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NEW YORK CITY POLICE DEPARTMENT AUTOMATED FUEL MONITORING SYSTE--ETC(U)
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NUSC Technical Report 6567-II
16 November 1981

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New York City Police Department Automated Fuel Monitoring System

Volume II--Documentation Report

AD A119954

technology transfer

William J. McGrath
Margaret M. McNamara
Office of Special Programs Development

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PREFACE

The Naval Underwater Systems Center's mission is to be the Navy's principal research, development, and test and evaluation center for submarine warfare and submarine weapon systems. The project described in this report is part of an ancillary Center program called Technology Transfer. It represents a small part of the Center's overall program in terms of effort and budget, but is significant in terms of returning the benefits of Federal research and development to the public and private sectors.

The project was jointly sponsored by the Naval Underwater Systems Center, the National Science Foundation, and the New York City Police Department. It was conducted under NUSC Projects A90614 and B90614, NSF Grant ISP 7419143 (GT 43500), and NYCPD Contracts 0159000008, 0151P00419, and 0151005000; Principal Investigator, Mr. William J. McGrath (Code 001); Program Manager, Mr. Michael C. Ahrens (Code 0702).

The Technical Reviewer for this report was Mr. Robert J. Donovan (Code 07), Program and Financial Manager.

Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect the views of the National Science Foundation.

Reviewed and Approved; 16 November 1981

R.J. Donovan

R.J. Donovan
Head, Program and Financial Management Staff

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ABSTRACT

This report describes the New York City Police Department (NYCPD) Automated Fuel Monitoring System, from the original study, through system design, to implementation. The system provides complete control of fuel usage for an agency with 4,000 motor vehicles and 25,000 vehicle operators. As far as is known, it is the largest system of its kind installed to date. The system can be scaled up or down to meet the needs of other governmental units. Estimated annual cost savings to NYCPD are $2,000,000.

This report is the second of two volumes. Volume I is an overview of the project. Copies of either volume can be obtained on request from:

Office of Special Programs Development (Code 0702)
U.S. Naval Underwater Systems Center
New London Laboratory
New London, CT 06320
Telephone: (203) 447-4108, -4590

Interested state and local government officials are encouraged to inspect the NYCPD system.

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FOREWORD

The Naval Underwater Systems Center (NUSC) has expertise in a broad range of technologies, including acoustics, electronics, ocean engineering, computer services, technical management, and systems development. Since 1970 it has been the Center's policy to share its technology with other Federal agencies and state and local governments. This sharing of resources, called Technology Transfer, became an article of Navy policy in 1972. Technology transfer now is a nationwide program for bringing the benefits of Federal technological research and development to the public and private sectors. It is an organized and systematic effort to help overcome problems that will yield to technological solutions.

The Congress of the United States has recognized the value of the technology transfer effort and has indicated its approval by passage, in late 1980, of the Stevenson-Wydler Technology Innovation Act, now Public Law 96-480. Section 11 of the Law directs the Federal Government to "strive where appropriate to transfer federally owned or originated technology to State and local governments and to the private sector."

NUSC's participation in technology transfer began in 1970 and has grown steadily, within the constraints that apply to the Navy's program: it cannot interfere with the Center's mission nor compete with private enterprise. The Center is now involved in technology transfer activities at the local, state, regional, and national levels. NUSC's Office of Special Programs Development is responsible for managing the program, which matches the network of resources with the users of technology to deliver technical assistance where it is most needed.

NUSC is a member of the Federal Laboratory Consortium for Technology Transfer, which includes about 200 Federal research and development laboratories and technical centers. The Consortium, in turn, is a participant in a program initiated in 1967 within the National Science Foundation's Division of Intergovernmental and Public Service Science and Technology. Since its inception, the Foundation's program has pioneered in the formation of a network of technology transfer users--state, local, and regional governments--and has helped the members of the network to recognize their technology needs, to define their problems, to seek assistance from resources available through the network, and to share the benefits of the problems they have thus solved.

The Automated Fuel Monitoring System designed and implemented for the New York City Police Department is a major project of NUSC's Technology Transfer program. This documentation of the project (TR 6567-II) is presented as a response to the spirit and intent of the nationwide technology transfer effort. The project is transferable to state, regional, and local governments. It can be, and has been, scaled up or down to meet the requirements of a broad spectrum of users. We believe it answers many questions that may be posed by potential users in terms of productivity, cost/benefit analysis, use of natural resources, and vehicle fleet use and maintenance, and that it can advance state and local governments well along the way toward solving troublesome problems. In addition, the private sector market has been stimulated to respond to system needs identified during the course of the project.

ACKNOWLEDGMENTS

Many individuals and organizations contributed generously of their time and expertise to the successful completion of this project. Management and staff of the Naval Underwater Systems Center and the New York City Police Department participated in all phases of the project, from problem definition through system design and implementation, by providing data, technical assistance and advice, graphics, and other essentials. While it was part of their responsibility, we hereby acknowledge with thanks their efforts "above and beyond the call of duty." Gratitude is deserved also by the following for their special contributions:

The cosponsorship of the project by the National Science Foundation's Division of Intergovernmental and Public Service Science and Technology was made possible by the support of Mr. Bruce J. Reiss, Program Manager for Local Governments. He provided the initial funding to the New York City Police Department, which led to the start of this project. The NSF Local Governments Program also sponsors the Urban Technology System, which provides funding for technology agents in a number of medium-sized cities (50,000 to 500,000 population) around the country. An Urban Technology System Brief led to the identification of fuel monitoring as a primary need by NYCPD.

The Federal Laboratory Consortium member laboratories, through their technology transfer representatives, provided technical advice when requested, and gave encouragement throughout the project. Mr. Nicholas Montanarelli, when he was program manager for Federal Laboratories at the National Science Foundation, provided funding for documentation of this project.

Deputy Inspector Kenneth R. Strange, Support Services Bureau, and Mr. Eugene C. Masci, director of the Motor Transport Division, New York City Police Department, steered the operation through the many administrative procedures and retained their equanimity and enthusiasm throughout. The dedication and perseverance of Sergeant Frank E. Stryjewski, the first User Representative, and Sergeant Thomas A. Kiernan and Police Officer Kenneth A. Hamel of the Fuel Control Center were the building blocks that finally put the system together.

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NEW YORK CITY POLICE DEPARTMENT
AUTOMATED FUEL MONITORING SYSTEM
VOLUME II--DOCUMENTATION REPORT

Section I

INTRODUCTION

A. BACKGROUND

On May 1, 1977, the Naval Underwater Systems Center (NUSC) entered into an agreement with the Police Department of the City of New York (NYCPD) to provide a technology linking agent to NYCPD. The purpose of the project was to determine if the results of Federal research and development could be applied to solve some of the technological problems of NYCPD. This activity was begun with a 1974 grant award from the National Science Foundation's Intergovernmental Science Division to the NYCPD Applied Technology Unit, Support Services Bureau. Since the late 1960's the National Science Foundation has provided funding for a broad spectrum of applied science and technology assistance projects with local, regional, and state governments. Its Intergovernmental Science Division is structured to include program elements for both users and providers of applied science and technology.

Mr. William J. McGrath, a management systems analyst from NUSC's New London Laboratory, was assigned on May 1, 1977, to the NYCPD Motor Transport Division, under the mobility provisions of the Intergovernmental Personnel Act of 1970. Mr. McGrath previously had designed and implemented an Asset Management System (AMS) for the NYCPD Quartermaster. AMS provided for control of all Department assets, including fleet vehicles, but vehicle maintenance was not built into the system. Mr. McGrath's assignment to the Motor Transport Division was made specifically to investigate the advantages of adding vehicle maintenance to the already existing Asset Management System. Also under consideration was a computerized parts inventory system.

B. PROBLEM IDENTIFICATION

During the first week of the project, Mr. McGrath was primarily concerned with assisting NYCPD Motor Transport Division in identifying their technical problems. In intergovernmental science parlance, this process is called needs assessment; it consists of listing all problems, and then placing priorities on each. Mr. McGrath reviewed available literature on successful automotive-related technology transfer programs and presented a number of brief technical write-ups to NYCPD officials. One was Urban Technology System Brief 42 concerning a Fuel System Monitor for Oklahoma City.

Within 2 weeks of the beginning of the project, the head of NYCPD Motor Transport Division identified fuel dispensing and monitoring as the first priority technical problem. He asked Mr. McGrath to study their existing system and make recommendations for improving it.

1. User Representative

There are two essential requirements of any systems analysis task, both of which were strictly adhered to by Mr. McGrath. The first is that a full-time user representative be assigned to work with the analyst beginning on Day One of a project. It is particularly important in intergovernmental projects, since the provider of the service usually is unfamiliar with the governmental unit to which he/she has been assigned. Mr. McGrath strongly recommended the assignment of a user representative and, accordingly, a sergeant assigned to the Motor Transport Division was designated as such on May 1. His participation contributed importantly to the short time-frame of the problem identification phase of the project.

The second requirement of systems analysis is to adequately define the problem before attempting to arrive at a solution or alternative solutions. The work described in section II of this report meets that requirement.

C. CONTACTS

The following individuals may be contacted for additional information or clarification of the material contained in this report:

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Section II

STUDY

A. PROBLEM DEFINITION

On May 11, 1977, the fuel system study was initiated at the direction of the Commanding Officer, Deputy Commissioner of Administration Office, NYCPD. The study was to be performed under the supervision of the Commanding Officer, Motor Transport Division.

1. Framework

The following information is essential to provide a conceptual understanding of the complexity of the NYCPD fueling operation:

a. The Department is divided into 73 Precincts within the 5 Boroughs of New York City (Bronx, Brooklyn, Manhattan, Queens, Staten Island). Sixty-eight precincts have pumping stations.

b. Any Department vehicle can secure fuel at any of the 68 stations.

c. Some stations have two gas pumps, some only one.

d. The capacity of the in-ground tanks varies from 550 to 3600 gallons.

e. The Department has approximately 25,000 qualified motor vehicle operators.

f. The Department operates about 4,000 motor vehicles, including motorcycles and scooters.

g. Private vehicle fueling is provided for personnel on special detail.

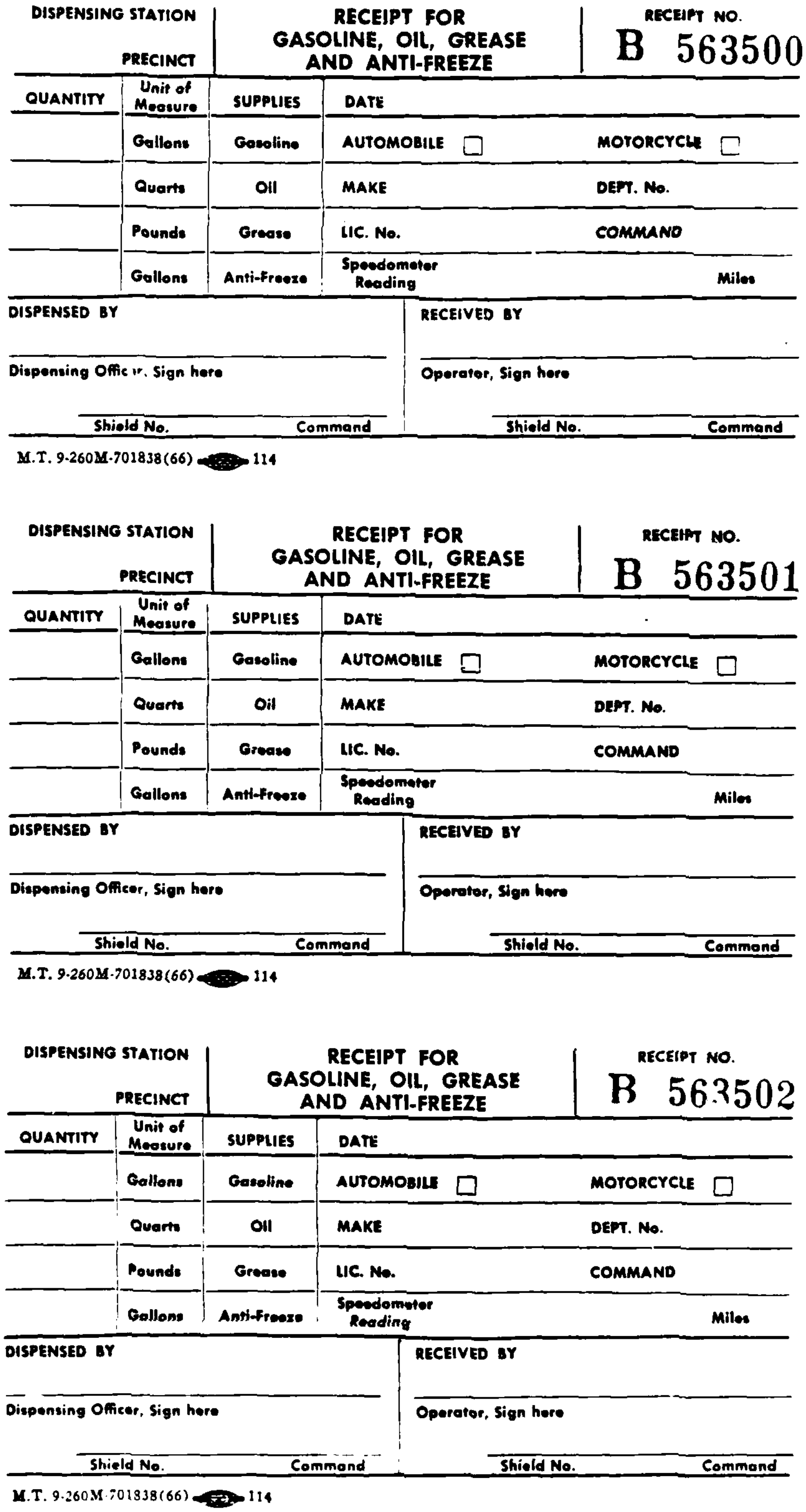
h. The number of transfers of personnel between Precincts is significant.

2. Existing Fuel System (May 1, 1977)

A flowchart of the manual fuel control system used by NYCPD was prepared with the cooperation of Motor Transport Division and the Department Quartermaster (see appendix A). Exhaustive interviews were held with all personnel involved in managing the fuel system. Mr. McGrath queried gas attendants, vehicle operators, and precinct desk officers about the dispensing and receiving processes, and Quartermaster office personnel about the billing process. It was essential to the study that he determine all the physical steps and paper flow involved in the operation. He also checked Department directives and compared the directives with actual procedures.

The primary findings were:

a. All transactions (dispensing and receiving) were manually recorded in the Gasoline and Oil Receipt Book (referred to as MT 9, figure II-1) by the attendant, and were signed by the Department operator.



DISPENSING STATION

PRECINCT

RECEIPT FOR GASOLINE, OIL, GREASE AND ANTI-FREEZE

RECEIPT NO. B 563500

QUANTITY	Unit of Measure	SUPPLIES	DATE	
	Gallons	Gasoline	AUTOMOBILE ☐	MOTORCYCLE ☐
	Quarts	Oil	MAKE	DEPT. No.
	Pounds	Grease	LIC. No.	COMMAND
	Gallons	Anti-Freeze	Speedometer Reading	Miles

DISPENSED BY

Dispensing Officer, Sign here

Shield No. Command

RECEIVED BY

Operator, Sign here

Shield No. Command

M.T. 9-260M-701838(66) 114

DISPENSING STATION

PRECINCT

RECEIPT FOR GASOLINE, OIL, GREASE AND ANTI-FREEZE

RECEIPT NO. B 563501

QUANTITY	Unit of Measure	SUPPLIES	DATE	
	Gallons	Gasoline	AUTOMOBILE ☐	MOTORCYCLE ☐
	Quarts	Oil	MAKE	DEPT. No.
	Pounds	Grease	LIC. No.	COMMAND
	Gallons	Anti-Freeze	Speedometer Reading	Miles

DISPENSED BY

Dispensing Officer, Sign here

Shield No. Command

RECEIVED BY

Operator, Sign here

Shield No. Command

M.T. 9-260M-701838(66) 114

DISPENSING STATION

PRECINCT

RECEIPT FOR GASOLINE, OIL, GREASE AND ANTI-FREEZE

RECEIPT NO. B 563502

QUANTITY	Unit of Measure	SUPPLIES	DATE	
	Gallons	Gasoline	AUTOMOBILE ☐	MOTORCYCLE ☐
	Quarts	Oil	MAKE	DEPT. No.
	Pounds	Grease	LIC. No.	COMMAND
	Gallons	Anti-Freeze	Speedometer Reading	Miles

DISPENSED BY

Dispensing Officer, Sign here

Shield No. Command

RECEIVED BY

Operator, Sign here

Shield No. Command

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Figure II-1. Exhibit From Gasoline and Oil Receipt Book

b. The manual system required the services of a full-time gas attendant for at least two of the three daily duty shifts.*

c. Each Precinct was responsible for reordering its own fuel from vendor.

Appendix A illustrates the complexity and potential for error inherent in the manual billing transactions.

3. Data Collection

A decision was made to gather data for the month of January 1977.

a. Fuel Dispensing Questionnaire

A fuel dispensing questionnaire (figure II-2) was developed and forwarded on May 18 to the NYCPD Chief of Operations for endorsement. It was approved and forwarded to the fueling precincts on May 23.

b. Fuel Matrix

A fuel matrix was developed (figure II-3) and completed on May 31. Data gathered from the NYCPD Personnel Office concerning manpower distribution and labor costs, and from the questionnaires and MT 9 books received from the Precincts, were posted to the matrix, which was completed on June 28. All receipts and deliveries for the month of January 1977, approximately 32,000 transactions, were physically checked and posted.

c. Inspection of Automated Systems in Other Localities

Early in August 1977, Mr. McGrath of NUSC and the Quartermaster and the user representative of NYCPD inspected currently operating automated fueling systems in Cincinnati, Ohio, and Oklahoma City, Oklahoma. The physical inspection was useful for concept and comparison purposes. Interested state and local government officials are encouraged to inspect the NYCPD system.

4. Proposed Automated Fuel System

A flowchart of a proposed automated on-line fuel system was prepared (see appendix B). The data gathered during the study were used to make cost comparisons between the existing (manual) and proposed (automated) systems.

---

*If the gas attendant was at lunch or off duty, gas pumps were padlocked. In that case, officers needing fuel had to secure MT 9 books and keys from the Desk Sergeant, unlock pumps, pump their own gas, make entries in the MT 9, lock pumps, and return keys and books to the Desk Sergeant--often a somewhat lengthy procedure.

QUESTIONNAIRE PERTAINING TO FUEL DISPENSING

COMMAND ____________________ LOCATION ____________________

1. Number of personnel assigned to dispensing gasoline? ____________________

2. The rank/title of the above personnel?

   P.O. ______ MVO ______ Laborer ______ Cleaner ______ Other ______

3. Are the gasoline dispensing duties full time or collateral?

   Full _______ Collateral _______.

   If collateral what percentage of time spent in this duty? ________%

4. Number of pumps at your station? ____________

5. Total tank capacity? ______________

6. Number of privately owned vehicles permitted to get fuel at your station? ________________________________

7. Specify the amount of gasoline delivered by the vendor to your tanks on each of the listed dates as per Precinct Log Entries.

   1977

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

8. Please enclose MT 9 (Gasoline and Oil Receipt Book or Books) for the period January 1, through January 31, 1977, with the completed questionnaire. At the completion of this study the MT 9 will be returned.

Figure II-2. Exhibit of Fuel Dispensing Questionnaire

EXPLANATION OF FUEL MATRIX

COMMAND	FACILITIES	
	TANK CAPACITY	NO. OF PUMPS
1	2	3

DELIVERY DATA		
GALS. APPROVED FOR PAYMENT	GALS. DELIVERED PER LOG	DIFFERENCE (GALS)
4	5	6

DISPENSING DATA				
RECEIPT BOOKS MT9	ADJUSTED QTMSTR DELIVERIES	DIFFERENCE	ADJUSTED DESK LOG DELIVERIES	DIFFERENCE
7	8	9	10	11

ITEM	SOURCE
1. PUMPING STATION IDENTIFICATION	QUESTIONNAIRE
2. IN GROUND GALLON CAPACITY	QUESTIONNAIRE
3. NUMBER OF PUMPS PER STATION	QUESTIONNAIRE
4. GALLONS APPROVED FOR PAYMENT (JAN 1977)	QUARTERMASTER RECORDS
5. GALLONS DELIVERED PER COMMAND DESK LOG	QUESTIONNAIRE
6. DIFFERENCE	DIFFERENCE BETWEEN COLS. 4 & 5
7. RECEIPT BOOKS (MT9)	TABULATION OF INDIVIDUAL ENTRIES FROM FUEL DISPENSING RECEIPT BOOKS FOR SAMPLE
8. ADJUSTED QUARTERMASTER DELIVERIES	FULL IN-GROUND TANK TO FULL IN-GROUND TANK BASED ON QUARTERMASTER RECORDS
9. DIFFERENCE	DIFFERENCE BETWEEN COLS. 7 & 8
10. ADJUSTED DESK LOG DELIVERIES	FULL IN-GROUND TANK TO FULL IN-GROUND TANK BASED ON DESK LOG ENTRIES
11. DIFFERENCE	DIFFERENCE BETWEEN COLS. 7 & 10

MANPOWER DISTRIBUTION						
TYPE PERSONNEL				TOTAL PERSONNEL	% LABOR HOURS EXPENDED	EQUIV MAN-YRS
P.O. 16770	MVO 11500	CLEAN 9155	OTHER 8450			
12	13	14	15	16	17	18

LABOR COST		
PER GALLON	PER MONTH	PER YEAR
19	20	21

REMARKS	PRIVATE VEHICLES	TRANS-ACTIONS
22	23	24

ITEM	SOURCE
12. 13 14. 15. NUMBER AND TYPE OF MANPOWER ASSIGNED TO DISPENSING FUEL	QUESTIONNAIRE
16 TOTAL MANPOWER PER PUMPING STATION	QUESTIONNAIRE
17 PERCENT OF LABOR HOURS EXPENDED	QUESTIONNAIRE
18. EQUIVALENT MAN-YEARS	COMPUTATION FROM QUESTIONNAIRE
19. PER GALLON LABOR COST	COL 20 DIVIDED BY COL 8
20 PER MONTH LABOR COST	COL 21 DIVIDED BY 12 (UNACCELERATED)
21 PER YEAR LABOR COST	EXISTING SALARY TABLES
22 REMARKS	PERTINENT EXPLANATORY DATA
23 PRIVATE VEHICLES	MT9 RECEIPT BOOKS
24 TRANSACTIONS	COUNT OF RECEIPT TRANSACTIONS

Figure II-3. Explanation of Fuel Matrix

5. Study Report to NYCPD Management

A formal presentation and report were prepared and presented to Department management on September 13, 1977. Pertinent portions of the report are reproduced on the following pages. They are:

- Analysis of Response from Precinct Pumping Stations for January 1977*
- General Recording Problems Noted During Analysis
- Major System Problems
- Manpower and Labor Cost (Existing System)
- Projected Annual Error
- System Options
- Annual Operating Systems Comparison
- On-Line System Cost (1977 dollars)
- What's Next? (illustrates only that the study has been completed and further action necessitates a decision by Department management).

Portions of the NYCPD Patrol and Administrative Guides containing the duties and responsibilities of gasoline dispensers, delivery of gasoline to a station house, daily gasoline summary, private vehicle authorization, vehicle identification plates, and gas and oil for private vehicles were included in the report (see appendix C) to illustrate differences between the guidelines and the practices actually followed as determined during the study.

Mr. McGrath recommended a fully automated fuel dispensing system.

---

*The number of precincts with pumping stations increased slightly from the time of the study to total system installation.

NYCPD FUEL DISPENSING STUDY FOR JANUARY 1977

ANALYSIS OF RESPONSE FROM PRECINCT PUMPING STATIONS

64 COMMANDS WITH PUMPING STATIONS

- 2 COMMANDS RESPONSE INCOMPLETE BY CUTOFF DATE
- 2 COMMANDS PUMPS OUT OF SERVICE DURING SURVEY PERIOD
- 1 COMMAND COULD NOT LOCATE MT9's FOR SURVEY PERIOD
- 1 COMMAND DOES NOT MAINTAIN MT9's

58 COMMANDS SURVEYED FOR MONTH OF JANUARY 1977 REPRESENTED:

- 121 MT9 FUEL RECEIPT BOOKS
- 32,000 RECEIPT TRANSACTIONS FOR JANUARY
- 574 DELIVERIES FROM VENDOR
- 100,000 GAL IN-GROUND CAPACITY (APPROX)

GENERAL RECORDING PROBLEMS NOTED DURING ANALYSIS

INSTANCES OF RECORDING ERRORS WERE NOTED IN THE FOLLOWING AREAS:

- RECEIPTS WITHOUT GALLONS DISPENSED POSTED
- VEHICLES NOT IDENTIFIED PROPERLY
- GAS DISPENSED EXCEEDED VEHICLE TANK CAPACITY
- PROTECTIVE COUNTER READINGS NOT RECORDED OR RECORDED AFTER THE FACT
- INCOMPLETE ENTRIES
- POSTINGS ILLEGIBLE
- PAGES MISSING
- DATES SKIPPED YET GAS DELIVERED DURING PERIOD
- RECEIPT BOOKS POORLY MAINTAINED

MAJOR SYSTEM PROBLEMS

- SYSTEM LACKS CAPABILITY TO CORRELATE DELIVERIES AND DISPENSING ON BOTH A CONTINUING AND DEMAND BASIS FOR CONTROL AND/OR AUDIT PURPOSES
- NO FINAL ACCOUNTING, CONTROL, OR OVERALL MANAGERIAL RESPONSIBILITY OF TOTAL GAS DISPENSING SYSTEM
- NO SYSTEMATIC ORDERING PROCEDURE OR DELIVERY SCHEDULING.
- STATISTICAL DATA ON FUEL CONSUMPTION FOR VARIOUS CLASSES AND TYPES OF VEHICLES NOT AVAILABLE.

MANPOWER & LABOR COST (UNACCELERATED SALARIES)

MANPOWER:	NO. PERSONNEL INVOLVED	EQUIVALENT MAN-YEARS
POLICE OFFICERS	111	52.27
MOTOR VEHICLE OPERATORS	6	3.9
CLEANERS	32	12.74
OTHERS	8	4.95
TOTAL	157	
EQUIVALENT MAN-YEARS		73.86

COST:	
LABOR PER GALLON DISPENSED	19¢
MONTHLY LABOR COST FOR JAN 1977	$94,478
PROJECTED ANNUAL LABOR COST	$1,133,762

PROJECTED ANNUAL ERROR

DELIVERY DATA	JAN. 77	PROJECTED ANNUAL	
GALLONS DELIVERED PER QTMSTR RECORDS — —	539,244 GALS.	6.4 MILLION	
PCT LOGS ERROR FACTOR — — — — — — — — — — —	23,492 GALS.	282,000	4%
DISPENSING DATA			
PCT MT9's ERROR FACTOR — — — — — — — — — — —	36,423 GALS.	437,076	7.5%

SYSTEM OPTIONS

• UPGRADE & REINFORCE CURRENT SYSTEM	NOT RECOMMENDED
• KEYPUNCH FROM SOURCE DOCUMENTS (REVISED MT9's)	NOT RECOMMENDED
• AUTOMATED ON-LINE FUEL MONITORING & DISPENSING	RECOMMENDED

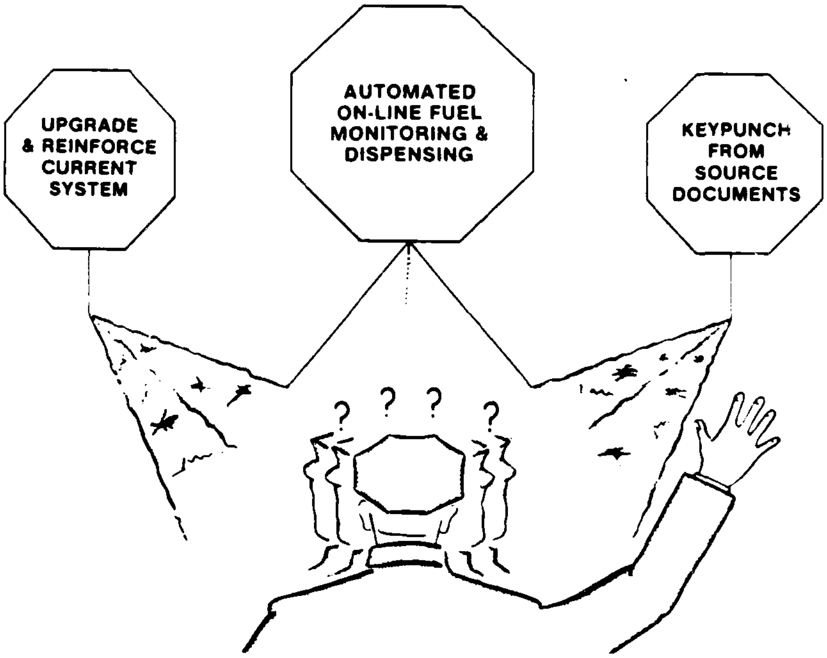
ANNUAL OPERATING SYSTEMS COMPARISON
(1977 COSTS, COLLECTED FOR INITIAL STUDY)

	COST			SYSTEM CAPABILITY			SOLVE SYSTEM PROBLEMS			
								MAJOR PROBLEMS		
	PERSONNEL SERVICES SALARIES	MATERIAL COST	PER GALLON	CONTROL	DETECT TANK LEAKAGE	DETECT VENDOR DISHONESTY	GENERAL RECORDING PROBLEMS	CENTRALIZED CONTL/RESP	AUDIT TRAIL	COMPILE, RETRIEVE, & REPORT
• UPGRADE EXISTING SYSTEM	$1,133,762	$1400 (MT9 BOOKS)	19¢	DIVERSE	NO	NO	NO	NO	EXTREMELY DIFFICULT	NO
	LIMITED "QUALIFY ALL"	SAME	-0-	NONE	NO	NO	COMPOUNDED	NO	EXTREMELY DIFFICULT	NO
• KEYPUNCH SOURCE DOCUMENTS	$1,133,762 + KEYPUNCH OPERATORS	$2500 INPUT SHEETS & PUNCHED CARDS + ? 370 COMPUTER TIME	19¢	DIVERSE	NO	NO	COMPOUNDED	NO	AFTER THE FACT	
	LIMITED "QUALIFY ALL"	SAME	-0-	NONE	NO	NO	COMPOUNDED	NO	AFTER THE FACT	
• AUTOMATED ON-LINE SYSTEM	$13,600 (4 MONITORS) 20% TIME	$2500 42,000 ID CARDS, PAPER, & TELEPHONE LINE RENTAL	01¢	COMPLETE & CENTRALIZED	YES	YES	YES	SYSTEM DEMANDS	AUTOMATIC	YES

ON-LINE SYSTEM COST
(1977 DOLLARS)

COMPONENTS	1ST YR COST	ANNUAL ON GOING COST
1. REMOTE DATA UNITS ($3840 X 65 STATIONS)	$249,600	
2. PUMP MODIFICATION & PULSER ($100 X 100 PUMPS)	10,000	
3. TELEPHONE LINES (2 PAIR/VOICE GRADE MO/RENTAL $7.64 X 65 X 12)	6,000	$6,000
+ MILEAGE (EST 800 MILES $3000/MO X 12)	36,000	$36,000
4. ACQUISITION & CONTROL UNIT	26,615	
5. SUPPORTING SOFTWARE	2,400	
6. CARD ENCODER (MAGNETIC) (2--1 FOR PERSONNEL & 1 FOR VEHICLES)	4,600	
7. CARD STOCK (@ .56/CARD) (35.000 CDS - 1ST/YR) (3000 CDS/EA ADD/YR)	17,500	2,000
8. TELEPHONE LINE INSTALLATION ($40 X 65)	2,600	
TOTAL	$355,315	$44,000
APPROX 40% INSTALLATION COST	142,126	
OPERATING SALARIES (4 EQUIV. MAN-YRS)		72,000
TOTAL	$497,441	$116,000
COST PER GALLON	7¢	1.5¢

WHAT'S NEXT?


UPGRADE & REINFORCE CURRENT SYSTEM
AUTOMATED ON-LINE FUEL MONITORING & DISPENSING
KEYPUNCH FROM SOURCE DOCUMENTS
? ? ? ?

B. PILOT PROJECT

One week following the study report presentation, NYCPD management decided to proceed with the design and installation of the recommended automated fuel dispensing system. Mr. McGrath and the NYCPD User Representative were given the responsibility for preparation of the system specifications and Request for Proposal. In Mr. McGrath's opinion, the optimum design would use a minicomputer housed at Motor Transport Division to activate the pumps and perform validity checks, with the bulk of the data being passed to a central computer at Police Headquarters, in the Management Information Systems Division (MISD). However, MISD rejected that plan from the outset, because they did not have enough manpower to support an additional activity of this size and scope.

About this time the New York City Mayor's Office of Operations became interested in the project, with a view toward eventually installing an automated fuel system citywide. The Office of Operations offered to furnish host computer capability for the total system but suggested a pilot installation for proof of concept. They also offered to loan NYCPD an IBM System 7 computer for the pilot, which they were not using at that time. NYCPD accepted the suggestion and the computer, and decided to carry out the pilot project in the three precincts on Staten Island, all of which have pumping stations. The reason for using Staten Island as a test site is worth mentioning: it has finite boundaries and is remote from the other four boroughs; therefore, there is very little crossover of police officers from other districts into Staten Island. This eliminated the problem of officers from other districts having difficulty getting fuel for department vehicles because they did not have the necessary magnetic-stripe cards to activate the system.

NYCPD management had given careful consideration to the decision to proceed with the installation of an automated fueling system. They, therefore, determined to go ahead with the suggested pilot system, but only for approximately 4 months. Specifications for the total system were to be prepared, and bids let, during that period. The pilot, in essence, was to provide the necessary time for NYCPD to interface with the Mayor's Office of Operations, and to explore the use of the host computer.

The bid on the pilot system was won by American Energy Management Systems, and the three Staten Island precincts were automated on October 30, 1978. The pilot was successful and well accepted by the users. It ran for a much longer period than was originally intended, and eventually was discontinued when the supply of actuator cards ran out and difficulties arose in having repairs made to the System 7 computer.

Section III

SYSTEM DESIGN

A. INTRODUCTION

The original design for the Departmentwide automated fuel dispensing system was prepared presuming the use of an IBM 370 host computer residing in the Mayor's Office of Operations. For that reason, a great deal of time in writing the Request for Proposal was given over to defining the reporting requirements for the system. It was intended that a minicomputer in the NYCPD Motor Transport Division Control Center would perform validity checks and activate the pumps, and also would provide the capability to validate and invalidate operator and vehicle cards instantaneously. The data would be passed daily to the IBM 370, and the 370 would provide the reporting capability necessary for complete fleet maintenance and budgetary cost control. Reports would be issued within 24 hours.

Following is the text of a memorandum to all New York City Departments from the Director of Operations, Office of the Mayor, dated March 6, 1978:

> "The Police Department in cooperation with the Naval Underwater Systems Center have been investigating different gas monitoring systems. They have chosen an on-line credit card system in Staten Island.
>
> "I believe that this system could have citywide application and has the potential for reducing gas expense by ten percent.
>
> "I would like to invite you to a presentation by the Police Department on March 15th, at 10:00 AM at 250 Broadway, 18th Floor.
>
> "There will be a discussion period after the presentation, and we will ask you for your comments pertaining to implementation in your Department."

The presentation was made, as scheduled, by the Motor Transport Division team. Subsequently, the Mayor's Office of Operations decided to proceed with the design of an all-encompassing citywide fuel system. Much of that design was to be similar to the NYCPD system, but was to be expanded to a massive interdepartmental effort including a diversity of equipment and management practices. The time lag for the design and implementation of a citywide system would be long and costly. NYCPD had the design and was ready to go ahead with implementation, with assistance from the NUSC management systems analyst funded by the National Science Foundation. In order to avoid further delay in implementation of a much-needed system, NYCPD decided to proceed, though still using the City's IBM 370 computer. Later, after the contract for the Departmentwide system had been awarded, it was determined that the 370 was not available because of programming priorities, and the system had to be reprogrammed to stand alone. It is hoped that New York City eventually will adopt the original system designed for NYCPD, which included fleet maintenance reporting. In that event, however, reprogramming the NYCPD system will be expensive.

For the information of agencies that may consider replicating this system design, a list of equipment suppliers, a configuration diagram of the original system design, a list of the host computer files, and a sample listing of the host computer file report capability are included in this report as appendixes D and E.

B. SYSTEM SPECIFICATIONS AND CHANGE ORDERS

On December 7, 1978, a specification package for the total system was submitted to NYCPD management for review and approval. On February 4, 1979, a meeting was held with New York City Public Works Department to discuss the bid procedures, which they were to handle. On June 11, 1979, Public Works submitted a finalized proposal to Motor Transport Division for comments. It was reviewed and returned to Public Works on June 12, 1979, and was advertised in the City Record on June 18, 1979.

The first bid opening was July 10, 1979. Only one vendor submitted a bid. A number of other prospective vendors felt they did not have sufficient time for submittal, and the bid price was considerably over the capital funds set aside for the project. These factors caused Public Works to readvertise the proposal.

Three bids were received at the second opening on August 30, 1979. Problems existed with each bid in terms of exceptions and performance bonds, so Public Works advertised a third time. After the third bid opening, on December 10, 1979, the contract was awarded to E. J. Ward, Inc., of San Antonio, Texas.

The Specifications and Change Orders are included in appendix F of this report. The Specifications are for the system using a minicomputer in the NYCPD Motor Transport Division Control Center and the IBM 370 host computer in the Mayor's Office of Operations. The Change Orders reflect, among other things, the loss of the host capability. They (necessarily) were promulgated after the contract was awarded, and were agreed to by the vendor.

C. SYSTEM CONFIGURATION

A diagram of the New York City Police Department On-Line Fuel Monitoring System Configuration is shown in figure III-1. The Transaction Type Codes in figure III-1 are further defined in the Octane Transaction File Layout, figure III-2. The system incorporates the following equipment:

1. IBM Series/1 Modular Units mounted in an IBM 4997 Model 2A Rack Enclosure, with:

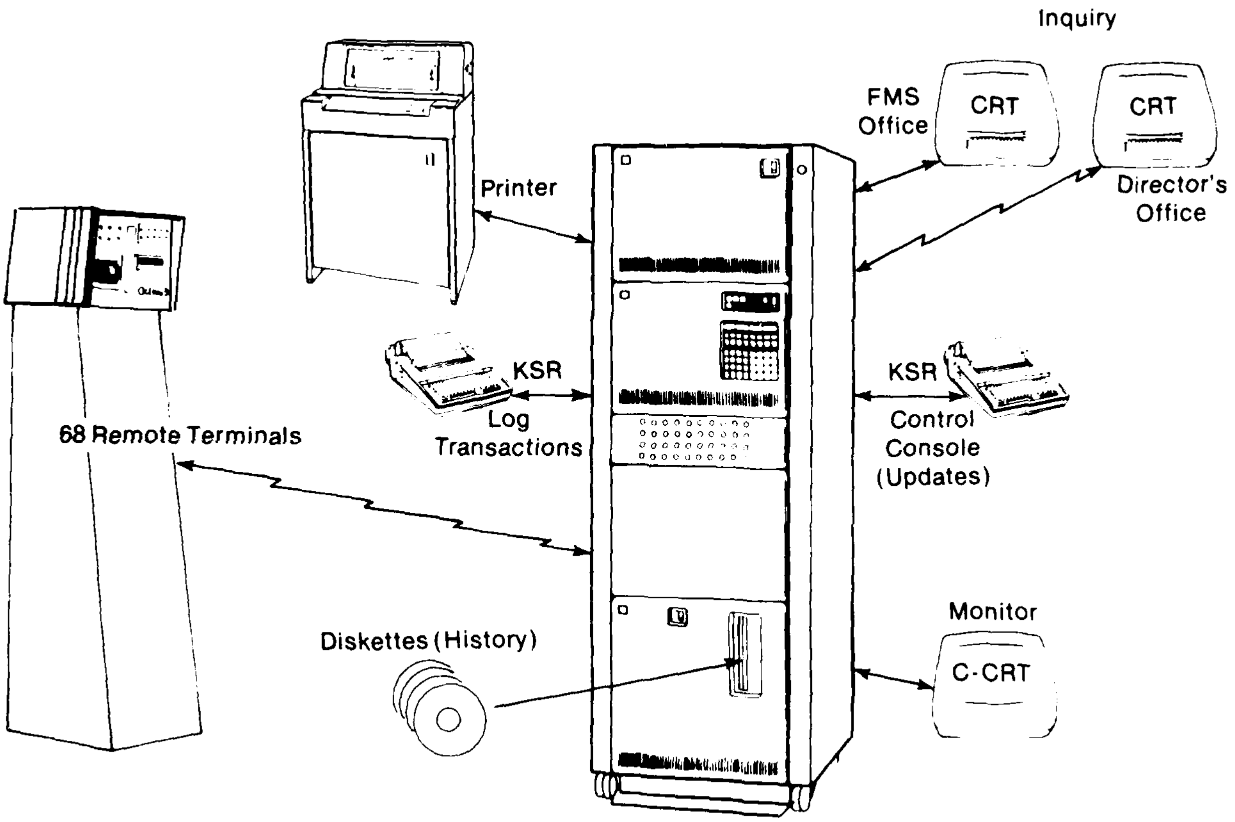
   a. IBM 4955 Model E Processor

   b. IBM 4959 Model A Input/Output Expansion Unit

   c. IBM 4962 Model 2 Disk Storage Unit

   d. IBM 4964 Model 1 Diskette Unit

   e. UDS RM-16DC Multiple Modem Enclosure, Rack Mounted RM-16CAB Cabinet.



New York City Police Department On-Line Fuel Moni

2 Card System

White Card: Operator
Blue Card: Vehicle

Transactions

	Thumb Wheels	**Limit**
Dispensing	Mileage	Tank Capacity
Delivery	Gallons	Tank Capacity
Inventory	Gallons	Tank Capacity
Oil	Quarts	9 Quarts

Master Cards

Red Card		
Private Vehicle	4 Digit Soc Sec No	10 Gallons
Green Card		
Lost Vehicle Card	Vehicle ID No	Tank Capacity
Equip With No ID	009999	5 Gallons
Inventory Dip	70 Gallons	Tank Capacity
Delivery	90 Gallons	Tank Capacity
2 Wheel Scooters	009XID	2 Gallons
Motor Cycles	00891D	5 Gallons

Computer Files

Operator
Actuator Card Number
Social Security Number
Assigned Command
First Initial
Surname
Status Code - On/Off
Type Code - PVC
Card Sequence Number

Vehicle
Actuator Card Number
Dept Vehicle Number
Assigned Command
Vehicle Class
Fuel Type
Miles Limit
Last Odom Reading
Vehicle Tank Capacity
Card Sequence Number

Tank Pump
Site ID
Site Status
Tank ID
Tank Status
Pump ID
Pump Status
Fuel Type
Tank Capacity
Reorder Point
Shutdown Point
Opening Balance (Mid Night)
Number of Deliveries
Terminal Address
Telephone Line Number
(Sense Manual O/Ride)

Print Transaction

1. Sequence Number
2. Transaction Type
3. Date & Time
4. Vehicle Command
5. Vehicle Number
6. Odometer Entry
7. Site Number
8. Tank Number
9. Fuel Type
10. Pump Number
11. Gallons Pumped
12. Calculated MPG
13. *Vehicle Class*
14. Operator Command
15. Operator Soc Sec No

Tran

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01
02
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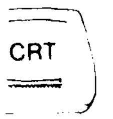

Fuel Monitoring System Configuration

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Point
llance (Mid Night)
Del veries
ddress
Line Number
ual O Ride

Transaction Type Codes

00	Vehicle Fueling
01	Low Odometer
02	High Odometer
05	Private Vehicle Fueling
10	Oil Issue
20	Master Card Vehicle Fueling
27	Inground Inventory
30	Manual Entry Vehicle Fueling
31	Console Fuel Receipt
41	Vehicle Add
43	Vehicle Change Status To ON
44	Vehicle Change Status To Off
45	Change Field Vehicle File
46	Change Odometer Vehicle File
47	Reassign Vehicle New Card Number
49	Delete Record From Vehicle File
53	Change Status To Telephone Line On
	Change Status To Terminal On
	Change Status To Master Card On
	Change Status Tank To On
	Change Status Pump To On
	Change Status PVC Fueling To On
54	Change Status Telephone Line To Off
	Change Status Terminal To Off
	Change Status Master Card To Off
	Change Status Tank To Off
	Change Status Pump To Off
	Change Status PVC Fueling To Off
55	Change Site Tank Number T/P File
	Change Fuel Type T/P File
	Change Number Times Ordered T/P File
	Change Tank Capacity T/P File
	Change Shutdown Point T/P File
	Change Opening Balance T/P File
	Change Reorder Point T/P File
61	Operator Add
63	Change Operator Status To On
64	Change Operator Status To Off
65	Change Operator Soc Sec No
	Change Operator Command
	Change Operator PVF Status
	Change Operator Name
	Change Number Cards Issued
67	Reassign Operator New Card Number
69	Delete Operator

Figure III-1

PART 1 - 00 to 55

OCTANE TRANSACTION FILE LAYOUT
56-BYTE EBCDC TWO-CARD SYSTEM

WORD	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		
BYTE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	3
00 VEHICLE FUELING 01 LOW ODOM 02 HIGH ODOM	SEQUENCE NUMBER				TRAN TYPE 0	0	MONTH		DAY		HOUR		MINUTE		VEHICLE COMMAND			VEHICLE NUMBER				MPG			ODOM READING						OPERATO				
05 PRIVATE VEHICLE FUELING	"				0	5	"		"		"		"		BLANKS			PVF CARD NUMBER				BLANKS									"				
20 MASTER CARDS VEHICLE FUELING	"				2	0	"		"		"		"		VEHICLE COMMAND			VEHICLE NUMBER				MASTER CARD NUMBER			BLANKS						"				
30 MANUAL ENTRY VEHICLE FUELING	"				3	0	"		"		"		"		"			"				BLANK			ODOM READING						"				
90 MANUAL FUEL RECEIPT	"				9	0	"		"		"		"		GALLONS OF FUEL RECEIVED						BLANK		MASTER CARD NUMBER				SITE NUMBER		SITE TANK #		FUEL TYPE	TANK PUMP #			
91 AUTO FUEL RECEIPT	"				9	1	"		"		"		"		" "						"		ZEROES				"		"		"	"			
41 VEHICLE ACQUISITION	"				4	1	"		"		"		"		CARD NUMBER				VEHICLE COMMAND			VEHICLE CLASS			FUEL TYPE 1	FUEL TYPE 2	LIMIT MILES				ODOM READIN				
43 CHANGE VEHICLE OR STATUS TO 44 "ON" OR "OFF"	"				4	3-4	"		"		"		"		"				VEHICLE NUMBER																
45 CHANGE FIELD IN AUTHORIZATION FILE	"				4	5	"		"		"		"		VEHICLE NUMBER				BLANK		FIELD NUMBER			NEW DATA (1-6 BYTES)											
46 CHANGE ODOM RDG.IN AUTHOR. FILE	"				4	6	"		"		"		"		"				"		OLD ODOMETER READING						NEW ODOMETER READING								
47 REASSIGN VEH. TO A NEW CARD #	"				4	7	"		"		"		"		OLD CARD NUMBER				"		VEHICLE NUMBER				NEW CARD NUMBER										
49 DELETE VEHICLE FROM THE FILE	"				4	9	"		"		"		"		CARD NUMBER				"		"														
53 CHANGE STATUS OR OF LINE TO 54 'ON' OR 'OFF'	"				TRAN TYPE 5	3—4	"		"		"		"		ITEM CODE 0	1	BLANKS																		
53 CHANGE STATUS OR OF TERMINAL 54 TO 'ON' OR 'OFF'	"				"		"		"		"		"		0	2	TERMINAL NUMBER		BLANKS																
53 CHANGE STATUS OR OF MASTER CARD 54 'ON' OR 'OFF'	"				"		"		"		"		"		0	3	MASTER CARD NUMBER				BLANKS														
53 CHANGE STATUS OR OF TANK TO 54 'ON' OR 'OFF'	"				"		"		"		"		"		0	4	BLANKS						SITE NUMBER			TANK #	BLANKS								
53 CHANGE STATUS OR OF PUMP TO 54 'ON' OR 'OFF'	"				"		"		"		"		"		0	5	"						"			"	PUMP #	BLANKS							
53 CHANGE STATUS OR OF PRIVATE VEHICLE 54 FUELING TO ON OR OFF	"				"		"		"		"		"		0	6	PRIVATE VEHICLE CARD NUMBER				BLANKS														
56 CHANGE SITE TANK # IN TANK FILE	"						"		"		"		"		SITE TANK #	BLANKS					FIELD # 0	2	SITE NUMBER			TANK #	BLANKS								

E.J. Ward, Inc.
8801 Tradeway
San Antonio, Texas 78217
(512-824-7383)

<table>
<tr><td></td><td colspan="2">12</td><td colspan="2">13</td><td colspan="2">14</td><td colspan="2">15</td><td colspan="2">16</td><td colspan="2">17</td><td colspan="2">18</td><td colspan="2">19</td><td colspan="2">20</td><td colspan="2">21</td><td colspan="2">22</td><td colspan="2">23</td><td colspan="2">24</td><td colspan="2">25</td><td colspan="2">26</td><td colspan="2">27</td><td colspan="2">28</td></tr>
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<tr><td></td><td colspan="2">MPG</td><td colspan="6">ODOM READING</td><td colspan="9">OPERATOR SS No.</td><td colspan="3">OPERATOR COMMAND</td><td colspan="3">VEHICLE CLASS</td><td>ODOM CHK CMD</td><td colspan="3">SITE NUMBER</td><td>SITE TNK #</td><td>FUEL TYP</td><td>TANK PUMP #</td><td colspan="4">GALLONS</td></tr>
<tr><td></td><td colspan="8">BLANKS</td><td colspan="9">〃 〃</td><td colspan="3">〃</td><td colspan="4">BLANKS</td><td colspan="3">〃</td><td>〃</td><td>〃</td><td>〃</td><td colspan="4">〃</td></tr>
<tr><td></td><td colspan="2">ASTER CARD NUMBER</td><td colspan="6">BLANKS</td><td colspan="9">〃 〃</td><td colspan="3">〃</td><td colspan="3">VEHICLE CLASS</td><td>BLNK</td><td colspan="3">SITE NUMBER</td><td>〃</td><td>〃</td><td>〃</td><td colspan="4">〃</td></tr>
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<tr><td></td><td colspan="4">MASTER CARD NUMBER</td><td colspan="3">SITE NUMBER</td><td>SITE TANK #</td><td>FUEL TYPE</td><td>TANK PUMP #</td><td colspan="24">BLANKS</td></tr>
<tr><td></td><td colspan="4">ZEROES</td><td colspan="3">〃</td><td>〃</td><td>〃</td><td>〃</td><td colspan="24">BLANKS</td></tr>
<tr><td colspan="3">VEHICLE CLASS</td><td>FUEL TYPE</td><td>FUEL TYPE</td><td colspan="4">LIMIT MILES</td><td colspan="6">ODOM READING</td><td colspan="2">GALLONS LIMIT</td><td colspan="4">VEHICLE NUMBER</td><td colspan="13">BLANKS</td><td>ORI-GIN</td></tr>
<tr><td></td><td colspan="33">BLANKS</td><td>〃</td></tr>
<tr><td>D
ER</td><td colspan="6">NEW DATA (1-6 BYTES)</td><td colspan="27">BLANKS</td><td>〃</td></tr>
<tr><td colspan="5">OLD ODOMETER READING</td><td colspan="7">NEW ODOMETER READING</td><td colspan="22">BLANKS</td><td>〃</td></tr>
<tr><td colspan="3">VEHICLE NUMBER</td><td colspan="4">NEW CARD NUMBER</td><td colspan="27">BLANKS</td><td>〃</td></tr>
<tr><td colspan="3">〃</td><td colspan="31">BLANKS</td><td>〃</td></tr>
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<tr><td colspan="20">BLANKS</td><td>〃</td><td colspan="14">〃</td></tr>
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2</td><td colspan="3">SITE NUMBER</td><td>ANP #</td><td colspan="15">BLANKS</td><td>〃</td><td colspan="14">〃</td></tr>
</table>

Figure III-2A

OCTANE TRANSACTION FILE LAYOUT
56-BYTE EBCDC TWO-CARD SYSTEM

WORD	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		
BYTE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
55 CHANGE FUEL TYPE IN TANK FILE	"				"		MONTH		DAY		HOUR		MIN		FUEL TYPE	"					0	3	"			"	"								
55 CHANGE # TIMES ORDERED IN TANK FILE	"				"		"		"		"		"		# OF TIMES ORDERED		BLANKS				0	4	"			"	"								
55 CHANGE TANK CAPACITY IN TANK FILE	"				"		"		"		"		"		NEW TANK CAPACITY						0	5	"			"	"								
55 CHANGE CUTOFF POINT IN TANK FILE	"				"		"		"		"		"		NEW CUTOFF POINT						0	6	"			"	"								
55 CHANGE OPENING BALANCE IN TANK FILE	"				"		"		"		"		"		NEW OPENING BALANCE						0	7	"			"	"								
55 CHANGE REORDER POINT IN TANK FILE	"						"		"		"		"		NEW REORDER POINT						FIELD # 0	9	SITE NUMBER			TANK #	BLANKS								
61 OPERATOR ACQUISITION	"				6	1	"		"		"		"		CARD NUMBER						OPERATOR SS NUMBER									OPERATOR COMMAND			INIT-IAL		
63 OR 64 CHANGE OPERATOR STATUS TO 'ON' OR 'OFF'	"				6	3-4	"		"		"		"		"						"														
65 CHANGE OPERATOR SS# IN OPERATOR FILE	"				6	5	"		"		"		"		"						"									BLNK	ITEM CODE 0	2	NEW OPE		
65 CHANGE OPERATOR COMMAND IN OPERATOR FILE	"				"		"		"		"		"		"						"									"	0	3	OPERATOR COMMAND		
65 CHANGE OPERATOR PVF STATUS IN OPERATOR FILE	"				"		"		"		"		"		"						"									"	0	4			
65 CHANGE NAME IN OPERATOR FILE	"				"		"		"		"		"		"						"									"	0	5	INIT-IAL		
65 CHANGE NUMBER OF CARDS ISSUED IN OPERATOR FILE	"				"		"		"		"		"		"						"									"	0	6	# OF CARD ISSUED		
67 REASSIGN OPERATOR TO A NEW CARD NUMBER	"				6	7	"		"		"		"		"						"									NEW CARD NUMBER					
69 DELETE OPERATOR FROM FILE	"				6	9	"		"		"		"		"						"														
10 OIL ISSUE	"				1	0	"		"		"		"		VEHICLE COMMAND			VEHICLE NUMBER MASTER CARD # PVF CARD#				OPERATOR SS NUMBER									SITE NUMBER			SITE TANK #	FUEL TYPE
27 DIPSTICK READING	"				2	7	"		"		"		"		DIPSTICK READING (VALUE X 10)						MASTER CARD NUMBER				SITE NUMBER			SITE TANK #	FUEL TYPE	TANK PUMP #					
31 MANUAL FUEL RECEIPT FROM THE KEYBOARD	SEQUENCE NUMBER				TRAN 3	TYPE 1	MONTH		DAY		HOUR		MIN		GALLONS OF FUEL RECEIVED X 10						BLANKS						SITE NUMBER			SITE TANK #	FUEL TYPE	TANK PUMP #			
99 FILE HEADER	ZEROES				9	9	NUMBER OF TRANSACTIONS				MONTH		DAY		YEAR		BLANKS																		

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13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28	
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56

	"	"	"	"				
	"	"	"	"				
	"	"	"	"				
	"	"	"	"				
	"	"	"	"				
R	TANK #	BLANKS	ORIGIN	BLANKS				
SS NUMBER	OPERATOR COMMAND	INITIAL	LAST NAME	"				
"	BLANK							
"	BLNK	ITEM CODE 0 2	NEW OPERATOR SS NUMBER	BLANKS				
"	"	0 3	OPERATOR COMMAND	BLANKS				
"	"	0 4	BLANKS					
"	"	0 5	INITIAL	NAME	BLANKS			
"	"	0 6	# OF CARD ISSUED	BLANKS				
"	NEW CARD NUMBER	BLANKS						
"	BLANKS							
TOR SS NUMBER	SITE NUMBER	SITE TANK #	FUEL TYPE	TANK PUMP #	VEHICLE CLASS	OPERATOR COMMAND	QUARTS X 10	BLANKS
SITE NUMBER	SITE TANK #	FUEL TYPE	TANK PUMP #	BLANKS				
	SITE NUMBER	SITE TANK #	FUEL TYPE	TANK PUMP #	BLANKS			
BLANKS								

Figure III-2B

2

The Series 1 collects and stores all the data generated by the system and provides output for the other system components on command. Data are stored on hard disk and are written off to diskettes weekly. One diskette holds approximately 1 week's data.

2. Sixty-eight Remote Terminals, 1 in each of the 68 pumping stations/ precincts. The Remote Terminals activate the pumps and feed data to the Series 1, where the data are stored on disk.

3. Two Model 43 Teleprinters 4320KSR (Keyboard Send-Receive) with EIA-RS232 Interface Pin Feed Catalog No. 4320 AAK. One KSR, designated "KSR Log," logs transactions that come in from the Remote Terminals. It has the capability to log all transactions, to log no transactions, or to log transactions selectively, e.g., by location only. The other KSR, designated "KSR Control," is used (a) to update the operator, vehicle, and tank pump files, and (b) to receive all exception/error conditions, i.e., reorder instructions, bad transactions (sounds an audible alarm), intrusion of the Remote Terminals (also sounds an audible alarm). Updates (file changes) go directly to disk, not on the KSR Log.

4. One IBM 4973 Model 1 Printer. Prints system reports on command of the operator of the KSR Control.

5. Two Black and White ADM-3A Terminals with 1920 characters (24 lines with 80 characters per line) designated "CRT." One CRT is in the office of the director of NYCPD Motor Transport Division, the other in the Fuel Monitoring System Office (Control Center). They are used for status inquiry into the system.

6. One Intecolor Model 8001 Color Data Terminal, designated "C-CRT." The color CRT is in the Control Center, and is used to monitor the system. The following data are displayed on the monitor simultaneously for all 68 pumping stations:

Site Location

Number of Tanks at Each Location (1 or 2)

Number of Pumps for Each Tank (1 or 2)

Capacity of Each Tank

Balance in Each Tank

Tank/Pump Status:

O = On-Line

S = Taken Off-Line by System (Tank Out of Gas)

M = Manually Taken Off-Line at Control Center.

The site locations are listed in series, corresponding to the 10 dedicated telephone lines that service them. Status and activity are color coded: Green = OK (station operating normally); Yellow = Alert (tank approaching reorder point); Red = Off (station off-line); Blue = Tank Size (capacity); Flashing Lights = Attention.

7. Ten Dedicated Telephone Lines. The dedicated phone lines are necessary to the operation of an on-line system. On-line operation was chosen, over a dial-up system, because the Remote Terminals could not store enough data (20,000 operators/4,000 vehicles) for dial-up. NYCPD required that the system provide fueling for any operator/vehicle at any pumping station; therefore, it is necessary, for instance, to be able to invalidate lost cards as soon as possible.

8. Actuator Cards. These are four magnetic-stripe encoded cards available to the system. The cards are of credit-card quality, size (2 x 3½ inches), and appearance, and are color-coded to distinguish them from each other.

a. Standard Cards. Two magnetic-stripe encoded cards are required to record all system transactions--dispensing, delivery, in-ground inventory, and oil-add. In addition, for the dispensing function, proper sequential use of the cards is necessary to activate the fuel pump. (The operator card must be inserted first in every case.) The two standard cards are designated Operator Card (figure III-3) and Vehicle Card (figure III-4).

b. Master Card. In addition to the two standard cards (Operator and Vehicle), there is a Master Card (figure III-5), which is used to:

(1) Record fuel delivery transactions

(2) Record in-ground inventory transactions

(3) Substitute for missing Vehicle Card

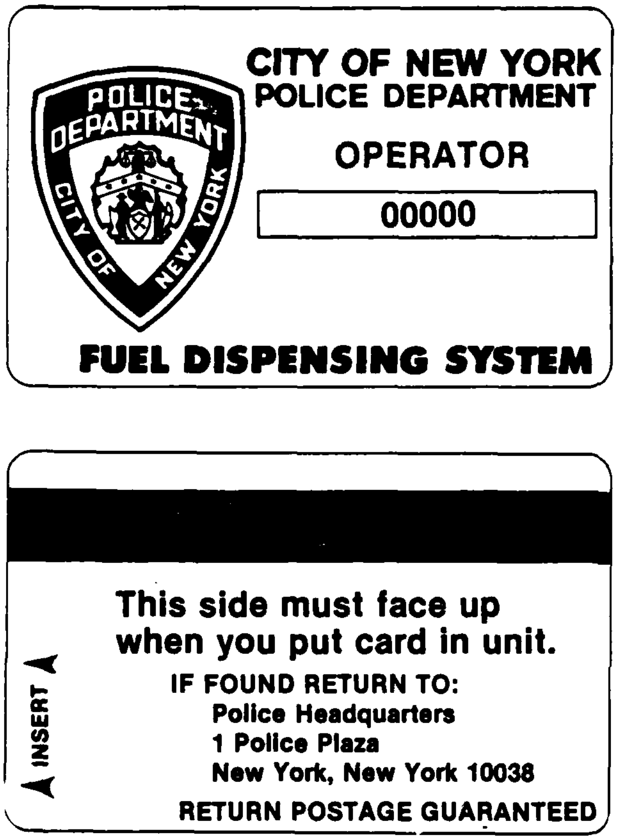
(4) Allow dispensing of fuel to small equipment that has no Department identification (lawn mowers, snow blowers, etc.)

(5) Fuel scooters and motorcycles.

One Master Card is located at each of the 68 dispensing locations. It is assigned to the Precinct station house as opposed to being assigned to an individual or a vehicle. Use of the Master Card is limited to the above functions, and must always be used in conjunction with an Operator Card. In performing any of these functions at the Octane Control Unit (terminal), the thumbwheel dials are used to record the type of transaction and the other data required to complete the transaction. (See Computerized Fueling Instructions, figure IV-5.)

c. Private Vehicle Fueling Card. In addition to the Master Card located at each of the 68 fueling locations, there is also a Private Vehicle Fueling Card (figure III-6) located at and assigned to the station house.

The Private Vehicle Fueling Card is used by Department members who have been authorized to use private vehicles in special cases. Since there are no private vehicles resident in the Fuel Control System Vehicle file, there is no need for an operator to identify the vehicle or the mileage of the vehicle. Therefore, when using the Private Vehicle Fueling Card, the operator is required to dial in the last four digits of his/her social



CITY OF NEW YORK
POLICE DEPARTMENT

OPERATOR

00000

FUEL DISPENSING SYSTEM

This side must face up
when you put card in unit.

IF FOUND RETURN TO:
Police Headquarters
1 Police Plaza
New York, New York 10038

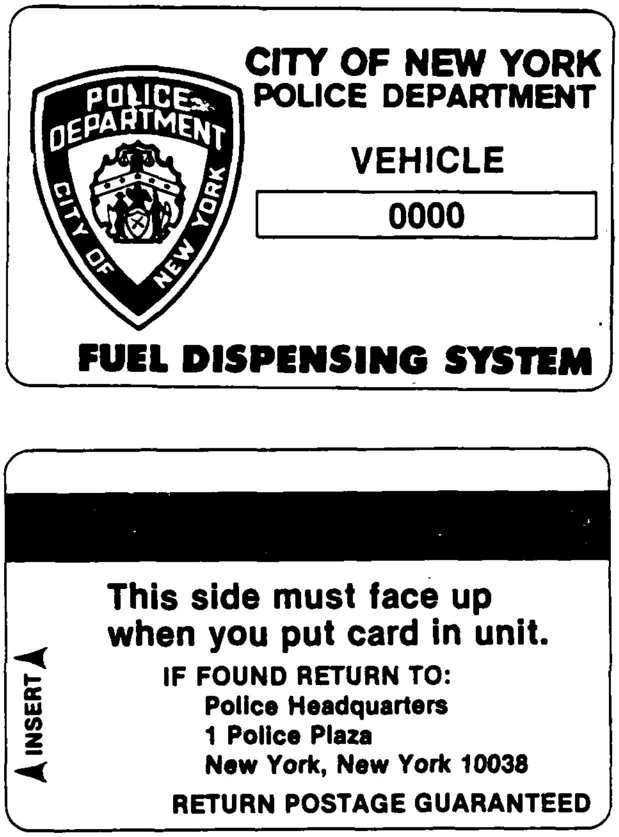
RETURN POSTAGE GUARANTEED

Operator Card
(White Bkgd/W/Blue Type)

Issued to all department motor vehicle operators.

Must be used for each and every transaction in conjunction with the appropriate vehicle, master, or private vehicle fueling card.

Figure III-3



CITY OF NEW YORK
POLICE DEPARTMENT

VEHICLE

0000

FUEL DISPENSING SYSTEM

This side must face up
when you put card in unit.

IF FOUND RETURN TO:
Police Headquarters
1 Police Plaza
New York, New York 10038

RETURN POSTAGE GUARANTEED

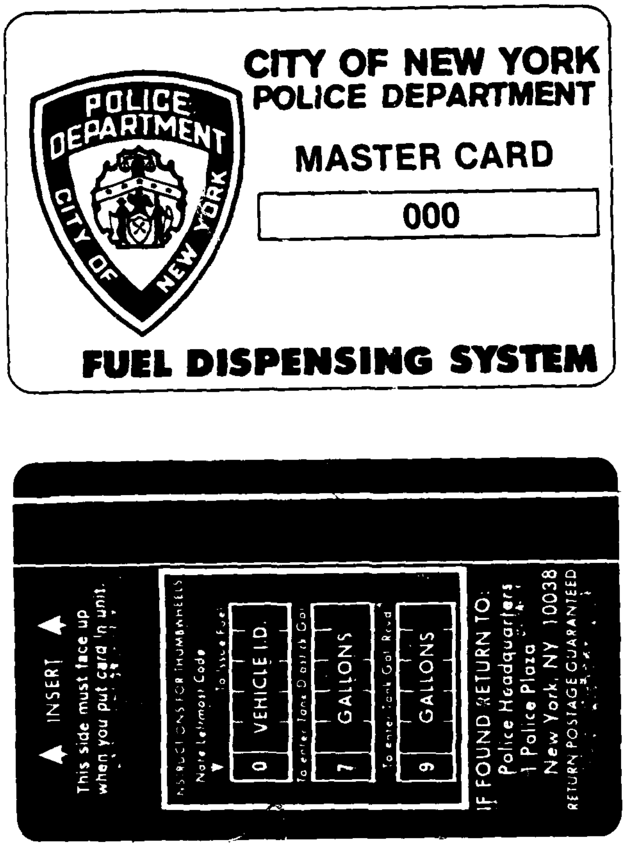
Vehicle Card
(Blue Bkgd/W/White Type)

Maintained in all department vehicles except 2 wheel scooters and motorcycles.

Used for all vehicle dispensing functions.

Gallon limit is the vehicle tank capacity.

Figure III-4



CITY OF NEW YORK
POLICE DEPARTMENT
MASTER CARD
000
FUEL DISPENSING SYSTEM

INSERT
This side must face up when you put card in unit.

0 VEHICLE I.D.
7 GALLONS
9 GALLONS

IF FOUND RETURN TO:
Police Headquarters
1 Police Plaza
New York, NY 10038
RETURN POSTAGE GUARANTEED

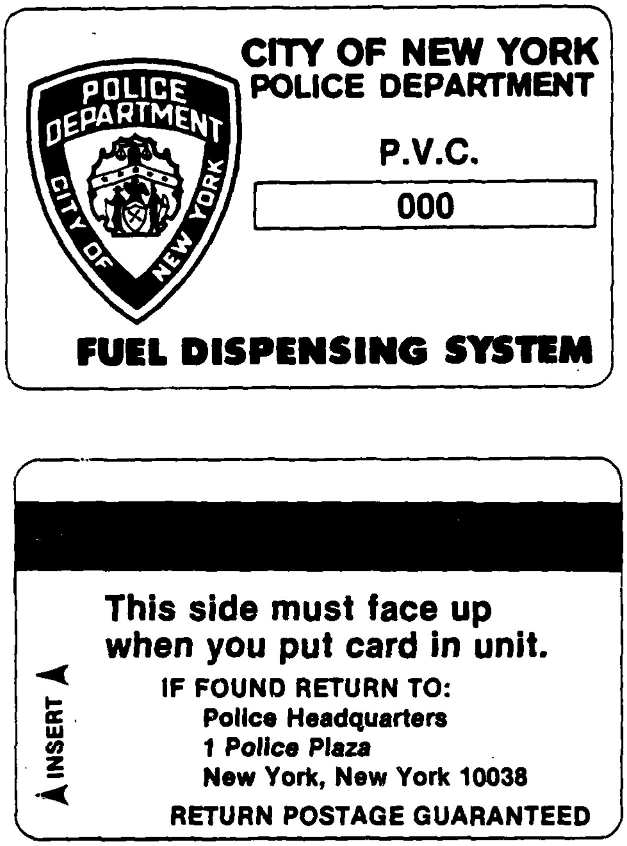
Master Card
(Green)

One card issued to each fueling location; maintained in Station House.

1. Substitute for missing vehicle card
2. Fuel equipment with no department identification
3. Perform in-ground inventory
4. Record fuel deliveries

Gallon limitation and thumbwheel settings vary depending upon use.

Figure III-5



CITY OF NEW YORK
POLICE DEPARTMENT
P.V.C.
000
FUEL DISPENSING SYSTEM

INSERT
This side must face up when you put card in unit.
IF FOUND RETURN TO:
Police Headquarters
1 Police Plaza
New York, New York 10038
RETURN POSTAGE GUARANTEED

Private Vehicle Fueling Card
(Red)

One card issued to each fueling location; maintained in station house.

Dispensing fuel to private vehicles only.

Thumbwheel switches require 00 plus 4 low order digits of employees social security number.

10 gallon limitation.

Figure III-6

security number with the variable thumbwheels. These digits are checked against the operator's personal card to ensure that authority for private vehicle fueling has been granted to the individual. Each private vehicle fueling transaction is limited to 10 gallons.

d. Card Use. On each card, the magnetic stripe is encoded with the actuator card number that is imprinted on the face of the card (operator card is a 5-digit sequential number; vehicle card is a 4-digit sequential number). A security code assigned by the vendor, unique to the NYCPD Fuel System, is also encoded on the cards to preclude similar credit cards from being accepted in the system.

The first consideration regarding the actuator cards was: did NYCPD want a one-card system or a two-card system? A one-card system would identify the vehicle being fueled, but it would not identify the operator of the vehicle. NYCPD management elected a two-card system. The next consideration was the type of card to be used. The choice was between a Hollerith-coded punched card or the magnetic-stripe card. Extensive testing was performed on both; they were

(1) Soaked in water and placed in a freezer for an extended period of time

(2) Bent and mutilated

(3) Smeared with grease, oil, and grime.

The results of the testing indicated that, for use in the NYCPD system, the magnetic-stripe card was far superior. In addition, considerable weight was given to the security factor. The magnetic-stripe card is difficult to duplicate, which is one of the reasons for its exclusive use by the American Banking Association.

The next consideration was the data to be encoded in the magnetic stripe. Since the decision was made that it would be a two-card system, and because of the high volume of active cards required (25,000 operator and 4,000 vehicle), it was decided to encode the cards such that they could be reissued. To have specific identification data (such as a social security number) magnetically encoded in the operator card would preclude the use of that card again should the original assignee retire, etc. Therefore, in the interest of providing the capability to reissue cards, it was decided that the magnetic-stripe coding would contain a sequential number that would be assigned randomly but that would be associated with an individual member in the computer file. This same logic applied also to the vehicle actuator cards.

The final consideration for the two standard cards was the card design. This was addressed in the system specifications to the extent that NYCPD would provide the successful vendor with the card design and wording within 10 days after contract award.

9. Vehicle Card Holders. Heavy-duty plastic pouches (2½ x 3 inches) were supplied by the Vendor to hold the vehicle cards in each Department vehicle. They were backed with an adhesive tape for attachment to the

dashboard, but the tape was not strong enough to support constant removal of the cards, so the pouches were bolted to the dashboard.

D. REPORTS

The following reports are provided by the system (examples appear in appendix G):

Index Reports

Operator Index Listing

Vehicle Index Listing

Operator File Reports

Single Record By Card Number

Range By Card Number

List All Records

One Record By Operator Identification (SSN)

Private Vehicle Fueling By Command (Precinct)

All Within Command

List All Operators Off-Line

Equipment File Reports

Single Equipment By Card Number

Range Of Equipment By Card Number

Single Equipment By Number

List All Equipment

Equipment Within Command

Equipment Within Classification (Make, Model, Year)

List Odometer Range By Classification

Transaction File Reports

All Transactions

All Transactions For a Given Date

All Transactions By Equipment Number

All Transactions By Site Location

All Transactions By Specific Fuel Type

All Transactions By Vehicle Classification

All Transactions By Operator Identification

By Transaction Type (26 Types):

- Fueling, Odometer Within Range
- Fueling, Low Odometer
- Fueling, High Odometer
- Private Vehicle Fueling
- Oil Entry
- Master Card Fueling
- Inventory Reading
- Manual Fuel Entry
- Manual Fuel Receipt
- Acquire Vehicle
- Put Vehicle Online
- Put Vehicle Offline
- Change Field, Vehicle File
- Change Odometer Reading
- New Card Number, Vehicle
- Delete Vehicle
- Put Pump, Tank, Terminal, Line, Master Card Online
- Put Pump, Tank, Terminal, Line, Master Card Offline

Change Field In Tank/Pump File

Acquire Operator

Operator Online

Operator Offline

Change Field In Operator File

New Card Number, Operator

Delete Operator

Fuel Receipt

Special Report

Private Vehicle Fueling Reports By Command (Precinct)

For additional information see appendix G, System Reports; appendix I Operations Manual; the Index of File Inquiries; and/or call NYCPD Fuel Control Center (212) 476-7524.

Section IV

SYSTEM IMPLEMENTATION

A. SCHEDULE

The Implementation Schedule for the NYCPD Fuel Monitoring System is shown below. Since it is intended only as a guide for use in replicating the project, the time allocation segment has been eliminated. The overall responsibility for system implementation was vested with the NYCPD Motor Transport Division Fuel Control Center

	TASK	RESPONSIBLE
1.	Build Vehicle File	NYCPD Motor Transport Division
2.	Build Operator File	NYCPD Motor Transport Division
3.	Deliver Computer to San Antonio	E. J. Ward Inc.
4.	Assemble and Test Central Processing Unit	E. J. Ward Inc.
5.	Ship Phase I Terminals to N.Y.	E. J. Ward Inc.
6.	Ship Pump Modification Kits to N.Y.	E. J. Ward Inc.
7.	Ship File Builds to San Antonio	NYCPD Motor Transport Division
8.	Install Phase I Terminals--Queens	E. J. Ward Inc.
9.	Test Phase I Software--San Antonio	E. J. Ward Inc.
10.	Develop Training Package	NYCPD Police Academy & NYCPD Motor Transport Division
11.	Ship Phase II Terminals to N.Y.	E. J. Ward Inc.
12.	Install and Test Telephone Lines	NYCPD Communications Division and New York Telephone Co.
13.	Ship Phase II Pump Modification Kits to N.Y.	E. J. Ward Inc.
14.	Revise Pertinent Orders	NYCPD Office of Management Analysis and Motor Transport Division
15.	Ship Remaining Terminals to N.Y.	E. J. Ward Inc.

	TASK (Cont'd)	RESPONSIBLE (Cont'd)
16.	Ship Remaining Pump Modification Kits to N.Y.	E. J. Ward Inc.
17.	Ship Actuator Cards to N.Y.	E. J. Ward Inc.
18.	Install Bronx Terminals	E. J. Ward Inc.
19.	Ship Spare Parts to N.Y.	E. J. Ward Inc.
20.	Finalize Card Issue Procedures	NYCPD Motor Transport Division
21.	Install Manhattan Terminals	E. J. Ward Inc.
22.	Develop Operation Day Procedures	NYCPD Motor Transport Division
23.	Train Users	NYCPD Motor Transport Division
24.	Finalize Computer Manning	NYCPD Support Services Bureau
25.	Finalize Maintenance Manning	NYCPD Support Services Bureau
26.	Issue Pertinent Department Orders	NYCPD Office of Management Analysis
27.	Issue Actuator Cards	NYCPD Motor Transport Division
28.	Final Software Testing -- San Antonio	E. J. Ward Inc.
29.	Install Staten Island Terminals	E. J. Ward Inc.
30.	Ship Computer to N.Y.	E. J. Ward Inc.
31.	Ship Associated Hardware to N.Y.	E. J. Ward Inc.
32.	Initialize Computer and Associated Hardware	E. J. Ward Inc.
33.	Install Brooklyn Terminals	E. J. Ward Inc.
34.	Implement Staten Island	NYCPD and E. J. Ward Inc.
35.	Implement Queens	NYCPD and E. J. Ward Inc.
36.	Implement Bronx	NYCPD and E. J. Ward Inc.
37.	Implement Manhattan	NYCPD and E. J. Ward Inc.
38.	Implement Brooklyn	NYCPD and E. J. Ward Inc.
39.	Train Operations Personnel	E. J. Ward Inc.

TASK (Cont'd)	RESPONSIBLE (Cont'd)
40. Train Maintenance Personnel	E. J. Ward Inc.
41. Document System	W. J. McGrath, Margaret M. McNamara, NUSC

B. BUILDING THE FILES

The NYCPD Fuel Monitoring System has three Master Files resident in the !BM Series 1 Computer:

1. Operator File
2. Vehicle File
3. Tank/Pump File.

The data elements of these files had to be manually coded in the exact format required by the associated programs. File Build (Data Input) Sheets were supplied by the vendor for the Operator File (figure IV-1) and Vehicle File (figure IV-2), along with associated instructions and allowable coding (figures IV-3 and IV-4). NYCPD Control Center personnel coded the data, which were put into machine-readable language and entered in the Series 1 Computer by the vendor. The Tank/Pump File data were taken from the specifications.

1. The Operator File

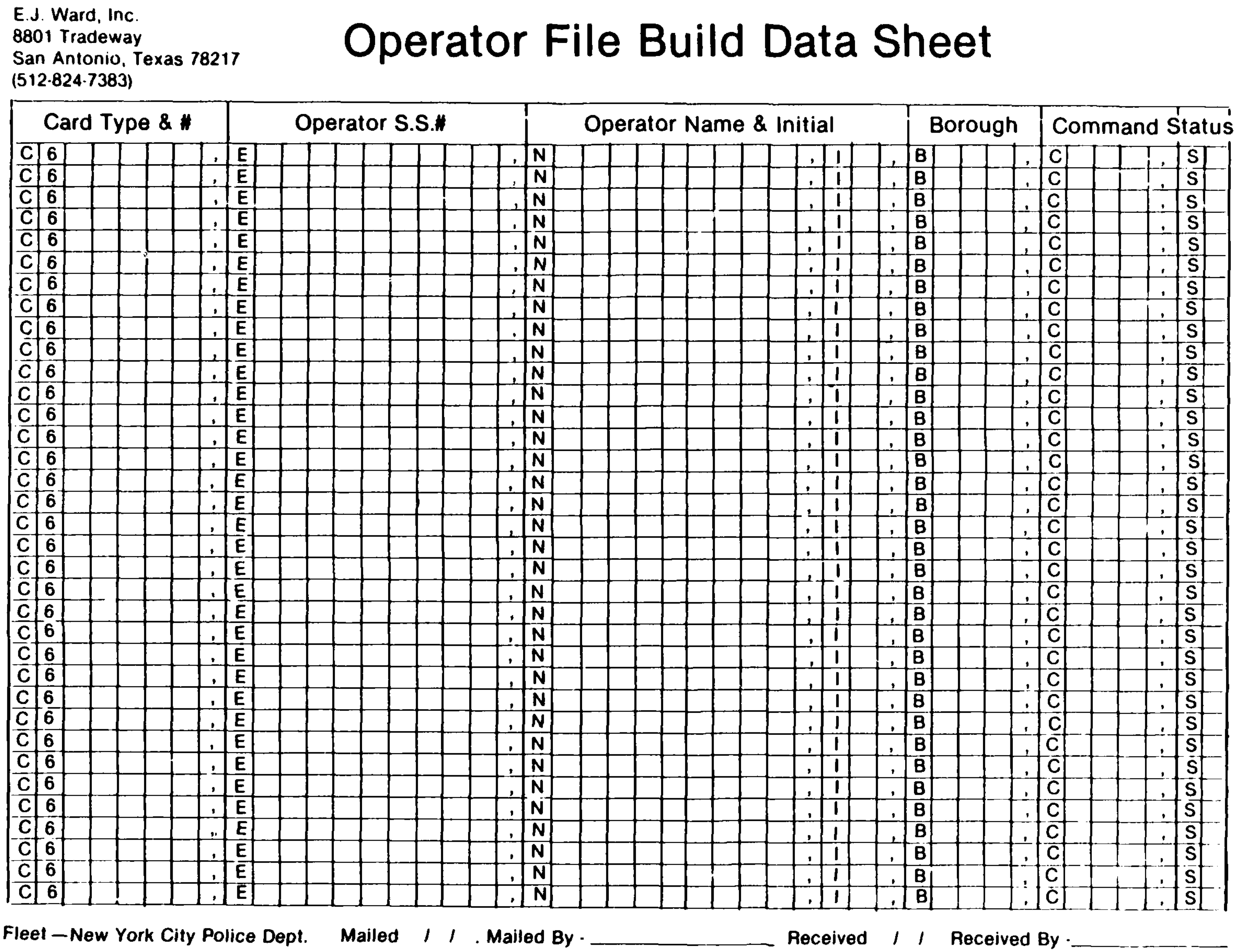
The Control Center did not know which NYCPD personnel were authorized to operate Department vehicles, nor which had Command approval to use fuel in private vehicles. Accordingly, a memorandum was sent to each of the approximately 400 Commands requesting that they furnish that information to the Control Center by a specified cutoff date. At the same time, they obtained an alphabetical listing of all personnel from the Department's Management Information Systems Division. Upon receipt of those data elements, the file build process was initiated.

NOTE

> The cutoff meant that adds, changes, or deletes to the Operator or Vehicle files would not be tracked after the established date. The Operator and Vehicle files were updated immediately prior to going operational. All Department Personnel Orders listing personnel changes and records on vehicle changes were collected daily and held until after the files were established and proofread.

When the coded input sheets were completed, they were forwarded to the vendor for entry into the Series 1 Computer.

As a matter of interest, there were some 18,300 operators coded in the initial Operator File Build. As anticipated, there was a surge in adding personnel after the first Borough's cards were issued.



E.J. Ward, Inc.
8801 Tradeway
San Antonio, Texas 78217
(512-824-7383)

Operator File Build Data Sheet

Card Type & #	Operator S.S.#	Operator Name & Initial	Borough	Command Status
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S
C 6 ,	E ,	N , I ,	B ,	C , S

Fleet—New York City Police Dept. Mailed / / . Mailed By · ______________ Received / / Received By · ______________

Figure IV-1. Operator File Build Data Sheet

E.J. Ward, Inc.
8801 Tradeway
San Antonio, Texas 78217
(512-824-7383)

Vehicle File Build Data Sheet

Vehicle Card Number	Vehicle Number	Odometer Code	Limit Miles	Fuel Allowed		Vehicle Command	Vehicle Class	Tank Cap.
				Pri.	Sec.			
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	
C 0 ,	V 1 0 ,	K 0 7 ,	M 2 5 0 ,	T 2 ,	T 0 ,	H ,	C	

Fleet: New York City Police Dept. Posted ______ Date / / Mailed / / Page ____

Figure IV-2. Vehicle File Build Data Sheet

Position 1 - Card Type
A constant "C"

Position 2 - Card Type
A constant "6"

Positions 3-7 - Assigned Actuator Card Number
This number will identify the operator actuator card assigned to the individual.

Position 8 - A constant comma.

Position 9 - A constant "E"

Positions 10-18 - The operator's Social Security Number.

Position 19 - A constant comma.

Position 20 - A constant "N"

Positions 21-29 - Surname of Operator

Position 30 - A constant comma.

Position 31 - A constant "I"

Position 32 - The Operator's first initial.

Position 33 - A constant comma.

Position 34 - A constant "B"

Positions 35-37 - Blank

Position 38 - A constant comma.

Position 39 - A constant "C"

Positions 40-42 - Command
A three digit numeric field that identifies the assigned command of the Operator.

Position 43 - A constant comma.

Position 44 - A constant "S"

Position 45 - Status Code
A numeric digit defining the Operator status as follows:

0 = Regular Fuel Authority
1 = Private Fuel Authority

Figure IV-3. Instructions for Operator Data Sheet

Position 1 - Card Type

A constant "C"

Position 2 - A constant zero ("0")

Positions 3-6 - Actuator Card Number

This number will identify the actuator card number and will be four (4) numeric digits-0001 to 8000.

Position 7 - A constant comma.

Position 8 - A constant "V".

Position 9 - A constant one ("1").

Position 10 - A constant zero ("0").

Positions 11-14 - NYCPD Vehicle Number

This is a five (5) digit number assigned by NYCPD to identify the vehicle. Numbers are 00001 to 99999.

Position 15 - A constant comma.

Position 16 - A constant "K".

Positions 17-18 - Odometer check code.

Identifies the manner in which the computer handles checking the vehicles odometer as follows:

Code 00 - No checking and zero out the odometer field in the transaction. (Normally used for vehicles without odometers).

Code 01 - Capture thumbwheel settings with no odometer checking.

Code 03 - Issue no fuel unless new odometer reading is entered. (Offers tight control over user ODOMETER entries and produces constant ODOMETER ERROR until entered correctly.)

Code 07 - Produce ODOMETER ERROR if new ODOMETER is not within miles limit of old ODOMETER reading on first try. Issue fuel on second entry regardless of ODOMETER reading and flag transaction according to the condition; (high or low).

Flag 0 = No Error
Flag 1 = Odometer entry low
Flag 2 = Odometer entry high.

Position 19 - Constant comma.

Position 20 - Constant "M".

Figure IV-4. Instructions for Vehicle Data Sheets

Positions 21-23 - Miles Limit

The maximum number of miles from old odometer reading without the computer issuing an odometer error. (Normally the maximum miles the vehicle can travel before refueling)

Position 24 - A constant comma.

Position 25 - A constant "T".

Position 26 - Fuels allowed (Primary and Secondary)

The coded primary fuel type allowed for this vehicle as shown in Fuel Types table below.

Position 27 - A constant comma.

Position 28 - A constant "T".

Position 29 - Secondary Fuel Type

The alternate fuel type authorized for this vehicle as shown in the table below.

Fuel Type Table

0=No fuel type
1=Regular Gasoline
2=Unleaded Gasoline
3=Premium Gasoline
4=Reserved
5=Diesel Fuel
6=Propane Fuel
7=Reserved
8=Reserved for Oil
9=All above Fuels

Position 30 - A constant comma.

Position 31 - A constant "H".

Positions 32-34 - Vehicle Command

This is a three (3) digit numerical field that identifies the coded NYCPD Command to which this vehicle is assigned.

Position 35 - A constant comma.

Position 36 - A constant "C".

Positions 37-39 - Vehicle Classification

This is an alphameric field that identifies the make, model, and year of the vehicle. (See NYCPD Vehicle Classification Code Table page______).

Positions 40-42 - Vehicle Tank Capacity

A three (3) digit numeric field that identifies the maximum number of gallons that this vehicles tank will hold.

Figure IV-4. (Cont d) Instructions for Vehicle File Build Data Sheets

2. The Vehicle File

The NYCPD Motor Transport Division is responsible for all vehicle acquisitions, assignments, and history records. The Control Center secured the records from Motor Transport and posted the data to the Vehicle File Build Data Sheets (figure IV-2) in accordance with instructions (figure IV-4). The cutoff for the Vehicle File was the date the Data Sheets were forwarded to the vendor for entry into the Series 1 Computer. Adds, changes, and deletes received after the cutoff were held until the Series 1 was delivered to New York, and then were entered into the Computer by Control Center personnel.

3. The Tank/Pump File

There was a very limited number of records for the Tank/Pump File. Therefore, a list was submitted to the vendor, and the vendor prepared the file build.

When the Series 1 Computer and associated hardware were shipped from San Antonio to New York and made operational, the first step was to run a complete listing of the three files (Operator, Vehicle, and Tank/Pump). These files were then proofread: the Operator File against the alphabetical listing and posted input sheets, the Vehicle File against the source documents posted and input sheets. The error rate was considerably higher than anticipated but, considering the volume of records and the fact that several individuals did the posting and several others keyed the posted data into the computer, the final result was a very high confidence-level in the accuracy of the data.

Accuracy of the data files was of prime importance. The benefits accrued from exhaustive data checks far outweigh the one-time effort in initiating a new system of this complexity.

C. INSTALLATION OF TERMINALS AND TELEPHONE LINES

Detailed instructions for the vendor for installation of the remote terminals are contained in the System Specifications, appendix F. Specifications for the telephone lines are in the Service Guide, appendix J, page I-2, item 3, and page I-5.

From an overall project administration standpoint, the following comments are worth considerable emphasis:

The remote terminals must be installed first, then the telephone equipment, though the phone lines should be ordered well in advance of the anticipated dates required. It is recommended that a project leader establish contact with a phone company representative, and that both have considerable input to arranging orderly installation of terminals and lines. Otherwise, there is a risk that a company serviceman will arrive at a site prior to installation of the terminal, which can be likened to building a house and having the roofer arrive first. Moreover, various foremen are in charge of areas defined by the telephone company, and these areas will not necessarily conform to the structure of NYCPD.

D. PERSONNEL

The Fuel Control Center operates 7 days a week, 24 hours a day. It is staffed by a combination of uniformed and civilian personnel, but more important than the mix is the fact that they are an extremely competent team selected in advance of equipment installation. In fact, several members have been assigned to the project from conception through file build to implementation. The pilot installation provided them with the opportunity to become knowledgeable in the operation of an automated fueling system while it was still a small operation (three pumping stations on Staten Island). They learned to deal with the problems and inadequacies of the pilot, and were able to contribute to the development of the total system specifications. The extensive training resulting from their early involvement was essential. In addition, members of the team are familiar with the Department structure and user needs.

It would be hard to overemphasize the need for competent personnel, in a fuel control center, in sufficient numbers for data gathering and checking, responding to inquiries, maintenance, and supervision. Among other things, it makes the transition smoother.

NOTE

> It may not be necessary for Control Center personnel to have previous experience in data processing. It is desirable however (and worked well in this case) that they be interested in the project and the system, and the professional challenge it presents. It also is useful for the user project leader to have some input into the selection of other personnel in the Control Center.

E. REVISION OF DEPARTMENT PROCEDURES

NYCPD fuel dispensing procedures were revised by Interim Order No. 9 entitled "Computerized Fuel Dispensing System," dated March 27, 1981. A copy is in appendix C.

F. TESTING AND BACKUP PROCEDURES

The following procedures were developed:

TEST PROCEDURES

1. Open terminal--Turn to Automatic
    a. Did screen turn green?
    b. Did intrusion alarm register?
    c. Did transaction register?

2. Test Dispensing Transaction
   a. Valid Dept. Vehicle--Pump 1
   b. Valid Dept. Vehicle--Pump 2
   c. Valid Dept. Vehicle--Pump 3 (fuel error light)
   c. Valid Dept. Vehicle--Pump 4 (fuel error light)
   e. Valid Vehicle Card--Wrong Fuel Type
   f. Valid Oil Transaction
3. Test Private Vehicle Card Transaction (RED MASTER)--00(SSN)
   a. Using Valid SSN
   b. Using Invalid SSN
   c. Try to exceed 10 gallons
4. Test Equipment with no Dept. I.D. Transaction (GREEN MASTER)-009999
   a. Valid 9999 Transaction
   b. Try to exceed 5 gallons
5. Test In-Ground Inventory Transaction (GREEN MASTER)-70XXXX
   a. Valid Dip Transaction
   b. Exceed Tank Capacity
6. Test Fuel Delivery Transaction (GREEN MASTER-90XXXX
   a. Valid Delivery
   b. Exceed Tank Capacity
7. Test Missing Vehicle Card Transaction (GREEN MASTER)
   a. Valid Dept. Vehicle Number
   b. Invalid Dept. Vehicle Number
   c. Valid Vehicle--Wrong Fuel Type
8. Test Two-Wheel Scooter Transaction (GREEN MASTER)-009xxx
   a. Valid Transaction
   b. Exceed 2 gallons
   c. Valid Transaction--Wrong Fuel Type

9. Test Department Motorcycle Transaction (GREEN MASTER)-0089xx
    a. Valid Transaction
    b. Attempt to exceed 5 gallons
    c. Wrong Fuel Type
10. General
    a. Address Correct
    b. Blue Oil Label On Terminal
    c. Pumps Labeled 1 and 2
    d. Fill Caps Identified 1 and 2

MANUAL OVERRIDE PROCEDURE

The Computerized Fuel Dispensing System being implemented in the Department uses two actuator cards, similar to credit cards, to obtain gasoline. In the event of a system failure that prevents the dispensing of fuel automatically, it may be necessary to put the affected location(s) in "MANUAL OVERRIDE." Pumps will then be locked and fueling transactions will be recorded in gasoline receipt books (MT 9), which will be maintained at each location.

When a failure condition occurs, a supervisor from that location will notify the Fuel Control Center by telephone (476-7524). The Fuel Control Center will determine the extent of the problem. If it is necessary to put that location on manual override, the Fuel Control Center will either dispatch personnel or notify the Patrol Borough concerned to make the computer terminal key available to the fueling site.

After the problem has been corrected, Fuel Control personnel will collect the information recorded on the MT 9 for entry into the computer, and will return the computer terminal to automatic fueling.

G. TRAINING

There are three distinct groups of individuals who must be trained in operation of a fuel control system:

1. Users in the field
2. Operating personnel in the control center
3. Equipment repair personnel.

1. Users in the Field

This group is all-inclusive. Everyone must be trained in use of the cards and operation of the terminal and fuel pumps--from Deputy Commissioners and Chiefs to Police Officers and "Rookies." And this group includes, of course, groups 2 and 3 mentioned above. NYCPD used a multifaceted training approach that included film, flip charts, instruction cards, etc.

1.a. Training Film. A training film was prepared by the NYCPD Police Academy Video Production Section to instruct all police officers on proper fueling procedures. A test terminal in the Control Center, which is cable-connected to the main computer, proved to be very useful in this instance and in others, which will be discussed later.

The video production people came to the Fuel Control Center at the Motor Transport Division to develop the videotape production. They went through the procedures with Control Center personnel using the test terminal, and then discussed methods of getting the information to Department personnel. The issues were:

- What is the message?
- How do we construct the message?
- How do we deliver the message?

The Control Center had to decide which elements were most important. They wanted four transactions shown:

(1) Fueling a department vehicle

(2) Fueling a department vehicle when the vehicle card is missing

(3) Fueling a private vehicle

(4) Receiving a fuel delivery.

However, the problem associated with that much material was time. The video production people knew from experience that the attention span of the audience was 5 to 7 minutes. The decision then was made to proceed with a film of about 5 minutes.

The completed film (of 5-minutes duration) communicated the following message:

(1) It showed the old way of fueling a vehicle--get the MT 9 book and fuel pump keys, or if they are misplaced, find them; go out to the station; unlock the pump; pump fuel; make book entries; lock the pump; return the book and keys.

(2) Then it showed the new fueling system--a standard dispensing transaction using two cards, pump-selection, entry of odometer reading; if an error light appears, correct the error and start over from Step 1; if there is still a problem, call 476-7524 (Control Center phone number) for assistance, and trained personnel will talk you through the procedure.

Each precinct has three tours of duty a day (midnight to 8 a.m., 8 a.m. to 4 p.m., 4 p.m. to midnight), 7 days a week. There is a training session before each tour during which the platoon receives information and instructions on changes of procedure and major events in the precinct (rash of muggings, parades, homicide investigations, etc.). There is a videocassette player at every site, and the Control Center arranged for the fuel dispensing film to be shown at the training sessions before each tour for 6 weeks, beginning in October 1980 (the training cycle for new procedures is 6 weeks). In that period of time it was certain that every officer would see the film at least once, taking into account vacations, sick leave, and temporary assignments.

1.b. Introduction to the System for Department Management. A document was prepared entitled, "An Introduction to the Department-Wide Automated Fuel Monitoring System, March 1980" (see appendix H). While the total system was being installed, Sergeant Kiernan and Officer Hamel made presentations to groups of Chiefs, Borough Commanders, and Captains to introduce them to the system. They used a 24 x 36 inch flip chart and provided an 8½ x 11 inch handout of the chart to each attendee.

The document explains the study, problems noted, benefits to the users, system configuration, and data output. The introductory sessions eliminated surprise at the management level when technicians came to the precincts to install telephone lines and terminals.

1.c. Vehicle Operator Instructions and Training. *Figure* IV-5, Computerized Fueling Instructions, was prepared as a training guide for vehicle operators. The gold-colored sections refer to fueling of department vehicles:

(1) Far left: vehicles with both vehicle and operator card available.

(2) Far right (three columns): vehicles with cards missing (cards are not issued for two-wheel scooters and motorcycles because of difficulty of maintaining them in those vehicles).

Note that the only difference in these instructions is the odometer entry, which allows the computer to identify any nonstandard transaction. (For definition purposes here, a "standard" transaction is the fueling of a vehicle that has an assigned card.)

The white columns refer to authorized private vehicle fueling, equipment with no identification number (e.g., snow blowers), in-ground fuel tank inventory, and fuel delivery. Here again, the major difference is in the odometer entry.

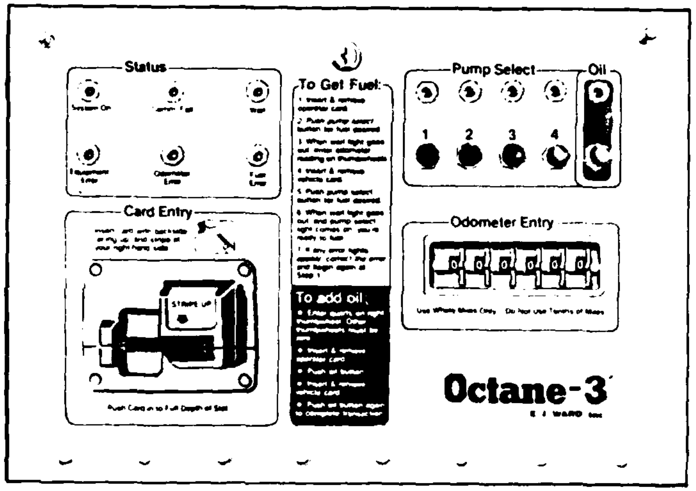
Directions for adding oil to vehicles and a list of problems and solutions also appear on the instruction sheet.

It is very important to emphasize that the final instruction design and wording were arrived at with total participation by all members of the project staff: the NUSC project leader, assistant, and graphic artist and the Fuel Control Center leaders and staff, as well as other user representatives. Mechanics from the Motor Transport Division and other Department

Status Panel:If Green System Light is NOT On—Call 476-7524

If 'Error' Light Appears See 'Problems'*

Step		DEPARTMENT VEHICLES	AUTHORIZED PRIVATE VEH	EQUIPMENT WITH NO I.D.*	IN GROUND INVENTORY	RECORD FUEL DELIVERY	Missing Vehicle Card: DEPARTMENT VEHICLES	Missing Vehicle Card: 2 WHEEL SCOOTERS	Missing Vehicle Card: DEPARTMENT MOTORCYCLES
		Have odometer reading plus operator and vehicle cards	Get red 'P.V.' card from station house	Get green master card from station house	Get green master card from station house	Get green master card from station house	Get green master card from station house	Get green master card from station house	Get green master card from station house
1	CARD ENTRY	Insert operator card. Remove smartly	Insert operator card. Remove smartly	Insert operator card. Remove smartly	Insert operator card. Remove smartly	Insert operator card. Remove smartly	Insert operator card. Remove smartly	Insert operator card. Remove smartly	Insert operator card. Remove smartly
2	PUMP SELECT	Push black button for pump desired	Push black button for pump desired	Push black button for pump desired	Push black pump button for tank measured	Push black pump button for tank filled	Push black button for pump desired	Push black button for pump desired	Push black button for pump desired
3	STATUS	Wait until 'Wait' light goes out	Wait until 'Wait' light goes out	Wait until 'Wait' light goes out	Wait until 'Wait' light goes out	Wait until 'Wait' light goes out	Wait until 'Wait' light goes out	Wait until 'Wait' light goes out	Wait until 'Wait' light goes out
	ODOMETER ENTRY	Enter odometer reading ~ round off to nearest whole mile (If mileage reads 0 0 9 2 3 3 6 enter 0 0 9 2 3 4)	Enter last 4 digits of your Soc. Sec. # (If # is 005-46-3821 enter 0 0 3 8 2 1)	Enter 0 0 9 9 9 9	Enter 70 then # of gals measured (If # of gals reads 2200 enter 7 0 2 2 0 0)	Enter 90 then # of gals delivered (If # of gals del is 1210 enter 9 0 1 2 1 0)	Enter 00 then 4 digit Vehicle Dept I.D. # (If I.D. is 4276 enter 0 0 4 2 7 6)	Enter 009 then 3 digit Vehicle Dept. I.D. # (If I.D. is 612 enter 0 0 9 6 1 2)	Enter 0089 then Vehicle Dept. I.D.# (If I.D. is 76 enter 0 0 8 9 7 6)
4	CARD ENTRY	Insert vehicle card. Remove smartly	Insert red 'P.V.' card. Remove smartly	Insert green master card. Remove smartly	Insert green master card. Remove smartly	Insert green master card. Remove smartly	Insert green master card. Remove smartly	Insert green master card. Remove smartly	Insert green master card. Remove smartly
5	PUMP SELECT	Push same pump button as in step 2	Push same pump button as in step 2	Push same pump button as in step 2	Push same pump button as in step 2	Push same pump button as in step 2	Push same pump button as in step 2	Push same pump button as in step 2	Push same pump button as in step 2
6	STATUS	Wait until 'Wait' light goes out	Wait until 'Wait' light goes out	Wait until 'Wait' light goes out	When 'Wait' light goes out—	When 'Wait' light goes out—	Wait until 'Wait' light goes out	Wait until 'Wait' light goes out	Wait until 'Wait' light goes out
	PUMP SELECT	When pump light goes on—Go to pump	When pump light goes on—Go to pump	When pump light goes on—Go to pump	Transaction completed	Transaction completed	When pump light goes on—Go to pump	When pump light goes on—Go to pump	When pump light goes on—Go to pump
	FUEL PUMP	Activate pump. Fuel up. Turn pump off	Activate pump. Fuel up. Turn pump off	Activate pump. Fuel up. Turn pump off			Activate pump. Fuel up. Turn pump off	Activate pump. Fuel up. Turn pump off	Activate pump. Fuel up. Turn pump off



To Add Oil

Put oil in car and go to terminal

ODOMETER ENTRY PANEL	If # quarts used is 3 enter (0 0 0 0 0 3)
CARD ENTRY PANEL	Insert operator card. Remove smartly
PUMP SELECT PANEL	Push oil button (blue panel)
CARD ENTRY PANEL	Insert vehicle card*. Remove smartly
PUMP SELECT PANEL	Push oil button again. When the 'Wait' light goes out—your business at the terminal is complete

*Includes: 'P.V.' card and Master card

* Problems

STATUS PANEL

Equipment Error Light	One of 2 cards is invalid or wrong card used first. Repeat steps 1-6
Odometer Error Light	Check odometer reading. Repeat steps 1-6
Fuel Error Light	Wrong fuel pump button was pushed—Repeat steps 1-6. Fuel pump inoperative or out of fuel—Call 476-7524
Communication Failure Light	Call 476-7524
Missing Operator Card	Call 476-7524 to report loss and get instructions
Missing Vehicle Card, P.V. Card and Master Card	Call 476-7524 to report loss See instructions above

COMPUTERIZED FUELING INSTRUCTIONS

Figure IV-5

employees completely unfamiliar with the system were solicited for their opinions, and additional changes were made before the final design was settled on.

Instructions were printed in four sizes:

30 x 36 inch (posters)--10 copies

20 x 24 inch--250 copies

8½ x 11 inch--1,000 copies

4 x 8½ inch--50,000 copies

A series of training sessions was held for all Department personnel before the total system was put into operation. The sessions were conducted by Sergeant Kiernan and Officer Hamel and held at Headquarters, in each Borough Headquarters (several sessions in each to reach all officers), and at the Police Academy. The 30 x 36 inch instruction posters were used for illustration, and each attendee received one of the 8½ x 11 inch size sheets. In addition to the instructional content, personnel were given a short history of the project, the reasons for the decision to automate, and a statement of the benefits of the system to them in terms of time and effort saved.

- A copy of the 20 x 24 inch sheet was placed for reference in a prominent location in each of the 68 pumping locations.

- A copy of the 8½ x 11 inch instruction sheet was taped to the front of each terminal on the day each precinct became operational.

- Copies of both the 8½ x 11 inch and 4 x 8½ inch instructions were handed out as the operator cards were issued (precinct by precinct as the terminals became operational).

- The 4 x 8½ inch instruction was hole-punched to fit into the officers' "memo books" of that size. The memo books contain summonses and important information such as Miranda rights, warnings, and Spanish phrases.

1.d. Test Terminal in Control Center. A test terminal, hard-wired to the Central Processing Unit, is installed as part of the permanent equipment in the Control Center. Control Center personnel tested all actuator cards on the test terminal before they were issued. The test terminal also provides the ability to test the telephone lines and the component boards in the Control Center.

Operator cards were issued at the Control Center in the same sequence as the phased automating at the remote sites. Command training officers were requested to pick up the vehicle and operator cards for their respective Commands at the Control Center. At that time they were given a demonstration on the use of the cards, using the test terminal. While this involved only a small number of vehicle operators, the training officers were nevertheless able to instruct the rest of the police officers in their Commands.

1.e. Operation Day Assistants. On the day each fueling station became operational, an officer familiar with the operation of the system was sent to the precinct to assist precinct personnel with first-time use. The assistants announced the startup at the morning turnout (roll call--about 7 a.m.), and then assisted the officers in first-time fueling of their vehicles. Police officers were used for this function because it was felt that they would relate better to their peers. The high level of acceptance of the system·reinforces the belief that this procedure substantially affected the efficient implementation of the system and should be an element of any user training plan.

2. Operational Personnel in the Control Center

It was the vendor's responsibility to provide training to the Control Center operating personnel. It is desirable that they understand the logic, know the functions of all the equipment and how to operate it, and how to develop reports and history files. Since the operating personnel had been assigned to the project well in advance of implementation of the total system, the vendor's task in this case was much easier. In addition, because they had been working on the project for some time, their understanding of the system allowed them to generate better questions during the vendor's training sessions. The Control Center operating personnel are now familiar with all components of the system.

Appendix I, Operations Manual, contains all computer commands used for this system.

3. Equipment Repair Personnel

Since NYCPD maintains its own system, it was necessary to train three groups of individuals in repair of the remote terminals:

1. Control Center personnel

2. Building maintenance personnel who had responsibility for repair of the pumps

3. Backup personnel from Motor Transport Division.

A vendor representative conducted the training session, which consisted of a classroom lecture and a demonstration using the test terminal in the Control Center. All three groups were trained to recognize problems and to institute the following procedures:

1. Testing to determine if the terminals were communicating with the Central Processing Unit (polling),

2. Replacing the:

    a. Interface and Power Supply Board

    b. Modem

    c. Random Access Memory (RAM) Board

d. Read on Memory (ROM)

e. Central Processor Unit

f. Modem Board.

Appendix J, NYCPD Automated Fuel System Service Guide, was prepared by the vendor, and sufficient copies were provided to be available to personnel as needed.

H. ISSUING CARDS

After the files were established using the previously mentioned cutoff date, they were proofed and then updated using the adds, changes, and deletes taken from Department personnel and vehicle records. It was a time-consuming task, but was well worth the effort in terms of user credibility for the system.

Typed labels were prepared and placed on the Operator Cards to identify the card with the authorized operator. Cards were issued Command by Command in sequence with the phased implementation. A computer printout was run for each Command and one individual from the Command picked up and signed for the cards. They were then distributed with paychecks and signed for by the authorized operators. Personnel orders were tracked continuously to determine movement between Commands.

Vehicle cards were issued to Command training officers, who placed them in the assigned vehicles.

I. PHASED IMPLEMENTATION

The size of the system clearly indicated going operational in stages. Therefore it was phased in Borough-by-Borough according to a predetermined schedule. There was slippage in the schedule because the task of getting ready to implement was greater than had been anticipated. As has been stated, the cross-checking of all elements was a lengthy procedure, but it did ensure a high level of confidence in the reliability of the system. A critique was held after each stage to determine if implementation could be done better for the next stage.

The implementation procedures included:

1. Checking cards against current personnel printouts by Command

2. Issuing cards about 10 days before implementation (The decision was made not to issue too far in advance, since items tend to be lost more easily if they are not in use.)

3. Installing vehicle card holders--done by maintenance shops

4. Reintroducing the training film at a daily training session 7-10 days prior to going operational at the precinct level

5. Coordinating with the fuel vendor so that tanks were filled to capacity

6. Testing the remote terminals 24-48 hours before going operational

7. Coordinating with the Borough Commanders so they would know what to expect and what was needed from them

8. Sending a directive via teletype to each command 8-12 hours before going on line, ordering the system into operation

9. Re-educating the team of Operation Day Assistants and providing them with terminal keys, instructions, manual override procedures, and transportation to their assigned precinct (It proved to be most advantageous to have knowledgeable individuals in place to demonstrate a "live" transaction for the first time.)

10. Assuring that there was an adequate team in the Control Center to answer the phones.

While some of these procedures might be eliminated, there is evidence that they contributed immeasurably to the success of the implementation phase and to acceptance of the system by the NYCPD users.

Section V

CONCLUSIONS

A. COSTS

The cost figures set out in Section I of this report are estimates in 1977 dollars, based on the best available information at the time of the study (mid-1977). It should also be noted that the projected savings were calculated on the basis of labor only, since those figures are easily auditable. All costs have escalated since that time--capital costs for system installation, labor, telephone line rental, and fuel. However, based on the 1977 estimates, NYCPD Management made the decision that an automated fuel system would be cost effective. It is even more so now, as reflected in the following figures compiled by NYCPD as of July 1981 with slightly over one-half of the fueling sites fully automated:

Startup and Capital Costs: (includes labor, training, telephone line installation and rental)	$1,082,386	
Annual Operating Costs: (includes labor, system maintenance, telephone line rental)		$638,858
Estimated Savings Upon Completion: (represents labor--uniformed and civilian personnel)		$2,624,000
Net Annual Benefits:		$1,985,142
Payback Time of Startup and Capital Costs:		Under 1 Year

B. BENEFITS

The foregoing projected cost savings are a benefit in terms of labor dollars saved, and are auditable. The uniformed and civilian personnel represented by the figures have been reassigned to other essential duties. Other benefits are less quantifiable, but merit discussion here:

1. Central control of fuel ordering and dispensing ensures fewer sites out-of-fuel and for shorter periods.

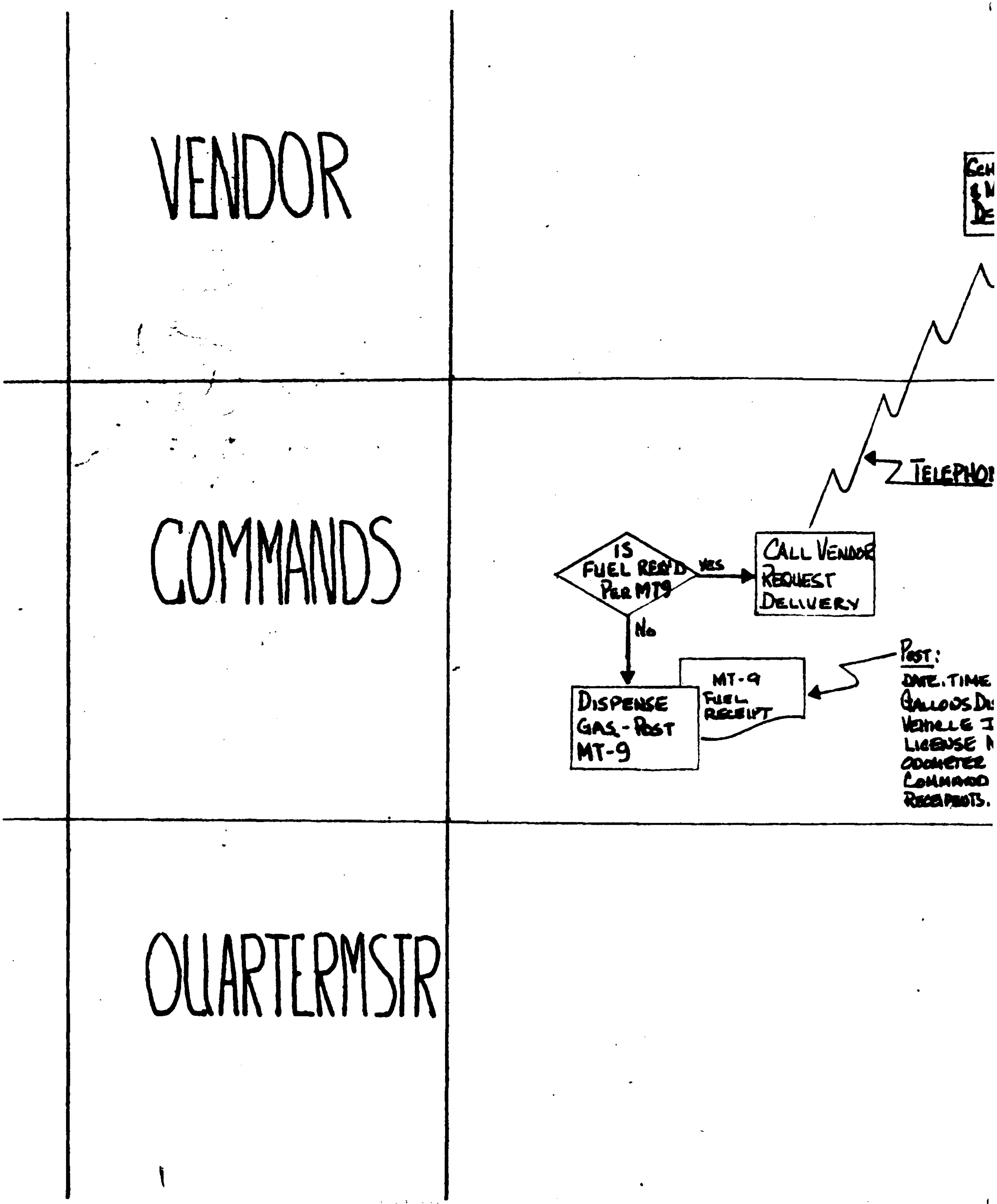
2. Because of 1, there is less out-of-precinct travel, since personnel do not have to go from site to site looking for gas.

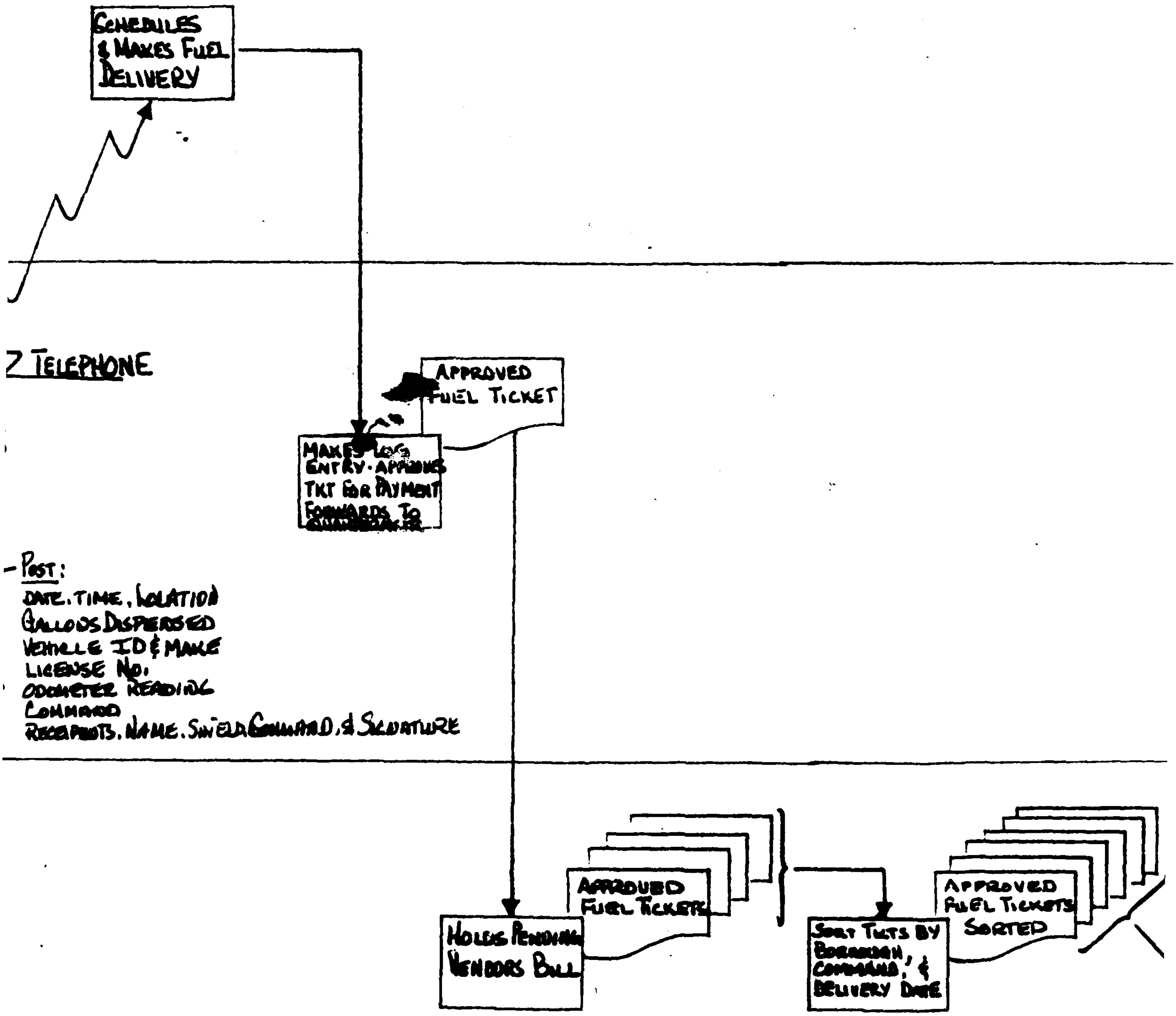
3. NYCPD has control of the total fuel operation, both for management and accounting purposes.

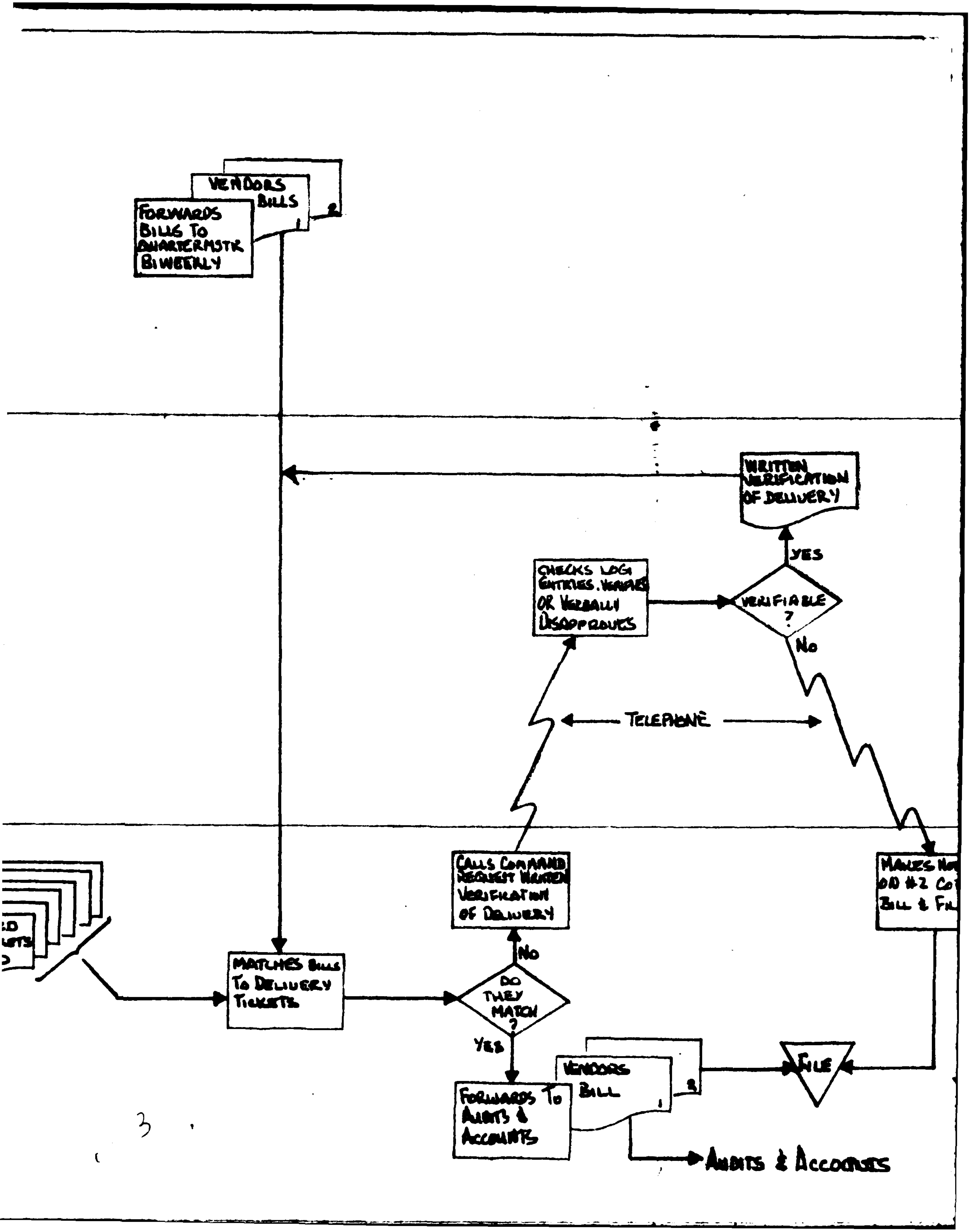
In its present form, the system produces 50 management reports (appendix G). However, the optimum configuration would be a system as originally designed (appendix E), the reporting capabilities of which would provide for complete fleet maintenance and management. It is hoped that a total system is in the future for NYCPD.

Appendix A

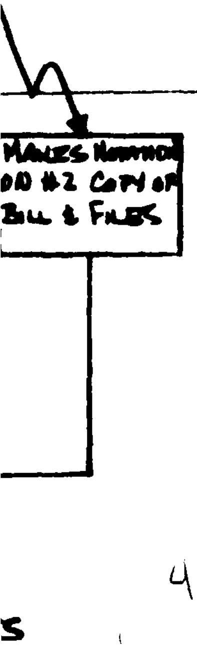
FLOW CHART,
EXISTING (AUGUST 1977) NYCPD
FUEL DELIVERY AND DISPENSING SYSTEM


VENDOR
COMMANDS
QUARTERMSTR
SCH
& M
DE
TELEPHON
IS FUEL REQ'D PER MT9
YES
CALL VENDOR REQUEST DELIVERY
NO
DISPENSE GAS - POST MT-9
MT-9 FUEL RECEIPT
POST:
DATE.TIME
GALLONS DI
VEHICLE I
LICENSE N
ODOMETER
COMMAND
RECEIPIENTS.


SCHEDULES & MAKES FUEL DELIVERY
Z TELEPHONE
APPROVED FUEL TICKET
MAKES LOG ENTRY. APPROVES TKT FOR PAYMENT FORWARDS TO
- POST:
DATE. TIME. LOCATION
GALLONS DISPERSED
VEHICLE ID & MAKE
LICENSE NO.
ODOMETER READING
COMMAND
RECEIPENTS. NAME. SWIELD COMMAND, & SIGNATURE
HOLDS PENDING VENDORS BILL
APPROVED FUEL TICKETS
SORT TKTS BY BOROUGH, COMMAND, & DELIVERY DATE
APPROVED FUEL TICKETS SORTED


VENDORS BILLS
1
2
FORWARDS BILLS TO QUARTERMSTR BIWEEKLY
WRITTEN VERIFICATION OF DELIVERY
YES
VERIFIABLE ?
No
CHECKS LOG ENTRIES, VERIFIES OR VERBALLY DISAPPROVES
TELEPHONE
CALLS COMMAND REQUEST WRITTEN VERIFICATION OF DELIVERY
No
MAKES NO
ON #2 CO
BILL & FIL
D
ETS
D
MATCHES BILLS TO DELIVERY TICKETS
DO THEY MATCH ?
YES
FORWARDS TO AUDITS & ACCOUNTS
VENDORS BILL
1
2
FILE
AUDITS & ACCOUNTS

3


MAKES NOTATION
ON #2 COPY OF
BILL & FILES
S

4

AUGUST - 1977

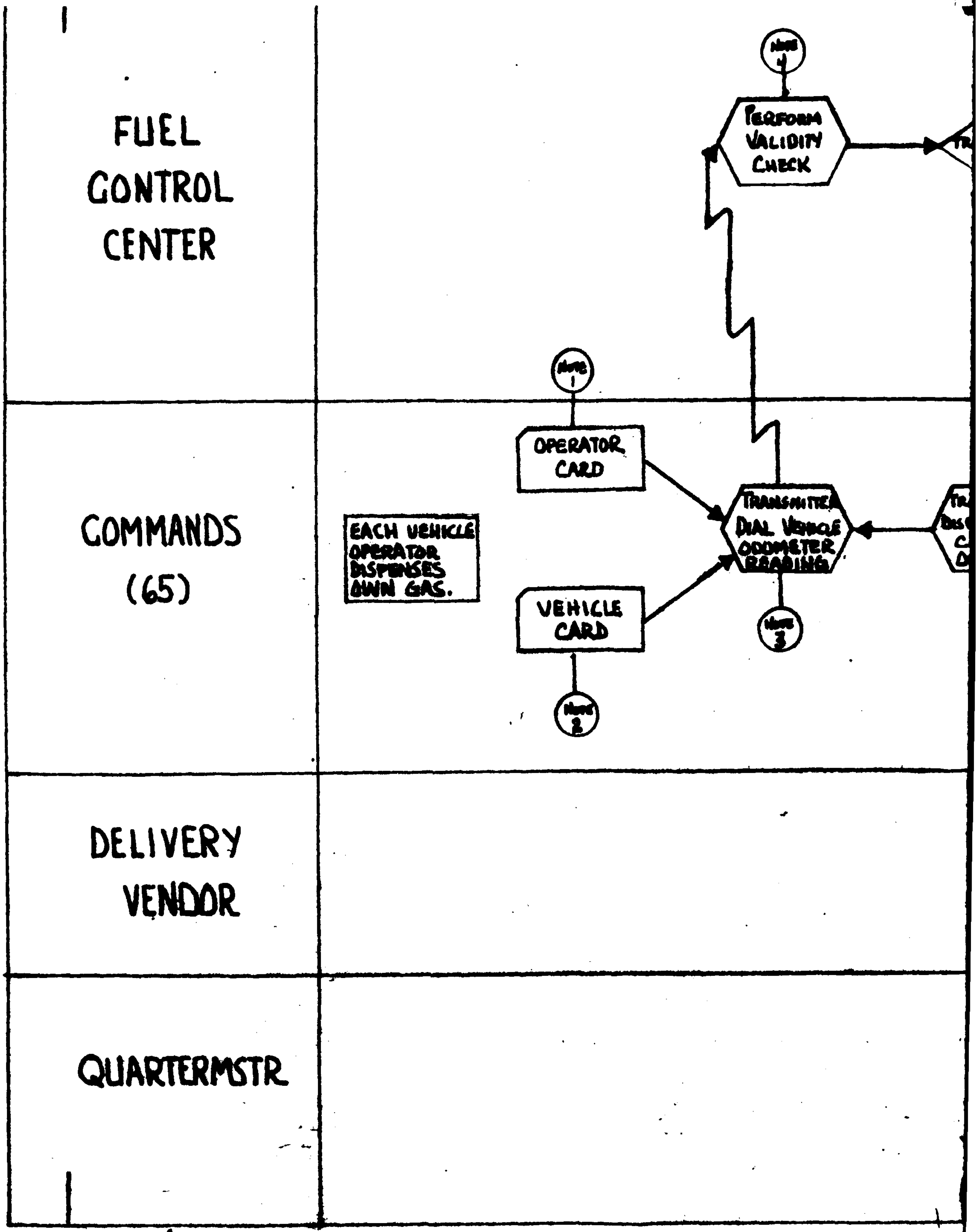
EXISTING NYCPD FUEL DELIVERY & DISPENSING SYSTEM

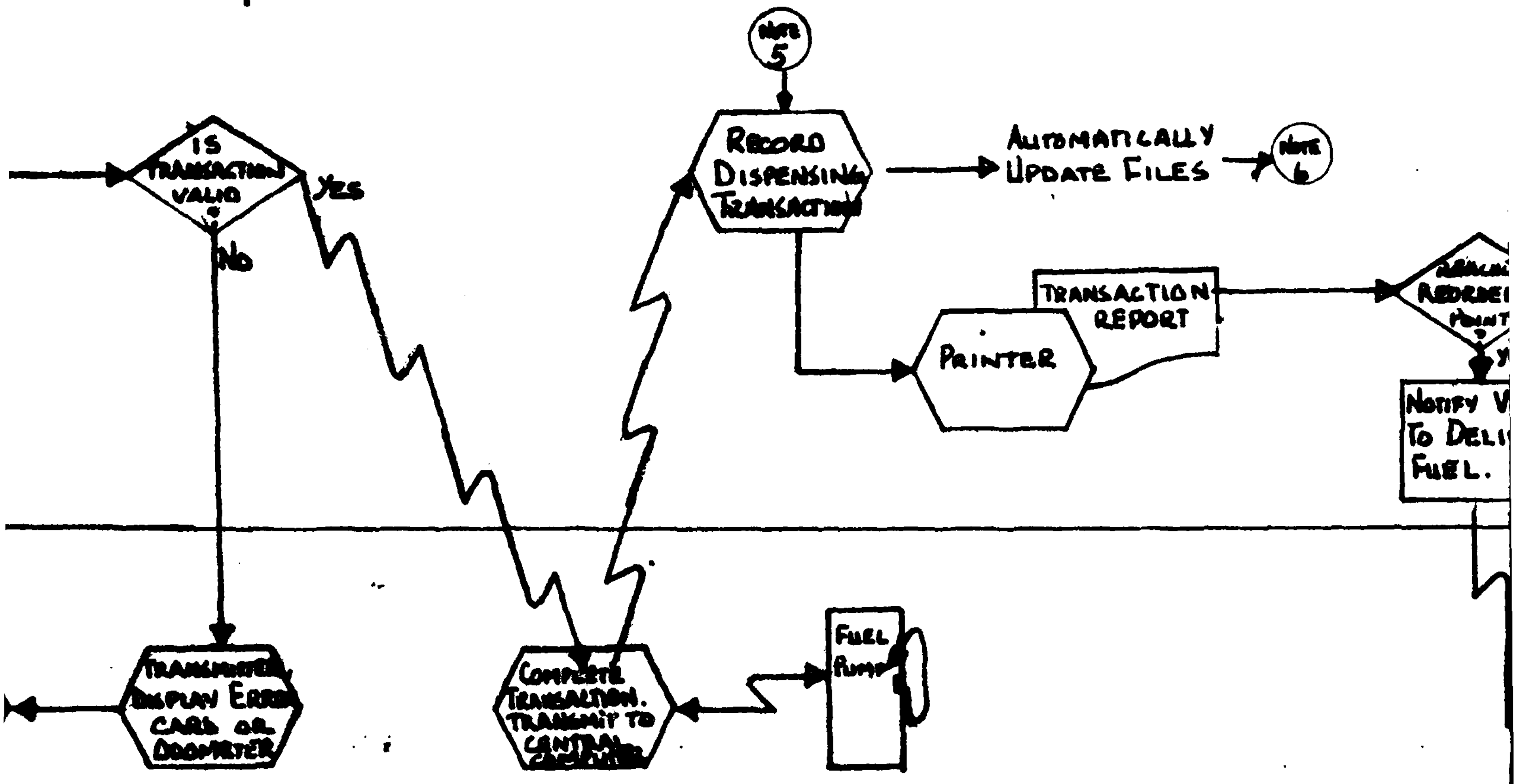
PREPARED BY:

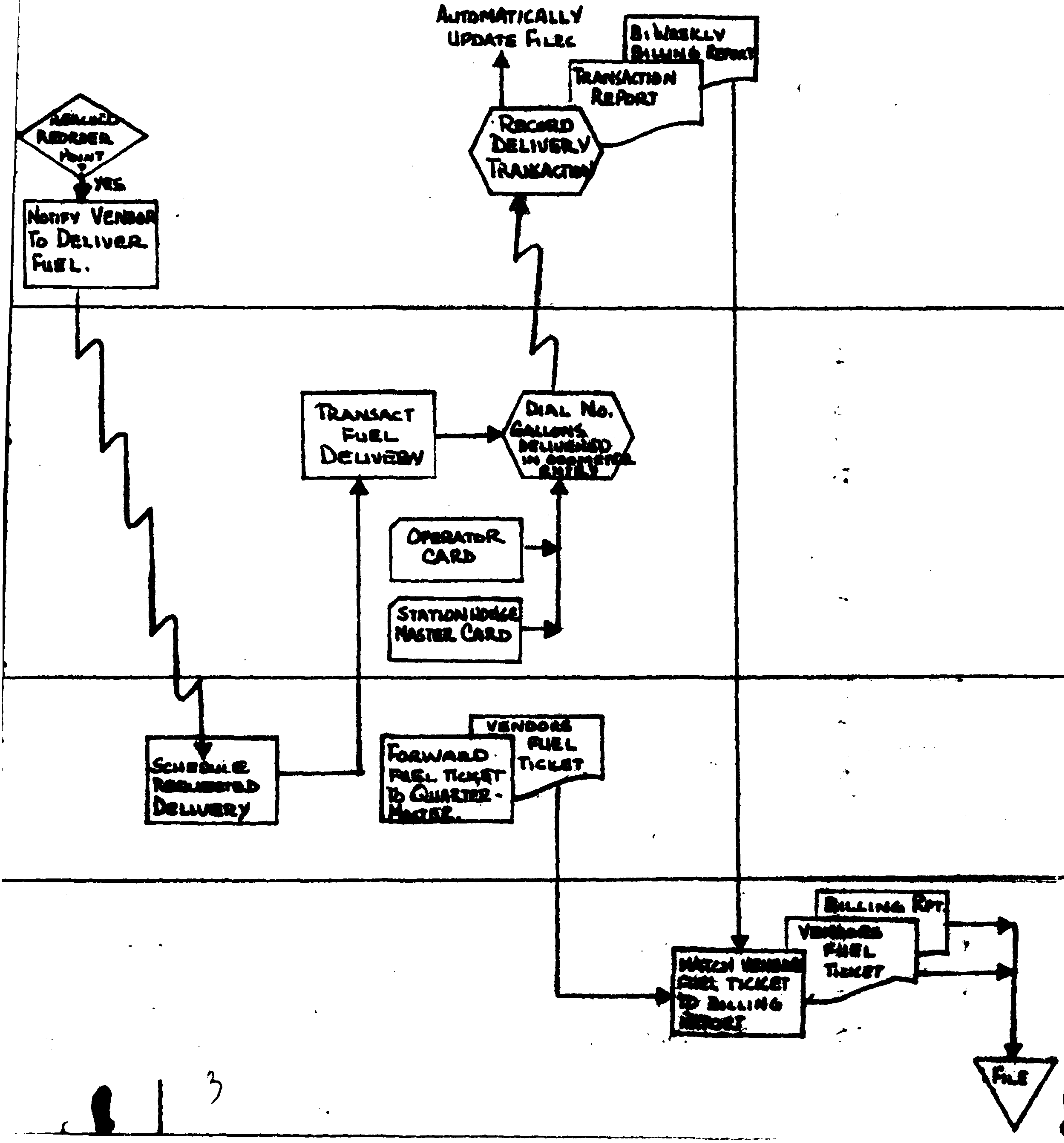
WM. J. MCGRATH
TECHNOLOGY TRANSFER AGENT
NAVAL UNDERWATER SYSTEMS CENTER
NEW LONDON, CONN. 06320
&
SGT. FRANK STRYJEWSKI
NYCPD MOTOR TRANSPORT DIVISION
WOODSIDE, QUEENS, NEW YORK, 11377

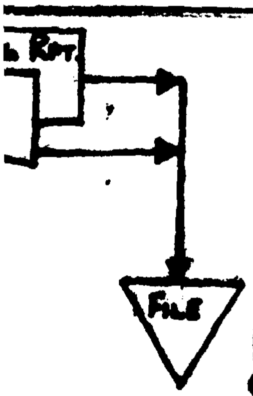
Appendix B

FLOW CHART, PROPOSED (SEPTEMBER 1977) NYCPD FUEL MONITORING SYSTEM


FUEL CONTROL CENTER
COMMANDS (65)
DELIVERY VENDOR
QUARTERMSTR
NOTE 4
PERFORM VALIDITY CHECK
NOTE 1
OPERATOR CARD
EACH VEHICLE OPERATOR DISPENSES OWN GAS.
TRANSMITTER DIAL VEHICLE ODOMETER READING
VEHICLE CARD
NOTE 2
NOTE 3


IS TRANSACTION VALID ?
YES
NO
NOTE 5
RECORD DISPENSING TRANSACTION
AUTOMATICALLY UPDATE FILES
NOTE 6
TRANSACTION REPORT
PRINTER
NOTIFY V
TO DELI
FUEL.
TRANSMITTER DISPLAY ERROR CARD OR ODOMETER
COMPLETE TRANSACTION. TRANSMIT TO CENTRAL COMPUTER
FUEL PUMP


AUTOMATICALLY UPDATE FILES
BI WEEKLY BILLING REPORT
TRANSACTION REPORT
RECORD DELIVERY TRANSACTION
REACHED REORDER POINT ?
YES
NOTIFY VENDOR TO DELIVER FUEL.
TRANSACT FUEL DELIVERY
DIAL NO. GALLONS DELIVERED IN ODOMETER ENTRY
OPERATOR CARD
STATION HOUSE MASTER CARD
SCHEDULE REQUESTED DELIVERY
FORWARD FUEL TICKET TO QUARTER-MASTER.
VENDORS FUEL TICKET
BILLING RPT.
VENDORS FUEL TICKET
MATCH VENDORS FUEL TICKET TO BILLING REPORT
FILE



4

NOTES

① MAGNETICALLY ENCODED CARD CONTAINING ACTUATOR CARD NO. & SECURITY CODE

② MAGNETICALLY ENCODED CARD CONTAINING ACTUATOR CARD NO. & SECURITY CODE.

③ VARIABLE DIALS CONTAIN CURRENT ODOMETER READING.

④ VALIDITY CHECKS:

OPERATOR
- VALID

VEHICLE
- VALID
- TANK CAPACITY
- REASONABLE MILEAGE

TANK/PUMP
- STATUS
- FUEL AVAILABILITY

⑤ TRANSACTION RECORD
- SEQUENCE NO.
- TRANSACTION TYPE
- DATE & TIME
- VEHICLE COMMAND
- VEHICLE NUMBER
- ODOMETER ENTRY
- SITE NUMBER
- TANK NUMBER
- FUEL TYPE
- PUMP NUMBER
- GALLONS PUMPED
- CALCULATED MPG
- VEHICLE CLASS
- OPERATOR CLASS
- OPERATOR SOC.SEC.NO.

⑥ FILES:
- OPERATOR
- VEHICLE
- TANK/PUMP

FILES

OPERATOR
- ACTUATOR CAR
- SOC. SECURITY N
- ASSIGNED COM
- FIRST INITIAL
- SURNAME
- STATUS CODE
- TYPE CODE - P
- CARD SEQUENC

VEHICLE
- ACTUATOR CARD
- DEPT. VEHICLE
- ASSIGNED COMM
- VEHICLE CLASS
- FUEL TYPE
- MILES LIMIT
- LAST ODOM, R
- VEH. TANK CAP
- CARD SEQUENCE

TANK/PUMP
- SITE ID
- SITE STATUS
- TANK ID
- TANK STATUS
- PUMP ID
- PUMP STATUS
- FUEL TYPE
- TANK CAPACITY
- REORDER POIN
- SHUTDOWN
- OPENING BALAN
- NO. OF DELIVE
- TERMINAL AD
- TELEPHONE LIN

LES

R

TOR CARD No.
ECURITY No.
NED COMMAND
INITIAL
AME
S CODE
CODE - PVC
SEQUENCE No.

E

TOR CARD No.
VEHICLE No.
NED COMMAND
CLE CLASS
TYPE
S LIMIT
ODOM. READING
TANK CAPACITY
SEQUENCE No.

PUMP

ID
STATUS
ID
STATUS
ID
STATUS
TYPE
CAPACITY
RDER POINT
DOWN POINT
ING BALANCE
OF DELIVERIES
MINAL ADDRESS
PHONE LINE No.

PROPOSED FUEL MONITORING SYSTEM FOR NEW YORK CITY POLICE DEPARTMENT

PREPARED BY:

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NAVAL UNDERWATER SYSTEMS CENTER
NEW LONDON, CONN. 06320

&

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SEPTEMBER 1977

Appendix C

NEW YORK CITY POLICE DEPARTMENT
PATROL AND ADMINISTRATIVE GUIDES
AND
INTERIM ORDER NO. 9
COMPUTERIZED FUEL DISPENSING SYSTEM

POLICEWOMAN

GASOLINE DISPENSER

1. Possess a Certificate of Fitness from Fire Department.
2. Supply gasoline and oil to department vehicles and authorized private vehicles.
3. Complete captions on RECEIPT FOR GASOLINE, OIL, GREASE AND ANTI-FREEZE (PD 561–013) and sign
    a. Changes or erasures not permitted. Mark RECEIPT "Void" and use next RECEIPT.
4. Have operator of vehicle sign the RECEIPT FOR GAS,OIL, GREASE AND ANTI-FREEZE.
5. See that no one smokes or carries lighted substance in premises where gas is dispensed.
6. *Display "No Smoking" signs.*
7. Have buckets filled with sand available.
8. Sprinkle sand to absorb spilled gasoline, oil or grease.
9. Make certain that the ignition is turned off when gasoline is dispensed into fuel tanks.
10. Measure the contents of the station house gasoline tank before and after delivery of gasoline and make appropriate entry in "Gas, oil, grease and anti-freeze" book.
11. Make certain fire extinguishers in premises are full and serviceable.
12. Notify station house supervisor when gas storage tanks are half full.

PATROL GUIDE

PROCEDURE NO. 103-2

PATROL
DUTIES AND RESPONSIBILITIES

DATE ISSUED	DATE EFFECTIVE	REVISION NUMBER	PAGE
10-1-72	10-1-72		19 of 20

GASOLINE DISPENSER

13. Perform other duties as directed by station house supervisor.
14. Keep gasoline pumps locked when not present.
15. Keep garage area neat and clean.

PATROLWAGON OPERATOR

ATTENDANT

PATROL GUIDE

PROCEDURE No 125–11

DELIVERY OF GASOLINE TO A STATION HOUSE

DATE ISSUED	DATE EFFECTIVE	REVISION NUMBER	PAGE
10-1-72	10-1-72		1 of 1

PURPOSE

To verify amount of gasoline received at department facilities.

PROCEDURE

When gasoline is to be delivered to a department facility:

GAS DISPENSER

● 1. Measure the contents of the tank before delivery.
● 2. Measure contents of tank after delivery.
3. Verify amount received on vendor's invoice.
4. Deliver invoice to the station house supervisor.

S.H. SUPERVISOR

5. Sign invoice.
6. Return one copy to vendor.
7. Retain one copy and deliver to clerical patrolman for forwarding to Quartermaster Section on next day after delivery.
8. Enter in Command Log:
    a. Amount of gasoline received
    b. Invoice Number
    c. Vendor's name
    d. Name of gasoline dispenser verifying receipt.

NOTE

1. If gasoline is not available in a department facility, the station house supervisor will notify Communications Division. A second notification is made after gas has been received.
● 2. The Gas Dispenser will order gasoline from the designated vendor, direct, when the tank is half full. If the vendor is closed, notification will be made after 0700 hours and the order recorded in the Telephone Record.

PATROL GUIDE

125–12

DAILY GASOLINE SUMMARY

DATE ISSUED	DATE EFFECTIVE	REVISION NUMBER	PAGE
10-1-72	10-1-72		1 of 1

PURPOSE — To account for gasoline received, dispensed and on hand each day.

PROCEDURE — At 2345 hours daily:

GAS DISPENSER

1. Measure amount of gasoline in storage tank.
2. Determine amount of gasoline dispensed in the past 24 hours.
    a. Refer to RECEIPT FOR GASOLINE, OIL, GREASE AND ANTI-FREEZE (PD 561-013).
3. Report figures to station house supervisor.

S.H. SUPERVISOR

4. Enter in Command Log with heading "Gasoline Summary."
    a. Gasoline in tank 0001 .... Gal.
        (1) Determine from last "Gasoline Summary."
    b. Gasoline received past 24 hours........... Gal.
        (1) Determine from Command Log entries.
    c. Total gasoline for 24 hours .... Gal.
    d. Total gasoline dispensed past 24 hours ..... Gal.
    e. Gasoline now in tank .... Gal.
    f. Verified by (Gasoline Dispenser — Name).
5. Assign a Sergeant to investigate discrepencies.
6. Report results of investigation to commanding officer for necessary action.

NOTE — The station house supervisor, 2nd. and 3rd. platoons, is required to enter in the Command Log at the start of his tour, "Patrolman Jones, Gas Dispenser, reports . . . gallons of gas on hand."

ADMINISTRATIVE GUIDE

PROCEDURE No 325-14

PRIVATE VEHICLES AUTHORIZATION

DATE ISSUED	DATE EFFECTIVE	REVISION NUMBER	PAGE
4-5-76	4-5-76		1 of 1

PURPOSE

To authorize members of the service to use their private vehicles in the performance of official police duty.

PROCEDURE

When the use of a members privately owned vehicle is necessary or desireable for the performance of official police duty:

MEMBER OF THE SERVICE

1. Submit four (4) copies of report to commanding officer.
   a. Name, rank, shield number and command
   b. Year, make, model and number of cylinders
   c. Registration number of vehicle
   d. Name and address of registered owner (Include relationship if owner other than member).

COMMANDING OFFICER

2. Review report.
3. List any restrictions in the use of vehicle on all copies.
4. Indicate Approval/Disapproval
5. File original.
6. Forward copy to next higher command and Deputy Commissioner - Administration.
7. Return remaining copy to member.

NOTE

If a commanding officer revokes the authorization, or if the member no longer wishes to volunteer the use of the vehicle, a signed, dated notation of this fact will be made by the commanding officer on the command file copy, and notification made to the next higher command maintaining a file copy of the original authorization, and Deputy Commissioner - Administration.

ADMINISTRATIVE GUIDE

PROCEDURE No. 325-15

VEHICLE IDENTIFICATION PLATES AND GAS AND OIL FOR PRIVATE VEHICLE

DATE ISSUED	DATE EFFECTIVE	REVISION NUMBER	PAGE
4-5-76	4-5-76		1 of 4

PURPOSE

To identify private vehicles used on official business and supply these vehicles with gas and oil.

DEFINITION

Department Vehicle Identification Plate is made of laminated cardboard, approximately 4 by 10 inches, and has a white background with blue print. Two (2) types of plates may be requested:

- a. INDIVIDUAL PLATE - issued to members of the service whose duties require frequent use of plate
- b. POOL PLATE - retained in command and issued to members as necessary.

PROCEDURE

When Vehicle Identification Plates are required:

COMMANDING OFFICER

1. Determine minimum number of plates.
2. Request plates, as follows:
    - a. POOL PLATE
        - (1) Prepare report listing the number of plates required, command and justification
        - (2) Forward request, through channels, to Deputy Commissioner-Administration.
    - b. INDIVIDUAL PLATES
        - (1) Have member concerned submit four (4) copies of request addressed to Commanding Officer, Motor Transport Division, containing:
            - (a) Name, rank, shield number and command
            - (b) Reason for request - permanent or temporary
            - (c) Owner of vehicle
            - (d) Address of owner
            - (e) Address of member of service concerned (if different from item d)
            - (f) Year and make of vehicle
            - (g) Registration number
            - (h) Estimated monthly mileage for official business.
        - (2) Endorse request and include justification.
        - (3) Forward request, through channels, to Deputy Commissioner-Administration.

DEPUTY COMMISSIONER–ADMINISTRATION

3. Review and forward approved requests to Commanding Officer, Motor Transport Division

COMMANDING OFFICER, MOTOR TRANSPORT DIVISION

● 4. Process approved requests:
    - a. POOL PLATES - forward plate number to all dispensing stations for addition to "master list". Gas and oil is authorized for pool plates at all dispensing stations.
    - b. INDIVIDUAL PLATES - indicate on all copies of request the dispensing station authorized; file the original request and forward remaining copies as follows:
        - (1) Dispensing station designated
        - (2) Member's commanding officer
        - (3) Member.

ADMINISTRATIVE GUIDE

PROCEDURE No 325-15

VEHICLE IDENTIFICATION PLATES AND GAS AND OIL FOR PRIVATE VEHICLE

DATE ISSUED	DATE EFFECTIVE	REVISION NUMBER	PAGE
4-5-76	4-5-76		2 of 4

MEMBER OF SERVICE

5. Display plate when necessary to identify vehicle on official business.
6. Comply with traffic regulations except in cases of urgent police business.
7. Safeguard plate.
8. Leave plate and ignition key in custody of station house officer when garaging vehicle at a precinct facility.

S.H. OFFICER

9. Make entry in COMMAND LOG.
   a. Make subsequent entry when picked up.

MEMBER OF SERVICE

● 10. Obtain gas and oil at designated location.
   a. Obtain authorization to use an alternate station from Motor Transport Division if designated station is closed for an extended period of time
   b. Carry copy of authorization in vehicle and display to dispenser
   c. Report on four (4) copies change in vehicle or registration number, through channels, to Commanding Officer, Motor Transport Division indicating:
      (1) Year and make of vehicle
      (2) New registration number.
   d. Do not obtain gas and oil after first day of June each year unless authorization has been renewed.

COMMANDING OFFICER

● 11. Maintain a CONTROL LOG including name of member, vehicle description, destination, distance traveled and gas and oil received.

● 12. Subdivide LOG and account for each plate, both POOL and INDIVIDUAL, assigned to command.

● 13. Prepare and forward four (4) copies of report through channels, to Commanding Officer, Motor Transport Division when need for INDIVIDUAL plate no longer exists. Include:
   a. Name, rank and shield number of member
   b. Department plate number
   c. Location where gas and oil obtained
   d. Date of discontinuance.

14. Forward plate by messenger to Commanding Officer, Motor Transport Division.
   a. Obtain receipt and file with copy of original approved request.

15. Forward report to Commanding Officer, Motor Transport Division if plate is reassigned to another member of command, indicating:
   a. Number of plate
   b. Information required, in step 2, INDIVIDUAL PLATES, subdivision b, above.

ADMINISTRATIVE GUIDE

PROCEDURE No 325-15

VEHICLE IDENTIFICATION PLATES AND GAS AND OIL FOR PRIVATE VEHICLE

DATE ISSUED	DATE EFFECTIVE	REVISION NUMBER	PAGE
4-5-76	4-5-76		3 of 4

COMMANDING OFFICER (continued)

16. Prepare and forward report in duplicate to the Commanding Officer, Motor Transport Division, through channels, if a Department Identification Plate is lost or stolen, including:
    a. Details of the incident, and
    b. COMPLAINT REPORT number, and
    c. Request for a new plate if required.
17. Request renewals through channels before March 15 of each year including:
    a. Name, rank and shield of member concerned
    b. Owner of vehicle
    c. Address of owner
    d. Address of member of service concerned if different from above
    e. Year and make of vehicle
    f. Registration number of vehicle
    g. Certification by unit commander that need still exists
    h. Date of current authorization
    i. Total mileage vehicle driven on police business during current authorized period
    ● j. Total amount of gas and oil received from Police Department during period.
18. Forward consolidated request for renewals, in duplicate, to Commanding Officer, Motor Transport Division no later than April 1st using following format:

RANK	NAME	SHIELD	COMMAND	MAKE/YEAR OF VEHICLE	REGISTRATION NUMBER

19. Forward expired plates to parent command before June 30 with report indicating number of plates returned.
    a. Parent command will forward plates to Commanding Officer, Motor Transport Division with report no later than June 30 each year.

NOTE

Any discrepancies between the number of Vehicle Identification Plates issued and the number returned will be explained and the COMPLAINT REPORT serial number included, if appropriate.

COMMANDING OFFICER DISPENSING STATION

● 20. Forward report, by the 5th day of each month to Commanding Officer, Motor Transport Division and commanding officer of member receiving gas and oil, indicating:
    a. Total gas and oil dispensed to each authorized member during previous month
    b. Total gas and oil dispensed to all members of command concerned.

ADMINISTRATIVE GUIDE

PROCEDURE No 325-15

VEHICLE IDENTIFICATION PLATES AND GAS AND OIL FOR PRIVATE VEHICLE

DATE ISSUED	DATE EFFECTIVE	REVISION NUMBER	PAGE
4-5-76	4-5-76		4 of 4

COMMANDING OFFICER – AUTHORIZED MEMBERS

● 21. Compare reports received from commanding officer, dispensing stations with entries in CONTROL LOG.
  a. Verify gas and oil consumption conforms to following:
    (1) Approximately one (1) gallon of gas for each ten (10) miles of service connected driving should be maintained over an extended period of time
    (2) Approximately one (1) quart of oil for each two hundred (200) miles of service connected driving.

NOTE Consideration may be given to the type vehicle used.

DEPUTY COMMISSIONER AND AREA COMMANDERS

● 22. Submit consolidated quarterly report to Commanding Officer, Motor Transport Division. These reports are due 30 days after end of quarter. State:
  a. Mileage incurred was for official duty
  b. Gas and oil disbursement was consistent with mileage.

COMMANDING OFFICER – MOTOR TRANSPORT DIVISION

23. Submit quarterly report to the Police Commissioner indicating the disposition of all Department Vehicle Identification Plates.

INTERIM ORDER NO. 33

POLICE DEPARTMENT
CITY OF NEW YORK

August 16, 1976

TO ALL COMMANDS

Subject: DISPENSING GASOLINE

1. Often times department gasoline dispensing facilities are closed, causing a reduction in the number of radio motor patrol cars available for patrol, because:

a. Authorized gas dispenser is not performing duty
b. Fuel supplies are depleted
c. Pumping equipment is malfunctioning or inoperative due to water in the main gas tank.

2. The elimination of these problems will increase the number of cars available for use while enhancing safety and security at dispensing stations. Therefore, commanding officers of commands with dispensing facilities will:

a. Instruct gasoline dispensers and station house officers to comply with the provisions of Patrol Guide procedures 125-11 (Delivery of Gasoline to Station House) and 125-12 (Daily Gasoline Summary).
b. Designate a supervisory officer and/or the patrol supervisor on each tour of duty to supervise gasoline operations at frequent and irregular intervals.
c. Ensure that gasoline is dispensed either by or under direct supervision of a member of the department possessing a Certificate of Fitness issued by the Fire Commissioner.

3. The Adminsitrative Code (Section C19-70.0) does not require the actual dispenser of gasoline to possess a Certificate of Fitness. It is sufficient that the member possessing the Certificate is present to supervise the pumping of gasoline. Therefore, to insure that department gasoline dispensing facilities do not close due to the unavailability of qualified gas dispensers, commanding officers concerned shall sumbit a request for Certificate of Fitness as per Administrative Guide procedure 320-16 (Certificate of Fitness - Gasoline Dispenser) for lieutenants, sergeants, station house officers and civilian personnel having custodial job titles assigned to their commands.

4. Members of the department assigned to dispense or supervise the dispensing of gasoline will:

a. Comply with the provisions of Patrol Guide procedure 103-2, page 18 (Duties and Responsibilities - Gasoline Dispenser)
b. Request operators of unmarked, converted or private vehicles displaying vehicle identification plates to identify themselves prior to dispensing gasoline to such vehicles
c. Report defective pumping equipment promptly to Building Maintenance Section and make follow up report if equipment is not repaired within reasonable time
d. Post "NO GAS" sign when less than ninety (90) gallons of gasoline remains in tank.

5. In addition, to eliminate engine problems caused by water being pumped into gas tanks of radio motor patrol cars, gasoline dispensers WILL NOT:

   a. Pump gas during or for a minimum of one hour after gasoline has been delivered
   b. Dispense gas when less than ninety (90) gallons remains in the tank.

6. Commanding officers concerned will assign a ranking officer to supervise a monthly test which is conducted to determine the amount of water in the gasoline storage tank. The Building Maintenance Section will provide equipment and necessary instructions to conduct these tests. An entry will be made in the Command Log and two (2) copies of a report indicating results of the test will be prepared on Typed Letterhead and forwarded to the Deputy Commissioner-Administration, DIRECT.

7. Commanding officers concerned will also prepare two (2) copies of a report on Typed Letterhead and forward, through channels, to the Deputy Commissioner-Administration, listing all available information concerning vendors who do not respond to a request for delivery of gasoline.

8. Any provision of the Department Manual or other department directive in conflict with this order is suspended.

9. Operations Order 103, series 1974 is REVOKED.

BY DIRECTION OF THE POLICE COMMISSIONER

DISTRIBUTION:
All Commands

INTERIM ORDER NO. 9

POLICE DEPARTMENT
CITY OF NEW YORK

March 27, 1981

TO ALL COMMANDS

Subjec: COMPUTERIZED FUEL DISPENSING SYSTEM

1. The department has developed a Computerized Fuel Dispensing System which will be phased in on a borough by borough basis. The effective date of implementation within each borough will be announced via transmission of a TELETYPE and FATN message. The new system will provide the following benefits:

a. Eliminate the need for:
   (1) Gas receipt books
   (2) Locks and keys for gas pumps
   (3) Re-ordering fuel at precinct level
   (4) Quarterly vehicle mileage reports
   (5) Gasoline summary entries in Command Log
   (6) Telephone notifications of amount of fuel on hand
   (7) Monthly and quarterly reports of gasoline and oil dispensed to authorized private vehicles

b. Alleviate the "No Gas" problem

c. Reduce out of service time to re-fuel department vehicles

d. Permit reassignment of personnel currently involved in dispensing fuel

e. Provide more efficient and accurate records of dispensing operations.

2. Under the Computerized Fuel Dispensing System, members of the service qualified to operate a department vehicle, and designated by their commanding officers, will be issued a plastic Operator Card, similar to a credit card, which will uniquely identify the member to whom issued; each department vehicle will be assigned a Vehicle Card which uniquely identifies the vehicle concerned. While the major portion of fuel dispensing operations will be accomplished utilizing these two cards alone certain specific re-fueling and recording transactions indicated in the procedure contained herein will require the issuance of two (2) additional cards - a Master Card and a Private Vehicle Card - to each fuel dispensing facility within the department.

3. It is emphasized that these plastic cards are an integral part of the new system; without them, it will be impossible to re-fuel at any department facility. Conversely, possession of a valid OPERATOR CARD by a person other than the member to whom issued, affords that person access to fuel at any department facility; the computer will record any fuel so obtained as having been received by the member to whom the card was issued. Thus, it is incumbent upon each member concerned to exercise due care in safeguarding cards from loss and/or damage at all times. However, should a card be misplaced, lost or damaged, the member concerned must immediately notify the Fuel Control Center, Motor Transport Division (476-7524), so that the card may be invalidated and a new one issued. Prompt notification will eliminate the possibility of unauthorized use.

4. To further ensure the integrity of the system, the commanding officer of a member to whom an OPERATOR CARD has been issued will require the surrender of such card when the member concerned:

a. Retires, resigns or dies
b. Is suspended or dismissed
c. Has been granted indefinite military leave or extended leave of absence.

After taking possession of an OPERATOR CARD in any of the foregoing circumstances, the commanding officer concerned will notify the Fuel Control Center, by telephone, so that the card may be invalidated and then forward the card to that unit, via department mail.

5. Upon transfer of a member authorized to obtain fuel for a private vehicle, the private vehicle fueling privilege will be invalidated automatically by Fuel Control Center personnel on the basis of current Personnel Orders; no action on the part of the member or his former commanding officer is required. The member will retain his original OPERATOR CARD for use in re-fueling department vehicles, but private vehicle fueling transactions will be rejected by the computer. Reinstatement of the private vehicle fueling privilege will require a Typed Letterhead from the member's new commanding officer to the Commanding Officer, Motor Transport Division.

6. Commands concerned are advised that at the time the system becomes operational, they will no longer be required to re-order motor vehicle fuel. This will be accomplished automatically by the Fuel Control Center when the computer indicates fuel on hand has reached a prescribed level. However, VENDOR'S INVOICES indicating fuel delivery to department facilities will continue to be FORWARDED TO AUDITS & ACCOUNTS SECTION THE NEXT DAY AFTER DELIVERY. Additionally, commanding officers concerned will designate responsible members to monitor the supply of engine oil available and re-order additional oil, as required, through Motor Transport Division.

7. All members of the service concerned are advised that when the Computerized Fuel Dispensing System first becomes operational, the initial insertion of the VEHICLE CARD into the computer terminal will result in the appearance of an "Error Light" because the computer has insufficient recorded data pertaining to the vehicle. No fuel can be obtained until the procedure is repeated in its entirety. Upon completion of the required procedure the second time, the pump lever may be activated and fuel obtained.

8. In the event of a computer breakdown or other emergency, MANUAL OVERRIDE procedures have been developed by Motor Transport Division to ensure continued availability of fuel for department vehicles.

9. Accordingly, upon implementation of the Computerized Fuel Dispensing System, all members of the service concerned will comply with the following:

PURPOSE	To obtain fuel for department and/or authorized private vehicles.
DEFINITIONS	OPERATOR CARD (white) - Issued to members qualified to operate department vehicles AND designated by their commanding officers; uniquely identifies member concerned. VEHICLE CARD (blue) - Issued to each department vehicle; uniquely identifies the vehicle to which assigned.

PRIVATE VEHICLE CARD (red) - Issued to each fuel dispensing facility within the department for use in conjunction with the OPERATOR CARD to obtain fuel and/or oil for authorized private vehicles, including department ambulances.

MASTER CARD (green) - Issued to each fuel dispensing facility within the department for use in conjunction with the OPERATOR CARD, to:

a. Permit re-fueling of department vehicle when assigned VEHICLE CARD is MISPLACED, LOST OR DAMAGED.
b. Record fuel deliveries.
c. Verify and record fuel on hand in in-ground storage tanks, as indicated by "dip stick" readings.
d. Provide fuel for small machinery not having a department vehicle identification number, i.e., snow blowers, generators, etc.

PROCEDURE

When motor vehicle fuel is required:

MEMBER OF THE SERVICE

1. Verify that "System Light" is on, indicating that system is operational.
    a. Notify Fuel Control Center (476-7524) if inoperative.
2. Insert OPERATOR CARD in "Card Entry" slot on face of computer terminal and remove smartly.

NOTE

When any of the above defined cards is inserted in the "Card Entry" slot on face of terminal, the magnetic tape strip MUST FACE UPWARD AND TO THE RIGHT.

3. Push "Pump Select" button for fuel desired.
    a. Wait for amber "Wait Light" to go out.
4. Enter odometer mileage reading to NEAREST WHOLE MILE, using thumbwheels on face of terminal.
    a. Thumbwheel positions NOT REQUIRED to record mileage MUST BE SET AT ZERO, eg., 001234, 012345, etc.
5. Insert Vehicle Card in "Card Entry" slot and remove smartly
6. Push same "Pump Select" button as in step 3
    a. Wait for amber "Wait Light" to go out and green "Pump Select Light" to appear.
7. Activate pump lever and obtain required fuel.
    a. If re-fueling is not commenced in a timely fashion, system will shut down and require that procedure be repeated to obtain fuel.

NOTE

If a "Error Light" appears, correct the error and repeat procedure

TO OBTAIN FUEL FOR AUTHORIZED PRIVATE VEHICLES

8. Obtain Private Vehicle Card (red) from station house officer/supervisory member.
9. Complete steps 1, 2 and 3, above.
10. Enter LAST FOUR (4) DIGITS OF SOCIAL SECURITY NUMBER ON RIGHT MOST THUMBWHEELS.
    a. Set remaining LEFT MOST thumbwheels at ZERO, i.e., 00.

NOTE Odometer mileage readings are NOT REQUIRED when using Private Vehicle Card to obtain fuel.

11. Insert Private Vehicle Card in "Card Entry" slot and remove smartly.
12. Complete steps 6 and 7 above
13. Return Private Vehicle Card to station house officer/supervisory member.

TO OBTAIN FUEL FOR DEPARTMENT VEHICLE WHEN ASSIGNED VEHICLE CARD IS MISPLACED, LOST OR DAMAGED

14. Obtain Master Card (green) from station house officer/supervisory member.
15. Complete steps 1, 2 and 3, above.
16. Identify type of vehicle by dialing appropriate digits on LEFT MOST thumbwheels, as follows:

TYPE OF VEHICLE	ENTER ON LEFT MOST THUMBWHEELS
Department auto, van, station wagon, truck, patrol wagon	00
Department scooter	009
Department motorcycle	0089
Auxuluary Police vehicle	0088

NOTE When using the MASTER CARD IN LIEU OF ASSIGNED VEHICLE CARD to re-fuel department vehicles, ODOMETER MILEAGE READINGS WILL NOT BE ENTERED ON THUMBWHEELS.

17. Enter assigned department vehicle identification number in RIGHT MOST thumbwheel position(s).

NOTE Thumbwheel positions NOT REQUIRED to indicate type of vehicle and/or assigned department vehicle identification number MUST BE SET AT ZERO.

18. Insert Master Card in "Card Entry" slot and remove smartly.
19. Complete steps 6 and 7, above.
20. Return Master Card to Station house officer/supervisory member.

TO RECORD ENGINE OIL OBTAINED FOR DEPARTMENT VEHICLES

21. Put required amount of oil into vehicle.
22. Enter number of quarts used on RIGHT MOST thumbwheel.
    a. Set remaining thumbwheel positions at ZERO.
23. Insert OPERATOR CARD in "Card Entry" slot and remove smartly.
24. Push "Oil" button.
    a. Wait for amber "Wait Light" to go out.
25. Insert VEHICLE CARD in "Card Entry" slot and remove smartly.
26. Push "Oil" button.
    a. When "Wait Light" goes out, transaction has been recorded.

NOTE

When obtaining engine oil for a department vehicle whose VEHICLE CARD has been lost, misplaced or damaged, the Master Card can be used in lieu of the assigned VEHICLE CARD in step 25.

TO RECORD ENGINE OIL OBTAINED FOR AUTHORIZED PRIVATE VEHICLES

27. Complete steps 21 through 26, SUBSTITUTING THE PRIVATE VEHICLE CARD FOR THE VEHICLE CARD required in step 25.

ADDITIONAL DATA

As indicated in the DEFINITIONS, the MASTER CARD (green) is necessary to record certain other transactions, to wit:

TO RECORD FUEL DELIVERIES AT DEPARTMENT FACILITIES

28. Insert OPERATOR CARD in "Card Entry" slot and remove smartly.
29. Push "Pump Select" button.
30. Identify transaction by setting LEFT MOST thumbwheel at 90.
31. Indicate gallons of fuel delivered on RIGHT MOST thumbwheel postions, eg., 1500, 0900, etc.
    a. Unused thumbwheel postions must be set at ZERO.
32. Insert MASTER CARD in "Card Entry" slot and remove smartly.
33. Push same "Pump Select" button.
34. Transaction is completed when amber "Wait Light" goes out.

TO RECORD FUEL ON HAND IN IN-GROUND STORAGE TANK PER "DIP STICK" READING

35. Complete steps 28 and 29, above.
36. Identify transaction by setting LEFT MOST thumbwheels at 70.
37. Enter gallons of fuel on hand ("dip stick" reading) by setting RIGHT MOST thumbwheels at appropriate digital positions, eg., 0090, 0450, 1000, 1100, etc.
38. Complete steps 32 and 33 above.
39. Transaction is completed when amber "Wait Light" goes out.

TO DISPENSE FUEL TO SMALL EQUIPMENT HAVING NO DEPARTMENT VEHICLE IDENTIFICATION NUMBER

40. Complete steps 28 and 29, above.
41. Identify transaction by setting thumbwheel positions at 009999 IN ALL INSTANCES.
42. Insert MASTER CARD in "Card Entry" slot and remove smartly.
43. Push SAME "Pump Select" button.
    a. Wait for amber "Wait Light" to go out and green "Pump Select Light" to appear.
44. Activate pump lever and obtain required fuel.

10. Any questions pertaining to the foregoing procedure may be resolved by contacting the Fuel Control Center, Motor Transport Division, telephone (476-7524).

11. Any provisions of the Department Manual or other department directives in conflict with this order are suspended.

BY DIRECTION OF THE POLICE COMMISSIONER

DISTRIBUTION
All Commands

INTERIM ORDER NO. 9

Appendix D

EQUIPMENT SUPPLIERS*

The following is a listing of automated fuel dispensing equipment suppliers:

Bennet Pump Co.
Broadway Wood St.
P.O. Box 597
Muskegon, MI 49443
(616) 733-1302

CH Electronics, Inc.
P.O. Box 14042
Raleigh, NC 27610
(919) 833-2250

E.J. Ward, Inc.
8801 Tradeway
San Antonio, TX 78217
(512) 824-7383

E.S.I.
1841 E. 3rd St.
Tempe, AZ 85281
(602) 967-8751

Koppens Automatic
P.O. Box 6251
Chesapeake, VA 23323
(804) 487-0077

Petro Vend, Inc.
9128 W. 47th St.
Brookfield, IL 60513
(312) 485-4200

Rusco Electronics Systems
1840 Victory Blvd.
P.O. Box 5005
Gendale, CA 91201
(213) 240-2540

Tokheim Corporation
1600 Wabash Ave.
Fort Wayne, IN 46801
(219) 423-2552

Tuthill Corporation
Fill-Rite Division
Baer Field
Fort Wayne, IN 46809
(219) 747-7524

William M. Wilson's
Sons, Inc.
P.O. Box 309
Lansdale, PA 19446
(215) 855-4631

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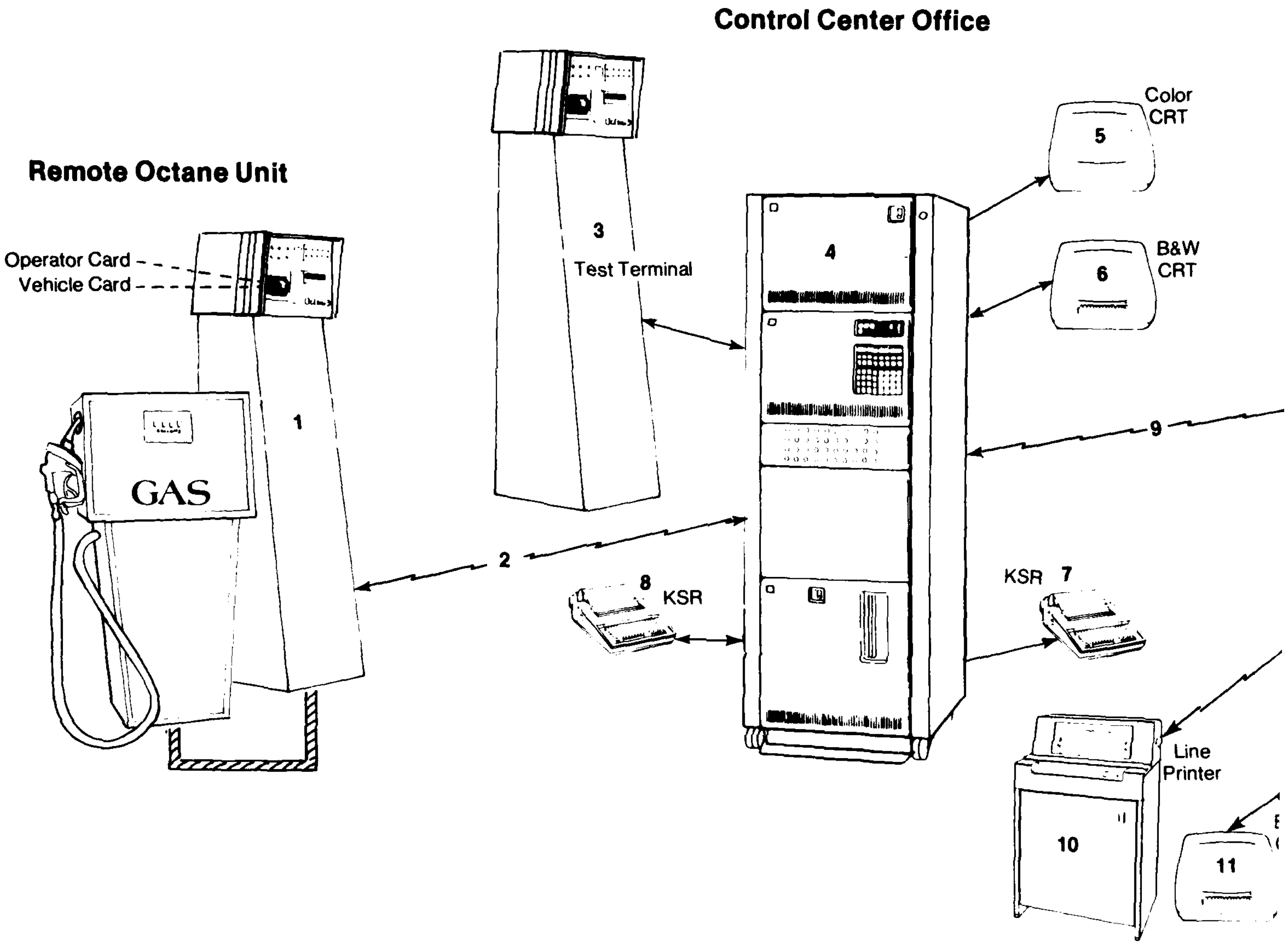
* List compiled by The Product Information Network, McGraw-Hill Information Systems Company, 1221 Avenue of the Americas, New York, New York.

Appendix E

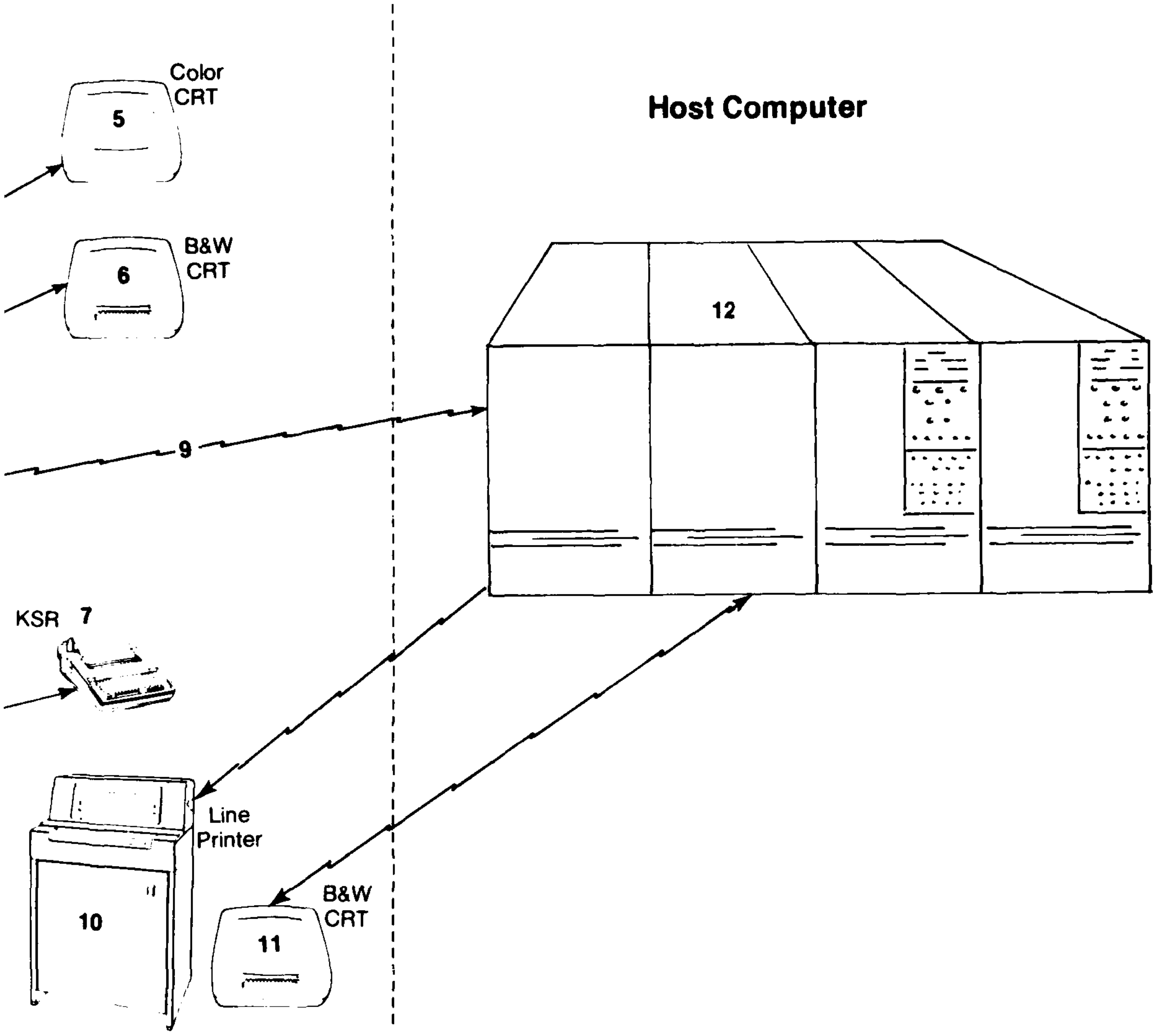
SYSTEM CONFIGURATION DESIGN AND CAPABILITY USING LARGE HOST COMPUTER


Control Center Office
Remote Octane Unit
Operator Card
Vehicle Card
GAS
1
2
3
Test Terminal
4
Color CRT
5
B&W CRT
6
9
KSR 7
8 KSR
Line Printer
10
11

Original Configuration with By-Product Fleet Management

1. Remote Terminals	assure card validity, activate pumps at remote sites
2. Dedicated Telephone Lines	tie remote terminals to minicomputer
3. Test Terminal	simulates remote terminals, isolates terminal/ telephone-line problem areas
4. Minicomputer	performs card validity checks, collects and passes transaction data to host computer via dial-up telephone line
5. Color CRT	Monitors equipment and fuel inventory status
6. Black & White CRT	queries minicomputer for operator, vehicle and tank/pump status

7. KSR	lo
8. KSR	u
9. Dial-up Telephone Line	p p
10. Line Printer	pr
11. Black & White CRT	q
12. Host Computer	st re d s


Host Computer
Color
CRT
5
B&W
CRT
6
9
12
KSR
7
Line
Printer
10
B&W
CRT
11

t Management System

7. KSR	logs transactions
8. KSR	updates minicomputer and host computer files
9. Dial-up Telephone Line	passes transactions to host computer via periodic batch update
10. Line Printer	prints all management reports from host computer
11. Black & White CRT	queries host computer files
12. Host Computer	stores all system data, provides management reports--see following pages for host file data elements and definitions, and sample report capability

PROPOSED HOST FILE DATA ELEMENTS

OPERATOR FILE

Actuator Card Number
Agency Code
Record Identifier
Card Sequence Number
Surname
First Name
Initial
Status Code
Status Date
Bureau
Borough
Command
Previous Card Number

VEHICLE FILE

Actuator Card Number
Agency Code
Record Identifier
Classification
Card Sequence Number
Previous Card Number
Bureau
Borough
Command
Responsibility Center
Community Board
Make of Vehicle
Model of Vehicle
Year of Manufacture

Engine Size
Tank Capacity
Product Type
Spare Vehicle
Air Conditioning
Power Lift Gate
Maximum Gross Vehicle Weight
Status Code
Status Date
Key Numbers
    Ignition
    Trunk
    Gas Cap
Vehicle Range
License Plate Number
Acquisition Date
Acquistion Cost
Vehicle Color
Average Miles Per Gallon This Tank
Average Miles Per Gallon Life
Current Odometer Reading
Last Odometer Reading
Startup Odometer Reading
Hour Meter/No Odometer Flag
Miles Driven - Month 1
Miles Driven - Month 2
Miles Driven - Month 3
Miles Driven - Month 4
Miles Driven - Month 5
Miles Driven - Month 6
Miles Driven - Month 7
Miles Driven - Month 8
Miles Driven - Month 9
Miles Driven - Month 10
Miles Driven - Month 11
Miles Driven - Month 12
Miles Driven - Month 13

Current Gallons Dispensed
Cumulative Gallons Consumed - Month 1
Cumulative Gallons Consumed - Month 2
Cumulative Gallons Consumed - Month 3
Cumulative Gallons Consumed - Month 4
Cumulative Gallons Consumed - Month 5
Cumulative Gallons Consumed - Month 6
Cumulative Gallons Consumed - Month 7
Cumulative Gallons Consumed - Month 8
Cumulative Gallons Consumed - Month 9
Cumulative Gallons Consumed - Month 10
Cumulative Gallons Consumed - Month 11
Cumulative Gallons Consumed - Month 12
Cumulative Gallons Consumed - Month 13
Life Gallons Consumed
Out of Service Count
Shop Number
PM Code
Last PM Mileage
Last PM Date
Mileage Next PM Due

Repair Costs

Air Conditioning, Heating & Ventilating System
Cab and Sheet Metal
Instrument And Gages
Axles Classic
Axles Front - Nondriven
Axles Rear - Nondriven
Brakes
Frame
Steering
Suspension
Tires
Wheels, Rims, Hubs & Bearing
Automatic Lubricator

Drive Train

Axle Driven - Front Steering
Axle Driven - Rear
Clutch
Drive Shaft(s)
Power Take Off
Transmission - Main - Standard
Transmission - Main - Automatic
Transmission - Auxilary And Transfer Case
Charging System
Cranking System
Ignition System
Lighting System
Air Intake System
Cooling System
Exhaust System
Fuel System
Power Plant

Accessories

General Accessories
Electrical Accessories
Expandable Accessories
Horn and Mounting
Power Tail Gate/Lifting Devices
Radio Equipment
Spare Wheel Mounting
Vehicle Coupling System
Special Police Equipment

AD-A119 954 NAVAL UNDERWATER SYSTEMS CENTER NEW LONDON CT NEW LO--ETC F/G 13/11
NEW YORK CITY POLICE DEPARTMENT AUTOMATED FUEL MONITORING SYSTE--ETC(U)
NOV 81 W J MCGRATH, M M MCNAMARA
UNCLASSIFIED NUSC-TR-6567-II NL

2 OF 4
AD A
119954

TANK PUMP FILE

Actuator Card Number
Agency Code
Record ID (Site Number)
Tank Number
Pump Number
Command
Tank Capacity
Product Type
Current Gallons Delivered
Month-to-date Gallons Delivered
Year-to-date Gallons Delivered
Month-to-date Delivery Count
Year-to-date Delivery Count
Month-to-date Transaction
Year-to-date Transaction
Year-to-date Gallons Dispensed
On-hand Balance
Reorder Point
Shutdown Point
Call Flag
Call Time
Delivery Time
Delivery Date
Status Code
Status Date
Inventory Adjustment
Master Meter Reading

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

FILE: OPERATOR

PAGE 1 OF 4

FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
0	1	Alpha	1	File Identifier	"0" Identifies the operator file in the NYCPD Fuel Monitoring System.
0 01	2-7	Numeric	6	Actuator Card Number	A serialized number magnetically encoded in the operator actuator card which uniquely identifies a record or operator in the NYCPD Fuel Monitoring System.
0 02	8-10	Numeric	3	Agency Code (NYCPD=056)	Uniquely identifies each agency within the New York City Government. Codes are defined in the agency code table attached. Agency codes were taken from the integrated financial management systems manual, appendix "C", pages C1-C5, dated March 1, 1977.
0 03	11-22	Numeric	11	Record Identifier Position 11-19 Tax Registry Number	A six (6) digit number assigned by the Police Department which uniquely identifies each employee of the department. Field is nine (9) digits in the event that other city agencies use social security number to uniquely identify employees. In the case of NYCPD employees, position 11, 12, and 13 will always be zero filled by the computer.
				Position 20 "A" or "I"	"A" Indicates the active records on file. "I" indicates the inactive record(s) on file; there can be multiple "I" records on file but only one (1) "A" record on file.

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

FILE: OPERATOR

PAGE 2 OF 4

FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
				Position 21-22 Card Sequence Number	Positions 21 and 22 identify the card sequence number, which indicates the total number of actuator cards issued to each individual.
0 04	23-40	Alpha	18	Surname	Surname of Vehicle Operator
0 05	41-50	Alpha	10	First Name	First Name of Vehicle Operator
0 06	51	Alpha	1	Initial	Middle Initial of Operator
0 07	52	Numeric	1	Status Code	1=Active-Valid 2=Lost/Stolen-Invalid 3=Resigned/Retired/Terminated-Invalid 4=Suspended-Invalid 5=Military/Extended Leave-Invalid 6=Mutilated Card-Invalid
0 08	53-58	Numeric	6	Status Date	A computer generated date to indicate the effective date of the current status code. Expressed MMDDYY.
0 09	59-60	Alpha	2	Bureau Code	Indicates the organizational bureau within the Police Department to which the operator is assigned. CA-Office of Deputy Commission Community Affairs CJ-Office of Deputy Commission Criminal Justice

FILE: OPERATOR

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

PAGE 3 OF 4

FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
				Bureau Code (Continued)	CO-Office of Chief of Operations CT-Office of Deputy Commissioner Trails DA-Office of Deputy Commissioner Administration DB-Detective Bureau FC-Office of First Deputy Commissioner IS-Inspectional Services Bureau LM-Office of Deputy Commissioner Legal Matters OC-Office of Chief of Organized Crime Control Bureau PB-Personnel Bureau PC-Office of Police Commissioner PI-Office of Deputy Commissioner PS-Patrol Services Bureau SO-Special Operations Division SS-Support Services Bureau
0 10	61-64	Alpha-Numeric	4	Borough	Identifies the geographical area which the operator's command covers. Allowable coding; BKLN-Brooklyn North BKLS-Brooklyn South BKLY-Brooklyn BRNX-Bronx City-City Wide MANH-Manhattan MANN-Manhattan North MANS-Manhattan South QUEN-Queens STIS-Staten Island See Borough Table.

FILE: OPERATOR

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

PAGE 4 OF 4

FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
0 11	65-68	Alpha-Numeric	4	Command	A Mnemonic code which defines the lowest organizational level to which an operator is assigned. See command table.
0 12	69-74	Numeric	6	Previous Card Numner	When more than one (1) actuator card has been issued to an employee the previous card is invalidated and called out as an audit trail.

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

FILE: VEHICLE

PAGE 1 OF 15

FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
V	1	Alpha	1	File Identifier	"V" identifies the Vehicle File
V01	2-7	Numeric	6	Actuator Card Number	A serialized number magnetically encoded in the vehicle actuator card for uniquely identifying a record or vehicle in the vehicle file.
V02	8-10	Numeric	3	Agency Code	Identifies the agency within the City Government. Codes are defined in Appendix "C" of the Integrated Financial Management System Manual. Code for Police Dept. is "056".
V03	11-19	Alphameric	9	Record ID	
		Numeric	2	Classification Code (Pos. 11-12)	A classification grouping of vehicles. See classification Code Table attached
		Numeric	4	Vehicle Number (Pos. 13-16)	A reuseable number assigned by the Police Department to identify each police vehicle.
		Alpha	1	Active or Inactive Record Identifier (Pos. 17)	"A" indicates the active record on file. "I" indicates inactive record (s) on file. There can be multiple "I" records on file but only one (1) "A" record.

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

FILE: VEHICLE

PAGE 4 OF 15

FIELD ID	FILE POS.	FIELD TYPE	FIELD SIZE	TITLE	DEFINITION & ALLOWABLE CODING
		Numeric	2	Actuator Card Sequence Number (Pos. 18-19)	Identifies the card sequence number which indicates the total number of actuator cards issued to each individual.
V04	20-25	Numeric	6	Previous Card Number	When subsequent cards are issued the previous card will be invalidated and tracked by this field.
V05	26-27	Alpha	2	Bureau	Indicates the organizational Bureau within the Police Dept. to which the operator is assigned. Allowable Bureau Codes: CA-Office of Deputy Commissioner Community Affairs CJ-Office of Deputy Commissioner Criminal Justice CO-Office of Chief of Operations CT-Office of Deputy Commissioner Trials DA-Office of Deputy Commissioner Administration DB-Detective Bureau FC-Office of First Deputy Commissioner IS-Inspectional Services Bureau LM-Office of Deputy Commissioner Legal Matters OC-Office of the Chief of Organized Crime Control Bureau PB-Personnel Bureau PC-Office of Police Commissioner PI-Office of Deputy Commissioner Public Information

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

FILE· VEHICLE

PAGE 3 OF 15

FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
				Bureau (Continued)	PS-Patrol Services Bureau SO-Special Operations Division SS-Support Services Bureau TD-Traffic Division
V06	28-31	Alpha	4	Borough	Identifies the Geographical area to which the vehicle is assigned. Allowable Coding: BKLN-Brooklyn North BKLS-Brooklyn South BKLY-Brooklyn BRNX-Bronx CITY-City Wide MANH-Manhattan MANN-Manhattan North MANS-Manhattan South QUEN-Queens STIS-Staten Island See Borough Table.
V07	32-35	Alphameric	4	Command	Identifies the Command, Unit, or Precinct to which the vehicle is assigned for duty. See Command Code Table attached.
V08	36-39	Alphameric	4	Responsibility Center	Future use for co-terminology fiscal control.
V09	40-42	Alphameric	3	Community Board	Future use for co-terminology fiscal control.
V10	43-46	Alpha	4	Make of Vehicle	Identifies the division of the manufacturer of the vehicle.

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

FILE: VEHICLE

PAGE 4 OF 15

FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
V11	47-50	Alpha	4	Model of Vehicle	Vehicle model as defined by the manufacturer.
V12	51-52	Numeric	2	Year of Manufacturer	Last Two (2) digits of the year the vehicle was manufactured.
V13	53-56	Alphameric	4	Engine Size	The cubic inch displacement of the vehicle engine and number of cylinders, i.e., 350-8.
V14	57-59	Numeric	3	Tank Capacity	Indicates the vehicle fuel tank capacity in gallons.
V15	60	Numeric	1	Product Type	A numeric code indicating the type of fuel dispensed: 0=Not applicable 1=Regular 2=Premium 3=Unleaded 4=Diesel 5=Oil
V16	61	Alpha	1	Spare Vehicle	Indicates if vehicle has been assigned as a spare vehicle and consequently not included in the quota. Y=Yes - Vehicle is assigned as a spare N=No- Vehicle is not considered spare X=Not applicable
V17	62	Alpha	1	Air Conditioning	A Mnemonic Code to indicate if vehicle is or is not air conditioned.

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

FILE: VEHICLE

PAGE 5 OF 15

FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
				Air Conditioning (Continued)	Y=Yes - Vehicle is Air-Conditioned N=No - Vehicle is not Air-Conditioned X=Not Applicable
V18	63	Alpha	1	Power Lift Gate	A Mnemonic Code to indicate if vehicle is equipped with an automatic Lift Gate. Y=Yes - Vehicle is equipped with Automatic Lift Gate N=No - Vehicle is not equipped with Automatic Lift Gate X=Not Applicable
V19	64-68	Numeric	5	Maximum Gross Vehicle Weight	MGVW is the weight of the vehicle plus its maximum carrying capacity. Expressed in pounds, MGVW is a mandatory Data Field for truck vehicles only, i.e., Classification Code 60-70-80 Series.
V20	69	Numeric	1	Status Code	A one digit code to indicate the validity status of the vehicle. 1=Lost/Stolen 2=Condemned 3=Collision 4=Mechanical 5=Awaiting Tow 9=Valid
V21	70-75	Numeric	6	Status Date	Date last status action took place. Expressed - MMDDYY.
V22	76-96	Alphameric	21	Key Numbers	Identifies the manufacturers. Identification Number for

NYCPO FUEL MONITORING SYSTEM
FILE DEFINITIONS

FILE: VEHICLE

P/ _6_ OF _15_

FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOW CODING
		TYPE	SIZE		
				Key Numbers (Continued)	Ignition Key: 76- Truck Key: 83-89 Gasoline Cap Key
V23	97-99	Numeric	3	Vehicle Range	The lowest mile per gallon Range expected of vehicle.
V24	100-105	Alphameric	6	License Plate Number	The state license plate number assigned to the vehicle. A mandatory data element for unmarked vehicles only. If CONFIDENTIAL, field is to be posted as "CONFID".
V25	106-111	Numeric	6	Acquisition Date	Date vehicle was first put into service by the Motor Transport Division Expressed - MMDDYY.
V26	112-116	Numeric	5	Acquisition Cost	The initial vehicle cost expressed in whole dollars.
V27	117-120	Alpha	4	Vehicle Color	The vehicle color as defined by the manufacturer.
V28	121-123	Numeric	3	Average miles per gallon this tank.	The computer average miles per gallon from the time of the last fuel dispensing. Computation: V30 minus V31 giving miles driven Miles driven ÷ V47 = V28 Expressed to the tenth.
V29	124-126	Numeric	3	Average miles per gallon life	Vehicle life is defined as beginning with the "startup mileage" (V32 which is the point in time when the vehicle first fueled under the automated system. The computation is:

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

FILE: VEHICLE

PAGE 7 OF 15

FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
				Average miles per gallon life (Continued)	V30 minus V32 giving life miles Life miles + V61 = V29.
V30	127-131	Numeric	5	Current Odometer Reading	The Current Odometer Reading entered as variable data at the terminal prior to dispensing fuel.
V31	132-136	Numeric	5	Last Odometer Reading	The odometer reading at the time of the previous fuel dispensing.
V32	137-141	Numeric	5	Startup Odometer Reading	To be used the first time fuel is dispensed in the automated fuel dispensing system. Startup odometer reading is to be considered as the beginning of the vehicle life for system purposes.
V33	142	Numeric	1	No Odometer Reading/Hour Meter Flag	A code indicating if the vehicle is not required to report odometer reading or if the vehicle has an hour meter as opposed to an odometer. 0=No odometer required 1=Hour meter
V34	143-146	Numeric	4	Month 1 - Miles Driven	
V35	147-150	Numeric	4	Month 2 - Miles Driven	
V36	151-154	Numeric	4	Month 3 - Miles Driven	
V37	155-158	Numeric	4	Month 4 - Miles Driven	
V38	159-162	Numeric	4	Month 5 - Miles Driven	
V39	163-166	Numeric	4	Month 6 - Miles Driven	

FILE: VEHICLE

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

PAGE 8 OF 15

FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
V40	167-170	Numeric	4	Month 7 - Miles Driven	A thirteen month history of vehicle miles driven by month expressed in whole miles.
V41	171-174	Numeric	4	Month 8 - Miles Driven	
V42	175-178	Numeric	4	Month 9 - Miles Driven	
V43	179-812	Numeric	4	Month 10 - Miles Driven	
V44	183-186	Numeric	4	Month 11 - Miles Driven	
V45	187-190	Numeric	4	Month 12 - Miles Driven	
V46	191-194	Numeric	4	Month 13 - Miles Driven	
V47	195-198	Numeric	4	Current Gallons Dispensed	The total gallons dispensed during the current dispensing, expressed in tenths, i.e., 999V9.
V48	199-203	Numeric	5	Month 1 - Cumulative Gallons Consumed	
V49	204-208	Numeric	5	Month 2 - Cumulative Gallons Consumed	
V50	209-213	Numeric	5	Month 3 - Cumulative Gal. Cons.	
V51	214-218	Numeric	5	Month 4 - Cumulative Gal. Cons.	
V52	219-223	Numeric	5	Month 5 - Cumulative Gal. Cons.	
V53	224-228	Numeric	5	Month 6 - Cumulative Gal. Cons.	A thirteen month history of the cumulative gallons of fuel consumed by month. Expressed to the tenth of a gallon, i.e., 999V9.
V54	229-233	Numeric	5	Month 7 - Cumulative Gal. Cons.	
V55	234-238	Numeric	5	Month 8 - Cumulative Gal. Cons.	
V56	239-243	Numeric	5	Month 9 - Cumulative Gal. Cons.	

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

FILE: VEHICLE

PAGE 9 OF 15

FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
V57	244-248	Numeric	5	Month 10 - Cumulative Gal. Cons.	
V58	249-253	Numeric	5	Month 11 - Cumulative Gal. Cons.	
V59	254-258	Numeric	5	Month 12 - Cumulative Gal. Cons.	
V60	259-263	Numeric	5	Month 13 - Cumulative Gal. Cons.	
V61	264-269	Numeric	6	Life Gallons Consumed	Total gallons of fuel consumed by the vehicle starting from the date the vehicle first receives fuel under the automated system.
V62	270-271	Numeric	2	Out of Service Count	The total number of times the vehicle has been out of service.
V63	272-274	Numeric	3	Days out of service	The total completed days the vehicle has been out of service.
V64	275-276	Numeric	2	Shop Number	Identifies the shop number that is repairing the vehicle if the vehicle is in an out of service status.
V65	277	Numeric	1	PM Code	0=PM is not required 1=4000 "A" PM 2=8000 "B" PM
V66	278-282	Numeric	5	Last PM Mileage	The vehicle odometer at the time of its last PM.
V67	283-288	Numeric	6	Last PM Date	Date the last PM was performed on the vehicle. Expressed: MMDDYY.
V68	289-293	Numeric	5	Mileage Next PM Due	The incremented mileage between PM's for each vehicle. Police Vehicles - 4000 miles.

FILE: VEHICLE

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

PAGE 10 OF 15

FIELD ID	FILE POS.	FIELD TYPE	FIELD SIZE	TITLE	DEFINITION & ALLOWABLE CODING
				REPAIR COSTS	Cost for repair as indicated.
V101	294-299	Numeric	6	Air Conditioning, Heating and Ventilating System	Includes all fans, hoses, thermostats, ductwork, etc., associated with the environmental control of the vehicle cab.
V102	300-305	Numeric	6	Cab and Sheet Metal	Includes all cab and sheet metal required to cover the major vehicle components. This category includes all integral bodies and pickup type beds normally supplied by the vehicle manufacturer. It also includes windshields, glass, reflectors, mirrors, seats and interior cab equipment. It does not include special bodies such as pumps and containers.
V103	306-311	Numeric	6	Instrument and Gauges	Includes all instruments, gauges and warning devices.
				CHASSIS	
V111	312-317	Numeric	6	Axles Front - Non-Driven	Begins at, but does not include, the front springs and includes all components up to but not including the wheel bearings.
V112	318-323	Numeric	6	Axles Rear - Non-Driven	Begins at, but does not include, the rear springs and includes all components up to but not including the rear hubs and bearings.

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

FILE: VEHICLE

PAGE 11 OF 15

FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
V113	324-329	Numeric	6	Brakes	Begins at the brake pedal and includes all plumbing, valves, air compressor and controls up to and including the brakedrums.
V114	330-335	Numeric	6	Frame	Includes all structural members of the frame including the bumpers and necessary brackets and mounts required for attaching components. However, suspension brackets are not included as part of the frame.
V115	336-341	Numeric	6	Steering	Begins at the steering wheel and includes all steering components up to, but not including the spindle or steering knuckle.
V116	342-347	Numeric	6	Suspension	Begins with, and includes, the brackets attaching the suspension to the frame and includes the parts necessary to attach the suspension to the axle.
V117	348-353	Numeric	6	Tires	Includes only the labor and material required to repair and change tires and tubes actually mounted on a vehicle. It is not intended to cover new tires or tubes or work performed on tires which are not mounted on a vehicle.
V118	354-359	Numeric	6	Wheel, Rims, Hubs, and Bearings	Includes only wheels, rims, hubs, wheel bearings and seals.
V119	360-365	Numeric	6	Automatic Lubricator	Includes control system, necessary plumbing, wiring, fittings and fasteners.

NYCFD FUEL MONITORING SYSTEM
FILE DEFINITIONS

FILE: VEHICLE

PAGE 12 OF 15

FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
				DRIVE TRAIN	
V121	366-371	Numeric	6	Axle Driven - Front Steering	Includes the axle assembly beginning with the front spring pad through, but not including the wheel hub and bearings, and includes the differential drive flange or yoke.
V122	372-377	Numeric	6	Axle Driven - Rear	Begins at, but does not include, the rear springs, and includes all components up to but not including the wheel hub and bearings. It includes the differential drive flange or yoke.
V123	378-383	Numeric	6	Clutch	Includes all clutch drive or driven members including the controls. It does not include the flywheel.
V124	384-389	Numeric	6	Drive Shaft(s)	Includes all drive shafts, universal joints and support bearings between the component drive flanges or yokes.
V125	390-395	Numeric	6	Power Take Off	Includes the following types of power take off units and all related components: front driver, flywheel driven, transmission driven, auxiliary transmission driven.
V126	396-401	Numeric	6	Transmission - Main - Standard	Includes the transmission case, cover and all internal parts and controls. Begins with the main drive gear and ends at the rear flange or yoke.

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

FILE: VEHICLE

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FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
V127	402-407	Numeric	6	Transmission - Main - Automatic	Includes the transmission case, cover and all internal parts and controls. Begins with the main drive gear and ends at the rear flange or yoke.
V128	408-413	Numeric	6	Transmission - Auxiliary and Transfer Case	Includes the transmission case, cover and all internal parts and controls. Begins with the main drive gear and ends at the rear output shaft flange.
V131	414-419	Numeric	6	Charging System	Includes all components and wiring necessary to the charging of the vehicle. It does not include either the battery or gauges.
V132	420-425	Numeric	6	Cranking System	Includes the starting motor, necessary piping, wiring, relays and switches (excluding combination ignition or accessory switches) including the system power source which is normally a battery. The cranking system includes both electrical and air operated systems.
V133	426-431	Numeric	6	Ignition System	Begins with the ignition switch and includes all components through the spark plugs. It includes all components and wiring in both primary and secondary circuits.
V134	432-437	Numeric	6	Lighting System	Includes all wiring, bulbs, switches and wiring harness necessary to illuminate the vehicle.

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

FILE: VEHICLE

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FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
				ENGINE SYSTEM	
V141	438-443	Numeric	6	Air Intake System	Includes all items between the air inlet port through the intake manifold (excluding carburetor). It does not include the air cleaner. Included also are blowers and superchargers.
V142	444-449	Numeric	6	Cooling System	Begins with the radiator and covers all components up to and including the water pump. Also includes water manifold and temperature control devices.
V143	450-455	Numeric	6	Exhaust System	Begins with the exhaust manifold and extends through the end of the tail pipe.
V144	456-461	Numeric	6	Fuel System	Includes the fuel tank through the carburetor or fuel nozzle and covers all lines, pumps, filters and controls.
V145	462-467	Numeric	6	Power Plant	Includes the basic power plant and entire power plant lubrication system. It does not include any of the above systems.
				ACCESSORIES	
V151	468-473	Numeric	6	General Accessories	Includes such items as hubdometers, tachometers, etc.
V152	474-479	Numeric	6	Electrical Accessories	Includes clocks, batteries and battery boxes for auxiliary equipment.
V153	480-485	Numeric	6	Expandable Items	Includes such items as mud flaps, chains, flares, fire extinguishers, etc., which are not normally considered as part of vehicle maintenance.

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

FILE: VEHICLE

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FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
V154	486-491	Numeric	6	Horn and Mounting	Includes all wiring, piping, controls and mounting devices.
V155	492-497	Numeric	6	Power Tail Gate/Lifting Devices	Includes the platform plus all necessary attachments and controls. Includes mast. fork, plus all necessary plumbing, attachments and controls.
V156	498-503	Numeric	6	Radio Equipment	Includes radios and two-way communication devices.
V157	504-509	Numeric	6	Spare Wheel Mounting	Includes all brackets, mounting plates and security devices.
V158	510-515	Numeric	6	Winches	Includes all controls, wiring, etc., related to the winch and its use.
V159	516-521	Numeric	6	Vehicle Coupling System	Includes all vehicle coupling devices, controls and necessary mounts. It includes the 5th wheel and spindle hooks.
				SPEICAL BODIES	
V161	522-527	Numeric	6		This category is reserved for special bodies that are not normally supplied by the vehicle manufacturer.
				SPECIAL APPLICATIONS	
V165	528-533	Numeric	6	Hydraulic Systems	Includes those hydraulic systems not otherwise specified.
V165	534-539	Numeric	6	Special Police Equipment	Includes sirens, lights and fire extinguishers.

FILE: DELIVERY

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

PAGE 1 OF 4

FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
D	1	Alpha	1	File Identifier	"D" identifies the Delivery File
D01	2-7	Numeric	6	Actuator Card Number	A serialized number magnetically encoded in the delivery card for uniquely identifying each in-ground tank.
D02	8-10	Numeric	3	Agency Code (NYCPD=056)	Uniquely identifies each agency within the New York City Government. Codes are defined in the Agency Code Table attached. Agency codes were taken from the integrated financial management systems manual, appendix "C" pages C1-C5 dated March 1, 1977.
D03	11-15			Record ID	
	11-14	Alpha Meric	4	Command	A mnemonic code which defines the lowest organizational level to which a tank is controlled.
	15	Numeric	1	Tank Number	A numeric identifier for each in-ground tank at each command location.
D04	16	Numeric	1	Pump Number	Identifies the pump number at the command location.
D05	17-21	Numeric	5	Tank Capacity	The total capacity of the in-ground tank. Expressed in whole gallons.
D06	22	Numeric	1	Product Type	A numeric code indicating the type of fuel used in in-ground tank. 1=Regular 2=Premium 3=No Lead 4=Diesel 5=Oil

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

FILE: DELIVERY

PAGE 2 OF 4

FIELD ID	FILE POS.	FIELD TYPE	FIELD SIZE	TITLE	DEFINITION & ALLOWABLE CODING
D07	23-28	Numeric	6	Current Gallons Delivered	The number of gallons at the time of the most recent delivery.
D08	29-35	Numeric	7	Month-to-Date Gallons Delivered	The cumulative gallons of fuel delivered for the current month.
D09	36-43	Numeric	8	Year-to-Date Gallons Delivered	The cumulative gallons of fuel delivered for the current year.
D10	44-45	Numeric	2	Month-to-Date Delivery Count	The number of times delivery is made to this tank for the current month.
D11	46-48	Numeric	3	Year-to-Date Delivery Count	The number of times delivery is made to this tank for the current year.
D12	49-54	Numeric	6	Month-to-Date Gallons Dispensed	The cumulative total gallons dispensed during the current month. Expressed in whole gallons.
D13	55-58	Numeric	4	Month-to-Date Transaction Count	The cumulative total dispensing transactions that have taken place from this tank during the current month.
D14	59-65	Numeric	7	Year-to-Date Gallons Dispensed	The cumulative total gallons dispensed from this tank during the current calendar year.
D15	66-70	Numeric	5	Year-to-Date Transaction Count	The cumulative total dispensing transactions from this tank during the current calendar year.
D16	71-75	Numeric	5	On-Hand Balance	The current gallons on-hand at any given time. Expressed in whole gallons.

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

FILE: DELIVERY

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FIELD ID	FILE POS.	FIELD TYPE	FIELD SIZE	TITLE	DEFINITION & ALLOWABLE CODING
D17	76-79	Numeric	4	Reorder Point	The gallon point at which fuel should be reordered for this tank. When reorder point is reached, it will automatically generate a reorder at the control center.
D18	80-82	Numeric	3	Shutdown Point	The gallon point at which the fuel pump(s) are automatically shutdown to prevent drawing sludge or water from the tank bottom.
D19	83	Numeric	1	Call Flag	A tickler code to show the number of times the vendor has been called for delivery to this tank.
D20	84-87	Numeric	4	Call Time	The time the first call was made to the vendor requesting delivery to thi tank. Expressed in military time. Computer generated.
D21	88-93	Numeric	6	Call Date	The date the first call was made to the vendor requesting delivery to thi tank. Expresses MMDDYY.
D22	94-97	Numeric	4	Delivery Time	Computer generated time emitted at the time the delivery transaction is made.
D23	98-103	Numeric	6	Delivery Date	A computer generated date emitted at the time the delivery transaction is made.
D24	104	Numeric	1	Status Code	Codes indicating the operational status of the pump.

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

FILE: DELIVERY

PAGE 4 OF 4

FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
				Status Code (Continued)	6=Pump On Line 7=Pump Off Line 8=Pump Shutdown Note: When pump is shutdown as a result of reaching the shutdown point (D18) a Delivery Transaction will automatically put the pump On Line (Code 6).
D25	105-110	Numeric	6	Status Date	Date status code was last changed. Expressed MMDDYY.
D26	111-115	Numeric	5	Inventory Adjustment	+ or - gallon adjustment to the in-ground inventory expressed S9999.
D27	116-121	Numeric	6	Master Meter Reading	Will be used to check inventory in tank vs Fuel Dispensed vs Master Meter on the pump.

SAMPLE OF HOST COMPUTER FILE REPORT CAPABILITY

Vehicle Distribution
- By Command
- By Borough
- By Bureau

Fleet Strength
- By Class Within
- By Command
- By Borough
- By Bureau

Vehicle Down-time
- By Make - Model - Year Within
- By Command
- By Borough
- By Bureau

Vehicle Replacement Projection
- By Classification Cost

Vehicle Comparison
- By Make - Model - Year

Vehicle Utilization
- By Class
- By Time/Mileage Parameters
- By Time/Fuel Useage

Repair Cost
- By Class - Make - Model - Year
- Cost By Repair Category

Special Feature Report
- Air Conditioning, Power Tail Gates, Other

Fuel Useage
- By Vehicle - Out of Range
- By Command
- By Borough
- By Bureau
- By Classification Private/Individual

Appendix F

SYSTEM SPECIFICATIONS
AND
CHANGE ORDERS

SPECIFICATIONS
FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR INSTALLATION OF AUTOMATED VEHICLE FUELING SYSTEM FOR VARIOUS POLICE PRECINCTS
LOCATED IN
FIVE BOROUGHS
CITY OF NEW YORK*

*Pages 1-34 are City of New York General Conditions Governing All Contracts.
Page 53 was skipped in numbering.

SECTION NO. 1

SPECIFIC REQUIREMENTS

The "General Conditions Governing All Contract" shall apply to all work.

1. Scope of Work

   a) Installation of an automated on line fuel dispensing and accounting system to serve the City-wide vehicle fuel pumping stations of the Police Department, City of New York.

   b) Sequence of Contract

   The contract work will be done by Boroughs.

   Phase No. 1 - Queens
   Phase No. 2 - Bronx
   Phase No. 3 - Manhattan
   Phase No. 4 - Brooklyn
   Phase No. 5 - Staten Island

   * *See Change Order C-1, Item 25*

   Contractor must install all terminals in one phase before proceeding with the next phase. Contractor can only bring up the next phase after the previous phase is operational.

   c) Specifications Sections

   Following is a brief outline of the work to be done under the contract.

   Section No. 1 - Specific Requirements
   Section No. 2 - Fuel Dispensing System
   Section No. 3 - Pump location and sketches
   Section No. 4 - Test and acceptance.

   d) The Contractor, before bidding, shall verify all dimensions and conditions in the field for the purpose of including in his proposal any allowance necessary to take care of contingencies or conditions affecting the completion of the work shown or specified. No allowance shall be made by the City if the contractor fails to make such examination.

2. Scope of Work

   The work of this section shall consist of furnishing all labor, materials, equipment and appliance necessary and required to completely execute the "Specific Requirements" described herein.

3. Related Work Not In Contract

Transmission lines to be leased from the New York Bell Telephone Company by the City.

4. Notification

a. The Contractor shall notify the Commissioner at least 48 hours in advance of the time he intends to start work. Notice shall also be given by the Contractor upon completion of his work that he is ready for test as required in the "General Conditions Governing All Contracts".

5. Supervision

a. The Contractor shall provide a competent supervisor, who shall be at P.D. Central Repair while work is in progress.

6. B.G.E. Job Number

a. The B.G.E. job number for this Contract is given in the "General Conditions Governing All Contracts".

7. Bulletins and Sketch Drawings

a. Bulletins and Sketch Drawings shall be submitted as specified under the "General Conditions Governing All Contracts".

8. Shop Drawings and Samples

a. Procedure: The procedure for submitting shop drawings and samples for approval is given under the "General Conditions Governing All Contracts".

b. Drawings To Be Submitted: The Contractor shall submit for approval, among others, shop drawings of all equipment to be installed.

9. Samples

a. Procedure: Samples shall be submitted in accordance with the "General Conditions Governing All Contracts".

b. Samples To Be Submitted: The samples to be submitted for approval shall include the following materials, fittings, devices and appliances:

(1) Cable and Wire.

(2) Conduit, and Fittings.

(3) Electrical Devices and Appliances.

(4) Outlet Boxes and Covers.

(5) Receptacles and Plugs.

(6) Switches and Circuit Breakers.

(7) Pressure Connectors.

(8) Fuses.

c. All Other Samples: Samples of any equipment may be required if deemed necessary to establish compliance with the intent of the Specifications, and will be requested by the Commissioner.

10. Schedule of Materials, Fittings and Equipment

a. A schedule of materials, fittings and equipment shall be submitted for approval, in sextuplet. This schedule should show quantity, make, catalogue number and finish of all materials.

11. Inspection

a. Before submitting a proposal for the work, the Contractor shall inspect the site and examine any and all adjoining structures and properties for the purpose of including in his proposal any allowance necessary to take care of contingencies or conditions affecting the completion of the work as shown or specified. No allowance shall be made if the Contractor fails to make such examination.

12. Intent of Specifications and Sketches

a. This specification is not intended to describe nor the sketches to show every conduit, fitting or appliance. The Contractor shall furnish and install all equipment, accessories, supports, connections, fittings, testing, adjusting, etc., as herein specified or required to make the various systems complete and ready for proper operation. Any item or work called for in the specification but not shown on the sketches, or vice versa, shall be furnished and installed as items both specified and/or shown.

b. All wires, conduit, given are minimum sizes. If these sizes are not available the next larger size shall be installed without extra cost to the Owner.

13. Painting

a. All exposed conduits, boxes, cabinets, junction boxes and all other surfaces of equipment furnished under this Contract shall be painted as required by the "General Conditions Governing All Contracts". This shall apply to painted, baked on, or integral metal finishes.

14. Balancing of Load

a. Special care shall be exercised by the Electrical Contractor in balancing all loads on phases, mains, feeders, sub-feeders, etc.

15. General Conditions Governing All Contracts

a. The Contractor shall thoroughly familiarize himself with the "General Conditions Governing All Contracts".

b. The Contractor shall give particular attention to the following items in the "General Conditions Governing All Contracts" and carry out their requirements in the performance of his work:

(1) Approval of materials and drawings.

(2) Tests.

(3) Temporary Structures.

(4) Sleeves and Hangers.

(5) Cutting and Patching.

(6) Scaffolding and Ladders.

(7) Hoists and Hoistways.

(8) Protection of Equipment.

(9) Electrical Installation Procedures.

(10) Approval of Materials and Manufacturers.

(11) Information to Suppliers.

(12) Responsibility for Care and Protection of Equipment.

(13) Removal of Rubbish.

16. Cutting and Patching

a. The Contractor shall perform all cutting and patching required by the installation of his work, as defined in the "General Conditions Governing All Contracts" and as indicated on the Drawing. He shall assume full responsibility for the work and make all arrangements and pay all charges to other trades that he may find necessary to use, due to jurisdictional requirements.

17. Interruption of Fuel Service

a. Where the work makes temporary shut-down of individual fuel pumping locations unavoidable the vendor shall confer with the Police Department's representative to schedule the shut-down to minimize interference with established operational routine.

b. The contractor shall arrange to work continuously including overtime if required to assure that services will be shut-down only during the time actually required to make the necessary connections to existing work.

c. In no case will the shut-down of fuel pumping locations exceed the number and locations approved by the Police Department representative. Ample notice shall be given to permit the Police Department to institute alternate procedures during the shut-down period.

18. Evening and Weekend Work

a. All cutting and chopping in floor, wall or ceiling surfaces, required for any installation, shall not interfere with normal operation of the building in working hours.

b. Any work which may interfere with normal operation shall be done in the evening or during the weekend.

c. Weekend or evening work shall be performed at the Contractor's expense and at no extra cost to the City.

d. The Contractor shall obtain permission from the building custodian at least forty-eight hours in advance of performing any evening or weekend work.

19. Installation

All fuel dispensing equipment shall be installed in strict accordance with the manufacturer's instructions and wiring diagrams, and the latest Rules and Regulations of the Board of Standards and Appeals.

20. Acceptance Test

Upon completion of the system, a satisfactory test of the entire system installation shall be made by a factory trained representative of the manufacturer who, upon completion of such test shall file a letter indicating that the system(s) functions and complies to these specifications.

21. Certificates

All certificates of inspection required by all Agencies having jurisdiction for the system installation in this Section shall be the responsibility of this Contractor, as to their acquisition and processing.

22. Instruction Manuals

This Contractor shall provide three complete sets of all service notes, instructions books, installation and schematic diagrams pertaining to system equipment and operation, resetting etc. to the representative of the Commissioner.

23. Guarantee

All apparatus shall be guaranteed to be free of inherent machanical or electrical defects in accordance with the "AGREEMENT" of this Contract.

24. Instructions to Vendors for Preparing and Submitting Proposals

The instructions included in this section describe the format for proposals and outline the approach for their development and presentation. These instructions are designed to insure the submission of information essential to the understanding and to the comprehensive evaluation of the system and equipment proposed. There is no intent to limit the content of proposals and these instructions permit the inclusion of any additional data or information the vendor deems pertinent.

a) Economy of Preparation

Proposals should be prepared simply and economically providing a straightforward and concise explanation of capabilities which will satisfy the requirements of this contract bid. Technical literature pertaining to hardware, software, and other elements of vendor support should be included as part of the proposal. Emphasis should be placed on completeness and clarity of content. This process makes provision for limited discussion with vendors. However, this will be limited to clarification of their proposals and will not permit revisions in content. All illustrative or pictorial material must be reproduced or presented in such a way as to be clearly legible for evaluation.

b) Vendor Cost to Develop Proposal

Cost for preparing and submitting proposals in response to this specification are entirely the responsibility of the vendor and will not be chargeable in any manner to the City.

c) Format of Vendor Proposal

Vendors responding to this bid must submit a proposal which provides a separate response to each and every numbered paragraph contained in the specification. All answers or responses must be complete and unequivocal in content. In instances where a response is not required or where material is not applicable to a specific proposal, the only acceptable responses will be, "no response required" or "not applicable".

* * * * * * * * * *

* *Amended to reflect compliance with Section No. 2, Items 3 and 4.*

SECTION NO. 2

FUEL DISPENSING SYSTEM

The "General Conditions Governing All Contracts" shall apply to all work under this Section.

1. Scope of Work

   a) The work under this section shall consist of furnishing and installing a "TURNKEY" automated on-line fuel dispensing computer driven and accounting system to serve the City-wide vehicle fuel pumping stations for the Police Department, City of New York.

   b) The vendor is expected to propose a fuel dispensing and accounting system. This will include the installation of all hardware and wiring. The vendor shall supply all labor, material, hardware, system design, software, programming and any pump modifications required.

   c) Vendor may use existing computer system 7, or provide his own alternate computer provided it can interface with the existing back-end equipment.

   * *Amended to use stand-alone IBM Series 1 supplied by vendor.*

2. Competence of Vendors

   The vendor must demonstrate prior expertise and industry experience to the satisfaction of the city in the development and installation of On Line Fuel Data Gathering and Monitoring Systems. This guide line considers the competence and reliability of the vendor to deliver, install, maintain, and support the hardware and software. The vendor must have a "Live" operational system currently in use and available to the city for inspection.

3. Program Overview

   a) The vendor's proposal shall be directed to the installation of a system in the five (5) Boroughs of the City of New York, controlled from a computer located at the Police Departments, Central Repair Shop in the Borough of Queens. The system shall be required to control the fueling of approximately 4,000 vehicles at 70 fueling stations by approximately 28,000 authorized personnel.

   b) The system bid must have "add-on" capabilities. It shall be possible to expand the basic system to control any additional fueling stations. The system shall be so designed that any expansion of the system shall not require abandonment or replacement of any part of the basic system.

c) The system shall be relatively easy to operate by personnel who are not trained as professional computer systems operators. It must be fully automated and operate completely unattended 24 hours a day, 7 days a week. It must be user oriented free of the need for programmers. User interaction must be simple and straight-forward. The language structure must be easy to learn and use. New Users should be able to use the system within a week.

4. System Functions

The system at a minimum shall be capable of performing the following transactions.

a) Control and Record fuel dispensing, automatically from the fueling locations.
b) Input of dispensing transactions from Central Control.
c) Record delivery of fuel by entry at the pump terminal or central control.
d) Print reorder message at central control.
e) Inventory Check Transactions.
f) Shut down and activate pumps and/or locations.
g) Record vehicles in/out of service from Central Control.
h) Trouble messages at Central Control.
i) Audible alarm and printed messages.
j) Vendor's software must be capable of interfacing with city developed software residing on an IBM 370 host computer utilizing CICS.

* *Item (j) not applicable.*

5. Description of the Functional Requirements of the System

a) General: The following system description is offered to delineate the required functions and capabilities. The vendors are invited to offer alternative methods of performing them, in order to attain, at a minimum the desired results.

b) Dispensing Fuel: The Police Department intends to use plastic cards with an encoded magnetic stripe as an input medium. The system shall operate with two (2) cards, one for personnel identification (Operator Card), and the other for vehicle identification (Vehicle Card), for fueling operations. Other cards specifically encoded for different purposes will be required to record each transaction, such as:
(a) Delivery Cards
(b) Inventory Cards
(c) Master Override Cards

* *See Change Order C-1, Item 22.*

c) In order to dispense fuel at a pumping station, the operator will be required to "dial" or "key" in as variable data the current vehicle mileage on the pump terminal dials or key pad, this will be subject to an instantaneous reasonable mileage validity check from stored information. The operator will then insert the vehicle and operator cards in the card reader on the terminal. The cards will be checked for validity at the terminal and/or computer. When these conditions are successfully met the equipment will automatically activate the selected pump for fuel dispensing by the operator. When fueling has been completed the equipment must deactivate the pump and record and store the entire fueling transaction.

d) In addition to capturing the operator and vehicle identification and vehicle odometer reading, the equipment must automatically include in the transaction record the: transaction number, date(month/day), time (military), location, product, and total gallons dispensed to the tenth of a gallon.

e) The entire record will be stored in a mass storage device for further sorting, computation, and reporting. A hard copy report of transaction for a given period must be available for call up at the central control unit. The system must be capable of up-dating a permanent record which in turn will be used for on-line to-date inquiries from a city-owned host computer.

* *Amended to delete and add: All transactions to be written to disk or diskette for printing on as-required basis.*

f) The system must provide the ability to input all transactions from the Central Control room terminal keyboard. In the case of dispensing transactions initiated at the central control key board, the program must recognize the input location and not perform a reasonable mileage check.

g) It is the intention to maintain fueling control records for every fuel dispensing, delivery and inventory transaction and therefore each manual recording will be input from the keyboard when a pump or remote terminal is inoperative, after the fact.

h) Reorder and Shutdown Point: Upon completion of each and every dispensing transaction the system must automatically update and test the inventory at the location to determine if the reorder point or shut-down point has been reached for that dispensing location.

i) Reorder: As each dispensing transaction occurs, the inventory must be automatically updated with the gallons pumped, the on-hand gallons computed and the results tested to determine if the on-hand balance is equal to, or less than the reorder point but greater than the shut-down point for that location. When this condition occurs, a reorder flag must be placed in the file and be included in the reorder report that will be printed several times a day automatically and on demand listing all locations that have reached their reorder and/or shut-down point.

j) Shutdown Point: Again with every dispensing transaction at a location the inventory must be tested and updated to determine if the shutdown point has been reached (10% of capacity) and when this condition occurs, the pump is to be automatically shutdown and a shutdown flag placed in the file with a notification message printed at the control center displaying the reason for the shut down condition and the on-hand balance for that location. Under this shut down condition, reactivation should only take place when a Delivery Transaction is entered into the system at the affected location or at central control.

k) Delivery Recording and Reporting: Fuel delivery reporting at a fueling station will be accomplished by the use of a uniquely formated "Delivery Card" that will be used in place of the Vehicle Card in the terminal at the pumping station. The use of this card in conjunction with an operator card will signal a Delivery Transaction. The number of gallons delivered will be entered on a manual key pad of dials and immediately update the Delivery File and if the pump has been shut down because it had reached the shutdown point this transaction would automatically reactivate the pumps. A message will be displayed at the control center including the number of gallons delivered and the new on-hand balance and the current status of the pumps at the location. The same procedure will occur if the delivery is entered at central control. System shall be designed to prevent entries of deliveries above the capacity of the location or tank.

l) In/Out of Service Transactions: The central Control Center shall be capable of changing the operational status of vehicles. It shall have the capability of notifying the computer when a vehicle is In or Out of Service, restrict fueling based on the vehicle status.

* *See Change Order C-1, Item 7.*

m) Inventory Transaction: Checking the system inventory against a physical dipping of the tanks shall be accomplished by the use of a specially encoded "Inventory Card". The card will be entered in conjunction with the Operator Card of the person conducting the inventory at the location tested. A message displaying the current inventory for that location according to the system shall be printed at Central Control to be compared with the dipping results. Central Control shall be capable of updating or changing inventory.

* *Amended to delete "Inventory Card" use and procedure.*

n) Central Control Capabilities: In addition to the above the Central Control shall be capable of upgrading, entry input, changes and other functions' required to control the system. This shall be accomplished by use of a C.R.T. with a menu type format and hard copy print-out if requested.

6. Validity Checking, Lockout and Operational Features.

At a minimum, certain validity checks must be made both on the operator and vehicle cards on each and every attempt to gain access to the fuel pumps.

a) Input Card Validity Check: The system must have the capability of rejecting any card which does not contain the proper security code. If a card is accepted into the system it must be checked by the computer to insure the card is, in fact on the file, is legal and the operator and/or vehicle is permitted to receive fuel. The encoded data must contain a check which will, when checked by the computer determine whether the data has been properly read from the card and insure communication integrity.

b) Odometer Check: The system must have the capability of the entry of a six digit odometer reading at the pumping stations and once the data is received perform a reasonableness check based on a predetermined vehicle range and flag those records that fall outside the predetermined range for exception reporting purposes. In this case, fuel will be dispensed in the second attempt to activate the pump.

c) Vehicle Gallon Limitations: The system must have the capability of testing gallon limitations and not permit fuel dispensing in excess of a predetermined limitation for that vehicle, usually its fuel tank capacity.

d) Time Shutdown: Pumps must have a built-in predetermined automatic time shutdown to prevent accidental excessive spillage. It shall also shutdown if the pumping does not start in a reasonable time after the pump is activated by the system.

e) Response Time: The time required from a successful card read to pump actuation should not exceed (4) seconds if all remote terminals are used simultaneously.

* *See Change Order C-1, Item 20.*

f) Communication Lines: The system should operate over standard type 3002, voice grade, 4 wire, full duplex multidrop telephone lines at a rate of 1200 baud.

g) System Failure: Malfunctions shall be indicated by an "OFF" indicator on the remote terminal and trouble messages at the control center with some indication or diagnosis of the problem. System failures should prohibit the dispensing of fuel at only the locations affected by the failure. An override switch should be included in the remote terminals to permit manual operations. A message will be displayed at the central center when the override switch is actuated at any location, accompanied by an audible alarm.

* *See Change Order C-1, Item 15.*

h) Flexibility: The system must allow for the possibility of program modifications as required for the addition of terminals, memory, input/output devices, online capabilities. The system shall be such that expansion can be accomplished with existing software and with a minimum of interruption to the existing program.

i) Multi-Programming: The ability to handle programs (processes/tasks) on a priority basis. A program invoked by the operator should be interrupted by another program on real time clock.

j) Priority Setting: The system must be controllable. System use will be allocated based upon assigned priority levels.

k) Power Failure Provisions: The system shall provide a method of reloading the program into the computer in the event of power failure or other failures which may cause the program to become inoperational.

7. Hardware and Equipment

The vendor will supply and install all the equipment outlined in the following paragraphs. All equipment must be warranted for one (1) year from the date of final acceptance. In the event some of the equipment supplied does not carry a one year warranty the vendor will arrange for a service contract of the said equipment for the period beyond their warranty to the one year required.

(a) Fuel Dispensing Terminals: The vendor will supply and install the number of fuel dispensing terminals required to control the dispensing of fuel at the seventy (70) locations. The terminals are to be weatherproof devices of high reliability which are tamper resistant and reasonably protected from vandalism. Terminal doors shall be equipped with a high quality lock or locking device subject to approval of the Police Department. They are to be constructed and finished in a workmanship-like manner. They shall include card reader, dials or keypads, indicator lights, selector switches, operator instructions, override switch, and any other controls as may be required to perform the functions outlined in this specification.

b) Installation: The terminals shall be installed in close proximity to the pumps controlled. They shall be installed to conform to all New York City Regulations that may apply. The installation of each terminal as to location must be approved by the Police Department.

c) Pump Modification: The vendor shall install and wire into the pumps any and all equipment as may be required to measure the fuel dispenses to one tenth (1/10) of a gallon and activate and shut down pumps. If the vendor's equipment is not compatible with, or cannot use any or all of the pumps now installed at the fueling pumps, the cost of the required replacement pumps shall be included in the vendor's total bid.

d) Actuator Cards: The vendor must furnish specially designed and properly encoded magnetic stripe cards with a signature block on the back side, of highest quality in the following amounts:

Vehicle Cards	10,000 each
Operator Cards	50,000 each
Master Vehicle Cards	250 each

* *See Change Order C-1, Item 11.*

Representatives from Department of General Services and Police Department will confer with the successful vendor within 10 days after the award of contract to discuss and arrive at the design and artwork for the actuator cards.

e) Computer Room Hardware: The vendor shall supply and install the following equipment at the Police Dept's central repair shop, to control, monitor, load input, generate reports, and generally run the system.

1) Two (2) Cathode Ray Tube Terminals each with 1920 character display for use with IBM S/370 or S/370 compatible equipment.
Teletypewriter compatible.
12-inch rectangular screen..
Standard 24 line display with 80 character lines.
59 Key Keyboard.
RS 232c Interface

Full/Half duplex asynshronous operation.
Generate all ASCII CODES.
64 character display.
Data entry on progressive lines.
Complete Cursor Control.

Two (2) keyless line printers attached to the CRT Terminals specified above to call-for and generate reports from the host and front end computers, to print at the rate of 150 cps.

One (1) thirty (30) character per second typewriter terminal ASCII, buffered. This unit to receive transactions from pumping stations , changing pump/location status, receive error messages and other functions concerned with the front end portion of the system.

One (1) Color CRT Display Terminal equal to model #8001G as manufactured by Intelligent Systems Corp., of Norcross, GA.
19 inch Display Tube.
80 Character by 48 line page.
Eight (8) foreground colors.

This terminal to show a constant color display of the system status on a location by location basis. It will show at a minimum Location Identification, Loc. Tank Capacity, Loc. Current Inventory, Location Status (one of the following) a) On Line, b) Off Mechanical Problem, c) Off No Fuel, d) Communications Problem, e) Pump In Override. It will also indicate by a flashing signal when the pump is actually in use. Monitoring 96 locations via split screen format.

Color will indicate the different status conditions for each location. Vendor will confer with the Police Department at to color to be used for each status situation.

All the above mentioned equipment to be installed in Computer Room, Room 218, Central Repair Shop, 53-15 58th St., Woodside, New York 11377.

* *For final List of Equipment see page _____.*

f) Inquire Terminals: The vendor will supply three (3) Inquire CRT Terminals with twelve (12) inch rectangular display tubes. The terminals will be hard wired to the computer. They will be located in offices in the building at which the front end computer is located, terminals must contain interface RS232C to permit hard wire hook-up to 2,000 feet from the computer.

The CRT's shall be located in the following rooms at the Central Repair Shop:

One in Room 205 - Director's Office
One in _________- Central Computer Control

g) Other Hardware: The vendor shall supply and install all other components ie., Pulsers, multiplexers, modems, etc. as may be required to support and operate the system.

h) Environmental Requirements: The remote terminals and all equipment exposed to the ambient temperature shall operate efficiently within a temperature range of minus 20 degrees and plus 75 degrees Centigrade at 95 per cent relative humidity. The case of the RTU must be constructed to provide maximum protection from dust, water, corrosive materials, and seasonal condition.

i) Spare Parts: The vendor shall supply spare parts for all internal components of the fueling terminals, CTUs, and Pump Installed Components. This supply shall be Ten Percent (10%) of the total number in use in the system. The spare parts will be replaced as used during the warranty period without charge. After the warranty period the vendor shall assure the availability of replacement parts for a period of ten (10) years. The vendor shall supply a price list and conditions of purchase or trade of parts.

j) Repair Tools and Test Equipment: The vendor shall supply four (4) complete sets of special tools and test equipment required to effect repairs to be performed by the trained Police Department Personnel.

8. Fuel Monitoring System Report Requirements

The following report requirements are defined as a minimum requirement for the Fuel Dispensing System. These reports will be the responsibility of the vendor and will contain at a minimum the data elements defined and format and frequency will be subject to the approval of the Department of General Service and the Police Department.

a) Daily Transaction Report: A transaction report will be displayed at the Central Control Unit each and every time a transaction is made. The report will define the type of transaction and will display:

a) Sequential Number of the Transaction
b) Date
c) Time (Military)
d) Actuator Card Numbers

e) Gallons Pumped (Last 24 hours)
f) Number of Transactions (Last 24 hours)
g) Average Gallons per Transaction

c) Fuel Billing Report: To generate a biweekly report to compare against vendor biweekly bills. This report will display the following data elements:

Each delivery transaction by date and time within each location for the biweekly time period reported, i.e.,

a) Location, Tank, and Product
b) Date and Time of Delivery
c) Number of gallons delivered
d) Operator Card Number of Department member who receipted for each delivery transaction
e) Total gallons delivered by product type for reporting period
f) Grand total gallons delivered for reporting period.

d) Reorder Report: The Reorder Report should be automatically generated at scheduled intervals three (3) times daily:

at 0800 each morning
at 1400 each afternoon
and again at 1630 daily

it should display each location that has reached the reorder of shut down point and should display the following data elements:

a) Location, pump, and fuel grade
b) Command
c) Gallons in Inventory
d) In ground capacity
e) The reorder point
f) Whether or not the pump has been shutdown because of insufficient fuel
g) The address and telephone number of the Command..

e) Actuator Card Status Report: An inquiry report displaying the data record on file of either the Vehicle Record or Operator Record.

LOCATION PHASE 1	NUMBER AND MAKES OF PUMPS	NUMBER AND CAPACITY OF TANKS
100th Precinct 94-24 Rockaway Bh Queens 11693	(1) AO Smith	2- 550
101st Precinct 16-12 Mott Av. Queens 11691	(1) AO Smith	1- 550
103rd Precinct 168-02 91st Av. Jamaica 11432	(1) Tokheim	1- 550
104th Precinct 64-02 Catalpa Av. Queens 11227	(1) AO Smith	1-1500
105th Precinct 92-08 222nd St. Queens Village	(2) Gilbarco	1-2500
106th Precinct 103-51 101 St. Ozone Pk. 11417	(1) Bowser	1- 550
108th Precinct 5-47 50th Av. L.I.C. 1105	(1) AO Smith	2- 550
109th Precinct 37-05 Union St. Flushing 11354	(2) AO Smith	4- 550
110th Precinct 94-41 43rd Ave. Elmhurst 11373	(1) AO Smith	2- 550
111th Precinct 45-06 215th St. Bayside 11368	(2) AO Smith	2- 550
112th Precinct 68-40 Austin St. Forest Hills 11375	(2) AO Smith	4- 550
113th Precinct 167-02 Baisley Blvd Jamaica 11434	(2) AO Smith	4- 550
114th Precinct 34-16 Astoria Blvd Queens 11103	(2) AO Smith	4- 550

LOCATION PHASE 1	NUMBER AND MAKES OF PUMPS	NUMBER AND CAPACITY OF TANKS
Central Repair 53-15 58th St. Woodside 11377	(2) Bowser	2- 550
Highway Unit #3 198-15 Grand Central Pky. Queens, N.Y. 11462	(2) AO Smith	1- 550 1-2500

* * * * * * * *

PHASE NO. 2 - BRONX

LOCATION PHASE 2	NUMBER AND MAKES OF PUMPS	NUMBER AND CAPACITY OF TANKS
40th Precinct 257 Alexander Av. Bronx 10444	(1) Tokheim	1- 550
42nd Precinct 3rd Ave. & 160 St. Bronx 10456	(1) AO Smith	1-1500
43rd Precinct 900 Fteley Ave. Bronx 10472	(2) Tokheim	1-2500
45th Precinct 2877 Barkley Ave Bronx 10461	(2) AO Smith	1-2500
46th Precinct 2120 Ryer Ave Bronx 10457	(1) AO Smith	1-1500
47th Precinct 4111 Laconia Ave Bronx 10466	(1) AO Smith	4- 550
48th Precinct 450 Cross Bx Exp. Bronx 10457	(2) AO Smith	4- 550
50th Precinct 3450 Kingsbridge Av Bronx 10463	(2) AO Smith	5- 550
52nd Precinct 3016 Webster Av. Bronx 10467	(1) Bowser	1- 550

LOCATION PHASE 2	NUMBER AND MAKE OF PUMPS	NUMBER AND CAPACITY OF TANKS
Highway Unit #1 Unionport Rd. & Bx. River Pkwy. Bronx 10462	(2) AO Smith	1- 550 1-2500
Street Crime Unit Randall's Island New York 10035	(2) AO Smith	4- 550

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PHASE NO. 3 - MANHATTAN

LOCATION PHASE 3	NUMBER AND MAKE OF PUMPS	NUMBER AND CAPACITY OF TANKS
6th Precinct 233 W 10th St. New York 10014	(2) Tokheim	4- 550
7th Precinct 19½ Pitt St. New York 10010	(1) AO Smith	4- 550
13th Precinct 230 E. 21st St. New York 10010	(2) AO Smith	6- 550
Mid Town South 357 W. 35th St. New York 10001	(2) AO Smith	4- 550
17th Precinct 167 E. 51st St. New York 10017	(2) Tokheim	2- 550
Mid Town North 306 W. 54th St. New York 10019	(2) Tokheim	4- 550
20th Precinct 120 W. 82nd St. New York 10020	(1) AO Smith	4- 550
23rd Precinct 162 E. 102nd St. New York 10029	(2) AO Smith	4- 550
24th Precinct 151 W. 100th St. New York 10025	(2) AO Smith	2- 550

LOCATION PHASE 3	NUMBER AND MAKE OF PUMPS	NUMBER AND CAPACITY OF TANKS
25th Precinct 120 E. 119th St. New York 10035	(1) AO Smith	4- 550
26th Precinct 520 W. 126th St. New York 10027	(2) AO Smith	4- 550
28th Precinct 2271-89 8th Av. New York 10027	(2) AO Smith	1-2500
30th Precinct 451 W. 151st St. New York 10028	(2) AO Smith	4- 550
32nd Precinct 250 W. 135th St. New York 10030	(1) Bowser	2- 550
34th Precinct 180 Wadsworth Av. New York 10033	(1) Bowser	1- 550
Central Park Pct. 86th St. & Transv. New York 10024	(1) Bowser	2- 550
Police Headquarters 1 Police Plaza New York 10038	(2) Kene	2-1500

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PHASE NO. 4 - BROOKLYN

LOCATION PHASE 4	NUMBER AND MAKE OF PUMPS	NUMBER AND CAPACITY OF TANKS
60th Precinct 2951 W. 8th St. Brooklyn 11224	(2) Tokheim	4- 550
61st Precinct 2575 Coney Isl Av. Brooklyn 11229	(2) AO Smith	1-2500

LOCATION PHASE 4	NUMBER AND MAKE OF PUMPS	NUMBER AND CAPACITY OF TANKS
62nd Precinct 1925 Bath Av Brooklyn 11214	(1) Tokheim	1- 550
63rd Precinct 1844 Brooklyn Av Brooklyn 11210	(1) AO Smith	1- 550
66th Precinct 5822 16th Av Brooklyn 11218	(1) Bowser	1- 550
67th Precinct 2820 Snyder Av Brooklyn 11226	(2) AO Smith	4- 550
68th Precinct 333 65th St. Brooklyn 11220	(2) AO Smith	4- 550
69th Precinct 9720 Foster Av. Brooklyn 11236	(2) AO Smith	2- 550
70th Precinct 154 Lawrence Av Brooklyn 11230	(1) AO Smith	1-1500
71st Precinct 421 Empire Blvd Brooklyn 11225	(2) Tokheim	1-2500
72nd Precinct 830 4th Av Brooklyn 11232	(2) AO Smith	4- 550
75th Precinct 1000 Sutter Av Brooklyn 11207	(2) AO Smith	2- 550
76th Precinct 191 Union St. Brooklyn 11231	(2) AO Smith	2- 550
77th Precinct 127 Utica Av Brooklyn 11213	(2) AO Smith	4- 550
78th Precinct 65 6th Av Brooklyn 11217	(1) Tokheim	1- 550

LOCATION PHASE 4	NUMBER AND MAKE OF PUMPS	NUMBER AND CAPACITY OF TANKS
79th Precinct 263 Tompkins Av Brooklyn 11221	(2) Tokheim	4- 550
81st Precinct 30 Ralph Av Brooklyn 11221	(2) AO Smith	1-2500
84th Precinct 301 Gold St. Brooklyn 11201	(2) AO Smith	4- 550
88th Precinct 298 Classon Av Brooklyn 11205	(1) AO Smith	1- 550
90th Precinct 211 Union Av Brooklyn 11211	(2) AO Smith	4- 550
94th Precinct 100 Meserole Av Brooklyn 11222	(1) Tokheim	1- 550
Highway Unit #2 2900 Flatbush Av Brooklyn 11210	(2) AO Smith	2- 550

* * * * * * * *

PHASE NO. 5 - STATEN ISLAND

LOCATION PHASE 5	NUMBER AND MAKE OF PUMPS	NUMBER AND CAPACITY OF TANKS
120th Precinct 78 Richmond Terr St. George 10301	(1) AO Smith	2- 550
122nd Precinct 2320 Hylan Blvd. New Dorp 10306	(2) AO Smith	4- 550
123rd Precinct 116 Main St. Tottenville 10307	(1) Tokheim	1- 550

* * * * * * * *

NOTES FOR SKETCHES E-1 & E-2

1. When contractor has to modify existing pump motors, he shall provide one spare motor with all modifications for every ten or less motors modified of each type.

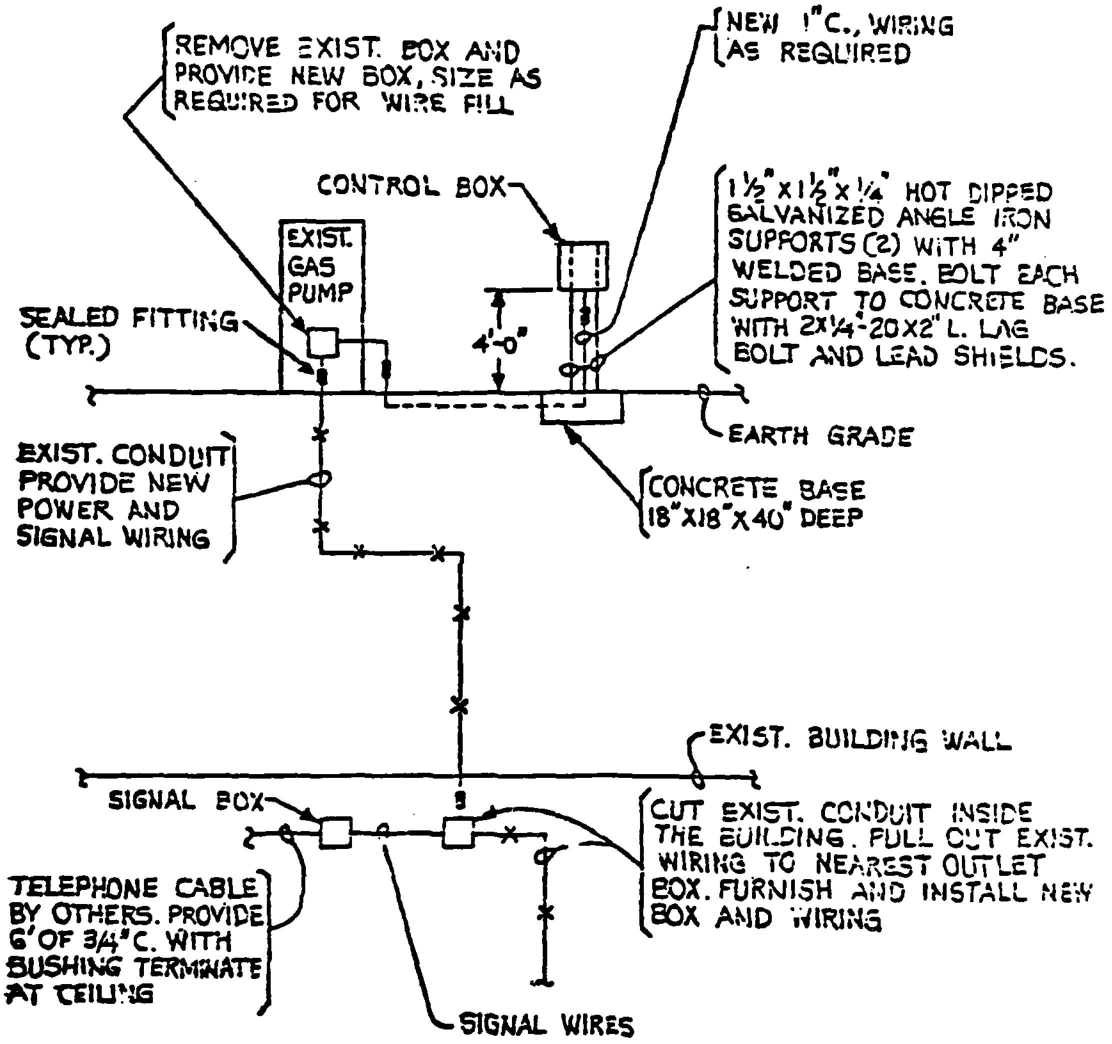
2. Contractor shall submit a wiring diagram of proposed installation for approval. Diagram shall include all wiring, conduit, boxes, etc.

3. The installation shall be in accordance with all City codes having jurisdiction for hazardous location Class 1 explosion proof.

4. Provide #18 shielded cable for signal wiring. Bond shield at all boxes.

5. Outlet box size as per N.Y. Electrical code.

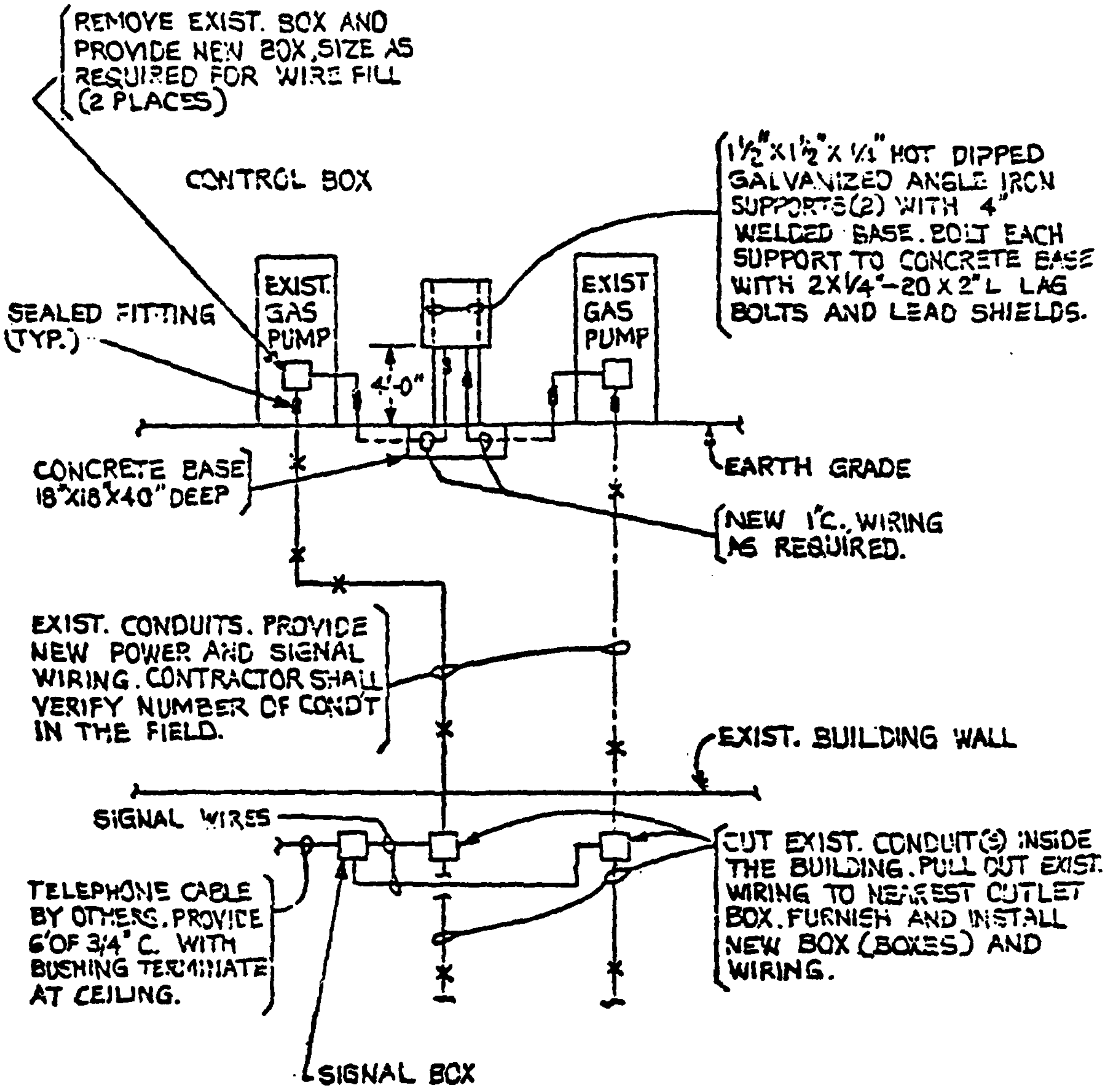
6. Contractor shall provide and install all wiring, conduit, fittings, explosion proof fittings, boxes and explosion proof boxes required for a complete installation at each gasoline pump location.


REMOVE EXIST. BOX AND PROVIDE NEW BOX, SIZE AS REQUIRED FOR WIRE FILL
NEW 1"C., WIRING AS REQUIRED
CONTROL BOX
1½"x1½"x¼" HOT DIPPED GALVANIZED ANGLE IRON SUPPORTS (2) WITH 4" WELDED BASE. BOLT EACH SUPPORT TO CONCRETE BASE WITH 2x¼-20x2" L. LAG BOLT AND LEAD SHIELDS.
EXIST. GAS PUMP
SEALED FITTING (TYP.)
4'-0"
EARTH GRADE
EXIST. CONDUIT PROVIDE NEW POWER AND SIGNAL WIRING
CONCRETE BASE 18"x18"x40" DEEP
EXIST. BUILDING WALL
SIGNAL BOX
CUT EXIST. CONDUIT INSIDE THE BUILDING. PULL OUT EXIST. WIRING TO NEAREST OUTLET BOX. FURNISH AND INSTALL NEW BOX AND WIRING
TELEPHONE CABLE BY OTHERS. PROVIDE 6' OF 3/4"C. WITH BUSHING TERMINATE AT CEILING
SIGNAL WIRES

SINGLE GASOLINE PUMP INSTALLATION

NO SCALE

SKETCH E-1


REMOVE EXIST. BOX AND PROVIDE NEW BOX, SIZE AS REQUIRED FOR WIRE FILL (2 PLACES)
CONTROL BOX
1½"x1½"x¼" HOT DIPPED GALVANIZED ANGLE IRON SUPPORTS(2) WITH 4" WELDED BASE. BOLT EACH SUPPORT TO CONCRETE BASE WITH 2X1/4"-20 X 2"L LAG BOLTS AND LEAD SHIELDS.
SEALED FITTING (TYP.)
EXIST. GAS PUMP
4'-0"
EXIST GAS PUMP
EARTH GRADE
CONCRETE BASE 18"X18"X40" DEEP
NEW 1"C., WIRING AS REQUIRED.
EXIST. CONDUITS. PROVIDE NEW POWER AND SIGNAL WIRING. CONTRACTOR SHALL VERIFY NUMBER OF CONDT IN THE FIELD.
EXIST. BUILDING WALL
SIGNAL WIRES
CUT EXIST. CONDUIT(S) INSIDE THE BUILDING. PULL OUT EXIST. WIRING TO NEAREST OUTLET BOX. FURNISH AND INSTALL NEW BOX (BOXES) AND WIRING.
TELEPHONE CABLE BY OTHERS. PROVIDE 6'OF 3/4" C. WITH BUSHING TERMINATE AT CEILING.
SIGNAL BOX

DUPLEX GASOLINE PUMP INSTALLATION

NO SCALE

SKETCH E-2

SECTION NO. 4

TEST AND ACCEPTANCE

The "General Conditions Governing all Contracts" shall apply to all work under this contract.

1. Scope of Work

   The work of this Section consists of furnishing all labor, materials, equipment and appliances necessary and required to perform all tests and adjustments to make the system operational.

2. Final Acceptance and Performance

   a) It is the responsibility of the contractor to install a complete and fully operational system meeting all of the performance specifications included in another section of these specifications. Before final payment the contractor will be required to perform system performance quality measurements in the presence of representative of the Police Department and Department of General Service, City of New York. The contractor shall furnish all test equipment necessary for the performance of the system test.

      The measurements, and distrotion measurements shall be recorded and submitted to the City as final proof of the system performance.

   b) At the conclusion of all initial tests and adjustments, the City shall be notified that the entire system fulfills the specifications and is ready for complete acceptance tests. The acceptance tests shall consist of the following:

      1. The operation of the complete system, including all equipment shall be demonstrated.

      2. Objective tests are required to determine compliance with the specifications.

      3. All final "as built" drawings, run sheets, manuals, and documents shall be submitted.

      4. In the event further adjustment is required, or defective equipment is to be repaired or replaced, tests shall be suspended until repairs are completed.

   c) The equipment to be provided as part of this contract will be interconnected with existing equipment. All equipment is to operate together as a complete system.

3. Warranty

   a) The contractor shall warrant the complete operation of individual components and the complete system for a period of one year from final acceptance by the City. This Warranty shall include tubes and transistors and shall encompass parts and labor.

   b) In the event of a component failure, the contractor's designated representatives will be notified by the Police Department. The contractor is expected to have a qualified service engineer to repair the equipment within twenty-four (24) hours.

      The defective equipment shall be repaired in the most expeditious manner and at no cost to the City. If an item requires more than twenty-four (24) hours for repair, the contractor shall provide another functioning unit until repairs are completed.

   c) The Warranty shall commence on the date of final acceptance. The contractor shall further warrant that he maintains an inventory of major replacement parts for the items included in these specifications.

4. Maintanance

   As stated earlier under the section entitled "WARRANTY" the contractor is required to perform whatever maintenance necessary to insure a complete operating and functional system for a period of one year. In addition the contractor shall schedule a routine maintenance and system check-up six (6) months and one year after the system has been accepted by the City.

5. Inspection

   Personnel from Department of General Services, Police Department, City of New York, or their authorized representatives, have the right to inspect the work and premises at any time during the installation. If the standards and specifications are not being met to the satisfaction of the City of New York, such deviations will be brought to the attention of the contractor who shall take the necessary corrective measures.

6. Drawings and Instruction Books

   a) The contractor shall furnish the following drawings after the installation has been completed:

      1. Functional diagram showing all signal paths, cable numbers and other detail for the complete installation.

      2. Detailed wiring and functional drawings of all data transmitting and receiving equipment.

b) Two sets of instruction books for each item of equipment shall be provided. Instruction books shall include a material guide which shall contain replacement part numbers and description of all components used. Also included should be functional diagrams showing all test points, voltage readings and other detail for maintenance and operation of the equipment.

7. Instruction

The contractor shall provide a minimum of five (5) days instruction in the operation and maintenance of the components of the system. Such instruction should include, but not be limited to the following:

1. Overall system operation techniques.
2. Complete detailed instructions shall be provided to the Police Department technicians in trouble shooting, maintenance and repair of all equipment provided in the system.

8. Documentation

Documentation will cover all facets of the system including the various manuals provided by the manufacturers. All documentation should provide information in such depth that a system analyst having worked with the vendor can thoroughly understand the system.

* * * * * * * *

* See Change Orders C-1 through C-7 which reflect the following:

Revision of number of pumping stations to 68

Expansion of files and file formats

Provision of additional inquiry and display capability

Provision of additional report capability

Revision of card format

Addition of equipment

Addition of Motor Oil data

Back-up power supply for modems

Modifications to telephone lines

Provision of plastic card holders for vehicles

Provision of stanchions to protect remote terminals

Provision of duplicate colored CRT

Conduit installation

N.B.: The full documentation report clarifies the specification package and change orders thereto.

POLICE DEPARTMENT
CITY OF NEW YORK

March 1980

From: Commanding Officer, Support Services Bureau
To: Deputy Commissioner, Management and Budget
Subj: CHANGES TO THE AUTOMATED VEHICLE FUELING SYSTEM, PROJECT NO. P.D.-182.

I When the Dept.-wide Automated Vehicle Fueling System (Project No. P.D.-182) was prepared and submitted for bid in 1979, storage for files and reports were to be generated by a host computer (Sect. 2 page 44 of bid specification) this storage capability is no longer available. In order to have this system stand alone, the vehicle, operator, and tank files must be expanded to include data which was to be previously resident on an I.B.M. 370 host computer. To have these expanded data files and the ability to generate necessary reports the following additions to the original specification are needed:

A. Expand the Vehicle File to include fields for:
   1) On or Off line
   2) Command assigned
   3) Classification

B. Expand the Operator File to include fields for:
   1) On or Off line
   2) Last name and 1st initial
   3) Borough assigned
   4) Command assigned
   5) Date of last status change
   6) Operator type

C. Expand the tank - pump file to include fields for:
   1) Tank site name
   2) Order fuel call flag

D. Expand the fuel transaction format to include:
   1) Vehicle classification
   2) Miles per gallon per transaction

E. Provide inquiry capability to each file and the ability to display individual records at the Central Control CRT and the Director's CRT.

F. Provide the capability to search:
   1) Vehicle File by:
      a) Vehicle Card Number
      b) Vehicle Number
      c) Vehicle Last Odometer
      d) Vehicle Command
      e) Vehicle Classification

2) Operator File by:
    a) Operator Card Number
    b) Operator Identification Number
    c) Operator Command
3) Fuel Transactions by:
    a) Transaction type
    b) Month
    c) Month & Day
    d) Vehicle Number
    e) Site/Pump Location
    f) Fuel Type
    g) Operator Card Number
    h) Vehicle Classification

G. Provide that an audible alarm be sounded on each logged transaction that the computer reads and detects as unacceptable or as a transmission error.

H. Provide the ability to indicate when a diskette is nearing its storage capacity and print a message when this condition occurs.

I. Provide the ability to list reasons why a vehicle has been placed offline.

J. Provide a separate Master Card to be used when an operator fuels a privately owned vehicle and a special coding in the Operator File to distinguish which operators are authorized to fuel such vehicles.

K. Provide that a fuel receipt entered from a remote terminal will not exceed the in-ground tank capacity. In the event of such an occurrence a transaction error of "Invalid Receipt" will be printed on the transaction record and an audible alarm be sounded. Additionally insure that control keyboard entries to adjust the "On Hand Balance" will not exceed the tank capacity.

L. Provide the following Report Capability:

1) Vehicle File Reports

   a) List vehicle numbers and card numbers (by span or all)

   b) List the complete vehicle file (by span or all)

   c) List vehicles by command

   d) List vehicles by classification

   e) List vehicles and their current mileage

   f) List vehicles by odometer (10,000 mile increments)

   g) List vehicles off line

2) Operator File Reports
    a) List Operator S.S. # and Card numbers (by span or all)
    b) List complete Operator File (by span or all)
    c) List operators by command
    d) List operators by command with private fuel privilege
    e) List operators offline

3) Tank Pump File Reports
    a) Compare computer inventory to actual inventory (dipping tank) and compute percentage of variation

4) a) List monthly or on demand by Operator within a command, private fueling transactions. Operator's name will be included in transaction. *Subtotal of* gallons used should be given for each operator and total gallons used for command. A separate sheet should be produced for each command.

II For security the following additions are needed:

A. Provide the capability for each of the 68 remote terminals to sense or detect the unlocking or opening of the terminal door and send an intrusion alarm message to the transaction printer and insure that an audible alarm is sounded at the time of the printed transaction at the Central Computer Control Center.

B. Provide a variable access code to insure that only personnel with knowledge of these codes can enter and function the system for reasons of reporting, displaying or updating files.

C. Provide each of the 68 terminals with an identifying serial number.

III The addition of the following item will provide management with a complete fueling transaction:

A. Provide the ability to transact motor oil dispensed at a vehicle and operator level through the use of existing actuator cards and further provide the capability of reporting oil dispensed at an individual or vehicle level through the transaction file. The face of the sixty-eight (68) remote terminals will be modified to provide an "oil" button.

IV The following changes to the Computer Room hardware (Sect. 2, page 49 of Bid Specification) are needed because the system will no longer be used in conjunction with a host computer:

A. Equipment Deletions

1. Two Cathode Ray Tube Terminals for use with IBM S/370
2. Two keyless line printers attached to the above mentioned CRT Terminals
3. One inquiry terminal hard wired to the central computer (Room 209-Operations Office)
4. Bi-sychronous board supplied with the IBM Series I computer which was to be utilized for interfacing with host computer.

B. Equipment Additions

1. A high speed line printer to be operated by the central control computer which will generate various reports. It should be a free standing impact printer with a base. It should have a variable width forms tractor for feeding continuous forms up to 15 inches in width with a printer forms control and paper jamb detection. Character spacing should be 10 per inch with up to one hundred thirty-two (132) print positions per line.
2. One hundred fifty (150) diskettes for use with central control computer to store transactions for history reporting. Diskettes will also be used to back-up system operating programs.

C. The inquiry terminal located in Room 120 Vehicle Control Office will be moved to Room 210 Central Computer Control Room.

V The number of locations should be reduced from seventy (Addendum no. 1 - Specification) to sixty-eight. The Street Crime Unit on Randalls Island which was added under Addendum no. 1 to Phase 3 - Manhattan was already in the specification under Phase 2 - Bronx.

The Police Department has relinquished control of Parking Enforcement Pier 76, N. River Phase 3 - Manhattan.

Page 1 of 11

Code 016-207-B207-211-0
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056-7946-011-52-

CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

CONTRACT CHANGE ORDER NO. C-1
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

CONTRACTOR: E.J. Ward, Inc.
ADDRESS: 8801 Tradeway
San Antonio, Texas 78217

PROJECT PO-182 Auto Fueling Systems
CONTRACT: Electrical (Computer)
REG. NO.: XC01157 BOROUGH Various ~~Boroughs~~

[illegible] accordance with Article 25 of the Agreement the Contractor is directed to proceed with the work at once [illegible] all labor, material, equipment and other [illegible] necessary or required to effectuate the change described herein. Payment will be made on the completion of the work on a Time and Material basis [illegible] accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily [illegible] Resident Engineer in accordance with Article 25 of the Agreement. Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.

[illegible] as an alternative, submit within 14 calendar days [illegible] all labor, material [illegible] and other facilities necessary or required to effectuate the change [illegible] Article [illegible] Agreement. The Contractor must, however, proceed with the work [illegible] Should Agreement not be reached on a negotiated price within 30 calendar days [illegible] proposal, or the contractor [illegible] submit his cost proposal within the time period prescribed, payment for the work will be [illegible] the work on an audited Time and Material basis.

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[illegible] contractor is forwarded six (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final costs if the work is [illegible] on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are [illegible] be submitted.

[illegible] total amount of the change orders issued for the contract exceeds 5% of the contract amount or $15,000, whichever is greater, it will [illegible] for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can [illegible] that portion of the change order (or orders) which exceeds the aforesaid [illegible]. The Department will proceed in accordance with [illegible] from the Office of the Mayor and the Office of Management and Budget to expedite such spending authority.

Item	DESCRIPTION OF CHANGE
	Furnish all labor and materials required to do the following work:
1	Expand the vehicle file to include fields for the following: a - Command assigned b - Classification
2	Expand the operator file to include fields for the following: a - Last name and first initial b - Borough assigned c - Command assigned d - Date of last status change e - Operator type
3	Expand the tank pump file to include fields for the following: a - Tank site name

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056-2749-011-52-0
056-7946-011-52-

CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

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CONTRACTOR: E.J. Ward, Inc.
ADDRESS: 8801 Tradeway
San Antonio, Texas 78217

PROJECT PO-182 Auto Fueling Systems
CONTRACT: Electrical
REG. NO.: XC01157 **BOROUGH** Various Boroughs

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Item	DESCRIPTION OF CHANGE	
4	Expand the fuel transaction format to include the following: a - Vehicle classification b - Miles per gallon per transaction	
5	Provide inquiry capability to each file and the ability to display individual records at the Central Control black and white CRT and the Director's black and white CRT.	
6	Provide the capability to search the following: a - Vehicle File by 1 - Vehicle card number 2 - Vehicle number 3 - Vehicle last odometer 4 - Vehicle Command 5 - Vehicle Classification	

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DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

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CONTRACTOR: E.J. Ward Inc.
ADDRESS: 8601 Tradeway
San Antonio

PROJECT PO-182 Auto Fueling Systems
CONTRACT: Electrical
REG. NO.: XC01157 **BOROUGH** Various Boroughs

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Item **DESCRIPTION OF CHANGE**

b - Operator File by:
  1 - Operator card number
  2 - Operator identification number
  3 - Operator Command

c - Fuel Transactions by:
  1 - Transaction type
  2 - Month
  3 - Month and Day
  4 - Vehicle number
  5 - Site/Location number
  6 - Fuel type
  7 - Operator Card number
  8 - Vehicle classification

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Item	DESCRIPTION OF CHANGE	
7	Provide the ability to list reasons why a vehicle has been placed offline.	
8	Provide the following changes to actuators cards. a) Provide a separate master private vehicle card to be used when an operator fuels a privately owned vehicle and a special coding in the operator file to distinguish which operators are authorized to fuel such vehicles.	
9	Provide the following additional report capability: a - Vehicle File report 1 - List vehicle numbers or card numbers, by spanorall. 2 - List vehicles by command 3 - List vehicles by classification	

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Item	DESCRIPTION OF CHANGE	
9 cont'd	4 - List vehicle by odometer (10.000 mile increments) 5 - List vehicle off line b - Operator File Reports 1 - List operator Social Security number or card numbers, by span or all. 2 - List operators by command 3 - List operators by command with private fuel privilege 4 - List operators off line c - Tank pump file report 1 - Compare computer inventory to actual inventory, dipping tank, and compute percentage of variation.	

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056-207-B207-211-B5
056-2999-011-52-00
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Item	DESCRIPTION OF CHANGE	
cont'd	d - Private Vehicle Report 1 - List on demand operators within a command and their private fueling transactions. Operator's name will be included in the listing. Subtotal of gallons will be included in the listing. Subtotal of gallons used should be given for each operator and total gallons used per command. A separate sheet should be produced for each command.	
10	a - Equipment Additions 1 - High speed line printer to be operated by the central control computer which will generate various reports. It should be a free standing impact printer with a base. It should have available width forms tractor for feeding continuous forms up to 15 inches in width with a printer forms control and	

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Item	DESCRIPTION OF CHANGE	
10 Cont'd	paper jamb detection. Character spacing should be 10 per inch with up to one hundred thirty-two (132) print positions per line.	
	2 - One hundred fifty (150) diskettes for use with central control computer to store transactions for history reporting. Diskettes will also be used to back-up system operating programs.	
	3 - Provide the ability to indicate when a diskette used to store transactions is nearing its storage capacity and print a message when this condition occurs.	
	Master Cards should be provided in the following amounts: Master vehicle cards - 500 Master private vehicle cards - 500	

ORDER TO PROCEED

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056-2999-011-52-00
056-7946-011-52-00

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Item	DESCRIPTION OF CHANGE	
12	Insure that control keyboard entries to adjust the "on Hand Balance" will not exceed the fuel tank capacity.	
13	Provide the ability to motor oil dispensed at a vehicle and operator level through the use of existing actuator cards and provide the capability of reporting oil dispensed at an individual or vehicle level through the transaction file. The face of the sixty eight (68) remote terminals will be modified to provide an "oil" button.	
14	Back up power supply for modems at central computer in case of power failure.	
15	Provide the capability for each of the 68 remote terminals to sense or detect the unlocking or opening of the terminal door and send an intrusion alarm message to the transaction printer and insure that an	

ORDER TO PROCEED

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Item	DESCRIPTION OF CHANGE	
	audible alarm is sounded at the time of the printed transaction at the Central Computer Control Center.	
16	Provide a variable access code to insure that only personnel with knowledge of these codes can enter and operate the system for reasons of reporting displaying or updating files and provide ability to secure the system	
17	Provide each of the 68 terminals with an identifying serial number.	
18	Equipment Deletions a - Two cathode Ray tube terminals for use with IBM S/370 (host computer) b - Two keyless line printers attached to the above mentioned CRT terminals. c - One inquiry terminal hard wire to the central computer (Rm. 209)	

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If the total amount of the change orders issued for the contract exceeds 5% of the contract amount or $15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceeds the aforesaid limit. The Department will proceed in accordance with directives from the Office of the Mayor and the Office of Management and Budget to expedite such spending authority.

Item	DESCRIPTION OF CHANGE	
18 Cont'd	d - Bi-sychronous board supplied with the IBM Series I Computer which was to be utilized for interfacing with host computer. e - The thirty character per second typewriter terminal will not need a 10 key pad numeric option.	
19	Modify the telephone lines as follows: a - Telephone lines shall be standard 3002 voice grade, 2 wire one half duplex multi-drop at the rate of 300 Baud.	
20	Response time from successful card read to pump actuation should not exceed six (6) seconds if all terminals are used simultaneously.	
21 22	Reasonable mileage validity check shall take from two to six seconds. Separate Delivery and Inventory cards will not be needed. These functions will be accomplished by using the Master Vehicle Card and "Keying" in specific data on pump terminals dial	

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TR 6567-II

[illegible]

056-234-0234-211-B5
Code Nos. 056-207-D207-211-B5
056-2999-011-52-00
056-7946-011-52-00

CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

CONTRACT CHANGE ORDER NO. C-1
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

CONTRACTOR: E.J. Ward, Inc.
ADDRESS: 8801 Tradeway
San Antonio, Texas 78217

PROJECT PO-182 Auto Fueling System
CONTRACT: Electrical (Computer)
REG. NO.: XC01157 **BOROUGH** Various Boroughs

1) In accordance with Article 25 of the Agreement the Contractor is directed to proceed with the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on a Time and Material Basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily reports with the Resident Engineer in accordance with Article 28 of the Agreement. **Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.**

2) The Contractor may as an alternative, submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 30 calendar days of submittal by the contractor of his cost proposal, or the contractor fail to submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and Material basis.

3) Any payments for change order work must be requisitioned separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on negotiated price.

4) The Contractor is forwarded six (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final costs if the work is performed on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are also to be submitted.

(5) If the total amount of the change orders issued for the contract exceeds 5% of the contract amount or $15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceeds the aforesaid limit. The Department will proceed in accordance with directives from the Office of the Mayor and the Office of Management and Budget to expedite such spending authority.

Item	DESCRIPTION OF CHANGE
23	Eliminate items h to l in the current Status Report (Add #2, page 2, para. 8B)
24	Delete the following locations: a) Street Crime unit on Randalls Island (Add #1) b) Parking Enforcement Pier 76 - Manhattan
25	The sequence of contract to bring phase operational shall be as follows: (Add #3) Phase 1 Staten Island Phase 2 Queens Phase 3 Bronx Phase 4 Manhattan Phase 5 Brooklyn
26	The inquiry terminal located in Room 120, shall be moved to Room 210.

ORDER TO PROCEED

The Contractor is hereby directed to proceed with the work described under "Description of Change" in accordance with Paragraphs 1 to 5 above.

JUN 3 1980
Date

Pat Bruno Jr
Commissioner's Authorized Rep.

CONTRACTORS PROPOSAL

Submitted hereon is my proposal for effecting the changes outlined above. Breakdown of Cost (is) (is not) attached

Contractor ______ Cost ______

Authorized Signature & Title ______ Date ______

APPROVAL OF COST

PAYMENT DUE THE CONTRACTOR OR CREDIT TO BE TAKEN BY THE CITY IN THE AMOUNT OF $ ______ IS HEREBY APPROVED.

INITIAL UPSET PRICE OF $ ______ FOR THIS WORK ON TIME & MATERIAL BASIS IS HEREBY APPROVED.

______
COMMISSIONERS AUTHORIZED REPRESENTATIVE

DATE ______ [illegible] ______

F-52

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CODE NOS.

056-234 0234-211-.
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056-2749-011-52-0
056-7446-011-52-

CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

CONTRACT CHANGE ORDER NO. C-2
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

CONTRACTOR: E. J. WARD INC.
ADDRESS: 8801 Tradeway
San Antonio, Texas 78217

PROJECT: PO-182 Auto. Fueling System
CONTRACT: Computer System
REG. NO.: XC01157 BOROUGH: Various Boroughs

In accordance with Article 25 of the Agreement the Contractor is directed to proceed with the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change described hereon. Payment will be made at the completion of the work on a Time and Material basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily reports with the Resident Engineer in accordance with Article 26 of the Agreement. Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.

The Contractor may as an alternative, submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 30 calendar days of submittal by the contractor of his cost proposal, or the contractor fail to submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and Material basis.

(3) Any payments for change order work must be requisitioned separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on negotiated price.

(4) The Contractor is forwarded six (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final costs if the work is performed on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are also to be submitted.

(5) If the total amount of the change orders issued for the contract exceeds 5% of the contract amount or $15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceeds the aforesaid limit. The Department will proceed in accordance with directives from the Office of the Mayor and the Office of Management and Budget to expedite such spending authority.

Item	DESCRIPTION OF CHANGE	
	Furnish all labor and materials necessary and required to do the following work.	
1.	Provide a bi-synchronous board for bost computer compatibility.	
2.	Provide a KSR 4320 teletype printer with programming. This printer shall be interchangeable with existing printer.	
3.	Provide 5000 plastic card holders for the vehicles. Holder shall be approximate 3¼ inches by 2¼ inches. Submit sample for approval.	

ORDER TO PROCEED

The Contractor is hereby directed to proceed with the work described under "Description of Change" in accordance with Paragraphs 1 to 5 above.

AUG 25 1980
Date

Pat Bruno Jr
Commissioner's Authorized Rep.

CONTRACTORS PROPOSAL

Submitted hereon is my proposal for effecting the changes outlined above. Breakdown of Cost (is) (is not) attached.

Contractor — Cost

Authorized Signature & Title — Date

APPROVAL OF COST

PAYMENT DUE THE CONTRACTOR OR CREDIT TO BE TAKEN BY THE CITY IN THE AMOUNT OF $________ IS HEREBY APPROVED

INITIAL UPSET PRICE OF $________ FOR THIS WORK ON TIME & MATERIAL BASIS IS HEREBY APPROVED

COMMISSIONER'S AUTHORIZED REPRESENTATIVE

DATE

CODE NUMBER

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TR 6567-II

Form E-409E-3M-71691(79)[redacted]346
REV 8/79

CODE NO

056-234-0234-211-6
056-207-B207-211-6
056-2999-011-52-0
056-7946-011-52-

CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

CONTRACT CHANGE ORDER NO. C-3
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

CONTRACTOR: F. J. Ward Inc.
ADDRESS: P.O.Box 17888
San Antonio, Texas

PROJECT PO-182 Auto Fueling System
CONTRACT: Electrical
REG. NO.: XC01157 **BOROUGH** Various Boro

1) In accordance with Article 25 of the Agreement the Contractor is directed to proceed with the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on a Time and Material basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily reports with the Resident Engineer in accordance with Article 28 of the Agreement. **Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.**

2) The Contractor may as an alternative, submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 30 calendar days of submittal by the contractor of his cost proposal, or the contractor fail to submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and Material basis.

3) Any payments for change order work must be requisitioned separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on negotiated price.

4) The Contractor is forwarded six (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final costs if the work is performed on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are also to be submitted.

(5) If the total amount of the change orders issued for the contract exceeds 5% of the contract amount or $15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceeds the aforesaid limit. The Department will proceed in accordance with directives from the Office of the Mayor and the Office of Management and Budget to expedite such spending authority.

Item	DESCRIPTION OF CHANGE	
	Furnish labor and material to perform the following work:	
	Install Protective Stanchions at the following precincts:	
	105th Precinct Two (2) Stanchions	
	112th Precinct Two (2) Stanchions	
	113th Precinct Two (2) Stanchions	

ORDER TO PROCEED
The Contractor is hereby directed to proceed with the work described under "Description of Change" in accordance with Paragraphs 1 to 5 above.

OCT 24 1980
Date

Pat Bruns Jr.
Commissioner's Authorized Rep.

CONTRACTORS PROPOSAL

Submitted hereon is my proposal for effecting the changes outlined above. Breakdown of Cost (is) (is not) attached.

Contractor ____________ Cost ____________

Authorized Signature & Title ____________ Date ____________

APPROVAL OF COST

PAYMENT DUE THE CONTRACTOR OR CREDIT TO BE TAKEN BY THE CITY IN THE AMOUNT OF $____________ IS HEREBY APPROVED

INITIAL UPSET PRICE OF $____________ FOR THIS WORK ON TIME & MATERIAL BASIS IS HEREBY APPROVED

COMMISSIONERS AUTHORIZED REPRESENTATIVE

DATE

CODE NUMBER

F-54

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TR 6567-II

Form [illegible]
REV. [illegible]

CODE NOS. 056-234-5234-211-3
056-207-3207-211-52
056-4599-611-52-06
056-794-211-52-0

CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

CONTRACT CHANGE ORDER NO. C-4
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

CONTRACTOR: E J Ward
ADDRESS: P.O. Box 17888
San Antonio Texas 78217

PROJECT PO-182 Auto Fueling System
CONTRACT: Electrical
REG. NO. KC01157 BOROUGH 5 Boros

1) In accordance with Article 25 of the Agreement the Contractor is directed to proceed with the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on a Time and Material basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily reports with the Resident Engineer in accordance with Article 28 of the Agreement. **Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.**

2) The Contractor may as an alternative, submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 30 calendar days of submission by the contractor of his cost proposal, or the contractor fail to submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and Material basis.

3) Any payments for change order work must be requisitioned separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on [illegible] price.

4) The Contractor is forwarded six (6) copies of this form and is instructed to return four (4) copies of it with his proposal, or final cost if the work is performed on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are also to be submitted.

5) If the total amount of the change orders issued for the contract exceeds 5% of the contract amount or $15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceeds the aforesaid limit. The Department will proceed in accordance with directives from the Office of the Mayor and the Office of Management and Budget covering such spending authority.

Item	DESCRIPTION OF CHANGE
	Provide labor and material to perform the following work:
1.	Install 1" conduit. For new home run from existing gas pump to existing junction box in following precincts 50th Precinct Bronx 105th Precinct Queens

ORDER TO PROCEED

The Contractor is hereby directed to proceed with the work described under "Description of Change" in accordance with Paragraphs 1 to 5 above.

NOV 19 1980
Date

Pat Bruno
Commissioner's Authorized Rep.

CONTRACTORS PROPOSAL

Submitted herewith is my proposal for effecting the changes outlined above. Breakdown of Cost is(are) attached.

Contractor ____ Cost ____

Authorized Signature & Title ____ Date ____

APPROVAL OF COST

PAYMENT DUE THE CONTRACTOR OR CREDIT TO BE TAKEN BY THE CITY IN THE AMOUNT OF $ ____ IS HEREBY APPROVED

INITIAL UPSET PRICE OF $ ____ FOR THIS WORK ON TIME & MATERIAL BASIS IS HEREBY APPROVED

COMMISSIONERS AUTHORIZED REPRESENTATIVE

CODE NUMBER

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1 of 3

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CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

CONTRACT CHANGE ORDER NO. C-5
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

ONTRACTOR: E.J. Ward Inc.
DDRESS: 8801 Tradeway
San Antonio, Texas 78212

PROJECT PO-182 Automatic Fueling System/ For Police Dept.
CONTRACT: Computer System
REG. NO.: XC01157 BOROUGH Var. Boros.

...rdance with Article 25 of the Agreement the Contractor is directed to proceed with the work of furnishing all labor, material, equipment and other ... necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on a Time and Material basis ...dance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily ... with the Resident Engineer in accordance with Article 28 of the Agreement. Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.

...ntractor may as an alternative, submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, ...ment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article ... e Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said pro... Should Agreement not be reached on a negotiated price within 30 calendar days of submittal by the contractor of his cost proposal, or the contractor ... submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and ...terial basis.

...yments for change order work must be requisitioned separately from payment for work required under the original contract. Partial payments for ... order work will only be made in those cases involving an agreed on negotiated price.

...ntractor is forwarded six (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final costs if the work ... ed on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are also to be submitted.

...tal amount of the change orders issued for the contract exceeds 5% of the contract amount or $15,000, whichever is greater, it will ...ssary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can ... on that portion of the change order (or orders) which exceeds the aforesaid limit. The Department will proceed in accordance with ...s from the Office of the Mayor and the Office of Management and Budget to expedite such spending authority.

em	DESCRIPTION OF CHANGE	
	Furnish all labor and material necessary and required to do the following work:	
1.	At each location of remote terminal unit installation, provide a separate feeder to the remote terminal unit interface control unit. This feeder shall be spliced from pump motor feeder ahead of pump shut off switch. Feeder shall be controlled by a 20 AMP keyed toggle switch (with pilot light) in cast box enclosure. Location of switch to be determined in the field.	
2.	At various locations as directed provide one or two post barriers to protect RTU from vehicle damage. Post barriers will be 4" diameter conduit, concrete filled and capped, set 18" into ground/slab incased in the ground with a 4" concrete envelope. Post barrier to be 42" above grade of ground/slab. Approximately 62 post barrier required.	

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2 of 3

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CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

CONTRACT CHANGE ORDER NO. C-5
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

CONTRACTOR: E.J. Ward Inc.
ADDRESS: 9901 Tradeway
San Antonio, Texas 78212

PROJECT PO-182 Automatic Fueling System, for Police Dept.
CONTRACT: Computer System
REG. NO.: XC01157 BOROUGH Var. Boros.

[illegible] with Article 25 [illegible] all labor, material, equipment and other [illegible] necessary or required [illegible] the work on a Time and Material basis [illegible] with the [illegible] the Resident Engineer [illegible] Failure to comply strictly with these filing requirements shall constitute [illegible] of any claim for extra compensation or damages on account of the performance of such work.

[illegible] may as an alternative [illegible] work of furnishing all labor, material [illegible] and other facilities necessary [illegible] in the fourth paragraph of Art[illegible] Agreement. The Contractor shall, however, [illegible] pending the negotiation of said pro[illegible] Agreement [illegible] The cost proposal, or the contractor [illegible] his cost proposal [illegible] of the work on an audited Time and [illegible] Basis.

[illegible] for change [illegible] original contract. Partial payment [illegible] such work will only be made [illegible]

[illegible] is forwarded [illegible] proposal, or final cost of the work [illegible] a Time and Material [illegible] submitted

[illegible] amount of the change [illegible] $25,000, whichever [illegible] funds required before payment [illegible] the Office of Management [illegible]

DESCRIPTION OF CHANGE

3. Provide the following additions to computer program

a. Re-program the "Borough Assigned" field in the "Operator Authorization File" to accept a sequencial number that provides the ability to track the number of cards identified as the "Card Sequence Number". Ensure that update programs will reflect this change.

b. Re-design program to:
   1. List all attempted invalid fuel receipts from the "Octane" terminals.
   2. Indicate invalid fuel receipts at the Control Center by an audiable alarm on the K S R printer.
   3. Show SS# of person entering the invalid fuel receipt.

c. Change programs and associated logic to ensure that all manual fuel entries and manual fuel receipts (i.e., entered from the control console) and accepted by the IBM Series I, sends the appropriate message to the Color CRT monitor to reflect the new current status of the tank Pump Files.

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CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

CONTRACT CHANGE ORDER NO. C-5
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

CONTRACTOR: E.J. Ward Inc.
ADDRESS: 8801 Tradeway
San Antonio, Texas 78212

PROJECT PO-182 Automatic Fueling System For Police Dept
CONTRACT: Computer System
REG. NO. XC01157 BOROUGH Var. Boros

[illegible]

DESCRIPTION OF CHANGE

d. Modify private vehicle fueling transactions at the remote terminals to read low order digits of the operators social security number and compare those digits against the operator authorization file as an added security check before allowing private fuel transaction to occur.

e. Provide one (1) duplicate Intercolor Date Terminal as per original spec. package. This is a necessary backup to monitor the fuel system in the event of failure of the existing monitor. Plug compatible with existing hardware and programs supplied.

ORDER TO PROCEED

Contractor is hereby directed to proceed with the work described under "Description of Change" in accordance with Paragraphs [illegible] above.

DEC 23 1980
Date

Pat Bruno
Commissioner's Authorized Rep

APPROVAL OF COST

PAYMENT DUE THE CONTRACTOR OR CREDIT TO BE TAKEN BY THE CITY IN THE AMOUNT OF $ __________ IS HEREBY APPROVED

INITIAL [illegible] PRICE OF $ __________ FOR THIS WORK ON TIME & MATERIAL BASIS IS HEREBY APPROVED

COMMISSIONER'S AUTHORIZED REPRESENTATIVE

CONTRACTORS PROPOSAL

Herewith is my proposal for effecting the above change [illegible] Breakdown [illegible]

Contractor

Authorized Signature & Title

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Form E-409E-3M-71691(79) [illegible] 346
REV. 8/79

CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

CONTRACT CHANGE ORDER NO. C-6

ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

CONTRACTOR: E. J. Ward Inc.
ADDRESS: P. O. Box 17888
San Antonio, Texas 78217

PROJECT PO-182 Auto Fueling Sys.
CONTRACT: Electrical
REG. NO.: XC01157 **BOROUGH** VAR. BOROS

1) In accordance with Article 25 of the Agreement the Contractor is directed to proceed with the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on a Time and Material basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily reports with the Resident Engineer in accordance with Article 28 of the Agreement. **Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.**

2) The Contractor may as an alternative, submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 30 calendar days of submittal by the contractor of his cost proposal, or the contractor fail to submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and Material basis.

3) Any payments for change order work must be requisitioned separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on negotiated price.

4) The Contractor is forwarded six (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final costs if the work is performed on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are also to be submitted.

(5) If the total amount of the change orders issued for the contract exceeds 5% of the contract amount or $15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceeds the aforesaid limit. The Department will proceed in accordance with directives from the Office of the Mayor and the Office of Management and Budget to expedite such spending authority.

Item	DESCRIPTION OF CHANGE	
	CREDIT TO THE CITY OF NEW YORK For labor and material to install New Remote Control boxes at the following precincts: 52nd Precinct, Bronx 106th Precinct, Queens 108th Precinct, Queens Contractor will turn the three(3) remote control boxes over to the Police Dept. and obtain a receipt for same.	

ORDER TO PROCEED

The Contractor is hereby directed to proceed with the work described under "Description of Change" in accordance with Paragraphs 1 to 5 above.

JAN 23 1981
Date

Pat B[illegible] Jr
Commissioner's Authorized Rep.

CONTRACTORS PROPOSAL

Submitted hereon is my proposal for effecting the changes outlined above. Breakdown of Cost (is) (is not) attached.

Contractor ____________ Cost ____________

Authorized Signature & Title ____________ Date ____________

APPROVAL OF COST

PAYMENT DUE THE CONTRACTOR OR CREDIT TO BE TAKEN BY THE CITY IN THE AMOUNT OF $____________ IS HEREBY APPROVED.

INITIAL UPSET PRICE OF $____________ FOR THIS WORK ON TIME & MATERIAL BASIS IS HEREBY APPROVED.

____
COMMISSIONERS AUTHORIZED REPRESENTATIVE

056-234-U234-211-B5 056-207-B207-211-B5
056-2999-011-52-00 056-7946-011-52-00
DATE CODE NUMBER

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CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

CONTRACT CHANGE ORDER NO. C-7
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

CONTRACTOR: E. J. Ward Inc.
ADDRESS: P.O. Box 17688
San Antonio, Texas 78217

PROJECT PO-182 Auto Fueling System
CONTRACT: Electrical
REG. NO.: XC01157 **BOROUGH** VAR. Boro

1) In accordance with Article 25 of the Agreement the Contractor is directed to proceed with the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on a *Time and Material basis* in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily reports with the Resident Engineer in accordance with Article 28 of the Agreement. **Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.**

2) The Contractor may as an alternative, submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 30 calendar days of submittal by the contractor of his cost proposal, or the contractor fail to submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and Material basis.

3) Any payments for change order work must be requisitioned separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on negotiated price.

4) The Contractor is forwarded six (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final costs if the work is performed on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are also to be submitted.

5) If the total amount of the change orders issued for the contract exceeds 5% of the contract amount or $15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceeds the aforesaid limit. The Department will proceed in accordance with directives from the Office of the Mayor and the Office of Management and Budget to expedite such spending authority.

Item	DESCRIPTION OF CHANGE	
	Provide labor and material to perform the following work: Install 3/4 inch conduit for new home run and signal wire from new remote control unit to junction box in existing precinct in the following locations. Central Park ~~Mid-Town South~~, Manhattan 24th Precinct, Manhattan 76th Precinct, Brooklyn 90th Precinct, Brooklyn 109th Precinct, Queens 113th Precinct, Queens	

ORDER TO PROCEED
The Contractor is hereby directed to proceed with the work described under "Description of Change" in accordance with Paragraphs 1 to 5 above.

JAN 19 1981
Date

Pat Brun
Commissioner's Authorized Rep.

CONTRACTORS PROPOSAL
Submitted hereon is my proposal for effecting the changes outlined above. Breakdown of Cost (is) (is not) attached

Contractor ____________ Cost ____________

Authorized Signature & Title ____________ Date ____________

APPROVAL OF COST
PAYMENT DUE THE CONTRACTOR OR CREDIT TO BE TAKEN BY THE CITY IN THE AMOUNT OF $____________ IS HEREBY APPROVED

INITIAL UPSET PRICE OF $____________ FOR THIS WORK ON TIME & MATERIAL BASIS IS HEREBY APPROVED.

COMMISSIONERS AUTHORIZED REPRESENTATIVE

056-211-0211-211-05 056-207-0207-211-05
056-2999-011-52-00 056-7946-011-52-00

Reproduced from best available copy.

Appendix G

SYSTEM REPORTS

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AYCPU                OPERATOR INDEX LISTING          08-15               07/22/81               PAGE   1

                CODE... UNASGN - NEVER USED/ DATE OR  -  IS DISPOSED/ * - ASSIGNED OFFLINE

20000  132-30-3290  20001   84-34-0122  20002  123-30-1164  20003   96-34-2665  20004   76-34-5843
20005  109-34-7593  20006  108-36-8087  20007   51-28-0243  20008  117-28-0101  20009   59-34-4126
20010  126-30-0789  20011   79-30-1665  20012  124-36-6218  20013  100-30-5962  20014   76-24-9175
20015   37-34-7445  20016  102-18-0499  20017  117-14-9930  20018   69-28-2983  20019  124-14-3712
20020  126-30-2638  20021   84-30-3295  20022  103-14-9355  20023  115-18-2709  20024   79-36-6776
20025   50-40-4407  20026  131-20-0998  20027   79-20-3677  20028   76-28-9602  20029   75-28-6200
20030   97-24-7569  20031   89-28-5783  20032  111-30-9014  20033   94-34-0155  20034  102-18-7292
20035   55-36-5748  20036        02-04  20037   58-14-1197  20038   69-34-3137  20039  113-32-7330
20040        07-18  20041   94-34-3655  20042   73-36-1127  20043  115-26-5939  20044   88-26-1931
20045        01-22  20046   73-14-1245  20047  125-32-6840  20048  126-30-0958  20049   79-36-8239
20050   55-26-9742  20051   85-36-2701  20052   70-36-4293  20053  123-40-1031  20054   91-34-4584
20055   92-34-0287  20056  149-24-1873  20057   54-36-9044  20058  148-28-1237  20059  108-22-8578
20060  116-22-8868  20061   51-26-5336  20062   92-32-2938  20063   86-32-4768  20064  126-30-3082
20065  129-14-1384  20066   78-16-1168  20067   91-32-1395  20068   90-34-6948  20069  117-28-0581
20070        01-22  20071   59-36-9366  20072  134-18-6651  20073   68-26-2473  20074  188-28-7907
20075  122-32-3912
ONLINE CARDS        72
OFFLINE CARDS        0
DISPOSED             4
UNASSIGNED           0

TOTAL IN RANGE      76

REPORT COMPLETE
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NYCPD              VEHICLE INDEX LISTING            08-13           07/22/81                PAGE  1

                CODE... UNASGN - NEVER USED/ DATE OR  -  IS DISPOSED/ * - ASSIGNED OFFLINE

  100  0001    101  0001    102  0002    103  0002    104  0003    105  5620     98           99
  100  0001    101  0001    102  0002    103  0002    104  0003    113  0011    114  0012    115  5621
  116  0014    117  0015    118  0031    119  6-17    120  0020    121  0030    122  6-18    123  0032
  124  6-19    125  0034    126  0036    127  7-22    128  0019    129  0042    130  0043    131  0051
  132  0053    133  0054    134  0057    135  0059    136  0061    137  0065    138  0058    139  0072
  140  0064    141  0075    142  0076    143  0078    144  8637    145  2-20    146  0037    147  2-20
  148  0082    149  0086    150  5-15    151  7-21    152  6-12    153  3-20    154  6-16    155  0096
  156  0039    157  7-10    158  0100    159  0101    160  0102    161  0104    162  0105    163  0109
  164  0107    165  0108    166  4-14    167  0113    168  0114    169  2-20    170  0116    171  6-12
  172  0118    173  0119    174  0112    175  0122
 ONLINE CARDS      59
 OFFLINE CARDS      0
 DISPOSED          15
 UNASSIGNED         2

 TOTAL IN RANGE    76

 REPORT COMPLETE
```

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NYCPD    OPR AUTH FILE    - SINGLE REC BY CRD# -    10 25 41  07/20/81  PAGE  1
  CARD#   STATUS   SOC SEC #   COMMAND   PVF  LAST CHNG      NAME      # CARDS
     1     OFF    98-12-0045    570       NO    05/06     MCGRATH   W     0

REPORT COMPLETE
```

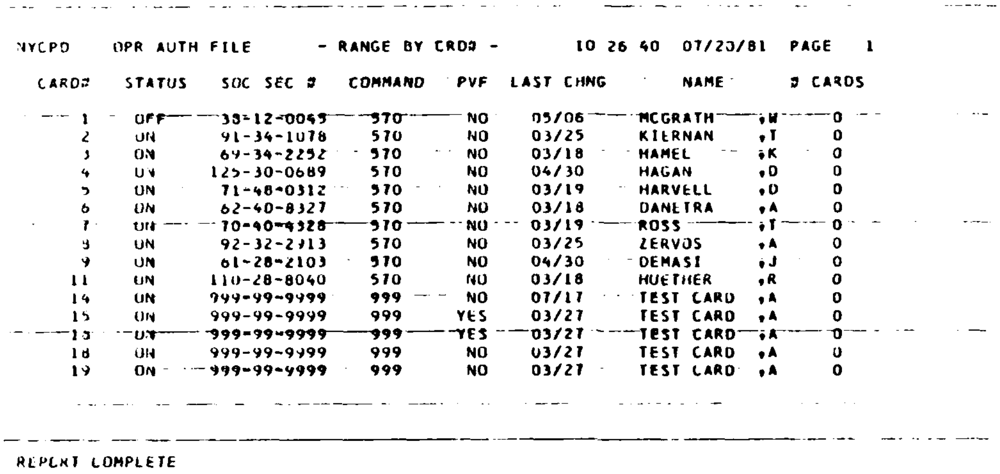

```
NYCPD     OPR AUTH FILE       - RANGE BY CRD# -        10 26 40  07/20/81  PAGE   1

  CARD#    STATUS    SOC SEC #    COMMAND   PVF  LAST CHNG       NAME        # CARDS

      1     OFF      38-12-0045     570      NO    05/06     MCGRATH     ,W      0
      2     ON       91-34-1078     570      NO    03/25     KIERNAN     ,T      0
      3     ON       69-34-2252     570      NO    03/18     HAMEL       ,K      0
      4     ON      125-30-0689     570      NO    04/30     HAGAN       ,D      0
      5     ON       71-48-0312     570      NO    03/19     HARVELL     ,D      0
      6     ON       62-40-8327     570      NO    03/18     DANETRA     ,A      0
      7     ON       70-40-4328     570      NO    03/19     ROSS        ,T      0
      8     ON       92-32-2913     570      NO    03/25     ZERVOS      ,A      0
      9     ON       61-28-2103     570      NO    04/30     DEMASI      ,J      0
     11     ON      110-28-8040     570      NO    03/18     HUETHER     ,R      0
     14     ON      999-99-9999     999      NO    07/17     TEST CARD   ,A      0
     15     ON      999-99-9999     999     YES    03/27     TEST CARD   ,A      0
     13     ON      999-99-9999     999     YES    03/27     TEST CARD   ,A      0
     18     ON      999-99-9999     999      NO    03/27     TEST CARD   ,A      0
     19     ON      999-99-9999     999      NO    03/27     TEST CARD   ,A      0


REPORT COMPLETE
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NYCPD     UPR AUTH FILE      - LIST ALL RECORDS -       8 59 47  07/22/81  PAGE   1

   CARD#    STATUS    SOC SEC #    COMMAND   PVF  LAST CHNG        NAME  ,   # CARDS

       1     OFF      38-12-0045     570      NO    05/06     MCGRATH      ,W      0
       2     ON       91-34-1078     570      NO    03/25     KIERNAN      ,T      0
       3     ON       69-34-2252     570      NO    03/18     HAMEL        ,K      0
       4     ON      125-30-0689     570      NO    04/30     HAGAN        ,D      0
       5     ON       71-48-0312     570      NO    03/19     HARVELL      ,D      0
       6     ON       62-40-8327     570      NO    03/18     DANETRA      ,A      0
       7     ON       70-40-4328     570      NO    03/19     ROSS         ,T      0
       8     ON       92-32-2913     570      NO    03/25     ZERVOS       ,A      0
       9     ON       61-23-2103     570      NO    04/30     DEMASI       ,J      0
      11     ON      110-28-6040     570      NO    03/18     HUETHER      ,R      0
      14     ON      999-99-9999     999      NO    07/17     TEST CARD    ,A      0
      15     ON      999-99-9999     999     YES    03/27     TEST CARD    ,A      0
      16     ON      999-99-9999     999     YES    03/27     TEST CARD    ,A      0
      13     ON      999-99-9999     999      NO    03/27     TEST CARD    ,A      0
      17     ON      999-99-9999     999      NO    03/27     TEST CARD    ,A      0
    1032     ON      134-28-5220     102     YES    06/12     ALFANO       ,R      0
    2484     ON       64-38-2865     161      NO    07/16     COOMBS       ,R      1
    9664     ON       62-36-6601       1     YES    07/07     ZOLFO        ,M      0
   10100     ON       72-32-7273       1      NO      /       ACHA         ,B      0
   10101     ON      126-28-7791       1     YES      /       AGUGLIARO    ,J      0
   10102     ON      121-34-9264       1      NO      /       AJELLO       ,J      0
   10103     ON       85-40-3604       1      NO      /       AMERUSE      ,L      0
   10104     ON       80-34-5930       1      NO      /       ANDRUZZI     ,W      0
   10105     ON       57-34-1985       1      NO      /       ANELLO       ,J      0
   10106     ON      109-40-5772       1      NO      /       ARNONE       ,C      0
   10107     OFF     115-32-4202      17      NO    06/22     BARBOUR      ,W      0
   10108     ON       70-42-6019       1      NO      /       BARTH        ,E      0
   10109     ON       76-22-5314       1      NO      /       BELIVEAU     ,R      0
   10110     ON      580-03-8443       1      NO      /       BENJAMIN     ,R      0
   10111     ON      115-18-6017       1      NO      /       BENNETT      ,R      0
   10112     ON       64-22-7969       1      NO      /       BORKOWSKY    ,Z      0
   10113     ON      101-22-0119       1     YES      /       BOTROS       ,M      0
   10114     ON       77-40-8169       1      NO      /       BOYSA        ,R      0
   10115     ON      125-40-8115       1      NO      /       BRADLEY      ,D      0
   10116     ON      106-34-6040       1      NO      /       BRADY        ,J      0
   10117     ON       85-22-5995       1      NO      /       BRECH        ,R      0
   10118     ON       69-40-0265       1      NO      /       BREEN        ,D      0
   10119     ON       73-32-8767       1      NO      /       BREUER       ,R      0
   10120     ON       92-22-6805       1      NO      /       BRITTON      ,J      0
   10121     ON       91-42-1045       6      NO    04/27     BROGAN       ,F      0
   10122     ON       59-36-9980       1      NO      /       BROWN        ,G      0
   10123     ON       60-34-3624       1     YES      /       BROWN        ,K      0
   10124     ON       80-30-2251       1      NO      /       BROWN        ,R      0
   10125     ON       66-42-4077       1      NO      /       BROWN        ,V      0
   10126     ON       62-30-1311     551      NO    03/23     MURPHY       ,P      0
   10127     ON      120-34-6232       1      NO      /       BUTLER       ,J      0
   10128     ON      133-18-8155       1      NO      /       BUDIJN       ,R      0
   10129     ON      118-42-3743       1      NO      /       BYERS        ,P      0
   10130     ON      113-32-1382       1      NO      /       CALISE       ,F      0
   10131     ON       68-42-9530       1      NO      /       CAMARDA      ,S      0
   10132     ON       72-34-7154       1      NO      /       CAPUANO      ,J      0
   10134     ON       94-32-7585       1      NO              CARRIERI     ,J      0
   10135     ON      124-22-4287       1      NO              CERK         ,W      0
   10136     ON        3-32-2911       1      NO      /       CHEMERYS     ,J      0
```

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NYCPD    OPR AUTH FILE   = I REC BY OPR IDENT -    10 29 '6  07/20/81  PAGE  1
   CARD#  STATUS   SOC SEC #   COMMAND  PVF  LAST CHNG      NAME      # CARDS
       2    ON      91-34-1078   370     NO    03/29     KIERNAN  ,T     0

REPORT COMPLETE
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NYCPD   OPR AUTH FILE   - PVF BY COMMAND -   10 30 31 07/20/81 PAGE 1

CARD#	STATUS	SOC SEC #	COMMAND	PVF	LAST CHNG	NAME		# CARDS
~~10406~~	~~ON~~	~~92-42-7392~~	~~389~~	~~YES~~	~~03/11~~	~~SHANLEY~~	~~,T~~	~~0~~
10916	ON	109-32-3073	389	YES	03/11	STANLEY	,P	0
11381	ON	119-34-8349	389	YES	05/20	MCDONALD	,D	0
11757	ON	74-32-3462	389	YES	04/09	DUNNE	,F	0
11890	ON	132-38-0185	389	YES	03/11	NAVARRO	,V	0
11896	ON	64-36-3696	389	YES	03/24	OBERLE	,T	0
~~12145~~	~~ON~~	~~80-34-9086~~	~~389~~	~~YES~~	~~03/11~~	~~VIGNARI~~	~~,M~~	~~0~~
12242	ON	80-36-2551	389	YES	05/04	MONAHAN	,J	0
12270	ON	82-34-4420	389	YES	01/21	SCHOLL	,C	0
12896	ON	93-38-1428	389	YES	01/21	BURHANS	,R	0
12963	ON	93-36-6887	389	YES	03/11	RODRIGUEZ	,J	0
13401	ON	100-44-2611	389	YES	04/16	GANNON	,D	0
~~13461~~	~~ON~~	~~52-34-6431~~	~~389~~	~~YES~~	~~03/24~~	~~MCKENNA~~	~~,E~~	~~0~~
13554	ON	50-38-2678	389	YES	01/20	BRUNO	,V	0
13582	ON	116-28-4767	389	YES	03/11	DELLAROCC	,J	0
13602	ON	101-34-6580	389	YES	03/11	GONZALEZ	,I	0
13609	ON	101-30-4008	389	YES	03/09	HARRIGAN	,B	0
14182	ON	82-34-2125	389	YES	03/30	DELLAROCC	,M	0
~~15646~~	~~ON~~	~~73-32-1105~~	~~389~~	~~YES~~	~~03/24~~	~~FITZGERAL~~	~~,B~~	~~0~~
15942	ON	106-38-4703	389	YES	04/09	HERMANN	,M	0
16354	ON	78-36-0656	389	YES	03/24	JACQUES	,S	0
16407	ON	50-38-9096	389	YES	04/09	SCRIVANI	,J	0
16510	ON	79-30-3903	389	YES	03/24	MCDONALD	,W	0
16582	ON	113-40-2417	389	YES	03/27	RODER	,J	0
~~16590~~	~~ON~~	~~110-32-5780~~	~~389~~	~~YES~~	~~04/22~~	~~BARRETT~~	~~,J~~	~~0~~
16681	ON	122-32-5791	389	YES	04/22	MOLLOY	,J	0
16700	ON	61-32-5408	389	YES	04/27	OTTEN	,K	0
17204	ON	62-38-8898	389	YES	03/24	GRIFFITH	,G	0
17323	ON	91-32-4718	389	YES	03/24	BENOIT	,P	0
17355	ON	50-36-8033	389	YES	03/24	DESANCTIS	,C	0
~~17464~~	~~ON~~	~~249-58-8207~~	~~389~~	~~YES~~	~~04/16~~	~~RUOPULI~~	~~,F~~	~~0~~
18491	ON	95-36-5286	389	YES	03/25	GANUN	,T	0
19472	ON	79-44-1587	389	YES	03/24	MANIGAULT	,S	0
19759	ON	63-30-9031	389	YES	03/24	DAMM	,A	0
19797	ON	59-30-0133	389	YES	04/16	KEARNEY	,R	0
19931	ON	54-32-1219	389	YES	03/11	BANKS	,P	0
~~20229~~	~~ON~~	~~245-78-1257~~	~~389~~	~~YES~~	~~03/25~~	~~ERVIN~~	~~,M~~	~~0~~
20398	ON	79-30-0881	389	YES	03/24	MCADAM	,W	0
22347	ON	435-54-8463	389	YES	03/11	ROSE	,W	0
23473	ON	96-30-3296	389	YES	04/27	HOLLAND	,R	0
23509	ON	83-44-3132	389	YES	05/14	HEALEY	,M	0
23583	ON	75-32-4013	389	YES	03/11	MAZZOLA	,F	0
~~25604~~	~~ON~~	~~80-36-4168~~	~~389~~	~~YES~~	~~/~~	~~OBRIEN~~	~~,V~~	~~0~~
25605	ON	134-26-6084	389	YES	/	DOWD	,J	0
25606	ON	109-30-7018	389	YES	/	HORAN	,W	0
25607	ON	118-32-0040	389	YES	/	JAHRNES	,R	0
25608	ON	99-20-0831	389	YES	/	LEWIS	,M	0
25609	ON	96-16-7751	389	YES	/	PETERSON	,G	0
~~25610~~	~~ON~~	~~89-30-2625~~	~~389~~	~~YES~~	~~/~~	~~SEWELL~~	~~,E~~	~~0~~
25611	ON	111-30-3610	389	YES	/	SCHROEDER	,F	0
25612	ON	132-34-3728	389	YES	/	WISE	,J	0
25616	ON	109-32-8134	389	YES	/	DANGELO	,J	0
25617	ON	122-32-2021	389	YES	/	DELGUIDIC	,D	0
25618	ON	56-34-6328	389	YES	/	DIGLIO	,A	0

```
NYCPD    OPR AUTH FILE      - ALL IN COMMAND -       10 36  1  07/20/81  PAGE   1

 CARD#   STATUS   SOC SEC #   COMMAND   PVF  LAST CHNG      NAME       # CARDS

 10152    ON     123-30-8425    123     NO    01/26    EGAN        ,R     0
 10708    ON     130-34-6472    123     NO    01/27    MOREBACK    ,N     0
 10724    ON     116-34-4684    123     NO    01/27    PICONE      ,F     0
 12764    ON     125-40-6477    123     NO    01/28    DIAZ        ,R     0
 13890    OFF     83-28-7517    123     NO    06/30    CUPELLI     ,J     0
 16802    OFF     96-32-6246    123     NO    06/30    DELUCA      ,J     0
 17191    ON      50-36-6370    123     NO    07/07    FURTADO     ,V     0
 19548    ON      79-30-6252    123     NO    04/08    AVERSA      ,L     0
 19549    ON      52-28-7362    123     NO    04/08    BENNETT     ,T     0
 19550    ON      85-26-5300    123     NO    04/08    CASEY       ,J     0
 19551    ON      79-30-0656    123     NO    04/08    COCHRAN     ,J     0
 19552    ON     125-30-7481    123     NO    04/08    GIBBONS     ,J     0
 19553    ON      72-22-1074    123     NO    04/08    LARESCA     ,T     0
 19554    ON     109-40-6456    123     NO    04/08    LENNING     ,K     0
 19555    ON     104-32-0978    123     NO    04/08    LOMBARDO    ,J     0
 19556    ON      88-24-0644    123     NO    04/08    LUBRANO     ,W     0
 19557    ON     125-32-3173    123     NO    04/08    MARESCA     ,J     0
 19558    ON      86-40-9946    123     NO    04/08    MARTINESI   ,A     0
 19559    ON      61-28-7139    123     NO    04/08    MATTEI      ,M     0
 19560    ON      64-34-4234    123     NO    04/08    MCLAUGHLIN  ,J     0
 19561    ON      64-22-8404    123     NO    04/08    MURPHY      ,C     0
 19562    ON      84-36-9505    123     NO    04/08    PATTISON    ,R     0
 19563    ON     104-26-0845    123     NO    04/08    REGAN       ,C     0
 19967    ON      86-24-0221    123     NO    04/08    SCHURDTT    ,S     0
 19985    ON      78-32-6748    123     NO    04/08    SULLIVAN    ,A     0
 19992    ON     111-18-4207    123     NO    04/08    STANULIS    ,E     0
 20902    ON     111-28-5354    123     NO    03/05    FABISENSKI  ,H     0
 20903    ON     243-84-6017    123     NO    03/05    GUTHRIE     ,C     0
 20904    ON     125-40-6040    123     NO    03/05    KLINE       ,J     0
 21409    ON      67-32-5938    123     NO    01/13    LOBELLO     ,J     0
 21415    ON     122-32-0422    123     NO    01/07    STUMPF      ,F     0
 21504    ON      70-42-6042    123     NO    01/12    KRIEGER     ,G     0
 21513    ON     130-26-7223    123     NO    03/13    HUNT        ,M     0
 21518    ON     137-26-7644    123     NO    03/13    BOPP        ,L     0
 21735    ON     117-30-6929    123     NO      /      ARANDA      ,H     0
 21736    ON     178-30-8198    123     NO    11/26    BARTOLETTI  ,L     0
 21738    ON      87-38-9263    123     NO      /      BELL        ,E     0
 21739    ON      72-34-6670    123     NO      /      BERT        ,P     0
 21740    ON     126-28-8483    123     NO      /      BESIGNANO   ,J     0
 21741    ON     118-42-3671    123     NO    11/26    BORG        ,J     0
 21742    ON      71-22-0227    123     NO      /      BORRUSO     ,A     0
 21743    ON      79-20-2021    123     NO      /      BRADY       ,T     0
 21744    ON      96-12-9500    123     NO      /      BUONO       ,L     0
 21745    ON     109-24-4448    123     NO      /      BURNS       ,W     0
 21746    OFF    124-22-4688    123     NO    05/19    BUTLER      ,T     0
 21747    ON      84-42-0199    123     NO      /      CAPECI      ,R     0
 21748    ON      99-32-5786    123     NO      /      CARLINO     ,J     0
 21750    ON      87-24-3671    123     NO      /      CHIARELLO   ,F     0
 21752    ON     109-32-1110    123     NO      /      DECICCO     ,J     0
 21753    ON      77-38-4125    123     NO      /      DIPIPPO     ,J     0
 21754    ON      92-42-5707    123     NO      /      DITRANI     ,D     0
 21755    ON      73-36-0354    123     NO      /      DONUGHUE    ,J     0
 21756    ON      97-38-2026    123     NO      /      DURKIN      ,E     0
 21757    ON     112-34-6153    123     NO      /      FRANZESE    ,P     0
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SYSPO    OFR AUTH FILE    - LIST ALL OFF-LINE -      9 13  8  08/12/81  PAGE   1

 CARD#    STATUS    SOC SEC #   COMMAND   PVF  LAST CHNG       NAME        # CARDS

     1      OFF    38-12-0045     570      NO    05/05     MCGRATH     ,W     0
 10123      OFF    91-40-6122       6      NO    08/05     NAPOLITAN   ,J     0
 10147      OFF   130-34-1765       1      NO    07/22     DIMAURO     ,A     0
 10263      OFF    50-38-2332      20      NO    07/23     MALDONADO   ,M     1
 10325      OFF   113-36-0950     389      NO    06/27     DOYLE       ,G     0
 10438      OFF   109-40-6550       6      NO    06/05     CUTLER      ,A     0
 10874      OFF   106-34-7220       9      NO    07/22     MURPHY      ,C     0
 10912      OFF   132-46-8484     420      NO    08/07     SULLIVAN    ,E     0
 10945      OFF    79-40-5526      10      NO    06/19     AQUILA      ,W     0
 10963      OFF   126-52-5580     578      NO    07/07     CHAN        ,T     0
 10995      OFF   108-40-5449      10      NO    06/19     KINAHAN     ,J     0
 11002      OFF    95-36-8528      10      NO    06/19     MANZO       ,A     0
 11014      OFF    57-32-7308      10      NO    06/19     MCGUINNES   ,T     0
 11043      OFF    94-40-3563      14      NO    06/09     CRAPARO     ,I     0
 11307      OFF   105-42-3180      14      NO    06/09     HEALY       ,F     0
 11352      OFF   100-28-1448     161      NO    07/30     HORAN       ,E     0
 11374      OFF    65-36-1681      14      NO    01/14     MARK        ,J     0
 11381      OFF    79-36-1363      19      NO    07/30     HUBER       ,G     0
 11407      OFF   112-52-8224      19      NO    07/30     TATE        ,K     0
 11413      OFF    64-32-2785      19      NO    07/30     TAYLOR      ,E     0
 11415      OFF   110-34-4485      50      NO    06/23     REESE       ,J     0
 11441      OFF   115-44-1328      19      NO    07/30     MULDOON     ,A     0
 11515      OFF    86-40-8358       9      NO    07/25     DELROSARI   ,G     0
 11572      OFF    80-36-0262      18      NO    07/28     BETZ        ,P     0
 11745      OFF    68-34-9774     520      NO    07/12     SEALES      ,R     0
 11757      OFF   116-36-2283      18      NO    07/28     STELZER     ,R     0
 12427      OFF   129-34-6373     507      NO    06/18     COSTELLO    ,R     0
 12683      OFF    63-42-9270      24      NO    04/28     POWERS      ,S     0
 12751      OFF    75-46-4532      25      NO    07/11     CONNOR      ,S     0
 12753      OFF   117-24-9658      25      NO    07/11     GILMOUR     ,P     0
 12903      OFF   110-30-5122      26      NO    06/19     CAVANAUGH   ,G     0
 12957      OFF   171-32-8060      26      NO    06/19     PENROD      ,G     0
 12777      OFF    83-34-8292     551      NO    05/21     SCOTT       ,C     0
 13021      OFF   119-34-1494      24      NO    07/15     ROBERTSON   ,P     1
 13073      OFF   257-62-9335      28      NO    06/19     FRAZIER     ,E     0
 13112      OFF   266-54-7194      28      NO    01/23     LAWSON      ,C     0
 13217      OFF   103-38-4324      24      NO    07/15     SCHAEFFER   ,J     1
 13272      OFF    89-28-6035     113      NO    06/18     LEONARD     ,S     0
 13473      OFF   111-32-8634     538      NO    06/19     POWELL      ,W     0
 13637      OFF   132-34-9784      17      NO    07/23     HARAZITA    ,P     0
 13868      OFF    67-30-7381     155     YES    08/11     DREYER      ,P     1
 13782      OFF      -  -1112       0      NO      /                   ,      0
 13510      OFF   112-38-4016      40      NO    06/15     MCCARRON    ,R     0
 13887      OFF    96-32-6344     102      NO    07/01     GROSS       ,H     0
 14057      OFF    51-36-6745      42      NO    08/05     GORBEA      ,M     0
 14081      OFF    71-34-6242      42      NO    06/19     MCGUINNES   ,J     0
 14278      OFF    87-32-7892     490      NO    04/23     SANTIAGO    ,J     0
 14323      OFF    63-38-4391      44      NO    07/31     VENEZIA     ,J     0
 14705      OFF    62-34-7075     290      NO    05/31     BRADY       ,A     0
 14714      OFF   123-36-6384      66      NO    06/01     KELLY       ,P     0
 15295      OFF   126-16-6568      52      NO    07/22     CALLANAN    ,J     0
 15367      OFF   130-26-1308      19      NO    07/30     BUTTACOLI   ,A     0
 15454      OFF   125-22-8756     490      NO    08/03     BYRNE       ,P     0
 15511      OFF    53-42-8365      60      NO       05     CHRISTIAN   ,J     0
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NYCPD   EQP AUTH FILE      SINGLE EQUIP CARD #      10-48  07/20/81  PAGE  1

EQUIP  CARD  EQUIP  FUEL  ODOM  MILES  ODOM                GALLON  1-LOST 3-ACC
  #      #    STAT  TYPE  CODE  LIMIT  RDNG  CLASS  COMND  LIMIT   2-SHOP 4-CNDM
 8706   269    UN   2--0    7    250   7428   ARO    570    18

REPORT COMPLETE
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NYCPD   EQP AUTH FILE     - RANGE OF EQUIP CPD# -    10-50  07/20781  PAGE   1

EQUIP  CARD  EQUIP  FUEL  ODOM  MILES  ODOM                  GALLON  1-LOST 3-ACC
  #     #    STAT   TYPE  CODE  LIMIT  RDNG   CLASS  COMND   LIMIT   2-SHOP 4-CNDM
    1   100   ON    2--0   1     250  187030  LRY     500     23
    1   101   ON    2--0   1     250  338710  VBY     500     23
    2   102   ON    2--0   1     250   51655  TEY     502     23
    2   103   ON    2--0   1     250    4760  LIY     502     23
    3   104   ON    2--0   7     250   87104  QEY     551     23
 5620   105   ON    2--0   1       0   80505  UEY     570     23
    1   100   ON    2--0   1     250  181030  LRY     500     23
    1   101   ON    2--0   1     250  338710  VBY     500     23
    2   102   ON    2--0   1     250   51163  TEY     502     23
    2   103   ON    2--0   1     250    4760  LIY     502     23
    3   104   ON    2--0   7     250   65536  QEY     551     23
   11   113   ON    2--0   7     250       1  IRT     165     23
   12   114   ON    2--0   7     250   30700  ARD     538     18
 5521   115   ON    2--0   1       0   23384  UEY     570     23
   14   116   ON    2--0   7     250   16031  ARD     162     18
   15   117   ON    2--0   7     250   52791  HRT     496     23
   31   118   ON    2--0   7     250   54720  GSD      34     18
  617   119   OFF   0--0   0       0       0              0      0       4
   20   120   ON    2--0   7     250   55298  QEY     201     23
   30   121   ON    2--0   7     250       1    U     165     18
  618   122   OFF   0--0   0       0       0              0      0       4
   32   123   ON    2--0   7     250       1  ARD     380     18
  619   124   OFF   0--0   0       0       0              0      0       5
   34   125   ON    2--0   7     250    8435  ARD     375     18
   36   126   ON    2--0   7     250      65  ARD     384     18
   36   127   ON    2--0   7     250     654  TRY      81     23
   19   128   ON    2--0   7     250   16324  ARD     447     18
   42   129   ON    2--0   7     250     141  QRY       5     23
   43   130   ON    2--0   7     250   40699  GSD     112     18
   51   131   ON    2--0   7     250   10018  ARD     499     18
   53   132   ON    2--0   7     250   13522  ARD     501     18
   54   133   ON    2--0   7     250     107  ARD     502     18
   57   134   ON    2--0   7     250     141  ARD     201     18
   59   135   ON    2--0   7     250   15593  ARD     533     18
   61   136   ON    2--0   7     250   10602  ARD     310     18
   65   137   ON    2--0   7     250   48843  GSD      24     18
   58   138   ON    2--0   7     250   18795  ARD     551     18
   72   139   ON    2--0   7     250   23485  ARD     125     18
   84   140   ON    2--0   7     250       2  BEY     500     23
   75   141   ON    2--0   7     250       1  TRY     586     23
   76   142   ON    2--0   7     250       1  PRY      77     23
   78   143   ON    2--0   7     250     141  QRY       6     23
  220   144   OFF   0--0   0       0       0              0      0       5
  220   145   OFF   0--0   0       0       0              0      0       5
   37   146   ON    2--0   7     250   40746  ARD     450     18
  220   147   OFF   0--0   0       0       0              0      0       5
   82   148   ON    2--0   7     250   51314  IRT     193     23
   86   149   ON    2--0   7     250   18550  ARD     497     18
  515   150   OFF   0--0   0       0       0              0      0       4

REPORT COMPLETE
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AD-A119 954 NAVAL UNDERWATER SYSTEMS CENTER NEW LONDON CT NEW LO--ETC F/G 13/11
NEW YORK CITY POLICE DEPARTMENT AUTOMATED FUEL MONITORING SYSTE--ETC(U)
NOV 81 W J MCGRATH, M M MCNAMARA
UNCLASSIFIED NUSC-TR-6567-II NL

3 of 4
A[illegible]
[illegible]954

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NYCPD  EQP AUTH FILE       SINGLE EQUIPMENT #       10-51  07/20/81  PAGE  1

EQUIP  CARD  EQUIP  FUEL  ODOM  MILES  ODOM                 GALLON  1-LOST 3-ACC
  #      #    STAT  TYPE  CODE  LIMIT  RDNG  CLASS  COMND  LIMIT  2-SHOP 4-CNDM
 8706   269   ON    2--0    7    250   7428  ARD     570    18

REPORT COMPLETE
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NYCPD   EQP AUTH FILE     - LIST ALL EQUIPMENT -    09-02  07/22/81  PAGE   1
EQUIP  CARD  EQUIP  FUEL  ODOM  MILES  ODOM                    GALLON  1-LOST 3-ACC
  #     #    STAT   TYPE  CODE  LIMIT  RDNG   CLASS   COMNO   LIMIT  2-SHOP 4-CNDM
 9998    1   ON     1--0    1      0    9999  ZZZ      999      1
 9998    2   ON     2--0    1      0   37045  ZZZ      999      1
 9998    3   ON     2--0    1      0    9999  ZZZ      999      1
 9998    4   ON     2--0    1      0   74925  ZZZ      999      1
 9998    5   ON     2--0    1      0    8150  ZZZ      999      1
  401    6   OFF    0--0    0      0       0             0      0      5
 9999    9   ON     9--0    7    250       1  ZZZ      999      5
    1  100   ON     2--0    1    250  188150  LRY      500     23
    1  101   ON     2--0    1    250  338710  VBY      500     23
    2  102   ON     2--0    1    250   51776  TEY      502     23
    2  103   ON     2--0    1    250    4760  LIY      502     23
    3  104   ON     2--0    7    250   87104  QEY      551     23
 5620  105   ON     2--0    1      0   80505  UEY      570     23
    1  100   ON     2--0    1    250  181030  LRY      500     23
    1  101   ON     2--0    1    250  338710  VBY      500     23
    2  102   ON     2--0    1    250   51163  TEY      502     23
    2  103   ON     2--0    1    250    4760  LIY      502     23
    3  104   ON     2--0    7    250   65536  QEY      551     23
   11  113   ON     2--0    7    250       1  IRT      165     23
   12  114   ON     2--0    7    250   30700  ARD      538     18
 5621  115   ON     2--0    1      0   23384  UEY      570     23
   14  116   ON     2--0    7    250   16031  ARD      162     18
   15  117   ON     2--0    7    250   52791  HRT      496     23
   31  118   ON     2--0    7    250   54720  GSD       34     18
  617  119   OFF    0--0    0      0       0             0      0             4
   20  120   ON     2--0    7    250   55298  DEY      201     23
   30  121   ON     2--0    7    250       1  ARD      165     18
  618  122   OFF    0--0    0      0       0             0      0             4
   32  123   ON     2--0    7    250       1  ARD      380     18
  619  124   OFF    0--0    0      0       0             0      0      5
   34  125   ON     2--0    7    250    8435  ARD      375     18
   36  126   ON     2--0    7    250      65  ARD      384     18
  722  127   OFF    0--0    0      0       0             0      0      5
   19  128   ON     2--0    7    250   15509  ARD      447     18
   42  129   ON     2--0    7    250     141  QRY        5     23
   43  130   ON     2--0    7    250   40699  GSD      112     18
   51  131   ON     2--0    7    250   10018  ARD      499     18
   53  132   ON     2--0    7    250   13522  ARD      501     18
   54  133   ON     2--0    7    250     107  ARD      502     18
   57  134   ON     2--0    7    250     141  ARD      201     18
   59  135   ON     2--0    7    250   15593  ARD      533     18
   61  136   ON     2--0    7    250   10602  ARD      310     18
   65  137   ON     2--0    7    250   48843  GSD       24     18
   58  138   ON     2--0    7    250   18795  ARD      551     18
   72  139   ON     2--0    7    250   23627  ARD      125     18
   84  140   ON     2--0    7    250       2  BEY      500     23
   75  141   ON     2--0    7    250       1  TRY      586     23
   76  142   ON     2--0    7    250       1  PRY       77     23
   78  143   ON     2--0    7    250     141  QRY        6     23
 8037  144   ON     2--0    7    250   27137  HRD      366     18
  220  145   OFF    0--0    0      0       0             0      0      5
   37  146   ON     2--0    7    250   40746  ARD      450     18
  220  147   OFF    0--0    0      0       0             0      0      5
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NYCPD   EQP AUTH FILE     - EQUIPMENT IN COMMAND -    10-52  07/20/81  PAGE   1

EQUIP  CARD  EQUIP  FUEL  ODOM  MILES  ODOM                  GALLON  1-LOST 3-ACC
  #      #    STAT  TYPE  CODE  LIMIT  RDNG  CLASS   COMND   LIMIT  2-SHOP 4-CNDM
 1211   853   ON    2--0    7    250   61882  ARA     123     18
 1218   857   ON    2--0    7    250   24323  ARA     123     18
 1595  1116   ON    2--0    7    250   81831  JRA     123     18
 2200  1445   ON    2--0    7    250   79212  JRA     123     18
 2231  1465   ON    2--0    7    250   89580  JRA     123     18
 2252  1479   ON    2--0    7    250   66907  JRA     123     18
 2528  1668   ON    2--0    7    250   92814  JRA     123     18
 2667  1772   ON    2--0    7    250       1  JRA     123     18
 2789  1882   ON    2--0    7    250   69377  JRA     123     18
 1968  2351   ON    2--0    7    250   48512  ARA     123     18
 8622  3880   ON    2--0    7    250   83588  HRD     123     18
 9125  4017   ON    2--0    7    250     973  WTK     123      2
 9124  4030   ON    2--0    7    250     912  WTK     123      2


REPORT COMPLETE
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NYCPD   EQP AUTH FILE   - EQP IN CLASSIFICATION -   10-97   07/20/81   PAGE   1

EQUIP  CARD  EQUIP  FUEL  ODOM  MILES  ODOM                 GALLON  1-LOST 3-/ C
  #      #    STAT  TYPE  CODE  LIMIT  RDNG  CLASS  COMND   LIMIT  2-SHOP 4-CNDM
 8114  3503   ON    2--0   7     250  59114  ORD     366     18
 8116  3505   ON    2--0   7     250      1  ORD     164     18
 8119  3505   ON    2--0   7     250    141  ORD     544     18
 8120  3507   ON    2--0   7     250  76781  ORD     384     18
 8122  3508   ON    2--0   7     250    141  ORD     128     18

REPORT COMPLETE
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NYCPM  EQP-AUTH-FILE   LIST-ODOM,RANGE CLASS  *  11-02  07/20/81  PAGE  1

EQUIP  CARD  EQUIP  FUEL  ODOM  MILES  ODOM                  GALLON  1-LOST 3-ACC
  #      #    STAT  TYPE  CODE  LIMIT  RONG   CLASS  COMND   LIMIT  2-SHOP 4-CNOM
 8114  3503   ON    2--0    7    250   59114   ORD    386     18
 8120  3507   ON    2--0    7    250   76781   ORD    384     18


REPORT COMPLETE
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NYCPD     TRANSACTION FILES       - ALL TRANSACTIONS -       11-07     07/20/81     PAGE   1

SEQ # TP DATE  TIME

  2 00 07/15 00-00 C122 V1285 M012871 S122 T1 F2 P1 G013.1 MPG 8.4  ARA OC122 SS 93-34-7813
  3 00 07/15 00-00 C 45 V1768 M031864 S 45 T1 F2 P1 G014.8 MPG 8.7  ARA OC 45 SS124-40-0336
  4 00 07/15 00-00 C 47 V1455 M003095 S 47 T1 F2 P1 G014.0 MPG 8.0  BET OC 47 SS 70-32-7773
  5 00 07/15 00-11 C 46 V2481 M046276 S 46 T1 F2 P1 G012.8 MPG 5.7  JRA OC 46 SS127-32-7237
  6 00 07/15 00-13 C123 V1218 M023927 S123 T1 F2 P1 G011.0 MPG11.0  ARA OC123 SS111-28-5354
  7 00 07/15 00-13 C 22 V2313 M043554 S  5 T1 F2 P1 G012.2 MPG 8.3  JRA OC 22 SS108-24-5294
  8 00 07/15 00-13 C109 V1593 M040892 S109 T1 F2 P1 G015.4 MPG 7.2  ARD OC109 SS103-32-6226
  9 00 07/15 00-15 C324 V8532 M061774 S114 T1 F2 P1 G016.1 MPG13.1  TIO OC114 SS104-28-6477
 10 00 07/15 00-17 C450 V5542 M020711 S 26 T1 F2 P1 G009.7 MPG 1.6  UHV OC450 SS107-34-4238
 11 00 07/15 00-17 C 34 V1998 M001620 S 34 T1 F2 P1 G013.7 MPG 8.1  BET OC 34 SS109-32-1062
 12 00 07/15 00-17 C105 V2079 M066369 S105 T1 F2 P1 G012.0 MPG 9.8  JRA OC105 SS118-32-3894
 13 00 07/15 00-19 C 46 V2179 M029167 S 46 T1 F2 P1 G008.9 MPG 6.2  JRA OC 46 SS 73-32-9667
 14 00 07/15 00-20 C107 V1876 M038402 S111 T1 F2 P2 G014.3 MPG 9.7  ARA OC107 SS112-34-4839
 15 02 07/15 00-20 C 34 V0031 M 34720 S 34 T1 F2 P1 G017.3 MPG  .   GSO OC 34 SS131-34-5597
 16 00 07/15 00-20 C110 V1657 M030485 S114 T1 F2 P1 G015.0 MPG 6.8  ARA OC110 SS 58-44-6689
 17 00 07/15 00-20 C105 V1004 M010190 S105 T1 F2 P1 G011.4 MPG12.2  BET OC105 SS 64-36-5969
 18 00 07/15 00-23 C450 V5517 M001188 S 26 T1 F2 P1 G018.1 MPG 4.4  LHP OC450 SS 52-38-1813
 19 00 07/15 00-23 C 25 V1673 M019812 S 25 T1 F2 P1 G010.8 MPG 9.9  ARA OC 25 SS 83-40-9350
 20 00 07/15 00-25 C110 V2342 M024997 S114 T1 F2 P1 G008.0 MPG 7.5  ARA OC110 SS120-14-3611
 21 05 07/15 00-27        CD 73        S 47 T1 F2 P1 G008.8                 OC227 SS100-34-2848
 22 00 07/15 00-27 C411 V2905 M021485 S  2 T1 F2 P1 G016.0 MPG10.1  LRB OC411 SS 91-34-3791
 23 00 07/15 00-28 C 46 V1108 M003642 S 46 T1 F2 P1 G012.4 MPG 6.7  BET OC 46 SS 73-32-9667
 24 00 07/15 00-31 C 47 V1850 M038188 S 47 T1 F2 P1 G014.1 MPG 8.5  ARA OC 47 SS 75-36-8971
 25 00 07/15 00-31 C122 V1083 M009111 S122 T1 F2 P1 G014.4 MPG10.0  BET OC122 SS 85-22-7259
 26 00 07/15 00-33 C102 V2277 M044330 S112 T1 F2 P2 G010.0 MPG 5.9  JRA OC102 SS 59-36-5329
 27 00 07/15 00-33 C110 V2028 M008142 S114 T1 F2 P1 G014.2 MPG 8.9  ARA OC110 SS114-46-3594
 28 00 07/15 00-33 C102 V2626 M056361 S112 T1 F2 P1 G011.0 MPG 7.2  JRA OC102 SS 35-28-6460
 29 00 07/15 00-35 C442 V9037 M007773 S122 T1 F2 P1 G009.4 MPG18.0  LRE OC442 SS 55-34-4071
 30 00 07/15 00-38 C 25 V1568 M012783 S 25 T1 F2 P1 G013.3 MPG 8.0  ARA OC 25 SS103-38-3901
 31 00 07/15 00-38 C 24 V1336 M028827 S 30 T1 F2 P1 G011.4 MPG 8.0  ARA OC 24 SS 92-44-7740
 32 00 07/15 00-41 C 40 V1748 M015559 S 42 T1 F2 P1 G013.0 MPG 6.6  ARA OC 40 SS120-34-4120
 33 20 07/15 00-42 C413 V9045         S  5 T1 F2 P1 G009.9              LRE OC 22 SS137-30-2234
 34 00 07/15 00-52 C104 V2009 M037591 S104 T1 F2 P1 G012.2 MPG 9.0  ARA OC104 SS 71-32-9018
 35 00 07/15 00-54 C 46 V0332 M033228 S 46 T1 F2 P1 G011.6 MPG 9.3  JRD OC 46 SS 99-36-3093
 36 00 07/15 00-54 C 47 V2326 M031959 S 47 T1 F2 P1 G014.9 MPG 7.1  ARA OC 47 SS 74-34-6297
 37 00 07/15 00-55 C122 V2432 M090383 S122 T1 F2 P1 G013.5 MPG 8.7  JRA OC122 SS113-38-1169
 38 00 07/15 00-56 C 26 V2013 M001274 S 26 T1 F2 P1 G015.2 MPG 6.5  BET OC 26 SS 51-40-6683
 39 20 07/15 00-56 C108 V1759         S112 T1 F2 P2 G014.5              ARA OC102 SS 85-36-4034
 40 00 07/15 01-00 C 52 V2341 M013556 S 50 T1 F2 P1 G005.9 MPG17.2  ARA OC 52 SS 72-38-7243
 41 20 07/15 01-10 C114 V1921         S100 T1 F2 P1 G013.2              ARA OC104 SS 69-28-4451
 42 00 07/15 01-13 C 52 V2750 M006577 S 46 T1 F2 P1 G014.3 MPG 8.9  BET OC 52 SS 61-46-8011
 43 00 07/15 01-19 C 48 V2520 M041976 S 42 T1 F2 P1 G014.0 MPG 4.2  JRA OC 48 SS 75-36-7680
 44 00 07/15 01-19 C 50 V2742 M046420 S 50 T1 F2 P1 G012.2 MPG 7.1  JRA OC 50 SS123-34-1127
 45 00 07/15 01-24 C411 V2885 M030723 S  2 T1 F2 P1 G014.2 MPG 9.5  UPB OC411 SS 62-30-9704
 46 00 07/15 01-27 C 34 V2425 M022892 S 34 T1 F2 P1 G015.6 MPG 4.5  ARA OC 34 SS233-68-0062
 47 90 07/15 01-36  6  976.0  MC157   S000 T1 F2 P1                               SS 88-36-4009  FUEL RECD-MAN
 48 00 07/15 01-43 C103 V2600 M054511 S105 T1 F2 P1 G015.0 MPG 8.5  JRA OC103 SS112-38-6028
 49 05 07/15 01-50        CD158        S112 T1 F2 P1 G005.0                 OC108 SS 94-36-4870
 50 00 07/15 01-52 C 42 V6088 M054263 S 42 T1 F2 P1 G019.2 MPG 5.4  PUY OC 42 SS 68-32-0100
 51 00 07/15 02-40 C450 V5530 M059605 S  3 T2 F1 P1 G013.0 MPG 7.1  TIV OC450 SS113-34-1022
 52 00 07/15 03-12 C 43 V0414 M024882 S 43 T1 F2 P2 G016.3 MPG 8.7  PRY OC 43 SS 89-48-3142
 53 00 07/15 03-14 C110 V1044 M002038 S112 T1 F2 [illegible] G015.2 MPG 7.6  BET OC110 SS 84-34-3819
 54 00 07/15 03-17 C109 V2662 M055921 S109 T1 F2 [illegible] G015.0 MPG 8.0  JRA OC109 SS104-30-5513
 55 00 07/15 03-39 C578 V4107 M040543 S 25 T1 F2 P1 G014.7 MPG 7.0  TJM OC 25 SS 78-50-4395
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SY.PO      TRANSACTION FILES      - ALL FOR GIV DATE -      09-33     08/12/81     PAGE   1

SEQ # TP DATE  TIME

5166 30 08/07 23-59 C 50 V2089 M031252 S 50 T1 F2 P1 G011.9 MPG 6.6  ARA UC 50 SS124-42-1344
5167 31 08/07 00-00 C120 V2019 M 12895 S120 T1 F2 P1 G011.0 MPG  .   JRA UC120 SS125-34-2622
5168 30 08/07 00-03 C 40 V1745 M015612 S 48 T1 F2 P1 G011.9 MPG 9.1  ARA UC 40 SS113-40-3300
5169 30 08/07 00-05 C 47 V2326 M034765 S 47 T1 F2 P1 G008.9 MPG 9.1  ARA UC 47 SS 97-18-5622
5170 30 08/07 00-05 C442 V2900 M040085 S122 T1 F2 P2 G008.6 MPG 8.1  LKY UC442 SS107-34-8637
5171 30 08/07 00-08 C102 V2190 M024002 S112 T1 F2 P1 G008.5 MPG10.8  ARA UC102 SS118-32-5994
5172 30 08/07 00-09 C110 V2267 M044055 S110 T1 F2 P1 G010.0 MPG11.0  JRA UC110 SS104-30-6627
5173 30 08/07 00-09 C109 V1366 M037795 S109 T1 F2 P1 G011.8 MPG 7.7  ARA UC109 SS 83-32-3907
5174 30 08/07 00-10 C114 V2221 M030663 S 12 T2 F2 P1 G010.8 MPG 9.1  ARA UC114 SS129-44-1268
5175 30 08/07 00-11 C 28 V2184 M021060 S 28 T1 F2 P2 G010.0 MPG 7.0  ARA UC 28 SS107-38-7477
5176 30 08/07 00-11 C442 V9037 M010805 S122 T1 F2 P2 G011.1 MPG  .2  LRC UC442 SS 55-34-4071
5177 30 08/07 00-15 C107 V1614 M051574 S109 T1 F2 P1 G016.0 MPG 8.9  ARD UC107 SS 76-36-2039
5178 20 08/07 00-16 C 40 V0352         S 40 T1 F2 P1 G015.6             JRD UC 40  S127-42-3668
5179 30 08/07 00-20 C411 V9051 M011321 S  2 T1 F2 P1 G014.0 MPG 8.5  LRE UC410 SS 59-36-7035
5180 30 08/07 00-21 C 34 V2035 M002472 S 30 T1 F2 P2 G014.1 MPG 6.7  BET UC 34 SS 56-32-7351
5181 30 08/07 00-21 C450 V5517 M003512 S 26 T1 F2 P1 G010.9 MPG 1.9  LHP UC450 SS 52-36-1813
5182 30 08/07 00-27 C100 V1526 M001134 S101 T1 F2 P1 G015.1 MPG 8.9  BET UC100 SS119-22-6353
5183 30 08/07 00-27 C450 V5542 M020970 S 26 T1 F2 P1 G010.3 MPG 1.8  UHV UC450 SS107-34-4238
5184 30 08/07 00-28 C113 V1620 M000823 S110 T1 F2 P1 G014.0 MPG 9.0  BET UC113 SS 64-42-9915
5185 30 08/07 00-29 C105 V2766 M070503 S105 T1 F2 P2 G009.1 MPG12.0  JRA UC105 SS 91-30-5640
5186 37 08/07 00-31                    NEW CD30749 OLD 15535                     SS100-38-6181  NEW CARD #
5187 37 08/07 00-31                    NEW CD30750 OLD 15555                     SS125-32-4064  NEW CARD #
5188 37 08/07 00-32                    NEW CD30751 OLD 15556                     SS113-28-5448  NEW CARD #
5189 37 08/07 00-32                    NEW CD30752 OLD 15557                     SS 86-40-9699  NEW CARD #
5190 30 08/07 00-33 C 24 V1692 M015991 S 20 T1 F2 P1 G013.7 MPG 6.6  ARA UC 24 SS 56-36-6046
5191 37 08/07 00-33                    NEW CD30753 OLD 15565                     SS 65-36-6396  NEW CARD #
5192 30 08/07 00-33 C  9 V2365 M 17513 S 23 T1 F2 P2 G010.1 MPG  .   ARA UC  9 SS126-28-6100
5193 37 08/07 00-33                    NEW CD30754 OLD 15570                     SS 73-34-3750  NEW CARD #
5194 37 08/07 00-35                    NEW CD30755 OLD 15573                     SS 61-34-4479  NEW CARD #
5195 30 08/07 00-36 C 34 V2220 M019301 S 34 T1 F2 P1 G013.5 MPG 7.1  ARA UC 34 SS107-34-4278
5196 37 08/07 00-36                    NEW CD30756 OLD 15587                     SS 80-32-2727  NEW CARD #
5197 37 08/07 00-36                    NEW CD30757 OLD 15589                     SS 63-36-6991  NEW CARD #
5198 37 08/07 00-37                    NEW CD30758 OLD 15590                     SS 94-30-6663  NEW CARD #
5199 37 08/07 00-38                    NEW CD30759 OLD 15591                     SS 65-36-9525  NEW CARD #
5200 37 08/07 00-38                    NEW CD30760 OLD 15533                     SS263-44-3488  NEW CARD #
5201 37 08/07 00-39                    NEW CD30761 OLD 18276                     SS 94-42-2294  NEW CARD #
5202 30 08/07 00-39 C114 V0832 M050790 S110 T1 F2 P1 G021.2 MPG 6.6  JRY UC114 SS 71-40-1719
5203 37 08/07 00-39                    NEW CD30762 OLD 18633                     SS 80-34-5501  NEW CARD #
5204 37 08/07 00-40                    NEW CD30763 OLD 18788                     SS111-40-1644  NEW CARD #
5205 37 08/07 00-40                    NEW CD30764 OLD 22417                     SS 65-36-5366  NEW CARD #
5206 20 08/07 00-42 C 26 V3861         S 23 T1 F2 P2 G005.0             XGL UC  5 SS 53-42-9184
5207 30 08/07 00-44 C100 V1700 M049409 S101 T1 F2 P1 G011.3 MPG 9.5  ARA UC100 SS 65-36-1449
5208 20 08/07 00-44 C 26 V3861         S 23 T1 F2 P1 G005.0             XGL UC  5 SS 53-42-9184
5209 30 08/07 00-45 C 47 V1046 M015939 S 47 T1 F2 P1 G015.6 MPG 6.7  JRA UC 47 SS354-32-2415
5210 30 08/07 00-45 C102 V1308 M027569 S112 T1 F2 P2 G014.0 MPG 6.2  ARA UC102 SS 90-42-7317
5211 20 08/07 00-45 C 26 V3861         S 23 T1 F2 P1 G002.0             XGL UC  5 SS 53-42-9184
5212 02 08/07 00-46      C0277         S 20 T1 F2 P1 G005.1                 UC  6 SS109-40-7258
5213 30 08/07 00-47 C 46 V1519 M008058 S 46 T1 F2 P1 G011.7 MPG 8.5  ARA UC 46 SS129-34-0550
5214 20 08/07 00-48 C114 V1921         S101 T1 F2 P1 G013.1             ARA UC100 SS113-34-4744
5215 20 08/07 00-55 C 18 V8593         S  5 T1 F2 P1 G016.3             TIY UC 18 SS134-34-8270
5216 24 08/07 00-57                                117 149                                  TERM OFF-LINE
5217 73 08/07 00-57                                187 LN9                                  TERM ON-LINE
5218 23 08/07 00-58                                    LN9                                  TEL LINE ON
5219 30 08/07 00-58 C411 V2904 M019301 S  2 T1 F2 P1 G014.9 MPG 7.1  ARB UC411 SS 67-34-2359
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HYCPD     TRANSACTION FILES      - BY EQUIP. NUMBER -     09-40     08/12/81     PAGE   3

SEQ # TP DATE  TIME

   96 00 03/08 07-32 C 43 V1798 M023395 S 43 T1 F2 P1 G012.4 MPG 8.1  ARA OC 43 SS126-34-0909
  567 00 06/09 03-32 C 43 V1798 M023526 S 43 T1 F2 P2 G018.0 MPG 7.2  ARA OC 43 SS112-38-1551
 1161 00 04/10 07-57 C 43 V1798 M023632 S 43 T1 F2 P2 G012.9 MPG 8.2  ARA OC 43 SS128-36-0063
 1352 00 08/10 20-18 C 43 V1798 M023730 S 43 T1 F2 P1 G011.4 MPG 8.5  ARA OC 43 SS125-34-5958
 1553 00 06/12 09-14 C 43 V1798 M023841 S 43 T1 F2 P1 G011.0 MPG10.0  ARA OC 43 SS112-38-1551

TOTAL TRANSACTIONS THIS REPORT        5        GALLONS ISSUED       65.7       GALLONS RECIEVED          .0

REPORT COMPLETE
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NYCPD     TRANSACTION FILES      - BY SITE-LOCATION -     12-05     07/20/81     PAGE 102

SEQ # TP DATE  TIME

   6 00 07/15 00-13 C123 V1218 M023927 S123 T1 F2 P1 G011.0 MPG11.0  ARA OC123 SS111-28-5354
  72 00 07/15 06-15 C123 V2789 M068841 S123 T1 F2 P1 G010.7 MPG11.0  JRA OC123 SS 61-26-7135
 135 00 07/15 08-00 C123 V1968 M048024 S123 T1 F2 P1 G018.0 MPG 7.5  ARA OC123 SS109-24-4448
 137 00 07/15 08-02 C123 V1595 M081279 S123 T1 F2 P1 G005.9 MPG33.3  JRA OC123 SS 79-30-2878
 218 00 07/15 09-09 C123 V2528 M092482 S123 T1 F2 P1 G010.1 MPG 9.8  JRA OC123 SS 91-28-8667
 272 31 07/15 09-58  G  395.0          123  1  2  1
 274 00 07/15 10-00 C123 V2231 M089020 S123 T1 F2 P1 G007.9 MPG 8.3  JRA OC123 SS 80-34-7480
 451 00 07/15 12-40 C123 V2200 M078781 S123 T1 F2 P1 G015.0 MPG11.8  JRA OC123 SS131-34-3364
 489 55 07/15 13-21  G00050.0          S123 T1                                                NEW CUT-OFF PT
 603 00 07/15 15-32 C 13 V2611 M083160 S123 T1 F2 P1 G014.6 MPG 9.7  JRA OC123 SS109-32-1110
 765 00 07/15 16-37 C123 V2252 M066638 S123 T1 F2 P1 G011.7 MPG16.1  JRA OC123 SS 93-30-2458
 770 00 07/15 16-43 C123 V2789 M068957 S123 T1 F2 P1 G008.7 MPG13.3  JRA OC123 SS 93-30-2458
 864 00 07/15 19-03 C123 V1211 M061546 S123 T1 F2 P1 G010.3 MPG12.3  ARA OC123 SS427-78-5212
1010 00 07/15 21-32 C123 V1218 M024050 S123 T1 F2 P1 G013.3 MPG 9.2  ARA OC123 SS105-30-5520
1022 00 07/15 21-59 C533 V8332 M071410 S123 T1 F2 P1 G016.2 MPG11.9  RQY OC123 SS 79-30-6252
1300 00 07/16 07-14 C123 V2789 M069029 S123 T1 F2 P1 G005.8 MPG12.4  JRA OC123 SS427-78-5212
1358 00 07/16 08-11 C123 V1595 M081443 S123 T1 F2 P1 G014.0 MPG11.7  JRA OC123 SS 91-28-8667
1363 00 07/16 08-16 C123 V2200 M078933 S123 T1 F2 P1 G012.1 MPG12.5  JRA OC123 SS 92-42-5707
1370 00 07/16 08-19 C123 V1218 M024123 S123 T1 F2 P1 G007.4 MPG 9.8  ARA OC123 SS111-28-5040
1618 00 07/16 11-43 C123 V1211 M061653 S123 T1 F2 P1 G011.7 MPG 9.1  ARA OC123 SS 68-42-4202
1822 00 07/16 15-57 C123 V1968 M048191 S123 T1 F2 P1 G014.1 MPG11.8  ARA OC123 SS 70-42-7457
1864 00 07/16 16-45 C123 V2231 M089170 S123 T1 F2 P1 G013.1 MPG11.4  JRA OC123 SS 70-42-6042
1884 00 07/16 17-08 C123 V1595 M081527 S123 T1 F2 P1 G008.0 MPG10.5  JRA OC123 SS 93-30-2458
1931 02 07/16 17-49 C442 V9037 M 82630 S123 T1 F2 P1 G018.7 MPG   .  LRE OC442 SS 82-32-5931
2049 00 07/16 21-28 C123 V2789 M069170 S123 T1 F2 P1 G008.3 MPG16.9  JRA OC123 SS 86-40-9946
2245 00 07/17 07-24 C123 V2252 M066755 S123 T1 F2 P1 G011.2 MPG10.4  JRA OC123 SS 73-36-0354
2249 00 07/17 07-29 C123 V1218 M024247 S123 T1 F2 P1 G009.7 MPG12.7  ARA OC123 SS 91-28-8667
2307 00 07/17 08-13 C 13 V2611 M083453 S123 T1 F2 P1 G015.7 MPG 9.0  JRA OC123 SS 79-30-2878
2313 00 07/17 08-17 C123 V1968 M048285 S123 T1 F2 P1 G010.8 MPG 8.7  ARA OC123 SS126-28-8483
2319 00 07/17 08-21 C123 V1595 M081602 S123 T1 F2 P1 G008.7 MPG 8.6  JRA OC123 SS 62-24-0682
2385 90 07/17 09-00  G     .0  MC 53   S123 T1 F2 P1                                  SS104-32-0978  FUEL RECO-MAN
2386 90 07/17 09-01  G  267.0  MC 53   S123 T1 F2 P1                                  SS104-32-0978  FUEL RECO-MAN
2550 00 07/17 11-26 C123 V2528 M092608 S123 T1 F2 P1 G010.7 MPG11.7  JRA OC123 SS109-24-4448
2748 00 07/17 15-46 C123 V2200 M079076 S123 T1 F2 P1 G013.5 MPG10.5  JRA OC123 SS 96-34-8759
2885 00 07/17 18-00 C123 V2231 M089322 S123 T1 F2 P1 G010.2 MPG14.9  JRA OC123 SS115-32-3850
2979 00 07/17 20-07 C123 V2789 M069252 S123 T1 F2 P1 G009.2 MPG 8.9  JRA OC123 SS125-40-8040
2985 00 07/17 20-18 C123 V1595 M081718 S123 T1 F2 P1 G008.4 MPG13.8  JRA OC123 SS 86-40-9946
3110 00 07/17 23-55 C123 V1968 M048377 S123 T1 F2 P1 G009.0 MPG10.2  ARA OC123 SS104-34-6739
3387 00 07/18 07-33 C123 V1218 M024323 S123 T1 F2 P1 G010.1 MPG 7.5  ARA OC123 SS111-28-5040
3396 00 07/18 07-40 C123 V2528 M092707 S123 T1 F2 P1 G011.4 MPG 8.6  JRA OC123 SS 79-30-2878
3403 00 07/18 07-47 C123 V2252 M066847 S123 T1 F2 P1 G004.5 MPG20.4  JRA OC123 SS129-42-0977
3484 00 07/18 10-04 C123 V2789 M069285 S123 T1 F2 P1 G002.7 MPG12.2  JRA OC123 SS 62-24-0682
3635 00 07/18 15-01 C123 V2231 M089464 S123 T1 F2 P1 G013.4 MPG10.5  JRA OC123 SS131-34-3364
3647 00 07/18 15-34 C123 V1968 M048450 S123 T1 F2 P1 G005.5 MPG13.2  ARA OC123 SS 93-30-2458
3650 00 07/18 15-39 C123 V2528 M092814 S123 T1 F2 P1 G008.7 MPG12.2  JRA OC123 SS 68-42-4956
3660 00 07/18 15-44 C123 V2200 M079212 S123 T1 F2 P1 G012.5 MPG10.8  JRA OC123 SS 67-30-8431
3745 00 07/18 17-45 C123 V1211 M061882 S123 T1 F2 P1 G007.8 MPG18.2  ARA OC123 SS 54-42-3242
3804 00 07/18 20-04 C123 V1595 M081831 S123 T1 F2 P1 G009.6 MPG11.7  JRA OC123 SS104-32-1024
3862 00 07/18 23-53 C123 V1968 M048512 S123 T1 F2 P1 G005.8 MPG10.6  ARA OC123 SS243-84-6017
3903 00 07/19 00-33 C 13 V2611 M083564 S123 T1 F2 P1 G011.9 MPG 9.3  JRA OC123 SS104-34-6739
3983 00 07/19 07-08 C123 V2231 M089580 S123 T1 F2 P1 G012.9 MPG 8.9  JRA OC123 SS125-40-6477
3987 00 07/19 07-20 C123 V2252 M066907 S123 T1 F2 P1 G005.7 MPG10.5  JRA OC123 SS 73-36-0354
3995 00 07/19 07-43 C123 V2789 M069377 S123 T1 F2 P1 G009.5 MPG 9.6  JRA OC123 SS 50-38-9176
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NYCPD      TRANSACTION FILES       - SPECIF FUEL TYPE -       12-06     07/20/81      PAGE 103
SEQ # TP DATE  TIME

  51 00 07/15 02-48 C450 V5538 M059605 S  3 T2 F1 P1 G013.0 MPG 7.1  TIV OC450 SS113-34-1022
  92 00 07/15 07-09 C411 V8970 M  2999 S  2 T2 F1 P1 G002.4 MPG  .   XWJ OC411 SS 58-42-0161
 103 02 07/15 07-27 C413 V8953 M  6432 S  3 T2 F1 P1 G001.0 MPG  .   XWJ OC410 SS109-44-5682
 129 00 07/15 07-55 C413 V8910 M  8910 S  3 T2 F1 P1 G002.0 MPG  .   XWJ OC413 SS 87-26-0823
 256 05 07/15 09-41      CD 76         S  2 T2 F1 P1 G005.1              OC 52 SS117-32-0402
 278 00 07/15 10-03 C570 V3431 M039066 S  2 T2 F1 P1 G008.7 MPG12.0  TMP OC570 SS119-16-8546
 559 20 07/15 14-43 C413 V8956         S  3 T2 F1 P1 G003.2          XWJ OC413 SS 95-44-4470
 571 20 07/15 14-55 C411 V8941         S  2 T2 F1 P1 G005.0      .   XWJ OC411 SS 50-36-0846
 594 20 07/15 15-21 C411 V8946         S  2 T2 F1 P1 G001.1          XWJ OC410 SS 66-40-7382
 825 00 07/15 18-20 C570 V3418 M032396 S  3 T2 F1 P1 G016.0 MPG 5.2  GJP OC570 SS109-28-0363
1242 00 07/16 03-16 C450 V5538 M059794 S  3 T2 F1 P1 G010.4 MPG 8.8  TIV OC450 SS113-34-1022
1292 20 07/16 07-06 C410 V8915         S  2 T2 F1 P1 G005.0          XWJ OC411 SS 58-42-0161
1301 00 07/16 07-15 C411 V8922 M019353 S  2 T2 F1 P1 G002.6 MPG21.5  XWJ OC411 SS126-34-3758
1328 20 07/16 07-51 C413 V8962         S  3 T2 F1 P1 G003.2          XWJ OC413 SS120-36-5343
1334 20 07/16 08-00 C411 V8932         S  2 T2 F1 P1 G005.0          XWJ OC411 SS 84-40-3874
1342 00 07/16 08-02 C411 V8984 M  8984 S  2 T2 F1 P1 G001.7 MPG  .   XWJ OC411 SS124-22-7328
1539 05 07/16 10-33      CD266         S  3 T2 F1 P1 G015.5              OC562 SS105-28-2301
1629 20 07/16 11-57 C413 V8956         S  3 T2 F1 P1 G001.9          XWJ OC410 SS109-44-5682
1754 20 07/16 14-52 C411 V8946         S  2 T2 F1 P1 G002.0          XWJ OC410 SS 66-40-7382
1756 20 07/16 14-57 C410 V8915         S  2 T2 F1 P1 G002.9          XWJ OC411 SS 53-36-0004
1766 20 07/16 15-06 C410 V8918         S  2 T2 F1 P1 G002.2          XWJ OC155 SS109-32-0194
1798 05 07/16 15-41      CD266         S  3 T2 F1 P1 G017.0              OC125 SS 59-30-8647
2225 31 07/17 06-49  G  479.0          123  2  1  1
2255 20 07/17 07-31 C413 V8908         S  2 T2 F1 P1 G004.0          XWJ OC410 SS109-44-5682
2258 20 07/17 07-35 C411 V8970         S  2 T2 F1 P1 G002.4          XWJ OC411 SS 58-42-0161
2383 20 07/17 08-59 C413 V8931         S  2 T2 F1 P1 G005.0          XWJ OC413 SS116-26-0636
2470 00 07/17 10-10 C570 V3431 M039182 S  2 T2 F1 P1 G011.0 MPG10.5  THP OC570 SS119-16-8546
2556 20 07/17 11-31 C411 V8944         S  2 T2 F1 P1 G002.1          XWJ OC410 SS 73-36-1475
2640 05 07/17 13-16      CD266         S  3 T2 F1 P1 G007.3              OC125 SS 58-36-0139
2685 31 07/17 14-21  G  226.0          123  2  1  1
2698 20 07/17 14-34 C413 V8956         S  3 T2 F1 P1 G001.6          XWJ OC413 SS 95-44-4470
2707 20 07/17 14-44 C413 V8903         S  3 T2 F1 P1 G005.0          XWJ OC413 SS 72-32-7232
2711 20 07/17 14-46 C413 V8925         S  3 T2 F1 P1 G000.7          XWJ OC413 SS 91-34-1084
2784 05 07/17 16-12      CD266         S  3 T2 F1 P1 G011.8              OC107 SS 95-34-3788
2868 05 07/17 17-47      CD 76         S  2 T2 F1 P1 G009.0              OC 52 SS 87-26-1933
2930 05 07/17 18-42      CD266         S  3 T2 F1 P1 G007.9              OC107 SS 62-24-1159
2996 05 07/17 20-45      CD266         S  3 T2 F1 P1 G011.3              OC107 SS 55-36-5748
3019 05 07/17 21-23      CD 76         S  2 T2 F1 P1 G005.5              OC 52 SS133-34-4088
3398 20 07/18 07-42 C410 V8915         S  2 T2 F1 P1 G004.3          XWJ OC411 SS 61-36-6763
3491 20 07/18 10-11 C411 V8941         S  2 T2 F1 P1 G001.5          XWJ OC411 SS100-34-8259
3538 05 07/18 11-35      CD 76         S  2 T2 F1 P1 G005.0              OC 52 SS117-32-0402
3941 00 07/19 02-24 C450 V5540 M032764 S  2 T2 F1 P1 G010.0 MPG 5.4  UHV OC450 SS103-32-5699
4066 20 07/19 09-11 C410 V8909         S  3 T2 F1 P1 G005.0          XWJ OC413 SS 71-34-2681
4200 20 07/19 14-34 C413 V8956         S  3 T2 F1 P1 G003.2          XWJ OC413 SS 95-44-4470
4218 05 07/19 15-24      CD 76         S  2 T2 F1 P1 G003.4              OC 52 SS133-34-4088
4350 00 07/19 20-55 C570 V3418 M032510 S  3 T2 F1 P1 G018.6 MPG 6.1  GJP OC570 SS109-28-0363
4444 00 07/20 05-06 C450 V5538 M060479 S  3 T2 F1 P1 G008.0 MPG29.7  TIV OC450 SS132-34-6317
4661 05 07/20 10-19      CD  4         S  3 T2 F1 P1 G006.0              OC533 SS106-28-1069

TOTAL TRANSACTIONS THIS REPORT       48        GALLONS ISSUED      276.5       GALLONS RECIEVED       705.0

REPORT COMPLETE
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NYCPD      TRANSACTION FILES      - V CLASSIFICATION -      09-45     08/12/81     PAGE  2

SEQ # TP DATE  TIME

~~2 00 08/08 00-12 C 25 V1781 M024018 S 25 T1 F2 P1 G013.0 MPG 6.4  ARA OC 25 SS 92-38-0257~~
  8 00 08/08 00-17 C 44 V1225 M029606 S 46 T1 F2 P1 G012.0 MPG 9.4  ARA OC 44 SS125-38-5939
~~10 00 08/08 00-20 C 34 V2220 M019382 S 30 T1 F2 P1 G013.4 MPG 6.0  ARA OC 34 SS 50-30-0645~~
 11 00 08/08 00-20 C102 V2193 M024120 S  3 T1 F2 P1 G015.3 MPG 7.7  ARA OC102 SS127-28-2966
~~14 00 08/08 00-23 C 42 V1371 M034465 S 48 T1 F2 P1 G010.4 MPG 6.2  ARA OC 42 SS116-44-0398~~
 15 00 08/08 00-27 C 40 V1922 M 20735 S 40 T1 F2 P1 G000.2 MPG  .   ARA OC 40 SS 72-42-8040
~~29 00 08/08 00-31 C 40 V1922 M 20735 S 46 T1 F2 P1 G010.3 MPG  .   ARA OC 40 SS 72-42-8040~~
 33 00 08/08 01-19 C 34 V2272 M031448 S 30 T1 F2 P1 G016.0 MPG 6.1  ARA OC 34 SS 52-30-0515
~~34 00 08/08 01-36 C114 V1921         S100 T1 F2 P1 G013.1          ARA OC100 SS113-34-4744~~
 37 00 08/08 01-59 C 48 V1457 M015149 S 46 T1 F2 P1 G016.0 MPG 8.0  ARA OC 48 SS101-38-6363
~~41 00 08/08 02-40 C111 V2178 M040737 S111 T1 F2 P2 G011.0 MPG10.2  ARA OC111 SS 80-36-8621~~
 42 00 08/08 02-56 C 42 V1571 M021819 S 46 T1 F2 P1 G011.8 MPG10.4  ARA OC 42 SS125-26-8643
~~49 00 08/08 03-37 C 28 V2184 M021139 S 28 T1 F2 P1 G012.9 MPG 5.3  ARA OC 28 SS 71-40-4586~~
 51 00 08/08 04-27 C 50 V2359 M016530 S 50 T1 F2 P1 G012.1 MPG 9.8  ARA OC 50 SS102-32-2101
~~53 00 08/08 05-01 C 40 V1798 M017963 S 46 T1 F2 P1 G012.1 MPG 9.3  ARA OC 40 SS 56-44-2764~~
 55 00 08/08 05-02 C 30 V1962 M019968 S 30 T1 F2 P2 G011.0 MPG 5.0  ARA OC 30 SS168-32-6668
~~56 00 08/08 05-04 C109 V2308 M013500 S109 T1 F2 P1 G017.9 MPG 7.0  ARA OC109 SS 64-34-2829~~
 58 00 08/08 05-18 C 19 V1521 M010270 S 20 T1 F2 P1 G011.6 MPG 7.5  ARA OC 19 SS100-18-7659
~~60 00 08/08 05-34 C 19 V2418 M011818 S  5 T1 F2 P1 G014.1 MPG 9.2  ARA OC 19 SS125-34-5058~~
 62 00 08/08 05-48 C 47 V2382 M040395 S 47 T1 F2 P1 G015.8 MPG 8.2  ARA OC 47 SS 78-56-6163
~~64 00 08/08 05-52 C 25 V1575 M021308 S 25 T1 F2 P1 G009.0 MPG10.2  ARA OC 25 SS134-38-3177~~
 67 00 08/08 05-59 C113 V1239 M048706 S113 T1 F2 P1 G015.7 MPG 9.8  ARA OC113 SS141-28-8464
~~75 00 08/08 06-46 C108 V1759 M 44362 S111 T1 F2 P1 G000.1 MPG  .   ARA OC108 SS104-30-6630~~
 76 00 08/08 06-49 C108 V1759 M 44362 S111 T1 F2 P2 G016.8 MPG  .   ARA OC108 SS104-30-6630
~~82 00 08/08 07-15 C113 V2172 M027265 S113 T2 F2 P1 G014.0 MPG10.2  ARA OC113 SS331-32-5274~~
 83 00 08/08 07-16 C103 V1388 M041112 S103 T1 F2 P1 G011.6 MPG 8.2  ARA OC103 SS 57-34-3040
~~84 00 08/08 07-22 C107 V2167 M026219 S  3 T1 F2 P1 G013.5 MPG 8.5  ARA OC107 SS133-14-3253~~
 87 00 08/08 07-26 C 43 V1941 M019738 S 43 T1 F2 P1 G011.6 MPG 8.3  ARA OC 43 SS111-40-0697
~~92 00 08/08 07-31 C 17 V2377         S 24 T1 F2 P1 G017.2          ARA OC 24 SS112-34-4241~~
 93 00 08/08 07-31 C113 V1897 M031915 S113 T2 F2 P1 G013.5 MPG 9.1  ARA OC113 SS 46-30-1227
~~95 00 08/08 07-32 C122 V1285 M016863 S122 T1 F2 P1 G007.1 MPG 9.4  ARA OC122 SS109-40-6278~~
 96 00 08/08 07-32 C 43 V1798 M023396 S 43 T1 F2 P1 G012.4 MPG 8.1  ARA OC 43 SS126-34-0909
~~97 00 08/08 07-34 C 25 V1222 M024565 S 25 T1 F2 P1 G015.1 MPG 5.1  ARA OC 25 SS 69-34-3300~~
 99 00 08/08 07-37 C122 V1913 M046154 S122 T1 F2 P1 G011.8 MPG 6.6  ARA OC122 SS369-52-9642
~~102 00 08/08 07-42 C103 V1725 M017265 S103 T1 F2 P1 G015.5 MPG 6.9  ARA OC103 SS 50-42-4741~~
104 00 08/08 07-44 C120 V1510 M020786 S120 T1 F2 F1 G015.3 MPG 9.8  ARA OC120 SS 73-30-8443
~~111 00 08/08 07-54 C120 V1322 M014389 S120 T1 F2 P1 G009.8 MPG11.6  ARA OC120 SS117-26-9527~~
116 00 08/08 07-56 C103 V1422 M024229 S113 T2 F2 P1 G007.1 MPG 5.3  ARA OC151 SS 96-50-4339
~~117 00 08/08 08-02 C111 V2092 M024384 S111 T1 F2 P2 G004.0 MPG11.5  ARA OC111 SS 76-12-2972~~
120 00 08/08 08-03 C104 V1639 M050134 S104 T1 F2 P1 G010.4 MPG 9.1  ARA OC104 SS 59-38-9992
~~125 00 08/08 08-07 C104 V2089 M040897 S104 T1 F2 P1 G016.8 MPG 7.9  ARA OC104 SS 82-40-9799~~
127 00 08/08 08-08 C 45 V1706 M018941 S 45 T1 F2 P1 G014.8 MPG 7.8  ARA OC 45 SS101-42-3577
~~129 00 08/08 08-12 C103 V1499 M009030 S  3 T1 F2 P1 G015.0 MPG 8.5  ARA OC103 SS 56-46-5992~~
131 00 08/08 08-17 C107 V1876 M040597 S  3 T1 F2 P1 G012.2 MPG 8.4  ARA OC107 SS134-18-6051
~~132 00 08/08 08-18 C 32 V2165 M012783 S 32 T1 F2 P1 G011.4 MPG 6.9  ARA OC 32 SS 75-18-1796~~
133 00 08/08 08-19 C 28 V1795 M027195 S 28 T1 F2 P2 G012.1 MPG 8.3  ARA OC 28 SS121-30-8585
~~134 00 08/08 08-29 C101 V2217 M028732 S101 T1 F2 P1 G012.5 MPG 7.8  ARA OC101 SS 61-26-5648~~
137 00 08/08 08-34 C106 V1487 M012278 S113 T2 F2 P1 G011.0 MPG12.9  ARA OC151 SS 91-50-4359
~~139 00 08/08 08-36 C122 V2222 M022198 S122 T1 F2 P2 G012.0 MPG11.0  ARA OC122 SS123-30-9632~~
143 00 08/08 08-39 C 47 V1799 M034191 S 47 T1 F2 P1 G007.7 MPG 7.4  ARA OC 47 SS 91-34-4979
~~152 00 08/08 09-13 C114 V1963 M014330 S109 T2 F2 P1 G012.9 MPG11.7  ARA OC114 SS 69-34-4330~~
153 00 08/08 09-17 C 47 V2006 M026945 S 47 T1 F2 P1 G012.2 MPG 6.7  ARA OC 47 SS100-36-6738
~~159 00 08/08 09-26 C102 V1775 M041066 S112 T1 F2 P2 G009.1 MPG12.4  ARA OC102 SS105-36-5243~~
161 00 08/08 09-38 C 50 V2229 M031713 S 50 T1 F2 P1 G014.8 MPG 9.2  ARA OC143 SS123-38-1140
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HYCPO     TRANSACTION FILES     - BY OPR IDENT- SS -     09-47    08/12/81    PAGE  1

[illegible] TP DATE  TIME

~~2251 00 08/10 15-08 C999 V9998 M  9999 S   1 T1 F2 P1 G000.8 MPG  .  ZZZ 0C999 SS999-99-9999~~
 1271 00 08/10 09-32 C999 V9998 M     1 S114 T1 F2 P1 G001.0 MPG  .  ZZZ 0C999 SS999-99-9999
~~1274 00 08/10 09-33 C999 V9998 M     1 S114 T1 F2 P2 G001.0 MPG  .  ZZZ 0C999 SS999-99-9999~~
 1284 20 08/10 09-41 C500 V0001          S   1 T1 F2 P1 G002.0       VBY 0C999 SS999-99-9999
~~1364 00 08/10 11-17 C999 V9998 M     1 S120 T1 F2 P1 G001.0 MPG  .  ZZZ 0C999 SS999-99-9999~~
 1366 00 08/10 11-18 C999 V9998 M     1 S120 T1 F2 P1 G001.0 MPG  .  ZZZ 0C999 SS999-99-9999
~~1368 00 08/10 11-19 C999 V9998 M     1 S120 T1 F2 P1 G001.0 MPG  .  ZZZ 0C999 SS999-99-9999~~
 1402 20 08/10 15-30 C509 V3409          S   1 T1 F2 P1 G001.7       FJP 0C999 SS999-99-9999
~~1404 20 08/10 15-31 C509 V3409          S   1 T1 F2 P1 G001.7       FJP 0C999 SS999-99-9999~~
 2311 00 08/11 01-43 C509 V3409 M 58261 S   1 T1 F2 P1 G000.5 MPG  .  FJP 0C999 SS999-99-9999
~~2014 00 08/11 01-51 C535 V0026 M   141 S   1 T1 F2 P1 G000.6 MPG  .  BEY 0C999 SS999-99-9999~~
 2015 00 08/11 01-51 C380 V0028 M   141 S   1 T1 F2 P1 G000.4 MPG  .  BEY 0C999 SS999-99-9999
~~2016 00 08/11 01-51 C436 V0039 M   141 S   1 T1 F2 P1 G000.9 MPG  .  BEY 0C999 SS999-99-9999~~
 2233 02 08/11 09-37 C570 V8706 M 28751 S  40 T1 F2 P1 G000.3 MPG  .  ARD 0C999 SS999-99-9999
~~2235 00 08/11 09-40 C570 V8706 M 28751 S  40 T1 F2 P1 G003.0 MPG  .  ARD 0C999 SS999-99-9999~~
 2237 01 08/11 09-41 C570 V8706 M  8128 S  40 T1 F2 P1 G000.6 MPG  .  ARD 0C999 SS999-99-9999
~~2239 00 08/11 09-42 C570 V8706 M  8128 S  40 T1 F2 P1 G000.5 MPG  .  ARD 0C999 SS999-99-9999~~
 2275 00 08/11 10-13 C999 V9998 M 18671 S  11 T2 F2 P1 G001.0 MPG  .  ZZZ 0C999 SS999-99-9999
~~2279 00 08/11 10-14 C999 V9998 M 18671 S  11 T1 F2 P1 G001.0 MPG  .  ZZZ 0C999 SS999-99-9999~~
 2307 20 08/11 10-47 C999 V9999          S   1 T1 F2 P1 G003.0       ZZZ 0C999 SS999-99-9999
~~2311 20 08/11 10-49 C114 V1921          S   1 T1 F2 P1 G000.9       ARA 0C999 SS999-99-9999~~
 2312 20 08/11 10-49 C114 V1921          S   1 T1 F2 P1 G001.4       ARA 0C999 SS999-99-9999
~~2324 00 08/11 11-08 C999 V9998 M     0 S   9 T1 F2 P1 G001.0 MPG  .  ZZZ 0C999 SS999-99-9999~~
 2327 00 08/11 11-08 C999 V9998 M     0 S   9 T1 F2 P1 G001.0 MPG  .  ZZZ 0C999 SS999-99-9999
~~2330 00 08/11 11-09 C999 V9998 M     0 S   9 T1 F2 P1 G001.0 MPG  .  ZZZ 0C999 SS999-99-9999~~
 2337 00 08/11 11-18 C999 V9998 M 22921 S   1 T1 F2 P1 G001.0 MPG  .  ZZZ 0C999 SS999-99-9999
~~2343 10 08/11 11-23 C999 V9998          S   1 T5 F8 P1    2.0       ZZZ 0C999 SS999-99-9999~~
 2349 00 08/11 11-27 C999 V9998 M  9999 S106 T1 F2 P1 G001.0 MPG  .  ZZZ 0C999 SS999-99-9999
~~2351 00 08/11 11-27 C999 V9998 M  9999 S106 T1 F2 P1 G001.0 MPG  .  ZZZ 0C999 SS999-99-9999~~
 2370 00 08/11 11-48 C999 V9998 M  7282 S   6 T1 F2 P1 G001.0 MPG  .  ZZZ 0C999 SS999-99-9999
~~2371 00 08/11 11-49 C999 V9998 M  7282 S   6 T1 F2 P1 G001.0 MPG  .  ZZZ 0C999 SS999-99-9999~~
 2372 00 08/11 11-50 C999 V9998 M  7282 S   6 T1 F2 P1 G001.0 MPG  .  ZZZ 0C999 SS999-99-9999
~~2374 00 08/11 11-55 C999 V9998 M  7282 S   6 T1 F2 P1 G000.9 MPG  .  ZZZ 0C999 SS999-99-9999~~
 2398 00 08/11 12-26 C999 V9998 M     0 S   7 T1 F2 P1 G000.1 MPG  .  ZZZ 0C999 SS999-99-9999
~~2427 02 08/11 12-54 C509 V3409 M 58831 S   1 T1 F2 P1 G001.4 MPG  .  FJP 0C999 SS999-99-9999~~
 2461 00 08/11 13-58 C999 V9998 M 43851 S   1 T1 F2 P1 G001.0 MPG  .  ZZZ 0C999 SS999-99-9999
 2746 00 08/11 13-07 C999 V9998 M 57933 S  13 T1 F2 P1 G001.4 MPG  .  ZZZ 0C999 SS999-99-9999
 2606 00 08/11 17-02 C999 V9998 M  7777 S  17 T1 F2 P1 G000.4 MPG  .  ZZZ 0C999 SS999-99-9999
~~2803 00 08/11 20-16 C999 V9998 M  2400 S   1 T1 F2 P1 G004.7 MPG  .  ZZZ 0C999 SS999-99-9999~~
 3050 00 08/12 00-31 C 40 V1501 M   141 S   1 T1 F2 P1 G000.7 MPG  .  BET 0C999 SS999-99-9999
 3052 00 08/12 00-31 C 23 V1785 M   141 S   1 T1 F2 P1 G000.4 MPG  .  BET 0C999 SS999-99-9999
 3053 00 08/12 00-31 C112 V1529 M   141 S   1 T1 F2 P1 G000.5 MPG  .  BET 0C999 SS999-99-9999
 3054 00 08/12 00-31 C  7 V1607 M   141 S   1 T1 F2 P1 G000.4 MPG  .  BET 0C999 SS999-99-9999
 3064 00 08/12 00-42 C497 V0056 M   141 S   1 T1 F2 P1 G001.0 MPG  .  BEY 0C999 SS999-99-9999
~~3090 00 08/12 01-14 C215 V0148 M 39930 S   1 T1 F2 P1 G000.5 MPG  .  HRT 0C999 SS999-99-9999~~

TOTAL TRANSACTIONS THIS REPORT     45      GALLONS ISSUED      47.6      GALLONS RECIEVED       .0

~~REPORT COMPLETE~~
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NYCPO     TRANSACTION FILES     - BY TRANSAC. TYPE -     13-42    07/24/61    PAGE  1

SEQ # TP DATE  TIME                   00- FUELING ODOMETER WITHIN RANGE

  2 00 07/15 00-00 C122 V1285 M012871 S122 T1 F2 P1 G013.1 MPG 8.4  ARA OC122 SS 93-34-7813
  3 00 07/15 00-00 C 45 V1768 M031864 S 45 T1 F2 P1 G014.8 MPG 8.7  ARA OC 45 SS124-40-0336
~~  4 00 07/15 00-00 C 47 V1455 M003095 S 47 T1 F2 P1 G014.0 MPG 8.0  BET OC 47 SS 70-32-7773~~
  5 00 07/15 00-11 C 46 V2481 M046276 S 46 T1 F2 P1 G012.8 MPG 5.7  JRA OC 46 SS127-32-7237
  6 00 07/15 00-13 C123 V1218 M023927 S123 T1 F2 P1 G011.0 MPG11.0  ARA OC123 SS111-28-5354
  7 00 07/15 00-13 C 22 V2313 M043554 S  5 T1 F2 P1 G012.2 MPG 8.3  JRA OC 22 SS108-24-5294
  8 00 07/15 00-13 C109 ~~V1593 M040892~~ S109 T1 F2 P1 G015.4 MPG 7.2  ~~ARO OC109 SS103-32-6226~~
  9 00 07/15 00-15 C324 V8532 M061774 S114 T1 F2 P1 G016.1 MPG13.1  TID OC114 SS104-28-6477
~~ 10 00 07/15 00-17 C450 V5542 M020711 S 26 T1 F2 P1 G009.7 MPG 1.6  UHV OC450 SS107-34-4238~~
 11 00 07/15 00-17 C 34 V1998 M001620 S 34 T1 F2 P1 G013.7 MPG 8.1  BET OC 34 SS109-32-1062
 12 00 07/15 00-17 C105 V2079 M066369 S105 T1 F2 P1 G012.0 MPG 9.8  ~~JRA OC105~~ SS118-32-3894
 13 00 07/15 00-19 C 46 V2179 M029167 S 46 T1 F2 P1 G008.9 MPG 6.2  JRA OC 46 SS 73-32-9667
 14 00 07/15 ~~00-20 C107 V1876 M038402 S111 T1 F2 P2 G014.3 MPG 9.7  ARA OC107 SS112-34-4839~~
 16 00 07/15 00-20 C110 V1657 M030485 S114 T1 F2 P1 G015.0 MPG 6.8  ARA OC110 SS 58-44-6689
~~ 17 00 07/15 00-20 C105 V1004 M010190 S105 T1 F2 P1 G011.4 MPG12.2  BET OC105 SS 64-36-5969~~
 18 00 07/15 00-23 C450 V5517 M001188 S 26 T1 F2 P1 G018.1 MPG 4.4  LHP OC450 SS 52-38-1813
 19 00 07/15 00-23 C 25 ~~V1673 M019812 S 25~~ T1 F2 P1 ~~G010.8 MPG 9.9  ARA OC 25 SS 83-40-9390~~
 20 00 07/15 00-25 C110 V2342 M024997 S114 T1 F2 P1 G008.0 MPG 7.5  ARA OC110 SS120-14-3611
 22 00 07/15 00-27 ~~C411 V2905 M021485 S  2 T1 F2 P1 G010.0 MPG10.1  LRB OC411 SS 91-34-5791~~
 23 00 07/15 00-28 C 46 V1108 M003642 S 46 T1 F2 P1 G012.4 MPG 6.7  BET OC 46 SS 73-32-9667
~~ 24 00 07/15 00-31 C 47 V1850 M038188 S 47 T1 F2 P1 G014.1 MPG 8.5  ARA OC 47 SS 75-36-8971~~
 25 00 07/15 00-31 C122 V1083 M009111 S122 T1 F2 P1 G014.4 MPG10.0  BET OC122 SS 85-22-7259
 26 00 07/15 ~~00-33 C102 V2277 M044330 S112 T1 F2 P2 G010.0 MPG 5.9  JRA OC102 SS 59-36-5329~~
 27 00 07/15 00-33 C110 V2028 M008142 S114 T1 F2 P1 G014.2 MPG 6.9  ARA OC110 SS114-46-3594
 28 00 07/15 00-33 ~~C102 V2626 M056361 S112 T1 F2 P1 G011.0 MPG 7.2  JRA OC102 SS 35-28-6460~~
 29 00 07/15 00-35 C442 V9037 M007773 S122 T1 F2 P1 G009.4 MPG18.0  LRE OC442 SS 55-34-4071
~~ 30 00 07/15 00-38 C 25 V1568 M012785 S 25 T1 F2 P1 G013.3 MPG 8.0  ARA OC 25 SS103-38-3901~~
 31 00 07/15 00-38 C 24 V1336 M028827 S 30 T1 F2 P1 G011.4 MPG 8.0  ARA OC 24 SS 92-44-7740
 32 00 07/15 00-41 ~~C 40 V1740 M015559 S 42 T1 F2 P1 G013.0 MPG 6.6  ARA OC 40 SS120-34-4120~~
 34 00 07/15 00-52 C104 V2009 M037591 S104 T1 F2 P1 G012.2 MPG 9.0  ARA OC104 SS 71-32-9018
 35 00 07/15 00-54 C 46 ~~V0332 M033228 S 46 T1 F2 P1 G011.6 MPG 9.3  JRO OC 46 SS 99-36-3093~~
 36 00 07/15 00-54 C 47 V2326 M031959 S 47 T1 F2 P1 G014.9 MPG 7.1  ARA OC 47 SS 74-34-6297
~~ 37 00 07/15 00-55 C122 V2432 M090303 S122 T1 F2 P1 G013.5 MPG 8.7  JRA OC122 SS113-38-1169~~
 38 00 07/15 00-56 C 26 V2013 M001274 S 26 T1 F2 P1 G015.2 MPG 6.5  BET OC 26 SS 51-40-6683
 40 00 07/15 01-00 C ~~52 V2341 M013556 S 50 T1 F2 P1 G005.9 MPG17.2  ARA OC 52 SS 72-38-7243~~
 42 00 07/15 01-13 C 52 V2750 M006577 S 46 T1 F2 P1 G014.3 MPG 8.9  BET OC 52 SS 61-46-8011
 43 00 ~~07/15 01-19 C 48 V2520 M041976 S 42 T1 F2 P1 G014.0 MPG 4.2  JRA OC 48 SS 75-36-7600~~
 44 00 07/15 01-19 C 50 V2742 M046420 S 50 T1 F2 P1 G012.2 MPG 7.1  JRA OC 50 SS123-34-1127
~~ 45 00 07/15 01-24 C411 V2805 M030723 S  2 T1 F2 P1 G014.2 MPG 9.5  UFB OC411 SS 62-30-9704~~
 46 00 07/15 01-27 C 34 V2425 M022892 S 34 T1 F2 P1 G015.6 MPG 4.5  ARA OC 34 SS233-68-0062
 48 00 ~~07/15 01-43 C103 V2600 M054511 S105 T1 F2 P1 G015.0 MPG 8.5  JRA OC103 SS112-38-6028~~
 50 00 07/15 01-52 C 42 V6088 M054263 S 42 T1 F2 P1 G019.2 MPG 5.4  PUY OC 42 SS 68-32-0100
~~ 51 00 07/15 02-40 C450 V5538 M059605 S  3 T2 F1 P1 G013.0 MPG 7.1  TIV OC450 SS113-34-1022~~
 52 00 07/15 03-12 C 43 V0414 M024882 S 43 T1 F2 P2 G016.3 MPG 8.7  PRY OC 43 SS 89-38-3142
~~ 53 00 07/15 03-14 C110 V1044 M002030 S112 T1 F2 P1 G015.2 MPG 7.6  BET OC110 SS 84-34-3019~~
 54 00 07/15 03-17 C109 V2662 M055921 S109 T1 F2 P1 G015.0 MPG 8.0  JRA OC109 SS104-30-5513
 55 00 07/15 03-39 ~~C578 V4107 M040543 S 25 T1 F2 P1 G014.7 MPG 7.0  TJM OC 25 SS 78-50-4395~~
 56 00 07/15 03-44 C108 V7070 M016731 S114 T1 F2 P2 G014.0 MPG10.1  ARA OC108 SS 86-40-1687
 57 00 07/15 ~~03-54 C 44 V2700 M029067 S 46 T1 F2 P1 G013.0 MPG 6.3  JRA OC 46 SS119-42-5855~~
 57 00 07/15 03-54 C 44 V2700 M029067 S 46 T1 F2 P1 G013.0 MPG 6.3  JRA OC 46 SS119-42-5855
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TR 6567-II

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NYCPD     TRANSACTION FILES      - BY TRANSAC. TYPE -     13-44    07/24/61    PAGE   1
SEQ # TP DATE  TIME                         01- FUELING Low ODOMETER

  149 01 07/15 08-09 C 28 V1535 M  7368 S 28 T1 F2 P2 G005.0 MPG  .   ARA OC 28 SS125-44-1754
  186 01 07/15 08-45 C366 V5362 M 54217 S 12 T1 F2 P1 G018.9 MPG  .   QRP OC366 SS101-44-8483
  204 01 07/15 09-00 C 44 V2098 M 30718 S 42 T1 F2 P1 G012.4 MPG  .   JRA OC 44 SS584-01-7193
  280 01 07/15 10-04 C 46 V2088 M 32916 S 46 T1 F2 P1 G012.5 MPG  .   JRA OC 46 SS113-40-9095
  306 01 07/15 10-29 C227 V8350 M 12358 S 45 T1 F2 P1 G009.7 MPG  .   AIO OC227 SS 68-22-9507
  333 01 07/15 10-46 C201 V7175 M  4750 S  3 T1 F2 P1 G021.0 MPG  .   QEY OC201 SS 59-30-0321
  351 01 07/15 10-59 C343 V8389 M 51508 S112 T1 F2 P2 G012.8 MPG  .   RHO OC343 SS 78-30-0089
  353 01 07/15 11-00 C153 V2126 M 48234 S 24 T2 F2 P1 G019.7 MPG  .   IRT OC199 SS100-34-1418
  379 01 07/15 11-19 C319 V0639 M  8598 S110 T1 F2 P1 G009.5 MPG  .   ARO OC110 SS133-26-2166
  428 01 07/15 12-06 C 23 V1281 M  7292 S 23 T1 F2 P2 G011.5 MPG  .   ARA OC 23 SS109-38-5017
  459 01 07/15 12-49 C246 V7203 M 26949 S 47 T1 F2 P1 G013.9 MPG  .   TJP OC246 SS 81-42-8490
  471 01 07/15 13-05 C276 V8473 M 48914 S 47 T1 F2 P1 G014.4 MPG  .   GPJ OC282 SS130-32-2467
  487 01 07/15 13-20 C246 V0418 M 29111 S 43 T1 F2 P2 G012.8 MPG  .   PRY OC246 SS 95-42-9682
  483 01 07/15 13-20 C120 V2064 M  2505 S120 T1 F2 P1 G017.1 MPG  .   BET OC120 SS108-22-7407
  583 01 07/15 15-07 C 46 V1439 M  1663 S 46 T1 F2 P1 G012.7 MPG  .   ARA OC 46 SS239-66-7134
  606 01 07/15 15-36 C490 V2199 M  2199 S109 T1 F2 P1 G012.8 MPG  .   ARA OC490 SS104-30-5171
  779 01 07/15 17-01 C 44 V1791 M 14947 S 40 T1 F2 P1 G015.5 MPG  .   JRA OC 44 SS120-28-8864
  830 01 07/15 18-29 C322 V0150 M 95225 S112 T1 F2 P1 G016.5 MPG  .   QRY OC112 SS100-32-8482
  871 01 07/15 19-10 C533 V8497 M 20682 S  2 T1 F2 P1 G014.4 MPG  .   CIY OC533 SS 75-26-8841
  883 01 07/15 19-28 C316 V8632 M 52667 S  3 T1 F2 P1 G011.0 MPG  .   HRO OC316 SS 89-30-9979
 1007 01 07/15 21-25 C490 V1904 M  1904 S 28 T1 F2 P1 G010.2 MPG  .   ARA OC490 SS 87-38-2298
 1008 01 07/15 21-26 C 42 V2515 M 33034 S 46 T1 F2 P1 G013.5 MPG  .   JRA OC141 SS 97-28-5111
 1050 01 07/15 22-53 C110 V9015 M 13204 S110 T1 F2 P1 G021.9 MPG  .   TRY OC110 SS106-42-1885
 1059 01 07/15 23-14 C 24 V9652 M  9652 S 24 T2 F2 P1 G001.4 MPG  .   WNK OC 24 SS 84-34-0153
 1120 01 07/16 00-19 C442 V9037 M  7084 S122 T1 F2 P1 G016.1 MPG  .   LRE OC442 SS 55-34-4071
 1122 01 07/16 00-22 C 44 V1681 M 20199 S 48 T1 F2 P1 G013.0 MPG  .   ARA OC 44 SS 53-36-0477
 1388 01 07/16 08-19 C 25 V1588 M 12735 S 25 T1 F2 P1 G016.0 MPG  .   ARA OC 25 SS102-38-7129
 1389 01 07/16 08-38 C370 V6079 M  6079 S 45 T1 F2 P1 G023.0 MPG  .   SFC OC370 SS 71-36-4510
 1406 01 07/16 08-50 C570 V6070 M  1260 S 12 T1 F2 P1 G015.3 MPG  .   UHC OC570 SS250-66-1804
 1528 01 07/16 10-23 C156 V1101 M  3529 S111 T1 F2 P2 G015.6 MPG  .   BET OC156 SS123-26-8249
 1534 01 07/16 10-30 C190 V8404 M 80653 S 48 T1 F2 P1 G017.7 MPG  .   RIO OC190 SS121-34-4086
 1534 01 07/16 10-30 C190 V8404 M 80653 S 48 T1 F2 P1 G017.7 MPG  .   RIO OC190 SS121-34-4086
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NYCPD     TRANSACTION FILES     - BY TRANSAC. TYPE -     13-46     07/24/61     PAGE   1

SEQ # TP DATE  TIME                     02 FUELING  HIGH ODOMETER

  15 02 07/15 00-20 C 34 V0031 M 54720 S 34 T1 F2 P1 G017.3 MPG   .   GSD OC 34 SS131-34-5597
  81 02 07/15 06-35 C128 V8569 M041260 S 11 T1 F2 P1 G015.7 MPG38.8  SFD OC128 SS 96-34-0581
 103 02 07/15 07-27 C413 V8953 M  6432 S  3 T2 F1 P1 G001.0 MPG   .   XWJ OC410 SS109-44-5682
 108 02 07/15 07-33 C544 V0293 M023373 S  3 T1 F2 P1 G012.1 MPG64.4  ARY OC544 SS 91-32-1395
 109 02 07/15 07-35 C593 V0766 M 18043 S 25 T1 F2 P1 G016.0 MPG   .   JRD OC583 SS 84-34-5782
 170 02 07/15 08-26 C470 V1466 M044735 S114 T1 F2 P1 G015.4 MPG38.5  JRA OC470 SS107-38-2835
 212 02 07/15 09-06 C219 V8327 M049483 S 47 T1 F2 P1 G017.0 MPG18.7  RQY OC219 SS124-16-0086
 257 02 07/15 09-42 C490 V5385 M 35498 S 40 T1 F2 P1 G015.0 MPG   .   QRP OC 40 SS117-32-9398
 275 02 07/15 10-00 C 28 V2659 M040082 S 28 T1 F2 P1 G014.4 MPG49.5  JRA OC 28 SS109-32-7435
 283 02 07/15 10-07 C204 V7172 M040104 S122 T1 F2 P1 G017.2 MPG26.3  QBY OC216 SS 55-34-3740
 317 02 07/15 10-33 C107 V1761 M 47448 S  3 T1 F2 P1 G015.0 MPG   .   ARA OC107 SS 59-26-8182
 327 02 07/15 10-42 C544 V8697 M066385 S 47 T1 F2 P1 G021.0 MPG13.0  TIY OC544 SS132-32-2421
 357 02 07/15 11-00 C367 V0559 M000815 S 34 T1 F2 P1 G015.1 MPG38.5  BEY OC367 SS106-18-8304
 366 02 07/15 11-07 C128 V8531 M 57120 S 11 T1 F2 P1 G007.7 MPG   .   SIO OC128 SS 89-38-3022
 389 02 07/15 11-28 C269 V0657 M 84256 S  2 T1 F2 P1 G010.8 MPG   .   ARD OC269 SS106-24-8619
 433 02 07/15 12-13 C576 V0135 M013158 S122 T1 F2 P1 G013.1 MPG35.8  ARD OC576 SS125-34-7496
 447 02 07/15 12-31 C538 V6080 M034370 S 12 T2 F2 P1 G017.5 MPG17.4  TFY OC538 SS127-28-8202
 457 02 07/15 12-47 C282 V0521 M020930 S 45 T1 F2 P1 G013.7 MPG26.3  ARD OC282 SS113-28-3061
 458 02 07/15 12-49 C125 V8004 M015956 S112 T1 F2 P1 G011.0 MPG32.7  ARA OC125 SS119-26-1165
 464 02 07/15 12-53 C497 V8241 M 17963 S112 T1 F2 P2 G008.0 MPG   .   YFX OC497 SS122-26-2794
 494 02 07/15 13-28 C509 V3425 M 37236 S 12 T2 F2 P1 G012.0 MPG   .   SJP OC570 SS108-44-2759
 497 02 07/15 13-31 C201 V8103 M012948 S 20 T1 F2 P1 G010.0 MPG26.2  ARD OC201 SS 65-26-8238
 505 02 07/15 13-41 C538 V6062 M039669 S122 T1 F2 P1 G014.5 MPG77.5  SEY OC494 SS108-28-9887
 525 02 07/15 14-00 C237 V0471 M 45167 S 28 T1 F2 P2 G018.0 MPG   .   GSD OC237 SS107-30-1466
 532 02 07/15 14-16 C366 V3448 M003530 S 12 T2 F2 P1 G016.9 MPG22.5  LHP OC366 SS 64-38-1723
 533 02 07/15 14-17 C246 V0635 M 10530 S 32 T1 F2 P1 G013.0 MPG   .   ARD OC246 SS114-30-5114
 552 02 07/15 14-39 C367 V8589 M 80037 S113 T1 F2 P1 G015.0 MPG   .   HHD OC347 SS109-34-7162
 646 02 07/15 15-52 C104 V1092 M  6020 S104 T1 F2 P1 G011.7 MPG   .   BET OC104 SS 79-18-2406
 651 02 07/15 15-55 C 22 V2572 M 49116 S  5 T1 F2 P1 G011.8 MPG   .   JRA OC 22 SS 64-30-2622
 697 02 07/15 16-15 C450 V0839 M057324 S 26 T1 F2 P1 G013.0 MPG46.7  ARD OC450 SS 74-18-8332
 707 02 07/15 16-17 C256 V8527 M 40223 S 20 T1 F2 P1 G017.0 MPG   .   TIO OC256 SS136-28-9132
 709 02 07/15 16-17 C128 V8141 M 10901 S 11 T1 F2 P1 G013.2 MPG   .   ARD OC128 SS 76-36-6111
 711 02 07/15 16-18 C577 V0238 M025531 S109 T2 F2 P1 G014.7 MPG17.8  JRD OC577 SS115-40-4845
 729 02 07/15 16-21 C533 V0304 M023318 S105 T1 F2 P1 G010.9 MPG35.7  JRD OC105 SS 51-30-0151
 748 02 07/15 16-29 C 28 V1064 M 99120 S 34 T1 F2 P1 G011.8 MPG   .   ARA OC139 SS 74-34-9060
 751 02 07/15 16-30 C225 V0464 M 33669 S  5 T1 F2 P1 G017.2 MPG   .   GSD OC225 SS 59-30-7796
 845 02 07/15 18-39 C126 V6071 M  6071 S109 T1 F2 P1 G018.7 MPG   .   SCY OC126 SS122-34-1076
 848 02 07/15 18-43 C538 V0012 M030700 S  2 T1 F2 P1 G011.6 MPG29.3  ARD OC538 SS108-22-0920
 861 02 07/15 19-00 C367 V8047 M045178 S 45 T1 F2 P1 G017.0 MPG18.5  RSY OC372 SS 92-38-9746
 891 02 07/15 19-43 C100 V1456 M026119 S100 T1 F2 P1 G015.8 MPG67.0  ARA OC100 SS 89-44-1947
 901 02 07/15 19-58 C569 V8427 M484644 S 23 T1 F2 P2 G015.9 MPG   .   RIY OC387 SS 54-30-2406
 903 02 07/15 20-00 C163 V0627 M006290 S 48 T1 F2 P1 G014.6 MPG17.8  ARD OC163 SS 54-20-4373
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NYCPD     TRANSACTION FILES     - BY TRANSAC. TYPE -     12-32    07/29/61    PAGE   1
SEQ # TP DATE  TIME
                                         05-  PRIVATE VEHICLE FUELING

   40 05 07/22 00-53        CD158        S112 T1 F2 P2 G005.0            OC108 SS 68-36-1923
   45 05 07/22 01-15        CD158        S112 T1 F2 P2 G005.0            OC108 SS 63-48-0081
   47 05 07/22 01-20        CD156        S109 T2 F2 P1 G013.1            OC246 SS102-36-2527
  165 05 07/22 06-49        CD 76        S  2 T2 F1 P1 G002.9            OC410 SS 66-40-7382
  167 05 07/22 07-01        CD 75        S 50 T1 F2 P2 G010.5            OC 50 SS124-30-7995
  194 05 07/22 07-39        CD172        S 46 T1 F2 P1 G005.0            OC 52 SS117-32-0402
  262 05 07/22 08-42        CD266        S  3 T2 F1 P1 G005.0            OC150 SS 69-30-7779
  304 05 07/22 09-30        CD 74        S 48 T1 F2 P1 G008.0            OC163 SS 79-26-2397
  313 05 07/22 09-39        CD266        S  3 T1 F2 P1 G016.1            OC578 SS115-24-5848
  320 05 07/22 09-43        CD172        S 46 T1 F2 P1 G009.5            OC 46 SS 83-34-7558
  344 05 07/22 09-52        CD 60        S100 T1 F2 P1 G005.0            OC100 SS 62-44-9858
  347 05 07/22 09-54        CD 60        S100 T1 F2 P1 G005.0            OC100 SS114-42-5574
  348 05 07/22 09-56        CD156        S109 T2 F2 P1 G012.0            OC390 SS110-20-6940
  381 05 07/22 10-17        CD 62        S103 T1 F2 P1 G015.0            OC103 SS 53-42-7244
  393 05 07/22 10-25        CD 62        S103 T1 F2 P1 G013.9            OC103 SS 52-34-3958
  408 05 07/22 10-35        CD 70        S 43 T1 F2 P1 G009.5            OC 43 SS 73-34-9654
  409 05 07/22 10-35        CD 64        S111 T1 F2 P2 G008.1            OC111 SS130-14-5735
  430 05 07/22 10-45        CD  2        S  1 T1 F2 P1 G002.0            OC 52 SS122-26-4436
  461 05 07/22 11-25        CD156        S109 T1 F2 P1 G006.2            OC509 SS 92-26-0523
  503 05 07/22 12-26        CD172        S 46 T1 F2 P1 G009.6            OC155 SS 70-36-9781
  535 05 07/22 13-23        CD 74        S 48 T1 F2 P1 G016.5            OC 40 SS 62-30-4937
  537 05 07/22 13-27        CD163        S105 T1 F2 P1 G007.1            OC166 SS257-64-9542
  541 05 07/22 13-31        CD163        S105 T1 F2 P1 G014.0            OC166 SS123-30-4984
  544 05 07/22 13-36        CD 74        S 48 T1 F2 P1 G006.7            OC 44 SS107-34-6002
  551 05 07/22 13-53        CD 70        S 43 T1 F2 P2 G020.0            OC533 SS121-38-0480
  564 05 07/22 14-13        CD158        S112 T1 F2 P1 G007.0            OC150 SS 53-34-7747
  573 05 07/22 14-31        CD251        S120 T1 F2 P1 G010.0            OC186 SS110-30-1721
  582 05 07/22 14-39        CD172        S 46 T1 F2 P1 G006.0            OC 46 SS104-32-6348
  588 05 07/22 14-43        CD 74        S 48 T1 F2 P1 G014.9            OC195 SS102-38-8260
  590 05 07/22 14-47        CD 71        S 45 T1 F2 P1 G006.2            OC 45 SS 94-32-3452
  602 05 07/22 15-05        CD 71        S 45 T1 F2 P1 G005.1            OC 45 SS122-36-7307
  610 05 07/22 15-13        CD 81        S 25 T1 F2 P1 G012.0            OC 44 SS 56-32-6906
  611 05 07/22 15-13        CD172        S 46 T1 F2 P1 G005.0            OC 52 SS 59-30-9593
  612 05 07/22 15-13        CD251        S120 T1 F2 P1 G004.5            OC188 SS 57-30-9897
  613 05 07/22 15-16        CD 70        S 43 T1 F2 P2 G010.0            OC 43 SS 93-14-7652
  670 05 07/22 16-00        CD 71        S 45 T1 F2 P1 G005.0            OC 45 SS 62-34-5046
  677 05 07/22 16-06        CD266        S  3 T2 F1 P1 G013.4            OC125 SS 59-30-8647
  684 05 07/22 16-08        CD 75        S 50 T1 F2 P1 G010.1            OC 52 SS 52-34-1674
  688 05 07/22 16-10        CD266        S  3 T2 F1 P1 G007.2            OC107 SS 92-40-6331
  726 05 07/22 16-51        CD 75        S 50 T1 F2 P1 G005.0            OC 52 SS 82-34-4367
  754 05 07/22 17-22        CD 52        S122 T1 F2 P2 G018.4            OC186 SS131-34-2976
  771 05 07/22 17-34        CD 74        S 48 T1 F2 P1 G010.0            OC282 SS130-32-2467
  805 05 07/22 18-21        CD172        S 46 T1 F2 P1 G005.0            OC 46 SS584-32-2047
  813 05 07/22 18-29        CD251        S120 T1 F2 P1 G011.2            OC185 SS119-40-7950
  815 05 07/22 18-32        CD 57        S110 T1 F2 P1 G010.0            OC113 SS 57-30-2173
  822 05 07/22 18-42        CD266        S  3 T2 F1 P1 G011.4            OC107 SS122-36-2982
  826 05 07/22 18-51        CD251        S120 T1 F2 P1 G020.0            OC186 SS 70-34-8567
  830 05 07/22 18-54        CD 74        S 48 T1 F2 P1 G007.5            OC163 SS 55-32-4390
  834 05 07/22 19-02        CD 75        S 50 T1 F2 P1 G005.1            OC 52 SS121-40-1039
  848 05 07/22 19-22        CD 75        S 50 T1 F2 P1 G007.1            OC288 SS102-32-0740
  855 05 07/22 19-27        CD163        S105 T1 F2 P1 G004.1            OC105 SS125-38-6170
  855 05 07/22 19-27        CD163        S105 T1 F2 P1 G004.1            OC105 SS125-38-6170
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NYCPD      TRANSACTION FILES     - BY TRANSAC. TYPE -     13-47     07/24/61     PAGE   1

SEQ # TP DATE  TIME                        10 - OIL ENTRY

  84 10 07/15 06-40 C410 V9055          S  3 T5 F8 P1     ~~1.0         LRE OC413 SS 87-32-5590~~
 148 10 07/15 08-09 C 45 V2489          S 45 T5 F8 P1     1.0          JRA OC 45 SS 87-30-9413
~~ 151 10 07/15 08-09 C 45 V2489          S 45 T5 F8 P1     1.0          JRA OC 45 SS 87-30-9413~~
 321 10 07/15 10-36 C107 V1761          S  3 T5 F8 P1     1.0          ARA OC107 SS 59-26-8182
 343 10 07/15 10-54 C  0 V  86          S 34 T5 F8 P      1.0              ~~OC 26 SS 86-34-5926~~
 347 10 07/15 10-57 C  0 V  86          S 34 T5 F8 P      1.0              OC 34 SS 53-36-2860
 410 10 07/15 11-46 C 28 V1453          S 28 T5 F8 P1     1.0          ~~ARA OC 28 SS101-16-7242~~
 473 10 07/15 13-07 C 40 V1971          S 40 T5 F8 P1     2.0          ARA OC 40 SS125-30-4069
~~ 593 10 07/15 15-20 C  0 V  74          S 48 T5 F8 P      0.0              OC195 SS 85-30-4186~~
 598 10 07/15 15-23 C  0 V  74          S 48 T5 F8 P      1.0              OC195 SS 85-30-4186
 657 10 07/15 15-58 C 22 V2572          S  5 T5 F8 P1     ~~2.0          JRA OC 22 SS 64-30-2622~~
 717 10 07/15 16-19 C 28 V 198          S 28 T5 F8 P1     2.0          PR  OC 28 SS118-32-7452
 888 10 07/15 19-33 C 30 V1827          S 30 T5 F8 P1     ~~1.0          ARA OC 30 SS 76-36-0794~~
1113 10 07/16 00-13 C 47 V2492          S 47 T5 F8 P1     3.0          JRA OC 47 SS100-40-2356
~~1115 10 07/16 00-14 C 47 V2492          S 47 T5 F8 P1     3.0          JRA OC 47 SS100-40-2356~~
1307 10 07/16 07-19 C411 V2890          S  2 T5 F8 P1     1.0          UFB OC411 SS 96-48-1919
1314 10 07/16 07-30 C120 V1745          S120 T5 F8 P1     1.0          ARA ~~OC120 SS 62-40-1146~~
1481 10 07/16 09-52 C 23 V2799          S 23 T5 F8 P1     1.0          BET OC 23 SS122-34-3011
~~1537 10 07/16 10-32 C 48 V2135          S 48 T5 F8 P1     2.0          ARA OC 48 SS 52-40-7526~~
1544 10 07/16 10-37 C  0 V 266          S  3 T5 F8 P      9.0              OC533 SS106-28-1069
~~1672 10 07/16 12-58 C384 V8120          S 45 T5 F8 P1     4.0          ORD OC370 SS 94-32-2307~~
1674 10 07/16 12-58 C384 V8120          S 45 T5 F8 P1     4.0          ORD OC370 SS 94-32-2307
1687 10 07/16 13-12 C490 V1630          S110 T5 F8 P1     1.0          ~~ARA OC156 SS129-34-8333~~
1748 10 07/16 14-42 C413 V2927          S  3 T5 F8 P1     2.0          LRB OC413 SS 77-44-5093
~~1762 10 07/16 15-02 C  0 V  64          S111 T5 F8 P      1.0              OC111 SS 71-24-8618~~
1860 10 07/16 16-42 C 25 V2785          S 25 T5 F8 P1     3.0          BET OC 25 SS111-34-1889
~~1861 10 07/16 16-42 C 25 V2785          S 25 T5 F8 P1     2.0          BET OC 25 SS111-34-1889~~
1941 10 07/16 18-05 C 30 V8212          S 30 T5 F8 P1     2.0          UFY OC 30 SS247-74-1394
~~1955 10 07/16 18-30 C 47 V2382          S 47 T5 F8 P1     2.0          ARA OC 47 SS132-23-1122~~
1957 10 07/16 18-30 C 47 V2382          S 47 T5 F8 P1     2.0          ARA OC 47 SS132-23-1122
~~1958 10 07/16 18-31 C  0 V  62          S103 T5 F8 P      1.0              OC107 SS 69-34-1895~~
2237 10 07/17 07-06 C502 V   2          S122 T5 F8 P1     1.0          TEY OC502 SS 55-07-2612
~~2280 10 07/17 07-59 C442 V2006          S122 T5 F8 P1     1.0          UFB OC447 SS 86-40-9416~~
2330 10 07/17 08-23 C450 V5540          S 43 T5 F8 P1     2.0          UHV OC450 SS104-32-8668
~~2330 10 07/17 08-23 C450 V5540          S 43 T5 F8 P1     2.0          UHV OC450 SS104-32-8668~~
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NYCPD     TRANSACTION FILES     - BY TRANSAC. TYPE -     13-57    07/24/61    PAGE  1

SEQ # TP DATE  TIME
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20- MASTER CARD FUELING

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 33 20 07/15 00-42 C413 V9045     S  5 T1 F2 P1 G009.9     ~~LRE OC 22~~ SS137-30-2234
 39 20 07/15 00-56 C108 V1759     S112 T1 F2 P2 G014.5     ARA OC102 SS 85-36-4034
~~ 41 20 07/15 01-10 C114 V1921     S100 T1 F2 P1 G013.2     ARA OC104 SS 69-28-4451~~
 53 20 07/15 04-09 C109 V1923     S112 T1 F2 P2 G005.0     ARA OC    SS   -  -   0
 76 20 07/15 06-29 C498 V0369     S113 T1 F2 P1 G010.8     JRD OC498 SS 56-22-9266
102 20 07/15 07-20 C570 V3202     S 12 T1 F2 P1 G015.0     TJN OC570 SS106-54-7434
118 20 07/15 07-47 C999 V9999     S 12 T2 F2 P1 G005.0     ZZZ OC570 SS 90-40-8254
120 20 07/15 07-48 C999 V9999     S 12 T2 F2 P1 G003.4     ZZZ OC570 SS 90-40-8254
~~128 20 07/15 07-53 C166 V0383     S  5 T1 F2 P1 G003.8     ARO OC 22 SS 65-42-2746~~
162 20 07/15 08-18 C450 V5523     S122 T1 F2 P1 G015.2     LHV OC447 SS 86-40-9416
176 20 07/15 08-35 C101 V9951     S112 T1 F2 P1 G002.0     WTK OC110 SS102-30-8345
178 20 07/15 08-38 C110 V9170     S112 T1 F2 P1 G001.0     WTK OC110 SS115-38-2658
179 20 07/15 08-40 C110 V1429     S114 T1 F2 P1 G007.4     ARA OC110 SS 98-38-7597
181 20 07/15 08-40 C533 V0496     S  2 T1 F2 P1 G014.5     BEY OC411 SS 54-22-7745
~~195 20 07/15 08-52 C126 V6071     S105 T1 F2 P2 G013.6     SCY OC126 SS122-26-2086~~
200 20 07/15 08-57 C410 V9023     S114 T1 F2 P2 G017.2     UEY OC114 SS103-32-9946
205 20 07/15 09-00 C100 V1755     S101 T1 F2 P1 G013.0     ARA OC100 SS122-36-5664
210 20 07/15 09-02 C 23 V2375     S 20 T1 F2 P1 G014.0     ARA OC 23 SS 95-28-3661
213 20 07/15 09-06 C153 V1208     S 43 T1 F2 P2 G018.2     HRT OC    SS   -  -   0
215 20 07/15 09-07 C352 V3146     S 28 T1 F2 P1 G014.1     LJV OC 28 SS101-16-7242
~~240 20 07/15 09-24 C219 V0138     S113 T2 F2 P1 G016.0     HRT OC216 SS121-22-4491~~
271 20 07/15 09-58 C 23 V2602     S 23 T1 F2 P2 G007.9     JRA OC 23 SS 75-54-1242
289 20 07/15 10-12 C227 V8572     S 43 T1 F2 P2 G018.0     SFO OC220 SS102-40-6454
298 20 07/15 10-21 C 20 V1196     S 20 T1 F2 P1 G011.7     JRA OC 20 SS 78-32-4625
309 20 07/15 10-31 C100 V1522     S101 T1 F2 P1 G013.5     JRA OC109 SS 68-42-9563
312 20 07/15 10-32 C153 V2510     S 28 T1 F2 P1 G019.6     HRT OC 28 SS101-16-7242
~~318 20 07/15 10-34 C 75 V2069     S104 T1 F2 P1 G009.0     ARA OC104 SS 62-34-6961~~
338 20 07/15 10-49 C 24 V1730     S 24 T2 F2 P1 G012.0     JRA OC 24 SS 51-30-0091
340 20 07/15 10-53 C 24 V0846     S 24 T2 F2 P1 G016.7     HRT OC 24 SS 69-40-4435
360 20 07/15 11-04 C367 V8660     S113 T2 F2 P1 G014.0     AID OC367 SS104-30-1763
361 20 07/15 11-05 C317 V8180     S110 T1 F2 P1 G005.7     ORY OC110 SS118-32-5530
364 20 07/15 11-07 C568 V5115     S  1 T1 F2 P1 G000.6     MFF OC999 SS999-99-9999
~~367 20 07/15 11-08 C160 V1356     S  5 T1 F2 P1 G015.2     BET OC160 SS 61-48-8645~~
371 20 07/15 11-10 C 75 V9367     S104 T1 F2 P1 G001.3     WTK OC104 SS 72-16-7054
~~373 20 07/15 11-13 C153 V2567     S 34 T1 F2 P1 G017.6     HRT OC 34 SS 90-34-6085~~
392 20 07/15 11-31 C153 V1970     S 34 T1 F2 P1 G020.4     IRT OC 34 SS 90-34-6085
~~399 20 07/15 11-35 C227 V8350     S 43 T1 F2 P2 G015.2     AID OC374 SS131-34-7365~~
415 20 07/15 11-50 C319 V0295     S110 T1 F2 P1 G006.1     BEY OC110 SS133-26-2166
~~420 20 07/15 11-55 C999 V9999     S 30 T1 F2 P2 G005.0     ZZZ OC 30 SS 52-36-9559~~
421 20 07/15 11-57 C999 V9999     S 30 T1 F2 P2 G005.0     ZZZ OC 30 SS 52-36-9559
435 20 07/15 12-16 C363 V0812     S 20 T1 F2 P1 G016.2     QRY OC231 SS 76-36-0150
438 20 07/15 12-18 C999 V9999     S 12 T2 F2 P1 G005.0     ZZZ OC570 SS122-48-0200
448 20 07/15 12-35 C 44 V0516     S 47 T1 F2 P1 G010.0     GSG OC155 SS 70-36-9961
455 20 07/15 12-43 C600 V8374     S  3 T1 F2 P1 G009.4     AID OC497 SS 70-24-1273
~~466 20 07/15 12-59 C 19 V1488     S 20 T1 F2 P1 G014.0     ARA OC 19 SS 54-22-3731~~
483 20 07/15 13-16 C999 V9999     S 12 T2 F2 P1 G005.0     ZZZ OC201 SS105-34-4831
485 20 07/15 13-19 C999 V9999     S 12 T2 F2 P1 G004.7     ZZZ OC201 SS105-34-4831
506 20 07/15 13-42 C538 V8484     S113 T2 F2 P1 G017.0     GPD OC367 SS112-38-7180
518 20 07/15 13-50 C 28 V1925     S 28 T1 F2 P2 G014.4     BEF OC 28 SS103-34-3596
536 20 07/15 14-19 C110 V2247     S110 T1 F2 P1 G011.0     JRA OC110 SS134-38-0075
~~555 20 07/15 14-40 C126 V8250     S 34 T1 F2 P1 G012.0     ARO OC126 SS 91-30-4057~~
557 20 07/15 14-42 C367 V8308     S113 T1 F2 P1 G021.4     REY OC347 SS109-34-7162
559 20 07/15 14-43 C413 V8956     S  3 T2 F1 P1 G003.2     XWJ OC413 SS 95-44-4470
571 20 07/15 14-55 C411 V8941     S  2 T2 F1 P1 G005.0     XWJ OC411 SS 50-36-0845
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NYCPD     TRANSACTION FILES      - BY TRANSAC. TYPE -     14-13    07/24/61    PAGE  1

SEQ # TP DATE  TIME
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27- INVENTORY READING

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 4739 27 07/20 12-15     484.0  MC  1   S123 T1 F2 P1
 4800 27 07/20 13-30    2160.0  MC  1   S122 T1 F2 P1
~~5391 27 07/21 09-36    3000.0  MC 79   S 23 T1 F2 P2~~
 5394 27 07/21 09-36    3000.0  MC 79   S 23 T1 F2 P2


TOTAL TRANSACTIONS THIS REPORT      7      GALLONS ISSUED      .0      GALLONS RECIEVED       .0

REPORT COMPLETE
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JYCPD     TRANSACTION FILES      - BY TRANSAC. TYPE -      14-14     07/24/81
SEQ # TP DATE  TIME                          30- MANUAL FUEL ENTRY

 6142 30 07/20 18-00 C123 V2252 M  6760 S123 T1 F2 P1 G007.6       .    JRA OC      SS   -   -    0
 6146 30 07/20 18-00 C533 V8424 M 56968 S123 T1 F2 P1 G014.0       .    RIY OC      SS   -   -    0
 6147 30 07/20 18-00 C120 V2064 M  2957 S120 T1 F2 P1 G018.0       .    BET OC120   SS108-22-7457
 6151 30 07/20 18-00 C120 V1510 M 18102 S120 T1 F2 P1 G014.0       .    ARA OC120   SS 63-36-6560
 6153 30 07/20 18-00 C120 V2019 M 41334 S120 T1 F2 P1 G018.0       .    JRA OC      SS   -   -    0
 6157 30 07/20 18-00 C120 V1745 M 43645 S120 T1 F2 P1 G012.0       .    ARA OC      SS   -   -    0
 6159 30 07/20 18-00 C120 V1322 M 12319 S120 T1 F2 P1 G014.7       .    ARA OC      SS   -   -    0
 6160 30 07/20 18-00 C120 V1871 M   479 S120 T1 F2 P1 G011.9       .    BET OC      SS   -   -    0
 6163 30 07/20 18-00 C120 V2479 M 27572 S120 T1 F2 P1 G013.5       .    ARA OC      SS   -   -    0
 6165 30 07/20 18-00 C120 V2244 M 27317 S120 T1 F2 P1 G015.7       .    JRA OC      SS   -   -    0
 6167 30 07/20 18-00 C120 V2506 M 51821 S120 T1 F2 P1 G018.0       .    JRA OC120   SS  8-30-4200
 6168 30 07/20 18-00 C120 V2353 M 12026 S120 T1 F2 P1 G010.0       .    ARA OC      SS   -   -    6
 6170 30 07/20 18-00 C950 V5523 M  3275 S120 T1 F2 P1 G011.0       .    LHV OC      SS   -   -  440
 6174 30 07/20 18-00 C120 V1389 M 29639 S120 T1 F2 P1 G014.9       .    JRA OC      SS   -   -    0

TOTAL TRANSACTIONS THIS REPORT      14      GALLONS ISSUED      193.3      GALLONS RECIEVED          .0

REPORT COMPLETE
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NYCPD     TRANSACTION FILES     - BY TRANSAC. TYPE -     14-17     07/24/61     PAGE   3

SEQ # TP DATE  TIME
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31 - MANUAL FUEL RESEIPT

```
  272 31 07/15 09-58  G  395.0            23  1  2  1
  296 31 07/15 10-19  G 1123.0            23  1  2  1
 1051 31 07/15 23-01  G 1550.0            23  1  2  1
 1290 31 07/16 07-05  G  434.0            23  1  2  1
 1299 31 07/16 07-14  G  780.0            23  2  2  1
 1417 31 07/16 08-55  G  206.0            23  1  2  1
 1418 31 07/16 08-56  G  324.0            23  2  2  1
 1680 31 07/16 13-12  G 1459.0            23  1  2  1
 1949 31 07/16 13-22  G  718.0            23  1  2  1
 2225 31 07/17 06-49  G  479.0            23  2  1  1
 2318 31 07/17 08-21  G  458.0            23  1  2  1
 2341 31 07/17 08-33  G  500.0            23  1  2  1
 2512 31 07/17 10-49  G  240.0            23  1  2  1
 2546 31 07/17 11-19  G  403.0            23  1  2  1
 2685 31 07/17 14-21  G  226.0            23  2  1  1
 2690 31 07/17 14-26  G 1000.0            23  1  2  1
 2686 31 07/17 18-03  G  760.0            23  1  2  1
 2787 31 07/17 20-25  G 1064.0            23  1  2  1
 3597 31 07/18 12-57  G  932.0            23  1  2  1
 4460 31 07/20 06-35  G 1137.0            23  1  2  1
 4546 31 07/20 08-31  G  569.0            23  1  2  1
 4635 31 07/20 09-52  G  430.0            23  2  2  1
 4657 31 07/20 10-15  G  989.0            23  1  2  1
 4765 31 07/20 12-43  G  270.0            23  1  2  1
 4781 31 07/20 13-10  G 1426.0            23  1  2  1
 5897 31 07/21 09-40  G  641.0            23  1  2  1
 5914 31 07/21 09-56  G  500.0            23  1  2  1
 6119 31 07/21 13-50  G  529.0            23  1  2  1
 6121 31 07/21 13-51  G  541.0            23  2  2  1
 6123 31 07/21 13-55  G  500.0            23  1  2  1
 6127 31 07/21 13-57  G 1400.0            23  1  2  1
 6128 31 07/21 13-58  G  739.0            23  1  2  1

TOTAL TRANSACTIONS THIS REPORT    32     GALLONS ISSUED        .0     GALLONS RECIEVED    22722.0

REPORT COMPLETE
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NYCPD     TRANSACTION FILES     - BY TRANSAC. TYPE -     14-18    07/24/61    PAGE   4

SEQ # TP DATE  TIME                    41 - ACQUIRE VEHICLE

  1069 41 07/15 23-46 C570 V   13 M     1 F2--0 CD3984  MLIM250 GLIM69  ARD
  1077 41 07/15 23-51 C570 V   13 M     1 F2--0 CD3969  MLIM250 GLIM77  ARD
~~1091 41 07/16 00-04 C 52 V1612 M     1 F2--0 CD2562  MLIM250 GLIM91  BET~~
  1093 41 07/16 00-05 C114 V1243 M     1 F2--0 CD 892  MLIM250 GLIM93  ARD
  1097 41 07/16 00-05 C242 V8732 M     1 F2--0 CD3994  MLIM250 GLIM97  BIY
  1098 41 07/16 00-06 C242 V8755 M     1 F2--0 CD3989  MLIM250 GLIM98  YRD
  1100 41 07/16 00-06 C201 V8733 M     1 F2--0 CD3995  MLIM250 GLIM00  BIY
  1101 41 07/16 00-07 C341 V8736 M     1 F2--0 CD3996  MLIM250 GLIM01  YFX
~~1102 41 07/16 00-07 C215 V8738 M     1 F2--0 CD3997  MLIM250 GLIM02  YFX~~
  1103 41 07/16 00-08 C215 V8759 M     1 F2--0 CD3991  MLIM250 GLIM03  YRD
  1107 41 07/16 00-09 C568 V5110 M     1 F2--0 CD2749  MLIM250 GLIM07  YFF
  1155 41 07/16 00-55 C570 V   13 M     1 F2--0 CD 892  MLIM250 GLIM55  ARD
  1157 41 07/16 00-56 C570 V   13 M     1 F2--0 CD2749  MLIM250 GLIM57  ARD
  1159 41 07/16 00-56 C570 V   13 M     1 F2--0 CD2210  MLIM250 GLIM59  ARD
~~1161 41 07/16 00-56 C570 V   13 M     1 F2--0 CD3997  MLIM250 GLIM61  ARD~~
  1163 41 07/16 00-57 C570 V   13 M     1 F2--0 CD2748  MLIM250 GLIM63  ARD
  1165 41 07/16 00-57 C570 V   13 M     1 F2--0 CD3985  MLIM250 GLIM65  ARD
  1167 41 07/16 00-57 C570 V   13 M     1 F2--0 CD3998  MLIM250 GLIM67  ARD
~~1169 41 07/16 00-58 C570 V   13 M     1 F2--0 CD2747  MLIM250 GLIM69  ARD~~
  1172 41 07/16 00-58 C570 V   13 M     1 F2--0 CD3986  MLIM250 GLIM72  ARD
~~1174 41 07/16 00-59 C570 V   13 M     1 F2--0 CD4000  MLIM250 GLIM74  ARD~~
  1201 41 07/16 01-39 C570 V   13 M     1 F2--0 CD2482  MLIM250 GLIM01  ARD
~~1204 41 07/16 01-39 C570 V   13 M     1 F2--0 CD2753  MLIM250 GLIM04  ARD~~
  1206 41 07/16 01-39 C570 V   13 M     1 F2--0 CD3151  MLIM250 GLIM06  ARD
~~1208 41 07/16 01-40 C570 V   13 M     1 F2--0 CD2830  MLIM250 GLIM08  ARD~~
  1227 41 07/16 02-26 C570 V   13 M     1 F2--0 CD 286  MLIM250 GLIM27  ARD
~~1229 41 07/16 02-26 C570 V   13 M     1 F2--0 CD 629  MLIM250 GLIM29  ARD~~
  1231 41 07/16 02-27 C570 V   13 M     1 F2--0 CD3579  MLIM250 GLIM31  ARD
~~1233 41 07/16 02-27 C570 V   13 M     1 F2--0 CD3967  MLIM250 GLIM33  ARD~~
  1235 41 07/16 02-28 C570 V   13 M     1 F2--0 CD 308  MLIM250 GLIM35  ARD
~~2108 41 07/17 00-00 C570 V  839 M     1 F2--0 CD 668  MLIM250 GLIM08  ARD~~
  2117 41 07/17 00-02 C120 V1871 M     1 F2--0 CD1413  MLIM250 GLIM17  BET
~~2118 41 07/17 00-02 C157 V1540 M     1 F2--0 CD1410  MLIM250 GLIM18  BET~~
  2120 41 07/17 00-03 C158 V1295 M     1 F2--0 CD 916  MLIM250 GLIM20  BET
~~2121 41 07/17 00-03 C 78 V1854 M     1 F2--0 CD1412  MLIM250 GLIM21  BET~~
  2122 41 07/17 00-03 C366 V3456 M     1 F2--0 CD2794  MLIM250 GLIM22  LHD
~~2123 41 07/17 00-04 C 24 V1823 M     1 F2--0 CD1411  MLIM250 GLIM23  BET~~
  2124 41 07/17 00-04 C159 V1889 M     1 F2--0 CD1414  MLIM250 GLIM24  BET
~~2153 41 07/17 00-36 C570 V   13 M     1 F2--0 CD2476  MLIM250 GLIM53  ARD~~
  2155 41 07/17 00-36 C570 V   13 M     1 F2--0 CD3826  MLIM250 GLIM55  ARD
  3082 41 07/17 23-27 C114 V1414 M     1 F2--0 CD1000  MLIM250 GLIM82  BET
  3085 41 07/17 23-28 C 67 V9355 M     1 F2--0 CD4305  MLIM250 GLIM85  WTK
~~3093 41 07/17 23-42 C570 V   13 M     1 F2--0 CD1329  MLIM250 GLIM93  ARD~~
  3106 41 07/17 23-53 C570 V   13 M     1 F2--0 CD3831  MLIM250 GLIM06  ARD
~~3108 41 07/17 23-54 C570 V   13 M     1 F2--0 CD 760  MLIM250 GLIM08  ARD~~
  3151 41 07/18 01-14 C  1 V9198 M     1 F2--0 CD4004  MLIM250 GLIM51  WTK
~~5249 41 07/20 23-46 C 40 V1474 M     1 F2--0 CD 996  MLIM250 GLIM49  BET~~
  5250 41 07/20 23-47 C 44 V1786 M     1 F2--0 CD 982  MLIM250 GLIM50  BET
  5251 41 07/20 23-47 C 90 V1859 M     1 F2--0 CD 993  MLIM250 GLIM51  BET
  5253 41 07/20 23-47 C 14 V4308 M     1 F2--0 CD2746  MLIM250 GLIM53  BHH
~~5254 41 07/20 23-48 C 66 V1826 M     1 F2--0 CD 992  MLIM250 GLIM54  BET~~
  5255 41 07/20 23-48 C 83 V1878 M     1 F2--0 CD2755  MLIM250 GLIM55  BET
  5256 41 07/20 23-49 C 63 V1883 M     1 F2--0 CD2758    IM250 GLIM56  BET
  5257 41 07/20 23-49 C 94 V1960 M     1 F2--0 CD2768  MLIM250 GLIM57  BET
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NYCPD     TRANSACTION FILES     - BY TRANSAC. TYPE -     14-21     07/24/81     PAGE   1

SEQ # TP DATE  TIME                     43- PUT VEHICE ON LINE

  77 43 07/15 06-30        V1914              CD 1387                                   EQP ON-LINE
 481 43 07/15 13-14        V5505              CD 2751                                   EQP ON-LINE
 482 43 07/15 13-16        V5529              CD 2752                                   EQP ON-LINE
 530 43 07/15 14-09        V3879              CD 2797                                   EQP ON-LINE
 585 43 07/15 15-09        V9376              CD 4294                                   EQP ON-LINE
 797 43 07/15 17-29        V8303              CD 3634                                   EQP ON-LINE
 899 43 07/15 19-36        V 976              CD 2742                                   EQP ON-LINE
1190 43 07/16 01-18        V5110              CD 2830                                   EQP ON-LINE
1225 43 07/16 02-25        V8420              CD 3705                                   EQP ON-LINE
1308 43 07/16 07-19        V1488              CD 1890                                   EQP ON-LINE
1310 43 07/16 07-22        V2035              CD 1364                                   EQP ON-LINE
1311 43 07/16 07-23        V9350              CD 4300                                   EQP ON-LINE
1439 43 07/16 09-13        V2450              CD 1615                                   EQP ON-LINE
1441 43 07/16 09-15        V8238              CD 3528                                   EQP ON-LINE
1450 43 07/16 09-28        V9375              CD 4289                                   EQP ON-LINE
1621 43 07/16 11-51        V2981              CD 2773                                   EQP ON-LINE
1662 43 07/16 12-41        V1461              CD 1024                                   EQP ON-LINE
1697 43 07/16 13-27        V 536              CD 2743                                   EQP ON-LINE
1772 43 07/16 15-15        V2061              CD 1369                                   EQP ON-LINE
2377 43 07/17 08-54        V 269              CD  652                                   EQP ON-LINE
2483 43 07/17 10-25        V8703              CD 2779                                   EQP ON-LINE
2511 43 07/17 12-26        V9042              CD 3969                                   EQP ON-LINE
2850 43 07/17 17-22        V1612              CD 2562                                   EQP ON-LINE
4556 43 07/20 08-40        V 245              CD  656                                   EQP ON-LINE
4609 43 07/20 09-25        V1329              CD    4                                   EQP ON-LINE
4611 43 07/20 09-25        V1405              CD [illegible]                            EQP ON-LINE
4677 43 07/20 10-36        V8150              CD 3642                                   EQP ON-LINE
4755 43 07/20 12-30        V9352              CD 4301                                   EQP ON-LINE
4756 43 07/20 12-30        V9354              CD 4302                                   EQP ON-LINE
5889 43 07/21 09-35        V1414              CD 1000                                   EQP ON-LINE
5890 43 07/21 09-35        V2003              CD 1390                                   EQP ON-LINE
5985 43 07/21 11-03        V8567              CD 3737                                   EQP ON-LINE
6089 43 07/21 13-13        V8759              CD 3991                                   EQP ON-LINE
6092 43 07/21 13-13        V8738              CD 2786                                   EQP ON-LINE

TOTAL TRANSACTIONS THIS REPORT     34      GALLONS ISSUED       .0      GALLONS RECIEVED       .0

REPORT COMPLETE
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NYCPD      TRANSACTION FILES       - BY TRANSAC. TYPE -      14-22     07/24/61     PAGE   2
SEQ # TP DATE  TIME
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44- Put VEHICLE OFF LINE

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~~ 261 44 07/15 10-06     V1488            CD 1890                         EQP OFF-LINE~~
 1147 44 07/16 00-49     V1612            CD 2562                         EQP OFF-LINE
~~1148 44 07/16 00-49     V8759            CD 3991                         EQP OFF-LINE~~
 1149 44 07/16 00-52     V1243            CD  893                         EQP OFF-LINE
 1150 44 07/16 00-52     V5110            CD 2482                         EQP OFF-LINE
 1151 44 07/16 00-53     V8703            CD 2779                         EQP OFF-LINE
 1153 44 07/16 00-53     V8738            CD 2786                         EQP OFF-LINE
 1220 44 07/16 02-03     V8383            CD 3637                         EQP OFF-LINE
~~1221 44 07/16 02-05     V 245            CD  656                         EQP OFF-LINE~~
 1222 44 07/16 02-06     V9042            CD 3969                         EQP OFF-LINE
 1223 44 07/16 02-06     V 269            CD  652                         EQP OFF-LINE
 1580 44 07/16 10-59     V1873            CD 1275                         EQP OFF-LINE
 2104 44 07/16 23-59     V3197            CD 2021                         EQP OFF-LINE
 2110 44 07/17 00-00     V2025            CD 1344                         EQP OFF-LINE
~~2115 44 07/17 00-01     V6620            CD 3381                         EQP OFF-LINE~~
 2136 44 07/17 00-16     V1823            CD 1411                         EQP OFF-LINE
 2137 44 07/17 00-16     V1871            CD 1413                         EQP OFF-LINE
 2138 44 07/17 00-17     V3456            CD 2794                         EQP OFF-LINE
~~2157 44 07/17 00-37     V8150            CD 3642                         EQP OFF-LINE~~
 2158 44 07/17 00-37     V8567            CD 3737                         EQP OFF-LINE
~~3091 44 07/17 23-41     V2003            CD 1390                         EQP OFF-LINE~~
 3092 44 07/17 23-41     V1414            CD 1000                         EQP OFF-LINE
 3104 44 07/17 23-52     V1079            CD  763                         EQP OFF-LINE
 3105 44 07/17 23-52     V8572            CD 3842                         EQP OFF-LINE
~~5228 44 07/20 23-39     V8404            CD 3684                         EQP OFF-LINE~~
 5229 44 07/20 23-39     V5528            CD 3290                         EQP OFF-LINE
~~5230 44 07/20 23-39     V2016            CD 1338                         EQP OFF-LINE~~
 5232 44 07/20 23-40     V 286            CD  323                         EQP OFF-LINE
~~5234 44 07/20 23-41     V1293            CD  917                         EQP OFF-LINE~~
 5235 44 07/20 23-41     V1495            CD 1051                         EQP OFF-LINE
~~5236 44 07/20 23-41     V6799            CD 3383                         EQP OFF-LINE~~
 5238 44 07/20 23-42     V8015            CD 3464                         EQP OFF-LINE
~~5239 44 07/20 23-42     V8024            CD 3468                         EQP OFF-LINE~~
 5240 44 07/20 23-42     V8301            CD 3601                         EQP OFF-LINE
~~5241 44 07/20 23-42     V8369            CD 3655                         EQP OFF-LINE~~
 5242 44 07/20 23-43     V9867            CD 4350                         EQP OFF-LINE
~~5243 44 07/20 23-43     V9820            CD 4314                         EQP OFF-LINE~~

TOTAL TRANSACTIONS THIS REPORT       37        GALLONS ISSUED        .0      GALLONS RECIEVED         .0

REPORT COMPLETE
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NYCPD     TRANSACTION FILES      - BY TRANSAC. TYPE -     14-24    07/24/61    PAGE   3
SEQ # TP DATE  TIME                   45- CHANGE FIELD  VEHICLE FILE

 1095 45 07/16 00-05       V1468    8        075                                                  CH FLD-EQP FILE
 1104 45 07/16 00-08       V8703    8        544                                                  CH FLD-EQP FILE
 1106 45 07/16 00-08       V8451    8        153                                                  CH FLD-EQP FILE
 1302 45 07/16 07-15       V1214    8        114                                                  CH FLD-EQP FILE
 2116 45 07/17 00-02       V 189    8        551                                                  CH FLD-EQP FILE
 3083 45 07/17 23-27       V2003    8        114                                                  CH FLD-EQP FILE
 3084 45 07/17 23-28       V1244    8        079                                                  CH FLD-EQP FILE
 3086 45 07/17 23-29       V8627    8        112                                                  CH FLD-EQP FILE
 3141 45 07/18 01-10       V1382    8        006                                                  CH FLD-EQP FILE
 3143 45 07/18 01-10       V9112    8        153                                                  CH FLD-EQP FILE
 3144 45 07/18 01-11       V9419    8        153                                                  CH FLD-EQP FILE
 3145 45 07/18 01-11       V9613    8        153                                                  CH FLD-EQP FILE
 3146 45 07/18 01-11       V9896    8        153                                                  CH FLD-EQP FILE
 3147 45 07/18 01-11       V9897    8        153                                                  CH FLD-EQP FILE
 3150 45 07/18 01-13       V9898    8        153                                                  CH FLD-EQP FILE
 3152 45 07/18 01-17       V9384    8        153                                                  CH FLD-EQP FILE
 3153 45 07/18 01-17       V9637    8        153                                                  CH FLD-EQP FILE
 3155 45 07/18 01-18       V9947    8        010                                                  CH FLD-EQP FILE
 3156 45 07/18 01-18       V9947    0        10                                                   CH FLD-EQP FILE
 3157 45 07/18 01-19       V9947    0        02                                                   CH FLD-EQP FILE
 3158 45 07/18 01-19       V1950    0        23                                                   CH FLD-EQP FILE
 3159 45 07/18 01-19       V9945    0        02                                                   CH FLD-EQP FILE
 3160 45 07/18 01-21       V9473    8        153                                                  CH FLD-EQP FILE
 3161 45 07/18 01-21       V9615    8        153                                                  CH FLD-EQP FILE

TOTAL TRANSACTIONS THIS REPORT       24        GALLONS ISSUED          .0      GALLONS RECIEVED          .0

REPORT COMPLETE
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VTCPU     TRANSACTION FILES      - BY TRANSAC. TYPE -     09-03    03/12/81    PAGE   1
SEQ # TP DATE  TIM
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46- CHANCE ODOMETER READING

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5371 46 08/07 09-48      V  41 M 000001 OLD   141                              CH ODOM RDG

TOTAL TRANSACTIONS THIS REPORT      1        GALLONS ISSUED        .0      GALLONS RECIEVED        .0

REPORT COMPLETE
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NYCPD     TRANSACTION FILES   BY TRANSAC. TYPE -   14-42   07/24/81   PAGE  1
SEQ # TP DATE  TIME
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47 - NEW CARD NUMBER VEHICLE

```
 277 47 07/15 10-01     V1488   OLD 2146   NEW 1390                          NEW CD#-EQP
1068 47 07/15 23-45     V8753   OLD 3984   NEW 3990                          NEW CD#-EQP
1075 47 07/15 23-51     V8748   OLD 3969   NEW 3999                          NEW CD#-EQP
1123 47 07/16 00-24     V1243   OLD  892   NEW  893                          NEW CD#-EQP
1124 47 07/16 00-25     V5110   OLD 2749   NEW 2748                          NEW CD#-EQP
1125 47 07/16 00-25     V8703   OLD 2210   NEW 3985                          NEW CD#-EQP
1126 47 07/16 00-26     V8738   OLD 3997   NEW 3998                          NEW CD#-EQP
1130 47 07/16 00-32     V5110   OLD 2748   NEW 2747                          NEW CD#-EQP
1131 47 07/16 00-33     V8703   OLD 3985   NEW 3986                          NEW CD#-EQP
1132 47 07/16 00-34     V8738   OLD 3998   NEW 4000                          NEW CD#-EQP
1133 47 07/16 00-40     V5110   OLD 2747   NEW 2482                          NEW CD#-EQP
1134 47 07/16 00-41     V8703   OLD 3986   NEW 2779                          NEW CD#-EQP
1135 47 07/16 00-41     V8738   OLD 4000   NEW 2786                          NEW CD#-EQP
1183 47 07/16 01-18     V5110   OLD 2482   NEW 2830                          NEW CD#-EQP
1195 47 07/16 01-28     V5110   OLD 2830   NEW 3151                          NEW CD#-EQP
1197 47 07/16 01-32     V5110   OLD 3151   NEW 2753                          NEW CD#-EQP
1196 47 07/16 01-34     V5110   OLD 2753   NEW 1887                          NEW CD#-EQP
1211 47 07/16 01-52     V9042   OLD 3967   NEW 3969                          NEW CD#-EQP
1212 47 07/16 01-53     V8383   OLD 3579   NEW 3637                          NEW CD#-EQP
1213 47 07/16 01-54     V 269   OLD  308   NEW  652                          NEW CD#-EQP
1214 47 07/16 01-54     V 245   OLD  286   NEW  629                          NEW CD#-EQP
1218 47 07/16 01-58     V 245   OLD  629   NEW  656                          NEW CD#-EQP
2147 47 07/17 00-32     V8150   OLD 2476   NEW 3642                          NEW CD#-EQP
2149 47 07/17 00-32     V8567   OLD 3826   NEW 3737                          NEW CD#-EQP
3089 47 07/17 23-35     V2003   OLD 1329   NEW 1390                          NEW CD#-EQP
3093 47 07/17 23-47     V1079   OLD  760   NEW  763                          NEW CD#-EQP
3099 47 07/17 23-47     V8572   OLD 3831   NEW 3842                          NEW CD#-EQP
5264 47 07/20 23-58     V4308   OLD 2746   NEW 1471                          NEW CD#-EQP
5268 47 07/21 00-00     V4308   OLD 1471   NEW 1466                          NEW CD#-EQP
5318 47 07/21 01-13     V1689   OLD 1170   NEW  778                          NEW CD#-EQP
5319 47 07/21 01-13     V2477   OLD 2274   NEW 1627                          NEW CD#-EQP
5320 47 07/21 01-13     V3751   OLD 3033   NEW 2796                          NEW CD#-EQP
5321 47 07/21 01-14     V9117   OLD 4027   NEW 4424                          NEW CD#-EQP
5323 47 07/21 01-14     V9118   OLD 4028   NEW 4425                          NEW CD#-EQP
5324 47 07/21 01-14     V9120   OLD 4033   NEW 4426                          NEW CD#-EQP
5325 47 07/21 01-15     V9195   OLD 4009   NEW 4427                          NEW CD#-EQP
5326 47 07/21 01-15     V9196   OLD 4010   NEW 4428                          NEW CD#-EQP
5327 47 07/21 01-15     V9197   OLD 4011   NEW 4429                          NEW CD#-EQP
5328 47 07/21 01-15     V9199   OLD 4012   NEW 4431                          NEW CD#-EQP
5337 47 07/21 01-21     V9118   OLD 4425   NEW 4432                          NEW CD#-EQP
5338 47 07/21 01-21     V9197   OLD 4429   NEW 4433                          NEW CD#-EQP
5341 47 07/21 01-23     V9197   OLD 4433   NEW 4434                          NEW CD#-EQP
5342 47 07/21 01-25     V9197   OLD 4434   NEW 4436                          NEW CD#-EQP
5343 47 07/21 01-26     V9197   OLD 4436   NEW 4437                          NEW CD#-EQP
5344 47 07/21 01-27     V9197   OLD 4437   NEW 4438                          NEW CD#-EQP
5348 47 07/21 01-35     V2236   OLD 1469   NEW 1463                          NEW CD#-EQP
5349 47 07/21 01-35     V2557   OLD 1690   NEW 1686                          NEW CD#-EQP
5350 47 07/21 01-35     V3807   OLD 3054   NEW 2810                          NEW CD#-EQP
5351 47 07/21 01-36     V1559   OLD 2516   NEW 2847                          NEW CD#-EQP
5352 47 07/21 01-36     V 608   OLD 2579   NEW 2860                          NEW CD#-EQP
5359 47 07/21 01-44     V1116   OLD  791   NEW  804                          NEW CD#-EQP
5360 47 07/21 01-45     V2072   OLD 2153   NEW 1420                          NEW CD#-EQP
5361 47 07/21 01-45     V2282   OLD 2589   NEW 1462                          NEW CD#-EQP
5362 47 07/21 01-45     V3815   OLD 3056   NEW 2890                          NEW CD#-EQP
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[illegible] --- TRANSACTION FILES ----- BY TRANSAC. TYPE --- 14-45   07/26/61   PAGE  1
SEQ # TP DATE  TIME                 49- DELETE VEHICLE

  356 49 07/15 11-00        V 715             CD 3302                                      DELETE VEH
 1070 49 07/15 23-46        V 715             CD 3984                                      DELETE VEH
 1078 49 07/15 23-51        V 715             CD 3969                                      DELETE VEH
 1156 49 07/16 00-55        V 716             CD  892                                      DELETE VEH
 1158 49 07/16 00-56        V 716             CD 2749                                      DELETE VEH
 1160 49 07/16 00-56        V 716             CD 2210                                      DELETE VEH
 1162 49 07/16 00-56        V 716             CD 3997                                      DELETE VEH
 1164 49 07/16 00-57        V 716             CD 2748                                      DELETE VEH
 1166 49 07/16 00-57        V 716             CD 3985                                      DELETE VEH
 1168 49 07/16 00-58        V 716             CD 3998                                      DELETE VEH
 1170 49 07/16 00-58        V 716             CD 2747                                      DELETE VEH
 1173 49 07/16 00-58        V 716             CD 3986                                      DELETE VEH
 1175 49 07/16 00-59        V 716             CD 4000                                      DELETE VEH
 1202 49 07/16 01-39        V 716             CD 2482                                      DELETE VEH
 1205 49 07/16 01-39        V 716             CD 2753                                      DELETE VEH
 1207 49 07/16 01-40        V 716             CD 3151                                      DELETE VEH
 1209 49 07/16 01-40        V 716             CD 2830                                      DELETE VEH
 1226 49 07/16 02-25        V 716             CD 3705                                      DELETE VEH
 1228 49 07/16 02-26        V 716             CD  286                                      DELETE VEH
 1230 49 07/16 02-27        V 716             CD  629                                      DELETE VEH
 1232 49 07/16 02-27        V 716             CD 3579                                      DELETE VEH
 1234 49 07/16 02-28        V 716             CD 3967                                      DELETE VEH
 1236 49 07/16 02-28        V 716             CD  308                                      DELETE VEH
 1303 49 07/16 07-15        V 716             CD  893                                      DELETE VEH
 1678 49 07/16 13-01        V 716             CD 3419                                      DELETE VEH
 2105 49 07/16 00-00        V 717             CD  668                                      DELETE VEH
 2109 49 07/17 00-00        V 717             CD  668                                      DELETE VEH
 2111 49 07/17 00-00        V 717             CD  332                                      DELETE VEH
 2113 49 07/17 00-01        V 717             CD 1842                                      DELETE VEH
 2114 49 07/17 00-01        V 717             CD 3400                                      DELETE VEH
 2154 49 07/17 00-36        V 717             CD 2476                                      DELETE VEH
 2156 49 07/17 00-36        V 717             CD 3826                                      DELETE VEH
 3094 49 07/17 23-42        V 717             CD 1329                                      DELETE VEH
 3107 49 07/17 23-53        V 717             CD 3831                                      DELETE VEH
 3109 49 07/17 23-54        V 717             CD  760                                      DELETE VEH
 5231 49 07/20 23-40        V 720             CD  240                                      DELETE VEH
 5233 49 07/20 23-40        V 720             CD  478                                      DELETE VEH
 5246 49 07/20 23-45        V 720             CD 3024                                      DELETE VEH
 5247 49 07/20 23-46        V 720             CD 4078                                      DELETE VEH
 5266 49 07/20 23-58        V 720             CD 2746                                      DELETE VEH
 5271 49 07/21 00-01        V 721             CD 1471                                      DELETE VEH
 5298 49 07/21 00-38        V 721             CD 2021                                      DELETE VEH
 5299 49 07/21 00-38        V 721             CD 1344                                      DELETE VEH
 5300 49 07/21 00-38        V 721             CD 1804                                      DELETE VEH
 5301 49 07/21 00-39        V 721             CD 3290                                      DELETE VEH
 5303 49 07/21 00-39        V 721             CD  323                                      DELETE VEH
 5304 49 07/21 00-39        V 721             CD 3383                                      DELETE VEH
 5305 49 07/21 00-39        V 721             CD  151                                      DELETE VEH
 5306 49 07/21 00-39        V 721             CD 1805                                      DELETE VEH
 5506 49 07/21 03-56        V 721             CD  869                                      DELETE VEH
 5508 49 07/21 03-57        V 721             CD  925                                      DELETE VEH
 [illegible] 49 07/21 03-57 V 721             CD 1305                                      DELETE VEH
 5535 49 07/21 05-44        V 721             CD 1049                                      DELETE VEH
 5537 49 07/21 05-45        V 721             CD 3725                                      DELETE VEH
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SYLPG   TRANSACTION FILES   - BY TRANSAC. TYPE -   11-40   01/27/61   PAGE  1
SEQ # TP DATE  TIME          53- PUT PUMP, TANK, TERMINAL, LINE, MASTERCARD ON LINE

     437 53 07/15 12-18                                 T45  LN5                   TERM ON-LINE
     523 53 07/15 13-58   PVF151                                                   PVF ON-LINE
     528 53 07/15 14-04   PVF251                                                   PVF ON-LINE
     595 53 07/15 15-21                 S 48 T1                                    TANK.PUMPS ON
     597 53 07/15 15-22                                 T15  LN2                   TERM ON-LINE
    1027 53 07/15 22-06                                 T37  LN4                   TERM ON-LINE
    1031 53 07/15 22-11                                 T37  LN4                   TERM ON-LINE
    1057 53 07/15 23-09                                 T37  LN4                   TERM ON-LINE
    1704 53 07/16 13-37                                 T24  LN3                   TERM ON-LINE
    1711 53 07/16 13-42                                 T24  LN3                   TERM ON-LINE
    1962 53 07/16 18-33                                 T48  LN5                   TERM ON-LINE
    2208 53 07/17 06-19                                 T37  LN4                   TERM ON-LINE
    2214 53 07/17 06-33                                 T48  LN5                   TERM ON-LINE
    2223 53 07/17 06-48                                 T48  LN5                   TERM ON-LINE
    2231 53 07/17 06-54                                 T48  LN5                   TERM ON-LINE
    2250 53 07/17 07-29                                 T01  LN1                   TERM ON-LINE
    2251 53 07/17 07-30                                 T03  LN1                   TERM ON-LINE
    2252 53 07/17 07-30                                 T03  LN1                   TERM ON-LINE
    2253 53 07/17 07-30                                 T04  LN1                   TERM ON-LINE
    2260 53 07/17 07-48                                 T01  LN1                   TERM ON-LINE
    2345 53 07/17 08-36                                 T01  LN1                   TERM ON-LINE
    2349 53 07/17 08-37                                 T01  LN1                   TERM ON-LINE
    2350 53 07/17 08-38                                      LN1                   TEL LINE ON
    2351 53 07/17 08-38                                 T02  LN1                   TERM ON-LINE
    2352 53 07/17 08-38                                      LN1                   TEL LINE ON
    2353 53 07/17 08-38                                 T03  LN1                   TERM ON-LINE
    2354 53 07/17 08-39                                 T04  LN1                   TERM ON-LINE
    2357 53 07/17 08-39                                 T01  LN1                   TERM ON-LINE
    2359 53 07/17 08-41                                 T01  LN1                   TERM ON-LINE
    2410 53 07/17 09-28                                 T36  LN4                   TERM ON-LINE
    2791 53 07/17 16-18                                 T45  LN5                   TERM ON-LINE
    2843 53 07/17 17-10            MC156                                           M-CAD ON-LINE
    2873 53 07/17 17-50                                 T38  LN4                   TERM ON-LINE
    3056 53 07/17 22-45                                 T37  LN4                   TERM ON-LINE
    3057 53 07/17 22-46                                 T37  LN4                   TERM ON-LINE
    3058 53 07/17 22-47                                 T37  LN4                   TERM ON-LINE
    3059 53 07/17 22-48                                 T37  LN4                   TERM ON-LINE
    3060 53 07/17 22-48                                 T37  LN4                   TERM ON-LINE
    3061 53 07/17 22-49                                 T37  LN4                   TERM ON-LINE
    3062 53 07/17 22-50                                 T37  LN4                   TERM ON-LINE
    3063 53 07/17 22-50                                 T37  LN4                   TERM ON-LINE
    3065 53 07/17 22-51                                 T37  LN4                   TERM ON-LINE
    3067 53 07/17 22-52                                 T37  LN4                   TERM ON-LINE
    3066 53 07/17 22-52                                 T37  LN4                   TERM ON-LINE
    3071 53 07/17 22-58                                 T37  LN4                   TERM ON-LINE
    3166 53 07/18 01-30                 S 20 T1     P1                             PUMP ON-LINE
    3167 53 07/18 01-31                 S 20 T1     P1                             PUMP ON-LINE
    3168 53 07/18 01-31                 S 20 T1                                    TANK.PUMPS ON
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~~NYC-D    TRANSACTION FILES    BY TRANSAC. TYPE    11-40    07/27/81    PAGE  1~~
SEQ # TP DATE  TIME              54-  Put: PUMP, TANK, TERMINAL, LINE, MASTER CARD OFFLINE

  521 54 07/15 13-57    PVF 51                                                   PVF OFF-LINE
~~527 54 07/15 14-04    PVF151                                                   PVF OFF-LINE~~
  576 54 07/15 15-22                                      T15  LN2               TERM OFF-LINE
  653 54 07/15 15-56            MC158                                            M-CRD OFF-LINE
 1640 54 07/16 12-07                      S 20 T1                                TANK,PUMPS OFF
 1693 54 07/16 13-18                      S 42 T1                                TANK,PUMPS OFF
 1703 54 07/16 13-36                                      T24  LN3               TERM OFF-LINE
~~1710 54 07/16 13-42                                     T24  LN3               TERM OFF-LINE~~
 1746 54 07/16 14-41                                           LN7               TEL LINE OFF
 1961 54 07/16 18-33                                      T48  LN5               TERM OFF-LINE
 2213 54 07/17 06-33                                      T48  LN5               TERM OFF-LINE
 2222 54 07/17 06-47                                      T48  LN5               TERM OFF-LINE
 2229 54 07/17 06-54                                      T48  LN5               TERM OFF-LINE
~~2409 54 07/17 09-28                                     T36  LN4               TERM OFF-LINE~~
 2447 54 07/17 09-56                      S 11 T1                                TANK,PUMPS OFF
 2842 54 07/17 17-10            MC 56                                            M-CRD OFF-LINE
 2871 54 07/17 17-50                                      T38  LN4               TERM OFF-LINE
 3070 54 07/17 22-58                                      T37  LN4               TERM OFF-LINE
 3173 54 07/18 01-39                      S 20 T1    P1                          PUMP OFF-LINE
~~3174 54 07/18 01-39                     S 20 T1                                TANK,PUMPS OFF~~
 3488 54 07/18 10-10                                      T24  LN3               TERM OFF-LINE
 3492 54 07/18 10-11                                      T24  LN3               TERM OFF-LINE
 3502 54 07/18 10-20                                      T24  LN3               TERM OFF-LINE
 3530 54 07/18 11-10                                      T24  LN3               TERM OFF-LINE
 3551 54 07/18 11-58                                           LN3               TEL LINE OFF
~~3553 54 07/18 12-00                                     T24  LN3               TERM OFF-LINE~~
 3560 54 07/18 12-15                                      T24  LN3               TERM OFF-LINE
 3563 54 07/18 12-19                                      T24  LN3               TERM OFF-LINE
 3625 54 07/18 14-23                                      T24  LN3               TERM OFF-LINE
 4015 54 07/19 08-02                                      T04  LN1               TERM OFF-LINE
 4092 54 07/19 10-15    PVF 54                                                   PVF OFF-LINE
~~4096 54 07/19 10-24   PVF 54                                                   PVF OFF-LINE~~
 4144 54 07/19 12-17    PVF 54                                                   PVF OFF-LINE
 4145 54 07/19 12-17    PVF 56                                                   PVF OFF-LINE
 4490 54 07/20 07-45                                      T48  LN5               TERM OFF-LINE
 4701 54 07/20 11-03            MC152                                            M-CRD OFF-LINE
 4905 54 07/20 15-58                                      T45  LN5               TERM OFF-LINE
~~5120 54 07/20 19-43                                     T93  LN0               TERM OFF-LINE~~
 5123 54 07/20 19-44                      S 20 T1                                TANK,PUMPS OFF
 5132 54 07/20 19-48                                      T45  LN5               TERM OFF-LINE
 5225 54 07/20 23-31                                      T93  LN0               TERM OFF-LINE
 5732 54 07/21 06-38                      S 20 T1                                TANK,PUMPS OFF
 6013 54 07/21 11-34                                      T37  LN4               TERM OFF-LINE
~~6103 56 07/21 13-34                                     T37  LN4               TERM OFF-LINE~~
 6207 54 07/21 15-33                                      T94  LN0               TERM OFF-LINE
 6268 54 07/21 16-04                                      T14  LN2               TERM OFF-LINE
 6439 54 07/21 18-55                                      T04  LN1               TERM OFF-LINE
 6608 54 07/21 22-50                      S 43 T1                                TANK,PUMPS OFF

TOTAL TRANSACTIONS THIS REPORT      48        GALLONS ISSUED        .0      GALLONS RECIEVED        .0

REPORT COMPLETE
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HYCPU     TRANSACTION FILES     - BY TRANSAC. TYPE -     11-50 , 07/27/61     PAGE  3
SEQ # TP DATE  TIME                 55 - CHANGE FIELD IN TANK/PUMP FILE

   477 55 07/15 13-10  G00100.0            S120 T1                                        NEW CUT-OFF PT
   483 55 07/15 13-15  G00200.0            S122 T1                                        NEW CUT-OFF PT
   489 55 07/15 13-21  G00050.0            S123 T1                                        NEW CUT-OFF PT
   496 55 07/15 13-30  G00200.0            S 43 T1                                        NEW CUT-OFF PT
   498 55 07/15 13-34  G00200.0            S 45 T1                                        NEW CUT-OFF PT
   500 55 07/15 13-36  G00100.0            S 46 T1                                        NEW CUT-OFF PT
   501 55 07/15 13-37  G00200.0            S 47 T1                                        NEW CUT-OFF PT
   502 55 07/15 13-38  G00200.0            S 48 T1                                        NEW CUT-OFF PT
   504 55 07/15 13-41  G00200.0            S 50 T1                                        NEW CUT-OFF PT
   507 55 07/15 13-43  G00200.0            S  2 T1                                        NEW CUT-OFF PT
  1692 55 07/16 13-17  G00100.0            S 42 T1                                        NEW CUT-OFF PT
  1712 55 07/16 13-45  G00100.0            S 32 T1                                        NEW CUT-OFF PT
  1715 55 07/16 13-49  G00200.0            S 30 T1                                        NEW CUT-OFF PT
  1719 55 07/16 13-54  G00200.0            S 42 T1                                        NEW RE-ORDER PT
  1724 55 07/16 14-01  G00200.0            S 26 T1                                        NEW CUT-OFF PT
  1727 55 07/16 14-03  G00200.0            S 28 T1                                        NEW CUT-OFF PT
  1729 55 07/16 14-05  G00200.0            S 20 T1                                        NEW CUT-OFF PT
  2210 55 07/17 06-29  G00050.0            S 94 T1                                        NEW CUT-OFF PT
  2211 55 07/17 06-30  G00200.0            S 94 T1                                        NEW RE-ORDER PT
  2219 55 07/17 06-45  G00200.0            S104 T1                                        NEW RE-ORDER PT
  2221 55 07/17 06-46  G00500.0            S104 T1                                        NEW RE-ORDER PT
  2273 55 07/17 07-53  G00100.0            S 11 T1                                        NEW CUT-OFF PT
  2274 55 07/17 07-54  G00100.0            S 11 T2                                        NEW CUT-OFF PT
  2277 55 07/17 07-57  G00200.0            S 11 T1                                        NEW RE-ORDER PT
  2279 55 07/17 07-58  G00200.0            S 11 T2                                        NEW RE-ORDER PT
  2334 55 07/17 08-28  G01010.0            S106 T1                                        NEW TANK CAPAC
  2335 55 07/17 08-29  G00100.0            S106 T1                                        NEW CUT-OFF PT
  2339 55 07/17 08-30  G00200.0            S106 T1                                        NEW RE-ORDER PT
  2380 55 07/17 08-56  G00200.0            S 23 T1                                        NEW CUT-OFF PT
  2381 55 07/17 08-57  G00500.0            S 23 T1                                        NEW RE-ORDER PT
  2391 55 07/17 09-05  G00200.0            S 25 T1                                        NEW CUT-OFF PT
  2392 55 07/17 09-06  G00200.0            S 23 T1                                        NEW RE-ORDER PT
  2396 55 07/17 09-07  G00500.0            S 25 T1                                        NEW RE-ORDER PT
  2397 55 07/17 09-07  G00500.0            S 23 T1                                        NEW RE-ORDER PT
  2661 55 07/17 13-51  G00100.0            S  5 T1                                        NEW CUT-OFF PT
  2663 55 07/17 13-51  G00200.0            S  5 T1                                        NEW RE-ORDER PT
  2666 55 07/17 13-54  G00100.0            S110 T1                                        NEW CUT-OFF PT
  2668 55 07/17 13-55  G00100.0            S110 T1                                        NEW RE-ORDER PT
  2669 55 07/17 13-56  G00200.0            S110 T1                                        NEW RE-ORDER PT
  2675 55 07/17 14-07  G00200.0            S112 T1                                        NEW CUT-OFF PT
  2677 55 07/17 14-09  G00200.0            S114 T1                                        NEW CUT-OFF PT
  2678 55 07/17 14-11  G00500.0            S114 T1                                        NEW RE-ORDER PT
  2681 55 07/17 14-17  G00575.0            S  2 T2                                        NEW TANK CAPAC

TOTAL TRANSACTIONS THIS REPORT      43      GALLONS ISSUED       .0      GALLONS RECIEVED       .0

REPORT COMPLETE
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NYCPD     TRANSACTION FILES     - BY TRANSAC. TYPE -     07-42     07/28/61     PAGE   1
SEQ # TP DATE  TIME                     61 - Acquire OPERATOR

  135 61 07/15 08-01          CD27529   NAME  ,J,NFOGART    OC569 SS 57-28-0051
  396 61 07/15 11-33          CD30237   NAME  ,F,NMALIN     OC201 SS104-32-8666
  397 61 07/15 11-33          CD30236   NAME  ,F,NJOHNSU    OC201 SS106-30-7348
  537 61 07/15 14-20          CD12113   NAME  ,S,NCLAUDI    OC509 SS121-38-3768
  852 61 07/15 18-48          CD27685   NAME  ,W,NJACOBS    OC122 SS125-34-5634
  937 61 07/15 20-27          CD30304   NAME  ,J,NKENNY     OC 18 SS130-32-7966
 1590 61 07/16 11-08          CD30361   NAME  ,J,NSCHRY     OC220 SS120-32-1229
 1616 61 07/16 11-42          CD30362   NAME  ,D,NDERGOU    OC222 SS216-40-5294
 1620 61 07/16 11-45          CD30363   NAME  ,M,NRUSENT    OC222 SS125-30-8669
 2289 61 07/17 08-05          CD    14  NAME  ,A,NTEST C    OC999 SS999-99-9999
 2600 61 07/17 12-19          CD30238   NAME  ,A,NJUDGE     OC490 SS248-44-9453
 3570 61 07/18 12-28          CD30375   NAME  ,J,NYORE      OC 30 SS 16-30-3348
 3571 61 07/18 12-29          CD30376   NAME  ,V,NAPREA     OC 30 SS133-40-5703
 3572 61 07/18 12-30          CD30377   NAME S,J,NFITZGI    OC 30 SS124-28-3183
 3574 61 07/18 12-31          CD30378   NAME  ,G,NHAICHE    OC 30 SS115-22-5746
 3575 61 07/18 12-35          CD30379   NAME  ,R,NLITWEN    OC 30 SS148-38-1161
 3576 61 07/18 12-35          CD30380   NAME  ,T,NMULLAN    OC 30 SS 77-30-9475
 3577 61 07/18 12-36          CD30381   NAME  ,A,NMULLIN    OC 30 SS132-16-3027
 3578 61 07/18 12-36          CD30382   NAME  ,W,NNOLAN     OC 30 SS129-38-7748
 3579 61 07/18 12-37          CD30383   NAME  ,L,NPLEVA     OC 30 SS100-32-2001
 3581 61 07/18 12-38          CD30384   NAME  ,J,NPOLCHI    OC 30 SS 60-40-0201
 3582 61 07/18 12-38          CD30385   NAME  ,R,NREHPEN    OC 30 SS 92-44-3885
 3583 61 07/18 12-39          CD30386   NAME  ,J,NREZNIC    OC 30 SS 77-42-2119
 3584 61 07/18 12-40          CD30387   NAME  ,M,NTURPIN    OC 30 SS132-34-7927
 3585 61 07/18 12-40          CD30388   NAME  ,V,NLUCCA     OC 30 SS 91-40-6882
 3587 61 07/18 12-41          CD30389   NAME  ,N,NCORTEZ    OC 30 SS106-48-3306
 3589 61 07/18 12-42          CD30390   NAME  ,R,NGARAYU    OC 30 SS107-40-2029
 3590 61 07/18 12-44          CD30391   NAME  ,M,NVELEZ     OC 30 SS107-48-7580
 3591 61 07/18 12-44          CD30392   NAME  ,J,NFUNK      OC 30 SS 69-54-5326
 3592 61 07/18 12-44          CD30393   NAME  ,F,NHOPKIN    OC 30 SS102-44-6042
 3594 61 07/18 12-46          CD30394   NAME  ,T,NKELLY     OC 30 SS 77-56-4993
 3595 61 07/18 12-46          CD30395   NAME  ,C,NPATTER    OC 30 SS236-86-5752
 3595 61 07/18 12-48          CD30401   NAME  ,A,NSORREN    OC 30 SS108-22-0890
 3614 61 07/18 14-03          CD30402   NAME  ,W,NANKENB    OC107 SS111-18-4105
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NYCPD      TRANSACTION FILES      - BY TRANSAC. TYPE -      07-46     07/28/61     PAGE   2
SEQ # TP DATE  TIME                63 -OPER. ONLINE

  285 63 07/15 10-09                  CD29954                               SS 80-30-2175  OPR ON-LINE
  288 63 07/15 10-11                  CD29950                               SS 53-30-6557  OPR ON-LINE
  339 63 07/15 10-47                  CD29813                               SS 89-30-2042  OPR ON-LINE
  508 63 07/15 13-44                  CD16242                               SS 75-32-9551  OPR ON-LINE
  509 63 07/15 13-45                  CD17741                               SS 55-36-5050  OPR ON-LINE
  510 63 07/15 13-46                  CD29818                               SS 53-30-6345  OPR ON-LINE
  511 63 07/15 13-46                  CD29817                               SS107-30-8905  OPR ON-LINE
  512 63 07/15 13-47                  CD15850                               SS102-32-3475  OPR ON-LINE
  513 63 07/15 13-48                  CD17211                               SS 63-32-6684  OPR ON-LINE
  514 63 07/15 13-48                  CD29636                               SS265-26-1579  OPR ON-LINE
  515 63 07/15 13-49                  CD10298                               SS 61-34-7573  OPR ON-LINE
  517 63 07/15 13-49                  CD29764                               SS142-48-1645  OPR ON-LINE
  546 63 07/15 14-33                  CD25409                               SS109-34-7162  OPR ON-LINE
  584 63 07/15 15-08                  CD29738                               SS 83-20-6097  OPR ON-LINE
 1373 63 07/16 08-23                  CD29686                               SS 72-22-3106  OPR ON-LINE
 1385 63 07/16 08-35                  CD25011                               SS118-32-5369  OPR ON-LINE
 1512 63 07/16 10-13                  CD28067                               SS 90-38-2107  OPR ON-LINE
 1523 63 07/16 10-20                  CD20335                               SS 71-30-7411  OPR ON-LINE
 1527 63 07/16 10-21                  CD20960                               SS113-52-1978  OPR ON-LINE
 1553 63 07/16 10-46                  CD29750                               SS110-28-7933  OPR ON-LINE
 1554 63 07/16 10-47                  CD29749                               SS 71-36-8987  OPR ON-LINE
 1556 63 07/16 10-47                  CD29753                               SS133-42-3765  OPR ON-LINE
 1558 63 07/16 10-48                  CD29754                               SS 92-42-4672  OPR ON-LINE
 1559 63 07/16 10-49                  CD29755                               SS 72-46-7322  OPR ON-LINE
 1560 63 07/16 10-49                  CD29756                               SS 79-48-1780  OPR ON-LINE
 1561 63 07/16 10-50                  CD29757                               SS124-48-3586  OPR ON-LINE
 1562 63 07/16 10-51                  CD29762                               SS 89-42-5265  OPR ON-LINE
 1563 63 07/16 10-52                  CD29763                               SS 61-30-8219  OPR ON-LINE
 1569 63 07/16 10-53                  CD29765                               SS133-44-3392  OPR ON-LINE
 1570 63 07/16 10-53                  CD29766                               SS124-38-2946  OPR ON-LINE
 1571 63 07/16 10-54                  CD29767                               SS 50-36-2572  OPR ON-LINE
 1573 63 07/16 10-55                  CD29768                               SS 90-38-2778  OPR ON-LINE
 1574 63 07/16 10-55                  CD29769                               SS 71-36-8894  OPR ON-LINE
 1577 63 07/16 10-56                  CD29761                               SS104-44-6878  OPR ON-LINE
 1714 63 07/16 13-47                  CD24215                               SS 85-32-3227  OPR ON-LINE
 1790 63 07/16 15-37                  CD29669                               SS 81-46-5484  OPR ON-LINE
 1793 63 07/16 15-38                  CD29673                               SS 95-42-9984  OPR ON-LINE
 2456 63 07/17 10-03                  CD15218                               SS122-36-3130  OPR ON-LINE
 2005 63 07/17 12-22                  CD11275                               SS101-38-2806  OPR ON-LINE
 2006 63 07/17 12-23                  CD27685                               SS125-34-5634  OPR ON-LINE
 2074 63 07/17 14-03                  CD18688                               SS129-36-3022  OPR ON-LINE
 4528 63 07/20 08-13                  CD12113                               SS121-38-3768  OPR ON-LINE
 4741 63 07/20 12-19                  CD29772                               SS 94-46-9650  OPR ON-LINE
 4743 63 07/20 12-21                  CD29773                               SS 62-46-8114  OPR ON-LINE
 4744 63 07/20 12-22                  CD29774                               SS 75-44-7178  OPR ON-LINE
 4746 63 07/20 12-22                  CD29775                               SS 54-48-3508  OPR ON-LINE
 4748 63 07/20 12-23                  CD29776                               SS 58-46-7972  OPR ON-LINE
 4750 63 07/20 12-24                  CD29777                               SS 92-42-0484  OPR ON-LINE
 4752 63 07/20 12-24                  CD29778                               SS 94-44-9550  OPR ON-LINE
 5716 63 07/21 09-58                  CD30416                               SS 90-46-1264  OPR ON-LINE
 5719 63 07/21 09-59                  CD30415                               SS111-46-6114  OPR ON-LINE
 5992 63 07/21 11-11                  CD30405                               SS120-48-6665  OPR ON-LINE
 5993 63 07/21 11-12                  CD30406                               SS 68-44-9187  OPR ON-LINE
 5994 63 07/21 11-12                  CD30407                               SS 51-32-7141  OPR ON-LINE
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NYCPD    TRANSACTION FILES    - BY TRANSAC. TYPE -    08-15    07/28/61    PAGE  1
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64 - OPER OFF-LINE

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SEQ # TP DATE  TIME

 110 64 07/15 07-36                  CD10596                     SS 69-28-9081  OPR OFF-LINE
 124 64 07/15 07-50                  CD11387                     SS 70-28-5137  OPR OFF-LINE
 126 64 07/15 07-52                  CD15818                     SS 72-28-6371  OPR OFF-LINE
 180 64 07/15 08-40                  CD28161                     SS 54-20-8175  OPR OFF-LINE
 305 64 07/15 10-28                  CD27520                     SS 69-36-0576  OPR OFF-LINE
 325 64 07/15 10-38                  CD15511                     SS 55-42-8068  OPR OFF-LINE
 325 64 07/15 10-40                  CD21404                     SS 59-32-0978  OPR OFF-LINE
 333 64 07/15 10-44                  CD27882                     SS 60-34-3285  OPR OFF-LINE
 406 64 07/15 11-44                  CD18520                     SS104-42-5742  OPR OFF-LINE
 445 64 07/15 12-30                  CD18562                     SS 79-48-5361  OPR OFF-LINE
 540 64 07/15 14-23                  CD12113                     SS121-38-3768  OPR OFF-LINE
 835 64 07/15 18-31                  CD13021                     SS119-34-1494  OPR OFF-LINE
 836 64 07/15 18-31                  CD13217                     SS109-38-4324  OPR OFF-LINE
 851 64 07/15 18-48                  CD11275                     SS101-38-2806  OPR OFF-LINE
 853 64 07/15 18-49                  CD27685                     SS125-34-5636  OPR OFF-LINE
1336 64 07/16 08-00                  CD13987                     SS 54-40-9574  OPR OFF-LINE
1344 64 07/16 08-03                  CD30360                     SS 54-40-9574  OPR OFF-LINE
1402 64 07/16 08-45                  CD20690                     SS133-26-2166  OPR OFF-LINE
1422 64 07/16 08-57                  CD18154                     SS 58-32-9655  OPR OFF-LINE
1436 64 07/16 09-11                  CD16402                     SS131-32-1847  OPR OFF-LINE
2603 64 07/17 12-20                  CD30238                     SS248-44-9453  OPR OFF-LINE
3002 64 07/17 20-55                  CD14602                     SS 69-36-1948  OPR OFF-LINE
3515 64 07/18 14-54                  CD30402                     SS111-18-4105  OPR OFF-LINE
3689 64 07/19 00-22                  CD30405                     SS120-48-6665  OPR OFF-LINE
3691 64 07/19 00-23                  CD30406                     SS 68-44-9187  OPR OFF-LINE
3693 64 07/19 00-23                  CD30407                     SS 51-32-7141  OPR OFF-LINE
3695 64 07/19 00-24                  CD30409                     SS100-54-7809  OPR OFF-LINE
3697 64 07/19 00-25                  CD30410                     SS 53-48-0874  OPR OFF-LINE
3698 64 07/19 00-26                  CD30411                     SS 84-54-8711  OPR OFF-LINE
3699 64 07/19 00-26                  CD30413                     SS106-46-1862  OPR OFF-LINE
3700 64 07/19 00-27                  CD30414                     SS 80-38-1112  OPR OFF-LINE
3769 64 07/19 05-24                  CD30410                     SS 92-44-0063  OPR OFF-LINE
3770 64 07/19 05-24                  CD30415                     SS111-46-6114  OPR OFF-LINE
3771 64 07/19 06-25                  CD30416                     SS 90-46-1264  OPR OFF-LINE
3772 64 07/19 06-25                  CD30417                     SS 91-52-8960  OPR OFF-LINE
3773 64 07/19 06-26                  CD30418                     SS 63-56-7568  OPR OFF-LINE
3774 64 07/19 06-26                  CD30420                     SS131-40-0407  OPR OFF-LINE
3775 64 07/19 06-27                  CD27820                     SS119-42-9107  OPR OFF-LINE
4188 64 07/19 14-27                  CD15850                     SS103-46-6348  OPR OFF-LINE
4190 64 07/19 14-29                  CD17211                     SS 63-42-5779  OPR OFF-LINE
4192 64 07/19 14-30                  CD17741                     SS116-44-1634  OPR OFF-LINE
4195 64 07/19 14-31                  CD21404                     SS119-50-8520  OPR OFF-LINE
4197 64 07/19 14-33                  CD29817                     SS 63-44-9606  OPR OFF-LINE
4199 64 07/19 14-34                  CD29818                     SS118-44-1051  OPR OFF-LINE
4202 64 07/19 14-35                  CD30421                     SS 63-44-8155  OPR OFF-LINE
4499 64 07/20 07-52                  CD14540                     SS 69-36-1948  OPR OFF-LINE
4577 64 07/20 08-58                  CD30422                     SS 53-50-0865  OPR OFF-LINE
4578 64 07/20 08-58                  CD30423                     SS 92-56-7508  OPR OFF-LINE
4579 64 07/20 08-59                  CD30424                     SS126-44-7693  OPR OFF-LINE
4580 64 07/20 08-59                  CD30425                     SS 95-52-1095  OPR OFF-LINE
4581 64 07/20 08-59                  CD30426                     SS112-38-1732  OPR OFF-LINE
4582 64 07/20 09-00                  CD30427                     SS127-28-3714  OPR OFF-LINE
4583 64 07/20 09-00                  CD30428                     SS112-38-1732  OPR OFF-LINE
4602 64 07/20 09-18                  CD30429                     SS131-38-3495  OPR OFF-LINE
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NYCPO      TRANSACTION FILES      - BY TRANSAC. TYPE -      07-48     07/28/61     PAGE    4
SEQ # TP DATE  TIME
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65 - CHANGE FIELD IN OPER FILE

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 116 65 07/15 07-44                       CD18265 NEW SS 62-24-8267           SS 62-34-8267  CH SS #
 156 65 07/15 08-15                       CD17131                       OC165 SS 69-30-5054  CH OPR CMND
 157 65 07/15 08-17                       CD17454                       OC 71 SS202-28-2965  CH OPR CMND
 158 65 07/15 08-17                       CD17454                NEW PVF-NO   SS202-28-2965  CH PVF STATUS
 297 65 07/15 10-22                       CD19848                       OC105 SS 59-30-4860  CH OPR CMND
 307 65 07/15 10-31                       CD22771                       OC163 SS 72-38-4899  CH OPR CMND
 310 65 07/15 10-32                       CD22790                       OC161 SS104-32-6542  CH OPR CMND
 316 65 07/15 10-33                       CD26684                       OC112 SS124-38-2828  CH OPR CMND
 322 65 07/15 10-36                       CD14621                       OC 45 SS 50-42-1967  CH OPR CMND
 401 65 07/15 11-39                       CD23035                       OC161 SS128-34-2404  CH OPR CMND
 577 65 07/15 15-01                       CD13509                 K.RODRIGU SS 94-44-7070  NEW NAME
 578 65 07/15 15-01                       CD13509                NEW PVF-YES SS 94-44-7070  CH PVF STATUS
1360 65 07/16 08-13                       CD26913                       OC280 SS105-30-7438  CH OPR CMND
1364 65 07/16 08-17                       CD18154                       OC496 SS 58-32-9655  CH OPR CMND
1367 65 07/16 08-19                       CD19830                       OC105 SS123-32-5320  CH OPR CMND
1384 65 07/16 08-33                       CD12343                       OC578 SS127-30-5269  CH OPR CMND
1388 65 07/16 08-37                       CD11400                       OC578 SS106-36-2190  CH OPR CMND
1390 65 07/16 08-39                       CD16402                       OC578 SS131-32-1847  CH OPR CMND
1393 65 07/16 08-41                       CD12462                       OC 23 SS133-28-3897  CH OPR CMND
1397 65 07/16 08-43                       CD12349                       OC525 SS116-42-9748  CH OPR CMND
1471 65 07/16 09-46                       CD14294                       OC367 SS124-40-3003  CH OPR CMND
1476 65 07/16 09-50                       CD28972                       OC367 SS 84-44-4314  CH OPR CMND
2482 65 07/17 10-23                       CD24661                       OC315 SS118-30-8904  CH OPR CMND
2486 65 07/17 10-27                       CD24942                       OC338 SS 98-30-6602  CH OPR CMND
2487 65 07/17 10-27                       CD24942                NEW PVF-NOS SS 98-30-6602  CH PVF STATUS
2489 65 07/17 10-29                       CD18327                       OC333 SS 72-22-9338  CH OPR CMND
2491 65 07/17 10-29                       CD18327                NEW PVF-NOS SS 72-22-9338  CH PVF STATUS
2493 65 07/17 10-32                       CD25127                       OC332 SS120-26-2196  CH OPR CMND
2497 65 07/17 10-39                       CD10362                NEW PVF-YES SS109-34-7082  CH PVF STATUS
2505 65 07/17 10-46                       CD24660 NEW SS 65-26-9676           SS 65-26-8676  CH SS #
2506 65 07/17 10-47                       CD24660                       OC330 SS 65-26-9676  CH OPR CMND
2510 65 07/17 10-49                       CD16639                       OC328 SS113-26-4639  CH OPR CMND
2512 65 07/17 10-50                       CD16639                NEW PVF-NOS SS113-26-4639  CH PVF STATUS
2514 65 07/17 10-51                       CD24981                       OC332 SS 88-18-5003  CH OPR CMND
2515 65 07/17 10-52                       CD25000                       OC332 SS 52-28-5634  CH OPR CMND
2517 65 07/17 10-53                       CD15748                       OC298 SS 94-32-6898  CH OPR CMND
2525 65 07/17 10-56                       CD27795                       OC300 SS106-40-3344  CH OPR CMND
2526 65 07/17 10-58                       CD27795                NEW PVF-NOS SS106-40-3344  CH PVF STATUS
2528 65 07/17 10-59                       CD18400                       OC332 SS130-32-1775  CH OPR CMND
2529 65 07/17 11-00                       CD18400                NEW PVF-NOS SS130-32-1775  CH PVF STATUS
2530 65 07/17 11-02                       CD27769                       OC329 SS129-34-3784  CH OPR CMND
2535 65 07/17 11-05                       CD24557                       OC328 SS115-30-3706  CH OPR CMND
2536 65 07/17 11-06                       CD24557                NEW PVF-NOS SS115-30-3706  CH PVF STATUS
2546 65 07/17 11-23                       CD26629                       OC297 SS 60-42-7916  CH OPR CMND
2549 65 07/17 11-25                       CD25419                       OC329 SS124-40-1965  CH OPR CMND
2553 65 07/17 11-28                       CD25097                       OC299 SS 73-42-9262  CH OPR CMND
2558 65 07/17 11-35                       CD23440                       OC313 SS 50-32-7863  CH OPR CMND
2559 65 07/17 11-36                       CD26558                       OC313 SS119-40-6523  CH OPR CMND
2561 65 07/17 11-37                       CD25123                       OC331 SS 61-40-7922  CH OPR CMND
2564 65 07/17 11-38                       CD25145                       OC332 SS 67-38-7652  CH OPR CMND
2566 65 07/17 11-39                       CD25152                       OC332 SS113-34-4464  CH OPR CMND
2569 65 07/17 11-40                       CD26670                       OC314 SS120-24-9205  CH OPR CMND
2570 65 07/17 11-42                       CD26901                       OC314 SS 90-32-7943  CH OPR CMND
2573 65 07/17 11-44                       CD26627                       OC334 SS267-82-7792  CH OPR CMND
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NYCPD      TRANSACTION FILES      - BY TRANSAC. TYPE -      07-52      07/28/61      PAGE    1
SEQ # TP DATE  TIME
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67 - NEW CARD NUMBER OPERATOR

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669 67 07/15 16-07          NEW CD30180 OLD 11201          SS 53-40-2996  NEW CARD #
670 67 07/15 16-07          NEW CD30181 OLD 11202          SS 53-36-4519  NEW CARD #
672 67 07/15 16-08          NEW CD30182 OLD 11204          SS 69-40-1377  NEW CARD #
673 67 07/15 16-08          NEW CD30183 OLD 11207          SS 72-38-0175  NEW CARD #
675 67 07/15 16-09          NEW CD30184 OLD 11213          SS 80-36-7499  NEW CARD #
678 67 07/15 16-09          NEW CD30185 OLD 11239          SS 52-32-0433  NEW CARD #
681 67 07/15 16-10          NEW CD30197 OLD 11256          SS103-32-4030  NEW CARD #
684 67 07/15 16-11          NEW CD30186 OLD 11257          SS112-34-1657  NEW CARD #
685 67 07/15 16-11          NEW CD30187 OLD 11258          SS 62-40-1503  NEW CARD #
686 67 07/15 16-12          NEW CD30188 OLD 11259          SS 77-36-2808  NEW CARD #
687 67 07/15 16-12          NEW CD30189 OLD 11260          SS 78-34-1604  NEW CARD #
689 67 07/15 16-13          NEW CD30190 OLD 11265          SS 81-42-8961  NEW CARD #
690 67 07/15 16-13          NEW CD30191 OLD 11266          SS138-34-3403  NEW CARD #
693 67 07/15 16-14          NEW CD30192 OLD 11268          SS 51-30-8220  NEW CARD #
694 67 07/15 16-14          NEW CD30193 OLD 11273          SS145-34-4069  NEW CARD #
695 67 07/15 16-15          NEW CD30194 OLD 11303          SS101-18-5004  NEW CARD #
696 67 07/15 16-15          NEW CD30195 OLD 11305          SS 99-40-6219  NEW CARD #
699 67 07/15 16-16          NEW CD30196 OLD 11306          SS 86-42-0764  NEW CARD #
700 67 07/15 16-16          NEW CD30198 OLD 11312          SS 99-34-9183  NEW CARD #
702 67 07/15 16-16          NEW CD30199 OLD 11314          SS 82-42-8084  NEW CARD #
703 67 07/15 16-17          NEW CD30200 OLD 11378          SS 90-30-2657  NEW CARD #
708 67 07/15 16-17          NEW CD30201 OLD 11379          SS107-34-0344  NEW CARD #
710 67 07/15 16-18          NEW CD30202 OLD 11380          SS 85-36-0222  NEW CARD #
712 67 07/15 16-18          NEW CD30203 OLD 11385          SS123-36-1832  NEW CARD #
713 67 07/15 16-18          NEW CD30204 OLD 11401          SS 59-40-2483  NEW CARD #
714 67 07/15 16-19          NEW CD30205 OLD 11402          SS 58-40-2872  NEW CARD #
715 67 07/15 16-19          NEW CD30206 OLD 11409          SS 79-36-7233  NEW CARD #
719 67 07/15 16-20          NEW CD30207 OLD 11410          SS 99-40-6040  NEW CARD #
721 67 07/15 16-20          NEW CD30208 OLD 11411          SS122-34-0192  NEW CARD #
722 67 07/15 16-20          NEW CD30209 OLD 11417          SS 51-32-3136  NEW CARD #
725 67 07/15 16-20          NEW CD30211 OLD 11418          SS 52-38-6460  NEW CARD #
728 67 07/15 16-21          NEW CD30213 OLD 11419          SS 71-32-2828  NEW CARD #
731 67 07/15 16-22          NEW CD30214 OLD 11429          SS 50-36-9247  NEW CARD #
733 67 07/15 16-25          NEW CD30216 OLD 11430          SS136-32-1676  NEW CARD #
735 67 07/15 16-26          NEW CD30217 OLD 11431          SS 84-34-8402  NEW CARD #
737 67 07/15 16-27          NEW CD30218 OLD 11432          SS104-40-9034  NEW CARD #
738 67 07/15 16-27          NEW CD30219 OLD 11445          SS 92-44-8115  NEW CARD #
739 67 07/15 16-27          NEW CD30220 OLD 11446          SS126-40-9553  NEW CARD #
742 67 07/15 16-28          NEW CD30221 OLD 11447          SS113-36-7952  NEW CARD #
743 67 07/15 16-28          NEW CD30222 OLD 11449          SS122-38-0175  NEW CARD #
745 67 07/15 16-29          NEW CD30223 OLD 11450          SS102-36-0736  NEW CARD #
746 67 07/15 16-29          NEW CD30224 OLD 11453          SS 74-36-6066  NEW CARD #
749 67 07/15 16-30          NEW CD30226 OLD 11454          SS114-38-0346  NEW CARD #
750 67 07/15 16-30          NEW CD30227 OLD 11455          SS 63-36-7139  NEW CARD #
752 67 07/15 16-30          NEW CD30228 OLD 11456          SS 64-44-0322  NEW CARD #
753 67 07/15 16-31          NEW CD30229 OLD 11457          SS 63-34-2557  NEW CARD #
754 67 07/15 16-31          NEW CD30230 OLD 11464          SS 89-42-0575  NEW CARD #
755 67 07/15 16-31          NEW CD30231 OLD 11469          SS122-40-5127  NEW CARD #
756 67 07/15 16-32          NEW CD30232 OLD 18792          SS 89-26-8767  NEW CARD #
757 67 07/15 16-32          NEW CD30233 OLD 22135          SS122-32-1354  NEW CARD #
758 67 07/15 16-33          NEW CD30234 OLD 22146          SS102-38-1979  NEW CARD #
758 67 07/15 16-33          NEW CD30234 OLD 22146          SS102-38-1979  NEW CARD #
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NYCPD      TRANSACTION FILES      - BY TRANSAC. TYPE -      07-53     07/28/61      PAGE   1
                                   69 - DELETE OPERATOR
SEQ # TP DATE  TIME

  119 69 07/15 07-47                    CD18265                              SS 62-24-8267  DELETE OPR
  387 69 07/15 11-27                    CD27685                              SS127-30-6943  DELETE OPR
  411 69 07/15 11-48                    CD23493                              SS 80-32-3107  DELETE OPR
  412 69 07/15 11-49                    CD19887                              SS 55-20-1404  DELETE OPR
  414 69 07/15 11-50                    CD19816                              SS125-34-6264  DELETE OPR
  416 69 07/15 11-50                    CD13217                              SS 50-30-7663  DELETE OPR
  417 69 07/15 11-51                    CD12113                              SS 85-36-9892  DELETE OPR
  419 69 07/15 11-51                    CD19208                              SS228-22-6987  DELETE OPR
  547 69 07/15 14-35                    CD26229                              SS129-20-6173  DELETE OPR
  547 69 07/15 14-35                    CD13021                              SS130-28-4844  DELETE OPR
  581 69 07/15 15-03                    CD22085                              SS146-28-3474  DELETE OPR
  641 69 07/15 15-51                    CD21749                              SS131-34-3133  DELETE OPR
  993 69 07/15 21-03                    CD   304                             SS130-32-7966  DELETE OPR
 1585 69 07/16 11-06                    CD23789                              SS120-32-1229  DELETE OPR
 1615 69 07/16 11-39                    CD23862                              SS216-40-5294  DELETE OPR
 1619 69 07/16 11-44                    CD23886                              SS125-26-0786  DELETE OPR
 2286 69 07/17 08-04                    CD    17                             SS299-99-9999  DELETE OPR
 2374 69 07/17 08-51                    CD15007                              SS249-66-8043  DELETE OPR
 2923 69 07/17 18-39                    CD21466                              SS129-26-8245  DELETE OPR
 2924 69 07/17 18-39                    CD21404                              SS 59-32-0978  DELETE OPR
 2965 69 07/17 19-42                    CD16242                              SS 75-32-9551  DELETE OPR
 2966 69 07/17 19-42                    CD17741                              SS 55-36-5050  DELETE OPR
 2968 69 07/17 19-43                    CD29818                              SS 53-30-6345  DELETE OPR
 2969 69 07/17 19-44                    CD29817                              SS109-30-8905  DELETE OPR
 2970 69 07/17 19-45                    CD15850                              SS102-32-3475  DELETE OPR
 2971 69 07/17 19-45                    CD17211                              SS 63-32-6684  DELETE OPR
 2984 69 07/17 20-18                    CD14540                              SS121-26-1609  DELETE OPR
 3001 69 07/17 20-52                    CD14544                              SS 53-30-0713  DELETE OPR
 3613 69 07/18 14-02                    CD20040                              SS111-18-4105  DELETE OPR
 3907 69 07/19 00-42                    CD30410                              SS 53-48-0874  DELETE OPR
 4105  9 07/19 10-51                    CD19569                              SS116-22-7164  DELETE OPR
 4569 69 07/20 08-53                    CD20538                              SS127-28-3714  DELETE OPR
 6202 69 07/21 15-25                    CD10660                              SS 81-44-7209  DELETE OPR
 6214 69 07/21 15-36                    CD22217                              SS 63-40-3318  DELETE OPR
 6221 69 07/21 15-41                    CD22934                              SS 85-40-2691  DELETE OPR
 6235 69 07/21 15-47                    CD23043                              SS 98-44-9324  DELETE OPR
 6255 69 07/21 15-57                    CD23047                              SS 67-32-5866  DELETE OPR
 6261 69 07/21 16-01                    CD23048                              SS109-40-5401  DELETE OPR
 6274 69 07/21 16-06                    CD23050                              SS 73-36-0294  DELETE OPR
 6280 69 07/21 16-10                    CD23055                              SS 53-42-8700  DELETE OPR
 6292 69 07/21 16-16                    CD23056                              SS 71-30-4507  DELETE OPR
 6296 69 07/21 16-19                    CD23057                              SS 79-30-1070  DELETE OPR
 6302 69 07/21 16-21                    CD23058                              SS111-44-5785  DELETE OPR
 6395 69 07/21 18-05                    CD11343                              SS113-36-9716  DELETE OPR
 6398 69 07/21 18-07                    CD11448                              SS 72-34-9365  DELETE OPR
 6400 69 07/21 18-09                    CD18363                              SS102-34-8564  DELETE OPR
 6404 69 07/21 18-10                    CD20650                              SS 89-42-6402  DELETE OPR
 6448 69 07/21 18-59                    CD18054                              SS264-68-8626  DELETE OPR
 6525 69 07/21 20-30                    CD18488                              SS 74-32-6442  DELETE OPR
 6528 69 07/21 20-33                    CD25471                              SS103-22-5364  DELETE OPR
 6532 69 07/21 20-36                    CD25472                              SS536-34-3868  DELETE OPR
 6536 69 07/21 20-39                    CD25474                              SS130-20-8069  DELETE OPR

TOTAL TRANSACTIONS THIS REPORT       52        GALLONS ISSUED         .0       GALLONS RECIEVED          .0
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NYCPD     TRANSACTION FILES     - BY TRANSAC. TYPE -     07-55     07/28/61     PAGE   2
                                  90— FUEL RECEIPT
SEQ # TP DATE  TIME

  47 90 07/15 01-36  G  976.0  MC157  S000 T1 F2 P1          SS 88-36-4009  FUEL RECD
 217 90 07/15 09-08  G  488.0  MC 51  S000 T1 F2 P1          SS116-26-6527  FUEL RECD
 332 90 07/15 10-44  G  900.0  MC 60  S000 T1 F2 P1          SS109-32-3487  FUEL RECD
 365 90 07/15 11-07  G  400.0  MC 61  S000 T1 F2 P1          SS112-24-7674  FUEL RECD
 450 90 07/15 12-40  G 1000.0  MC 73  S000 T1 F2 P1          SS 95-34-5614  FUEL RECD
 568 90 07/15 14-54  G 1105.0  MC 52  S000 T1 F2 P1          SS132-24-5797  FUEL RECD
 842 90 07/15 18-38  G 1000.0  MC 75  S000 T1 F2 P1          SS 84-40-2755  FUEL RECD
 843 90 07/15 18-39  G 1000.0  MC 75  S000 T1 F2 P1          SS 84-40-2755  FUEL RECD
 859 90 07/15 18-57  G 1000.0  MC 74  S000 T1 F2 P1          SS 63-40-2694  FUEL RECD
 935 90 07/15 20-26  G 1000.0  MC 70  S000 T1 F2 P2          SS119-20-7057  FUEL RECD
 995 90 07/15 21-10  G 1500.0  MC 71  S000 T1 F2 P1          SS242-54-7218  FUEL RECD
1119 90 07/16 00-18  G  500.0  MC 78  S000 T1 F2 P1          SS118-34-8445  FUEL RECD
1257 90 07/16 05-45  G 1820.0  MC166  S000 T1 F2 P1          SS 76-34-1278  FUEL RECD
1348 90 07/16 08-05  G  147.0  MC155  S000 T1 F2 P1          SS108-44-2739  FUEL RECD
1352 90 07/16 08-05  G  110.0  MC155  S000 T2 F2 P1          SS108-44-2739  FUEL RECD
1440 90 07/16 09-15  G  802.0  MC 59  S000 T1 F2 P2          SS 73-36-1074  FUEL RECD
1735 90 07/16 17-59  G  282.0  MC165  S000 T2 F2 P1          SS   -  -   0  FUEL RECD
2254 90 07/17 07-31  G 1125.0  MC 63  S000 T1 F2 P1          SS118-28-7543  FUEL RECD
2282 90 07/17 08-00  G  300.0  MC 61  S000 T1 F2 P1          SS 67-14-7178  FUEL RECD
2315 90 07/17 08-18  G  500.0  MC 60  S000 T1 F2 P1          SS119-22-6953  FUEL RECD
2383 90 07/17 09-00  G     .0  MC 53  S000 T1 F2 P1          SS104-32-0978  FUEL RECD
2385 90 07/17 09-01  G  267.0  MC 53  S000 T1 F2 P1          SS104-32-0978  FUEL RECD
2402 90 07/17 09-15  G 1000.0  MC258  S000 T1 F2 P2          SS131-30-4407  FUEL RECD
2481 90 07/17 10-22  G  913.0  MC 52  S000 T1 F2 P1          SS131-42-3924  FUEL RECD
2590 90 07/17 12-08  G 1000.0  MC 69  S000 T1 F2 P1          SS126-34-2761  FUEL RECD
2893 90 07/17 18-07  G 1000.0  MC 70  S000 T1 F2 P1          SS 52-36-9781  FUEL RECD
2905 90 07/17 18-17  G  751.0  MC 81  S000 T1 F2 P1          SS 61-30-9234  FUEL RECD
2928 90 07/17 18-41  G  735.0  MC 85  S000 T1 F2 P1          SS106-36-2192  FUEL RECD
2980 90 07/17 20-07  G  892.0  MC 64  S000 T1 F2 P2          SS 76-12-2972  FUEL RECD
3033 90 07/17 21-48  G  490.0  MC258  S000 T1 F2 P1          SS127-20-7265  FUEL RECD
3440 90 07/18 08-32  G  246.0  MC155  S000 T2 F2 P1          SS116-30-0999  FUEL RECD
3451 90 07/18 08-42  G  468.0  MC155  S000 T1 F2 P1          SS116-30-0999  FUEL RECD
3552 90 07/18 12-15  G 1100.0  MC 74  S000 T1 F2 P1          SS133-30-1376  FUEL RECD
3567 90 07/18 15-47  G  950.0  MC 73  S000 T1 F2 P1          SS 73-18-6926  FUEL RECD
4116 90 07/19 11-08  G  682.0  MC 54  S000 T1 F2 P1          SS 84-34-6084  FUEL RECD
4459 90 07/20 05-53  G 1137.0  MC166  S000 T1 F2 P1          SS 67-36-7908  FUEL RECD
4467 90 07/20 06-50  G  490.0  MC 62  S000 T1 F2 P1          SS 81-18-5577  FUEL RECD
4613 90 07/20 09-31  G  930.0  MC156  S000 T1 F2 P1          SS 52-34-4204  FUEL RECD
4704 90 07/20 13-36  G 1490.0  MC 75  S000 T1 F2 P1          SS 99-36-2043  FUEL RECD
4876 90 07/20 15-41  G 1310.0  MC 70  S000 T1 F2 P1          SS133-36-0897  FUEL RECD
5067 90 07/20 18-50  G  774.0  MC172  S000 T1 F2 P1          SS 58-24-8605  FUEL RECD
5150 90 07/20 20-22  G  214.0  MC155  S000 T1 F2 P1          SS 91-12-3106  FUEL RECD
5161 90 07/20 20-46  G  376.0  MC155  S000 T2 F2 P1          SS 91-12-3106  FUEL RECD
5746 90 07/21 07-01  G  343.0  MC 85  S000 T1 F2 P1          SS 91-07-1695  FUEL RECD
5787 90 07/21 07-57  G  725.0  MC 64  S000 T1 F2 P1          SS 54-22-6167  FUEL RECD
5863 90 07/21 09-15  G  700.0  MC165  S000 T1 F2 P1          SS504-46-0547  FUEL RECD
5864 90 07/21 09-16  G  400.0  MC165  S000 T2 F2 P1          SS504-46-0547  FUEL RECD
5865 90 07/21 09-16  G  400.0  MC165  S000 T2 F2 P1          SS504-46-0547  FUEL RECD
6022 90 07/21 11-45  G  616.0  MC 77  S000 T1 F2 P1          SS 96-28-3606  FUEL RECD
6066 90 07/21 12-44  G  525.0  MC 67  S000 T1 F2 P1          SS 90-42-3116  FUEL RECD
6067 90 07/21 12-45  G     .0  MC 67  S000 T2 F2 P1          SS 90-42-3116  FUEL RECD
6429 90 07/21 18-43  G  600.0  MC 78  S000 T1 F2 P1          SS 76-28-4213  FUEL RECD
6624 90 07/21 23-41  G 1300.0  MC 63  S000 T1 F2 P           SS 73-36-2761  FUEL RECD
```

```
[illegible]     PRIVATE VEHICLE FUELING REPORTS FOR COMMAND 389     10-21     08/12/81     PAGE   1

   [illegible]     +7   SS 50-38-2678
 6017 05 08/07 16-02       CD163         S105 T1 F2 P1 G008.0 MPG         0C389 SS 50-38-2678
                             GALLONS ISSUED   8.0

   HAHM      +4   SS 63-30-9031
 4514 05 08/07 09-11       CD163         S105 T1 F2 P2 G010.0 MPG         0C389 SS 63-30-9031
                             GALLONS ISSUED  10.0

   KEARNEY     +R   SS 59-30-0133
 4237 05 08/06 08-12       CD163         S105 T1 F2 P2 G004.5 MPG         0C389 SS 59-30-0133
                             GALLONS ISSUED   4.5

   MEADAM      YW   SS 79-30-0881
 5724 05 08/07 10-33       CD163         S105 T1 F2 P1 G008.0 MPG         0C389 SS 79-30-0881
                             GALLONS ISSUED   8.0

   MCDONALD    +D   SS119-34-8349
 4352 05 08/06 09-55       CD163         S105 T1 F2 P1 G010.0 MPG         0C389 SS119-34-8349
                             GALLONS ISSUED  10.0

   MCKIERNAN   +I   SS 74-30-0124
 5729 05 08/07 10-39       CD163         S105 T1 F2 P1 G005.0 MPG         0C389 SS 74-30-0124
                             GALLONS ISSUED   5.0

                        TOTAL GALLONS ISSUED THIS REPORT     45.5
REPORT COMPLETE
```

Appendix H

AN INTRODUCTION TO THE DEPARTMENTWIDE AUTOMATED FUEL MONITORING SYSTEM,

MARCH 1980

POLICE DEPARTMENT CITY OF NEW YORK

DEPARTMENT OF THE NAVY UNDERWATER SYSTEMS CENTER

an introduction to

The Department Wide Automated Fuel Monitoring System

MARCH 1980

The following documents were prepared jointly by Sergeant Thomas Kiernan, New York City Police Department, and Mr. William McGrath, Naval Underwater Systems Center.

Sergeant Kiernan is in charge of the Fuel Monitoring System, Motor Transport Division, New York City Police Department.

Mr. McGrath, a computer systems analyst at the Naval Underwater Systems Center, is on assignment to the New York City Police Department through the Intergovernmental Personnel Act of 1970, and NYCPD Contract # 225724, sponsored by the National Science Foundation, Office of Intergovernmental Science and Public Technology, and is Project Leader.

In May of 1977, Mr. William McGrath began his assignment with the New York City Police Department. The Police Department requested that he study its Fueling System and make recommendations to improve the existing operation.

Questionnaires approved by the Chief of Operations were sent to all Police Department Fueling locations. An analysis of the information received revealed the following:

New York City
Police Department
Fuel Dispensing Study

TR 6567-II

Questionnaire Pertaining to Fuel Dispensing

Command ______________________

1. Number of personnel assigned to dispensing gasoline
2. The rank/title of the above personnel
   P.O. ____ MVO ____ Laborer ____
   Cleaner ____ Other ____
3. Are the gasoline dispensing duties full time or collateral?
   Full time ____ Collateral ____
   If collateral, what percentage of time spent in this duty? ____%
4. Number of pumps at your station__
5. Total tank capacity____
6. Number of privately owned vehicles permitted to get fuel at your station____

Location ______________________

7. Specify the amount of gasoline delivered by the vendor to your tanks on each of the listed dates as per Precinct Log Entries.

   1977
   Jan. 1 __
   Jan. 2 __
   Jan. 3 __
   Jan. 4 __
   Jan. 5 __
   Jan. 6 __
   Jan. 7 __
   Jan. 8 __
   Jan. 9 __
   Jan. 10 __
   Jan. 11 __
   Jan. 12 __
   Jan. 13 __
   Jan. 14 __
   Jan. 15 __
   Jan. 16 __
   Jan. 17 __
   Jan. 18 __
   Jan. 19 __
   Jan. 20 __
   Jan. 21 __
   Jan. 22 __
   Jan. 23 __
   Jan. 24 __
   Jan. 25 __
   Jan. 26 __
   Jan. 27 __
   Jan. 28 __
   Jan. 29 __
   Jan. 30 __
   Jan. 31 __
8. Please enclose MT 9 (Gasoline and Oil Receipt Book or Books) for the period January 1 through January 31, 1977, with the completed questionnaire.
   At the completion of this study the MT 9 will be returned.

General Recording Problems Noted During Analysis

Infrequent instances of recording errors were noted in the following areas:

- Receipts without gallons dispensed posted
- Vehicles not identified properly
- Protective counter readings not recorded or recorded after-the-fact
- Incomplete entries
- Postings illegible
- Pages missing
- Dates skipped yet gas delivered during period
- Receipt books poorly maintained

Major System Problems

- System lacks capability to correlate deliveries and dispensing on both a continuing and demand basis for control and/or audit purposes
- No final accounting, control or overall managerial responsibility of total gas dispensing system
- No systematic ordering procedure or delivery scheduling
- Statistical data on fuel consumption for various classes and types of vehicles not readily available

Manpower & Labor Cost

Manpower	No. Personnel Involved	*** Equivalent Man Years
Police Officers	111	52.27
Motor Vehicle Operators	6	3.9
Cleaners	32	12.74
Others	8	4.95
Total Manpower	157	
Total Equivalent Man Years		73.86

*** Figures based on the percent of time dispensing fuel as indicated on questionnaires

Cost	
Labor Per Gallon Dispensed	19¢
Monthly Labor Cost for Jan 1977	$94,478 [1,2]
Projected Annual Labor Cost	$1,133,762 [1,2]

---

[1] Figures are in 1977 dollars.

[2] Labor costs are unaccelerated salaries.

The Police Department determined that an automated on-line fuel monitoring system offered the best opportunity to reduce operating costs and improve the management of fuel. The automated system will:

- Strictly control fuel deliveries
- Record usage
- Produce Management Reports

There has been a pilot system in operation on Staten Island since November 1978 and a contract has now been awarded for installation of a Department-wide system.

POLICE DEPARTMENT
CITY OF NEW YORK

What the Automated Fuel Monitoring System will do for you

Benefits

1. Release Personnel: Those people presently involved in the dispensing of fuel will be available for reassignment to other tasks.

Title	No. of Personnel	Man Years
P.O.	111	52.27
M.V.O.	6	3.9
Cleaners	32	12.74
Others	8	4.95

2. Eliminate Certain Procedures: This system will remove a major portion of the documentation and responsibility involved in the dispensing and ordering of fuel. There will be no need for:

Gas receipt books
Locks and keys for gas pumps
Ordering fuel
Quarterly vehicle mileage reports
Entries in the Command Log requiring gasoline summary
Reporting the quantity of gasoline to C.U.
Private vehicles to use Department I.D. Plates to obtain fuel
Monthly and quarterly reports for gasoline and oil dispensed to private vehicles

3. Reduce Out of Service Time: There will be no need for Department vehicle operators to search for gas dispensers, gas books or keys. In most cases there will be no need to enter the station house. A fueling transaction will only require the time it takes the operator to pump the fuel

4. Alleviate The "NO GAS" Problem: The computer will test the inventory of the tank after each dispensing transaction. When the level of fuel reaches a predetermined reorder point, a message will be displayed at the control center and fuel will be ordered. This will enable us to schedule deliveries before inventories are depleted.

5. Control Fuel Dispensed to Private Vehicles: The system will produce, on a periodic basis, reports for your use, identifying by name and command, the amount of fuel dispensed to authorized private vehicles. This will give you the ability to effectively manage gasoline used in private vehicles.

Annual Operating Systems Comparison

	OPERATIONAL COST		SYSTEM CAPABILITY			SOLVE SYSTEM PROBLEMS			
							MAJOR PROBLEMS		
	Salaries & Materials	Per Gallon	Control	Detect Tank Leakage	Detect Vendor Dishonesty	General Recording Problems	Centralized Contl/Resp	Audit Trail	Compile Retrieve & Report Readily
*** CURRENT SYSTEM**	1,133,762	19¢	Diverse	No	No	No	No	Extremely Difficult	No
*** * AUTOMATED ON LINE SYSTEM**	196,142	03¢	Complete & Centralized	Yes	Yes	Yes	System Demands	Automatic	Yes

*** Salaries based on pay rates in 1977** [1]

*** * Initial cost of Automated System $667,000**

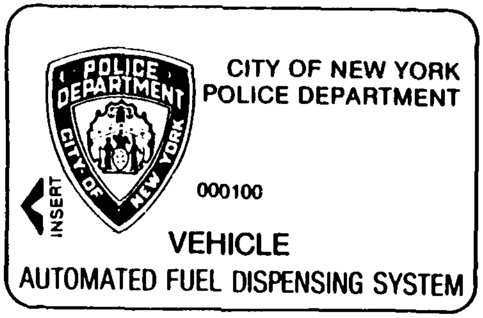
---

[1] Salary figures are unaccelerated.

POLICE
DEPARTMENT
CITY OF NEW YORK

The Automated Fuel Monitoring System

TR 6567-II

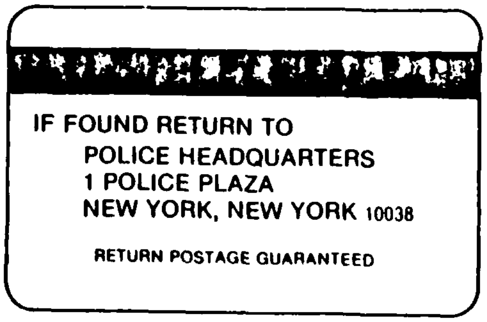


CITY OF NEW YORK
POLICE DEPARTMENT

000100

INSERT

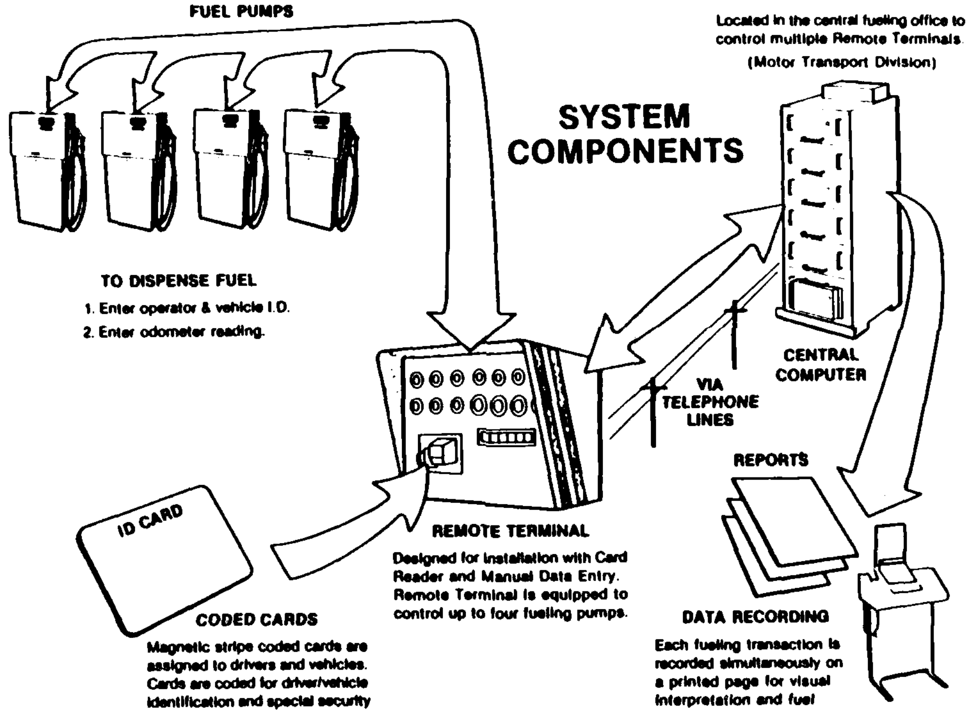
VEHICLE
AUTOMATED FUEL DISPENSING SYSTEM



IF FOUND RETURN TO
POLICE HEADQUARTERS
1 POLICE PLAZA
NEW YORK, NEW YORK 10038

RETURN POSTAGE GUARANTEED

SYSTEM COMPONENTS



COMPUTER CONTROL UNIT

Located in the central fueling office to control multiple Remote Terminals.

(Motor Transport Division)

TO DISPENSE FUEL

1. Enter operator & vehicle I.D.
2. Enter odometer reading.

REMOTE TERMINAL

Designed for installation with Card Reader and Manual Data Entry. Remote Terminal is equipped to control up to four fueling pumps.

CODED CARDS

Magnetic stripe coded cards are assigned to drivers and vehicles. Cards are coded for driver/vehicle identification and special security checks.

DATA RECORDING

Each fueling transaction is recorded simultaneously on a printed page for visual interpretation and fuel reporting.

Tasks Required for System Implementation

- Install Telephone Lines
- Firm up Manning Requirements
  - Operation
  - Maintenance
- Develop Card Issue Procedures
- Develop File Build Procedures
- Upgrade MTD Facilities
- Revise Pertinent Orders
- Develop Training Package
- Develop Training Procedures
- Build Computer Files

- Install Remote Terminals
  - Phase I - Staten Island
  - Phase II - Queens
  - Phase III - Bronx
  - Phase IV - Manhattan
  - Phase V - Brooklyn
- Issue Procedures
- Issue Cards
- Train
  - Field Personnel
  - Operations Personnel
  - Maintenance Personnel
- Implement System

Daily Transactions (Report Sample)

Date MMDD	Location	Trans Number	Operator Number	Vehicle Number	CMD	Odometer Reading	Gallons Pumped
01/01	106	00001	0012	2314	106	22,154.6	17.3
01/01	045	00002	0015	1768	044	16,731.0	11.6
01/01	122	00003	0124	0134	TPU	35,976.9	9.3
01/01	062	00004	0134	3173	BMS	62,078.7	21.6
01/01	HW1	00005	0145	2888	HW1	56,986.0	11.6
01/01	022	00006	0152	0018	PCO	3,457.3	14.7
Order Fuel Unlead 020 Current Status 787.2 Gals							
01/01	HW2	00021	0314	5234	060	17,986.0	20.9
01/01	114	00022	0314	2578	114	62,078.7	13.9
01/01	030	00023	0315	1534	030	42,984.9	12.7
01/01	108	00024	0321	1178	112	35,786.2	11.0
Delivery Unlead 122 1,500 Gals Current Status 2,175 Gals							
01/01	106	00028	0331	2345	102	23,079.0	13.8
01/01	094	00029	0331	1487	094	12,067.4	12.1
No Response 045 • • • Failure Mod #2							
01/01	CRS	00032	0335	0631	01H	6,783.6	19.3
01/01	CRS	00033	0345	3278	MTD	23,098.2	23.0
01/01	114	00034	0352	0042	PBQ	5,009.5	11.9
Order Fuel Unlead 020 Current Status 770.2 Gals							
Input :::: Fuel Ordered for 020							
Input recorded Fuel Ordered for 020• • • •0432 hrs							
01/01	067	00039	0432	2765	067	34,906.1	11.1
01/01	090	00040	0432	1197	090	9,076.0	9.3
Pump Shut Down 123 Low Fuel • • • • • • Ordered at 1425 Hrs 12/30 Call Vendor							

POLICE DEPARTMENT
CITY OF NEW YORK

What you can do for the Automated Fuel Monitoring System

It is essential to realize that implementing a fuel monitoring system on a Department-wide basis will require your cooperation.

- Records of 25,000 operators and 4,000 vehicles will have to be compiled.
- Each member of the Department will have to be trained.
- Procedures and pertinent orders will have to be revised.
- Actuator cards will have to be issued.

The major responsibility for accomplishing these tasks will lie with us but we will need your support to make this system a success.

Appendix I

OPERATIONS MANUAL

INDEX

of

DIRECT C.P.U. COMMANDS

COMMAND	DEFINITION	NOTES	PAGE
>ART	AUTO RESTART TERMINAL	SEE CAUTIONS (*)(**)	3
>IPL	EXECUTE ORDERLY SHUTDOWN	SEE CAUTIONS (*)(**)	1
>MID	EXECUTE MIDNIGHT WORK	SEE CAUTIONS (*)(**)	2
>MFE	ACCEPT MANUAL FUEL ENTRIES		7,8
>MFR	ACCEPT MANUAL FUEL RECEIPTS		9
>REQ	ENABLES OPERATOR REQUESTS	SEE INDEX OF REQUESTS	3
>SET	PRINT OVERLAY MESSAGES		6
>TPT	PRINT TRANSACTIONS	REQUIRES CLARIFICATION	4,5
>UNS	INHIBIT OVERLAY MESSAGES		6
>INH	SUPPRESS ERROR MESSAGES		2
>INS	ALLOW ERROR MESSAGES TO PRINT		2

(*) SEE IMPORTANT CONSIDERATIONS BEFORE USING THIS COMMAND.

(**) USE ONLY WITH PROPER AUTHORITY.

THE ABOVE ENTRIES ARE AVAILABLE ONLY AT THE CONSOLE TYPEWRITER.

1.

>IPL EXECUTE ORDERLY SHUTDOWN*

This command directs the C.P.U. to Place All Active Lines OFF-LINE at the first available opportunity. Shut-down will occur when all pending transactions are completed, and the message "OK to IPL" is printed.

This command allows IPL sequence to be executed without disturbing data temporarily stored during transactions. It should be used only for loading new versions of the programs.

IMPORTANT CONSIDERATIONS:

1. Proper authority for use of this command is defined as; Under direction of a member of the E.J. Ward, Inc. programming staff.
2. The > IPL command cannot be cancelled after entry and will execute system shutdown.

EXAMPLE:

```
>IPL
OK TO IPL
```

* Command not necessary. System shuts down automatically.

2.

>MID BUILD PERIOD REPORT AND MOVE TRANSACTIONS

Normally, the OCTANE SYSTEM will build a report daily and move transactions from TRNSAC1 to TRNSAC2 weekly. The program to do this comes in at midnight. However, if you should have a power failure and be down during the cutoff period, then you will need this feature to force the report.

>INH SUPPRESS ESI-ISB MESSAGES AND NOT ALLOW THEM TO PRINT

>INS WILL ALLOW THE PRINTING OF ESI-ISB MESSAGES

>REQ OPERATOR REQUEST

This command enables the operator to display data or status, make system changes, make equipment changes, or print reports. See Index of Operator Requests for the detailed outline of options.

The format is:

>REQ --------------- You Type
READY --------------- Computer Response

*** You respond after 'READY' prints with your particular request.

>ART AUTO RESTART TERMINAL

This command enables the operator to send an AUTO RESTART command to the terminal when it is in difficulty.

The entry is as follows

>ART --------------- You Type
READY --------------- Computer Response
TERM XX --------------- You Type (XX is Terminal Number)

NOTE: If the terminal is OFFLINE, you will also need to put it ONLINE. See Page 18.

4.

> TPT PRINT TRANSACTIONS

This command directs the CPU to send fuel transactions to the remote typewriter as they occur. This printout contains all fueling transactions that are being recorded in the transaction file, and thus is useful for immediate verification of fuel terminal operation and validity of information received from that terminal. It is also useful for monitoring terminal activity.

IMPORTANT CONSIDERATIONS:

1. TPT can be used for only one terminal or all of them. Entering TPT command on a second terminal cancels the last one.
2. Printing transactions on the printer requires additional time; and, thus, slows system response.
3. TPT is conversational and requires some clarification.

Example:

```
> TPT                    ..................     You enter.
T--,ALL, or to cancel                           Computer response.
T01                      ..................     You enter.
```

5.

THE PRINTOUT IS AS FOLLOWS:

```
325 00 09/30 09:57 C888 V1003 M000062 S 20 T1 F2 P1 G005.0 MPG00.0 PAC DC101 SS536-87-9104
(1)(2) (  3  )  (4) (5)    (6)    (7)(8)(9)(10)(11)(12)  (13)(14) (    15    )
```

1- SEQUENCE #: TRANSACTIONS ARE FILED CONSECUTIVELY BEGINNING WITH #2.

2- TRANSACTION TYPE: ie...,0 = NORMAL FUEL TRANSACTION,
20= MASTER CARD.
ODOMETER FLAG: 0 = OK, 1 = LOW ODOM, 2 = HIGH ODOM., 05 = PVT.FUEL

3- DATE AND TIME.

4- VEHICLE COMMAND.

5- VEHICLE #.

6- ODOMETER ENTERED BY EMPLOYEE.

7- SITE #.

8- TANK #.

9- FUEL TYPE.

10- PUMP #.

11- GALLONS PUMPED.

12- CALCULATED MILES PER GALLON.

13- VEHICLE CLASSIFICATION

14- OPERATOR COMMAND

15- OPERATOR SOC. SEC. #

6.

>SET PRINT OVERLAY MESSAGES

This command as well as its companion below was added to the system for debug purposes. You may at some time, therefore, be asked to use it by a programmer for diagnostic purposes. Ordinarily, the program is in the inhibited mode and certain messages are disabled.

>UNS INHIBIT OVERLAY MESSAGES

This command will disable the "SET" if it should ever be used.

7.

ACCEPT MANUAL FUEL ENTRIES

THIS COMMAND DIRECTS THE CPU TO ALLOW THE OPERATOR TO ENTER TRANSACTIONS INTO THE TRANSACTION FILE THROUGH THE KEYBOARD. THIS IS NECESSARY WHEN CIRCUMSTANCES HAVE PREVENTED TRANSACTIONS FROM ENTERING THE CPU THRU NORMAL CHANNELS, IE..., WHEN A TERMINAL IS SWITCHED TO MANUAL OR A VEHICLE IS FUELED OUTSIDE OF THE SYSTEM. MANUAL FUEL ENTRIES WILL THEN SHOW ON WEEKLY AND MONTHLY REPORTS AS TRANSACTION TYPE 30, AND BE INCLUDED IN MILES PER GALLON CALCULATIONS. ALSO CUSTOMER TANK PUMP TOTALS AND BALANCES WILL BE ADJUSTED IF ADEQUATE INFORMATION IS ENTERED IN THE CPU, IE.., TERMINAL # AND PUMP #.

IMPORTANT CONSIDERATIONS:

1. The system can do only a minimal verification of the operators entries. It is therefore imperative that the operator verify each entry before commanding the CPU to post the entry as typed.

2. The operator has total control of the printer for input purposes. Should the system require the use of the printer for output, ie.., Error messages, TPT Transactions, the operator must release control of the printer or the CPU will cease to poll until the printer is available for output.

3. Entries may vary in length but not in format. Vehicle # and fuel quantity must be entered for CPU to accept the entry, however, pressing Return Key at the end of any field after fuel quantity posts the transaction with zeroes in all following fields.

8.

NOTE: Field 3 & 4 (Term # & Pump #) must be entered for the CPU to update the customer tank-pump balances.

NOTE: MFE command prints the required heading at the beginning and operates conversationally. It requires operator to acknowledge or cancel each entry, and specify whether or not he wishes to make another entry.

EXAMPLE:

```
> MFE                                  SS
VEH #,FUEL,TERM,PUMP,DATE,TIME,ODOM,OPR #,OPR CMND
XXXX,XXX.X,XX,XX,XX/XX,XX;XX,XXXXXX,XXXXXXXXX,XXX
ENTRY? Y
1002,015.1,12,01,10/08,13;43,035000,124568888,999
OK? Y
ENTRY? Y
1004,008.5,31,01
OK? Y
ENTRY? Y
1009,017.3,81,01,10/08,17;50
OK? Y
ENTRY? Y
1002,009.5,15,01,10/09,20;03,016402
OK? Y
ENTRY? N
```

>MFR ACCEPT MANUAL FUEL RECEIPTS

This command allows the operator at the computer to enter any fuel receipts that cannot be entered at the terminal for whatever reason. Manual fuel receipts will show on inquiry programs as transaction type 31.

If the receipt area in the tank is not full, and if the receipt does not exceed tank capacity, this receipt, manually entered, will be added to the tank record.

An example follows:

```
>MFR
SITE,TANK,RECEIPT
XXX,XX,XXXX
ENTRY? Y
020,01,0800
ENTRY? N
```

INDEX
of
OPERATOR REQUESTS
for
EQUIPMENT AUTHORIZATION FILE CHANGES

REQUEST	PAGE
1. ACQUISITION OF NEW VEHICLE	10
EQP,ACQ,CXXXXX,VXXXX,KXX,MXXX,RXXXXXX,TX,TX,COXXX,CLXXX,GXX	
2. CHANGE EQPT STATUS TO OFF/ON	11
EQP,OFF,CXXXXX,VXXXX,SX EQP,ONN,CXXXXX,VXXXX	
3. CHANGE CARD NUMBER	11-12
EQP,NCN,CXXXXX,VXXXX,NXXXXX	
4. DISPOSE OF VEHICLE	12
EQP,DSP,CXXXXX,VXXXX,SX	
5. EQUIPMENT DATA CHANGES	13
EQP,CHG,CXXXXX,VXXXX,IXX,(NEW DATA)	

** (I Codes for EQP. Changes)

I02,XXXX	CHG. VEHICLE#
I03,XX	CHG. ODOM CODE
I04,XXX	CHG. MILES LIMIT
I05,XXXXXX	CHG. ODOM READING
I06,X	CHG. PRIMARY FUEL TYPE
I07,X	CHG. SECONDARY FUEL TYPE
I08,XXX	CHG. VEHICLE COMMAND
I09,XXX	CHG. VEHICLE CLASS
I10,XX	CHG. CALLONS LIMIT
I11,X	CHG. STATUS

EQUIPMENT AUTHORIZATION FILE CHANGES

EQUIPMENT ACQUISITION

WHEN YOU ACQUIRE A NEW VEHICLE, YOU WILL NEED TO ENTER THE INFORMATION INTO THE FILE.

```
>REQ
READY  EQP,ACQ,C00009,V1009,K07,M250,R000001,T2,T0,C0999,CLTEY,G23
```

WHERE:		
	C00009	CARD #
	V1009	VEHICLE #
	K07	ODOMETER CHECK CODE
		CODE = 00 NO ODOMETER CHECK AND NO CAPTURE
		= 01 CAPTURE ONLY
		= 03 CAPTURE AND CHECK *
		= 07 CAPTURE AND CHECK **
	M250	MILES LIMIT
	R000001	ODOMETER READING
	T2,TO	FUEL TYPES AUTHORIZED FOR THIS VEHICLE
	C0999	COMMAND
	CLTEX	CLASSIFICATION
	G23	GALLONS LIMIT

* DO NOT ENABLE PUMP UNTIL ODOMETER IS ENTERED CORRECTLY.

** TAKE ODOMETER READING ON SECOND TRY AND TAG AS HIGH OR LOW IF IN ERROR.

TO CHECK THE ACQUISITION ENTRY, RUN AN ESR ON THIS CARD #.

```
>REQ
READY   ESR,C00009
EQUIPMENT STATUS REPORT 10/02/80 10:25:14

EQUIP  CARD  EQPT  FUEL  ODOMR  MILES  ODOMETER  CLASS  COMND  GALLON  1-LOST 3-ACC
 NO.    NO.  STAT  TYPE  CODE   LIMIT  READING                 LIMIT   2-SHOP 4-CNDM
1009     9    ON   2-      7    250        1      TEY    999     23
```

EQUIPMENT AUTHORIZATION FILE CHANGES

CHANGE EQUIPMENT STATUS

```
>REQ
READY     EQP,OFF,C00001,V1001,S2*
```

THE ABOVE ENTRY PUT VEHICLE 1001 IN AN OFFLINE MODE, I.E., CARD # 1 ASSOCIATED WITH THAT VEHICLE NUMBER CANNOT BE USED AT THE PRESENT TIME. THIS ACTION MIGHT BE NECESSARY IF THE CARD IS LOST, BUT YOU HAVE HOPES OF FINDING IT.

IF THE CARD IS FOUND, THE REVERSING ENTRY IS:

```
>REQ
READY     EQP,ONN,C00001,V1001
```

CHANGE CARD NUMBER

IF THE ABOVE CARD IS LOST AND WILL NOT BE FOUND, YOU SHOULD ASSIGN THIS VEHICLE A NEW CARD # WITH THE FOLLOWING ENTRY. ASSUME THAT CARD # 12 IS AVAILABLE.

```
>REQ
READY     EQP,NCN,C00001,V1001,N00012
```

NOW, VEHICLE 1001 HAS A NEW CARD NUMBER ASSOCIATED WITH IT, AND THAT IS CARD # 12.

WE CAN CHECK THE NCN CHANGE BY USING ESR.

*S IS THE STATUS INDICATOR OF WHY IT IS OFFLINE.

EQUIPMENT AUTHORIZATION FILE CHANGES

```
> REQ
READY     ESR,C00012
EQUIPMENT STATUS REPORT 10/02/80  10:39:18

EQUIP  CARD  EQPT  FUEL  ODOMR  MILES  ODOMETER                 GALLON  1-LOST  3-ACC
 NO.    NO.  STAT  TYPE  CODE   LIMIT  READING   CLASS  COMND   LIMIT   2-SHOP  4-CNDM
 1001   12    ON    9-     7     250    99514     ABC    999      15
```

AND THE OLD CARD # 1 WILL LOOK LIKE THIS:

```
> REQ
READY     ESR,C00001
EQUIPMENT STATUS REPORT 10/02/80  10:39:45

EQUIP  CARD  EQPT  FUEL  ODOMR  MILES  ODOMETER                 GALLON  1-LOST  3-ACC
 NO.    NO.  STAT  TYPE  CODE   LIMIT  READING   CLASS  COMND   LIMIT   2-SHOP  4-CNDM
 1002    1   OFF   0-     0      0       0                0       0        1
```

WHICH INDICATES THAT CARD # 1 IS NO LONGER IN SERVICE AND THE EQUIP. NO. IS ACTUALLY SHOWING THE DATA IT WAS OUT OF SERVICE, OR DISPOSED OF.

DISPOSE OF A VEHICLE

IF THE VEHICLE IS ACTUALLY DISPOSED OF (AS FAR AS THE FUELING SYSTEM IS CONCERNED), THE ENTRY IS:

```
> REQ
READY     EQP,DSP,C00012,V1001,S4
```

13.

EQUIPMENT AUTHORIZATION FILE CHANGES

EQUIPMENT DATA CHANGE

THE FOLLOWING ENTRY WILL CAUSE A CHANGE TO BE MADE TO THE EQUIPMENT AUTHORIZATION FILE. PROBABLY THE MOST LIKELY ELEMENT TO CHANGE IN THE FILE RECORD IS THE MILES LIMIT. THEREFORE, THE ENTRY IS AN EXAMPLE OF THIS.

```
>REQ
READY     ESR,C00005
EQUIPMENT STATUS REPORT 10/02/80  10:41:57

EQUIP  CARD  EQPT  FUEL  ODOMR  MILES  ODOMETER                GALLON  1-LOST  3-ACC
 NO.    NO.  STAT  TYPE  CODE   LIMIT  READING   CLASS  COMND  LIMIT   2-SHOP  4-CNDM
 1005    5    ON    2-     7      250  111856     JRS    555    25
```

NOW, WE WOULD LIKE FOR CARD # 5 TO HAVE A MILES LIMIT OF 300.

```
>REQ
READY  EQP,CHG,C00005,V1005,I04,300
```

NOW, LET'S CHECK IT.

```
>REQ
READY     ESR,C00005
EQUIPMENT STATUS REPORT 10/02/80  10:42:51

EQUIP  CARD  EQPT  FUEL  ODOMR  MILES  ODOMETER                GALLON  1-LOST 3-ACC
 NO.    NO.  STAT  TYPE  CODE   LIMIT  READING   CLASS  COMND  LIMIT   2-SHOP 4-CNDM
 1005   5     ON    2-    7      300   111856     JRS    555    25
```

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14. REPORTS

OPERATOR STATUS REPORT

THIS REPORT GIVES YOU THE CURRENT FILE INFORMATION ASSOCIATED WITH A PARTICULAR CARD # OR OPERATOR SOC. SEC. #

OSR BY CARD #:

```
>REQ
READY     OSR,C00002
OPERATOR STATUS REPORT  10/02/80  10:47:33

CARD          OPERATOR               LAST                # OF
 NO.  STAT     NUMBER    CMND  PVF   CHNG        NAME     CARDS

  2    ON   234-56-7891   16   YES   0421      CARTER ,D    2
```

OSR BY SOC. SEC. #:

```
>REQ
READY     OSR,SS234567891
OPERATOR STATUS REPORT  10/02/80  10:48:09

CARD          OPERATOR               LAST                # OF
 NO.  STAT     NUMBER    CMND  PVF   CHNG        NAME     CARDS

  2    ON   234-56-7891   16   YES   0421   CARTER, D      2
```

15. REPORTS

EQUIPMENT STATUS REPORT

THIS ONE-LINE REPORT GIVES YOU THE CURRENT FILE INFORMATION ASSOCIATED WITH A PARTICULAR CARD # OR VEHICLE #. SEE "EQP, ACQ" FOR DETAILS OF HOW THESE ITEMS ARE ENTERED INTO THE FILE.

ESR BY CARD #:

```
>REQ
READY     ESR,C0009
EQUIPMENT STATUS REPORT 10/02/80  10:48:41

EQUIP  CARD  EQPT  FUEL  ODOMR  MILES  ODOMETER                   GALLON  1-LOST 3-ACC
 NO.   NO.   STAT  TYPE  CODE   LIMIT  READING    CLASS   COMND   LIMIT   2-SHOP 4-CNDM

1009    9    ON    2-     7      250      1        TEY     999     23
```

ESR BY VEHICLE #:

```
>REQ
READY     ESR,V1009
EQUIPMENT STATUS REPORT 10/02/80  10:49:32

EQUIP  CARD  EQPT  FUEL  ODOMR  MILES  ODOMETER                   GALLON  1-LOST 3-ACC
 NO.   NO.   STAT  TYPE  CODE   LIMIT  READING    CLASS   COMND   LIMIT   2-SHOP 4-CNDM

1009    9    ON    2-     7      250      1        TEY     999     23
```

PRINT FUEL REPORT

THIS REPORT WILL PRINT CURRENT VALUES OF TANK DATA FOR A PARTICULAR SITE. IT IS MOST FREQUENTLY USED TO DETERMINE WHEN TO ORDER GASOLINE FOR THAT TANK.

```
>REQ
READY     PFR,SITE043
FUEL RECEIPTS  43RD PCT.     SITE 043  10/02/80  10:52:33

TANK   TANK   FUEL  AMOUNT    AMOUNT
 NO.  STATUS  TYPE  PMPED     RECVD     DATE     TIME

 1     ON     UNL      .0      250.0 10/02/80 10:51
CAPAC  1100.0  SHUTDOWN    500.0      ORDERS  0
PRES    989.8  ORDER PT.   650.0 OK
```

16.

REPORTS

STATUS OF TERMINALS

THIS REPORT WILL SHOW IF ANY TERMINALS OR LINES ARE OFFLINE.

```
>REQ
READY     STT
--- OFF-LINE UNITS,  10/02/80  10:56:38 ---

LINE 01 02 03 04 05 06 07 08 09 10
     OF ON OF OF OF OF OF OF ON ON

TERM.     2, OFF-LINE
TERM.    21, OFF-LINE
TERM.    22, OFF-LINE
TERM.    31, OFF-LINE
TERM.    32, OFF-LINE
TERM.    41, OFF-LINE
TERM.    42, OFF-LINE
TERM.    51, OFF-LINE
```

PRINT PUMP STATUS

THIS REPORT INDICATES PUMPS THAT ARE OFFLINE.

```
>REQ
READY  PPS
INACTIVE PUMP REPORT    07/15/79  00:41:47

              TANK  PUMP  PUMP  FUEL
               NO.   NO.  STAT  TYPE
PUBLIC WORKS    1     1    OFF   UNL
         END OF REPORT
```

REPORTS

REPORT PUMP TOTALS

THIS REPORT IS BUILT AT MIDNIGHT AND SHOWS TOTALS ON TANKS AND PUMPS FOR THE WHOLE SYSTEM. AN EXAMPLE OF YOUR REPORT FOLLOWS.

```
>REQ
READY    RPT

FUEL INVENTORY STATUS REPORT  PUBLIC WORKS  1  07/15/79   00:00

TANK  PUMP  STAT  FUEL   NO.  AVG.  OPENING  AMOUNT  AMOUNT   ON HAND
 NO.   NO.  US    TYPE  TRAN  GPT   BALANCE  RECVD.  PUMPED   BALANCE

  1     1    ON   UNL    13   16.3                    212.5
  1     2    ON   UNL    17   13.9                    237.5
  1    --    ON   UNL    30   15.0   2500.0  4000.0   450.0    6050.0
  2     1    ON   REG    19   12.7                    243.0
  2     2    ON   REG    33   12.6                    417.0
  2    --    ON   REG    52   12.6   2500.0      .0   660.0    1840.0
  3     1    ON   DSL   110   11.3                   1252.0
  3    --    ON   DSL   110   11.3   2560.0      .0  1252.0    1308.0

FUEL INVENTORY STATUS REPORT  POLICE GARAGE 2  07/15/79  00:00

TANK  PUMP  STAT  FUEL   NO.  AVG.  OPENING   AMOUNT  AMOUNT  ON HAND
 NO.   NO.  US    TYPE  TRAN  GPT   BALANCE   RECVD.  PUMPED  BALANCE

  1     1    ON    UNL   28   11.2                     315.4
  1    --    ON    UNL   28   11.2   3022.0       .0   315.4   2706.6
  2     1    ON    PRM   16   12.5                     200.0
  2    --    ON    PRM   16   12.5    212.0    200.0   200.0    212.0

FUEL INVENTORY STATUS REPORT GOLF COURSE  3  07/15/79  00:00

TANK  PUMP  STAT FUEL   NO.  AVG.  OPENING  AMOUNT  AMOUNT  ON HAND
 NO.   NO.  US   TYPE  TRAN  GPT   BALANCE  RECVD.  PUMPED  BALANCE

  1     1   ON   DSL     6   16.0                     96.1
  1    --   ON   DSL     6   16.0   326.9      .0     96.1   230.8
  2     1   ON   REG   135   10.1                   1375.0
  2    --   ON   REG   135   10.1  4250.0      .0   1375.0  2875.0
```

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**(I Codes for Tank File Change)

I02	CHG. SITE TANK#	(1 DIGIT)
I03	CHG. FUEL TYPE	(1 DIGIT)
I04	CHG. # OF ORDERS	(1 DIGIT)
I05	CHG. TANK CAPACITY (NUMBER X 10)	(6 DIGITS)
I06	CHG. SHUTDOWN VALUE (NUMBER X 10)	(6 DIGITS)
I07	CHG. OPENING BALANCE (NUMBER X 10)	(6 DIGITS)
I09	CHG. REORDER POINT (NUMBER X 10)	(6 DIGITS)

SYSTEM CHANGES

PUT LINE ONLINE OR OFFLINE

YOU MAY AT SOME POINT NEED TO PUT AN ENTIRE LINE OFFLINE. AN EXAMPLE OF HOW YOU WOULD DO THIS FOLLOWS:

```
>REQ
READY     SYS,OFF,L2
```

THERE WILL BE NO CONFIRMATION PRINTED OUT. WE RECOMMEND THAT YOU WATCH THE MODEM ATTACHED TO LINE 2. THE LINE IS OFFLINE WHEN THE CARRIER DETECT LIGHT STOPS PULSING.

TO PUT THE LINE BACK ONLINE:

```
>REQ
READY     SYS,ONN,L2
```

HERE AGAIN, YOU SHOULD WATCH THE MODEM FOR LINE 2 AND MAKE SURE THE CARRIER DETECT LIGHT STARTS PULSING ON AND OFF.

PUT TERMINAL ONLINE OR OFFLINE

TO PUT A TERMINAL OFFLINE FOR MAINTENANCE OR OTHER REASONS:

```
>REQ
READY     SYS,OFF,TERM01
```

AND TO PUT THE TERMINAL BACK ONLINE:

```
>REQ
READY     SYS,ONN,TERM01
```

SEE NOTES ON FOLLOWING PAGE.

SYSTEMS CHANGES

NOTE 1. IF THERE IS ONLY ONE TERMINAL ON THIS LINE, YOU MUST ALSO PUT THE LINE ONLINE AFTER PUTTING THE TERMINAL ONLINE.

NOTE 2. THERE WILL BE A MESSAGE ON THE CONSOLE TYPEWRITER SHOWING DATE, TIME, TERMINAL NUMBER AND "POWER RESTART" IF THE TERMINAL WAS TURNED OFF AND BACK ON AT THE UNIT.

PUT MASTER CARD ONLINE OR OFFLINE

YOU MIGHT LOSE A MASTER CARD AND WISH TO PUT THAT NUMBER OFFLINE. AN EXAMPLE FOLLOWS:

```
>REQ
READY     SYS,OFF,C20002
```

WE HAVE JUST PUT MASTER CARD # 20015 OFFLINE. THEN LATER, IF THE CARD IS FOUND, YOU MAY WANT TO PUT IT BACK ONLINE.

```
>REQ
READY     SYS,ONN,C20002
```

PUT PVF CARD ONLINE OR OFFLINE

AS IN THE CASE OF THE MASTER CARD A PVF CARD CAN BE PUT OFFLINE IN THE FOLLOWING MANNER:

```
>REQ
READY     SYS,OFF,C30001
```

THEN LATER IF WE NEED TO PUT THE CARD BACK ONLINE:

```
>REQ
READY     SYS,ONN,C30001
```

SYSTEM CHANGES

PUT TANK ONLINE OR OFFLINE

A TANK, IN THIS CASE TANK NUMBER 1 AT SITE 120 MAY BE PUT OUT OF SERVICE WITH THE FOLLOWING COMMAND:

```
>REQ
READY     SYS,OFF,SITE120,T01
```

TO RESTORE THE TANK TO SERVICE:

```
>REQ
READY     SYS,ONN,SITE120,T01
```

LIKEWISE, A PARTICULAR PUMP ON THAT TANK, SITE AND FLEET MAY BE PUT OFFLINE:

```
>REQ
READY     SYS,OFF,SITE120,T01,P01
```

WE HAVE JUST TAKEN PUMP NUMBER 1 ON THAT TANK OUT OF SERVICE. TO RESTORE IT:

```
>REQ
READY     SYS,ONN,SITE120,T01,P01
```

SYSTEM CHANGES

TANK FILE CHANGES

TO MAKE A CHANGE TO THE TANK FILE:

TWO POSSIBILITIES ARE:

107 INDICATES A CHANGE TO OPENING BALANCE - THE NUMBER IS ENTERED MULTIPLIED BY 10. I.E. TO CHANGE IT TO 3000, ENTER 030000.

109 INDICATES A CHANGE TO REORDER POINT - THE NUMBER IS ENTERED MULTIPLIED BY 10. I.E. TO CHANGE IT TO 1000, ENTER 010000.

EXAMPLES ARE:

```
> REQ
READY     SYS,CHG,SITE120,T01,I07,030000

> REQ
READY     SYS,CHG,SITE120,T01,I09,010000
```

FOR ALL OTHER CODES, SEE THE INDEX.

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**(I CODES FOR OPR CHANGES)

I02,XXXXXXXXX	CHG. SOC. SEC. #
I03,XXX	CHG. OPERATOR COMMAND
I04,X	CHG. PVC STATUS
I05,X,XXXXXXXXX,X	CHG. NAME AND INITIAL
I06,XX	CHG. # OF CARDS ISSUED

OPERATOR FILE CHANGES

ACQUISITION OF NEW OPERATOR

```
>REQ
READY     OPR,ACQ,C01011,SS467666315,C123,IP,NCHAMBERLAIN
```

WHERE:

C01011	IS CARD NO. 1011
SS467666315	IS SOC. SEC. NO.
C123	IS COMMAND 123
NCHAMBERLAIN	IS THE OPERATOR's NAME
IP	IS THE OPERATOR'S INITIAL

CHANGE OPERATOR STATUS TO OFF/ON/DSP

TO PUT THE OPERATOR CARD OFFLINE, YOU WOULD MAKE THE FOLLOWING ENTRY.

```
>REQ
READY     OPR,OFF,C01011,SS467666315
```

THEN IF FOR SOME REASON, CARD NO. 1011 IS NEEDED BACK IN THE SYSTEM, YOU WOULD MAKE THE REVERSING ENTRY.

```
>REQ
READY     OPR,ONN,C01011,SS467666315
```

IF THE OPERATOR IS DROPPED FROM THE SYSTEM YOU WOULD DISPOSE OF THE CARD IN THE FOLLOWING MANNER:

```
>REQ
READY     OPR,DSP,C01011,SS467666315 .
```

OPERATOR FILE CHANGES

CHANGE CARD NUMBER

IF THE CARD IS LOST, THE FOLLOWING ENTRY WILL NOT ONLY PUT THE OLD CARD # OFFLINE BUT ALSO PUT THE NEW CARD# ONLINE AND MOVE ALL THE INFORMATION FROM THE OLD RECORD TO THE NEW ONE.

```
>REQ
READY     OPR,NCN,C01011,SS467666315,N02590
```

TO CHECK THIS ENTRY, YOU CAN FIRST DO AN OSR ON CARD # 2590:

```
>REQ
READY     OSR,C02590
OPERATOR STATUS REPORT 10/17/80  16:58:46
CARD         OPERATOR                LAST                     # OF
 NO.  STAT    NUMBER    CMND  PVF   CHNG       NAME          CARDS
2590    ON 467-66-6315   123   NO  10/17  CHAMBERLAIN,P        1
```

AND THEN DO AN OSR ON CARD # 1011:

```
>REQ
READY     OSR,C01011
OPERATOR STATUS REPORT 10/17/80  16:59:01
CARD         OPERATOR
                                      LAST                     # OF
 NO.  STAT    NUMBER       CMND  PVF  CHNG         NAME        CARDS
1011   OFF ---------        0    NO   10/17   0
```

CHANGE AN ELEMENT IN THE OPERATOR FILE

AN EXAMPLE OF A CHANGE TO THE OPERATOR FILE FOLLOWS:

```
>REQ
READY     OPR,CHG,C01011,SS 467666315,I03,888
```

WHERE I03 INDICATES A CHANGE TO THE OPERATOR COMMAND FOR CARD #1011.

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GENERAL DESCRIPTION

CARD ENTRY AT THE TERMINAL

Since you have a 2-card system, a timer will start when you enter the first card (employee card). You then have 15 seconds to enter the second card (vehicle card).

If you get an error on the second card, you will need to start the card entry process all over by entering employee card first.

FUEL RECEIPT AT THE TERMINAL

Fuel receipts are entered at the terminal, using an operator card and a master card for card entry and entering the gallons received (no tenths) right justified in the thumb wheel switches. A "9" is set into the leftmost thumb wheel switch, and finally you press a pump button associated with the tank that received the fuel.

If the fuel receipt is accepted by the octane system, you will see the wait light go out for confirmation. If it is not accepted, you will see one error light - pump error.

GENERAL DESCRIPTION

IPL PROCEDURE

We recommend the following procedure for initial program load or IPL.

1. Press the blue load button on the computer.
2. You should then see the following printout:

```
*** EVENT DRIVEN EXECUTIVE ***


VOLSER TYPE IODA STATUS
EDX002  PRI.  0003  ONLINE (IPL)
EDX003  SEC.  0003
ASMLIB  SEC.  0003
        PRI.  0002  UNUSABLE

STORAGE MAP
PART# START  SIZE
  1   30976  34560
  2   65536  57344

SET DATE AND TIME USING COMMAND $T

$INITIAL ENDED AT 00:00:02
```

3. Now enter > $T
4. You should then see the following printout:

   Date (M.D.Y.): (Here enter month, day, and year, i.e. 02.21.79)

5. You will then see:

   Time (H.M.) (Here enter hour and minute, i.e. 08.30)*

* If it is after noon, be careful to enter time for a 24-hour clock, i.e., 3:30 p.m. is entered as 15.30.

GENERAL DESCRIPTION

6. Next, enter:

```
> $L  OCTANE
```

7. The program will begin to load now and you should see the following printout:

```
  $L OCTANE
OCTANE          4P,16:50:29, LP=7900
NUCLEUS       147P,16:50:32, LP=2000
16:50:35


CNTLR PREP PASSED, CODE = FFFF
BWI             9P,16:50:37, LP=7000
CNTLR RESET PASSED, CODE = FFFF
16:50:40 START COMPLETED
BW2             9P,16:50:41, LP=8600
COLORIPL       16P,16:50:44, LP=B300

OCTANE   ENDED AT 16:50:45
COLRUPDT       17P,16:51:11, LP=8F00

COLORIPL ENDED AT 16:51:13
```

8. When you see the message:

"Start Completed"

your program is online, and you should be polling terminals.

9. `> $CP  2`

10. `>TPT` (TO PRINT FUEL TRANSACTIONS)

11. `>INH` (TO INHIBIT ERROR MESSAGES)

GENERAL DESCRIPTION

MIDNIGHT OPERATION

At midnight, a program comes in to build the report. When this process is complete, a message will be printed on the typewriter:

```
REPORT READY
```

If for some reason, the system is down during the cutoff period, there is an emergency procedure to handle this problem. See "MID" on Page 2 for a full description.

The report built during this phase can be accessed by entering:

```
 > REQ
READY  RPT
```

See page 17 for a full description of RPT.

On a weekly basis, (i.e. cutoff dates are 1,8,15, and 22). The transactions are also moved from TRNSAC1 (current week) to TRNSAC2 (last week).

You will then see a second message on the typewriter:

```
EOD COMPLT
```

PROCEDURE FOR HANDLING OIL

The use of oil can be registered at the fuel terminal. It is a two-card entry like your regular fueling request, but no pump is enabled. You simply enter the number of quarts used in the right- most thumb wheel switch position before you enter the VEHICLE CARD. Pump button 5 on every terminal is reserved for this purpose. The oil issue is registered at the computer as a transaction, type '10'.

ORDERING FUEL

To inform the computer of fuel orders, an entry is made when the order is called in for that tank at that site.

An example follows:

```
> REQ
READY     ORD,SITE001,T01
```

indicating that fuel was ordered for TANK 1 at SITE 120.

GENERAL DESCRIPTION

TERMINAL TIMER ROUTINE

Fuel terminals that have gone offline due to some communication problem or terminal malfunction will try to go online every 15 minutes. To abort this attempt to restart, you can put the terminal offline with:

```
>REQ
READY    SYS,OFF,TERMXX
```

SECURITY CODES

To enable the console typewriter, enter your security code at the Black & White CRT in the computer room. When it exhibits 'READY' enter 'KSR,LOGON' and the console should be enabled.

To disable the same unit, enter 'KSR,LOGOFF'

NOTE: At either Black & White CRT, you must enter your security code each time you request a report.

AD-A119 954 NAVAL UNDERWATER SYSTEMS CENTER NEW LONDON CT NEW LO--ETC F/G 13/11
NEW YORK CITY POLICE DEPARTMENT AUTOMATED FUEL MONITORING SYSTE--ETC(U)
NOV 81 W J MCGRATH, M M MCNAMARA
UNCLASSIFIED NUSC-TR-6567-II NL

4 OF 4
AD
A119954

END
DATE
FILMED
11 82
DTIC

GENERAL DESCRIPTION

REQUESTING PRINTOUT

All status reports will come back to the unit requesting them, with the exception of 'RPT' which goes to the printer.

The black and white CRTS can request the following reports: PPS,STT,ESR,OSR, and PFR.

All error messages will print on the console typewriter and all TPT lines (fueling transactions) will print on the other typewriter.

All INQUIRY programs will print on the 4973 line printer.

PVC CARD ENTRY AT THE TERMINAL

This is a 2-card entry as are all others. The Employee Card is entered first for verification. The PVC card is then entered with the last 4 digits of your social security # right justified in the thumb wheel switches.

ERROR MESSAGES

The Octane System can generate several different types of error messages. All of the messages are of the form:

HH:MM:SS mmmmmm LN aaaa TRM bbbb ECB cccc ISB dddd CSSWS eeee ffff gggg

where

HH:MM:SS	is the time in hours, minutes and seconds
mmmmmm	is the message type, which can be either a) ESI-ECB b) ESI-ISB c) LCKERR d) LINE#ER e) MATCHER f) TR LINE g) TREPOL1 h) TREPOL2 i) TREPOL3 j) VALIDCK
aaaa	is the line number
bbbb	is the terminal number
cccc	is the ECB code where the 1st two digits = line number the 2nd two digits = error code a) C0 is device not attached b) C1 is device busy c) C2 is device busy after reset d) C3 is I/O command reject e) C5 is interface data check f) C6 is I/O controller busy g) D0 is I/O controller h) D2 is exception i) FF is OK
dddd	is the ISB word where the 1st two digits = ISB the 2nd two digits = device address a) 21 is Line 1 b) 22 is Line 2 c) 23 is Line 3
eeee ffff gggg	is the cycle steal status words (CSSWS)

1. The ESI-ECB message indicates that the ECB return code was not FF or D2.

2. The ESI=ISB message indicates that the ECB return code was D2, but the ISB code was not A0.

3. The LCKERR message indicates that the length of the message received was in error, (i.e. not 4, 8, or 20 bytes long). Lxxxx is at the end of the message and should tell you length received.

4. LINE#ER indicates a bad system error regarding this line.

ERROR MESSAGES cont.

5. MATCHER indicates that the message received was not from the terminal polled.

6. TR LINE indicates that there has been a system error on this line.

7. TREPOL1 indicates that the octane system has taken line 1 OFFLINE.

8. TREPOL2 indicates that the octane system has taken line 2 OFFLINE.

9. TREPOL3 indicates that the octane system has taken line 3 OFFLINE.

10. VALIDCK indicates that Vehicle # for this total was 000000. Vehicle error occures if a power failure requires IPL of the series/1 while a fueling is in progress. Vehicle # is lost in the power failure and a transaction is built showing VEH # as-1.

11. VEHERR indicates that Vehicle # for this total was 000000. Vehicle error occurs if a power failure requires IPL of the series/1 while a fueling is in progress. Vehicle # is lost in the power failure and a transaction is built showing VEH # as-1.

    EXAMPLE:

```
19:15:09 VEHERR LN 0001 TRM 0002 ECB 01D2 ISB A021 CSSWS C037 0040 F000
OUT 0044 00F0 IN F0F2 F9F0 F0F9 F40F F6F9 F6FB F1F0 F0F2 F4F4 F40F
   42  0-0 05/07  19:14, V    -1, M    750,S01,T1,F1,P2,F 1,G  .4,MPG .0
```

ERROR MESSAGES cont.

GENERAL MESSAGES

1. POWER RESTART indicates DC. power to the fuel terminal microprocessor was interrupted & it's program was restarted.
2. AUTO RESTART indicates the fuel terminal microprocessor detected a program error & automatically restarted it's program.
3. TNKPMP FILE ERROR indicates a total was received from a pump not identified in the Series/1 base data.
4. TRMXXXX NO TOTAL CAME IN - PUMP X CARD XXXXX indicates that no total was received on this card after pump was enabled.
5. TRMXXXX INV CARD XXXXX XXXXX IDXX indicates that one of the card numbers listed is invalid.
6. TRMXXXX TXX REORDER is a warning that tank at this terminal has reached REORDER point.
7. TRMXXXX TXX SHUTDOWN indicates that tank at this terminal has reached SHUTDOWN point and the system has taken it offline.
8. TRMXXXX TXX SSXXX-XX-XXXX GXXXX RECV is a message corresponding to a fuel receipt manually input to a terminal. The word 'ERROR' will follow this message if the receipt was not accepted at the Series/1.
9. TRMXXXX TXX PRES XXXX DIP XXXX VAR = XXXX indicates that a dipstick reading has been manually entered to a tank. Printed is the present value in the S/1, the dipstick reading entered in the thumb wheel switches and the variance between the two.
10. TRMXXXX TXX ONLINE INDICATES THAT A fuel receipt has come in and raised the tank level above shutdown.
11. TRMXXXX TXX FUEL RECEIPT - BUFFERS FULL XXXXX GALLONS RECEIVED is a 2-line message that indicates the tank already has 4 receipts and could not accept a fifth one for this period.

EXPLANATION OF BUFFER PRINTOUT

This printout follows Match Error, Validity Check, & Length Check.

The Series/1 communicates with the octane terminals by sending and receiving messages serially, using a frequency shift keying(FSK) technique. The inbound (2125Hz) and outbound (1170Hz) carrier frequencies are shifted above and below the center frequency to represent serial data bits (1's & 0's).

Bytes are 8 bits in length. Each byte transmitted is preceeded by one start bit and followed by 2 stop bits for data synchronization. The start bit and stop bits are stripped off by the receiving hardware becoming invisible and thus will not be further mentioned.

The data format within each 8 bit byte is redundant HEX digits. Expressed another way each HEX DIGIT is repeated within the 8 bit byte ie: a four is transmitted (0100 0100). The only exception to this redundancy is the end of transmission character (EOT) which is a HEX 0F (0000 1111).

All outbound communications from the Series/1 consist of 4 bytes including EOT. There are two bytes of terminal address, one byte of control, and the EOT.

Inbound communications vary in length under three different conditions as follows:

1. Skip = 4 bytes. This is a response to a poll when the terminal requires no service. (2 bytes of terminal address, 1 byte of 0's, and EOT).
2. Total = 8 bytes. This is a response to a poll when a transaction is completed. (2 bytes of terminal address, 1 byte identifying pump #, 4 bytes of gallons dispensed including tenths, and EOT).
3. Request = 20 bytes. This is a response to a poll when the terminal request pending flag is set (wait lite ON). (2 bytes of terminal address, 1 byte identifying selection button, 10 bytes of card numbers, 6 bytes of thumbwheel switches, & EOT).

The Series/1 buffers all inbound and outbound messages while processing the information and dumps the contents of the buffers under certain conditions. Interpreting the information in these buffer dumps requires basic understanding of the buffer architecture, program logic flow, and data conversions.

The first Very Important Fact to understand is that in the transmission process the data bits are inverted end over end or FLIPPED. Example: when the terminal transmits a Redundant HEX 1 (0001 0001), it is received backwards (1000 1000) and thus becomes redundant HEX 8. The following is a HEX DIGIT conversion table for easy reference.

HEX DIGIT CONVERSION TABLE

RECEIVED		TRANSMITTED	
0	(0000)	(0000)	0
1	(0001)	(1000)	8
2	(0010)	(0100)	4
3	(0011)	(1100)	C
4	(0100)	(0010)	2
5	(0101)	(1010)	A
6	(0110)	(0110)	6
7	(0111)	(1110)	E
8	(1000)	(0001)	1
9	(1001)	(1001)	9
A	(1010)	(0101)	5
B	(1011)	(1101)	D
C	(1100)	(0011)	3
D	(1101)	(1011)	B
E	(1110)	(0111)	7
F	(1111)	(1111)	F

Note EOT= F0 (1111 0000) (0000 1111) 0F

The buffer dump immediately follows the error message and is in the following format. At the left are 4 bytes (8 HEX digits, printed in two groups of 2 bytes each). They are what was in the output buffer when the error occurred. It is important to note that the bytes are redundant HEX and are FLIPPED because the transmission process inverts or flips the bytes. To determine the specific hex digits in this outbound poll, apply the conversion table provided. Also note the 4th byte is F0. This becomes 0F (EOT) when flipped in transmission.

The output and input buffer is separated by two blanks, (4040) on the printout.

The following 20 bytes (40 HEX digits, printed in 10 groups of 2 bytes each), are contents of the input buffer AFTER the error was detected.

Some important points to note are:

1. MATCHER is the first test of the input buffer and if in error NO byte flipping or conversion occurs. Note this on the logic flow diagram.
2. The data in the input buffer is overlayed with each new communication.
3. More than one error may occur in a transmission. The error message printed is the First error detected. See the logic flow diagram.
4. Note on the logic flow diagram that once an error is detected NO further byte flip or conversion occurs.

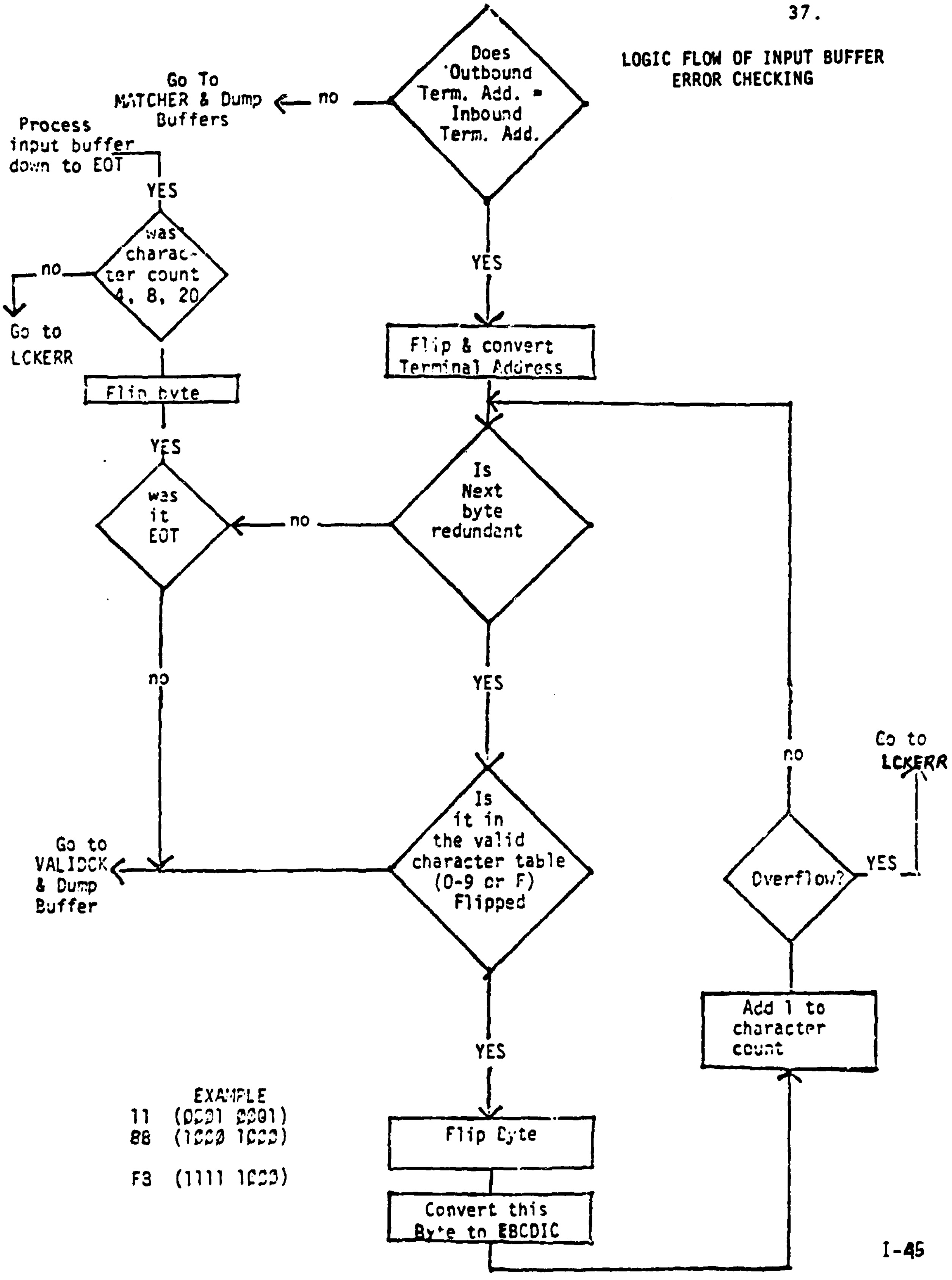
To identify the specific cause of error on MATCHER compare the outbound and inbound terminal address. Remember no conversions have occurred and the table must be applied.

To identify the specific cause of error on VALIDCK, locate the first byte which is not converted to EBCDIC. It will contain the error. Either the HEX digits are not redundant, or the byte will not flip to a valid character (0 - 9 or F). All bytes from that point through EOT are not flipped and must be applied to the table.

To determine if the error occurred on skip, total, or request, locate the EOT character. It will fall in the 4th, 8th, or 20th byte if the message length was not also in error.

LCKERR (length check error) prints the actual byte count at the right of the error message.

LOGIC FLOW OF INPUT BUFFER ERROR CHECKING


Does Outbound Term. Add. = Inbound Term. Add.
no
Go To MATCHER & Dump Buffers
YES
Flip & convert Terminal Address
Is Next byte redundant
no
was it EOT
YES
Flip byte
was character count 4, 8, 20
no
Go to LCKERR
YES
Process input buffer down to EOT
no
Go to VALIDCK & Dump Buffer
YES
Is it in the valid character table (0-9 or F) Flipped
YES
Flip Byte
Convert this Byte to EBCDIC
Add 1 to character count
Overflow?
YES
Go to LCKERR
no
EXAMPLE
11 (0001 0001)
88 (1000 1000)
F3 (1111 1000)

SYSTEM UTILITY COMMANDS

COMMAND	DEFINITION	NOTES
>$A	PRINT ACTIVE PROGRAMS	
>$C	CANCEL A PROGRAM	SEE CAUTION(**)
>$D	DUMP A PROGRAM	
>$L	LOAD A PROGRAM	
>$P	PATCH A PROGRAM	SEE CAUTION(**)
>$T	SET DATE & TIME	
>$VARYON	SETS DISKETTE STATUS TO ON-LINE	
>$VARYOFF	SETS DISKETTE STATUS TO OFF-LINE	
>$W	PRINT DATE AND TIME	
>$CP2	CHANGE PARTITION 2	
>$CP1	CHANGE PARTITION 1	

(**) USE ONLY WITH PROPER AUTHORITY.

INDEX
of
FILE INQUIRIES

			PAGE
1. OPERATOR	$L OPRINQ		39
TO LIST:			
CHOICES AVAILABLE		P	
SINGLE RECORD BY CARD NUMBER		1,XXXXX	
RANGE OF RECORDS BY CARD NUMBER		2,XXXXX,XXXXX	
ALL RECORDS		3,	
SINGLE RECORD BY OPERATOR ID		4,XXX-XX-XXXX	
PRIVATE VEH FUELING-BY CMND		5,XXX	
ALL RECORDS IN SPECIFIC COMMAND		6,XXX	
ALL RECORDS WITH STATUS = OFF-LINE		7	
TO END PROGRAM		EN	
2. EQUIPMENT	$L EQPINQ		40
TO LIST:			
CHOICES AVAILABLE		?	
SINGLE RECORD BY CARD NUMBER		1,XXXX	
RANGE OF RECORDS BY CARD NUMBER		2,XXXX,XXXX	
SINGLE RECORD BY EQUIPMENT NO.		3,XXXX	
ALL EQUIPMENT CARD NUMBERS		4,XXXX	
EQUIPMENT IN COMMAND		5,XXX	
EQUIPMENT IN CLASSIFICATION		6,ABC	
LIST ODOMETER RANGE (BY CLASSIFICATION)		7,XXXXXX,XXXXXX,(ABC) OR ALL	
TO END PROGRAM			
3. TRANSACTIONS	$L TRINQ		41
TO LIST:			
CHOICES AVAILABLE		?	
ALL TRANSACTIONS		1	
ALL IN GIVEN MONTH		2,XX	
ALL FOR GIVEN DATE		3,XX/XX	
BY TRANSACTION TYPE		4,XX	
BY EQUIPMENT NUMBER		5,XXXX	
BY SITE-LOCATION		6,XXX	
BY FUEL TYPE		7,X	
VEHICLE CLASSIFICATION		8,ABC	
PRIVATE VEH FUELING/COMMAND		9,ABC	
BY OPERATOR IDENT (SOC. SEC.)		10,XXX-XX-XXXX	
TO END PROGRAM			
4. PVF REPORTS	$L PVF		41
TO LIST AND SUB-TOTAL TRANSACTIONS BY			
OPERATOR IN A COMMAND		XXX	
ALL COMMANDS	$ ALL PVF		
5. INDEX	$L INDEX		
TO LIST:			
EQUIPMENT INDEX		EQ	
OPERATOR INDEX		OP	
TO END PROGRAM		EN	

FILE INQUIRY

OPERATOR INQUIRY (OPRINQ)

The operator inquiry program provides a variety of search or selection modes.

1. In all cases the program is started by:

```
>$L OPRINQ
```

2. The program will ask for your inquiry type:

```
INQUIRY TYPE(?)_
```

   Enter the number for the report you want. If you are not sure of your choice, enter question mark ? and the program will display the options available to you. Make your selection or enter EN to end the program.

3. The program will begin processing your report (list all or list off-line status cards) or it will ask for necessary data (i.e. command # for 'list all in specified command'). In one case, 'list range of card numbers', the program will ask for two numbers - the beginning and the end of the required range.

FILE INQUIRY

EQUIPMENT INQUIRY (EQPINQ)

The equipment inquiry program provides a variety of search or selection modes.

1. In all cases the program is started by:

```
>$L EQPINQ
```

2. The program will ask for your inquiry type:

```
INQUIRY TYPE (?)_
```

   Enter the number for the report you want. If you are not sure of your choice, enter a question mark, ?, and the program will display available options. Make your selection or enter, EN, to end the program.

3. The program will begin processing your report (list all) or it will ask for necessary data (i.e. class for list all in classification). In one case, list range of odometer readings in command, 3 numbers must be entered.

FILE INQUIRY

TRANSACTION INQUIRY (TRINQ)

The transaction inquiry program will prepare several different types of reports.

1. The program is begun with:
   ```
   >$L TRINQ
   DSI(NAME, VOLUME):
   ```
   Where DS is the data set being processed, TRNSAC1 or TRNSAC2.

2. The program will ask for your inquiry type.

3. If additional data is necessary, the program will ask for it.

FILE INQUIRY

PRIVATE VEHICLE FUELING REPORTS (PVF)

1. This program is started by:
```
>$L PVF
DS1(NAME,VOLUME):
```

2. The program will ask for command number in form XXX.

3. The report will list individuals in the command with PVF cards together with their transactions and a sub-total of fuel issued to them in this reporting period.

4. If an operator with a PVF card make no transactions in this period, 'no activity in this file' will be printed after his name.

5. Any transactions which cannot be matched with the name in the operator file (i.e. because of an operator delete, etc.) are listed separately with operator identification #.

6. To list private fueling in all commands:
```
>$L ALL PVF
```
This program will list private fueling transactions for each command with subtotals for individuals and total for command.

INDEX

Index program provides a listing of eitner operator card numbers and associated SS# or vehicle card numbers and associated equipment numbers.

1. The program is started by:

```
$L  INDEX
```

2. The program will ask:

```
INDICATE EQUIPMENT INDEX LISTING (EQ)
         OPERATOR INDEX LISTING (OP)
         OR END PROGRAM (EN)
```

Make selection or end program.

3. The program will then ask you to list the range of card numbers - the beginning and the end of the required range.

4. The program will then process your report on the high speed printer. The program will aslo show unassigned cards by a "0", disposed of cards with date, and offline cards with a * next to SS#. Totals of online, offline, disposed, and unassigned cards will appear at end of this report.

```
>$L INDEX
INDEX       13P,07:39:58, LP= B300

INDICATE EQUIPMENT INDEX LISTING (EQ)
          OPERATOR INDEX LISTING (OP)
                OR   END PROGRAM (EN)  OP

LOW NUMBER OF RANGE

HIGH NUMBER OF RANGE
```

PROCEDURE FOR MOVING TRANSACTIONS TO DISKETTE

Every month, on the 1st, 8th, 15th and 22nd day of that month, transactions must be moved to diskette. The procedure is as follows.

Take a Diskette from IBM box marked with yellow label. The label on the Diskette itself will read TRNDSKT 1922.

Put the Diskette in the computer and close the door - when the door has been closed properly, you will hear a noise.

Go to the System Control KSR and type the following:

```
>$VARYON 2
```

the KSR will type the following message by itself:

```
SYS034 ONLINE
```

You then type:

```
> $L MOVETRNS
```

The computer will then move the transactions to the Diskette.

When the transactions have been moved you will see the following message come up on the KSR:

```
MOVETRNS ENDED AT (whatever time it is)
```

You then open the door and remove the Diskette from the computer.

Write the date in the right hand corner of the Diskette label and put the used Diskette in the IBM box marked with red label.

```
>$VARYON 2
SYS034 ONLINE

>$L MOVETRNS
MOVETRNS     3P,07:33:39, LP= 7900

MOVETRNS ENDED AT 07:34:26
```

PROCEDURE FOR LOOKING AT THE TRANSACTIONS ON A USED DISKETTE

If at a later date, you should want to look at transactions from a previous week, month, etc. the following procedure is to be used:

Go to the IMB box with the red label on it which contains the used Diskettes.

Looking at the dates that are written on the right hand side of the Diskette label, take out the Diskette for the time period you want to look at.

Put the Diskette in the computer & close the door - when the door has been closed properly, you will hear a noise.

Go the the System Control KSR and type the following:

```
>$CP 1 (you must be in partition #1)
>$VARYON 2
```

The KSR will type the following message by itself:

```
SYS034 ONLINE
```

You then type the following:

```
>$L TRINQ
```

The KSR will type the following:

```
DS1 (NAME, VOLUME):
```

You then type:

```
TRNDSKT,SYS034
```

When the KSR asks you for the search type, you reply with the code that corresponds to the type of information you want i.e., 03- All transactions for a given date.

If you don't know the proper code, when the KSR asks : SEARCH TYPE IS (?)

You type: ?

This will bring up all possible codes.

Transactions will be printed on high speed printer & when it is finished you will see the KSR type:

```
TRINQ ENDED AT (whatever time it is)
```

Remove Diskette from computer and put back in IBM box with red label.

Then change the partition back to partition 2 as follows:

```
>$CP 2
```

```
>$CP 1
>$VARYON 2
SYS034 ONLINE
 >$L TRINQ
 DS1 (NAME,VOLUME): TRNDSKT,SYS034
TRINQ          50P,11:34:04, LP= 9500

TRANSACTION FILES
SEARCH TYPE IS (?)  ?

01 ALL TRANSACTIONS
02 ALL IN GIV MONTH
03 ALL FOR GIV DATE
04 BY TRANSAC. TYPE
05 BY EQUIP. NUMBER
06 BY SITE/LOCATION
07 SPECIF FUEL TYPE
08 V CLASSIFICATION
09 PVF  BY  COMMAND
10 BY OPR IDENT- SS
EN   END PROGRAM
SEARCH TYPE XX 03
RECORD DATE MO/DA 11/12

TRINQ    ENDED AT 11:39:39
```

Appendix J

NYCPD AUTOMATED FUEL SYSTEM
SERVICE GUIDE

N.Y.C.P.D AUTOMATED FUEL SYSTEM SERVICE GUIDE

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TR 6567-II

MARCH 4, 1981
(REV. MAY 7, 1981)

N.Y.P.D. AUTOMATED
FUEL SYSTEM
SERVICE GUIDE

SECTION I

EXPLANATIONS/SPECIFICATIONS:

E.J. WARD, INC.
8801 TRADEWAY
SAN ANTONIO, TEXAS
78217
(512) 824-7383

TYPICAL OCTANE CONTROL UNIT INSTALLATION

INSTRUCTIONS

1. LOCATION SELECTION:

   The Octane Control Unit (O.C.U.) should be installed in a location near the fuel pumps to be controlled. Perferably, install on the inland with the pumps or at either end of the island protected by guard post. If possible, the O.C.U. should be installed facing South, S.E., or East. This is to provide added protection from the elements.

2. INSTALLATION OF O.C.U.:

   Custom Stand. The Stand should bolted to finished surface using 4 - ½" expanding lead anchors or equivalent. (See custom stand diagram for dimensions.) Secure the O.C.U. to the top of the stand using 2 - 3/4" bolts, nuts, & washers provided with stand.

   Pipe Stand. See typical pipe stand drawings for floor and wall mounts. For floor mount stand, bolt stand to surface using 4 - ½" expanding lead anchors or equivalent. Wall mounting will depend on the type of wall the stand is being mounted on. See typical drawings. Secure O.C.U. by screwing it on the pipe stand. If there is not enough room to turn the O.C.U. remove the pipe flange adaptor from the bottom of the O.C.U. and screw it on the pipe stand first, then reattach the O.C.U. to the pipe flange. The pipe stands should be installed so the bottom of the O.C.U. is at least 53" above finished floor.

3. TELEPHONE LINES: (DATA PAIR)

If conditions permit, an aerial run may be made to a pole near the O.C.U. From that point the data pair should be run in steel conduit to the O.C.U. If conduit is required, run a separate ½" conduit from the O.C.U. to the building where the telephone line terminal block is located. Pull one 2 conductor shielded cable in this conduit for the data pair. Do not run any A.C. lines in this conduit. (See Telephone Specification Sheet for Phone Line Specs.)

4. O.C.U. POWER

Power should be from a separate 115 VAC, 15 AMP circuit breaker. Run one ½" conduit from O.C.U. to nearest available breaker panel. Pull three #12 THWN or THHN stranded, or approved gas & oil resistant wiring. At breaker panel end, tie one wire (BLK) to 115 VAC, 15 AMP breaker, one wire (WHT) to neutral bar, and one wire (GRN) to separate safety ground rod.

5. O.C.U. WIRING AND CONDUIT SCHEME

Single Nozzle Fuel Dispenser. Run two ½" conduits to each dispenser from O.C.U. In one conduit pull one 3 conductor shielded cable, in the other pull four #14 THWN or THHN stranded, or approved gas & oil resistant wires.

Dual Nozzle Fuel Dispenser. Run two 3/4" conduits to each dispenser from O.C.U. In one conduit pull two 3 conductor shielded cables, in the other pull eight #14 THWN or THHN stranded, or approved gas & oil resistant wires. Under certain conditions, AC wiring and shielded cable may be pulled in the same conduit. Conduit size may need to be increased. This wiring requirement is for O.C.U. control circuits only, and has nothing to do with the existing dispenser A.C. wiring requirement.

6. O.C.U. CONTROL WIRING CONNECTIONS:

See diagram on mother board connections. The wires are connected to the mother board by using ¼" push-on, solderless spade connectors.

* 3-CONDUCTOR SHIELDED CABLE. There should be a shielded cable used for each pump controlled. (1 through 5). In a standard color coded cable there is a red, white and black wire. In the O.C.U. attach the red wire to hook, white wire to pulse, and black wire to common. At the dispenser, connect the white wire to the pulser, red wire to the normally closed contact of the load complete relay, and the black wire to common of both the pulser and load complete relay.

Some pulsers are polarity sensitive. When using Unidynamic pulsers, the purple wires should be connected to positive D.C. voltage from the O.C.U. (white wire) and the orange and/or brown to negative D.C. voltage from the O.C.U. (black wire). The shields on all cables are to be above ground. In the O.C.U. tie all shields together and attach them to the common test terminal on the mother board. At the pump end cut the shields off even with the cable outer jacker and tape back to prevent any possibility of it coming in contact with ground.

* Pump Run Circuit. The pump run circuit on the O.C.U. mother board is enabled when the pump selector switch is in BYPASS, or by card access when the pump selector switch is in auto. The control wiring to the pump, should be connected to the desired pump run circuit 1 - 5 on the mother board. This control line in most instances should be tied to a set of N.O. contacts (switch or relay) that will close when the dispenser off/on switch is turned on and the register reset function is complete.

From the other side of the N.O. contacts, the control line should go to either an electric solenoid valve or a power control relay and back to the O.C.U. Neutral (Return). When these N.O. contacts are made they should permit the pump run potential to enable one of these devices.

TELEPHONF LINE SPECIFICATIONS

Private Line Channels for use as Octane System data circuits.

Communication circuits shall be split bridge multipoint 3002 unconditioned voice grade channels provideing 2 wire interface with effective 2 wire facilities engineered for a Net Loss no greater then 16dB at 1000 Hz, suitable for use as one half duplex 300 BAUD data channels.

Frequency response - shall be 300-3000 Hz with Net gain of 3 dB to Net Loss of 12dB with respect to 1000 Hz test signal.

Frequency shift - shall not exceed +-5Hz.

Envelope delay distortion- shall be less than 1750 microseconds for 800 to 2600 Hz.

Impulse Noise- shall not exceed 15 counts in 15 minutes at a threshold of 6 dB below a -13 dB 1000 Hz test signal.

Phase Jitter - shall not exceed 10 degrees peak to peak.

All circuit parameters and design shall be equal to Southwestern Bell Telephone Company Type 422 Service.

Octane Control Unit Major Component Description:

INTERFACE & POWER SUPPLY BOARD.

Purpose is to supply the DC potentials required for terminal operation & to interface the sense, control & display components on the terminal door with the terminal microprocessor circuitry, and to enable pump run circuits.

UART-MODEM

Purpose is to establish communications with the Series One computer under the direction of the microprocessor.

RANDOM ACCESS MEMORY BOARD (RAM)

It provides storage area for fueling transactions. It also provides the microprocessor with a scratch pad work area.

READ ON MEMORY (ROM)

Purpose is to provide hardware program control of microprocessor.

CENTRAL PROCESSOR UNIT (CPU)

Purpose is to control all terminal hardware under program supervision.

THUMBWHEEL SWITCH ASSEMBLY

Purpose is to provide a data input to the microprocessor. These inputs can be, but not limited to the following types: odometer reading, Vehicle number or Dip stick reading.

MOTHER BOARD

Purpose is to provide interconnection of microprocessor circuitry, pump enable By-Pass control, AC to DC supply with off/on switch & battery charge. It also provides dispenser sense & control wiring interface.

MAGNETIC STRIPE CARD READER

Purpose is to read the encoded information found on the magnetic striped card upon its removal.

PUSH BUTTON PUMP SELECT

Purpose is to allow the selection of dispenser.

PUMP ENABLE LIGHT

Purpose is to indicate which pump has been enabled.

SYSTEM ON LIGHT

Indicates O.C.U. is powered on when lighted.

COMM. FAIL LIGHT

Indicates O.C.U. is in an off-line condition when lighted.

ERROR LIGHTS

Self explanatory.

O.C.U. Terminal Circuit Operation

The microprocessor's reader senses a card in its reader that is being removed. This action causes the reader to read the encoded information and transfers this data to the RAM board via logic circuits of the Interface/Power board. Temporary storage is provided in RAM pending error checking and card information processing.

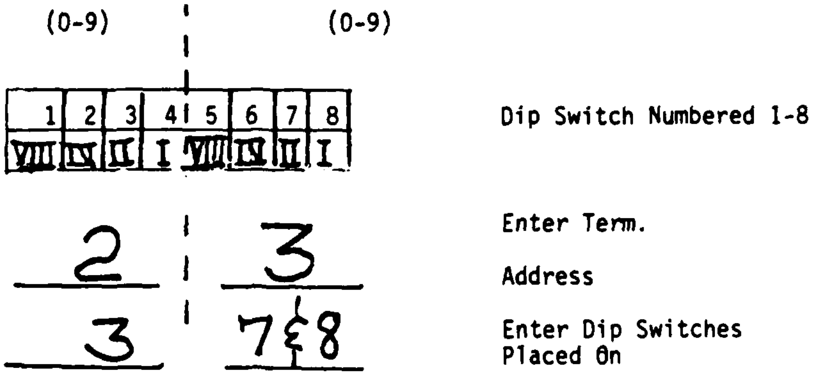
Assuming acceptance of this data (no card error), when the microprocessor senses a pump enable push button request, the wait light is turned on via the Interface/ Power board. It also builds a request message to be sent to the Series One computer. This request message is sent to the Series-One via the UART-MODEM board (Serial transfer, byte by byte under the control of the CPU board)

As the Series-One sees the request, it places it in a temporary validation input buffer. At this time validation of applicable data such as card type, on-line/off-line status, odom check, tank & pump status, fuel status etc. are checked. If an error is detected, the request is denied and an error is sent back to the O.C.U. terminal. If the request is valid, it is transferred to a specific pump buffer, and a control byte is sent back to the O.C.U. terminal. If it was an operators card, the control byte would be an acknowledgment of receipt of request. This would turn out the wait light and clear the data buffer in RAM for the next card request. If it was a vehicle card, the control bytes would be an acknowledgment of receipt of request. This would turn out the wait light, clear area in RAM, and enable the requested pump-run circuit. It would also store the number of gallons allowed for this particular card in a designated area in RAM.

When the microprocessor senses the common tie being removed from its associated hook sensing circuit it wakes up the pulse sense circuit. The pulse circuit transfers any incoming 1/10 gallon pulses to the RAM board where they are being constantly added up & compared with total gallons allowed by the Series-One for this particular vehicle card. When the gallons limit is reached the pump run potential will drop out. With the dispenser nozzle hung up properly the hook sense circuit will cause the microprocessor to build a TOTAL message which is sent to the Series-One. The Series One sends the O.C.U. an acknowledge at this point. This TOTAL message is married-up with the vehicle card request in the pump buffer. Once this total reaches the specific pump buffer a transaction is built and sent to disk as well as the TPT printer, if TPT report has been requested. It also clears the specific pump buffer to all zeros.

Another way a TOTAL can be built & sent to the Series-One is by at least 1/10 gallon of fuel being sensed by the pulse input circuit & the dispenser nozzle being hung up properly. This action causes the hook circuit to acknowledge a total.

ADDRESSING THE INTF/PWR BOARD


(0-9)
(0-9)
1 2 3 4 5 6 7 8
VIII IV II I VIII IV II I
Dip Switch Numbered 1-8
2
3
Enter Term.
Address
3
7&8
Enter Dip Switches
Placed On

EXAMPLE: Addressing : (Terminal 23, Push DIP switches 3,7, & 8)
Terminal 9 5, Push DIP switches 1 & 4 and 6 & 8
Terminal 07, Push DIP switches 6, 7 & 8 only.

NOTE: DIP switch addressing is done in two ½ bytes. The first ½ byte is reserved for the most significate digit (zero thru nine) and the other ½ byte is for the least significate digit, (zero thru nine).

COMMON ERROR MESSAGES

AUTO RESTART

Indicates the O.C.U. terminal detected an internal program error and automatically restarted its program.

This type of error may be accompanied by one or two other error messages. TNKPMP and/or VEHERR. If this occurs, especially if a VEHERR follows a valid transaction shown on TPT printout, no action should be taken unless it continues to happen frequently. If it does, first try replacing the RAM board. If problem persist insure wiring integrety meets standards set forth in the section covering INSTALLATION OF O.C.U.

INVALID CARD

Indicates the card number, its associated vehicle number, or its system identification number is not valid within this fuel systems software.

The most common cause of this occurring is person loosing card, reporting it lost & later finding it and trying to use it. When reported lost it was taken-off line thereby becoming invalid.

Other problems causing an INVALID CARD are rare, but maybe isolated by following step by step procedure as shown below. Under no circumstances should a wholesale change-out of boards ever be attempted.

Defective Component:

a. INTF/PWR
b. RAM
c. Card Reader

LCKERR

Indicates that the length of the message received by the Series One was in error.

These message length errors are rare but in some cases are caused by a "DIRTY" telephone line. If the telephone line has been checked out & determined to meet prescribed specification, yet errors persist then an O.C.U. circuit board may be at fault. Either the ROM or CPU board may be guilty of such error messages.

MATCHERR

Indicates the message received by the Series One did not match the O.C.U. terminal polled.

Matcher-line errors are the most common errors associated with a "DIRTY" telephone line. An O.C.U. terminal that has a constant carrier on the line will cause a steady stream of MATCHERR messages, to the point of taking every O.C.U. terminal on-line off-line. See "Comm. Fail" trouble Symptom for corrective action.

If the phone line has been checked out & determined to meet prescribed specification then try to determine the guilty O.C.U. terminal. A step by step procedure, of interrelated circuit board replacement, should be followed in order listed below:

a. UART-MODEM
b. INFR/PWR
c. CPU
d. ROM

NO TOTAL CAME IN

Indicates no total was received by the Series One (pump buffer) after this card enabled this pump at this terminal.

A common cause of an occational no total error message is where a person enables a pump and waits longer than one minute to use it. A string of NO TOTALS against the same pump indicates a problem associated with just that dispenser. An example of this would be as follows:

a. No power reaching pump motor

b. Fuel tank empty

c. Clogged fuel strainer.

d. Pump lost its prime.

Note: Try in By-Pass to see if fuel can be dispensed.

Other problems that would cause a no total can be found in this guide under item 3 of Dispenser/Relay J-Box Related Problems.

Explaination of why a NO TOTAL CAME IN error message is created will be discussed next. Prior to reading this explaination make sure you have first read the section on the O.C.U. terminal Circuit Operation.

After a push button request has been validated & sent to its respected pump buffer in the Series One, it awaits a total message to complete the transaction. If there is never a total message sent by the terminal to the Series One, the request sits in the pump buffer until another card request (not same card as before) hits this specific pump buffer. At this time the original request is transferred out to make room for the new request message associated with the same push button & terminal. The Series One software notes it is an incomplete transaction lacking a total gallons fill & makes note of that on the Main console of the TTY as a NO TOTAL CAME IN.

TNKPMP FILE ERROR

Indicates a total was received by the Series One from a pump not identified in its Base Data file.

Follow logical steps below to isolate cause of error messages:

```
Q1- Is more than one TNKPMP FILE ERROR being printed on main console?
YES    NO
 |      |
 |      L--Take no action at this time as it may have been a fluke.
 |
 |--Q2- Were there any Auto Restarts preceeding printouts?
     YES    NO
      |      |
      L - - -^- Take no action as AUTO RESTART may very well have
             |  been guilty of causing them.
             |
             |- Perform a PFR against guilty site to confirm tank
                assignment is correct.  Go to Q3.
       Q3 - Did the PFR indicate the correct information?
     YES    NO
      |      |
      |      |--Contact E.J. WARD D.P. department.
      |
      |- - - - -Replace the RAM board in O.C.U. terminal.
```

VALIDCK

Indicates that the message received by the Series One was not redundant as all message should be.

Service is not required unless these error messages persist. If this is the case, go to the offending O.C.U. terminal & start replacing the following boards in the order given.

NOTE: Circuit boards are very interelated and the order shown is from most likely to least likely.

a. ROM

b. CPU

c. UART-MODEM

VEHERR

Indicates that a total was sent to the Series One and found all zeros (no request) in the specific pump buffer. Because of this, it will print a vehicle number of a -1 (v -1) showing total number of gallons.

A good example of how a VEHERR could occur is by the phone line getting a "HIT" on it at the very time an acknowledge is being sent to an O.C.U. terminal for a total that had just been sent. The O.C.U. terminal never seeing this acknowledge sends the total message once again. By this time, the first total message had gone to the specifically assigned pump buffer & completed the transaction, returning the buffer to all zeros. The second (identical) total now hits the same buffer & finds no request message, only zeros. This will in turn create a VEHERR.

Other than a "DIRTY" phone line a UART-MODEM board can cause this error message. Take no action unless the error messages persist.

* A VEHERR will subtract gallons from tank balance for each time it is printed.

Note: ESI= Error Sense Indication
ECB= Event Control Block
ISB= Interrupt Status Byte

* See Comm. Fail sections concerning ESI-ISB error messages.

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MARCH 4, 1981
(REV. MAY 7, 1981)

N.Y.P.D. AUTOMATED
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SERVICE GUIDE

SECTION II

TOOLS/PARTS/TESTEQUIPMENT:

E.J. WARD, INC.
8801 TRADEWAY
SAN ANTONIO, TEXAS 78217
(512) 824-7383

SPECIAL TOOLS & TEST EQUIPMENT

TAMPER PROOF SCREW DRIVER

16 PIN CONNECTOR PLIERS

AUDIO DETECTOR

Note: All other tools are common tools such as screw drivers, pliers, socket wrench with set small sockets, soldering iron etc.

STORAGE, HANDLING & SHIPPING

MAJOR COMPONENTS

STORAGE:

Try to keep circuit boards & other major components in a cool, dry, dust free environment free of static or magnetic fields. To further protect spare boards it is highly recommended to put them in static free bags or wrap in tin foil. Do not stack boards on top of each other.

HANDLING:

When handling circuit boards make sure you do not induce a static charge on the component you are handling or the terminal you are preparing to exchange it in. Discharge your body of static electricity prior to replacing circuit boards.

SHIPPING:

Insure each component is wrapped in some type of packing material that will protect it from any rough handling in shipment.

RECOMMENDED SPARE PARTS LIST FOR OCTANE CONTROL SYSTEM (NYPD)

Southco Fastener #27-10-301-10

Digiswitch Assby. w diodes #9015-6

Card Reader AMP MODEL 801

Pushbutton Seal CH-SW-1AN-3030

Battery #PS-1245-1

LED, Green #MV 5252/PB Assby.

LED, Red #MV 5752/PB Assby.

LED, Yellow #MV 5352/PB Assby.

PC Board, Interface/Power Supply #100146

PC Board, UART Modem 300 Baud w/o OPT1 #100137

PC Board, CPU #100111

PC Board, RAM #100086-FT 1K

PC Board, ROM #100159 (L1-94A)

Mother Board, #100138

MIDTEX 156 Relay

G.E. CA-32 Relay

UNIDYNAMIC 5000-1 PULSER

TELEMECANIQUE MECHANICAL SWITCH

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MARCH 4, 1981
(REV. May 7, 1981)

N.Y.P.D. AUTOMATED
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SECTION III

REPLACING/ADJUSTING MAJOR COMPONENTS:

E.J. WARD, INC.
8801 TRADEWAY
SAN ANTONIO, TEXAS
78217
(512) 824-7383

REPLACING MAJOR O.C.U. COMPONENTS

BATTERY	The battery can be replaced by removing the inverted L bracket that holds it in place & disconnecting the two battery leads.
CARD READER	The card reader can be replaced by first taking the ribbon connectors off & removing the +12VDC lead from the Mother board. Unscrew nuts that hold reader to door and remove reader.
PUSH BUTTONS	The Push button seals can be replaced by holding inside housing while turning seal counter clockwise.
T/W SW. ASSY.	The Thumb Wheel Switch Assembley can be replaced by first disconnecting the associated ribbon cable connector from the Interface/Power board & desoldering the four color coded wires at one end of the assembley. (Be sure to take note of colors & tie points). Unscrew nuts that hold assembley in place.
DOOR LIGHTS	The replacement of a terminal door light requires removing connecting wires & pulling light assembly towards you. It will snap out freeing itself. Observe polarity flat spot on L.E.D. bulb, it indicates negative polarity.
MOTHER BOARDS	The replacement of a mother board requires wires & cables to first be moved from all tie points & the circuit boards taken out. Take the By-pass/Auto switch loose from base of cabinet. Remove screws from two electronic components if mounted to cabinet base. Unscrew four nuts holding back panel in place. To install just reverse the above procedure.

Adjustment Instructions

1. UART/Modem carrier level:
   a. Temporarily disconnect phone line and connect a 590 ohm resistor to tie points DR/DT on the mother board.
   b. Using a Simpson 260 (or equivelent) meter on the 2.5. volt AC scale connect leads across the 590 ohm resistor.
   c. See UART/Modem board and temporarily jumper from right side of R-6 to inside (Top) end of R-3. This should bring up the TX. Carrier.
   d. Observe db scale reading on meter and adjust the "Output Adjust" R-16 control for a reading of odbm.
   e. Turn power off to terminal to restore carrier off condition on UART/Modem. Reconnect phone line to DT/DR and power on terminal.
2. 12 Volt Power Supplies:
   a. Using a DC volt meter on 50 VDC scale, connect positive lead to +12V test point and negative lead to common.
   b. Meter should read +12 to +14 VDC.
   c. Switch leads and measure at the -12VDC test point.
   d. Meter should read -12 to -16 VDC.
   e. Remove battery fuse temporarily and measure charge voltage to battery between fuse holder & common. Requirement: +14 to +16 VDC.
   f. Measure battery voltage with fuse out. Requirement: +12 VDC to +14 VDC.
   g. Install battery fuse. Measure battery voltage under load with AC power to terminal off at CKT. breaker or safety switch. Requirement under load: Battery voltage should be +12 to

+13.5 volts after 20 minutes of operation. If it indicates under voltage, battery may be in discharged condition or defective. Investigate & take appropriate action to correct condition.

3. Factory Preset +5VDC Power Supply:

   a. Using a Simpson 260 (or equivelent, 20K ohm/Vmeter) 10VDC scale, connect positive lead to test point marked +5VDC on mother board and negative lead to test point marked common.

   b. Meter should be of a known 1% accuracy. The required reading should be 5.1 to 5.2 VDC. If the reading is outside of this range, but within the range of 4 to 7 volts, adjust the +5V adjust control on the interface/Power supply board (left side) for a meter reading of 5.15 volts. If the meter reading is not within the 4 to 7 volt range, the interface and power supply board is defective. Remove & replace interface and power supply board.

REPLACING RELAY (S) IN RELAY J-BOX

The small green top relay is used for sensing on-hook/off-hook condition. It is a plug in type relay that can be replaced by pulling (while rocking) it straight out from its base. A new relay can then easily be put in its place.

The large black relay is used to control power to a pump motor or electric solenoid valve. The wires must first be removed from it & placed to one side. It would be best to mark them for pin connection at this time. Removing the relay requires loosening one screw & pulling it straight out.

REPLACING A UNIDYNAMIC 5000-1 PULSER UNIT.

STEP #1 Disconnect wires in explosion proof box observing color combinations.

STEP #2 With large channel locks or a pipe wrench turn barrier assembley counter clockwire until it is free of explosion proof box.

STEP #3 Remove register shield, then screw holding pulser sensing assembley until it can be removed. (Note the way it was installed with brass wheel meshed with the 1/10 gallon wheel.) .

STEP #4 To install a new unit, reverse the above steps.

DISPENSER MECHANICAL SWITCH
ADJUSTMENT OR REPLACEMENT

The mechanical switch found in the dispensers (so equipped) are to sense the on-hook/off-hook condition of the dispenser. This status is accomplished by mechanically connecting the arm of the switch to the rod which turns on the pump motor after the register head has undergone a reset.

If this switch is out of adjustment one of two different conditions will result.

CONDITION 1: Switch not closing normally open contacts when register head has been reset & pump-on lever has been activated.

RESULT: Pump motor will not come on in bypass or auto.

CONDITION 2: Switch not deactivating after pump motor lever is returned to off position.

RESULT: In bypass no apparent problem, in "AUTO" customers get immediate pump error light (no wait light) when push botton is depressed.

Optimum adjustment can best be made by monitoring the tie points Hook/Common on mother board with a DC voltmeter set to read 5 VDC. An on-hook condition of dispenser should result in a 0VDC reading. An off-hook condition should result in a + 5 VDC reading.

The mechanical switch should be adjusted so that 3/4 of the way through the condition of lever the + 5VDC will occur. It should drop out at bottom end approx.¼ way before pump lever is returned to full off position.

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MARCH 4, 1981
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N.Y.P.D. AUTOMATED
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SECTION IV

MAINTENANCE OF SYSTEM:

E.J. WARD, INC.
8801 TRADEWAY
SAN ANTONIO, TEXAS 78217
(512) 824-7383

PREVENTIVE MAINTENANCE

There is no time schedule for performing preventive maintenance. It should be performed at anytime a service technician is required to be on site. The following items should be checked:

--Push button seals for cracks. Replace any that are cracked.

--Boards & ribbon cable connectors properly seated. Reset any that appear to have become partially unseated.

--Thumb Wheel Switch Assembly digit units (1-6) turn freely from 0 thru 9. Replace entire assembly if any one unit fails to turn freely.

--Door Face should be wiped clean, especially in area of operating instructions.

--Card Reader "Clean-Head" card should be run through reader several times.

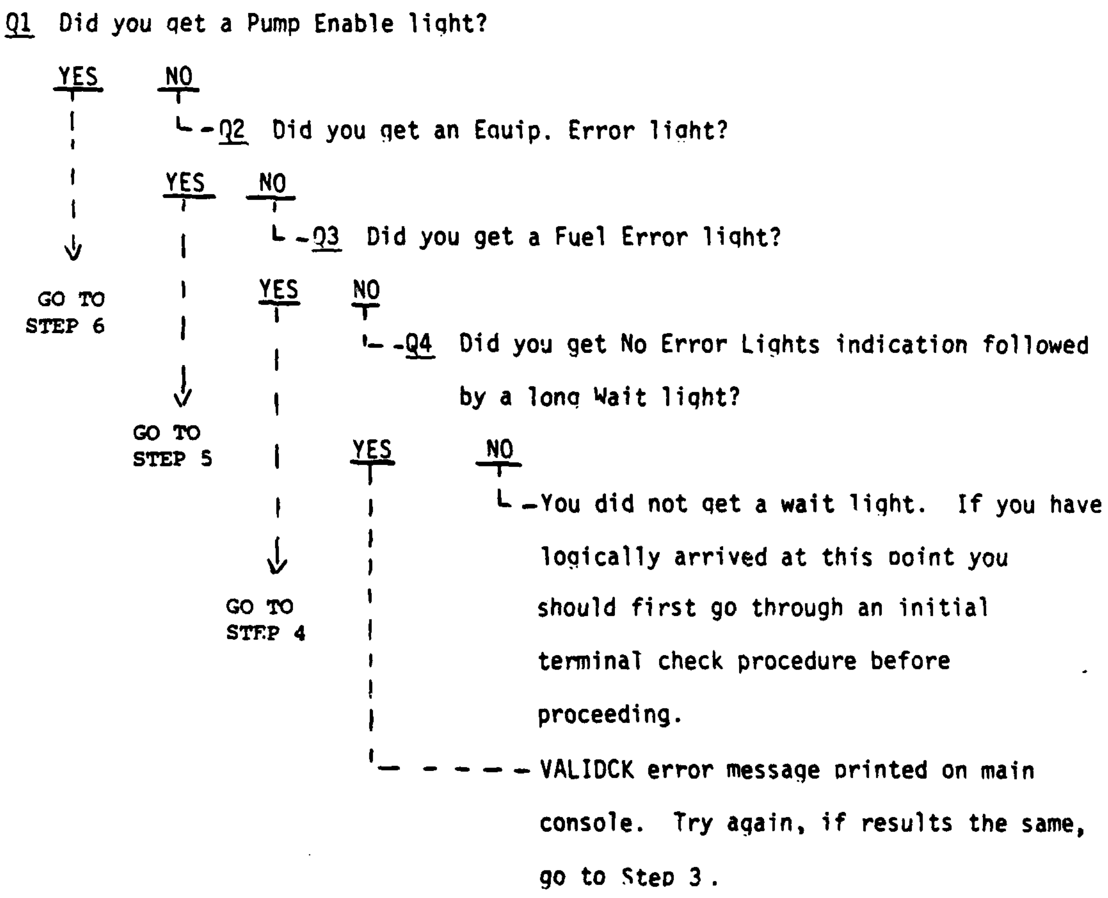
--Pin cleaning of all boards with a standard pencil eraser.

TEST CARD PROCEDURE

STEP #1 Insert test card in reader, remove rapidly.

STEP #2 Depress appropriate push button.

NOTE: Providing you were in miles limit (Thumb Wheel Switches) from last time you used test cards an Odom error should not occur following the wait light. If an Odom error does occur, simply try again without changing setting of Thumb Wheel Switches.



Q1 Did you get a Pump Enable light?

Q2 Did you get an Equip. Error light?

Q3 Did you get a Fuel Error light?

Q4 Did you get No Error Lights indication followed by a long Wait light?

You did not get a wait light. If you have logically arrived at this point you should first go through an initial terminal check procedure before proceeding.

VALIDCK error message printed on main console. Try again, if results the same, go to Step 3.

STEP 3 Replace components in following order to clear malfunction. Check between boards.

a. ROM

b. CPU

c. UART-MODEM

STEP 4 Go to Trouble Symptom list under Fuel Error to isolate malfunction.

STEP 5 Go to Trouble Symptom list under Equip. Error to isolate malfunction.

STEP 6 Go enable pump & dispense gasoline. Test card should turn pump off at 1 gallon.

Q5 - Did this occur?

YES NO

NO – STEP 7 Go to Dispenser/Relay J-Box Related Problem section to isolate malfunction.

YES – STEP 8 Re-enable the pump & dispense 2 or 3 tenths of a gallon of gasoline.

STEP 9 Shut pump off.

STEP 10 Take pump back off-hook.

Q6 - Did pump motor come back on allowing you to pump more fuel?

YES NO

NO – System operational, no further action required.

YES – STEP 11 Check small Midtex relay in Relay J-Box, it may be staying energized.

*Investigate & repair.

INITIAL TERMINAL CHECK PROCEDURE

This procedure is very useful in determining operational capability of the O.C.U. terminal. Before attempting to follow this procedure, power the O.C.U. off and clean the circuit board pin connections with a pencil eraser. In many cases this alone will correct the reported problem. If it did, take no further action.

STEP #1 Power off O.C.U. terminal.

STEP #2 Connect signal tracer (audio detector) to tie points on Mother board marked DT & DR. (Turn on signal tracer)

STEP #3 Power on O.C.U. terminal

Q1- Did you hear an audio tone lasting for about one second or less?

YES — GO TO STEP 6

NO — Q2- Did you hear an audio tone that was erattic, wavering or constant?

YES — STEP #5

NO — STEP #4 No tone was heard. May or may not spell trouble. Power O.C.U. off & on once again. If still no tone is heard, assume no problem at this time & go to Step 6 this section.

STEP #5 Before proceeding try power off & on the O.C.U. to see if malfunction will clear itself. If it did not correct itself, continue to follow instructions below:

a. Erattic tone, replace CPU board.
b. Wavering tone, replace ROM board.
c. Constant carrier, replace (1) RAM board, (2) CPU board, (3) UART-MODEM board. (Check between boards).

Constant tone persists, replace (1) INTF/PWR. board, (2) Mother board, watch Dog Timer, NE555.

STEP #6 Put AUTO/BY-PASS switch in the AUTO position. Turn off power to O.C.U. for 15 seconds & back on again. Close O.C.U. door. Push buttons 1 thru 5 for about 5 seconds each. On those buttons tied to a dispenser an "Equip. Error" light should light when the button is pushed. On those buttons not tied to a dispenser the "Fuel Error" light should light. Exception is push button #5. It should indicate "Equip. Error" when pushed even though it is not tied to a dispenser. Go to Q3

Q3 - Did above test prove satisfactory?

YES – GO TO STEP 12

NO – Q4 - Did any lights fail to come on or "Equip. Error" lights flicker. (Note: If light came on at start of test but failed to after a few seconds, replace the ROM board)

YES – GO TO STEP 11

NO – Q5 - Did multiple error lights (and only error lights) come on as soon as power was turned on?

YES – GO TO STEP 10

NO – Q6 - Did any pump enable lights come on?

YES – GO TO STEP 9

NO – Q7 - Did lights indicate "Fuel Error" instead of "Equip. Error"?

NO – None of the above. Go to Step 15.

YES – STEP 7 This malfunction indicates the O.C.U is not sensing N.C. contacts from Hook to common. Make sure dispenser is hung-up properly. If correct conditions are found, go to Step 11.

STEP 9 Replace the ROM board. (*See note at bottom of page.*)

STEP 10 Replace the CPU and/or power board.

STEP 11 a. Replace the INTF/PWR board.
b. Replace UART-MODEM Board.

STEP 12 Put AUTO/BY-PASS switch in BY/PASS and push button 1-5 momentarily. Each should indicate a "Fuel Error" when depressed. Go to Q8.

Q8-Did above test prove satisfactory?

YES NO

NO -- *Go to Trouble Symptom list this guide.*

YES --- STEP 13 Put AUTO/BY-PASS switch back in AUTO position. Power O.C.U. off & back on again. Put all zeros in Thumb Wheel Switch Assembly. Put appropriate Test Card in reader & remove. Press appropriate push button. The "Wait Light" should come on. A "Comm. Fail" light should come on about 20 + seconds later, followed by the wait light timing out in approx. 30 seconds. See IF statements below.

NOTE: If "Comm. Fail" light did not come on, replace ROM Board.
If "Wait Light" did not come on, replace INTF/PWR board.
If above test proved satisfactory continue with Step 14.

STEP 14 With unit now in "Comm. Fail: & "Wait Light" off push each button to insure no lights come on. Go to Q9.

Q9-Did the above step prove satisfactory?

YES NO

NO -- Go to Trouble Symptom list.

YES --- Go to Polling Simulator (Pre-test) this guide.

NOTE: If the "Wait, "Fuel Error," "Equipment Error," & pump enable lights for 2 & 4 all come on, replace the RAM board----only if ROM board replacement did not correct the condition. If only pump enable light(s) are on & ROM replacement did not correct this condition; replace the PWR/INTF board.

STEP 15 Using a DC voltmeter check the +12, -12 & +5VDC test points to common on the mother board. Go to Q10.

Q10 - Are all voltage within limits listed below?

+12VDC, to 14.0 VDC,-12VDC to -16.0, +5VDC to +5.2

YES — GO TO STEP 22

NO

→ -12VDC &/or +5VDC not within acceptable limits, but +12 VDC ok.

STEP 16 Replace INTF/PWR board.

OR

→ +12VDC too low causing other voltage readings to read below acceptable limits or being non-existant.

STEP 17 Requires further checks. Follow sequence of checks listed below:

a. Defective power fuse on Mother board. Replace with good fuse.

b. No AC power reaching O.C.U. mother board and battery fuse bad. Take appropriate corrective action.

c. No AC power reaching bridge network. (Heat sinked to base O.C.U. cabinet) check for approx. 17VAC between ties 1 & 2 on lower side of mother board. Go to Q11.

Q11 - Is 17VAC present?

YES

NO

-One of the 1 OHM, 8 WATT current limiting resistors may have become defective. (Go to Step 18.)

STEP 18 Replace defective resistor with servicable like item, or replace entire Mother board.

STEP 19 Using a voltmeter check for approximaly + 15 VDC between tie point marked 9 or 10 on Mother board and leftmost leg of bridge network. (Go to Q12.)

Q12 - Do you have the correct readings?

YES NO

NO — Bridge network defective.

STEP 20 Remove & replace network with servicable like item, or remove & replace entire Mother board.

YES — SCR, or other power supply component defective.

STEP 21 Replace Mother board, no further action required.

STEP 22 Power unit off & on at least one more time to see if malfunction clears. If problem persist start replace circuit boards in the follow order until problem is eliminated:

a. UART-MODEM
b. INTF/PWR
c. RAM

Polling Simulator (Pre-test)

Are other O.C.U. terminals polling on same comm. line as terminal undergoing test?

NO YES

STEP 1 Connect Audio signal tracer to DT/DR tie points on mother board. Turn Audio tracer on.

Q2 - Can other terminals be heard polling on this line.

NO YES

STEP 2 Have person manning main console type terminal on line with SYS, ONN command.

GO TO STEP 11

Q3 - Did Comm. Fail light go out and audio tracer indicate a proper polling sequence. Note: If you had previously just completed an Initial Terminal Check with no errors an "Odom Error" should light as soon as terminal is polled.

GO TO STEP 10

NO YES

STEP 3 Use test cards to insure terminal is back in proper operation.

Q4 - Did test card(s) function properly?

NO YES

STEP 4 No further action required.

STEP 5 Go to Trouble Symptom list to isolate trouble.

Q5 Did computer error messages on main console print out ESI ISB with last two words of 0040 F000?

NO YES

Q6 - Did you hear the terminal answering the poll.

NO YES

STEP 6 Possible phone line problem. Go to Polling Simulator Test Procedure to confirm.

GO TO Q7

STEP 7 Terminal board problem. Go to polling simulator test procedure to isolate malfunction .

Q7-Did you hear the terminal answering the poll four times?

NO YES

STEP 8 If error messages on main console were MATCHERR then go to Trouble Symptom List under Comm. Fail to isolate malfunction. If error messages were ESI-ISB, go to Polling Simulator Test Procedure to isolate malfunction.

STEP 9 Terminal board problems, go to Trouble Symptom List under Comm. Fail to isolate malfunction.

STEP 10 Telephone line problem. Turn problem over to those responsible for maintaining communications network (Telephone Co.)

STEP 11 Connect audio signal tracer to DT/DR tie points on mother board and turn tracer on.

Q8-Can you hear the steady tone of computer data set?

NO YES

STEP 12 Have a person at main console put terminal and line on-line with SYS,ONN commands. Go to Question 3 above.

STEP 13 Telephone line problem. Turn problem over to those responsible for maintaining communications network (Telephone Co.)

POLLING SIMULATOR TEST PROCEDURE

STEP #1 Remove audio signal tracer from DT/DR tie points.

#2 Disconnect telephone pair from DT/DR.

#3 Connect Polling Simulator line to DT/DR.

#4 Re-address Interface/Power Supply board for terminal 01.

#5 Turn simulator (Tape Recorder) on.

#6 Turn volume control up to approx. 40%

QUESTION #1

Did terminal come out of comm. fail status

NO YES

-Telephone line problem. Call person responsible for communication network (Telephone Company)

- - - - -Repeating test procedure between board replacement, start replacing boards one at a time in the following order:

a. UART-MODEM
b. INTRF/PWR
c. ROM
d. CPU

NOTE: Remember to re-address INTF/PWR board to its proper terminal number once this procedure is completed.

POLLING SIMULATOR SUBSTITUTION

This procedure can be used for a terminal which is on the same line with other terminals that are polling. The procedure should be used with one precaution. It is likely that if the phone line is acceptable between terminal under test & Series One computer, error messages will occur on the line to extent of taking the line off-line. This will not occur if instructionals steps are followed closely.

STEP #1 Temporarily change address of terminal (via dip sw: on INTF/PWR Bd) to any address number of a terminal that you know to be polling on same line. Do so while terminal is powered on. One of 3 conditions will occur.

CONDITION 1: Terminal will come out of Comm. Fail status.

CONDITION 2: You will hear steady audio tone.

CONDITION 3: No change, terminal still in Comm. Fail with no accompanying steady tone on phone line.

Q1 - Did you cause condition 2 to occur?

NO YES

YES -- STEP 2 Quickly put dip switch back to correct address or power off terminal. Go to Step 7.

NO -- Q2 - Did you cause condition 1 to occur?

NO YES

YES -- STEP 3 Telephone line problem on pair (Four line facility) returning poll to Series One computer equipment. Call telephone company to have problem corrected.

NO ----- STEP 4 Condition 3 is very rare but does happen occassionally. This condition indicates the db level of the poll being received is too low for the UART modem to respond to, or the UART-MODEM board is defective. Corrective Action: Replace UART-MODEM. Go to Q3.

Q3 - Did replacing the modem give you a condition other than condition 3?

NO YES

- YES — STEP 5 Go to that condition & proceed.
- NO - - - - STEP 6 Report db level trouble to telephone company.

STEP 7 The terminal established communications with the Series One computer. Have person at main console perform SYS,ONN command for terminal once correct address has been placed on dip switch of Interface & Power Supply board.

Q4 - Did the terminal now come out of Comm. fail status?

NO YES

- YES - -Use test cards to insure terminal is operating properly. See Test Card Procedure this guide.
- NO - - - - - -Replace Interface Power Supply Board.

COMMON O.C.U. TROUBLE SYMPTOMS

Using this section one should keep in mind that a microprocessor is a very intricate device having many interrelated circuits. A particular trouble can not always be pinpointed to the same circuit board which may have previously corrected the problem; therefore, this section is organized to list the most likely causes for a given trouble symptom.

Before attempting to use this section be sure to gather as much information as possible about the reported problem. Ask these questions of yourself:

*Can I correct the problem at the main console?

*Is it a telephone line problem?

*Is it a problem with the O.C.U. terminal or with the dispenser?

*If it is a problem with the O.C.U. terminal does it occur before or after a wait light?

Questions like these will help you make better use of this section in isolating the particular malfunction.

SYMPTOM	PAGE
SYS. ON LIGHT	IV-15
COMM. FAIL LIGHT	IV-17
WAIT LIGHT	IV-20
ERROR LIGHTS	IV-22
PUMP LIGHT	IV-20
PUMP MOTOR SHUTTING OFF TOO SOON (AUTO)	IV-25
PUMP MOTOR WON'T COME ON (AUTO)	IV-25
PUMP MOTOR WON'T SHUT OFF (AUTO)	IV-25
OTHER TROUBLE SYMPTOMS	IV-26

SYMPTOM (1 of 2)

SYS. ON Light Off, no comm. fail indication at main TTY console or at OCU terminal.

STEP #1 Use a test card to enable a pump

Q1- Did you get a wait light?

NO YES

YES -- Terminal operating. Probable cause of malfunction is one of the following conditions:

a. Leads on SYS. ON light shorted together.
b. Open in ribbon cable or 16 pin connector to SYS. ON light.
c. Defective IC on Intf/Pwr. board.
d. Defective SYS. ON L.E.D.

NO -- STEP #2 Insure the following conditions exist before preceeding any further.

a. Power fuse & battery fuse good.
b. The off/on switch has not been turned off.
c. The AC to terminal has not been turned off.

If any of these conditions were found & corrective action taken--

Q2- Did this clear the malfunction?

NO YES

YES -- Have person at main console put terminal back on line with SYS, ONN command. Use test cards to insure unit is functioning properly.

NO -- STEP 3 Replace Intf/pwr. board with serviceable spare.

Q3- Did this action clear the malfunction?

NO YES

YES -- Go to Yes under Q2.

NO -- STEP 4 Take voltage measurement at +12VDC test point to common tie on Mother Board.

Q4 Did you read +12VDC or greater?

NO YES

YES -- Defective Mother board connection to INTF/PWR board. Replace Mother board.

NO ---- Defective Mother board main power supply component. Replace board.

SYMPTOM (2 of 2)

SYS. ON Light blinking on & off again.

STEP 1 Check following conditions first.

a. No AC power getting to Mother board.

b. Power fuse on Mother board defective

Q1 - Did either of these conditions exist?

NO YES

YES -- Q2 - Did corrective action clear malfunction?

NO YES

YES -- No further action required.

NO --- STEP 2 Go to Initial Terminal Check Procedure to isolate malfunction.

NO ------ STEP 3 Check on both Anode & Cathode of cabinet mounted SCR. Is 15+ volts present on Anode of SCR, yet off/on voltage exist on the Cathode replace SCR. If these conditions are not present go to Step 2 above.

SYMPTOM (1 of 1)

COMM. FAIL LIGHT ON:

STEP 1 Perform an STT on main console.

Q1 - Does the O.C.U. show an OFF-LINE status?

YES NO

STEP 2 Double check main console printout to see if TERM-CK program hasn't put the O.C.U. back On-Line.

Q2 - Did TERM-CK put the O.C.U. back On-Line?

YES NO

STEP 3 Go to Initial Terminal Check Procedure in this guide.

STEP 4 No further action required.

STEP 5 Place the O.C.U. ON-LINE with SYS, ONN command at main console.

Q3 - Do five error messages print on the main console?

YES NO

Q4 - Are there also other O.C.U. terminals operating on this line at this time?

YES NO

STEP 6 Place the line ON-LINE with the SYS, ONN command at main console.

Q5 - Do numerous error messages printout on the main console?

YES NO

Go to STEP 7

Go to Q6

STEP 7 No further action required. O.C.U. is communicating. This can be verified with an STT request.

Q6 - Are the first four error messages ESI-ISB type?

YES NO

GO TO STEP 21

Q7 - Are the error messages MATCHERR?

YES NO

GO TO Q8

GO TO Q10.

Q8 - Are the error messages VALIDCK, LCKERR or INVALID CARD 29990?

YES NO

Q9 - Are the error messages TNKPMP FILE ERROR or VEHERR?

YES NO

STEP 8 Go to Initial Terminal Check Procedure.

STEP 9 Go to Explanation of Common Error messages this guide.

STEP 10 Replace ROM board.

Q10 Are there other O.C.U. terminals communicating on this line sending MATCHERR messages?

YES NO

GO TO STEP 15

Q11 - Is the CD lamp on the Data set associated with this line burning steady?

YES NO

GO TO STEP 14

STEP 11 Place all O.C.U. terminals on this line OFF-LINE. Place terminal in question & line ON-LINE.

Q12 - Do MATCHERR'S still occur?

YES NO

STEP 12 Start putting O.C.U. terminals ON-LINE individually until offending unit is identified. Once identified, go to Initial Terminal Check Procedure to help in isolating malfunction.

STEP 13 If the messages are persistant and the phone drop is not suspect, go to O.C.U. & replace the UART-MODEM. If this does not clear the error messages replace the INTF/PWR. board.

STEP 14 Go to Initial Terminal Check Procedure, this guide,to help isolate the malfunction.

STEP 15 Place the line OFF-LINE.

Q13 - Does the CD lamp on the Data Set flicker intermittently or even burn steady?

YES NO

STEP 16 It went out--replace defective Data Set.

STEP 17 Put an audio tracer on Comm. line that Data Set is connected. You will hear a 1070 HZ audio tone. Disable power to Data Set. An acceptable line should be quiet.

Q14- Do you hear background moises such as voices, ringing, busy tones, music or frequent static?

YES NO

Q15 Do you hear an intermittent burst of 2125 HZ or a steady 2125 HZ tone?

YES NO

STEP 18 Replace defective Data Set.

STEP 19 Go to each remote O.C.U. to fine offending unit. Once identified go to Initial Terminal Check Procedure to assist in clearing malfunction.

STEP 20 Report problem to the telephone company.

STEP 21 Enter ART command at main console for O.C.U. in question. A TREPOL ERROR should follow. (An ART may cause one MATCHERR) Go to Step 22.

STEP 22 Perform SYS,ONN command.

Q16-Did terminal respond with Auto Restart message?

YES NO

Go to offending O.C.U. terminal and perform Initial Terminal Check Procedure to isolate malfunction.

No further action required, O.C.U. is communicating.

Wait light (1 of 1)

1. No wait light with card request, yet request honored.
    - a. Check leads on wait light, may be shorted.
    - b. Replace INTF/PWR Board.
    - c. Defective LED bulb.
2. No wait light with card request, request not acknowledge.
    - a. Check ribbon cable connections.
    - b. Replace INTF/PWR Board.
    - c. May be any board in O.C.U. to include card reader.

Pump Enable Light(s) (1 of 1)

1. Come on without being selected
    - a. Replace ROM board.
    - b. Replace INTF/PWR board.
    - c. Replace RAM board
2. Won't go out after pump nozzle is hung back up properly & at least 1/10 of a gallon of gasoline was dispensed.
    - a. Replace INTF/PWR board (If light times out)
    - b. Replace ROM board. (If light will not time out)
3. Will go out almost immediately after being enabled.

    *Replace INTF/PWR board.
4. Pump Enable X causes Pump Enable Y to drop-out when dispenser X is returned to On-Hook condition. (Example next page)

Example: Dispenser #1 & #2 being used. Dispenser #1 reaches its gallon limit or is hung up. It causes dispenser #2 to shut off also.

*Replace the ROM board.

5. Won't come on, yet system functions normally in BYPASS.
   a. Replace INRF/PWR board.
   b. Replace L.E.D. bulb.
6. Very dim and control device not activated. System functions normally in BYPASS.
   a. Replace L.E.D. bulb.
   b. Replace INTF/PWR board.

SYMPTOM (1 of 3)

Equip. Error Light Upon removing card from magnetic stripe reader, before any push button is depressed.

STEP #1 Use Test cards .

Q1- Does this problem persist?

NO YES
- YES — Replace INTF/PWR board.
- NO — Q2— Does problem persist?
  - YES — Replace ROM board &/or Magnetic Stripe reader.
  - NO — No further action required.
- — Card(s) being used have become defective or are not encoded for this fuel system.

SYMPTOM (2 of 3)

Equip. Error Light after removing card & depressing push button. (After "Wait Light").

STEP #1 Use test cards.

Q1- Does this problem persist?

NO YES
- YES — Possible defective RAM board.
- NO — Card has been put off line.

SYMPTOM (3 of 3)

Equip. Error Light after removing card & depressing push button (No "Wait Light")

STEP #1 Use test cards.

Q1-Does this problem persist?

NO YES
- YES — a. Replace Card Reader.
  b. Replace ROM board.
- NO — Operator Error.

SYMPTOM (1 of 2)

Fuel Error light immediately follow push button request. (No wait light)

Q1 - Is the dispenser nozzel hung up properly & the off/on lever turn completely off?

YES NO

-- Correct above condition & try again.

Q2 - Do you still get a Fuel Error?

YES NO

-- Condition Corrected. No further action required.

--- Q3 - Is the Hook & Common lines properly secured to the tie points on the Mother board?

YES NO

- Correct above condition & try again.

Q4 - Do you still get a Fuel Error?

YES NO

- Condition corrected. No further action required.

---- Using a DC voltmeter check for zero volts between hook & common on tie points for dispenser in question. A zero volt reading should occur when dispenser is properly hung-up & a +5VDC when it's off-hook.

Q5 - Do you have +5VDC present even when dispenser is not off hook?

YES NO

-- Replace Interface & Power Supply board.

--- Possible problem is mechanical sense switch maladjusted or Load Complete Relay not kicking out do to contact sticking. Solution: Adjust mechanical sense switch or replace Load Complete Relay.

SYMPTOM (2 of 2)

Fuel Error Light after wait light.

Q1 – Using test cards, does problem persist?

NO YES

└ – Replace Interface/Power board

└ – – – – Card being used has been assigned wrong fuel type.

ODOM ERROR LIGHT (1 of 1)

For almost every card used even though correct odom reading is begin inserted in Thumb Wheel Switches.

STEP #1 Using test card insert all ones in Thumb Wheel Switch Assembley units (1-6). Do same for two, fours & eights.

Note: Push each pump enable button a second time to have transaction sent to TPT console in each of above cases.

STEP #2 Call person manning TPT print to determine if correct digits were printed out for each transaction.

Q2 – Were all digits reported correctly?

NO YES

└ – Replace interface/Power supply board.

└ – Replace Thumb Wheel Switch assembley.

MULTIPILE ERROR LIGHTS (1 of 1)

a. Replace CPU board
b. Replace INTF/PWR. board

ERROR LIGHT(s) FAIL TO TIME OUT (1 of 1)

a. Replace ROM board
b. Replace INTF/PWR board
c. UART-MODEM board

SYMPTOM (1 of 3)

Pump Motor Shutting off in approx. 1 (one) minute from when it was enabled:

STEP 1 Go to Dispenser/Relay J-Box Related Problem section, see Item 3.

Do so before preceeding to Step 2.

STEP 2

a. Replace INTF/PWR Bd.

b. Replace RAM board.

c. Replace ROM board.

SYMPTOM (2 of 3)

Pump Motor won't come on in Auto.

Q1. Will pump motor come on in By-pass?

YES NO

- NO — Go to Dispenser/Relay J-Box Related Problem section, see Item 1.
- YES — Replace INTF/PWR board & return O.C.U. to AUTO.

SYMPTOM (3 of 3)

Pump motor can be reactivated after fueling transaction.

a. Replace ROM board.

b. Replace INTF/PWR Bd.

OTHER TROUBLE SYMPTOMS

Slow Poll or Erattic Poll response from a given O.C.U.:

a. Replace ROM board

b. Replace RAM board

c. Replace CPU board

d. UART-MODEM board

e. Mother board

Erattic Terminal Operation:

a. See explanation under Cold Starts this section.

b. Replace CPU board

c. Replace ROM board

Wrong Number of Gallons being recorded by O.C.U. terminal, varified by Test Card Procedure.

a. See Dispenser/J-Box Related Problems section before preceding.

b. Replace RAM board.

c. Replace INTF/PWR board.

Loss of all O.C.U. terminals on one line which will not respond to SYS,ONN command for terminal & line. (Assuming no constant carrier on Line).

a. Replace UDS Series-One mounted Data Set with spare before preceeding.

b. If above action did not correct the problem call telephone company to report defective phone line circuits.

VALIDCK message sent to Series One when O.C.U. terminal is put in BY-PASS

*Replace the ROM board.

Intrusion Alarm reporting to Series One erattic or not reporting at all.

a. Check for loose mounting of switch or bad connections.

b. Replace the ROM board.

c. Replace the INTF/PWR board.

DISPENSER/RELAY J-BOX RELATED PROBLEMS:

1. Unable to obtain fuel even in By-Pass.

   NOTE: Check associate pump run fuse on mother board first.

   a. Mechanical switch in dispenser maladjusted or defective.

   b. Midtex relay in J-Box defective.

   c. Power control (BLACK) relay defective.

2. Pump will not shut-off when in By-Pass.

   a. Mechanical switch in dispenser maladjusted.

   b. Midtex relay contacts (sticking) defective.

   c. Power control relay defective.

3. Error messages on main console TTY. NO TOTAL CAME IN. Pump times out in approx. 1 (one) minute.

   STEP 1 Using a DC voltmeter check to see if pulses are arriving at the Mother board (Measured between associated pulser & common tie) while dispensing fuel.

   Q1 — — Were pulses arriving at the Mother board?

   YES NO

   NO —Defective pulser, bad connection or pulser sense head assembly improperly mounted.

   YES —STEP 2 Using a DC voltmeter check between hook & common for a reading of 5 VDC when dispenser is in the off-hook condition.

   Q2— — —Did you get the correct reading?

   NO YES

   YES —Go to O.C.U. Common Trouble Symptoms.

   NO — — — — Replace Midtex relay in J-Box.

* THUMB WHEEL SWITCH ASSEMBLY CHECK........See Trouble Symptoms under "Odom Error" light.

COLD STARTS

A "Cold Start" is when power has been turned off for several minutes to a terminal at temperatures below freezing. A terminal undergoing a cold start will perform eratically until an optimum terperature is reached in the terminal cabinet. The best method for dealing with cold starts is to replace all the circuit boards with (WARM) known good spares or leave the terminal on for 4 to 6 hours before trying to perform an Initial Term. Check.

*Note: A dead battery (Blown Fuse or defective Batt.) will also cause erattic terminal operation. Check: (a) fuse, (b) charge voltage, (c) battery voltage under load conditions...This can be done by removing AC power to terminal (leave OFF/ON s.w. on) Voltage should not be below 12 volts.

(11.9 VDC not acceptable) If fuse is blown and battery appears to be ok, then allow 1-2 hours for charge before performing Initial Term. Check or replace with (WARM) known good spare.

MARCH 4, 1981
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N.Y.P.D. AUTOMATED
FUEL SYSTEM
SERVICE GUIDE

SECTION V

DIAGRAMS & PICTORIALS:*

*NOT INCLUDED IN THIS REPORT. CAN BE MADE AVAILABLE UPON REQUEST IF REQUIRED.

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END

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