	02263	00	00000	00000	NUP
GEE	0	0000	0000	0430	00695	02264	00	00000	00000	NUP
WHIZ	0	0000	0000	0431	00696	02265	00	00000	00000	NUP
APE	0	0000	0000	0432	00697	02266	00	00000	00000	NUP
BUTST			1	00670	02267		00	00000	00001	
II	0	0000	0000	0434	00671	02270	00	00000	00000	NUP
C1	0	0000	0000	0435	00672	02271	00	00000	00000	NUP
C2	0	0000	0000	0436	00673	02272	00	00000	00000	NUP
C3	0	0000	0000	0437	00674	02273	00	00000	00000	NUP
JAZZ	0	0000	0000	0438	00675	02274	00	00000	00000	NUP
DEN	0	0000	0000	0439	00676	02275	00	00000	00000	NUP
CCNT	0	0000	0000	0440	00677	02276	00	00000	00000	NUP
I3CN	0	0000	0000	0441	00700	02277	00	00000	00000	NUP
INVBP	0	0000	0000	0442	00701	02300	00	00000	00000	NUP
KIBMP	0	0000	0000	0443	00702	02301	00	00000	00000	NUP
CSET	0	0000	C1	0444	00703	02302	00	00000	02271	NUP
E1	0	0000	0000	0445	00704	02303	00	00000	00000	NUP
E2	0	0000	0000	0446	00705	02304	00	00000	00000	NUP
E3	0	0000	0000	0447	00706	02305	00	00000	00000	NUP
JOE	0	0000	0000	0448	00707	02306	00	00000	00000	NUP
MRES	MJ	0000	SETIN	0449	00710	02307	45	00000	02320	
	MS	0000	0000	0450	00711	02310	56	00000	00000	
MRES2	MJ	0000	FILL	0451	00712	02311	45	00000	30000	
SET1	0	FILL	FILL	0452	00713	02312	00	30000	30000	NUP
SET2	0	0000	FILL	0453	00714	02313	00	00000	30000	NUP
SET3	0	FILL	FILL	0454	00715	02314	00	30000	30000	NUP
SET4	0	FILL	FILL	0455	00716	02315	00	30000	30000	NUP
SET5	0	FILL	FILL	0456	00717	02316	00	30000	30000	NUP
SET6	0	FILL	FILL	0457	00720	02317	00	30000	30000	NUP
SETIN	SP	MRES2	15		00721	02320	31	02311	00017	
	TU	A	SET	0459	00722	02321	15	32000	02341	
	TP	VO	II	0460	00723	02322	11	03361	02270	
	TP	VO	C1	0461	00724	02323	11	03361	02271	
	TP	VO	C2	0462	00725	02324	11	03361	02272	
	TP	VO	C3	0463	00726	02325	11	03361	02273	
	TP	VO	SIG	0464	00727	02326	11	03361	02260	
	TP	VO	SIG1	0465	00730	02327	11	03361	02261	
	TP	VO	SIG2	0466	00721	02330	11	03361	02262	
	TP	VO	SIG4	0467	00732	02331	11	03361	02263	
	TP	VO	JAZZ	0468	00733	02332	11	03361	02274	
	TP	VO	DBN	0469	00728	02333	11	03361	02275	
	TP	VO	CCNT	0470	00735	02334	11	03361	02276	
	TP	VO	I3CN	0471	00736	02335	11	03361	02277	

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	TP	VO	INVBP	0472	00737	02336	11	03361	02300
	TP	VO	KIBMP	0473	00740	02337	11	03361	02301
	ROB	6	SET+1		00741	02340	75	30006	02342
SET	TP	FILL	SET1	0475	00742	02341	11	30000	02312
	TV	SET4	OKK2	0476	00743	02342	16	02315	02406
	TV	SET2	FISX	0477	00744	02343	16	02313	02442
	TV	CSET	CE1	0478	00745	02344	16	02302	02422
	TU	SET5	BU	0479	00746	02345	15	02316	02445
	TV	SET1	TTO	0480	00747	02346	16	02312	02475
	LO	SET1	Z1		00750	02347	55	02312	00025
	TV	0	TR	0482	00751	02350	16	31000	02470
	TV	SET4	ALPHA	0483	00752	02351	16	02315	02352
ALPHA	MP	V3	FILL		00753	02352	71	03417	30000
	TP	A	I3CM	0485	00754	02353	11	32000	02277
	TU	SET3	CEVAL	0486	00755	02354	15	02314	02421
	TV	SET3	CEVAL	0487	00756	02355	16	02314	02421
	TU	SET4	OKK1	0488	00757	02356	15	02315	02375
	TV	SET4	OKK1	0489	00760	02357	16	02315	02403
	SP	SET4	IS		00761	02360	31	02315	00017
ALI	TU	A	ALI	0491	00762	02361	15	32000	02362
	TP	FILL	JAZZ	0492	00763	02362	11	30000	02274
	TV	JAZZ	II	0493	00764	02363	16	02274	02270
	SP	JAZZ	IS		00765	02364	31	02274	00017
	TU	A	II	0495	00766	02365	15	32000	02270
	TU	SET6	BET1	0496	00767	02366	15	02317	02374
	TV	SET6	CAP1	0497	00770	02367	16	02317	02452
	LO	SET6	Z1		00771	02370	55	02317	00025
	TV	0	BET1	0499	00772	02371	16	31000	02374
BETA	RA	BET1	II	0500	00773	02372	21	02374	02270
	RJ	DELE2	DELE	0501	00774	02373	37	02727	02725
BET1	TP	FILL	FILL	0502	00775	02374	00	30000	30000
OKK1	TP	FILL	KIBMP	0503	00776	02375	11	30000	02301
	RS	KIBMP	V1	0504	00777	02376	23	02301	03362
	TP	I	JOE	0505	01000	02377	11	00012	02306
	RA	JOE	V2	0506	01001	02400	21	02306	03363
OKK	MP	KIBMP	JOE		01002	02401	71	02301	02306
	TP	A	KIBMP	0508	01003	02402	11	32000	02301
OKK1	RA	KIBMP	FILL	0509	01004	02403	21	02301	30000
	RA	CEVAL	KIBMP	0510	01005	02404	21	02421	02301
	RS	CEVAL	V1	0511	01006	02405	23	02421	03362
OKK2	MP	V10	FILL		01007	02406	71	03424	30000
	TP	A	INVBP	0513	01010	02407	11	32000	02300
	RS	INVBP	V9	0514	01011	02410	23	02300	02256
	SP	INVBP	0000	0515	01012	02411	31	02300	00000
LTR	15	INVBP	INVBP		01013	02412	22	10017	02300
	RA	CEVAL	INVBP	0517	01014	02413	21	02421	02300
	TU	CEVAL	CE2	0518	01015	02414	15	02421	02426
	RS	CE2	U1	0519	01016	02415	23	02426	03357
	TP	V2	CCNT	0520	01017	02416	11	03363	02276
OKK3A	TP	VO	0	0521	01020	02417	11	03361	31000
OKK3	ROB	3	CE1		01021	02420	75	30003	02422
CEVAL	TP	FILL	FILL	0523	01022	02421	02	30000	30000
CE1	TP	0	FILL	0524	01023	02422	11	31000	30000
	RA	CEVAL	U3	0525	01024	02423	21	02421	03364
	TV	CE1	CE2	0526	01025	02424	16	02422	02426
	TV	CE1	CE3	0527	01026	02425	16	0	422 02427
	TV	CE1	CE3	0527	01026	02425	16	02422	02427
CE2	FM	FILL	FILL	0528	01027	02426	66	30000	30000
CE3	TP	0	FILL	0529	01020	02427	11	31000	30000
	RA	CE1	V1	0530	01031	02430	21	02422	03362

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	IJ	EGNT	OKK3A	0531	01022	02431	41	02276	02417
	TP	VO	Q	0532	01023	02432	11	03361	31000
DENOX	R0B	3	DDE2+1		01024	02433	75	30003	02435
UDEZ	FT	C1	E1	0534	01025	02434	02	02271	30000
	TP	Q	DEN	0535	01026	02435	11	31000	02275
	RS	I3CN	V3	0536	01027	02436	23	02277	03417
	RA	FISX	I3CN	0537	01040	02437	21	02442	02277
	TP	VO	Q	0538	01041	02440	11	03361	31000
	R0B	3	FISX+1		01042	02441	75	30003	02443
FISX	FT	C1	FILL	0540	01043	02442	02	02271	30000
	FD	Q	DEN	0541	01044	02443	67	31000	02275
	TP	Q	SIG	0542	01045	02444	11	31000	02260
BU	SP	FILL	0000	0543	01046	02445	31	30000	00000
	ZJ	CAP	TRO	0544	01047	02446	47	02447	02465
CAP	RA	CAP1	I3CN	0545	01020	02447	21	02452	02277
	TP	VO	Q	0546	01021	02450	11	03361	31000
	R0B	3	CAP1+1		01022	02451	75	30003	02453
CAP1	FT	C1	FILL	0548	01023	02452	02	02271	30000
	TP	Q	SIG1	0549	01024	02453	11	31000	02261
	FD	SIG1	DEN	0550	01025	02454	67	02261	02275
	TP	Q	SIG1	0551	01026	02455	11	31000	02261
	TP	SIG1	A	0552	01027	02456	11	02261	32000
	SJ	CAP98	OUT	0553	01020	02457	46	02460	02503
CAP98	SP	CAP1	15		01021	02460	31	02452	00017
	TU	A	CAP99	0555	01022	02461	15	32000	02462
CAP99	FD	FILL	E1	0556	01023	02462	67	30000	02303
	TP	Q	SIG1	0557	01024	02463	11	31000	02261
	MT	0000	OUT	0558	01025	02464	45	00000	02503
TRO	RA	TR	I3CN	0559	01026	02465	21	02470	02277
	TP	VO	Q	0560	01027	02466	11	03361	31000
	R0B	3	TR+1		01028	02467	75	30003	02471
TR	FT	C1	FILL	0562	01071	02470	02	02271	30000
	TP	Q	SIG2	0563	01072	02471	11	31000	02262
	RA	TTO	I3CN	0564	01073	02472	21	02475	02277
	TP	VO	Q	0565	01074	02473	11	03361	31000
	R0B	3	L+2		01075	02474	75	30003	02476
TTO	FT	C1	FILL	0567	01076	02475	02	02271	30000
	TP	Q	SIG4	0568	01077	02476	11	31000	02263
	FD	SIG2	DEN	0569	01100	02477	67	02262	02275
	TP	Q	SIG2		01101	02500	11	31000	02262
	FD	SIG4	DEN	0571	01102	02501	67	02263	02275
	TP	Q	SIG4	0572	01103	02502	11	31000	02263
OUT	RA	MRES2	V6	0573	01104	02503	21	02311	03421
	MI	0000	MRES2	0574	01105	02504	45	00000	02311
AAA	Q	0000	0000	0575	01106	02505	00	00000	00000
BBB	Q	0000	0000	0576	01107	02506	00	00000	00000
CCC	Q	0000	0000	0577	01110	02507	00	00000	00000
DIFF	Q	0000	0000	0578	01111	02510	00	00000	00000
DIFF1	Q	0000	0000	0579	01112	02511	00	00000	00000
DIFF2	Q	0000	0000	0580	01113	02512	00	00000	00000
DIFF3	Q	0000	0000	0581	01114	02513	00	00000	00000
DIFF4	Q	0000	0000	0582	01115	02514	00	00000	00000
DIFF5	Q	0000	0000	0583	01116	02515	00	00000	00000
ITEST	Q	0000	0000	0584	01117	02516	00	00000	00000
IC00N	Q	0000	0000	0585	01120	02517	00	00000	00000
TEMP8	Q	0000	0000	0586	01121	02520	00	00000	00000
QUAIL	Q	0000	0000	0587	01122	02521	00	00000	00000
UIV3		1	3		01123	02522	00	00001	00003
EINV	MJ	0000	BEGIN	0589	01124	02523	45	00000	02526
	MS	0000	0000	0590	01125	02524	56	00000	00000

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EINV2	MJ	0000	FILL	0591	01126	02525	45	00000	30000
BEGIN	SP	EINV2	15		01127	02526	31	02525	00017
	TU	A	BE1	0593	01120	02527	15	32000	02530
BE1	SP	FILL	0000	0594	01131	02530	31	30000	00000
	TU	A	BE2	0595	01132	02531	15	32000	02532
BE2	TP	FILL	ITEST	0596	01133	02532	11	30000	02516
	TU	BE2	AAS	0597	01134	02533	15	02532	02573
	RA	EINV2.	V1	0598	01135	02534	21	02525	03362
	SP	EINV2.	15		01136	02535	31	02525	00017
	TU	A	BE22	0600	01137	02536	15	32000	02537
BE22	SP	FILL	0000	0601	01140	02537	31	30000	00000
	TV	A	AB	0602	01141	02540	16	32000	02624
	TU	A	AA	0603	01142	02541	15	32000	02551
	TP	A	Q	0604	01143	02542	11	32000	31000
	LQ	Q	21		01144	02543	55	31000	00025
	TV	Q	AA	0606	01145	02544	16	31000	02551
	RA	AA	U1	0607	01146	02545	21	02551	03357
	TP	V1	ICOUN	0608	01147	02546	11	03362	02517
	SP	V1	0000	0609	01150	02547	31	03362	00000
AA	EJ	ICOUN	AAT	0610	01151	02550	43	02517	02555
	FA	FILL	FILL	0611	01152	02551	64	30000	30000
	FM	Q	F2	0612	01153	02552	67	31000	02240
	TP	Q	AAA	0613	01154	02553	11	31000	02505
	MJ	0000	AAX	0614	01155	02554	45	00000	02561
AAT	TU	AA	AAT2	0615	01156	02555	15	02551	02557
	TV	AA	AAT2	0616	01157	02556	16	02551	02557
AAT2	FA	FILL	FILL	0617	01160	02557	64	30000	30000
	TP	Q	AAA	0618	01161	02560	11	31000	02505
AAX	TU	AA	AA1	0619	01162	02561	15	02551	02564
	TV	AA	AA1	0620	01163	02562	16	02551	02564
AA1	RA	AA1	V2	0621	01164	02563	21	02564	03363
	FA	FILL	FILL	0622	01165	02564	64	30000	30000
	FM	Q	F2	0623	01166	02565	67	31000	02240
	TP	Q	BBB	0624	01167	02566	11	31000	02506
	TU	AA	AA2	0625	01170	02567	15	02551	02574
	TV	AA	AA2	0626	01171	02570	16	02551	02574
	RA	AA2	UIV3	0627	01172	02571	21	02574	02522
	SP	ICOUN	0000	0628	01173	02572	31	02517	00000
AAS	EJ	FILL	AAS1	0629	01174	02573	43	30000	02600
AA2	FA	FILL	FILL	0630	01175	02574	64	30000	30000
	FM	Q	F2	0631	01176	02575	67	31000	02240
	TP	Q	CCC	0632	01177	02576	11	31000	02507
	MJ	0000	XAA	0633	01200	02577	45	00000	02604
AAS1	TU	AA2	AAS3	0634	01201	02600	15	02574	02602
	TV	AA2	AAS3	0635	01202	02601	16	02574	02602
AAS3	FA	FILL	FILL	0636	01203	02602	64	30000	30000
	TP	Q	CCC	0637	01204	02603	11	31000	02507
XAA	FS	BBB	AAA	0638	01205	02604	65	02506	02505
	TP	Q	DIFF	0639	01206	02605	11	31000	02510
	FS	CCC	AAA	0640	01207	02606	65	02507	02505
	TP	Q	DIFF1	0641	01210	02607	11	31000	02511
	FS	CCC	BBB	0642	01211	02610	65	02507	02506
	TP	Q	DIFF2	0643	01212	02611	11	31000	02512
	FA	CCC	BBB	0644	01213	02612	64	02507	02506
	TP	Q	DIFF3	0645	01214	02613	11	31000	02513
	FA	CCC	AAA	0646	01215	02614	64	02507	02505
	TP	Q	DIFF4	0647	01216	02615	11	31000	02514
	FA	BBB	AAA	0648	01217	02616	64	02506	02505
	TP	Q	DIFF5	0649	01220	02617	11	31000	02515
	FM	DIFF	DIFF1	0650	01221	02620	66	02510	02511

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	FM	Q	DIFF2	0651	01222	02621	66	31000	02512
	TP	Q	QUATL	0652	01223	02622	11	31000	02521
	FM	F1	QUATL	0653	01224	02623	67	03426	02521
AB	TP	Q	FILL	0654	01225	02624	11	31000	30000
	TV	AB	AB1	0655	01226	02625	16	02624	02631
	RA	AB1	VI	0656	01227	02626	21	02631	03362
	FM	AAA	DIFF3	0657	01228	02627	66	02505	02513
AB1	FM	Q	DIFF2	0658	01221	02630	66	31000	02512
	TP	Q	FILL	0659	01222	02631	13	31000	30000
	TV	AB1	AB2	0660	01223	02632	16	02631	02636
	RA	AB2	VI	0661	01224	02633	21	02636	03362
	FM	BBB	DIFF4	0662	01225	02634	66	02506	02514
AB2	FM	Q	DIFF1	0663	01226	02635	66	31000	02511
	TP	Q	FILL	0664	01227	02636	11	31000	30000
	TV	AB2	AB3	0665	01228	02637	16	02636	02643
	RA	AB3	VI	0666	01221	02640	21	02643	03362
	FM	DIFF5	DIFF	0667	01242	02641	66	02515	02510
	FM	Q	CCC	0668	01243	02642	66	31000	02507
AB3	TP	Q	FILL	0669	01244	02643	13	31000	30000
	TV	AB3	AB4	0670	01245	02644	16	02643	02652
	RA	AB4	VI	0671	01246	02645	21	02652	03362
	FM	AAA	BBB	0672	01247	02646	66	02505	02506
	FM	Q	CCC	0673	01220	02647	66	31000	02507
	TP	Q	TEMP8	0674	01221	02650	11	31000	02520
AB4	FM	TEMP8	DIFF2	0675	01222	02651	66	02526	02512
	TP	Q	FILL	0676	01223	02652	11	31000	30000
	TV	AB4	AB5	0677	01224	02653	16	02652	02656
	RA	AB5	VI	0678	01225	02654	21	02656	03362
AB5	FM	TEMP8	DIFF1	0679	01226	02655	66	02520	02511
	TP	Q	FILL	0680	01227	02656	13	31000	30000
	TV	AB5	AB6	0681	01228	02657	16	02656	02662
	RA	AB6	VI	0682	01221	02660	21	02662	03362
	FM	TEMP8	DIFF	0683	01222	02661	66	02520	02510
AB6	TP	Q	FILL	0684	01223	02662	11	31000	30000
	TV	AB6	AB7	0685	01224	02663	16	02662	02666
	RA	AB7	VI	0686	01225	02664	21	02666	03362
AB7	FM	AAA	DIFF2	0687	01226	02665	66	02505	02512
	TP	Q	FILL	0688	01227	02666	11	31000	30000
	TV	AB7	AB8	0689	01228	02667	16	02666	02672
	RA	AB8	VI	0690	01221	02670	21	02672	03362
AB8	FM	BBB	DIFF1	0691	01272	02671	66	02506	02511
	TP	Q	FILL	0692	01273	02672	13	31000	30000
	TV	AB8	AB9	0693	01274	02673	16	02672	02675
	RA	AB9	VI	0694	01275	02674	21	02676	03362
	FM	CCC	DIFF	0695	01276	02675	66	02507	02510
AB9	TP	Q	FILL	0696	01277	02676	11	31000	30000
	TV	AB	BULT	01300	02707		16	02624	02706
	LQ	AB	A+15	01301	02700		55	02624	02707
	TP	A	BULT	01302	02701		15	02000	02706
	RA	BULT	U1	01303	02702		21	02706	03357
	TP	V8	DUMP88	01304	02703		11	03423	03244
	TV	AB	STAR	01305	02704		16	02624	02707
	RA	STAR	VI	01306	02705		21	02707	03362
BULT	FM	FILL	FILL	01307	02706		66	30000	30000
STAR	TP	Q	FILL	01310	02707		11	31000	30000
	RA	BULT	U1	01311	02710		21	02706	03357
	RA	STAR	VI	01312	02711		21	02707	03362
	IJ	DUMP88	BULT	01313	02712		41	03244	02706
	TV	AB	L+1	01314	02713		16	02624	02714
	TP	F1	FILL	01315	02714		11	03426	30000

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	SP	ICOUN	0000	0697	01316	02715	31	02517	00000
	EJ	ITEST	THRU	0698	01317	02716	43	02516	02723
	RA	ICOUN	V1	0699	01320	02717	21	02517	03362
	RA	AA	U1V1	0700	01321	02720	21	02551	03360
	RA	AB	V10	0701	01322	02721	21	02624	03424
	MJ	0000	AA	0702	01323	02722	45	00000	02551
THRU	RA	EINV2	V1	0703	01324	02723	21	02525	03362
	MJ	0000	EINV2	0704	01325	02724	45	00000	02525
DELE	MJ	0000	DE1	0705	01326	02725	45	00000	02730
	RS	0000	0000	0706	01327	02726	56	00000	00000
DELE2	MJ	0000	FILL	0707	01320	02727	45	00000	30000
DE1	SP	DELE2	15		01321	02730	31	02727	00017
	TU	A	DE2	0709	01322	02731	15	32000	02732
DE2	SP	FILL	0000	0710	01323	02732	31	30000	00000
	TU	A	DE3	0711	01324	02733	15	32000	02736
	TV	A	DE3	0712	01325	02734	16	32000	02736
	RA	DE3	V1	0713	01326	02735	21	02736	03362
DE3	FS	FILL	FILL	0714	01327	02736	65	30000	30000
	TP	0	E1	0715	01340	02737	11	31000	02303
	TU	DE3	DE4	0716	01341	02740	15	02736	02743
	TV	DE3	DE4	0717	01342	02741	16	02736	02743
	RS	DE4	V1	0718	01343	02742	23	02743	03362
DE4	FM	FILL	FILL	0719	01344	02743	66	30000	30000
	TP	0	E3	0720	01345	02744	11	31000	02305
	TU	DE4	DE5	0721	01346	02745	15	02743	02750
	TV	DE4	DE5	0722	01347	02746	16	02743	02750
	RA	DE5	U1V1	0723	01320	02747	21	02750	03360
DE5	FM	FILL	FILL	0724	01321	02750	66	30000	30000
	FS	0	E3	0725	01322	02751	65	31000	02305
	FD	0	F2	0726	01323	02752	67	31000	02240
	TV	0	E3	0727	01324	02753	13	31000	02305
	TV	DE5	DE6	0728	01325	02754	16	02750	02757
	TU	DE5	DE6	0729	01326	02755	15	02750	02757
	RS	DE6	U1	0730	01327	02756	23	02757	03357
DE6	FD	FILL	FILL	0731	01360	02757	67	30000	30000
	RJ	LN2	LN2	0732	01301	02760	37	02766	02764
	TP	0	E2	0733	01302	02761	11	31000	02304
	RA	DELE2	V1	0734	01303	02762	21	02727	03362
	MJ	0000	DELE2	0735	01304	02763	45	00000	02727
LN2	MJ0		L+3		01305	02764	45	00000	02767
	MJ0		L+1		01306	02765	56	00000	02766
LN2	MJ0		FILL		01307	02766	45	00000	30000
	TP	0	A		01370	02767	11	31000	32000
	SJ	L+2	L+1		01371	02770	46	02772	02771
	ZJ	L+4	L+1		01372	02771	47	02775	02772
	RS	0	0		01373	02772	23	31000	31000
	SP	L+50	0		01374	02773	31	03055	00000
	MJ0		L-7		01375	02774	45	00000	02765
	LTO	0	L+45		01376	02775	22	00011	03052
	L0	A	35		01377	02776	55	32000	00043
	TP	0	L+44		01400	02777	11	31000	03053
	R02	7	L+2		01401	03000	75	20007	03002
	TJ	L+46	L+2		01402	03001	42	03057	03003
	TP	L+52	0		01403	03002	11	03066	31000
	SP	L+52	0		01404	03003	31	03067	00000
	ST	0	0		01405	03004	36	31000	31000
	SA	L+51	15		01406	03005	32	03070	00017
	TU	A	L+4		01407	03006	15	32000	03012
	TP	L+35	A		01410	03007	11	03052	32000
	SS	L+49	3		01411	03010	34	03071	00003

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AT	0	L+33	22	01412	03011	35	31000	03052	
TP	FILL	0	23	01413	03012	11	30000	31000	
SP	0		24	01414	03013	31	31000	00000	
SA	L+31	35	25	01415	03014	32	03053	00043	
LTO		L+31	26	01416	03015	22	00000	03054	
SP	L+29		27	01417	03016	31	03053	00000	
SS	0	37	28	01420	03017	34	31000	00045	
DV	L+28	L+28	29	01421	03020	73	03054	03054	
MP	0	0	30	01422	03021	71	31000	31000	
SS	A	31	31	01423	03022	34	32000	00037	
MP	A	L+40	32	01424	03023	71	32000	03073	
LT	1	A	33	01425	03024	22	00001	32000	
AT	L+39	L+22	34	01426	03025	35	03074	03053	
MP	0	L+21	35	01427	03026	71	31000	03053	
LTO		A	36	01430	03027	22	00000	32000	
AT	L+22	0	37	01431	03030	35	03056	31000	
MP	0	L+19	38	01432	03031	71	31000	03054	
LTO	3	A	39	01433	03032	22	00003	32000	
MA	L+15	L+34	40	01434	03033	72	03052	03075	
TP	A	0	41	01435	03034	11	32000	31000	
ZJ	L+1	L-39	42	01436	03035	47	03036	02766	
SP	A	L+28	43	01437	03036	74	32000	03072	
LTO	28	0	44	01440	03037	22	00034	31000	
TP	L+26	A	45	01441	03040	11	03072	32000	
TJ	L+29	L+2	46	01442	03041	42	03076	03043	
SS	L+29		47	01443	03042	34	03077	00000	
AT	L+29	L+7	48	01444	03043	35	03100	03052	
TP	0	A	49	01445	03044	11	31000	32000	
SI	L+1	L+2	50	01446	03045	46	03046	03047	
TN	L+4	L+4	51	01447	03046	13	03052	03052	
LS	L+3	27	52	01450	03047	55	03052	00033	
AT	0	0	53	01451	03050	35	31000	31000	
MJO		L-51	54	01452	03051	45	00000	02766	
B			55	01453	03052	00	00000	00000	
TM	FILL	FILL	56	01454	03053	12	30000	30000	
TM	FILL	FILL	57	01455	03054	12	30000	30000	
B	465072010101		58	01456	03055	46	50720	10101	
B	200000000000		59	01457	03056	20	00000	00000	
B	213453407440		60	01460	03057	21	34534	07440	
B	230157701214		61	01461	03060	23	01577	01214	
B	245775532516		62	01462	03061	24	57755	32516	
B	265011714640		63	01463	03062	26	50117	14640	
B	305316250212		64	01464	03063	30	53162	50212	
B	327211763126		65	01465	03064	32	72117	63126	
B	352601433477		66	01466	03065	35	26014	33477	
B	17777		67	01467	03066	00	00000	17777	
B	20006		68	01470	03067	00	00000	20006	
B		L-10	69	01471	03070	00	00000	03056	
B	201		70	01472	03071	00	00000	00201	
B			71	01473	03072	00	00000	00000	
B	063146314632		72	01474	03073	06	31463	14632	
B	125252525253		73	01475	03074	12	52525	25253	
B	261344137700		74	01476	03075	26	13441	37700	
B	44		75	01477	03076	00	00000	00044	
B	110		76	01500	03077	00	00000	00110	
B	175		77	01501	03100	00	00000	00175	
EXP	MJO	L+3	FLOATING POINT	1	01502	03101	45	00000	03104
MJO		L+1	EXPONENTIAL	2	01503	03102	56	00000	03103
MJO		FILL	USING FIXED	3	01504	03103	45	00000	30000
TP	0	L+43	POINT ARITHMETIC	4	01505	03104	11	31000	03157

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RS	Q	Q	THIS ROUTINE	5 01506 03105	23 31000 31000
TP	L+41	A	OCCUPIES 69 CELLS,	6 01507 03106	11 03157 32000
TJ	L+41	L=4	OF WHICH ONE IS	7 01510 03107	42 03160 03103
TK	L+41	L=4	A TEMPORARY	8 01511 03110	42 03161 03114
LQ	L+42	A+3	AND 22 ARE CONSTANTS	9 01512 03111	55 03163 32003
SP	L+40			10 01513 03112	31 03162 00000
MJO		L=9		11 01514 03113	45 00000 03102
TM	A	A		12 01515 03114	12 32000 32000
TP	L+39	Q		13 01516 03115	11 03164 31000
TJ	L+39	L=11		14 01517 03116	42 03165 03103
LTO	9	A		15 01520 03117	22 00011 32000
ST	L+38	Q		16 01521 03120	36 03166 31000
SA	L+38	15		17 01522 03121	32 03167 00017
TIJ	A	L+9		18 01523 03122	15 32000 03133
TN	Q	A		19 01524 03123	13 31000 32000
AY	L+36	L+5		20 01525 03124	35 03170 03131
LA	L+26	9		21 01526 03125	54 03157 00011
LQ	A	35		22 01527 03126	55 32000 00043
MP	Q	L+35		23 01520 03127	71 31000 03172
LTO	1	Q		24 01521 03130	22 00001 31000
SP	FILL			25 01522 03131	31 30000 00000
AT	Q	A		26 01523 03132	35 31000 32000
LTO		A		27 01524 03133	22 00000 32000
LTO	9	L+19		28 01525 03134	22 00011 03157
LQ	A	35		29 01526 03135	55 32000 00043
LTO	4	A		30 01527 03136	22 00004 32000
AT	L+28	L+11		31 01540 03137	35 03173 03152
QY	L+19	Q		32 01541 03140	51 03163 31000
MP	Q	L+35		33 01542 03141	71 31000 03204
LTO		A		34 01543 03142	22 00000 32000
AT	L+34	L=10		35 01544 03143	35 03205 03131
MP	Q	L=11		36 01545 03144	71 31000 03131
LTO		A		37 01546 03145	22 00000 32000
AT	L+20	L=13		38 01547 03146	35 03172 03131
SP	Q	33		39 01520 03147	31 31000 00041
DV	L=15	A		40 01521 03150	73 03131 32000
AT	L+19	Q		41 01522 03151	35 03174 31000
MP	FILL	FILL		42 01523 03152	71 30000 30000
SS	A	30		43 01524 03153	34 32000 00036
LQ	L+3	27		44 01525 03154	55 03157 00033
AT	Q	Q		45 01526 03155	35 31000 31000
MJO		L=43		46 01527 03156	45 00000 03103
B				47 01528 03157	00 00000 00000
B	570232254037			48 01529 03160	57 02322 54037
B	207540074635			49 01522 03161	20 75400 74635
B	307222010101			50 01523 03162	30 72520 10101
B	037777777777			51 01524 03163	03 77777 77777
B	201400000000			52 01525 03164	20 14000 00000
B	145400000000			53 01526 03165	14 54000 00000
B	200			54 01527 03166	00 00000 00200
B	35			55 01520 03167	00 00000 00035
SP	L+1	7		56 01521 03170	31 03171 00007
B	201000000000			57 01572 03171	20 10000 00000
B	270524354513			58 01573 03172	27 05243 54513
MP	Q	L+1		59 01574 03173	71 31000 03174
B	200000000000			60 01575 03174	20 00000 00000
B	213453407440			61 01576 03175	21 34534 07440
B	230157701214			62 01577 03176	23 01577 01214
B	245775532516			63 01600 03177	24 57755 32516
B	265011714640			64 01601 03200	26 50117 14640

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B	305316250212			65	01602	03201	30	53162	50212		
B	327211763126			66	01603	03202	32	72117	63126		
B	352601433477			67	01604	03203	35	26014	33477		
B	035440262675			68	01605	03204	63	54402	62675		
B	600000171150			69	01606	03205	60	00001	71150		
PASS	MJ		L+4		01607	03206	45	00000	03212		
	MS				01610	03207	56	00000	00000		
PA2	MJ		FILL		01611	03210	45	00000	30000		
PAP			FILL		01612	03211	00	00000	30000		
	SP	PA2	I5		01613	03212	31	03210	00017		
	TU	A	PA3		01614	03213	15	32000	03214		
PA3	TP	FILL	PAP		01615	03214	11	30000	03211		
	LO	PAP	A+18		01616	03215	55	03211	32022		
	AT	PAP	A		01617	03216	35	03211	32000		
	TP	VO	DUMP88		01620	03217	11	03361	03244		
	TV	A	DUMP88		01621	03220	16	32000	03244		
	RA	DUMP88	CONS6		01622	03221	21	03244	03253		
	EF		DUMP88		01623	03222	17	00000	03244		
	RA	PA2	V1		01624	03223	21	03210	03362		
	MJ		PA2		01625	03224	45	00000	03210		
REWNO	MJ		L+3		01626	03225	45	00000	03230		
	MS				01627	03226	56	00000	00000		
REWNO2	MJ		FILL		01630	03227	45	00000	30000		
	SP	TAPE4	I2		01631	03230	31	00073	00014		
	AT	CREWD	DUMP88		01632	03231	35	03243	03244		
	EF		DUMP88		01633	03232	17	00000	03244		
	MJ		REWNO2		01634	03233	45	00000	03227		
WINDE	MJ		L+3		01635	03234	45	00000	03237		
	MS				01636	03235	56	00000	00000		
WINDE2	MJ		FILL		01637	03236	45	00000	30000		
	SP	TAPE3	I2		01640	03237	31	00072	00014		
	AT	CREWD	DUMP88		01641	03240	35	03243	03244		
	EF		DUMP88		01642	03241	17	00000	03244		
	MT		WINDE2		01643	03242	45	00000	03236		
CREWD	B	020020000000			01644	03243	02	00200	00000		
DUMP88					01645	03244	00	00000	00000		
CONS	ROB		RPEAT+2		01646	03245	75	30000	01712		
CONS1	ROV		XS3+1		01647	03246	75	10000	01434		
CONS2	ROB		FLU3+1		01650	03247	75	30000	01523		
CONS3	ROV		4AR7		01651	03250	75	10000	01530		
CONS4	ROV		KP777+1		01652	03251	75	10000	01602		
CONS5	ROB		XS432+1		01653	03252	75	30000	02145		
CONS6	B	020006400000			01654	03253	02	00064	00000		
VARBL	O	LAKBK	LAKBK		0738	01655	03254	00	00134	00134	NUP
	O	V4	R		0739	01656	03255	00	03365	00014	NUP
	O	VO	VO		0740	01657	03256	00	03361	03361	NUP
		LCAP	LCAP		0741	01600	03257	00	03437	03437	
		V3	I		0742	01601	03260	00	03417	00012	
		VO	VO		0743	01602	03261	00	03361	03361	
		LFISS	LFISS		0744	01603	03262	00	03442	03442	
		V3	I		0745	01604	03263	00	03417	00012	
		VO	VO		0746	01605	03264	00	03361	03361	
		LKV	LKV		0747	01606	03265	00	03461	03461	
		V1	R		0748	01607	03266	00	03362	00014	
		VO	VO		0749	01610	03267	00	03361	03361	
		LKNXE	LKNXE		0750	01611	03270	00	03450	03450	
		V1	R		0751	01612	03271	00	03362	00014	
		VO	VO		0752	01613	03272	00	03361	03361	
		LKNSU	LKNSU		0753	01614	03273	00	03453	03453	
		V1	R		0754	01615	03274	00	03362	00014	

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		VO	VO	0755	01676	03275	00	03361	03361	
		LMESH	LMESH	0756	01677	03276	00	00172	00172	
		VI	NPLS3	0757	01700	03277	00	03362	03372	
		VO	VO	0758	01701	03300	00	03361	03361	
		LPHKI	LPHKI	0759	01702	03301	00	00200	00200	
		R	IPLS2	0760	01703	03302	00	00014	03373	NUP
		VO	VO	0761	01704	03303	00	03361	03361	
		LMKI	LMKI	0762	01705	03304	00	00230	00230	
		I	R	0763	01706	03305	00	00012	00014	
		VO	VO	0764	01707	03306	00	03361	03361	
		LSFKI	LSFKI	0765	01710	03307	00	00167	00167	
		S	I	0766	01711	03310	00	00015	00012	
		VO	VO	0767	01712	03311	00	03361	03361	
		LENGY	LENGY	0768	01713	03312	00	00131	00131	
		VI	IPLS3	0769	01714	03313	00	03362	03370	
		VO	VO	0770	01715	03314	00	03361	03361	
		LEIN	LEIN	0771	01716	03315	00	03456	03456	
		V10	I	0772	01717	03316	00	03424	00012	
		VO	VO	0773	01720	03317	00	03361	03361	
		LPTS	LPTS	0774	01721	03320	00	00142	00142	
		VI	R	0775	01722	03321	00	03362	00014	
		VO	VO	0776	01723	03322	00	03361	03361	
		LPTSM	LPTSM	0777	01724	03323	00	03434	03434	
		VI	RPLS1	0778	01725	03324	00	03362	03371	
		VO	VO	0779	01726	03325	00	03361	03361	
		LBRMX	LBRMX	0780	01727	03326	00	00175	00175	
		V2	R	0781	01730	03327	00	03363	00014	
		VO	VO	0782	01731	03330	00	03361	03361	
		LKP	LKP	0783	01732	03331	00	03445	03445	
		VI	R	0784	01733	03332	00	03362	00014	
		VO	VO	0785	01734	03333	00	03361	03361	
	B	3777777777			01735	03334	37	77777	77777	
KBAR5		LMESH	LMESH	0787	01736	03335	00	00172	00172	
		LPHKI	LPHKI	0788	01737	03336	00	00200	00200	
		LSFKI	LSFKI	0789	01740	03337	00	00167	00167	
		LENGY	LENGY	0790	01741	03340	00	00131	00131	
		LBRMX	LBRMX	0791	01742	03341	00	00175	00175	
		LPTS	LPTS	0792	01743	03342	00	00142	00142	NUP
QBLK2		LCAP	QBLK2		01744	03343	00	03437	03343	
		LFISS	LFISS	0795	01745	03344	00	03442	03442	NUP
KBAR6			BAR6	0796	01746	03345	00	00000	01457	
KKBAR		KBAR5		0797	01747	03346	00	03335	00000	
KBAR2	RFB		BAR3+1		01720	03347	75	30000	01455	
ESTER				0799	01721	03350	00	00000	00000	
UX1				0800	01722	03351	00	00000	00000	
GALOP				0801	01723	03352	00	00000	00000	
RTALY				0802	01724	03353	00	00000	00000	
UX1				0803	01725	03354	00	00000	00000	
UDELV		DELVP		0804	01726	03355	00	02253	00000	
VX				0805	01727	03356	00	00000	00000	
U1		1			01700	03357	00	00001	00000	
U1V1		1	1		01701	03360	00	00001	00001	
VO					01702	03361	00	00000	00000	
V1			1		01703	03362	00	00000	00001	
V2			2		01704	03363	00	00000	00002	
U3		3			01705	03364	00	00003	00000	
V4			4		01706	03365	00	00000	00004	
CURE1		0000	1103	0813	01707	03366	00	00000	00000	NUP
DRUM1				0814	01770	03367	00	00000	00000	
IPLS3				0815	01771	03370	00	00000	00000	

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RPLS1				0816	01772	03371	00	00000	00000
NPLS3				0817	01773	03372	00	00000	00000
IPLS2				0818	01774	03373	00	00000	00000
DUMPS				0819	01775	03374	00	00000	00000
UIVR				0820	01776	03375	00	00000	00000
IMIN1				0821	01777	03376	00	00000	00000
LLNXE		LNXT	LNXT	0822	02000	03377	00	00206	00206
LLNSU		LNSMT	LNSMT	0823	02001	03400	00	00203	00203
KXS99	R9B		XS119+1		02002	03401	75	30000	02130
LZS60			ZS00	0825	02003	03402	00	00000	02010
VZS50			ZS50	0826	02004	03403	00	00000	02000
LLKNX		LKNXE		0827	02005	03404	00	03450	00000
LLKNS		LKNSU		0828	02006	03405	00	03453	00000
IIIII				0829	02007	03406	00	00000	00000
LCOUN		COUN1	COUN1	0830	02010	03407	00	03411	03411
COUNT				0831	02011	03410	00	00000	00000
COUN1				0832	02012	03411	00	00000	00000
COUN2				0833	02013	03412	00	00000	00000
COUN3				0834	02014	03413	00	00000	00000
COUN4				0835	02015	03414	00	00000	00000
COUN5				0836	02016	03415	00	00000	00000
VXS11			XS11*	0837	02017	03416	00	00000	02065
V3			3		02020	03417	00	00000	00003
V5			5		02021	03420	00	00000	00005
V6			6		02022	03421	00	00000	00006
V7			7		02023	03422	00	00000	00007
V8			8		02024	03423	00	00000	00010
V10			10		02025	03424	00	00000	00012
F0					02026	03425	00	00000	00000
F1	F	1			02027	03426	20	14000	00000
U2		2			02030	03427	00	00002	00000
U4		4			02031	03430	00	00004	00000
FLAGO	B	377777777777			02032	03431	37	77777	77777
FI	F	3-1#45927			02033	03432	20	26220	77327
UNITS	F	1.	24		02034	03433	32	06474	10336
LPTSM		FILL	FILL	0850	02035	03434	00	30000	30000
LPTSM		FILL	FILL	0850	02035	03434	00	30000	30000
		FILL	FILL	0851	02036	03435	00	30000	30000
		FILL	FILL	0852	02037	03436	00	30000	30000
LCAP		FILL	FILL	0853	02040	03437	00	30000	30000
		FILL	FILL	0854	02041	03440	00	30000	30000
		FILL	FILL	0855	02042	03441	00	30000	30000
LFTSS		FILL	FILL	0856	02043	03442	00	30000	30000
		FILL	FILL	0857	02044	03443	00	30000	30000
		FILL	FILL	0858	02045	03444	00	30000	30000
LKP		FILL	FILL	0859	02046	03445	00	30000	30000
		FILL	FILL	0860	02047	03446	00	30000	30000
		FILL	FILL	0861	02050	03447	00	30000	30000
LKNXE		FILL	FILL	0862	02051	03450	00	30000	30000
		FILL	FILL	0863	02052	03451	00	30000	30000
		FILL	FILL	0864	02053	03452	00	30000	30000
LKNSU		FILL	FILL	0865	02054	03453	00	30000	30000
		FILL	FILL	0866	02055	03454	00	30000	30000
		FILL	FILL	0867	02056	03455	00	30000	30000
LEIN		FILL	FILL	0868	02057	03456	00	30000	30000
		FILL	FILL	0869	02060	03457	00	30000	30000
		FILL	FILL	0870	02061	03460	00	30000	30000
LKV		FILL	FILL	0871	02062	03461	00	30000	30000
		FILL	FILL	0872	02063	03462	00	30000	30000
		FILL	FILL	0873	02064	03463	00	30000	30000

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LLBRM	N	LLBRM*	0000	0989	02005	03464	00	00175	00000	NUP
LLAST			LAST		02006	03465	00	00000	03466	
LAST	Xe3	DMM 15			02007	03466	27	47470	00410	
	SFTL		IOB1							
IDEN					02010	00010	00	00000	00000	
N					02011	00011	00	00000	00000	
I					02012	00012	00	00000	00000	
B					02013	00013	00	00000	00000	
R		0000	0000	0006	02014	00014	00	00000	00000	
S		0000	0000	0007	02015	00015	00	00000	00000	
Y					02016	00016	00	00000	00000	
		0000	0000	0008	02017	00017	00	00000	00000	
INF1		0000	0000	0009	02100	00020	00	00000	00000	
INF2		0000	0000	0010	02101	00021	00	00000	00000	
INF3		0000	0000	0011	02102	00022	00	00000	00000	
INF4		0000	0000	0012	02103	00023	00	00000	00000	
INF5		0000	0000	0013	02104	00024	00	00000	00000	
INF6		0000	0000	0014	02105	00025	00	00000	00000	
INF7		0000	0000	0015	02106	00026	00	00000	00000	
INF8		0000	0000	0016	02107	00027	00	00000	00000	
INF9		0000	0000	0017	02110	00030	00	00000	00000	
INF10		0000	0000	0018	02111	00031	00	00000	00000	
INF11		0000	0000	0019	02112	00032	00	00000	00000	
INF12		0000	0000	0020	02113	00033	00	00000	00000	
		0000	0000	0021	02114	00034	00	00000	00000	
RHO		0000	0000	0022	02115	00035	00	00000	00000	
VARI					02116	00036	00	00000	00000	
KKK					02117	00037	00	00000	00000	
NDM					02140	00040	00	00000	00000	
		0000	0000	0023	02141	00041	00	00000	00000	
PSUBO	F	3.12	13		02142	00042	25	57060	12073	
YSUBX	F	3	-3		02143	00043	17	06111	56457	
YSUBI	F	5.6	-2		02144	00044	17	47126	01014	
YSUBP	F	1.4	-2		02145	00045	17	27126	01014	
LAMXE	F	2.1	-5		02146	00046	16	15402	44501	
LAMI	F	2.9	-5		02147	00047	16	17464	24065	
LAMPR	F	4.1	-6		02140	00050	15	74231	12733	
					02141	00051	00	00000	00000	
RZERO	F				02142	00052	00	00000	00000	
TIME	F				02143	00053	00	00000	00000	
EPSIL	F	.00001			02144	00054	16	05174	26542	
EPS2	F	.00001			02145	00055	16	05174	26542	
EPS3	F	.00001			02146	00056	16	05174	26542	
EPS4	F	.00001			02147	00057	16	05174	26542	
KO	F	1.0			02140	00060	20	14000	00000	
OMEGA	F				02141	00061	00	00000	00000	
DZDK	F	1.0	0000		02142	00062	20	14000	00000	
		0000	0000	0036	02143	00063	00	00000	00000	
QO	F				02144	00064	00	00000	00000	
DELTS	F				02145	00065	00	00000	00000	
DTMAX	F				02146	00066	00	00000	00000	
					02147	00067	00	00000	00000	
TAPE1	B	1			02140	00070	00	00000	00001	
TAPE2	B	2			02141	00071	00	00000	00002	
TAPE3	B	3			02142	00072	00	00000	00003	
TAPE4	B	4			02143	00073	00	00000	00004	
TAPE5	B	5			02144	00074	00	00000	00005	
TAPE6	B	6			02145	00075	00	00000	00006	
TAPE7	B	7			02146	00076	00	00000	00007	
TAPE8	B	10			02147	00077	00	00000	00010	

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TAPE9	B	11	DUMP TAPE	02100 00100	00 00000 00011
TAPE10	B	12	DMM SERVICE LIBRARY	02101 00101	00 00000 00012
		0000	0000	0045 02102 00102	00 00000 00000
DIA1		0000	0000	0046 02103 00103	00 00000 00000
DIA2		0000	0000	0047 02104 00104	00 00000 00000
DIA3		0000	0000	0048 02105 00105	00 00000 00000
DIA4		0000	0000	0049 02106 00106	00 00000 00000
DIA5		0000	0000	0050 02107 00107	00 00000 00000
DIA6		0000	0000	0051 02170 00110	00 00000 00000
DIA7		0000	0000	0052 02171 00111	00 00000 00000
DIA8		0000	0000	0053 02172 00112	00 00000 00000
DIA9		0000	0000	0054 02173 00113	00 00000 00000
DIA10		0000	0000	0055 02174 00114	00 00000 00000
DIA11		0000	0000	0056 02175 00115	00 00000 00000
DIA12		0000	0000	0057 02176 00116	00 00000 00000
DIA13		0000	0000	0058 02177 00117	00 00000 00000
DIA14		0000	0000	0059 02200 00120	00 00000 00000
DIA15		0000	0000	0060 02201 00121	00 00000 00000
DIA16		0000	0000	0061 02202 00122	00 00000 00000
DIA17		0000	0000	0062 02203 00123	00 00000 00000
DIA18		0000	0000	0063 02204 00124	00 00000 00000
				02205 00125	00 00000 00000
LISOP	RSRV	3	3	02206 00126	
LENGY	RSRV	3	3	02211 00131	
LAKBK	RSRV	3	3	02214 00134	
LROIF	RSRV	3	3	02217 00137	
LPTS	RSRV	3	3	02222 00142	
LREGN	RSRV	3	3	02225 00145	
LBSUO	RSRV	3	3	02230 00150	
LBSUN	RSRV	3	3	02233 00153	
LPHT	RSRV	3	3	02236 00156	
LCAPP	RSRV	3	3	02241 00161	
LPBKI	RSRV	3	3	02244 00164	
LSFKI	RSRV	3	3	02247 00167	
LMESH	RSRV	3	3	02252 00172	
LBRMX	RSRV	3	3	02255 00175	
LPFKI	RSRV	3	3	02260 00200	
LNSMT	RSRV	3	3	02263 00203	
LNJET	RSRV	3	3	02266 00206	
LCAPP	RSRV	3	3	02271 00211	
LCAPT	RSRV	3	3	02274 00214	
LCPTI	RSRV	3	3	02277 00217	
LCAPP	RSRV	3	3	02302 00222	
LXKI	RSRV	3	3	02305 00225	
LMFKI	RSRV	3	3	02310 00230	
LPDIF	RSRV	3	3	02313 00233	
LKPXE	RSRV	3	3	02316 00236	
LLKIA	RSRV	3	3	02321 00241	
LLKIB	RSRV	3	3	02324 00244	
LNFKI	RSRV	3	3	02327 00247	
LNLP	RSRV	3	3	02332 00252	
LNSKI	RSRV	3	3	02335 00255	
LNDKI	RSRV	3	3	02340 00260	
LNFP	RSRV	3	3	02343 00263	
LNCKI	RSRV	3	3	02346 00266	
LNRKI	RSRV	3	3	02351 00271	
LNPKI	RSRV	3	3	02354 00274	
LNKE	RSRV	3	3	02357 00277	
LNKL	RSRV	3	3	02362 00302	
LSHUF	RSRV	3	3	02365 00305	

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CRC01	B			02370 00310	00 00000 00000
Z3	RSRV	3	3	02371 00311	
Z2	RSRV	3	3	02374 00314	
Z1	RSRV	3	3	02377 00317	
Z				02402 00322	00 00000 00000
DELTA	F			02403 00323	00 00000 00000
MO				02404 00324	00 00000 00000
BLOCK	B			02405 00325	00 00000 00000
NDC1	B			02406 00326	00 00000 00000
MN001	B			02407 00327	00 00000 00000
MN002	B			02410 00330	00 00000 00000
SUBR	RSRV	9	9	02411 00331	
MLM1	RSRV	4	4	02422 00342	
DRUM	B			02426 00346	00 00000 00000
MINCE	B			02427 00347	00 00000 00000
ISO				02430 00350	00 00000 00000
MARK1				02431 00351	00 00000 00000
MARK2				02432 00352	00 00000 00000
K3				02433 00353	00 00000 00000
STAGAT				02434 00354	00 00000 00000
INDEXS				02435 00355	00 00000 00000
DTWTCE				02436 00356	00 00000 00000
ADMCFE	RSRV	3	3	02437 00357	
1STBP				02442 00362	00 00000 00000
DELTAT				02443 00363	00 00000 00000
LDK1	EOLS	LCAPD			
LTK1	EOLS	LCAPT			
LTK1J	EOLS	LCPT1			
LFK1	EOLS	LCAPP			
LMK1	EOLS	LMFK1			
BK	EOLS	SUBR*3			
BK2	EOLS	SUBR*5			
BRITE	EOLS	SUBR*6			
WR2	EOLS	SUBR*8			
ALLOK	EOLS	SUBR			
ALL2	EOLS	SUBR*2			
END					00000 00000

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TABLE V-2N

BASIC-LIBRARY PREPARATION

LIBRY	SETL	I	140081	BASIC LIBRARY					
	XCS	OMM 16			00001	01400	27	47470	00411
BRYE	MJ	0000	BRY1		0025	00002 01401	45	00000	01404
BRY2	MS	0000	0000		0026	00003 01402	56	00000	00000
BRY1	MJ	0000	FILL		0027	00004 01403	45	00000	30000
	TP	I	I2			00005 01404	11	00012	02264
	RA	I2	V2		0033	00006 01405	21	02264	02166
	MP	V5	Y			00007 01406	71	02171	00016
	AT	V1	5Y1			00010 01407	35	02165	02266
	SP	BRY12	6			00011 01410	31	01477	00006
	LO	A	30			00012 01411	55	32000	00036
	SP	TAPE2	30			00013 01412	31	00071	00036
	AT	Q	BRY12		0041	00014 01413	35	31000	01477
	SP	BRY4	6			00015 01414	31	01435	00006
	LO	A	30			00016 01415	55	32000	00036
	SP	TAPE6	30			00017 01416	31	00075	00036
	AT	Q	BRY4		0047	00020 01417	35	31000	01435
	TP	BRY4	BRY13		0048	00021 01420	11	01435	01573
	TV	BRY12	BRY4		0049	00022 01421	16	01477	01435
	TP	ZERO	C3		0050	00023 01422	11	02145	02231
	TP	ZERO	C4		0051	00024 01423	11	02145	02232
	TU	LT3	BRY9F			00025 01424	15	02255	01445
	TV	LT1	BRY9F		0054	00026 01425	16	02253	01445
	TU	LT4	B4444			00027 01426	15	02256	01447
	TV	LT2	B4444			00028 01427	16	02254	01447
	TU	LT7	B4445			00029 01430	15	02260	01451
	TV	LT3	B4445			00032 01431	16	02255	01451
	TU	LT1	B5555			00033 01432	15	02253	01443
	TV	LT	B5555			00034 01433	16	02250	01443
BRY9	RJ	BK2	BK		0061	00035 01434	37	00336	00334
BRY4			FILL			00036 01435	00	00000	30000
	MJ	0000	BRYE		0063	00037 01436	45	00000	01402
	SP	BRY4	15			00040 01437	31	01435	00017
	TU	A	BRY8		0065	00041 01440	15	32000	01441
BRY8	SP	FILL	0000		0066	00042 01441	31	30000	00000
	EJ	FINI1	RBV10			00043 01442	43	02246	01465
B5555	TP	FILL	FILL	TITOT		00044 01443	11	30000	30000
RBV9E	RJ	EXIT3	FXD86			00045 01444	37	02320	02316
BRY9F	Q	FILL	FILL		0072	00046 01445	00	30000	30000
	RJ	EXIT2	FLOS			00047 01446	37	02315	02313
B4444		FILL	FILL			00050 01447	00	30000	30000
	RJ	EXIT3	FXD86			00051 01450	37	02320	02316
B4445		FILL	FILL			00052 01451	00	30000	30000
	TV	BRY4	RBV4		0077	00053 01452	16	01435	01454
	RA	RBV4	V4		0078	00054 01453	21	01454	02170
RBV4	TP	FLAG0	FILL		0079	00055 01454	11	02243	30000
	RA	BRY4	V5		0080	00056 01455	21	01435	02171
	RA	C3	U5		0081	00057 01456	21	02231	02152
	RA	C4	V1		0082	00060 01457	21	02232	02165
	RA	B5555	USV5			00061 01460	21	01443	02211
	RA	BRY9F	USV5		0085	00062 01461	21	01445	02211
	RA	B4444	USV5			00063 01462	21	01447	02211
	RA	B4445	USV5			00064 01463	21	01451	02211
	MJ	0000	BRY9		0088	00065 01464	45	00000	01434
RBV10	TU	BRY8	RBV8	NOT	0089	00066 01465	15	01441	01467
	RA	RBV8	U1	USED	0090	00067 01466	21	01467	02146
RBV8	SP	FILL	0000	ON	0091	00070 01467	31	30000	00000
	EJ	FINI1	BRY10	650	0092	00071 01470	43	02246	01472
	MJ		B5555			00072 01471	45	00000	01443
BRY10	TV	BRY4	BRY11		0094	00073 01472	16	01435	01473

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BRY11	TP	FLAG0	FILL		0095	00074	0.473	11	02243	30000	
	RA	C3	U1		0096	00075	0.474	21	02231	02146	
	TU	C3	BRY12		0097	00076	0.475	15	02231	01477	
	RJ	WR2	BRITE		0098	00077	0.476	37	00341	00337	
BRY12	0	FILL	T		0099	00100	0.477	00	30000	02567	NUP
	TP	BRY4	BRY4A	READ	0100	00101	0.500	11	01435	01503	
	TV	LT	BRY4A	INDIC	0101	00102	0.501	16	02250	01503	
	RJ	BK2	BK	FOM	0102	00103	0.502	37	00336	00334	
BRY4A	0	4	FILL	XIF	0103	00104	0.503	00	00004	30000	NUP
	MJ	0000	BRYE		0104	00105	0.504	45	00000	01402	
ABRY4	RJ	EXIT3	FXDB6			00106	0.505	37	02320	02316	
		T7	T3			00107	0.506	00	02576	02572	
	TP	FLAG0	T4		0109	00110	0.507	11	02243	02573	
	TP	BRY12	BRY4Z		0110	00111	0.510	11	01477	01514	
	TU	CON12	BRY4Z		0111	00112	0.511	15	02224	01514	
	TV	CON12	BRY4Z		0112	00113	0.512	16	02224	01514	
	RJ	WR2	BRITE		0113	00114	0.513	37	00341	00337	
BRY4Z	0	FILL	FILL	5 T	0114	00115	0.514	00	30000	30000	NUP
	MP	T3	V2			00116	0.515	71	02572	02166	
	AT	V2	2MXF2		0116	00117	0.516	35	02166	02267	
	RJ	ALL2	ALLOK		0117	00120	0.517	37	00333	00331	
	0	CORE1	OROM1		0118	00121	0.520	00	02270	02271	NUP
	0	VARBL	0000		0119	00122	0.521	00	02300	00000	NUP
	TP	ZERO	C1		0120	00123	0.522	11	02145	02227	
	TP	BRY4A	BRY4Y		0121	00124	0.523	11	01503	01532	
	TP	V1	CT		0122	00125	0.524	11	02165	02233	
	TV	LXIF	BRY4V		0123	00126	0.525	16	02272	01541	
BRY4T	TP	V5	C3		0124	00127	0.526	11	02171	02231	
	TU	LT	BRY4X		0125	00120	0.527	15	02250	01535	
	TV	LT	BRY4Y		0126	00121	0.530	16	02250	01532	
	RJ	BK2	BK		0127	00122	0.531	37	00336	00334	
BRY4Y	0	4	FILL	XIF	0128	00123	0.532	00	00004	30000	NUP
	MJ	0000	BRYE		0129	00124	0.533	45	00000	01402	
BRY4U	RO9	2	BRY4A			00125	0.534	75	30002	01536	
BRY4X	TP	FILL	DUMP		0131	00126	0.535	11	30000	02261	
B7444	SP	DUMP				00127	0.536	31	02261	00000	
B4447	EJ	FINI1	RBV4W			00128	0.537	43	02246	01547	
B4448	RJ	EXIT2	FLDR			00129	0.540	37	02315	02313	
BRY4V	0	DUMP	FILL	XIF	0137	00122	0.541	00	02261	30000	NUP
	RA	BRY4X	U2			00123	0.542	21	01535	02147	
	RA	BRY4V	V1		0139	00144	0.543	21	01541	02165	
	RA	C1	U1		0140	00145	0.544	21	02227	02146	
	IJ	C3	BRY4U		0141	00146	0.545	41	02231	01534	
	MJ	0000	BRY4T		0142	00147	0.546	45	00000	01526	
RBV4W	SP	DUMP1	0000	NOT USED	0143	00120	0.547	31	02262	00000	
	EJ	FINI1	BRY4W	ON	0144	00121	0.550	43	02246	01555	
	MJ		B4448			00122	0.551	45	00000	01540	
BRY4R	RA	BRY4X	U2			00123	0.552	21	01535	02147	
	IJ	C3	BRY4U		0147	00124	0.553	41	02231	01534	
	MJ	0000	BRY4T		0148	00125	0.554	45	00000	01526	
BRY4W	TV	BRY4V	RBV4V		0149	00126	0.555	16	01541	01556	
RBV4V	TP	FLAG0	FILL	XIF PLUS	0150	00127	0.556	11	02243	30000	
	RA	BRY4V	V1		0151	00120	0.557	21	01541	02165	
	RA	C1	U1		0152	00121	0.560	21	02227	02146	
	IJ	CT	BRY4T			00122	0.561	41	02233	01526	
	TP	BRY12	BRY4S		0154	00123	0.562	11	01477	01566	
	TIJ	C1	BRY4S		0155	00124	0.563	15	02227	01566	
	TV	LXIF	BRY4S		0156	00125	0.564	16	02272	01566	
	RJ	WR2	BRITE		0157	00126	0.565	37	00341	00337	
BRY4S	0	FILL	FILL	XIF	0158	00127	0.566	00	30000	30000	NUP

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	RC	C4	V1		0159	00140	01567	23	02232	02165	
	TV	LT	BRY13		0160	00171	01570	16	02250	01573	
RBY35	RJ	RBY35	BRY35		0161	00172	01571	37	01571	01572	
BRY35	RJ	BK2	BK	READ IND	0162	00173	01572	37	00336	00334	
BRY13	0	4	FILL	CARD	0163	00174	01573	00	00004	30000	NUP
	MJ		REWIND			00175	01574	45	00000	02136	
BR999	TP	T1	ELEM			00176	01575	11	02570	02234	
	TP	FLAG0	ENDIN		0168	00177	01576	11	02243	02240	
	RJ	EXIT3	FXDB6			00200	01577	37	02320	02316	
		T3	NAME			00201	01600	00	02572	02235	
	RJ	EXIT2	FLDB			00202	01601	37	02315	02313	
		T4	ALPHA			00203	01602	00	02573	02236	
	RJ	EXIT3	FXDB6			00204	01603	37	02320	02316	
		T7	MOFA			00205	01604	00	02576	02237	
	TP	BRY12	BRY14		0175	00206	01605	11	01477	01611	
	TU	CON12	BRY14		0176	00207	01606	15	02224	01611	
	TV	CON3	BRY14		0177	00210	01607	16	02216	01611	
	RJ	WR2	BRITE		0178	00211	01610	37	00341	00337	
BRY14	0	FILL	FILL		0179	00212	01611	00	30000	30000	NUP
	TP	ZERO	SW1			00213	01612	11	02145	01634	
	TV	CON10	LIB1			00214	01613	16	02223	01641	
73YBR	TP	BRY13	BRY15			00215	01614	11	01573	01617	
RBY37	TP	U1	C1			00216	01615	11	02146	02227	
BRY37	RJ	BK2	BK	READ DESC	0184	00217	01616	37	00336	00334	
BRY15	0	4	FILL	BLOCK	0185	00220	01617	00	00004	30000	NUP
	MJ	0000	BRYE	END OF TAP	0186	00221	01620	45	00000	01402	
	TP	V5	C2			00222	01621	11	02171	02230	
	SP	BRY15	15			00223	01622	31	01617	00017	
BRY16	TU	A	BRY16			00224	01623	15	32000	01624	
	SP	FILL				00225	01624	31	30000	00000	
	EJ	FINT1	BRY17			00226	01625	03	02246	01633	
	RA	BRY16	U2			00227	01626	21	01624	02147	
	RA	C1	U1			00220	01627	21	02227	02146	
	TJ	C2	BRY16			00221	01630	41	02230	01624	
	RA	BRY15	V12			00222	01631	21	01617	02200	
BRY17	MJ		BRY37			00223	01632	45	00000	01616	
	RJ	DES2	DESCB			00224	01633	37	02067	02065	
SW1						00225	01634	00	00000	00000	
	TP	BRY12	BRY36		0197	00226	01635	11	01477	01640	
	TU	C1	BRY36		0198	00227	01636	15	02227	01640	
	RJ	WR2	BRITE		0199	00240	01637	37	00341	00337	
BRY36	0	FILL	FILL		0200	00241	01640	00	30000	30000	NUP
LIP1	RJ	LIP1	LIB2		0201	00242	01641	37	01641	01642	
LIP2	TP	BRY15	BRY18		0202	00243	01642	11	01617	01673	
	TP	MOFA	MOFA1		0203	00244	01643	11	02237	02265	
	RA	MOFA1	V1		0204	00245	01644	21	02265	02165	
	TP	BRY12	A		0205	00246	01645	11	01477	32000	
	TV	A	BRY21		0206	00247	01646	16	32000	01716	
	AT	MOFA1	A		0207	00250	01647	35	02265	32000	
	TV	A	BRY22		0208	00251	01650	16	32000	01720	
	AT	MOFA1	A		0209	00252	01651	35	02265	32000	
	TV	A	BRY23		0210	00253	01652	16	32000	01722	
	AT	MOFA1	A		0211	00254	01653	35	02265	32000	
	TV	A	BRY24		0212	00255	01654	16	32000	01724	
	AT	MOFA1	A		0213	00256	01655	35	02265	32000	
	TV	A	BRY25		0214	00257	01656	16	32000	01726	
	AT	MOFA1	A		0215	00260	01657	35	02265	32000	
	TV	A	BRY27		0216	00261	01660	16	32000	01730	
	AT	MOFA1	A		0217	00262	01661	35	02265	32000	
	TV	A	BRY28		0218	00263	01662	16	32000	01732	

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	AT	MOFA1	A	0219	00204	0.1663	35	02265	32000	
	TV	A	BRY29	0220	00205	0.1664	16	32000	01734	
	AT	MOFA1	A	0221	00206	0.1665	35	02265	32000	
	TV	A	BRY30	0222	00207	0.1666	16	32000	01736	
	AT	MOFA1	A	0223	00210	0.1667	35	02265	32000	
	TV	A	BR30A	0224	00211	0.1670	16	32000	01740	
BRY39	TV	CON4	BRY18	0225	00212	0.1671	16	02217	0.1673	
BRY19	RJ	BK2	BK	0226	00213	0.1672	37	00336	00334	
BRY18	0	4	FILL	0227	00214	0.1673	00	00004	30000	NUP
	MJ		BRYE	00215	0.1674		45	00000	0.1402	
	ROB	2	RBV81	00216	0.1675		75	30002	0.1677	
	TP	TEMO2	OUMP	00217	0.1676		11	02013	02261	
RBV81	SP	DUMP		00300	0.1677		31	02261	00000	
	EJ	FINI1	LIB4	00301	0.1700		43	02246	0.1702	
	M.I	0000	LIB5	0233	00302	0.1701	45	00000	0.1704	
LIB4	SP	DUMP1	0000	0234	00303	0.1702	31	02262	00000	
	EJ	FINI1	BRY31	0235	00304	0.1703	43	02246	0.1754	
LIB5	TP	BRY18	BRY20	0236	00305	0.1704	11	0.1673	0.1710	
	TP	VI	C2	0237	00306	0.1705	11	02165	02230	
LIB6	RA	BRY20	V12		00307	0.1706	21	0.1710	02200	
	R.I	BK2	BK	0239	00310	0.1707	37	00336	00334	
BRY20	0	4	FILL	0240	00311	0.1710	00	00004	30000	NUP
	MJ	0000	BRYE	0241	00312	0.1711	45	00000	0.1402	
	IJ	C2	LIB6	0242	00313	0.1712	41	02230	0.1706	
BRY40	RJ	EXIT3	FADB6		00314	0.1713	37	02320	02316	
		TEM01	TEM00		00315	0.1714	00	02012	02011	
	RJ	EXIT2	FLDB		00316	0.1715	37	02315	02313	
BRY21		TEM02	FILL		00317	0.1716	00	02013	30000	
	RJ	EXIT2	FLDB		00320	0.1717	37	02315	02313	
BRY22		TEM04	FILL		00321	0.1720	00	02015	30000	
	RJ	EXIT2	FLDB		00322	0.1721	37	02315	02313	
BRY23		TEM06	FILL		00323	0.1722	00	02017	30000	
	RJ	EXIT2	FLDB		00324	0.1723	37	02315	02313	
BRY24		TEM08	FILL		00325	0.1724	00	02021	30000	
	RJ	EXIT2	FLDB		00326	0.1725	37	02315	02313	
BRY25		TEM10	FILL		00327	0.1726	00	02023	30000	
	RJ	EXIT2	FLDB		00328	0.1727	37	02315	02313	
BRY27		TEM16	FILL		00329	0.1730	00	02031	30000	
	RJ	EXIT2	FLDB		00322	0.1731	37	02315	02313	
BRY28		TEM18	FILL		00323	0.1732	00	02033	30000	
	RJ	EXIT2	FLDB		00324	0.1733	37	02315	02313	
BRY29		TEM20	FILL		00325	0.1734	00	02035	30000	
	RJ	EXIT2	FLDB		00326	0.1735	37	02315	02313	
BRY30		TEM22	FILL		00327	0.1736	00	02037	30000	
	RJ	EXIT2	FLDB		00340	0.1737	37	02315	02313	
BR30A		TEM24	FILL		00341	0.1740	00	02045	30000	
	RA	BRY21	V1	0267	00342	0.1741	21	0.1716	02165	
	RA	BRY22	V1	0268	00343	0.1742	21	0.1720	02165	
	RA	BRY23	V1	0269	00344	0.1743	21	0.1722	02165	
	RA	BRY24	V1	0270	00345	0.1744	21	0.1724	02165	
	RA	BRY25	V1	0271	00346	0.1745	21	0.1726	02165	
	RA	BRY27	V1	0272	00347	0.1746	21	0.1730	02165	
	RA	BRY28	V1	0273	00320	0.1747	21	0.1732	02165	
	RA	BRY29	V1	0274	00321	0.1750	21	0.1734	02165	
	RA	BR30A	V1	0275	00322	0.1751	21	0.1740	02165	
	RA	BRY30	V1	0276	00323	0.1752	21	0.1736	02165	
	MJ	0000	BRY39	0277	00324	0.1753	45	00000	0.1671	
BRY31	TV	BRY21	BRY32	0278	00325	0.1754	16	0.1716	0.1756	
	TP	V9	C1	0279	00326	0.1755	11	02175	02227	
BRY32	TP	FLAGO	FILL	0280	00327	0.1756	11	02243	30000	

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	RA	BRY32	MOFA1		0281	00390	01757	21	01756	02265	
	IJ	C1	BRY32		0282	00391	01760	41	02227	01756	
	TV	BRY32	BRY33	AFFIX	0283	00392	01761	16	01756	01764	
	RS	BRY33	MOFA1	FLAG1	0284	00393	01762	23	01764	02265	
BRY33	RA	BRY33	V1		0285	00394	01763	21	01764	02165	
	TP	FLAG1	FILL		0286	00395	01764	11	02244	30000	
	TP	BRY12	BRY34		0287	00396	01765	11	01477	01773	
	TV	CON13	SW6		0288	00397	01766	16	02225	01776	
	TP	V8	CT			00370	01767	11	02174	02233	
	SP	MOFA1	15			00371	01770	31	02265	00017	
	TU	A	BRY34		0291	00372	01771	15	32000	01773	
BRY30	RJ	WR2	BRITE		0292	00373	01772	37	00341	00337	
BRY34		FILL	FILL		0293	00374	01773	00	30000	30000	NUP
	RA	BRY34	MOFA1		0294	00375	01774	21	01773	02265	
	IJ	CT	BRY20			00376	01775	41	02233	01772	
SW6	RJ	SW6	BYRZ		0296	00377	01776	37	01776	01777	
BYRZ	IJ	C4	RBV35		0297	00400	01777	41	02232	01571	
	RJ	RE2	REWND		0298	00401	02000	37	02141	02136	
	SP	TAPE2	12			00402	02001	31	00071	00014	
	AT	KRE2	CRE2			00403	02002	35	02007	02010	
	EF		CRE2			00404	02003	17	00000	02010	
	MJ	0000	BRY2		0300	00405	02004	45	00000	01403	
BXYR	RA	BRY34	U1		0301	00406	02005	21	01773	02146	
	MJ	0000	BRY20		0302	00407	02006	45	00000	01772	
	B	02002000000				00410	02007	02	00200	00000	
KRE2						00411	02010	00	00000	00000	
CRE2						00412	02011	00	00000	00000	
TEM00						00413	02012	00	00000	00000	
TEM01						00414	02013	00	00000	00000	
TEM02						00415	02014	00	00000	00000	
TEM03						00416	02015	00	00000	00000	
TEM04						00417	02016	00	00000	00000	
TEM05						00420	02017	00	00000	00000	
TEM06						00421	02020	00	00000	00000	
TEM07						00422	02021	00	00000	00000	
TEM08						00423	02022	00	00000	00000	
TEM09						00424	02023	00	00000	00000	
TEM10						00425	02024	00	00000	00000	
TEM11						00426	02025	00	00000	00000	
TEM12						00427	02026	00	00000	00000	
TEM13						00420	02027	00	00000	00000	
TEM14						00421	02030	00	00000	00000	
TEM15						00422	02031	00	00000	00000	
TEM16						00423	02032	00	00000	00000	
TEM17						00424	02033	00	00000	00000	
TEM18						00425	02034	00	00000	00000	
TEM19						00426	02035	00	00000	00000	
TEM20						00427	02036	00	00000	00000	
TEM21						00428	02037	00	00000	00000	
TEM22						00441	02040	00	00000	00000	
TEM23						00442	02041	00	00000	00000	
TEM24						00443	02042	00	00000	00000	
TEM25						00444	02043	00	00000	00000	
TEM26						00445	02044	00	00000	00000	
TEM27						00446	02045	00	00000	00000	
TEM28						00447	02046	00	00000	00000	
TEM29						00420	02047	00	00000	00000	
TEM30						00421	02050	00	00000	00000	
TEM31						00422	02051	00	00000	00000	
TEM32						00423	02052	00	00000	00000	
TEM33											

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TEM34				00424	02053	00	00000	00000	
TEM35				00425	02054	00	00000	00000	
TEM37	RSRV	A	B	00426	02055				
DESCB	MJ	0000	DES1	0339	00466	02065	45	00006	02070
	MS	0000	1212	0340	00467	02066	56	00000	00000
DES2	MJ	0000	FILL	0341	00470	02067	45	00000	30000
DES1	SP	DES2	15	00471	02070		31	02067	00017
	TU	A	DES14	0343	00472	02071	15	32000	02072
DES1A	SP	FILL	0000	0344	00473	02072	31	30000	00000
	ZJ	LAMB	DESC	0345	00474	02073	47	02074	02077
LAMB	TP	CONA	DES6A	0346	00475	02074	11	02221	02106
	TU	LT2	DES6	00476	02075		15	02254	02107
	HJ		SED6E	00477	02076		45	00000	02101
DESC	TP	CON9	DES6A	0348	00500	02077	11	02222	02106
	TU	LT3	DES6	00501	02100		15	02255	02107
SE06B	SP	T		00502	02101		31	02567	00000
	TV	LT	DES3	00503	02102		16	02250	02122
	EJ	FINI1	DES15	00504	02103		43	02246	02130
DES6C	RJ	EXIT3	FXDB6	00505	02104		37	02326	02316
		T1	T	00506	02105		00	02570	02567
DES6A	RJ	FILL	FILL	00507	02106		37	30000	30000
DES6		FILL	T1	00510	02107		00	30000	02570
	TU	LT	DES3	0359	00511	02110	15	02250	02122
	TV	LT	DES3	0360	00512	02111	16	02250	02122
DES7	RA	DES3	U5V2	00513	02112		21	02122	02210
	TU	LT	DES4	0362	00514	02113	15	02250	02124
	TV	LT	DES4	0363	00515	02114	16	02250	02124
DES8	RA	DES4	U6V3	00516	02115		21	02124	02213
DES16	TU	DES3	DES11	0365	00517	02116	15	02122	02117
DES11	SP	FILL	0000	0374	00520	02117	31	30000	00000
	EJ	FINI1	DES15	00521	02120		43	02246	02130
DES13	RJ	EXIT3	FXDB6	00522	02121		37	02320	02316
DES3		FILL	FILL	00523	02122		00	30000	30000
	RJ	EXIT2	FLO3	00524	02123		37	02315	02313
DES4		FILL	FILL	00525	02124		00	30000	30000
DES9	RA	DES3	U4V2	00526	02125		21	02122	02212
DES10	RA	DES4	U4V2	00527	02126		21	02124	02212
	MJ	0000	DES16	0388	00520	02127	45	00000	02116
DES15	TV	DES3	DES17	0389	00521	02130	16	02122	02131
DES17	TP	FLAG0	FILL	0390	00522	02131	11	02243	00000
	RA	DES2	V1	0391	00523	02132	21	02067	02165
	MJ	0000	DES2	0392	00524	02133	45	00000	02067
LIB3	TP	V1	SW1	0393	00525	02134	11	02165	01634
	MJ		73YBR	00526	02135		45	00000	01614
REWND	SP	TAPE6	12	00527	02136		31	00075	00014
	AT	CRE1	RE1	00540	02137		35	02143	02144
	EF		RE1	00541	02140		17	00000	02144
RE2	RJ	RE2	L+1	00542	02141		37	02141	02142
	MS		BRY35	00543	02142		56	00000	01572
CRE1	B	020040000000		00544	02143		02	00400	00000
RE1				00545	02144		00	00000	00000
ZERO				00546	02145		00	00000	00000
U1		1		00547	02146		00	00001	00000
U2		2		00520	02147		00	00002	00000
U3		3		00521	02150		00	00003	00000
U4		4		00522	02151		00	00004	00000
U5		5		00523	02152		00	00005	00000
U6		6		00524	02153		00	00006	00000
U7		7		00525	02154		00	00007	00000
U8		8		00526	02155		00	00010	00000

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U9	9			00597	02156	00	00011	00000		
U10	10			00590	02157	00	00012	00000		
U11	11			00591	02160	00	00013	00000		
U12	12			00592	02161	00	00014	00000		
U13	13			00593	02162	00	00015	00000		
U14	14			00594	02163	00	00016	00000		
U15	15			00595	02164	00	00017	00000		
V1		1		00596	02165	00	00000	00001		
V2		2		00597	02166	00	00000	00002		
V3		3		00570	02167	00	00000	00003		
V4		4		00571	02170	00	00000	00004		
V5		5		00572	02171	00	00000	00005		
V6		6		00573	02172	00	00000	00006		
V7		7		00574	02173	00	00000	00007		
V8		8		00575	02174	00	00000	00010		
V9		9		00576	02175	00	00000	00011		
V10		10		00577	02176	00	00000	00012		
V11		11		00600	02177	00	00000	00013		
V12		12		00601	02200	00	00000	00014		
V13		13		00602	02201	00	00000	00015		
V14		14		00603	02202	00	00000	00016		
V15		15		00604	02203	00	00000	00017		
U1V1	1	1		00605	02204	00	00001	00001		
U2V2	2	2		00606	02205	00	00002	00002		
U3V3	3	3		00607	02206	00	00003	00003		
U4V4	4	4		00610	02207	00	00004	00004		
U5V2	5	2		00611	02210	00	00005	00002		
U5V5	5	5		00612	02211	00	00005	00005		
U4V2	4	2		00613	02212	00	00004	00002		
U6V3	6	3		00614	02213	00	00006	00003		
U2V1	2	1		00615	02214	00	00002	00001		
CON2	4		NAME	00616	02215	00	00004	02235		
CON3	T		ELEM	00617	02216	00	02567	02234		
CON4	TEM00		TEM00	00620	02217	00	02011	02011		
CON5	B	030303030303		00621	02220	03	03030	30303		
CON8	RJ	EXIT2	FLDB	00622	02221	37	02315	02313		
CON9	RJ	EXIT3	FXDB6	00623	02222	37	02320	02316		
CON10			LIB3	00624	02223	00	00000	02134		
CON12	5		T	00625	02224	00	00005	02567		
CON13			BYR	00626	02225	00	00000	02005		
CONVT	B	030303030303		00627	02226	03	03030	30303		
C1				00620	02227	00	00000	00000		
E2				00621	02230	00	00000	00000		
C3				00622	02231	00	00000	00000		
C4	n	0000	0000	0431	00623	02232	00	00000	00000	NUP
ET					00624	02233	00	00000	00000	
ELEM	X3	ELMENT			00625	02234	30	46473	05066	
NAME					00626	02235	00	00000	00000	
ALPHA					00627	02236	00	00000	00000	
MOFA					00640	02237	00	00000	00000	
ENDIN	n	0000	0000	0437	00641	02240	00	00000	00000	NUP
					00642	02241	00	00000	00000	
FLAGO	B	37777777777			00643	02242	00	00000	00000	
FLAG1	B	37777777777			00644	02243	37	77777	77777	
FINI	B	11111111111			00645	02244	37	77777	77776	
FINI1	B	14141414141			00646	02245	11	11111	11111	
LNAME			NAME		00647	02246	14	14141	41414	
			NAME		00620	02247	00	02235	02235	
LT			T		00621	02250	00	02567	02567	
			FILL		00622	02251	00	30000	30000	

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		V1	Y		00623	02252	00	02165	00016		
LT1		T1	T1		00624	02253	00	02570	02570		
LT2		T2	T2		00625	02254	00	02571	02571		
LT3		T3	T3		00626	02255	00	02572	02572		
LT4		T4	T4		00627	02256	00	02573	02573		
LT6		T6	T6		00600	02257	00	02575	02575		
LT7		T7	T7		00601	02260	00	02576	02576		
DUMP					00602	02261	00	00000	00000		
DUMP1					00603	02262	00	00000	00000		
SUM					00604	02263	00	00000	00000		
I2	0	0000	0000		0452	00665	02264	00	00000	00000	NUP
MOFA1	0	0000	0000		0453	00606	02265	00	00000	00000	NUP
SY1					00607	02266	00	00000	00000		
2MXF2	0	0000	0000		0456	00670	02267	00	00000	00000	NUP
CORE1			T		00671	02270	00	00000	02567		
URUM1	0	0000	1000	BASIC LTR	0017	00672	02271	00	00000	00000	NUP
LXIF	RSRV	3	3		00673	02272					
LISOT	RSRV	3	3		00676	02275					
VARBL		LT	LT		00701	02300	00	02250	02250		
		V12	Y		00702	02301	00	02200	00016		
		ZERO	ZERO		00703	02302	00	02145	02145		
		LXIF	LXIF		00704	02303	00	02272	02272		
		V1	2MXF2		00705	02304	00	02165	02267		
		ZERO	ZERO		00706	02305	00	02145	02145		
		LISOT	LISOT		00707	02306	00	02275	02275		
		V1	SY1		00710	02307	00	02165	02266		
		ZERO	ZERO		00711	02310	00	02145	02145		
	B	3777777777			00712	02311	37	77777	77777		
TEMP1	EQLS	TEMP+1			00001	00713	02312	45	00000	02324	
FXDB12	MJ		START1	FIXED DEC-BIN 12	00002	00714	02313	45	00000	02321	
FLOS	MJ		START2	FLOATING DEC-BIN	00003	00715	02314	45	00000	00000	
EXIT	MJ		FILL	NORMAL EXIT	00004	00716	02315	45	00000	00000	
EXIT2	MJ		FILL		00005	00717	02316	45	00000	02326	
FXDB6	MJ		START3	FIXED DEC-BIN 6	00006	00720	02317	56	00000	00000	
	MS			ERROR EXIT	00007	00721	02320	45	00000	00000	
EXIT3	MJ		FILL		00008	00722	02321	16	02315	02314	
START2	TV	EXIT2	EXIT		00009	00723	02322	16	02335	02353	
	TV	F6	F3		00010	00724	02323	45	00000	02330	
	MJ		START		00011	00725	02324	16	02534	02466	
START1	TV	CNST1	F4		00012	00726	02325	45	00000	02322	
	MJ		START2+1		00013	00727	02326	16	02535	02353	
START3	TV	CNST2	F3		00014	00730	02327	16	02320	02314	
	TV	EXIT3	EXIT		00015	00731	02330	31	02314	00017	
START	SP	EXIT	15		00016	00732	02331	15	32000	02332	
	TU	A	L+1		00017	00733	02332	11	30000	31000	
	TV	FILL	0		00018	00734	02333	15	31000	02343	
	TU	Q	CONV		00019	00735	02334	16	31000	02502	
	TV	Q	BET		00020	00736	02335	15	31000	02354	
F6	TU	Q	MCR20		00022	00737	02336	21	02354	02146	
	RA	MCR20	U1		00023	00740	02337	31	31000	00006	
	SP	Q	6		00024	00741	02340	22	00000	02544	
	LT		SCALER		00024	00742	02341	75	10011	02343	
	ROR	9	L+2		00743	02342					
	TO	ZERO	TEMP		00026	00744	02343	11	30000	31000	
CONV	TO	FILL	0		00027	00745	02344	55	31000	00006	
	LQ	Q	6		00746	02345					
	QT	V3	A	SIGN OF MANTISSA	00747	02346					
	MJ3		L+2		00750	02347	37	02530	02525		
	RJ	TU0	VONC		00751	02350	11	32000	02554		
	TO	A	TEMP								

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	TO	V4	DON		00722	02351	11	02170	02565	
F3	RJ	XIT	X		00030	00723	02352	37	02435	02417
MCR20	MJ		FILL		00031	00724	02353	45	00000	30000
	TO	FILL	0		00032	00725	02354	11	30000	31000
	TP	V2	DON			00726	02355	11	02166	02565
	RJ	XIT	X+1		00034	00727	02356	37	02435	02420
	TO	HIDE	TEMP+1	MATISSA	00035	00700	02357	11	02545	02555
	LQ	0	6		00036	00701	02360	55	31000	00006
	QT	V3	A	SIGN OF POWER		00702	02361	51	02167	32000
	MJ		L+2		00703	02362	45	30000	02364	
	RJ	TUO	VONC		00704	02363	37	02530	02525	
	TP	A	TEMP+2		00705	02364	11	32000	02556	
F20	TO	V1	DON		00706	02365	11	02165	02565	
	RJ	XIT	X		00039	00707	02366	37	02435	02417
	RS	HIDE	TEMP+3		00040	00710	02367	23	02545	02557
	TP	HIDE	TEMP+3	POWER	00041	00711	02370	11	02545	02557
	LQ	TEMP+2	A+34			00712	02371	55	02556	32042
	QJ	L+1	L+3			00713	02372	44	02373	02375
	QJ	L+2	L+1			00714	02373	44	02375	02374
	TN	TEMP+3	TEMP+3		00044	00715	02374	13	02557	02557
	RS	TEMP+3	V108			00716	02375	23	02557	02551
	SJ	L+1	L+3		00046	00717	02376	46	02377	02401
	TO	V1	TEMP+2			01000	02377	11	02165	02555
	MJ		L+2		00048	01001	02400	45	00000	02402
	TP	ZERO	TEMP+2			01002	02401	11	02145	02556
	TM	TEMP+3	0		00050	01003	02402	12	02557	31000
	TP	COLT	TEMP+5		00051	01004	02403	11	02536	02561
	RJ	BT	AT		00052	01005	02404	37	02414	02413
	TP	CTA	TEMP+5		00053	01006	02405	11	02542	02561
	RJ	BT	AT		00054	01007	02406	37	02414	02413
	TP	CTA+1	TEMP+5		00055	01010	02407	11	02543	02561
	RJ	BT	AT		00056	01011	02410	37	02414	02413
	TP	ZERO	0			01012	02411	11	02145	31000
	MJ		SET		00058	01013	02412	45	00000	02502
AT	RS	0	V17B			01014	02413	23	31000	02547
BT	SJ	L+1			00060	01015	02414	46	02415	00000
	AT	V17B	0			01016	02415	35	02547	31000
	MJ		HELP		00062	01017	02416	45	00000	02442
X	RS	HIDE	HIDE		00063	01020	02417	23	02545	02545
	LQ	0	6		00064	01021	02420	55	31000	00006
	QT	V17B	DON+1			01022	02421	51	02547	02566
	ZJ	L+3	L+1			01023	02422	47	02425	02423
	AT	V3	DON+1			01024	02423	35	02167	02566
	MJ		L+4			01025	02424	45	00000	02430
	EJ	V1	L+2			01026	02425	43	02165	02427
	MJ		L+2			01027	02426	45	00000	02430
	AT	V2	DON+1			01020	02427	35	02166	02566
	SP	HIDE	2		00066	01021	02430	31	02545	00002
	SA	HIDE	1		00067	01022	02431	32	02545	00001
	AT	DON+1	HIDE		00068	01023	02432	35	02566	02545
	ST	V3	HIDE			01024	02433	36	02167	02545
	IJ	DON	X+1		00069	01025	02434	41	02565	02420
XIT	MJ		FILL		00070	01026	02435	45	00000	30000
	SP	TEMP+5	2		00071	01027	02436	31	02561	00002
	SA	TEMP+5	1		00072	01040	02437	32	02561	00001
	SP	A	HIDE		00073	01041	02440	74	32000	02545
	TP	A	TEMP+5		00074	01042	02441	11	32000	02561
HELP	IJ	0	HELP-4		00075	01043	02442	41	31000	02436
	MP	TEMP+3	COLT+1		00076	01044	02443	71	02557	02537
	LT	3	TEMP+6		00077	01045	02444	22	00003	02562

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	SJ	L+1	L+4	00078	01046	02445	46	02446	02451
	RS	TEMP+6	V1		01047	02446	23	02562	02165
	SP	COLT	35	00080	01050	02447	31	02536	00043
	DV	TEMP+5	TEMP+5	00081	01051	02450	73	02561	02561
	MP	TEMP+5	TEMP+1	00082	01052	02451	71	02561	02555
	ZJ	L+3	L+1	00083	01053	02452	47	02455	02453
	TP	ZERO	Q		01054	02453	11	02145	31000
TCP	MJ		BET	00085	01055	02454	45	00000	02502
	SC	A	TEMP+8	00086	01056	02455	74	32000	02564
	TP	A	TEMP+1	00087	01057	02456	11	32000	02555
	RA	TEMP+6	TEMP+8	00088	01058	02457	21	02562	02564
	RA	TEMP+6	COLT+2	00089	01059	02460	21	02562	02540
	SJ	TCP-1	L+1	00090	01062	02461	46	02453	02462
	RA	TEMP+1	COLT+2	00091	01063	02462	21	02555	02540
	EJ	A	L+3	00092	01064	02463	43	32000	02465
	RA	TEMP+6	V1		01065	02464	21	02562	02165
	TP	COLT	TEMP+1	00094	01066	02465	11	02536	02555
F4	RJ	L	L+1	00095	01067	02466	37	02466	02467
	SP	TEMP+1	Q	00096	01070	02467	31	02555	00000
	LT	28	Q	00097	01071	02470	22	00034	31000
	SP	TEMP+6	27	00098	01072	02471	31	02562	00033
	AT	Q	Q	00099	01073	02472	35	31000	31000
	EJ	A	L+3	00100	01074	02473	43	32000	02476
	TP	COLT+3	Q	00101	01075	02474	11	02541	31000
	MJ		BET	00102	01076	02475	45	00000	02502
	TP	TEMP	A		01077	02476	11	02554	32000
	ZJ	L+1	BET		01100	02477	47	02500	02502
	EJ	V3	BET		01101	02500	43	02167	02502
	TN	Q	Q	00105	01102	02501	13	31000	31000
BET	TP	Q	STORE REQLT	00106	01103	02502	11	31000	00000
	RA	EXIT	V1		01104	02503	21	02314	02165
	MJ		EXIT	00108	01105	02504	45	00000	02314
F9	TP	HIDE	TEMP+1	00109	01106	02505	11	02545	02555
	TV	V36	F11		01107	02506	16	02550	02522
	RA	F11	SCALER	00111	01110	02507	21	02522	02544
	MJ		F8	00112	01111	02510	45	00000	02516
F10	RA	TEMP+6	SCALER	00113	01112	02511	21	02562	02544
	RS	TEMP+6	V177B		01113	02512	23	02562	02553
	SJ	L+1	L+2	00115	01114	02513	46	02514	02515
	RA	TEMP+6	V72		01115	02514	21	02562	02552
	TV	TEMP+6	F11	00117	01116	02515	16	02562	02522
F8	LQ	TEMP	A+34		01117	02516	55	02554	32042
	QJ	L+1	F11		01120	02517	44	02520	02522
	QJ	F11	L+1		01121	02520	44	02522	02521
	TN	TEMP+1	TEMP+1	00120	01122	02521	13	02555	02555
F11	LA	TEMP+1	FILL	00121	01123	02522	54	02555	30000
	LTL	Q	Q	00122	01124	02523	22	00000	31000
	MJ		BET	00123	01125	02524	45	00000	02502
VONC	ZJ	L+1	TIX		01126	02525	47	02526	02531
	EJ	V1	TIX		01127	02526	43	02165	02531
	EJ	V2	TIX1		01130	02527	43	02166	02532
TUO	MJ		FILL		01131	02530	45	00000	30000
TIX	AT	V1	A		01132	02531	35	02165	32000
TIX1	AT	V1	A		01133	02532	35	02165	32000
	MJ		TUO		01134	02533	45	00000	02530
CNST1			F10	00124	01135	02534	00	00000	02511
CNST2			F9	00125	01136	02535	00	00000	02505
COLT	B	200000000000		00126	01137	02536	20	00000	00000
	B	324464741135		00127	01140	02537	32	44647	41135
	B	201		00128	01141	02540	00	00000	00201

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CTA	B	37777777777		00129	01142	02541	37	77777	77777
	B	343277244615		00130	01143	02542	34	32772	44615
	B	311745447075		00131	01144	02543	31	17454	47075
SCALER				00132	01145	02544	00	00000	00000
HIDE				00133	01146	02545	00	00000	00000
V77B	B	00000000077			01147	02546	00	00000	00077
V17B	B	000090000017			01148	02547	00	00000	00017
V36			36		01149	02550	00	00000	00044
V10B	B	000000000010			01152	02551	00	00000	00010
V72			72		01153	02552	00	00000	00110
V177B	B	000000000177			01154	02553	00	00000	00177
TEMP	RSRV	9	9	00134	01155	02554			
DUN	RSRV	2	2	00135	01156	02555			
T					01170	02567	00	00000	00000
T1					01171	02570	00	00000	00000
T2					01172	02571	00	00000	00000
T3					01173	02572	00	00000	00000
T4					01174	02573	00	00000	00000
T5					01175	02574	00	00000	00000
T6					01176	02575	00	00000	00000
T7					01177	02576	00	00000	00000
T8					01200	02577	00	00000	00000
T9					01201	02600	00	00000	00000
T10					01202	02601	00	00000	00000
T11					01203	02602	00	00000	00000
LAST	Xc3	DMM 16			01204	02603	27	47470	00411
	SETL		10B1						
IDEN					01205	00010	00	00000	00000
N					01206	00011	00	00000	00000
I					01207	00012	00	00000	00000
B					01210	00013	00	00000	00000
R		0000	0000	0006	01211	00014	00	00000	00000
S		0000	0000	0007	01212	00015	00	00000	00000
Y					01213	00016	00	00000	00000
		0000	0000	0008	01214	00017	00	00000	00000
INF1		0000	0000	0009	01215	00020	00	00000	00000
INF2		0000	0000	0010	01216	00021	00	00000	00000
INF3		0000	0000	0011	01217	00022	00	00000	00000
INF4		0000	0000	0012	01220	00023	00	00000	00000
INF5		0000	0000	0013	01221	00024	00	00000	00000
INF6		0000	0000	0014	01222	00025	00	00000	00000
INF7		0000	0000	0015	01223	00026	00	00000	00000
INF8		0000	0000	0016	01224	00027	00	00000	00000
INF9		0000	0000	0017	01225	00030	00	00000	00000
INF10		0000	0000	0018	01226	00031	00	00000	00000
INF11		0000	0000	0019	01227	00032	00	00000	00000
INF12		0000	0000	0020	01220	00033	00	00000	00000
		0000	0000	0021	01221	00034	00	00000	00000
RHO		0000	0000	0022	01222	00035	00	00000	00000
VARI					01223	00036	00	00000	00000
KKK					01224	00037	00	00000	00000
NOM					01225	00040	00	00000	00000
		0000	0000	0023	01226	00041	00	00000	00000
PSUBO	F	3.12	13		01227	00042	25	57060	12073
YSUBX	F	3	-3		01240	00043	17	06111	56457
YSUBI	F	5.6	-2		01241	00044	17	47126	01014
YSUBP	F	1.4	-2		01242	00045	17	27126	01014
LAMXE	F	2.1	-5		01243	00046	16	15402	44501
LAMI	F	2.9	-5		01244	00047	16	17464	24065
LAMPR	F	4.1	-6		01245	00050	15	74231	12733

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TABLE V-2N  
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RZERO	F			0	FIRST MESH POINT	01246 00051	00	00000	00000
TIME	F			0	CURRENT TIME	01247 00052	00	00000	00000
EPSIL	F	.00001			.00001 CONV CRIT REAC	01251 00054	16	05174	26542
EPS2	F	.00001			.00001 CONV CRIT POWER	01252 00055	16	05174	26542
EPS3	F	.00001			.00001 CONV CRIT KZERO	01253 00056	16	05174	26542
EPS4	F	.00001			.00001	01254 00057	16	05174	26542
KO	F	1.0			1.0. DESIRED REACTIVITY	01255 00060	20	14000	00000
OMEGA	F				DIFF. ACCEL. FACTOR	01256 00061	00	00000	00000
DZDK	F	1.0			DZDK FIRST GUESS	01257 00062	20	14000	00000
		0000	0000			0036 01260 00063	00	00000	00000
QQ	F				POWER DENSITY KW-CM3	01261 00064	00	00000	00000
DELTS	F				TIME SINCE SHUTDOWN SEC	01262 00065	00	00000	00000
DTMAX	F					01263 00066	00	00000	00000
						01264 00067	00	00000	00000
TAPE1	B	1			PROGRAM TAPE	01265 00070	00	00000	00001
TAPE2	B	2			BASIC LIBRARY TAPE	01266 00071	00	00000	00002
TAPE3	B	3			MICRO GROUP TAPE NEW	01267 00072	00	00000	00003
TAPE4	B	4			NUCLEAR CONSTANT TAPE	01270 00073	00	00000	00004
TAPE5	B	5			MICRO GROUP TAPE OLD	01271 00074	00	00000	00005
TAPE6	B	6			RAW DATA TAPE	01272 00075	00	00000	00006
TAPE7	B	7			INTERMEDIATE TAPE	01273 00076	00	00000	00007
TAPE8	B	10			OUTPUT TAPE	01274 00077	00	00000	00010
TAPE9	B	11			DUMP TAPE	01275 00100	00	00000	00011
TAPE10	B	12			OMM SERVICE LIBRARY	01276 00101	00	00000	00012
		0000	0000			0045 01277 00102	00	00000	00000
DIA1		0000	0000			0046 01300 00103	00	00000	00000
DIA2		0000	0000			0047 01301 00104	00	00000	00000
DIA3		0000	0000			0048 01302 00105	00	00000	00000
DIA4		0000	0000			0049 01303 00106	00	00000	00000
DIA5		0000	0000			0050 01304 00107	00	00000	00000
DIA6		0000	0000			0051 01305 00110	00	00000	00000
DIA7		0000	0000			0052 01306 00111	00	00000	00000
DIA8		0000	0000			0053 01307 00112	00	00000	00000
DIA9		0000	0000			0054 01310 00113	00	00000	00000
DIA10		0000	0000			0055 01311 00114	00	00000	00000
DIA11		0000	0000			0056 01312 00115	00	00000	00000
DIA12		0000	0000			0057 01313 00116	00	00000	00000
DIA13		0000	0000			0058 01314 00117	00	00000	00000
DIA14		0000	0000			0059 01315 00120	00	00000	00000
DIA15		0000	0000			0060 01316 00121	00	00000	00000
DIA16		0000	0000			0061 01317 00122	00	00000	00000
DIA17		0000	0000			0062 01320 00123	00	00000	00000
DIA18		0000	0000			0063 01321 00124	00	00000	00000
						01322 00125	00	00000	00000
LISOP	RSRV	3	3			01323 00126			
LENGY	RSRV	3	3			01326 00131			
LAKBK	RSRV	3	3			01321 00134			
LRDIF	RSRV	3	3			01324 00137			
LPTS	RSRV	3	3			01327 00142			
LREGN	RSRV	3	3			01342 00145			
LBSUO	RSRV	3	3			01345 00150			
LBSUN	RSRV	3	3			01320 00153			
LPHI	RSRV	3	3			01323 00156			
LCAPP	RSRV	3	3			01326 00161			
LPEKI	RSRV	3	3			01301 00164			
LSFKI	RSRV	3	3			01304 00167			
LMESH	RSRV	3	3			01307 00172			
LBRMX	RSRV	3	3			01312 00175			
LPHKI	RSRV	3	3			01315 00200			

TABLE V-2N  
(page 13)

LNSMT	RSRV	3	3	01400	00203		
LNJET	RSRV	3	3	01403	00206		
LCAPD	RSRV	3	3	01406	00211		
LCAPT	RSRV	3	3	01411	00214		
LCPTI	RSRV	3	3	01414	00217		
LCAPF	RSRV	3	3	01417	00222		
LXKT	RSRV	3	3	01422	00225		
LMFKI	RSRV	3	3	01425	00230		
LPDIF	RSRV	3	3	01430	00233		
LKPYE	RSRV	3	3	01433	00236		
LLKIA	RSRV	3	3	01436	00241		
LLKIB	RSRV	3	3	01441	00244		
LNFKI	RSRV	3	3	01444	00247		
LNLP	RSRV	3	3	01447	00252		
LNSKI	RSRV	3	3	01452	00255		
LNDKI	RSRV	3	3	01455	00260		
LNFP	RSRV	3	3	01460	00263		
LNCKI	RSRV	3	3	01463	00266		
LNPKI	RSRV	3	3	01466	00271		
LNPKI	RSRV	3	3	01471	00274		
LNKE	RSRV	3	3	01474	00277		
LNKL	RSRV	3	3	01477	00302		
LSHUF	RSRV	3	3	01502	00305		
CRCO1	B			01505	00310	00	00000 00000
Z3	RSRV	3	3	01506	00311		
Z2	RSRV	3	3	01511	00314		
Z1	RSRV	3	3	01514	00317		
Z				01517	00322	00	00000 00000
DELTA	F			01540	00323	00	00000 00000
MU				01541	00324	00	00000 00000
BLOCK	B			01542	00325	00	00000 00000
NDCI	B			01543	00326	00	00000 00000
MNCO1	B			01544	00327	00	00000 00000
MNCO2	B			01545	00330	00	00000 00000
SUBR	RSRV	9	9	01546	00331		
MLM1	RSRV	4	4	01547	00342		
DRUM	B			01543	00346	00	00000 00000
MINCE	B			01544	00347	00	00000 00000
ISO				01545	00350	00	00000 00000
MARK1				01546	00351	00	00000 00000
MARK2				01547	00352	00	00000 00000
K3				01550	00353	00	00000 00000
STAGAT				01551	00354	00	00000 00000
INDEXS				01552	00355	00	00000 00000
DTWICE				01553	00356	00	00000 00000
ADMCPF	RSRV	3	3	01554	00357		
1STBP				01557	00362	00	00000 00000
DELTAT				01560	00363	00	00000 00000
LDKI	EQLS	LCAPU					
LTKI	EQLS	LCAPT					
LTKIJ	EQLS	LCPTI					
LFKI	EQLS	LCAPF					
LMKI	EQLS	LMFKI					
BK	EQLS	SUBR+3					
BK2	EQLS	SUBR+5					
BRITE	EQLS	SUBR+6					
WR2	EQLS	SUBR+8					
ALLOK	EQLS	SUBR					
ALL2	EQLS	SUBR+2					
END							

00000

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APPENDIX A

COMMON-STORAGE BLOCK

The Common-Storage Block is a set of cells, ( $10_8 - 363_8$ ), accessible to every routine in the DMM System and containing information common to two or more routines in the DMM System. Typical values for some of the information have been put into this block. For example, the tape-designation region has been set up as follows: TAPE t = t; t = 1, 2, ..., 12<sub>8</sub>. (These tape assignments may be altered by the normal procedures used to enter information, the Problem-Input Routine.) The information contained in the Common-Storage Block follows.

Type	Name	Cell	Description
PROBLEM DIMENSIONS	IDEN	00010	Problem identification
	N	00011	Number of mesh points in grid
	I	00012	Number of energy groups in problem
	B	00013	Number of isotopes in problem
	R	00014	Number of regions in problem
	S	00015	Number of sets of shielding factors in problem
	Y	00016	Number of isotopes in a Basic-Library Tape
	-	00017	
INPUT INFORMATION	INF1	00020	New or old group structure indicator
	INF2	00021	New or old group tape indicator
	INF3	00022	Maximum number of iterations - Diffusion
	INF4	00023	Maximum number of iterations - Adjoint
	INF5	00024	Output option - Diffusion and Adjoint
	INF6	00025	
	INF7	00026	
	INF8	00027	
	INF9	00030	
	INF10	00031	
	INF11	00032	
	INF12	00033	
	--	00034	
PERTURBATION INDICATORS	RHO	00035	Geometry: 0 = slab, 1 = cylinder, 2 = sphere
	VARI	00036	Criticality variable - concentration, region difference, buckling
	KKK	00037	Criticality - region index
	NOM	00040	Criticality - isotope index
	--	00041	



Type	Name	Cell	Variable	Description
XENON-SAMARIUM CONSTANTS	PSUB0	00042		Power fissions - $P_0 = 3.12 \times 10^{13}$ kw/sec
	YSUBX	00043		Yield factor, xenon - $Y_{Xe} = 3 \times 10^{-3}$ atom/fission
	YSUBI	00044		Yield factor, iodine - $Y_I = 5.6 \times 10^{-2}$ atom/fission
	YSUBP	00045		Yield factor, promethium - $Y_{Pr} = 1.4 \times 10^{-2}$ atom/fission
	LAMXE	00046		Decay constant, xenon - $\lambda_{Xe} = 2.1 \times 10^{-5}$ prob/sec
	LAMI	00047		Decay constant, iodine - $\lambda_I = 2.9 \times 10^{-5}$ prob/sec
	LAMPR	00050		Decay constant, promethium - $\lambda_{Pr} = 4.1 \times 10^{-6}$ prob/sec
	--	00051		
SYSTEM CONSTANTS	RZERO	00052	$r_0$	- First mesh point
	TIME	00053	$t$	- Current time
	EPSIL	00054	$\epsilon_1$	- Convergence criterion for reactivity
	EPS2	00055	$\epsilon_2$	- Convergence criterion for power
	EPS3	00056	$\epsilon_3$	- Convergence criterion for $k_0$
	EPS4	00057	$\epsilon_4$	- Convergence criterion for change in $\Delta t$ (Burnup)
	K0	00060	$k_0$	- Desired reactivity
	OMEGA	00061	$\omega$	- Diffusion acceleration constant
DZDK	00062	$dz/dk$	- First guess at DELTA (Criticality)	
	--	00063		
SPECIAL DATA	QQ	00064		Q - Power density (kw/cm <sup>3</sup> )
	DELTS	00065		$\Delta t_s$ - Time since shutdown
	DTMAX	00066		Maximum value of DELTAT - Burnup
	--	00067		
TAPE DESIGNATION	TAPE1	00070		Program Tape
	TAPE2	00071		Basic-Library Tape
	TAPE3	00072		Microscopic-Group - Cross-Section Tape (new)
	TAPE4	00073		Nuclear-Constants Tape
	TAPE5	00074		Microscopic-Group - Cross-Section Tape (old)
	TAPE6	00075		Raw-Data Tape, replaced by blank tape for Adjoint Constants
	TAPE7	00076		Burnup Tape
	TAPE8	00077		Output Tape
	TAPE9	00100		Dump Tape
	TAPE10	00101		DMM Service Library
	--	00102		

Type	Name	Cell	Variable	Description
PROGRAM- CONTROL WORDS	DIA1	00103		Program-Control Word 1
	DIA2	00104		Program-Control Word 2
	DIA3	00105		Program-Control Word 3
	DIA4	00106		Program-Control Word 4
	DIA5	00107		Program-Control Word 5
	DIA6	00110		Program-Control Word 6
	DIA7	00111		Program-Control Word 7
	DIA8	00112		Program-Control Word 8
	DIA9	00113		Program-Control Word 9
	DIA10	00114		Program-Control Word 10
	DIA11	00115		Program-Control Word 11
	DIA12	00116		Program-Control Word 12
	DIA13	00117		Program-Control Word 13
	DIA14	00120		Program-Control Word 14
	DIA15	00121		Program-Control Word 15
	DIA16	00122		Program-Control Word 16
	DIA17	00123		Program-Control Word 17
	DIA18	00124		Program-Control Word 18
STORAGE- LOCATION PARAMETERS	LISOP	00126		Isotope list
	LENGY	00131		Group structure
	LAKBK	00134		AK table
	LRDIF	00137		Mesh spacing
	LPTS	00142		Mesh count
	LREGN	00145		Highest mesh point index in each region
	LBSU0	00150		Boundary conditions at $r = r_0$
	LBSUN	00153		Boundary conditions at $r = r_N$
	LPHI	00156		Flux matrix
	LCAPP	00161		Power-spectrum vector
	LBPKI	00164		Perpendicular buckling
	LSFKI	00167		Shielding-factor matrix
	LMESH	00172		Mesh points ( $r = r_0, \dots, r_N$ )
	LBRMX	00175		Concentration matrix
	LPHKI	00200		Flux by region and group matrix
	LNSMT	00203		Samarium - concentration vector
	LNSET	00206		Xenon - concentration vector
	LCAPD	00211		DKI matrix
	LCAPT	00214		TKI matrix
	LCPTI	00217		TKIJ matrix
LCAPF	00222		FKI matrix	
LXKI	00225		XKI matrix	
LMFKI	00230		MFKI matrix	
LPDIF	00233		Power difference vector	

Type	Name	Cell	Description
STORAGE- LOCATION PARAMETERS (Concl.)	LPXE	00236	Total fission-neutron source matrix
	LLKIA	00241	Removal due to leakage - outer boundary matrix
	LLKIB	00244	Removal due to leakage - inner boundary matrix
	LNFKI	00247	Fission-neutron source matrix
	LNLPL	00252	Removal due to perpendicular leakage matrix
	LNSKI	00255	Scattering from higher energy group matrix
	LNDKI	00260	Degradation to lower energy group matrix
	LNFP	00263	Fission-neutron product matrix
	LNCKI	00266	Removal due to absorption matrix
	LNRKI	00271	Total removal matrix
	LNPKI	00274	Total production matrix
	LNKE	00277	Error in neutron balance matrix
	LNKL	00302	Total leakage matrix
	LSHUF	00305	Temporary storage
TEMPORARY STORAGE	CRC01	00310	Control word - Criticality
	Z3	00311	$Z_{i-1}$
	Z2	00314	$Z_i$
	Z1	00317	$Z_{i+1}$
	Z	00322	$Z_i$
	DELTA	00323	Current dz/dk
	MU	00324	Current reactivity
	BLOCK	00325	Current block number on Program Tape
	NDCI	00326	Print routine word count
	MN001	00327	Control word - Diffusion Monitor
	MN002	00330	Control word - Adjoint Monitor
	SUBR	00331	Subroutine equivalences
	MLM1	00342	Monitor alarms
	DRUM	00346	First temporary drum storage
	MINCE	00347	First temporary core storage
	ISO	00350	Xe or Sm isotope number
	MARK1	00351	Control word - Xe or Sm concentration
	MARK2	00352	Control word - Adjoint Diffusion or Normal Diffusion
	K3	00353	Control word - Criticality phase
	STAGAT	00354	Start gate - Burnup
	INDEXS	00355	Adam's coefficient determiner
	DTWICE	00356	Doubling counter
ADMCFF	00357	Adam's coefficient	
1STBP	00362	Control word - Burnup	
DELTAT	00363	$\Delta t$ Time increment - Burnup	

## APPENDIX B

### AUXILIARY ROUTINES

The three auxiliary routines assembled with the Monitor and accessible to every program in the DMM System are 1) the Variable-Block-Read Routine, 2) the Variable-Block-Write Routine, and 3) the Allocation Routine.

The Block-Read and Block-Write Routines are quite standard. The purpose of the Allocation Routine is to determine the appropriate storage allocations for each routine.

#### 1. Block-Read Routine

##### a. Identification

Block Read

Identification Tag: BKREAD

##### b. Description

The Block-Read Routine will read one variable block of information from a pre-scribed tape unit to a region of sequential cells in core.

##### c. Calling Sequence

L	RJ	BK2	BKREAD
L+1	TT	X000YB)	REGION
L+2	End of tape exit		
L+3	End of block exit		

##### d. Input

The parameter word will now be described

WORD	TT	X000Y	REGION
------	----	-------	--------

TT is the tape unit from which the reading is to take place.

REGION is a region of sequential cells in core into which the words read off the tape are to be stored.

X = 0 The reading takes place while the tape is moving forward.

X = 4 The reading takes place while the tape is moving backward.

Y = 0 The tape to be read has not been prepared on the card-to-tape converter.

Y = 4 The tape to be read has been prepared on the card-to-tape converter.

e. Output

One block of information from tape unit TT has been stored in the region of cells called REGION.

f. Error

Alarm exit not used.

g. Timing

Tape reads at full speed.

h. Coding Information

The Block-Read Program is self contained and needs no additional programs.

Number of cells used by instructions and defined constants	76
Number of cells used by parameters	1
Number of cells used by temporary storage	0
Number of cells used by undefined tags	<u>0</u>
Total Cells	77

2. Block-Write Routine

a. Identification

Block Write

Identification Tag: BRITE

b. Description

The Block-Write Routine will write one variable block of information on a prescribed tape unit from a region of N sequential cells in core.

c. Calling Sequence

L	RJ	WR2	BRITE
L+1	TT	N	REGION

d. Input

The parameter word will now be described.

WORD	TT	N	REGION
------	----	---	--------

TT is the tape unit in octal on which the writing is to take place.

N is the number of words to be written on the prescribed tape.

REGION is the first cell of a region of N sequential cells in core whose contents is written on the prescribed tape.

e. Output

The N words from REGION are written on tape TT.

f. Error

Alarm exit not used.

g. Timing

Tape writes at full speed.

h. Coding Information

The Block-Write Program is self contained and needs no additional programs.

Number of cells used by instructions and defined constants	23
Number of cells used by parameters	1
Number of cells used by temporary storage	0
Number of cells used by undefined tags	<u>0</u>
Total Cells	24

i. Restrictions

A block of more than 4096 words cannot be written.

3. Allocation Routine

a. Identification

Allocation

Identifying Tag: ALLOK

b. Description

The Allocation Routine, with the aid of parameter words supplied by the user, determines the optimum storage positions for each variable. It determines 1) the first address of the region in core, if any, that is to contain this variable, 2) the first address of the region on drum, if any, that is to contain this variable, 3) the tape number on which this variable is to be stored, and 4) the dimensions of the variable in its permanent location.

c. Calling Sequence

J	RJ	ALL2	ALLOK
J+1	00	CORE1	DRUM1
J+2	00	VARBL	--
J+3		Normal return	

CORE1 is a cell whose V address is the first cell available for temporary core storage.

DRUM1 is a cell whose V address is the first cell available for temporary drum storage.

VARBL is first location of a table containing sets of three words, each set giving information pertinent to one variable.

d. Input

The input to this routine consists of a table of sets of three words, each set giving information about one particular variable. For example, the three-word group for a variable with the name XXXX is:

TT	LXXXX	LXXXX
00	CROWS	CCOLS
00	DROWS	DCOLS

LXXXX - First address of a set of three words containing the information about the storage of the variable in core, on drum, and on tape.

CROWS - The cell containing the number of rows in the core allocated to the two-dimensional variable.

CCOLS - The cell containing the number of columns in the core allocated to the two-dimensional variable.

DROWS - The cell containing the number of rows in the drum allocated to the two-dimensional variable.

DCOLS - The cell containing the number of columns in the drum allocated to the two-dimensional variable.

TT - The number of the tape on which the variable will reside.

e. Output

The output of this routine consists of sets of three words, one set for each variable to be allocated. Following the input example for variable XXXX, the storage-location parameter will be:

LXXXX	TT	XXXX	XXXX
	00	DXXXX	DXXXX
		ROWS	COLS

TT - Tape unit on which this variable, if any, is stored.

XXXX - Location of the first cell of a region in core that contains the variable XXXX.

DXXXX - Location of the first cell of a region on drum that contains the variable XXXX.

ROWS - The cell containing the number of rows in the permanent storage location for variable XXXX.

COLS - The cell containing the number of columns in the permanent storage location for variable XXXX.

f. Alarms

The routine stops at instruction ALL18 if storage positions beyond the final cell of core or drum are assigned.

01176	56	00000	00000
-------	----	-------	-------

g. Timing

No information is available on timing.

h. Coding Information

The Allocation Routine is self contained and needs no additional subroutines. It is retained in the core permanently.

Number of cells used by instructions	58
Number of cells used by constants	10
Number of cells used by parameters	2
Number of cells used by temporary storage	<u>7</u>
Total Cells	77

i. Restrictions

The low-order portions of the two cells CEND and DEND contain the last available locations in core and drum, respectively. If the Allocation Routine assigns cells beyond these two limits, an alarm exit occurs.



TABLE C-1

ABNORMAL-DRUM STARTS

START	SETL	56000R)	56000B)				
	TP	JUMP		SETUP: F1	56000	11	56003 00000
	RPB	13	17000B)		56001	75	30015 17000
	TP	READS/	17000B)		56002	11	56004 17000
JUMP	MJ		FIL		56003	45	00000 30000
	SETL		17000B)				
READS	RS		L+1		56004	17000	56 00000 17001
	EF		DUMP		56005	17001	17 00000 17014
READ	ERO		A		56006	17002	76 00000 32000
	EJ	V2	ENDPK		56007	17003	45 17013 17007
	ER1		I		56010	17004	76 10000 00001
	RA	L-1	V1		56011	17005	21 17004 17012
	MJ		READ		56012	17006	45 00000 17002
ENDBK	EF		STOPTH		56013	17007	17 00000 17011
	MJ		I		56014	17010	45 00000 00001
STOPTH	B	020060000000			56015	17011	02 00400 00000
V1	B	1			56016	17012	00 00000 00001
V2	B	2			56017	17013	00 00000 00002
DUMP	B	020006210001			56020	17014	02 00062 10001
END							00000

## APPENDIX C

### ABNORMAL-DRUM STARTS

The term "abnormal drum start" signifies any technique using the abnormal drum to initiate a certain sequence of events on the computer. DMM may be started by an abnormal-drum start if the user so desires.

#### 1. Description

After the abnormal-drum switch has been selected, the abnormal-drum start reads a short bootstrap program from abnormal drum into core and then transfers to this program in core. There is an immediate manual stop, which gives the operator a chance to switch to normal drum. Depressing the START causes the bootstrap to continue proceedings.

This abnormal-drum program START accomplishes three things: a) puts an MJ0 00000 FILL into F1, b) reads the first variable block on Uniservo1 into core, and 3) transfers control to cell 00001.

Starting a DMM problem in this manner will cause the Tape-Loader - Tape-Writer Program to be read into core. Control is then transferred to this program.

#### 2. Procedure

The following procedures may be used at WADD and LMSD to initiate problem sequences.

##### a. WADD Abnormal-Drum Start

1. Master Clear
2. Abnormal-Drum Switch On
3. Program Start
4. Set Q = 40 00000 00001
5. Program Start
6. Abnormal-Drum Switch Off
7. Program Start

##### b. LMSD Abnormal-Drum Start

1. Master Clear
2. Abnormal-Drum Switch On, B Drum
3. Set PAK = 56000
4. Program Start
5. Abnormal-Drum Switch Off, A Drum
6. Program Start

Table C-I is a sample of the DMM Abnormal-Drum Start used to initiate a DMM Problem at LMSD, Palo Alto, California. The entire routine resides on abnormal drum beginning at cell 56000. (The choice of this cell was arbitrary.)

APPENDIX D

LOCKHEED SERVICE LIBRARY

## I. INTRODUCTION

The Service Library for the 1103AF consists of three sections; the executive routine, BOSS, and the collection of service routines. The executive routine and certain service routines operate in two modes, depending on whether or not BOSS is in control. The following sections describe the executive routine and the service routines presently available on the LMSD 1103AF.

## II. MECHANICS OF OPERATION

The entire service library is located on the drum. Instructions to the executive routine can be given manually from the console or, in certain cases, under program control.

### A. Manually:

1. Set specified parameters in Q and A.
2. Set PAK = proper start address.
3. Depress start.

### B. Program Control:

1. Set parameters as specified in Operating Instructions.
2. RJ 40034B) DRUMST where DRUMST is the drum start of the desired service.

All service routines have a common exit at address 40034:

(40034) = 37 40034 40035.  
(40035) = 56 00000 40000.

A service routine used under program control does not stop at completion of the service as it would in the manual operation. Care should be used when using service routines in the manner while in the BOSS mode.

## III. THE EXECUTIVE ROUTINE

The executive routine controls the use of service routines whether in or out of the BOSS mode.

The initiation of a drum start accomplishes the following sequence of events:

- A. The Accumulator, Q-register, and the first 661 cells of core (0-1224) are saved on the drum (in the Drum-Core Image) and the executive routine is transferred from drum to the released core space.
- B. The service routine to be executed is located and checksummed in its drum location. If the checksum is correct, A, Q, and core are restored and control is transferred to the service routine.

C. If the checksum fails, the BOSS Master Flip-Flop is checked. If BOSS is not in control and MSO stop with PAK = 00002 indicates the failure. The accumulator will contain the code number of the service routine that failed. If BOSS is in control (MFF  $\neq$  0), the desired service routine (and only that routine) is restored from the service library and then step B above is repeated.

#### IV. LIBRARY TAPE FORMAT

The service library is written and read in the variable block mode except for the first block, called the "Driver Block." The Driver Block controls the loading of the library from tape to drum.

Following the Driver Block are four variable blocks (2048 words each) which contain the entire contents of the 4 and 5 drums. The drum is restored from these blocks when A=0 on a 40000 drum start. Second core is used as a buffer during the transfer and no attempt is made to preserve either the initial content of this buffer space or the first 661 words of first core.

Following these four blocks on the tape, the service routines appear again in blocks of 500 words or less. In the case of a 40000 drum start with A equal to the Code (Code = DRUMST - 40000) of a routine, the library is moved past the 4 large blocks and the desired routine is selected from the small blocks. Since these blocks are  $\leq$  500 words, the Drum-Core Image in core may be used for the transfer buffer; hence all of core is preserved on a selective restore.

V. OPERATION ASSIGNMENTS

A. Drum Starts.

<u>Start</u>	<u>Name</u>	<u>Storage</u>	<u>(Octal) Words</u>
40000	Cold Start		
40000	Load Library	40314-40336	23
40001	Drum Fl	40001	1
40002	Manual Stop	40002	1
40003	BOSS Cold Start		
40004	BOSS Error Restart		
40005	BOSS Transfer to Next Job		
40006	BOSS Recovery Restart		
40007	SLAP	50000-52177	2200
40010	Octal Dump	40374-41275	702
40011	SLAP Symbolic Read	43220-43460	241
40012	SLAP Octal Read	43461-43761	301
40013	2-Core Binary Dump	41276-41527	232
40014	Tape Duplicate	53373-53676	304
40015	Print Binary	53677-54336	440
40016	Paper Tape Package	54337-54657	321
40017	Prepare Service Library	52200-52551	352
40020	Four Field Loader	41530-41711	162
40021	Relativizer	53011-53372	362
40022	Tag or Clear Memory	41712-41723	12
40023	Load cell from Q	41724-41732	7
40024	Read cell to Q	41733-41741	7
40025	Rewind W/EOF	41742-41767	26
40026	Card-to-Tape Simulator	52552-53010	237
40027	Tape-to-Card Simulator	53011-	
40030	Open		
40031	Open		
40032	Open		
40033	Open		

B. Miscellaneous

Executive Routine	40000-40373	374
Drum-Core Image	41770-43217	1230
Basic BOSS	41770-43217	1230
BOSS Flip-in	43762-46761	3000

C. Abnormal Drum.

<u>Start</u>	<u>Name</u>
40000	Cold Start

NAME:

OCTAL DUMP.

FUNCTION:

Prepares an octal XS3 tape of the information stored in core or drum.

OPERATING  
INSTRUCTIONS:

1. Clear console.
2. Set PAK = 40010.
3. Depress start button.
4. AT MSO stop, with (PAK) = 17030, set u and v addresses of Q with the limits of the dump.
5. Set the low order position of A with the desired uniservo number.
6. Depress start button.

CODE:

10.

STOPS:

PAK = 17030, Console entry stop.

PAK = 40000, Success stop.

COMMENTS:

The dump is sequential from u through v. The u and v limits may be core or drum addresses, but not a combination of the two. Any lines of output that are all zero are omitted; if the memory to be dumped is all zero, the words ALL ZERO are written on the output tape. If A = 0, uniservo #5 is used. If v of Q equals zero, the dump is from the address specified in u of Q to the end of that band.

No printer stop is written and the output tape is not rewound at completion of a dump. Core is preserved.



NAME: SLAP

FUNCTION: Assembles a symbolic program from a magnetic tape prepared on the Card-to-Tape Converter. The output consists of the symbolic program with a side-by-side octal translation of the program. An octal tape is available as optional output.

OPERATING  
INSTRUCTIONS:

1. Clear console.
2. Set PAK = 40007.
3. Set Q
  - a)  $Q_u$  = input tape.
  - b)  $Q_v$  = symbolic tape.
4. Set A
  - a)  $A_v$  = octal output tape.
  - b)  $A = 0$ , no octal output.
5. Depress start button.

CODE: 07.

STOPS: PAK = 40011, Success stop.

COMMENTS: The input tape will rock without changing bias in case of parity errors.

NAME: LOAD LIBRARY FROM MAGNETIC TAPE.

FUNCTION: Read one block of tape (fixed mode) from a specified Uniservo and transfer control to F<sub>1</sub>.

OPERATING INSTRUCTIONS:

1. Clear console.
2. Set PAK = 40000.
3. Set Q = input tape.
4. Set A = code number if selective restore desired.  
Set A = 0 if entire restore desired.
5. Depress start button.

CODE: None.

STOPS: PAK = 40000, Success stop (tape rewinds).  
PAK = 00001, Parity failure on first block.  
PAK = 00002, checksum failure on restore.

COMMENTS: Selective restore is not available on an abnormal drum start. On the selective restore, core is preserved; the entire restore does not preserve core.

NAME: READ SLAP SYMBOLIC TAPE.

FUNCTION: Loads a program into memory from a SLAP symbolic tape.

OPERATION INSTRUCTIONS:

1. Clear console.
2. Set PAK = 40011.
3. Set  $Q_3-Q_0$  equal to uniservo number of input tape.
4. Depress start button.

CODE: 11.

STOPS: PAK = u address of END instruction, Success stops.

COMMENTS:

In case of a parity error, the tape will rock on all biases without stopping.

This routine will not give the proper loading if any of the program being loaded is to be stored in DCI. There are no checks made for assembly errors on the symbolic tape. The storage address is loaded with the octal translation of the instruction as it appears on the listing. All illegal storage addresses are ignored and nothing from that line is loaded.

NAME: BINARY DUMP (2-Core)

FUNCTION: Prepares a self-loading binary tape of the entire memory on a designated uniservo.

OPERATING INSTRUCTIONS:

1. To dump:
  - a. Clear Console.
  - b. Set PAK = 40013.
  - c. Set  $Q_3-Q_0$  = output uniservo number.
  - d. Depress start button.
2. To read:
  - a. Clear console.
  - b. Set PAK - 40000.
  - c. Set Q = 00 DDDDD 000TT,  
where D = dump number desired and  
T = uniservo number.
  - d. Depress start button.

CODE: 13.

STOPS: PAK = 40000, Success stop for read or write.  
PAK = 100002, Checksum failure on read.

COMMENTS: The Cold Start procedure may be used to read a binary dump if desired. In case of parity errors, the tape will rock on all biases. A dump number of 0 indicates the first dump. The binary dump may be used under program control as follows:

1. With BOSS;  
TP Tape Unit 40226  
RJ 40034 40013.

2. Without BOSS:  
TP Tape Unit Q  
RJ 40034 40013.

NAME: MAGNETIC TAPE DUPLICATE AND/OR COMPARE.

FUNCTION: To duplicate a fixed block magnetic tape with the option of a comparison check; or to compare two previously prepared magnetic tapes.

OPERATING  
INSTRUCTIONS:

1. Clear console.
2. Set PAK = 40014.
3. MJ1 ON for duplicate with no compare.

MJ2 ON for compare only.

4. Set Q = MO 000BB 000CC

BB = Input tape.

CC = Output tape or second input tape.

M = 0, duplicate or compare tape including every occurrence of an end of file.

M = 4, duplicate tape omitting all end of file blocks from the duplicate tape.

M = 2, duplicate tape omitting all end of file blocks from the duplicate tape and adding an end of file block at the end of the duplicate tape.

5. Set A = 00 0000N 0000K.

If N=0, K=number of sequential blocks of information to be duplicated and/or compared, starting with the first block.

If N≠0, K=number of sequential files of information to be duplicated and/or compared, starting with the N<sup>th</sup> file.

CODE:

14.

MAGNETIC TAPE DUPLICATE AND/OR COMPARE (continued)

STOPS:

PAK = 40000, Success stop.  
PAK = 00073, Block Mode error (see Comments)  
PAK = 00131, Tapes do not compare.  
PAK = 00001, Tape fails all biases.

COMMENTS:

A file is n blocks of information followed by one block of printer stop code (end of file). If, while in the Block Mode (N=0), and end of file block is detected, the routing stops with PAK=00073. Depressing the start button will:

1. MJ1 ON, rewind tapes and exit.
2. MJ1 OFF, compare the blocks of information that have been duplicated.

To duplicate additional blocks, restart the routine with the number of additional blocks in A and Q=M0  
000AA 000CC, M=0 or 2.

NAME: PRINT BINARY TAPE.

FUNCTION: Prepare an octal listing tape for the High Speed Printer by converting the information contained on any fixed block binary tape.

OPERATING  
INSTRUCTIONS:

1. Clear console.
2. Set PAK = 40015.
3. Block Mode:
  - a. Set Q = 40 00AA 000BB  
where AA = input tape  
BB = output tape.
  - b. Set A = number of blocks.
4. File Mode:
  - a. Set Q = NN 000AA 000BB  
where  $NN \leq 37_8$ , the number of files  
AA = input tape.  
BB = output tape.
5. Depress start button.

CODE: 15.

STOPS: PAK = 40000, Success stop.

COMMENTS: In the Block Mode this routine recognizes a block of printer stops (60's) as a termination indicator. The number of files on a tape equals the number of blocks of printer stops.

PRINT BINARY TAPE (continued)

This routine may be used under program control as follows:

1. Without BOSS:

- a. TP PARAM Q
- b. TP Number Blocks A
- c. RJ 40034 40015

where PARAM is the proper parameter for the desired mode.

2. With BOSS:

Same as above except the uniservos indicated in PARAM must be mnemonic (W, X, Y, Z).



NAME:

PAPER TAPE PACKAGE

FUNCTION:

To read, punch, or duplicate paper tape.

OPERATING  
INSTRUCTION:

1. Clear console.
2. Set PAK = 40016
3. To read:
  - a. Paper tape in Ferranti, reader ON.
  - b. Clear Q.
  - c. Set A:
    - 1). Zero for normal DCI.
    - 2). 00 00000 NNNNN for DCI using cells NNNNN through NNNNN + 1224<sub>8</sub>.
4. To Punch:
  - a. Turn on Punch
  - b. Set Q = 00 AAAAA BBBB  
AAAAA = Address of first word to be punched.  
BBBBB = Number of words to be punched (octal).
  - c. Set A as in 3c for DCI selection.
  - d. Set MJ1 for no end code.
5. To duplicate:
  - a. Paper tape in Ferranti, reader ON.
  - b. Punch ON.
  - c. Set Q = 1.
  - d. Set A as in 3c for DCI selection.
6. Depress start button.

CODE:

16.

PAPER TAPE PACKAGE (continued)

STOPS:                   PAK = 40000, Success stop.  
                          PAK = 00004, illegal address error.  
                          PAK = 30000, check address error on read.

COMMENTS:                The read and punch routines are based on the standard Remington Rand bioctal format with 7th level control configurations. The duplicate routine will duplicate 7 level paper tapes not necessarily in Remington Rand format, but it does recognize any two consecutive seventh level punches as a stop code. All routines except duplicate preserve core. Addresses 20000 through 37777 are illegal addresses (this includes A and Q).  
Any drum-core image may be specified by entering the location of the first word in the V of A. The specified DCI may be any 1224 (octal) consecutive cells in core or drum.  
To restore core after an error, set PAK equal to 54356 and depress start button.  
The punch routine gives 100 frames of leader prior to punching the insert address.  
To continue reading a tape after a check address error (PAK=30000), set PAK=00010 and start.

NAME: PREPARE SERVICE LIBRARY

FUNCTION: Prepare a service library on designated uniservo.

OPERATING  
INSTRUCTIONS:

1. Load all required service routines.
2. Set PAK = 40017.
3. Set  $Q_3 - Q_0$  = uniservo number of output tape.
4. Depress start button.

CODE: 17.

STOPS: PAK = 40000, Success stop.

COMMENTS: As many libraries may be made as desired by repeating steps 2, 3, and 4.

NAME: FOUR-FIELD OCTAL CARD LOADER.

FUNCTION: To load information into memory as specified on octal cards (format described below).

OPERATING INSTRUCTIONS: 1. Clear Console  
2. Set PAK = 40020.  
3. Put cards in read hopper, cycle 1 card.  
4. Depress start button.

CODE: 20.

STOPS: PAK = 40000, Success stop.

COMMENTS: The card format is as follows:

Columns	1-5	Location of Word 1
	6-17	Word 1
	18-22	Location of Word 2
	23-34	Word 2
	35-59	Location of Word 3
	40-51	Word 3
	52-56	Location of Word 4
	57-68	Word 4

Loading is terminated by a 12(+) punch in column 80 of the last card to be read. A location of 00000 is ignored. Blank columns are read as zeros. Core is preserved. Cards can be read under program control as follows:

1. Cards positioned in read hopper.
2. RJ 40034 40020.

NAME:

RELATIVIZER

FUNCTION:

To convert a SLAP output (symbolic) tape into a relativized SLAP symbolic output tape.

OPERATING  
INSTRUCTIONS:

1. Clear console.
2. Set PAK = 40021.
3. Set Q = 00 000AA 000BB  
where AA = input tape  
BB = output tape.
4. Set A<sub>r</sub> = XS3 representation of exceptional tag.
5. Depress start button.

CODE:

21.

STOPS:

PAK = 40000, Success stop.

COMMENTS:

All of core is used by this routine. For general restrictions see comments of coding.

NAME:

TAG OR CLEAR CORE/DRUM

FUNCTION:

To tag or clear core and/or drum.

OPERATING  
INSTRUCTIONS:

1. Clear console.
2. Set PAK = 40022.
3. Set Q
  - a) Q = 0, clear memory band.
  - b) Q = 1, tag memory band.
4. Set  $A_v$  = first word of band to be cleared or tagged.
5. Depress start button.

CODE:

22.

STOPS:

PAK - 40000, Success stop.

COMMENTS:

The first word of the band is not tagged or cleared. This routine tags or clears 4095 consecutive cells starting at  $Y+1$ , where Y is the address in A.

NAME: LOAD MEMORY CELL FROM Q.

FUNCTION: To load a memory cell from the console.

OPERATING  
INSTRUCTIONS:

1. Clear console.
2. Set PAK = 40023.
3. Set  $A_v$  = Cell to be loaded.
4. Set Q = Information to be loaded into cell.
5. Depress start button.

CODE: 23.

STOPS: PAK = 41724, Success stop.

COMMENTS:

The address in A is bumped by one each time so that consecutive loading may be accomplished. After the initial load, start at 41724 for subsequent loading.

NAME:

DISPLAY CONTENT OF MEMORY CELL.

FUNCTION:

To display in Q the Content of any specified memory cell.

OPERATING  
INSTRUCTIONS:

1. Clear console.
2. Set PAK = 40024.
3. Set A = desired memory cell.
4. Depress start button.

CODE:

24.

STOPS:

PAK = 41733, Success stop.

COMMENTS:

The address in A is bumped by one after execution.

This permits successive read-outs.



NAME: REWIND WITH END-OF-FILE OPTION.

FUNCTION: Rewind specified tape units, writing End-of-File  
if desired.

OPERATING  
INSTRUCTIONS:

1. Clear console.
2. Set PAK = 40025.
3. Set bits in Q corresponding to tapes to be  
rewound. Set  $Q_{35} = 1$  if EOF desired.
4. Depress start button.

CODE: 25.

STOPS: PAK = 40000, Success Stop.

COMMENTS: If the EOF option is specified, one fixed block  
of printer stops is written before the rewind is  
executed.

NAME:

TRACE ROUTINE

FUNCTION:

To trace a machine language program.

OPERATING  
INSTRUCTIONS:

1. Load program to be traced.
2. Place trace control card in Bull and cycle once.
3. Set PAK = 40030.
4. Depress start.

CODE:

30.

STOPS:

None.

COMMENTS:

Core cells 15500-16100 and drum cells  
53011-53410 are used by this routine.

NAME: CARD-TO-TAPE SIMULATOR

FUNCTION: To simulate Card-to-Tape equipment.

OPERATING  
INSTRUCTIONS:

1. Clear console.
2. Set PAK = 40026.
3. Set  $Q_3 - Q_0$  = output tape unit.
4. Place cards in Bull read hopper, cycle 1 card.
5. Depress start button.

CODE: 26.

STOPS: PAK = 40007, Success stop.

COMMENTS: This routine is an 80-80 simulation of the Card-to-Tape Converter. It translates all card punch combinations into the same XS3 codes as the Card-to-Tape. In case of a misspick during simulation, reposition the misspiced card and start at 00014 for recovery.

## APPENDIX E

### SYMBOLIC LANGUAGE ASSEMBLY PROGRAM (SLAP)

#### 1. General Description

The Symbolic Language Assembly Program is a two-pass, decimal, symbolic assembly program designed to translate a Univac Scientific Model 1103A program coded in symbolic, decimal, and octal form into its final binary form.

At present, SLAP is designed for an 1103A with Variable-Block-Tape mode and 8192 words of magnetic core storage. A maximum of 1024 tags, 100 constants, and 75 undefined tags is permitted.

The average assembly rate is 800 lines of coding per minute. A sample SLAP Coding Sheet appears on the following page.

#### 2. Input

SLAP accepts information from magnetic tape prepared by the Card-to-Tape Converter. The allocation with respect to the card column is as follows:

a. 1-6 Location field. This field should contain a tag or be blank. If no tag appears, the field is ignored. A tag may contain as many as 6 alphanumeric characters, at least one of which must be alphabetic.

b. 7-10 Standard 1103A mnemonic-operation characters or pseudo-instruction symbols. Blank or zero operations are also valid. Octal operations will translate correctly but will cause an error indication.

c. 13-24 U address field. This field may contain a reference to a tag, a constant, or a decimal or octal location, or it may be blank.

d. 25-36 V address field. Same as the U address.

e. 37-60 Comments. Up to 24 Hollerith characters are permissible.

f. 75-80 Sequence number.

#### 3. Output

SLAP yields the following outputs:

a. An XS-3 tape containing a reproduction of the symbolic program, a listing of the sequence numbers from the cards, and a side-by-side octal translation for listing purposes.

b. An octal XS-3 tape containing the octal translation and necessary information for loading of the program.



#### 4. Remarks \*

a. The storage and execution addresses will both begin at  $00010_8$  unless a pseudo-SETL instruction is given.

b. The storage address will appear in the octal translation only if it differs from the execution address.

c. L is a special tag and will be translated as the execution address of the instruction in which it appears. L may not appear in the tag field.

d. FILL is a special tag and will be translated as 30000. FILL may not appear in the tag field.

e. The j of the repeat instruction appears in the operation field and may be written as RP1, RP2, RP3, or RPV, RPU, RPB.

f. The j of the Left Transmit instruction appears in the operation field and may be written as LT0, LT1, or LTL, LTR.

g. A and Q are special tags and will be translated as 32000 and 31000, respectively. They may not appear in the tag field.

h. If the content of the U field or the V field is numerical, it will be translated as a decimal integer. If the content of the field ends with B but is otherwise numerical, it will be translated as an octal integer.

i. Decimal increments less than  $10^6$  are permitted.

j. The Compiled Region is a block of consecutive cells set aside by SLAP for the constant pool and undefined tags. Normally, it is located immediately after the last program address, but the programmer may locate it wherever he wishes, with a pseudo-SETL instruction immediately preceding the END instruction.

The Constant Pool contains all the constants, expressed in L(xx) form, in the program. SLAP will assign locations in the Constant Pool to octal and decimal integers less than  $2^{28}$  and  $10^{10}$ , respectively. A maximum of 100 constants of this type is permitted.

Undefined Tags are tags referred to in the program that have not appeared in the tag field. SLAP will assign to these tags locations immediately following the Constant Pool.

---

\* See Table E-I.

TABLE E-I

SAMPLE SLAP PROGRAM

ALPHA	MJ	BETA	See Remark a	00010	45	00000	00454		
	SETL 60000B)	300	See Pseudo-Instructions						
BETA	TV BETA	ALPHA	See Remark b	60000	00454	16	00454	00010	
	SJ L+1	L+2	See Remark c	60001	00455	46	00456	00457	
	MS	FILL	See Remark d	60002	00456	56	00000	30000	
	RPV 3	L-2	See Remark e	60003	00457	75	10003	00455	
DELTA	TP BETA+1	BETA-1		60004	00460	11	00455	00453	
	SETL	S	See Pseudo-Instructions						
	LTR 12	DELTA+1	See Remark f	60005	22	10014	00461		
GAMMA	TN A	Q	See Remark g	60006	13	32000	31000		
	SETL	1	See Pseudo-Instructions						
	RA 100B)	100	See Remark h	60007	00001	21	00100	00144	
	ST GAMMA+999	GAMMA-999	See Remark i	60010	00002	36	61754	56040	
	MP L(123)	L(123B)	See Remark j	60011	00003	11	00042	00043	
K	EQLS 15		See Pseudo-Instructions						
	SA DELTA	K		60012	00004	32	00460	00017	
	F 1.50	2	See Pseudo-Instructions	60013	00005	21	04540	00000	
	F 15000	-2		60014	00006	21	04540	00000	
	S15 1	3	See Pseudo-Instructions	60015	00007	00	01750	00000	
	S 150	-1		60016	00010	77	77777	77760	
	B 123		See Pseudo-Instructions	60017	00010	00	00000	00123	
	B15 123			60020	00011	00	00123	00000	
	RSRV 10B)	20	See Pseudo-Instructions						
	CALL SINE		See Psuedo-Instructions	60031	00036	37	00041	00037	
SINE	QR L(77)	SLAP	See Warnings	60032	00037	53	00044	00045	NOP
	TP 108B)	BETA+B		60033	00040	11	00010	00454	OCT
	MJ	SINE/+3	See Remark k	60034	00041	45	00000	60035	DEC
		CONSTANT POOL	L(123)	60035	00042	00	00000	00173	
			L(123B)	60036	00043	00	00000	00123	
			L(77)	60037	00044	00	00000	00115	
		UNDEFINED TAGS	SLAP	60040	00045	00	00000	00000	
END	DELTA/		See Remark l			60004			

A warning will be given for all such references. Initially, all cells set aside for undefined tags will be zero. A maximum of 75 undefined tags is permitted.

k. When a tag is followed immediately by a / (slash), the storage address (rather than the execution address) appears as the translation.

l. The U field of the END pseudo-instruction may be used for a symbolic, decimal, or octal starting address. The octal translation of this address will appear in PAK whenever the program has been completely loaded into memory.

#### 5. Pseudo-Instructions

a. SETL will set the storage and execution location counters as specified by the contents of U and V, respectively. References to tags are not permitted in the U and V fields. If either field is blank or zero, the corresponding location counter will not be changed. An E appearing in the U field will equate the storage location counter to the current execution location counter. An S in the V field will equate the execution location counter to the current storage location counter. (A tag in the tag field will translate as the location of the previous instruction plus one, not as the location specified by the SETL.)

b. RSRV will add the contents of U and V to the storage and execution location counters, respectively. References to tags in the U and V fields are not permitted.

c. EQLS will equate the tag appearing in the tag field to the contents of U. U may contain an octal or a decimal integer or a reference to a tag. No tag defined by an EQLS may be used to define another tag.

d. CALL. See paragraph 7, Subroutines.

e. F will convert the decimal number appearing in the U field to a floating binary. A decimal point may appear anywhere in the U field. In the absence of a decimal point, the number is assumed to be an integer. Decimal scaling, if any, appears in the V field. If the scaling is negative, a minus sign must precede the scale factor. No sign is given for positive scale factors. The sign of the number appears in the low order of the operation field.

f. S will convert the decimal number appearing in the U field to a binary number whose scaling is specified in the operation field. A decimal point may appear anywhere in the U field. In the absence of a decimal point, the number is assumed to be an integer. Decimal scaling, if any, appears in the V field. If the scaling is negative, a minus sign must



precede the scale factor. No sign is given for positive scale factors. The sign of the number appears in the low order of the operation field.

g. B will scale the octal number appearing in the U field as specified in the operation field.

h. XS-3 will convert the first 6 digits of the U field (including blanks) into octal excess-three equivalents.

i. END will terminate assembly.

## 6. Warnings

The following warnings may appear to the right of the octal translation on the symbolic listing and are indications of possible errors in the line of coding in which they appear...

a. NOP. The operation is incorrect. The nearest valid machine instruction appears in the octal translation.

b. DEF. Reference has been made to a tag that does not appear in the tag field of the program. SLAP assigns a cell in the compiled region for each undefined tag.

c. DUP. Reference has been made to a tag that has appeared more than once in the tag field of the program. Any reference to a duplicate tag will be given the execution location of the line of coding in which the tag first appears.

d. OCT. An octal location or constant contains a nonoctal character.

e. DEC. A decimal location or constant contains a nondecimal character.

f. EXP. The decimal scaling of a floating- or stated-point decimal number is either too large or too small. In either case, the result is zero.

## 7. Subroutines

The CALL pseudo-instruction will generate the calling sequence referred to in the U address of the pseudo-instruction. For example, CALL SINE \_\_\_\_\_ will be translated as RJ SINE+2 SINE.

## APPENDIX F

### DMM PROGRAM IDENTIFICATION WORDS

In order to facilitate making DMM Program Tapes and loading each program into Core Memory, a system of program identification has been devised as follows.

There will be a 36 (binary) bit identification associated with each DMM program. The I.D. number will be the XS-3 program equivalent of the following:

DMM XX

XX represents a two-digit octal number which identifies the program according to the attached list and indicates the relative position of each program block on the program tape.

For example, the program in the first block on the tape would have the identification

DMM b01 (274747010304<sub>8</sub>),

and the program in the ninth block would be identified by

DMM b11 (274747010404<sub>8</sub>).

The appropriate code word must appear as the first and last words in each compiled program. For compilation by SLAP the coding

op            U  
XS-3        DMM XX

at the beginning and end of each program will produce the desired result. (XX is, of course, replaced by the appropriate program number.) A list of these program numbers, together with the routine to which they refer, follows.

#### Program Identification Numbers

<u>Routine</u>	<u>Identification (XX)</u>
1. Tape-Writer - Tape-Loader	01
2. Output	02
3. Monitor, Allocation, Block-Write, Block-Read	03
4. Problem-Input	04
5. Microscopic-Group - Cross-Section Tape	05
6. Nuclear-Constants Preparer	06
7. Nuclear-Constants Corrector	07

Program Identification Numbers  
(concl.)

<u>Routine</u>	<u>Identification (XX)</u>
8. Diffusion Theory	10
9. Burnup	11
10. Criticality Adjustment	12
11. Neutron Balance	13
12. Adjoint	14
13. Xenon-Samarium Addition	15
14. Basic-Library Preparation	16

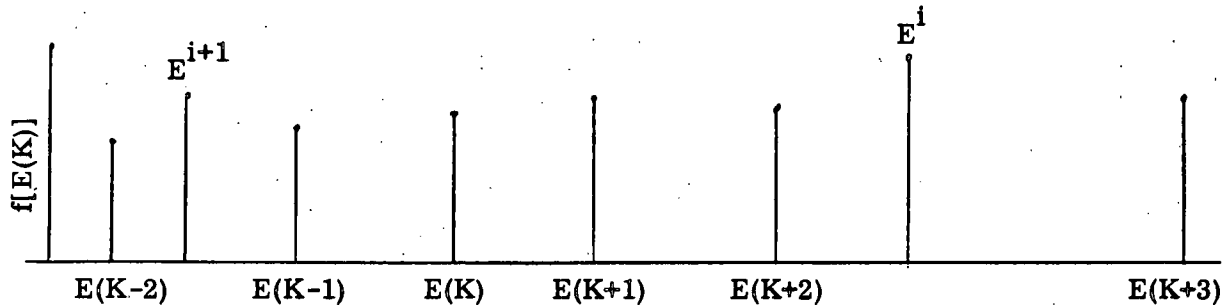
## APPENDIX G

### CROSS-SECTION-INTEGRATION SCHEME

The computation of the Microscopic-Group - Cross-Section Tape requires some type of integration scheme. After discarding the more obvious numerical integration techniques, a method that somewhat bypassed these numerical methods was decided upon to evaluate an integral of the form

$$I(\gamma, E^{i+1}, E^i) = \int_{E^{i+1}}^{E^i} E^\gamma f(E) dE \quad ,$$

where  $\gamma$  is an integer, and  $E^i$  is the  $i^{\text{th}}$  group point in the given energy structure. It is now necessary to make some mention of the relationship between the group-energy points and the tabulated cross-section values of the isotope. This can be illustrated for one case of our problem in the following sketch.



The  $E(K)$ 's are the energy points at which the  $f(E)$  are tabulated, the  $E^i$ 's are two given points of the group structure. The integral  $I(\gamma, E^{i+1}, E^i)$  will be evaluated by adding a series of integrals of the form  $I(\gamma, E_\alpha, E_\beta)$ , where  $E(K) \leq E_\alpha \leq E_\beta \leq E(K+1)$ .

The underlying assumption in the evaluation of these integrals is that  $f(E)$  is linear between successive points of tabulation. Hence, the  $f(E)$  in the integrand of  $I(\gamma, E_\alpha, E_\beta)$  can be represented by a linear relationship,  $b + mE$ . Therefore,

$$I(\gamma, E_\alpha, E_\beta) = \int_{E_\alpha}^{E_\beta} E^\gamma (b + mE) dE, \text{ for } E(K) \leq E_\alpha < E_\beta \leq E(K+1)$$

Then  $I(\gamma, E_\alpha, E_\beta)$  can be integrated analytically. In order to make use of the linearity, the interval of integration,  $(E^{i+1}, E^i)$ , is broken up into the segments over which  $f(E)$  is considered linear. The integrals over these segments are computed and summed. The total is the value for the required integral. In the case given in the above sketch, the following expression results:

$$I[\gamma, E^{i+1}, E^i] = I[\gamma, E^{i+1}, E(K-1)] + I[\gamma, E(K-1), E(K)] + I[\gamma, E(K), E(K+1)] \\ + I[\gamma, E(K+1), E(K+2)] + I[\gamma, E(K+2), E^i]$$

A detailed description of this technique will not be given for all of the integrals to be computed.

The definition of the group constants requires the computation of the following functions (see ATL-A-105).<sup>1</sup>

$$1) \quad \sigma_{tr}^i(1) = \int_{E^{i+1}}^{E^i} \sigma_{tr}(E) dE$$

$$2) \quad \sigma_{tr}^i(2) = \int_{E^{i+1}}^{E^i} \frac{\sigma_{tr}(E)}{E} dE$$

$$3) \quad \sigma_{tr}^i(3) = \int_{E^{i+1}}^{E^i} E \sigma_{tr}(E) dE$$

$$4) \quad \sigma_c^i(1) = \int_{E^{i+1}}^{E^i} \sigma_c(E) dE$$

$$5) \quad \sigma_c^i(2) = \int_{E^{i+1}}^{E^i} \frac{\sigma_c(E)}{E} dE$$

$$6) \quad \sigma_c^i(3) = \int_{E^{i+1}}^{E^i} E \sigma_c(E) dE$$

$$7) \quad \sigma_f^i(1) = \int_{E^{i+1}}^{E^i} \sigma_f(E) dE$$

$$8) \quad \sigma_f^i(2) = \int_{E^{i+1}}^{E^i} \frac{\sigma_f(E)}{E} dE$$

$$9) \quad \sigma_f^i(3) = \int_{E^{i+1}}^{E^i} E \sigma_f(E) dE$$

$$10) \quad t^{ij}(1) = \int_{E^{i+1}}^{E^i} \left[ \chi_{in}(E) \int_{E^{j+1}}^{E^j} \frac{\sigma_{in}(E') \nu_{in}(E')}{X_{in}(E')} dE' + \frac{\frac{E}{\alpha} - E^{j+1}}{E^j - E^{j+1}} \int_{E^{j+1}}^{E^j} \frac{\sigma_s(E') dE'}{(1 - \alpha_A) E'} \right] dE$$

$$11) \quad t^{ij}(2) = \int_{E^{i+1}}^{E^i} \left[ \chi_{in}(E) \int_{E^{j+1}}^{E^j} \frac{\sigma_{in}(E') \nu_{in}(E')}{E' X_{in}(E')} dE' + \frac{\frac{E}{\alpha} - E^{j+1}}{E^j - E^{j+1}} \int_{E^{j+1}}^{E^j} \frac{\sigma_s(E') dE'}{E'^2 (1 - \alpha_A)} \right] dE$$

$$12) \quad t^{ij}(3) = \int_{E^{i+1}}^{E^i} \left[ \chi_{in}(E) \int_{E^{j+1}}^{E^j} \frac{E' \sigma_{in}(E') \nu_{in}(E')}{X_{in}(E')} dE' + \frac{\frac{E}{\alpha} - E^{j+1}}{E^j - E^{j+1}} \int_{E^{j+1}}^{E^j} \frac{\sigma_s(E') dE'}{(1 - \alpha_A)} \right] dE$$

$$13) \quad t^{ij'}(1) = \int_{E^{i+1}}^{E^i} \left[ \chi_{in}(E) \int_{E^{j+1}}^{E^j} \frac{\sigma_{in}(E')}{X_{in}(E')} dE' + \frac{\frac{E}{\alpha} - E^{j+1}}{E^j - E^{j+1}} \int_{E^{j+1}}^{E^j} \frac{\sigma_s(E')}{E' (1 - \alpha_A)} dE' \right] dE$$

$$14) \quad t^{ij'}(2) = \int_{E^{i+1}}^{E^i} \left[ \chi_{in}(E) \int_{E^{j+1}}^{E^j} \frac{\sigma_{in}(E')}{E' X_{in}(E')} dE' + \frac{\frac{E}{\alpha} - E^{j+1}}{E^j - E^{j+1}} \int_{E^{j+1}}^{E^j} \frac{\sigma_s(E')}{E'^2 (1 - \alpha_A)} dE' \right] dE$$

$$15) \quad t^{ij'}(3) = \int_{E^{i+1}}^{E^i} \left[ \chi_{in}(E) \int_{E^{j+1}}^{E^j} \frac{E' \sigma_{in}(E')}{X_{in}(E')} dE' + \frac{\frac{E}{\alpha} - E^{j+1}}{E^j - E^{j+1}} \int_{E^{j+1}}^{E^j} \frac{\sigma_s(E')}{(1 - \alpha_A)} dE' \right] dE$$

$$16) \quad t^i(1) = \sum_{j=i+1}^I t_s^{ji'}(1) + \sigma_c^i(1) + \sigma_f^i(1)$$

$$17) \quad t^i(2) = \sum_{j=i+1}^I t_s^{ji'}(2) + \sigma_c^i(2) + \sigma_f^i(2)$$

$$18) \quad t^i(3) = \sum_{j=i+1}^I t_s^{ji'}(3) + \sigma_c^i(3) + \sigma_f^i(3)$$

$$19) \quad \nu_f^i = \int_{E^{i+1}}^{E^i} \nu_f(E) dE$$

$$20) \quad \chi_f^i = \int_{E^{i+1}}^{E^i} \chi_f(E) dE$$

Basically, there are seven distinct types of integrals to be evaluated, using the aforementioned technique. The evaluation of these integrals is entirely dependent upon the behavior of the integrand, particularly about the point 0. For this reason, certain integrals may be evaluated by a completely different set of formulae. The integral of the function  $\epsilon(E, E^j, \alpha)$  (equation 33a of ATL-A-105<sup>1</sup>) is a special case and will be evaluated analytically.

In types 1 through 4, let  $f(E) = b_1 + m_1 E$ .

Type 1

$$\begin{aligned} I[-2, E_\alpha, E_\beta] &= \int_{E_\alpha}^{E_\beta} E^{-2} (b_1 + m_1 E) dE = \int_{E_\alpha}^{E_\beta} (b_1 E^{-2} + m_1 E^{-1}) dE = \frac{-b_1}{E} + m_1 \ln E \Big|_{E_\alpha}^{E_\beta} \\ &= b_1 \left[ \frac{1}{E_\alpha} - \frac{1}{E_\beta} \right] + m_1 \ln \frac{E_\beta}{E_\alpha}, \end{aligned}$$

where  $E(K) \leq E_\alpha < E_\beta \leq E(K+1)$ .

Type 2

$$\begin{aligned} I[-1, E_\alpha, E_\beta] &= \int_{E_\alpha}^{E_\beta} E^{-1} (b_1 + m_1 E) dE = \int_{E_\alpha}^{E_\beta} (b_1 E^{-1} + m_1) dE = b_1 \ln E + m_1 E \Big|_{E_\alpha}^{E_\beta} \\ &= b_1 \ln \frac{E_\beta}{E_\alpha} + m_1 (E_\beta - E_\alpha), \end{aligned}$$

where  $E(K) \leq E_\alpha < E_\beta \leq E(K+1)$

Type 3

$$\begin{aligned} I[0, E_\alpha, E_\beta] &= \int_{E_\alpha}^{E_\beta} (b_1 + m_1 E) dE = b_1 E + \frac{m_1 E^2}{2} \Big|_{E_\alpha}^{E_\beta} \\ &= b_1 (E_\beta - E_\alpha) + \frac{m_1}{2} (E_\beta^2 - E_\alpha^2), \end{aligned}$$

where  $E(K) \leq E_\alpha < E_\beta \leq E(K+1)$

Type 4

$$\begin{aligned} I[1, E_\alpha, E_\beta] &= \int_{E_\alpha}^{E_\beta} E (b_1 + m_1 E) dE = \int_{E_\alpha}^{E_\beta} (b_1 E + m_1 E^2) dE = \frac{b_1 E^2}{2} + \frac{m_1 E^3}{3} \Big|_{E_\alpha}^{E_\beta} \\ &= \frac{b_1}{2} (E_\beta^2 - E_\alpha^2) + \frac{m_1}{3} (E_\beta^3 - E_\alpha^3), \end{aligned}$$

where  $E(K) \leq E_\alpha < E_\beta \leq E(K+1)$

In types 5 through 7, let

$$\sigma_{in}(E) = b_1 + m_1 E, \text{ where } b_1 = \sigma_{in}[E(K)] - m_1 E(K) \text{ and } m_1 = \frac{\sigma_{in}[E(K+1)] - \sigma_{in}[E(K)]}{E(K+1) - E(K)}$$

$$\nu_{in}(E) = b_2 + m_2 E, \text{ where } b_2 = \nu_{in}[E(K)] - m_2 E(K) \text{ and } m_2 = \frac{\nu_{in}[E(K+1)] - \nu_{in}[E(K)]}{E(K+1) - E(K)}$$

$$X_{in}(E) = b_3 + m_3 E, \text{ where } b_3 = X_{in}[E(K)] - m_3 E(K) \text{ and } m_3 = \frac{X_{in}[E(K+1)] - X_{in}[E(K)]}{E(K+1) - E(K)}$$



Assuming  $b_3$  and  $m_3$  are sufficiently removed from 0, the following expressions are derived. In these integrals, the integrand has the following form:

$$f(E) = \frac{\sigma_{in}(E) \nu_{in}(E)}{X_{in}(E)} = \frac{(b_1 + m_1 E)(b_2 + m_2 E)}{b_3 + m_3 E}$$

Dividing:

$$f(E) = A_0 + A_1 E + \frac{A_2}{b_3 + m_3 E},$$

$$\text{where } A_0 = \frac{1}{m_3} \left[ b_1 m_2 + m_1 b_2 - \frac{b_3 m_1 m_2}{m_3} \right],$$

$$A_1 = \frac{m_1 m_2}{m_3},$$

$$A_2 = b_1 b_2 - \frac{b_3}{m_3} (b_1 m_2 + b_2 m_1) + b_3^2 \frac{m_1 m_2}{m_3}.$$

Now let

$$J(\gamma, E^{i+1}, E^i) = I(\gamma, E^{i+1}, E^i),$$

$$\text{where } f(E) = \frac{\sigma_{in}(E) \nu_{in}(E)}{X_{in}(E)}$$

Then:

Type 5

$$\begin{aligned} J[-1, E_\alpha, E_\beta] &= \int_{E_\alpha}^{E_\beta} \frac{\sigma_{in}(E) \nu_{in}(E)}{E X_{in}(E)} dE = \int_{E_\alpha}^{E_\beta} \frac{(b_1 + m_1 E)(b_2 + m_2 E)}{E(b_3 + m_3 E)} dE \\ &= \int_{E_\alpha}^{E_\beta} \left[ \frac{A_0}{E} + A_1 + \frac{A_2}{E(b_3 + m_3 E)} \right] dE = A_0 \ln E + A_1 E - \frac{A_2}{b_3} \ln \frac{b_3 + m_3 E}{E} \Bigg|_{E_\alpha}^{E_\beta} \\ &= A_0 \ln \frac{E_\beta}{E_\alpha} + A_1 (E_\beta - E_\alpha) - \frac{A_2}{b_3} \ln \frac{E_\alpha}{E_\beta} \frac{b_3 + m_3 E_\beta}{b_3 + m_3 E_\alpha} \end{aligned}$$

where  $E(K) \leq E(\alpha) \leq E(\beta) \leq E(K+1)$

Type 6

$$\begin{aligned}
 J[0, E_\alpha, E_\beta] &= \int_{E_\alpha}^{E_\beta} \frac{\sigma_{in}(E) \nu_{in}(E)}{X_{in}(E)} dE = \int_{E_\alpha}^{E_\beta} \frac{(b_1 + m_1 E)(b_2 + m_2 E)}{b_3 + m_3 E} dE \\
 &= \int_{E_\alpha}^{E_\beta} \left[ A_0 + A_1 E + \frac{A_2}{b_3 + m_3 E} \right] dE = A_0 E + \frac{A_1}{2} E^2 + \frac{A_2}{m_3} \ln(b_3 + m_3 E) \Big|_{E_\alpha}^{E_\beta} \\
 &= A_0 (E_\beta - E_\alpha) + \frac{A_1}{2} (E_\beta^2 - E_\alpha^2) + \frac{A_2}{m_3} \ln \frac{b_3 + m_3 E_\beta}{b_3 + m_3 E_\alpha}
 \end{aligned}$$

where  $E(K) \leq E_\alpha < E_\beta \leq E(K+1)$

Type 7

$$\begin{aligned}
 J[1, E_\alpha, E_\beta] &= \int_{E_\alpha}^{E_\beta} \frac{E \sigma_{in}(E) \nu_{in}(E)}{X_{in}(E)} dE = \int_{E_\alpha}^{E_\beta} \frac{E(b_1 + m_1 E)(b_2 + m_2 E)}{b_3 + m_3 E} dE \\
 &= \int_{E_\alpha}^{E_\beta} \left[ A_0 E + A_1 E^2 + \frac{A_2 E}{b_3 + m_3 E} \right] dE = \frac{A_0}{2} E^2 + \frac{A_1}{3} E^3 \\
 &\quad + \frac{A_2}{m_3} \left[ m_3 E - b_3 \ln(b_3 + m_3 E) \right] \Big|_{E_\alpha}^{E_\beta} \\
 &= \frac{A_0}{2} (E_\beta^2 - E_\alpha^2) + \frac{A_1}{3} (E_\beta^3 - E_\alpha^3) + \frac{A_2}{m_3} \left[ m_3 (E_\beta - E_\alpha) - b_3 \ln \frac{b_3 + m_3 E_\beta}{b_3 + m_3 E_\alpha} \right]
 \end{aligned}$$

where  $E(K) \leq E_\alpha < E_\beta \leq E(K+1)$

Let

$$K[\gamma, E^{i+1}, E^i] = I[\gamma, E^{i+1}, E^i] ,$$

where  $f(E) = \frac{\sigma_{in}(E)}{X_{in}(E)}$

The only difference between the K integrals and the J integrals is in the computation of the coefficients  $A_0$ ,  $A_1$ , and  $A_2$ . For the K integrals, these coefficients are defined as follows:

$$A_0 = \frac{m_1}{m_3} ,$$

$$A_1 = 0 ,$$

$$A_2 = b_1 - \frac{b_3 m_1}{m_3}$$

Using these definitions of  $A_0$ ,  $A_1$ ,  $A_2$ , types 8 through 10 are now evaluated by

$$K[\gamma, E^{i+1}, E^i] = J[\gamma, E^{i+1}, E^i] ,$$

where  $\gamma = -1, 0, 1$

$$i = 1, 2, \dots, I .$$

In the case where  $X_{in}[E(K)]$  is very close to zero, the integrals are arbitrarily assigned zero values.

In the case where  $b_3$  is not close to zero and  $m_3$  is close to zero, let

$$M[\gamma, E^{i+1}, E^i] = I[\gamma, E^{i+1}, E^i] ,$$

for  $f(E) = \frac{\sigma_{in}(E)\nu_{in}(E)}{X_{in}(E)}$

and  $m_3$  is very close to or equal to zero. The integrand then has the following form:

$$\frac{\sigma_{in}(E)\nu_{in}(E)}{X_{in}(E)} = \frac{(b_1 + m_1 E)(b_2 + m_2 E)}{b_3 + m_3 E} = A_0 + A_1 E + A_2 E^2 ,$$

where  $A_0 = \frac{b_1 b_2}{b_3}$

$$A_1 = \frac{b_1 m_2 + m_1 b_2}{b_3}$$

$$A_2 = \frac{m_1 m_2}{b_3}$$

With the above definitions of  $A_0$ ,  $A_1$ ,  $A_2$ , types 11 through 13 are evaluated by the following expressions.

Type 11

$$\begin{aligned} M[-1, E_\alpha, E_\beta] &= \int_{E_\alpha}^{E_\beta} \frac{\bar{\sigma}_{in}(E) \nu_{in}(E)}{E X_{in}(E)} dE = \int_{E_\alpha}^{E_\beta} \frac{A_0 + A_1 E + A_2 E^2}{E} dE \\ &= A_0 \ln E + A_1 E + \frac{A_2}{2} E^2 \Big|_{E_\alpha}^{E_\beta} \\ &= A_0 \ln \frac{E_\beta}{E_\alpha} + A_1 (E_\beta - E_\alpha) + \frac{A_2}{2} (E_\beta^2 - E_\alpha^2) \end{aligned}$$

where  $E(K) \leq E_\alpha < E_\beta \leq E(K+1)$ .

Type 12

$$\begin{aligned} M[0, E_\alpha, E_\beta] &= \int_{E_\alpha}^{E_\beta} \frac{\sigma_{in}(E) \nu_{in}(E)}{X_{in}(E)} dE = \int_{E_\alpha}^{E_\beta} (A_0 + A_1 E + A_2 E^2) dE \\ &= A_0 E + \frac{A_1}{2} E^2 + \frac{A_2}{3} E^3 \Big|_{E_\alpha}^{E_\beta} \\ &= A_0 (E_\beta - E_\alpha) + \frac{A_1}{2} (E_\beta^2 - E_\alpha^2) + \frac{A_2}{3} (E_\beta^3 - E_\alpha^3) \end{aligned}$$

where  $E(K) \leq E_\alpha < E_\beta \leq E(K+1)$ .

Type 13

$$\begin{aligned}
 M[1, E_\alpha, E_\beta] &= \int_{E_\alpha}^{E_\beta} \frac{E \sigma_{in}(E) \nu_{in}(E)}{X_{in}(E)} dE = \int_{E_\alpha}^{E_\beta} E(A_0 + A_1 E + A_2 E^2) dE \\
 &= \frac{A_0}{2} E^2 + \frac{A_1}{3} E^3 + \frac{A_2}{4} E^4 \Bigg|_{E_\alpha}^{E_\beta} \\
 &= \frac{A_0}{2} (E_\beta^2 - E_\alpha^2) + \frac{A_1}{3} (E_\beta^3 - E_\alpha^3) + \frac{A_2}{4} (E_\beta^4 - E_\alpha^4) ,
 \end{aligned}$$

where  $E(K) \leq E_\alpha < E_\beta \leq E(K+1)$ .

In the case where  $b_3$  is close to or equal to zero, the following values are arbitrarily assigned to types 14 through 16.

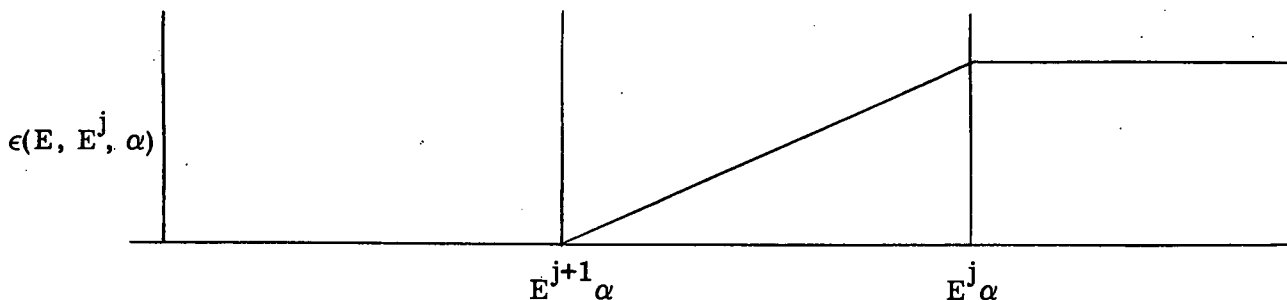
$$J[\gamma, E^{i+1}, E^i] = 0$$

where  $\gamma = -1, 0, 1$ .

Evaluating the integral of  $\epsilon(E, E^j, \alpha)$  (equation 33a of ATL-A-105)<sup>1</sup> because of the nature of the function, requires some special handling. First, consider the definition of the function itself:

$$\begin{aligned}
 \epsilon(E, E^j, \alpha) &= 0 && \text{if } \frac{E}{\alpha} < E^{j+1} \\
 &= \frac{\frac{E}{\alpha} - E^{j+1}}{E^j - E^{j+1}} && \text{if } E^{j+1} < \frac{E}{\alpha} < E^j \\
 &= 1 && \text{if } \frac{E}{\alpha} > E^j .
 \end{aligned}$$

This function is illustrated below for  $\alpha \neq 0$ .



The problem is to evaluate

$$H(\alpha, E^{i+1}, E^i) = \int_{E^{i+1}}^{E^i} \epsilon(E, E^j, \alpha) dE$$

There are six cases to consider.

Case 1  $E^{i+1} < E^i < E^{j+1} \alpha < E^j \alpha$

$$H(\alpha, E^{i+1}, E^i) = \int_{E^{i+1}}^{E^i} 0 dE = 0$$

Case 2  $E^{i+1} < E^{j+1} \alpha < E^i < E^j \alpha$

$$\begin{aligned} H(\alpha, E^{i+1}, E^i) &= \int_{E^{i+1}}^{E^i} \epsilon(E, E^j, \alpha) dE = \int_{E^{i+1}}^{E^{j+1} \alpha} \epsilon(E, E^j, \alpha) dE + \int_{E^{j+1} \alpha}^{E^i} \epsilon(E, E^j, \alpha) dE \\ &= \int_{E^{i+1}}^{E^{j+1} \alpha} 0 dE + \int_{E^{j+1} \alpha}^{E^i} \frac{\frac{E}{\alpha} - E^{j+1}}{E^j - E^{j+1}} dE = \frac{1}{E^j - E^{j+1}} \left[ \frac{1}{2\alpha} \left\{ (E^i)^2 - (E^{j+1} \alpha)^2 \right\} \right. \\ &\quad \left. - E^{j+1} (E^i - E^{j+1} \alpha) \right] = \frac{(E^i - E^{j+1} \alpha)^2}{2\alpha (E^j - E^{j+1})} \end{aligned}$$

Case 3  $E^{j+1} \alpha < E^{i+1} < E^i < E^j \alpha$

$$\begin{aligned} H(\alpha, E^{i+1}, E^i) &= \int_{E^{i+1}}^{E^i} \epsilon(E, E^j, \alpha) dE = \int_{E^{i+1}}^{E^i} \frac{\frac{E}{\alpha} - E^{j+1}}{E^j - E^{j+1}} dE \\ &= \frac{1}{E^j - E^{j+1}} \left[ \frac{1}{2\alpha} \left\{ (E^i)^2 - (E^{i+1})^2 \right\} - E^{j+1} (E^i - E^{i+1}) \right] \\ &= \frac{(E^i - E^{i+1})}{(E^j - E^{j+1})} \frac{[E^i + E^{i+1} - 2\alpha E^{j+1}]}{2\alpha} \end{aligned}$$

Case 4  $E^{j+1}\alpha < E^{i+1} < E^j\alpha < E^i$

$$\begin{aligned}
 H(\alpha, E^{i+1}, E^i) &= \int_{E^{i+1}}^{E^i} \epsilon(E, E^j, \alpha) dE = \int_{E^{i+1}}^{E^j\alpha} \frac{E - E^{j+1}}{E^j - E^{j+1}} dE + \int_{E^j\alpha}^{E^i} 1 dE \\
 &= \frac{1}{E^j - E^{j+1}} \left[ \frac{1}{2\alpha} \left\{ (E^j\alpha)^2 - (E^{i+1})^2 \right\} - E^{j+1} \left\{ E^j\alpha - E^{i+1} \right\} \right] + E^i - E^j\alpha \\
 &= \frac{1}{E^j - E^{j+1}} \left[ (E^j\alpha - E^{i+1}) \left\{ \frac{E^j\alpha + E^{i+1}}{2\alpha} - E^{j+1} \right\} \right] + E^i - E^j\alpha \\
 &= \frac{E^j\alpha - E^{i+1}}{E^j - E^{j+1}} \left[ \frac{E^j\alpha + E^{i+1} - 2\alpha E^{j+1}}{2\alpha} \right] + E^i - E^j\alpha \\
 &= \frac{E^j\alpha - E^{i+1}}{E^j - E^{j+1}} \left[ \frac{E^{i+1} + \alpha(E^j - 2E^{j+1})}{2\alpha} \right] + E^i - E^j\alpha
 \end{aligned}$$

Case 5  $E^{j+1}\alpha < E^j\alpha < E^{i+1} < E^i$

$$H(\alpha, E^{i+1}, E^i) = \int_{E^{i+1}}^{E^i} \epsilon(E, E^j, \alpha) dE = \int_{E^{i+1}}^{E^i} 1 dE = E^i - E^{i+1}$$

Case 6  $E^{i+1} < E^{j+1}\alpha < E^j\alpha < E^i$

$$\begin{aligned}
 H(\alpha, E^{i+1}, E^i) &= \int_{E^{i+1}}^{E^i} \epsilon(E, E^j, \alpha) dE = \int_{E^{i+1}}^{E^{j+1}\alpha} 0 dE + \int_{E^{j+1}\alpha}^{E^j\alpha} \frac{E - E^{j+1}}{E^j - E^{j+1}} dE + \int_{E^j\alpha}^{E^i} 1 dE \\
 &= \frac{1}{E^j - E^{j+1}} \left[ \frac{1}{2\alpha} \left\{ (E^j\alpha)^2 - (E^{j+1}\alpha)^2 \right\} - E^{j+1} (E^j\alpha - E^{j+1}\alpha) \right] + E^i - E^j\alpha \\
 &= \frac{(E^j - E^{j+1})\alpha}{(E^j - E^{j+1})} \left[ \frac{\alpha}{2\alpha} (E^j + E^{j+1}) - E^{j+1} \right] + E^i - E^j\alpha \\
 &= \frac{\alpha}{2} (E^j - E^{j+1}) + E^i - E^j\alpha \\
 &= E^i - \frac{\alpha}{2} (E^j + E^{j+1})
 \end{aligned}$$