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WASHINGTON PUBLIC POWER SUPPLY SYSTEM
WNP-2 PROJECT

QUALITY VERIFICATION PROGRAM
OVERVIEW REPORT

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QUALITY VERIFICATION PROGRAM

PROGRAM OVERVIEW REPORT

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OVERVIEW REPORT
OF THE
WNP-2 QUALITY VERIFICATION PROGRAM

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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SECTION 1.0

INTRODUCTION

This section identifies the overall purpose and scope of the Supply System Quality Verification Program (QVP); how, when and by whom it was initiated and implemented; and how it is reported. It also provides a guide through the sixty-six reports developed during the course of the program.

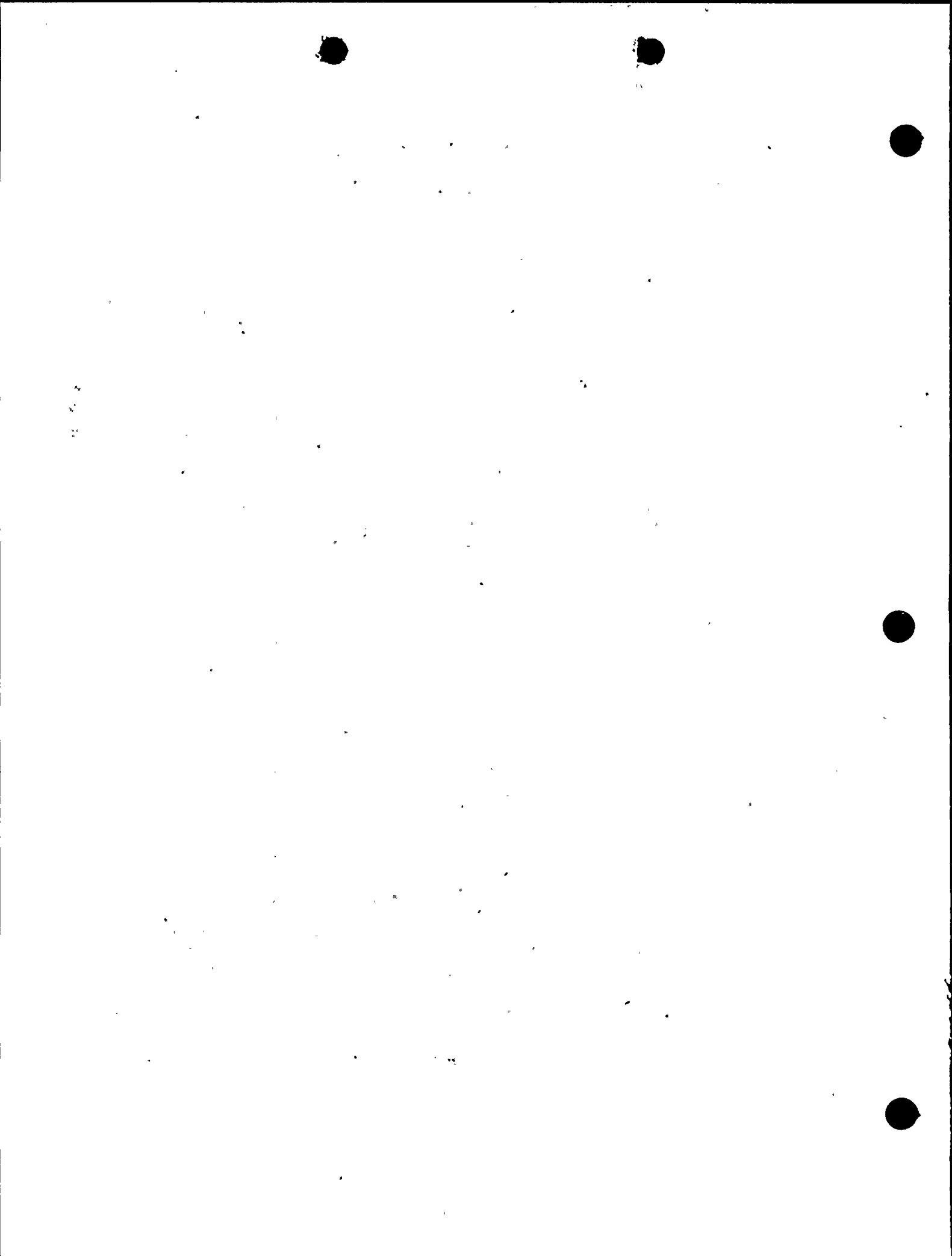
1.1 Purpose and Scope

The purpose of the QVP is to verify the adequacy of safety-related construction work completed in the WNP-2 plant prior to July, 1980. This is achieved by a combination of hardware reinspection and documentation review for a significant sample of both construction activities performed on site and fabrication activities performed off site.

The scope of the QVP is all Quality Class I (QC I) and Quality Class II Seismic Category I (QC II SC I) work performed prior to July, 1980, the time of WNP-2 Stop Work Order No. 009 (SWO #9). This work is all that could be considered to be safety related, and was performed by seventy-one site construction contractors or prepurchase vendors. Each one of these is addressed by the QVP.

1.2 Implementation

The QVP was administered by the Supply System and was reviewed by the Supply System Project and Corporate Quality Assurance (QA) departments, the NRC and an independent technical consultant, Technical Audit Associates, Inc.



The QVP is divided into three specific program elements:

- o Prepurchase and Inactive Contracts (PP&IA)
- o Systems Completion (for active contracts)
- o Special Tasks

A diverse group of project organizations were involved in the implementation of the QVP. The following list identifies each organization and its respective activities.

- | | | |
|---|---|--|
| Supply System QVP Office | - | Manage Program
Review and Approve Procedures, and Reports
Perform/Administer Special Tasks Element
Administer Prepurchase and Inactive Contracts Element
Monitor Performance of Participants |
| Supply System Project & Corporate QA | - | Perform PP&IA Document Review
Review and Approve Reports
Audit and Surveillance |
| Supply System Project/Corporate Engineering | - | Perform Reviews for Special Tasks Element
Review Evaluations of Related Programs
Provide Technical Support |
| Construction Manager (Bechtel) | - | Manage Active Contracts
Perform Contract 215 Reverification
Perform QVP/CAT Comparison
Perform NDE Verification
Perform Contractor Surveillance
Perform Audits
Prepare Reports |
| Contractor | - | Perform Reinspections
Prepare Reports |

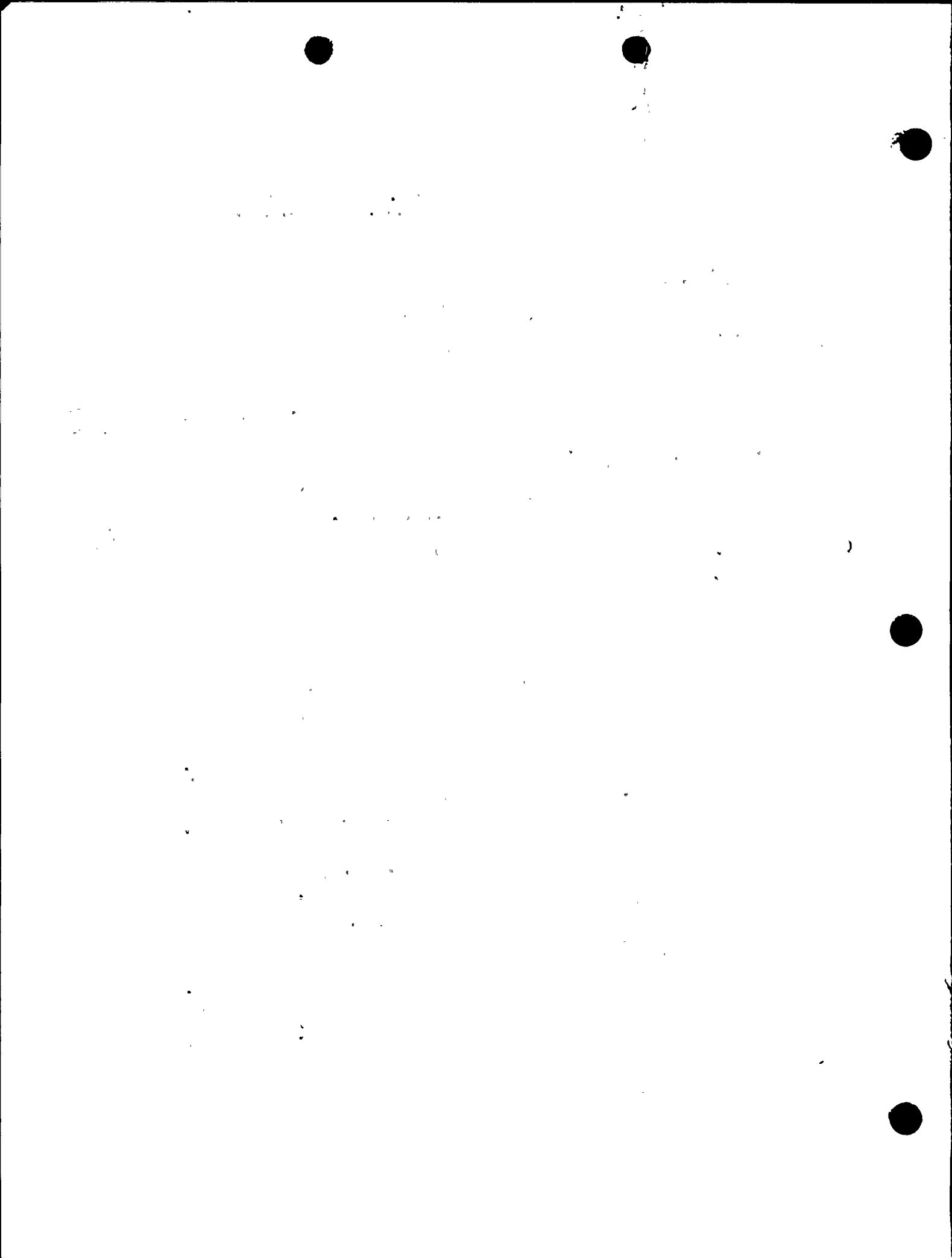
1.3 Reports

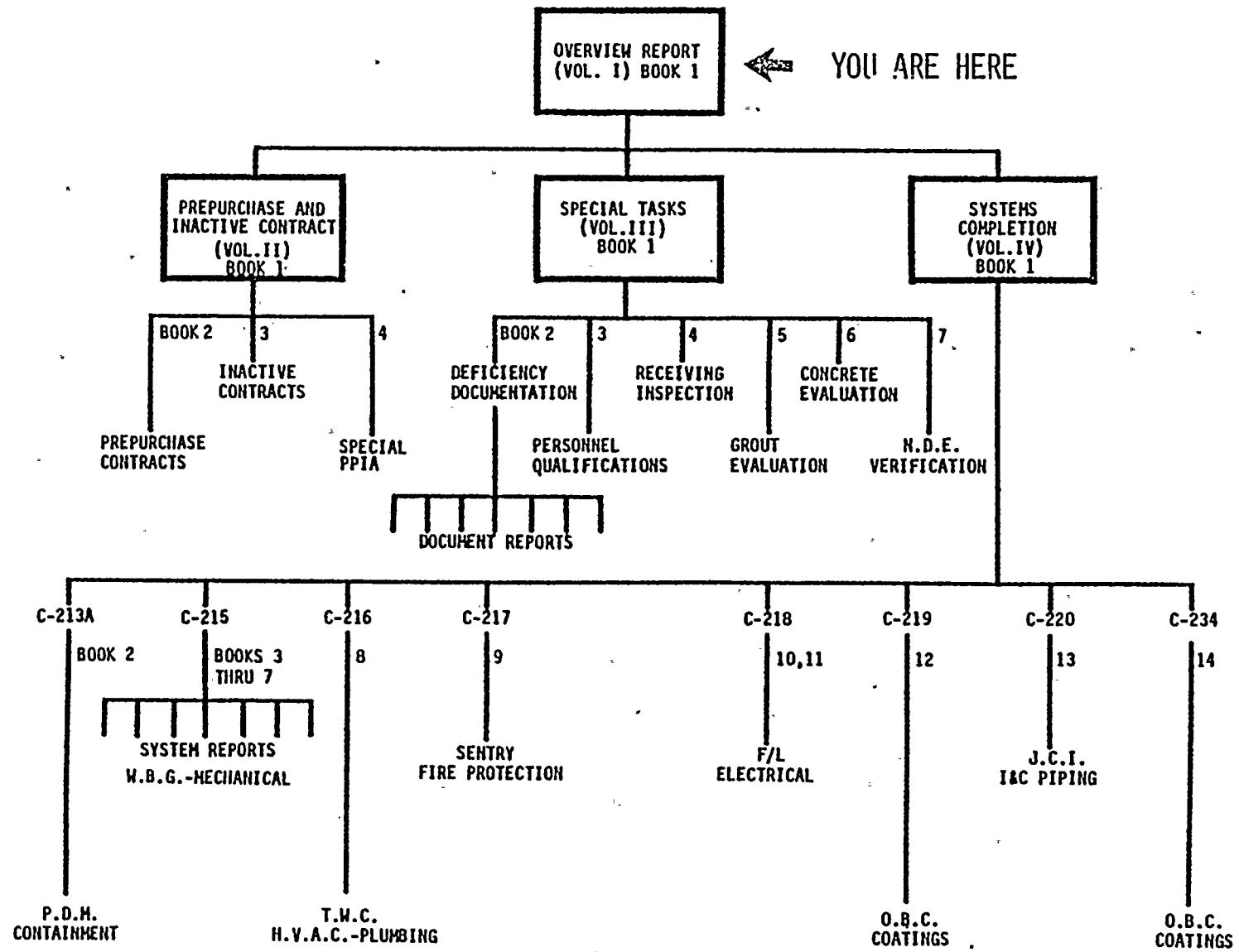
The QVP reports have been prepared in three levels of detail. First, this Overview Report presents a compendium of the program, the factors which brought about its implementation, the results of the investigations, and the conclusions drawn therefrom. The second level reports are the three program element reports which provide a summary statement of the total activities performed within the three major elements of the program. The third level reports consist of specific individual reports on activities within the three program elements.

Four volumes containing 26 books with 66 individually-approved reports comprise the QVP Library.

The interrelationship of these reports is demonstrated in Figure 1-1, QVP Report Hierarchy.

The amount of documentation and background material for the activities performed in the QVP is voluminous. These records are being integrated into a comprehensive file at the Project records vault.





1 - 4

QUALITY VERIFICATION PROGRAM REPORT HIERARCHY

Figure 1-1



SECTION 2.0

SUMMARY AND CONCLUSIONS

The safety-related work completed at WNP-2 prior to July, 1980, has been verified by the Quality Verification Program. On the basis of the Program findings, the Supply System concludes that the quality concerns resulting in the NRC's 50.54(f) request are based upon indications of a quality assurance program breakdown because of poor performance by one mechanical subcontractor, untimely response to NRC questions on construction quality, and failure to limit the backlog of unresolved deficiencies.

The management improvements, coupled with the QVP reviews and reinspections, appropriate corrective actions by the Project, and other extensive special inspection programs, have resolved the quality concerns which brought about the NRC's request. The safety-related work completed at WNP-2 prior to July, 1980, now meets the requirements for safe operation of the plant.

2.1 Summary

Major quality issues were identified at WNP-2 by the raising of a number of specific issues during the course of construction, such that the overall quality program in existence prior to July, 1980, was put into question. The Supply System responded to this question with a program of reviews and reinspections to address the adequacy of hardware in the plant. The focus of the reviews became the Quality Verification Program, which embraced 24 special related inspection or corrective-action programs. The QVP is complete, and its results, along with those of these other related programs, some of which are continuing, provide the assurance that the quality of work meets the standard required for safe and reliable operation of the plant.

The construction of WNP-2 comprises some 200 contracts. Of these, 71 contain safety-related work that was accomplished prior to July, 1980. The QVP addresses that prior work by sample hardware inspections and document reviews in three major areas:

- Systems Completion (Active Contracts) - This task reviews the work performed by eight site construction contractors active after re-start of construction in mid-1981.
- Prepurchase and Inactive Contracts - This task covers 49 procurement contracts, and 13 site construction contractors no longer active at the time of the stopwork in mid-1980.
- Special Tasks - Six tasks which are not addressed in the other two elements of the program, respond to specific questions raised in the NRC's 10CFR50.54(f) request.



The program was conducted by an organization with no direct involvement in construction of the plant. The effectiveness of this independent group was periodically tested by management to assure that the objective of verifying the adequacy of prior construction was met, and that priorities were maintained. This was accomplished by management reviews and independent quality assurance audits.

Regular frequent reports were required to inform the Supply System and the NRC of program activities and results. NRC's interaction provided a critical overview of the program to assure commitments were met and implementation was adequate.

It is estimated that about 1.5 million manhours of effort and 42 million dollars in cost were invested to determine the adequacy of prior construction at WNP-2, including special related programs.

The process of selecting a representative sample of hardware began with a determination of the population of work completed and accepted prior to July, 1980, and not reworked or subsequently reinspected by another special program. Such special programs were evaluated for their contribution to fulfilling the objectives of the QVP and, if qualified, the reinspections were not repeated. Hardware samples for reinspection by QVP were selected at random by major commodity from within each contract, and documented prior to inspection.

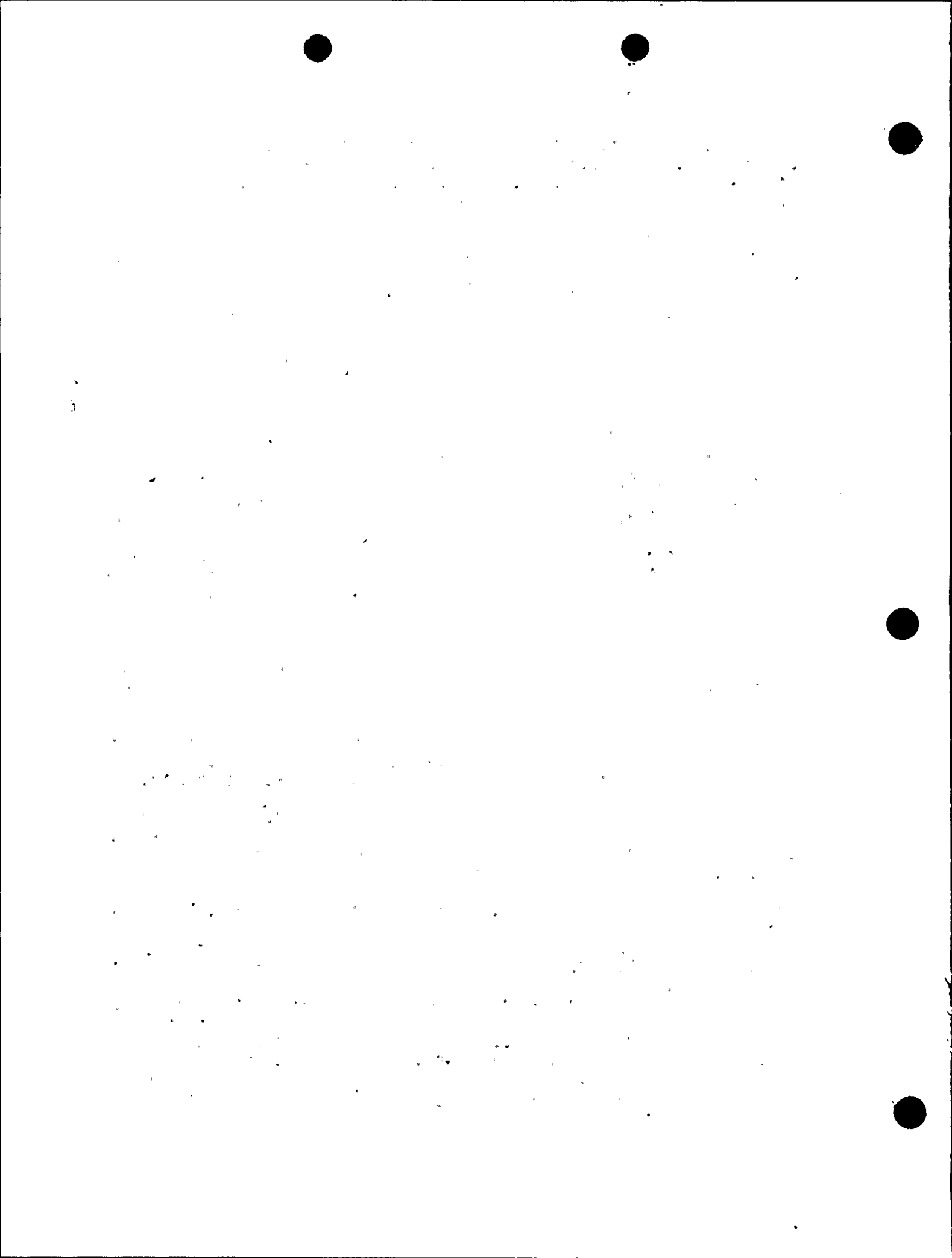
Reinspections were conducted in a manner that assured suspected problems based upon previous review findings were sought wherever possible, and that personnel performing the inspections were not those who originally inspected the hardware. The inspections accomplished by the QVP did not include disassembly of plant components (some valuable related programs evaluated by QVP did perform component disassembly and detailed inspection), however, QVP inspections included some specialized testing. Current work procedures and instructions were used to inspect the work in order to benefit from the improved procedures resulting from the earlier Restart Program.

Reinspections were performed by active contractors' QC inspectors with appropriate surveillance by the Construction Manager (CM), except in the case of the mechanical contract, which was inspected by the CM's own QC Engineers. All other reviews and reinspections were conducted by the Supply System or CM personnel.

Results of the reinspections were compiled and evaluated to determine the safety significance and trends of identified deficiencies. Based upon this evaluation, inspection samples were increased to focus on the specific problems or characteristics identified by trend analysis.

2.2 Results

In the area of mechanical construction, 128 piping isometrics and 661 supports were reinspected. These comprise 10,000 welds. The construction of mechanical components was found to be acceptable, with two exceptions: 1) undersize welds on pipe supports, which was resolved by



the Project's initiation of a repeat as-built program, engineering analysis, and rework where necessary; and 2) undersize welds on small-bore socket-weld fittings, which was resolved by engineering evaluation and additional reinspection by the Project.

The containment vessel and associated piping and structures were verified by reinspection of 280 feet of welds and 82 hardware items, and review of quality and test records, resulting in the determination that the containment installation is acceptable. Other indicators of vessel construction quality were provided by the NDE Verification Task.

The reinspections in the civil/structural area included 189 structural steel items comprising approximately 2500 welds. Early in the program a large number of minor discrepancies were identified, evaluated, and accepted by the designer. Generic reinspection acceptance criteria were developed to eliminate the repetitious process of documentation, analysis, and acceptance of these items. The reinspections resulted in the structural steel being found acceptable with three exceptions: 1) also determined early in the program, bolting of framework in the containment drywell was found to be incomplete, and was resolved by a 100% reinspection/retorque program; 2) two connections were misaligned and had undersize welds, which were reworked and caused reinspection of the two remaining like connections (they were acceptable); and 3) two welded beam connections were found unacceptable, which were reworked and caused reinspection of all remaining similar connections (also acceptable).

Concrete was not reinspected in this Program. However, a technical evaluation of procedures, specifications, and quality records was performed revealing that, although there were a number of previously-recorded and accepted deviations from the requirements for reinforcement, consolidation, and formwork, the finally-completed concrete structures are acceptable. The NRC Construction Appraisal Team's recent inspection also identified similar deviations. These do not appear to be serious faults affecting the integrity of the concrete structures, however, the Project investigated this matter further and provided a resolution to the NRC.

All types of grout installations were sampled and destructively tested for compressive strength. Sand-cement grout was found to be deficient in certain applications. These deficiencies have been corrected and/or identified for replacement so that all grout is acceptable.

In the heating, ventilating, and air-conditioning (HVAC) area, 109 ductwork items, 25 supports, and 18 equipment components were reinspected. Very few minor deviations (not safety significant) were identified, leading to the determination that the HVAC installation is acceptable.

The reinspections in the electrical area included 293 cables (comprising 16 miles of cable), 1516 terminations, 13 equipment components, and two containment penetrations. There were only minor deviations from the requirements for this work. One questionable trend was identified, that of crimping on terminal lugs, which is resolved by the 100% coverage of terminations in system line-up testing by the Supply System. Aside from this trend, the electrical construction is acceptable.



Although the majority of electrical raceways and supports were installed prior to July, 1980, they were not reinspected in the QVP because they had not been final-inspected and accepted at that time. Inspection of conduits, trays, and supports are covered by current programs using procedures that were approved during the Restart Program.

In the area of instrumentation, 61 instrument racks, 251 local instruments, eight miles of tubing, and 4500 supports were reinspected as a part of the contractor's 100% as-built/reverification program. Deviations from the requirements for the work were few, but were corrected as part of the program. This 100% examination assures that installation work associated with instrumentation is acceptable.

The applicable portions of fire protection systems in the plant were also reinspected, including 400 conduit supports and 49 fire-extinguisher brackets. Only a few very minor discrepancies were identified in the reinspections, leading to the assessment that the work is acceptable.

Repeat nondestructive examination was performed for 60 radiographs, 60 penetrant tests, and 95 magnetic-particle tests. The NDE work was found to be acceptable. During the repeat examinations a welding problem was identified on a containment attachment, which is currently being addressed by the Project.

Long-lead procurement items were verified by reinspection of 87 equipment components, technical review of 155 procedures, industry validation of 35 vendors' qualifications and experience, and review of quality records for 49 contracts. Hardware furnished by these vendors was found satisfactory. The review of records led to identification of a generic testing deficiency associated with cranes and hoists, which is resolved by a 100% retest program.

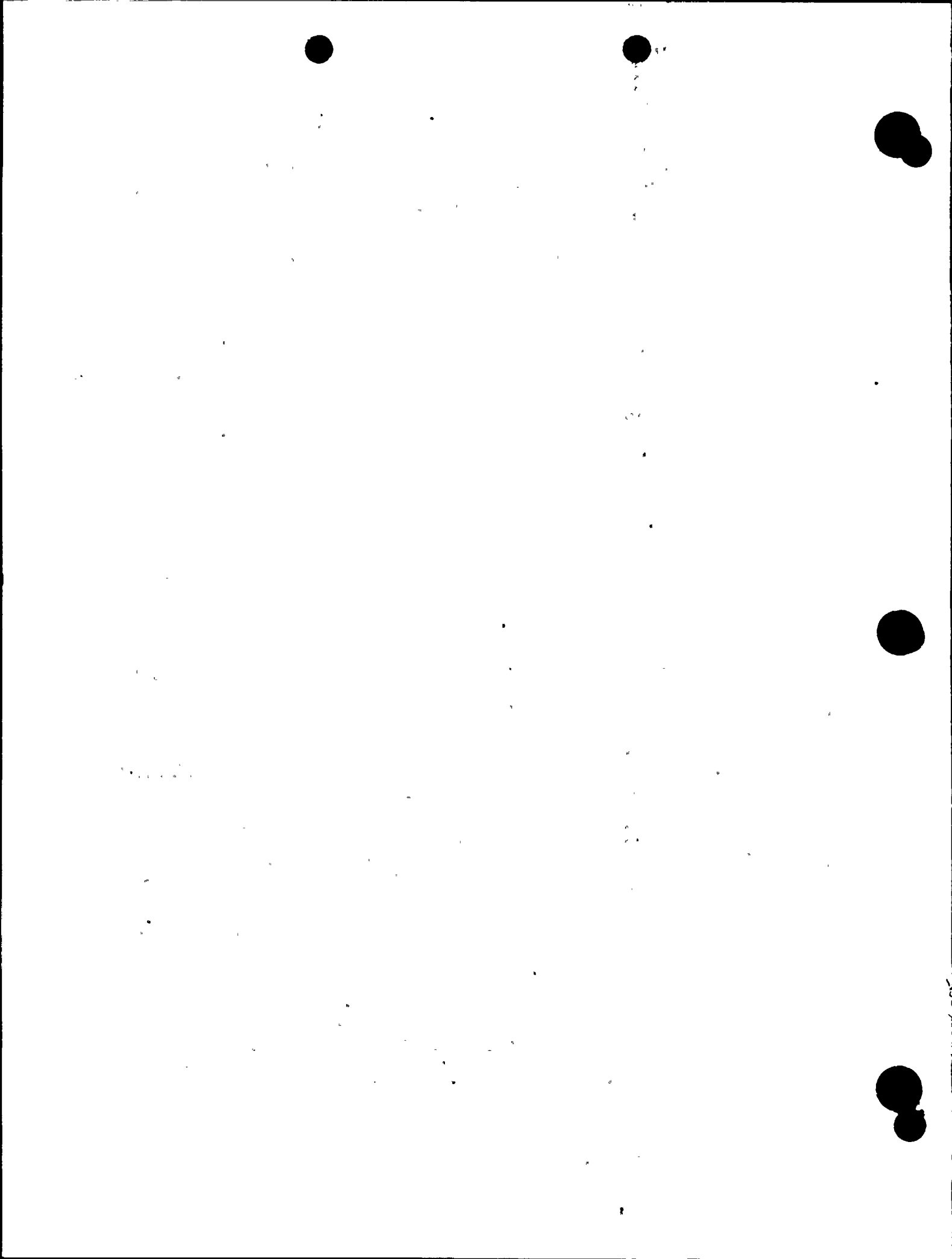
Personnel qualifications of engineering, NDE, QC, and construction personnel were verified by acceptability of the work and associated records reviews. Qualifications of the personnel involved in the work were found acceptable.

Receiving inspection activities were found to be generally effective in identifying discrepant material, as verified by hardware reinspection of installed items and repeat receiving inspection of stored material.

Technical disposition of deficiency and design-change documents was verified by independent review of 807 documents for technical adequacy. All were found to be correct.

2.3 QVP/CAT Comparison

As the end of QVP activities approached, and the Project neared completion, the NRC Office of Inspection and Enforcement sent a Construction Appraisal Team (CAT) to assess the adequacy of safety-related construction at WNP-2. The CAT devoted some 2000 manhours of inspection effort at the plant to that end. A comparison of the CAT's inspection results



with those of the QVP was requested by NRC, Region V, to determine whether the CAT inspection undermined or confirmed the QVP results. The comparison was performed on reinspected items installed prior to July, 1980, and it was determined that where the same hardware items were inspected by both CAT and QVP, the results were identical. Where similar hardware components were inspected, the CAT inspections confirmed the findings of the QVP with the following exceptions:

- o Concrete - QVP verification of concrete construction in the plant was accomplished by technical review of requirements and records. CAT inspections included field tests for compressive strength and physical excavation of cast-in-place members to expose and check reinforcement. The results in each program have similar findings, and the QVP review shows that the Project identified and addressed deficiencies during installation. A separate report responding directly to the CAT inspection addresses the concrete issues.
- o Weld-O-Let Weld Size - Undersized welds for weld-o-let fittings were found in the CAT inspections but were not identified by the QVP. The Project has now reinspected all such fittings for weld size.

2.4 Conclusions

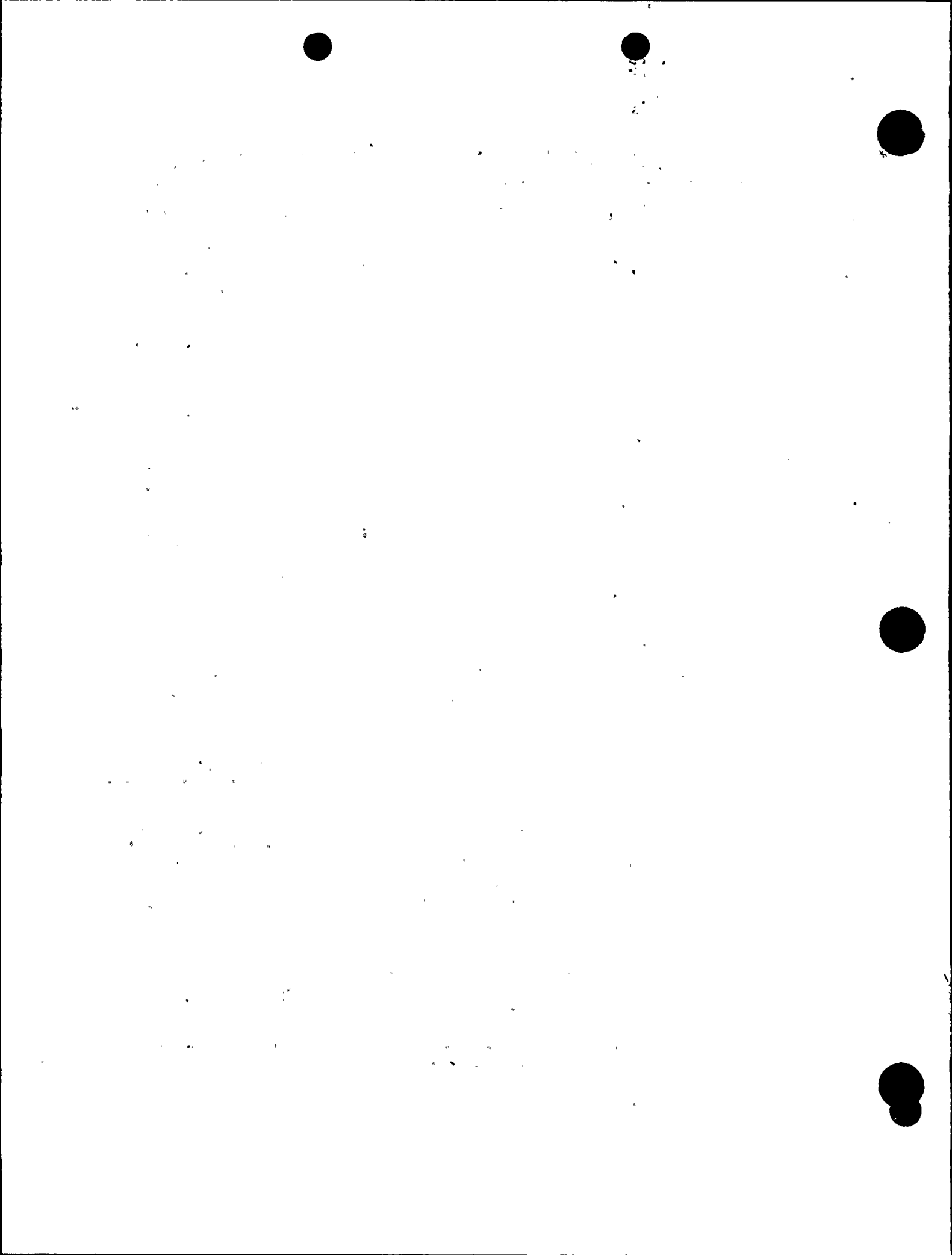
The NRC's 50.54(f) request directed the Supply System to respond with a plan to review completed safety-related work to determine whether the quality assurance program at WNP-2 was adequate to assure the work was properly performed.

The Supply System has completed its programs of review and reinspection to the depth necessary to respond to questions asked in the 50.54(f) request. These questions are repeated below with summary responses based on the culmination of these programs.

- o Were there cases where the required quality procedures and specifications were not applied to the work?

The results of the QVP reinspections show that, although there were a few deficient areas and isolated deficiencies, the work is acceptable and, therefore, meets the requirements of the procedures and specifications. The reinspections were performed to current requirements to take advantage of the software improvements made in restarting the work in 1981. Review of a sample of procedures in place at the time of the work indicate those procedures would assure production of quality work, in spite of a few procedure discrepancies.

The review of completed work (not already covered by special programs) generally shows that quality procedures were applied and resulted in acceptable construction. Two areas of pervasive deficiency were apparent: crane testing and undersized socket welds on small-bore flange fittings, which were resolved as discussed in Section 2.3.



- o Were there instances in which improperly qualified personnel performed and inspected the work?

QVP reviews show that there were instances in which improperly qualified personnel were involved in the work. The reviews also show that the Project's quality programs were effective in identifying those instances, in that the QVP detected only isolated occurrences of improperly qualified personnel being missed by past or current quality programs.

- o Were receipt inspection requirements followed for contractor produced items and why weren't deficiencies detected during receipt inspection?

Procedure deficiencies of a non-technical nature were identified for some contractors' receipt inspection activities. One contractor was found, by the quality program in effect at the time, to have significant problems with material segregation and storage. QVP reviews, along with other recent reviews performed by the Project, show that safety-related material in storage at the time of restart of construction meets the specified requirements. The hardware reinspections and record reviews conducted in the QVP have shown that material installed also meets the requirements.

- o Were correct dispositions made for nonconformance reports, design changes, field change requests, and information requests?

The results of technical reviews of documents which disseminated technical information, and of the procedures used to control them, show that these documents were dispositioned competently and acceptably by the A/E's engineers and the contractor's engineers.

- o On the basis of review of existing records and a sampling of previously inspected work, are quality and test records associated with the work complete and accurate?

The reviews and reinspections of thousands of hardware components show that the quality and test records accurately represent the adequacy of the installations in most cases. There were cases of inadequacy of records and cases of difference between the records and the installation. In those instances, corrective action was initiated to completely resolve the problems, and extended as necessary to address the generic implications.

The safety-related work completed at WNP-2 prior to July, 1980, has been verified by the Quality Verification Program. On the basis of the Program findings, the Supply System concludes that:

- o The quality concerns resulting in the NRC's June, 1980, 50.54(f) request are based upon indications of a quality assurance program



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breakdown because of: 1) poor performance by one mechanical sub-contractor (Leckenby Company), 2) untimely response to NRC questions on construction quality, and 3) failure to limit the backlog of unresolved deficiencies.

Management improvements, coupled with the Quality Verification Program's reviews and reinspections, appropriate corrective actions by the Project, and other extensive special inspection programs, have resolved the quality concerns which brought about the NRC's 50.54(f) request.

- o The major construction-related quality problems at WNP-2 had been identified by the Project prior to commencement of QVP reinspections. Special programs were established to resolve these problems, with the results that few major problems were identified by QVP reinspections and reviews.
- o The safety-related work completed at WNP-2 prior to July, 1980, now meets the requirements for safe operation of the plant.



SECTION 3.0

HISTORY

A complete understanding of the QVP requires some knowledge of the background events leading to development of the program and its implementation. This section provides such a chronology of participants' actions ultimately leading to verification of the adequacy of hardware in the plant.

3.1 NRC Request and Supply System Response

The Director of the NRC's Office of Inspection and Enforcement (IE) said in his June 17, 1980, request regarding Quality Assurance⁽¹⁾ under 10CFR50.54(f), that the IE staff did not have sufficient information at the time to conclude that WNP-2 was being constructed in compliance with the construction permit. On the same date, he notified⁽²⁾ the Supply System of a number of items not in compliance with conditions of the facility license, and imposed certain civil penalties.

The 50.54(f) request letter instructed the Supply System to submit a plan and schedule for reviewing completed safety-related work accomplished by contractors who did not have NRC reviewed quality assurance programs, to assure such work was properly performed.

On July 17, 1980, the Supply System responded⁽³⁾ to the Commission's instructions and regulations with a plan and schedule which detailed specific commitments to review the completed safety-related work in the plant and issued SWO #9⁽⁴⁾ to stop safety-related work until problems were resolved. The Supply System's review plan became known by the acronym RCSW (Reverification of Completed Safety-Related Work), and addressed review of the work by contracts: active site contracts, pre-purchase contracts, and already-closed site contracts. The review covered short term, intermediate, and continuing phases of evaluation, and was accomplished by three task forces:

- o Task Force I, which was to expedite the resolution of an outstanding backlog of problems and concerns on the project.
- o Task Force II, which was to verify that previously completed work is adequate.
- o Task Force III, which was designed to assure that management systems used to control continuing work were adequate.

¹Superscript numbers in parentheses correspond to items in Section 9.0, List of References



The work of Task Force II specifically became the RCSW Program, or "Re-verification Program" and the Supply System notified the NRC in its first bi-monthly progress report⁽⁵⁾ that because of the enormity of this task, the work was being divided into two phases:

- o Phase I would cover review of contractors' procedures for control of on-going work, and verification of very-recent construction. (This activity became the Restart Program.)
- o Phase II would cover verification of safety-related work completed prior to the time work was stopped.

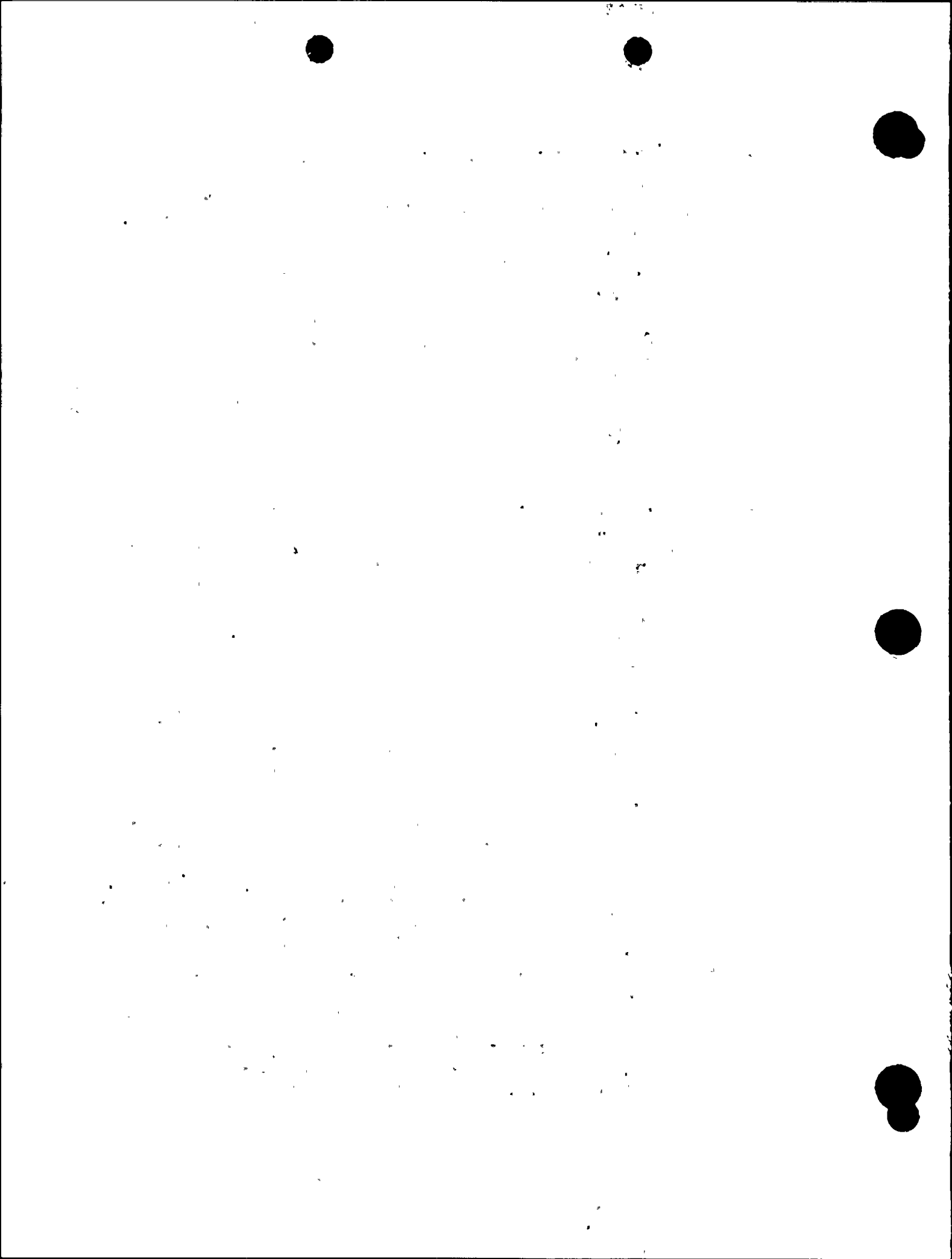
The second progress report⁽⁶⁾ informed the NRC that Task Force II was again refocused to delete hardware reinspections from Phase I; that the verification of hardware would be completed at a later date; and that plans for this effort were being formulated and expected to be in place by February 1, 1981. The main thrust of Project activities at this point became the release of work for construction by commodities following completion of Task Force efforts, with the exception of Task Force II, Phase II. For example, late in January, 1981, repair of the girth weld on the Sacrificial Shield Wall was restarted.

Planning for the Task Force II, Phase II effort (which was to eventually become the QVP) began in earnest early in 1981 when management emphasis shifted to verification as restart reviews were being completed. Meanwhile, management improvements were being made which would strengthen the project's ability to complete the plant successfully. These points are discussed later in this section. For completeness of this historical account, some brief information about the Restart Program is provided immediately hereafter, as it related to the QVP.

3.2 Restart Program

A plan⁽⁷⁾ listing all of the review actions required for the restart of safety-related construction stopped by SWO #9 was provided to the NRC with the Supply System's first progress report. These review actions included:

- o Listing of safety-related (QC I SC I and QC II SC I) contractor work activities.
- o Identification and resolution of the backlog of contractors' concerns which could affect restart (e.g. NCR dispositions, approved drawings, reviewed procedures, etc.).
- o Evaluation of contractors' then-current work and inspection controls to assure quality controls were effective:
 - Review of procedures for proper approval; incorporation of SAR, specification, code, and standard requirements; and qualification of welding and special processes.



- Review of personnel qualifications and training.
 - Review of documentation to determine the then-current backlog, completeness, traceability, legibility, and adequacy of the contractors' reviews.
 - Assessment and statusing of 50.55(e)s, Part 21s, NRC concerns, NCRs, CARs, audit findings, and deficiency trends.
- o Independent review and assessment of the results of the above, culminating in an objective evaluation of the safety-significant work to be restarted, to assure that:
- Minimal risk of quality problems would result from the resumption of work.
 - Reinspection of previously completed work would not be prevented.
 - Full compliance with the work requirements was achieved.

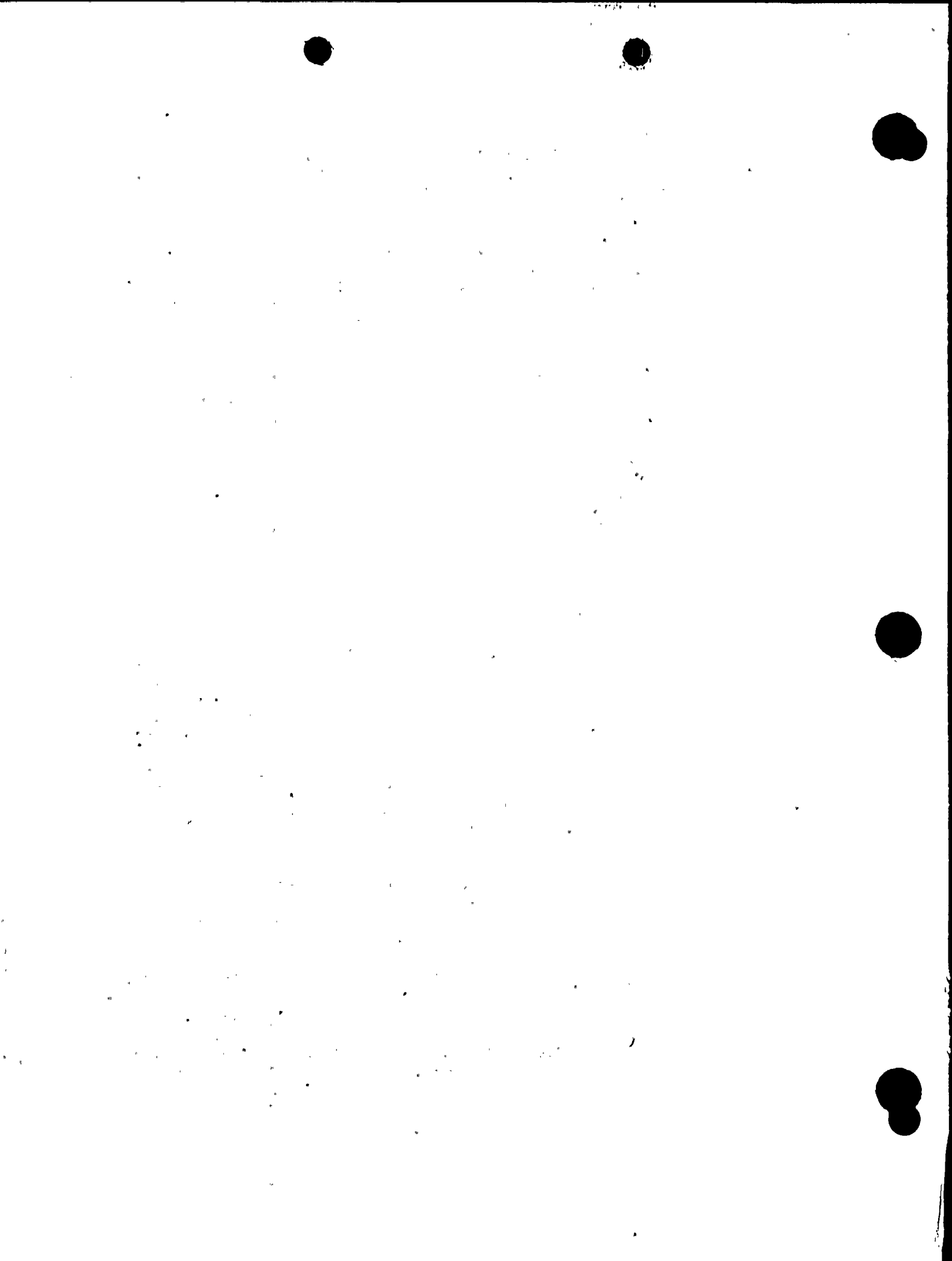
Upon satisfactory completion of the reviews of the Restart Program, each contractor was released to restart work by Project direction, under NRC observation. All contractors performing safety-related work were released, or conditionally-released, by mid-1981. A conditional release carried with it a commitment to complete a specific review activity, usually on only a small portion of the work. Only upon documented completion of such a commitment was the contractor unconditionally released for restart of construction.

The summary findings of the Restart Program, which could provide insight into potential areas where quality problems might exist, were used in planning the reinspections of the QVP, as discussed in Section 6.0.

3.3 Management System Improvements

In the same time period as the Restart Program was conducted, the Supply System was strengthening management of its projects. The Supply System decentralized the authority for each project so that more direct management attention could be provided at the sites for timely response to construction problems that arose. Program Directors were assigned at each project. Also, a Corporate Nuclear Safety Director was assigned to assist with the resolution of safety issues as they arose.

At the WNP-2 Project, the Bechtel Power Corporation (BPC) was engaged as the Construction Management and Construction Completion Contractor, which, in addition to bringing its experience and expertise to the Project, provided the opportunity to focus the Burns and Roe, Inc. efforts on the Architect/Engineer (A/E) Function. Burns and Roe (BRI) became responsible for only engineering and could concentrate on completing the design. A Richland office having full technical authority was established.



by the A/E, which significantly improved the A/E's participation in resolution of field problems, responsiveness in resolving design problems, and technical interface with Supply System Engineering.

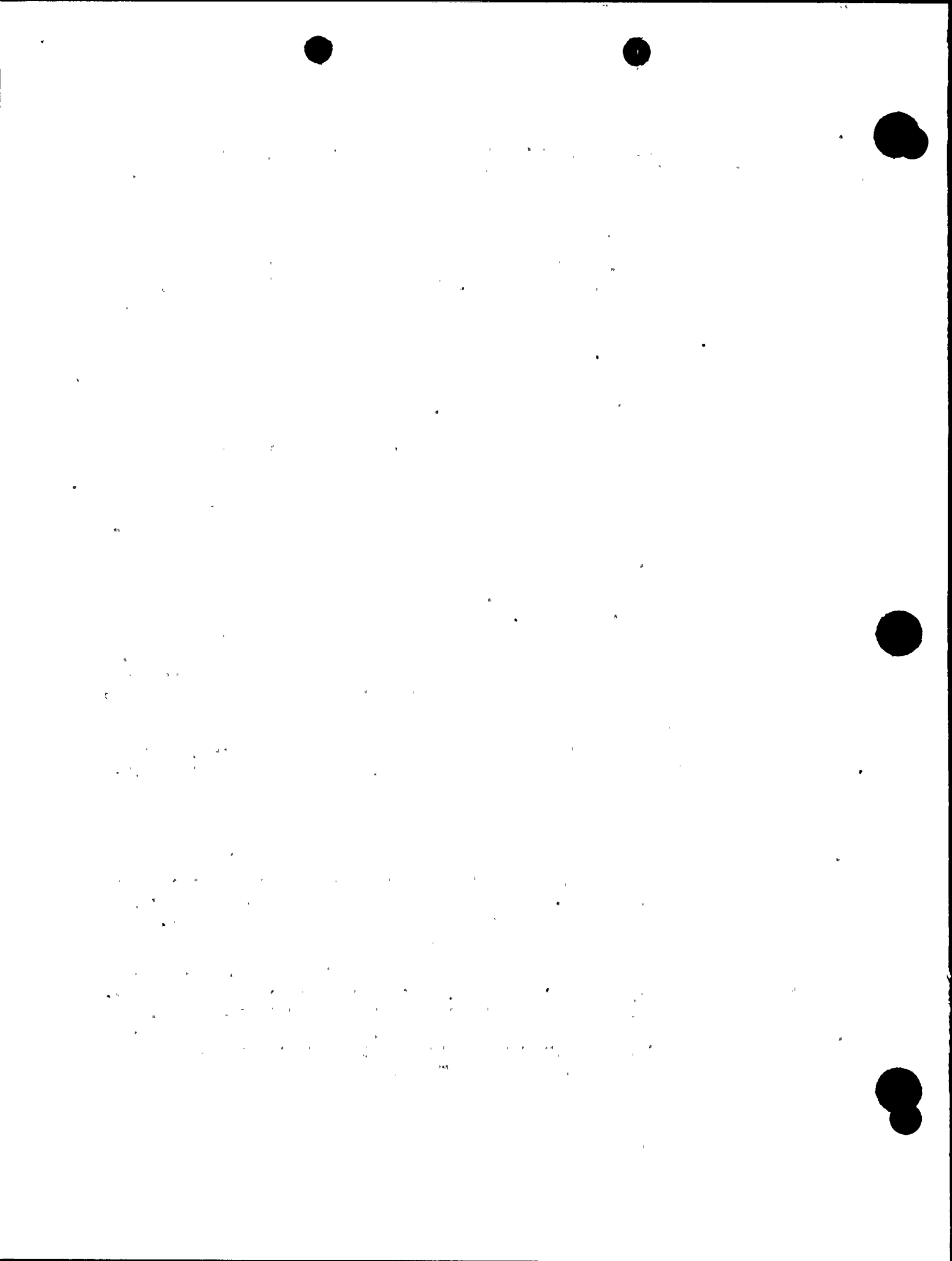
As Construction Completion Contractor, BPC assumed responsibility for the mechanical piping systems, following completion of the bulk construction by the major mechanical contractor. The mechanical contractor was responsible for installation of most of the plant's safety systems, and may have been largely responsible (through lack of control of a subcontractor) for the quality issues leading to the NRC's 50.54(f) request and work stoppage.

Bechtel continues in this construction-completion role today. As bulk construction is completed by the site contractors, the finish work in each system is accomplished by BPC to the point where each system is ready for "turnover" to the Supply System's Test and Startup (T&SU) organization for preoperational and acceptance testing. A Systems Completion Plan⁽⁸⁾ outlining the verification activities to be accomplished on past work taken over by BPC during this phase of construction is part of the original QVP program description.

3.4 QVP Planning and Implementation

Early in 1981, with Restart Program reviews well on the way to completion, planning of the verification reinspections of hardware began. Project management review of each stage of development of the plan for this work was accomplished through detailed presentations and technical discussions and critiques. In May, 1981, the program was sufficiently scoped and defined for informal presentation and review with NRC Region V representatives. This program was titled "Quality Verification Program"⁽⁹⁾ so that a clear distinction could be drawn between this and previous efforts called "Reverification" which did not include reviews of quality records and reinspection of hardware items. It is noted, however, that BPC's participation in the QVP is reported and referred to as "Reverification" because in its construction parlance, "verification" is accomplished while performing its normal quality assurance functions. For the practical purpose of understanding the many QVP reports, the terms are considered synonymous.

Having evolved from the planning effort, the QVP was established as a program which would address the adequacy of past work and its supporting documentation through an integrated arrangement of record reviews and hardware reinspections, utilizing resources of the Supply System, BPC, and the active contractors. After a series of presentations and reviews conducted throughout its development, the QVP was approved by WNP-2 Project management in June, 1981, and inaugurated by issuance of an instruction manual at an indoctrination presentation to key managers and Program participants. Personnel training and contractor indoctrination was accomplished immediately thereafter, and performance of the review activities by the participants followed. Procedures⁽¹⁰⁾ were prepared for performing the work in this Program, and all participating contractors were required to have approved reverification plans in place prior to commencement of reviews and reinspections.



While a more complete description of the provisions of the QVP is presented in Section 4.0, the following information is provided to identify the major participants:

o Program Management

The Supply System established an independent QVP office attached to its Construction Management Department to manage and report verification activity. This office, under a QVP Manager, was responsible for directing and monitoring the efforts of participants and reporting to Project management in frequent reports and presentations, and reporting to the NRC through the Program Director's bi-monthly progress reports.

o Systems Completion

This element of the QVP was established to verify the work of active site contracts and was accomplished by the Bechtel Reverification Group (BRG). The name of this task is derived from BPC's systems completion responsibility. The BRG managed the construction contractor participation in the program, performed the reviews and re-inspections of the former mechanical contractor's work, and regularly reported to the Supply System.

o Prepurchase and Inactive (PP&IA) Contracts

This element of the QVP addresses the verification of work performed by closed site contracts and prepurchase contracts, and was accomplished by the Project QA organization. Verifying these contracts by record review and contract history review was nearly completed in early 1983, when the NRC raised questions on the ability of such reviews to provide adequate confidence of hardware quality, compared to that which can be achieved by sample reinspection. Additional review of the work accomplished in these contracts, including hardware reinspection, was performed by BPC forces in mid-1983.

o Special Tasks

This element of the QVP was established to address issues not logically covered above, and was accomplished by QVP office forces. There are six issues; three were originally committed and answered specific questions of the NRC's 50.54(f) request, and three were added during the course of the program.

QVP review and reinspection activities commenced late in 1981 and were completed by mid-1983. Technical analysis of results, as well as evaluation of deficiencies identified during the course of the work, was performed by the A/E, with assistance and consultation by BPC, the Supply System and others. This analysis of results and report preparation got underway in early 1982, and is now complete.



3.5 Audits

Beginning with the Project management reviews of QVP planning, this Program and its participants have been repeatedly scrutinized by Supply System management and quality assurance organizations until completion of the Program, including their review and acceptance of this report.

Thirteen formal audits of this Program or its activities were conducted during the course of the work, including thorough management assessment and independent consultant evaluation of the Program philosophy and methods. Seventy-five surveillances by QA/QC organizations verify that review activities met requirements. Periodic presentations were required by Project management to assure that commitments were met and the Program continued to meet its objectives.

The NRC's regional office sent a team composed of five senior staff members to the Project site in February 1983, to evaluate performance and results of the QVP. Additional work was committed to resolve questions arising from this evaluation.

The above audits and evaluations of this Program are more fully discussed in Section 5.0.

3.6 Reporting to the NRC

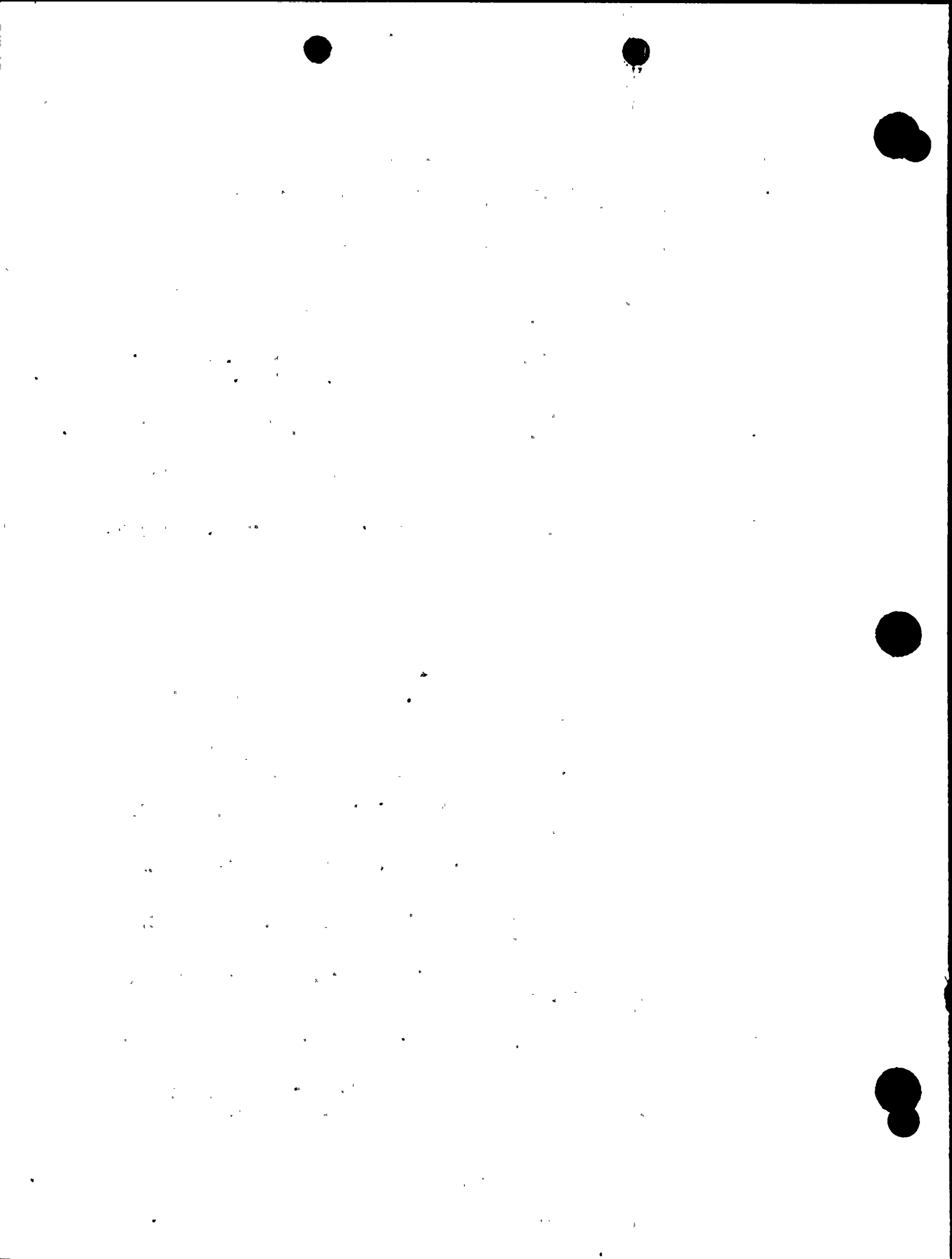
In its response to the NRC's 50.54(f) request, the Supply System stated that reports of the verification activities would be provided to the Region V office at two-month intervals. These bi-monthly progress reports were continued until the eleventh report covering May and June 1982, when, by agreement with the Regional Administrator, a quarterly reporting interval began.

The Supply System's reports summarize the progress and results of the verification activities and generally kept the regional office apprised of quality issues associated with verification of past work. These reports do not address construction in progress.

Periodic presentations were made to the Region V staff during the course of the QVP, usually as a part of Project meetings. During the planning activity, in April 1981, the Program Director addressed the QVP in a meeting at Walnut Creek. In subsequent meetings (which included QVP as an agenda item) the QVP Manager presented timely information of Program interest.

A more complete summary of Supply System/Region V interactions is provided by the following chronological listing of major events associated with the QVP. NRC involvement is discussed further in Section 5.0.

- 06/17/80 10CFR50.54(f) Request Regarding Quality Assurance, to NO Strand, WPPSS, from Victor Stello, Jr., NRC
- 07/17/80 Supply System Response, Notice of Violation & Additional Information 10CFR50.54(f), to Victor Stello, Jr., NRC, from NO Strand, WPPSS



07/31/80 WNP-2 Project Restart Plan approved by Supply System

10/16/80 First Progress Report - 10CFR50.54(f), to RH Engelken, NRC,
from RL Ferguson, WPPSS

11/12/80 WNP-2 Management System Description, to RH Engelken, NRC, from
RG Matlock, WPPSS

12/29/80 Second Progress Report - 10CFR50.54(f), to RH Engelken, NRC,
from RG Matlock, WPPSS

01/23/81 WNP-2-WBG-215-F-81-0183, "Release of Sacrificial Shield Wall
Girth Weld Repair", to PJ Garcia, WBG, from GI Wells, WPPSS

03/12/81 Third Progress Report - 10CFR50.54(f), to RH Engelken, NRC,
from RG Matlock, WPPSS - QVP Planning Under Way

05/15/81 Fourth Progress Report - 10CFR50.54(f), to RH Engelken, NRC,
from RG Matlock, WPPSS

06/19/81 Quality Verification Program Begins: Presentations, Indoctrin-
cations, Procedures

07/01/81 Fifth Progress Report - 10CFR50.54(f), to RH Engelken, NRC,
from RG Matlock, WPPSS

09/04/81 Sixth Progress Report - 10CFR50.54(f), to RH Engelken, NRC,
from RG Matlock, WPPSS

11/06/81 NRC Region V Meeting (Walnut Creek, CA) Project Status Review,
QVP Presentation, RG Matlock, et al

11/19/81 Seventh Progress Report - 10CFR50.54(f), to RH Engelken, NRC,
from RG Matlock, WPPSS - QVP Reinspection Under Way

01/28/82 Eighth Progress Report - 10CFR50.54(f), to RH Engelken, NRC,
from RG Matlock, WPPSS

03/26/82 Ninth Progress Report - 10CFR50.54(f), to RH Engelken, NRC,
from RG Matlock, WPPSS

06/10/82 Tenth Progress Report - 10CFR50.54(f), to RH Engelken, NRC,
from RG Matlock, WPPSS

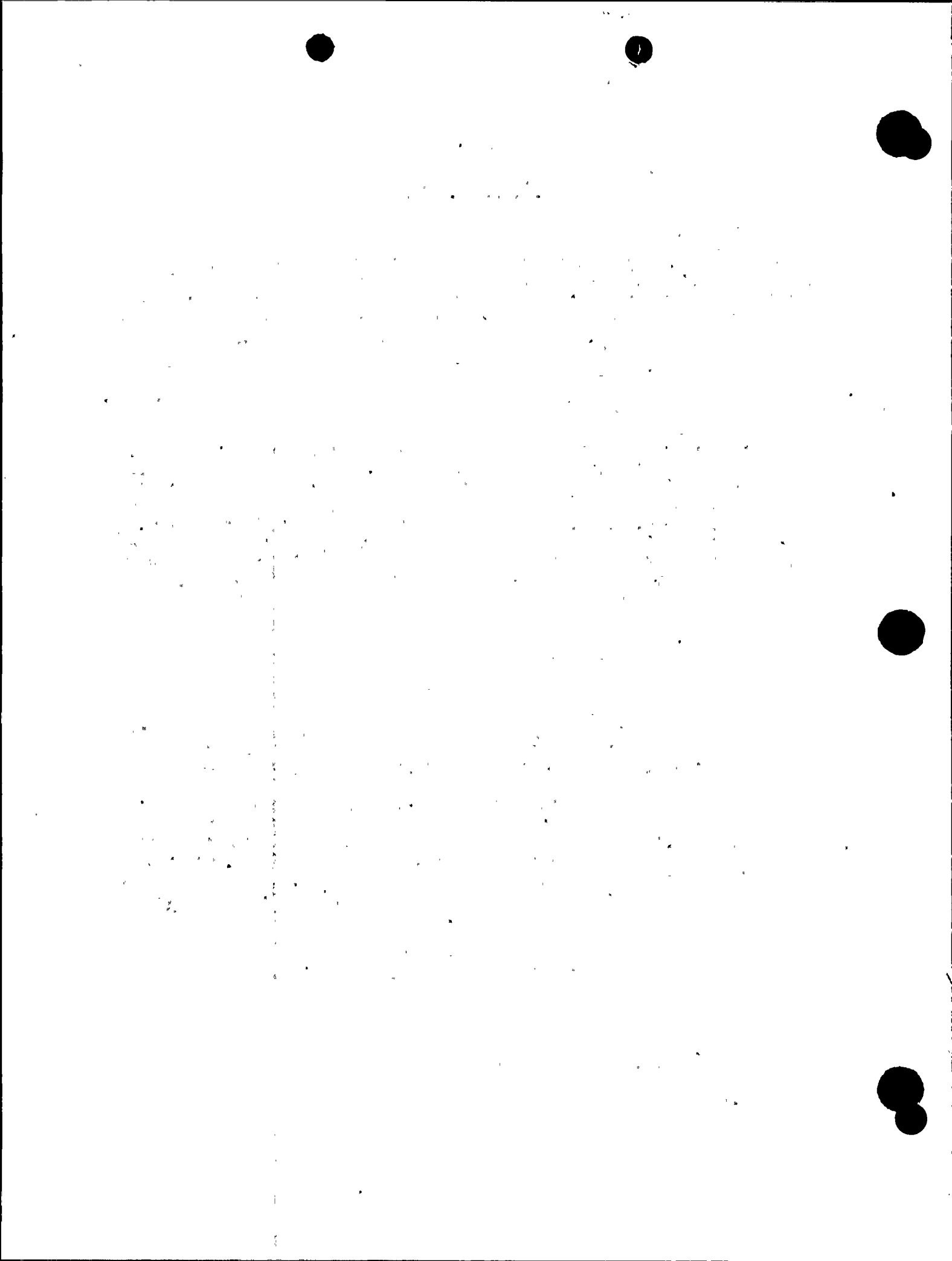
08/09/82 Eleventh Progress Report - 10CFR50.54(f), to RH Engelken, NRC,
from RG Matlock, WPPSS

10/19/82 Twelfth Progress Report - 10CFR50.54(f), to RH Engelken, NRC,
from RG Matlock, WPPSS

01/14/83 NRC Region V Meeting (Walnut Creek, CA) Project Construction
Status Review, QVP Presentation, RG Matlock, et al



- 01/24/83 Corporate Licensing & Assurance Audit of QVP, Audit 83-242, conducted 01/24-31/83
- 01/27/83 Thirteenth Progress Report - 10CFR50.54(f), to RH Engelken, NRC, from RG Matlock, WPPSS
- 02/15/83 Introductory Presentation to NRC Region V Task Team, Inspection of QVP at WNP-2, conducted 02/15-18/83
- 03/17/83 NRC Region V Meeting (WNP-2), Task Team Findings on QVP
- 03/30/83 NRC Region V Meeting (Walnut Creek, CA) Project Status Review, including QVP, RG Matlock, et al
- 04/18/83 Transmittal of Commitment Summary in regard to NRC's 50.54(f) Request dated 06/17/80. Summary dated 04/01/83
- 04/26/83 Fourteenth Progress Report - 10CFR50.54(f), to JB Martin, NRC, from CS Carlisle, WPPSS
- 05/16/83 NRC Construction Assessment Team (CAT) Inspection of WNP-2, conducted 05/16-27/83 and 06/07-17/83
- 06/07/83 NRC Region V Meeting (Walnut Creek, CA), Project Status Review, QVP Presentation, Detailed Work Discussion, DW Mazur, CS Carlisle, et al
- 06/21/83 NRC Region V Meeting (WNP-2), QVP Presentation, DW Mazur, CS Carlisle, et al
- 06/22/83 NRC CAT Inspection Exit Meeting



SECTION 4.0

PROGRAM DESCRIPTION

The basic program to accomplish the reviews and reinspections of hardware at WNP-2 is described in this section. This description includes an overview of the major tasks/elements of the QVP, and the procedures and instructions used by the participants. It also identifies the contracts covered by the reviews and compares the reviews accomplished with the Supply System's original commitments to the NRC.

4.1 Scope

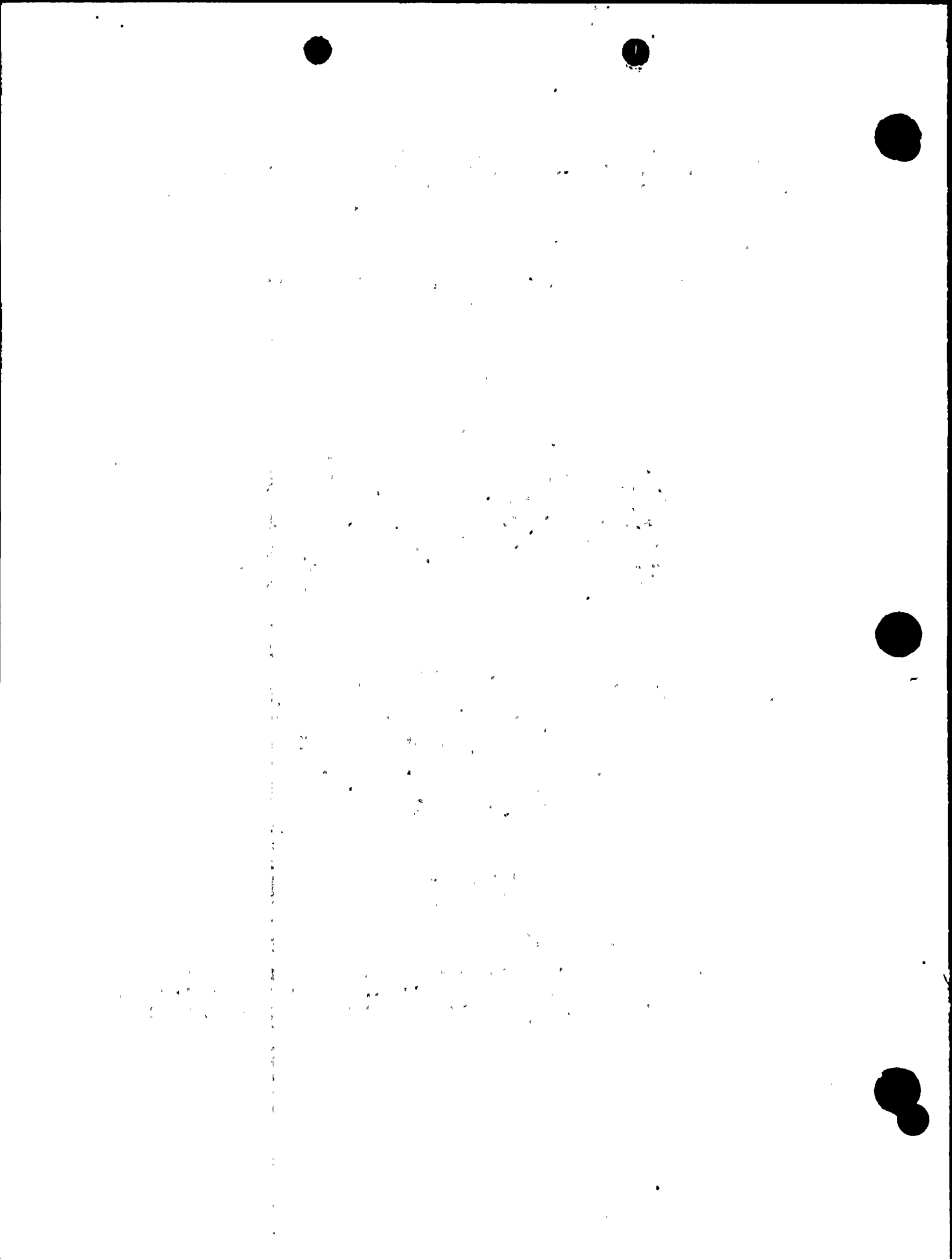
The QVP is the last remaining element of the program initiated in July, 1980, following the commitments made by the Supply System in response to the NRC's 50.54(f) letter. The scope of the program is the performance of those activities necessary to verify the adequacy of safety-related work in the WNP-2 plant completed prior to July, 1980. For the purpose of QVP, safety-related work is defined as any work which is designated by the Project as QC I or QC II SC I. This work is all that could be considered to be safety-related. A much smaller population of items can be considered critical to the safe operation of the plant; however, the definition of "critical" is subject to some engineering judgement. The inclusion of all QC I and QC II SC I hardware in the QVP is a conservative approach to verifying the adequacy of safety-related hardware and installations in the plant.

The verification reinspections conducted in this Program were accomplished primarily by complete visual techniques. There are exceptions, however, where additional physical testing or destructive work was performed. In each such case, the benefits of more complete information were weighed against the consequences of destroying completed work.

The QVP serves to assure the adequacy of construction at WNP-2 prior to July, 1980. The work performed after July, 1980, is outside the QVP scope because it has been performed under an improved management system and QA program. This is described in Section 6.0. The combination of the QVP to verify past work, and the improved QA programs to control new work, serves to assure the adequacy of all the work performed at WNP-2 during the entire construction period.

The QVP consists of two types of inspection/review activities. The first type is the direct Program activity. This activity is divided into three major elements:

- o Active Contracts
- o Prepurchase and Inactive Contracts
- o Special Tasks



These three elements of the direct portion of the QVP are described in Sections 4.2, 4.3 and 4.4. The second type of inspection/review activity is the indirect programs which are referred to as "related programs" and are described in Section 4.5. These programs were performed outside the formal QVP organizational structure, but were evaluated to determine compatibility with QVP objectives.

A diagrammatic representation of how all the above programs combine to assure the adequacy of WNP-2 is shown in Figure 4-1.

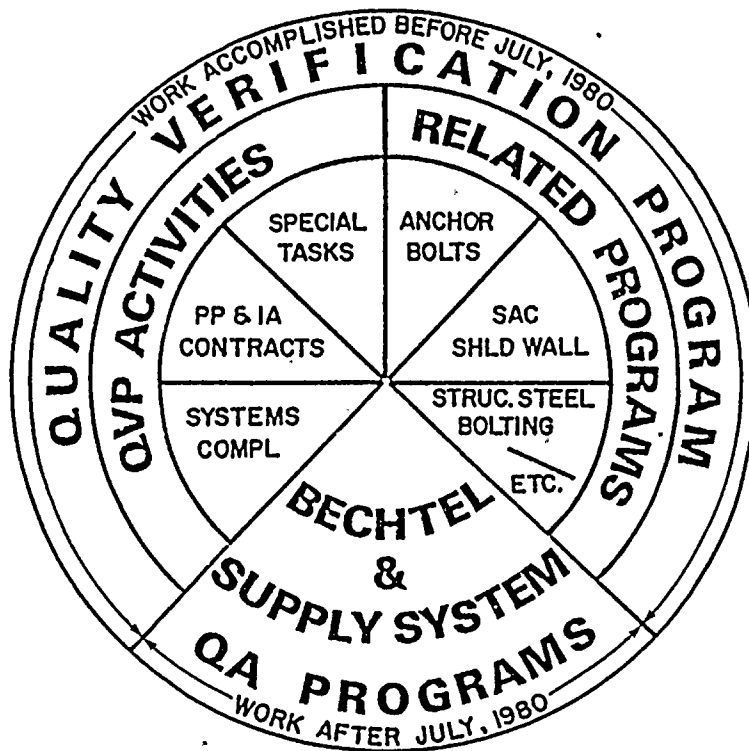


Figure 4-1

4.1.1 Summary of Commitments

A number of commitments were made to the NRC by the Supply System in the response to the NRC's 50.54(f) letter, as discussed in Section 3.0. The Project initiated three task forces to perform these committed actions:



- o Task Force I - Reduce Problem Backlog
- o Task Force II - Reverification of Completed Safety-Related Work
 - Phase 1 - Restart
 - Phase 2 - QVP
- o Task Force III - Management System Improvements

The above commitments have been uniquely identified in a document entitled Summary of Commitments. This document generally describes the activity which responds to each commitment and is included as Attachment 4-1.

4.1.2 General Instructions

The instructions for Task Force II are included in the Reverification of Completed Safety-Related Work (RCSW) Manual. (II) Volumes I and II of the RCSW Manual contain the instructions for the Restart Program (Phase 1 of RCSW). The Restart Program for each contractor has been reviewed by the NRC and will not be discussed further.

The general instructions for the QVP are contained in Volume III of the RCSW Manual. These Quality Verification Instructions (QVI's) are described briefly below:

QVI-01 - Quality Verification Program

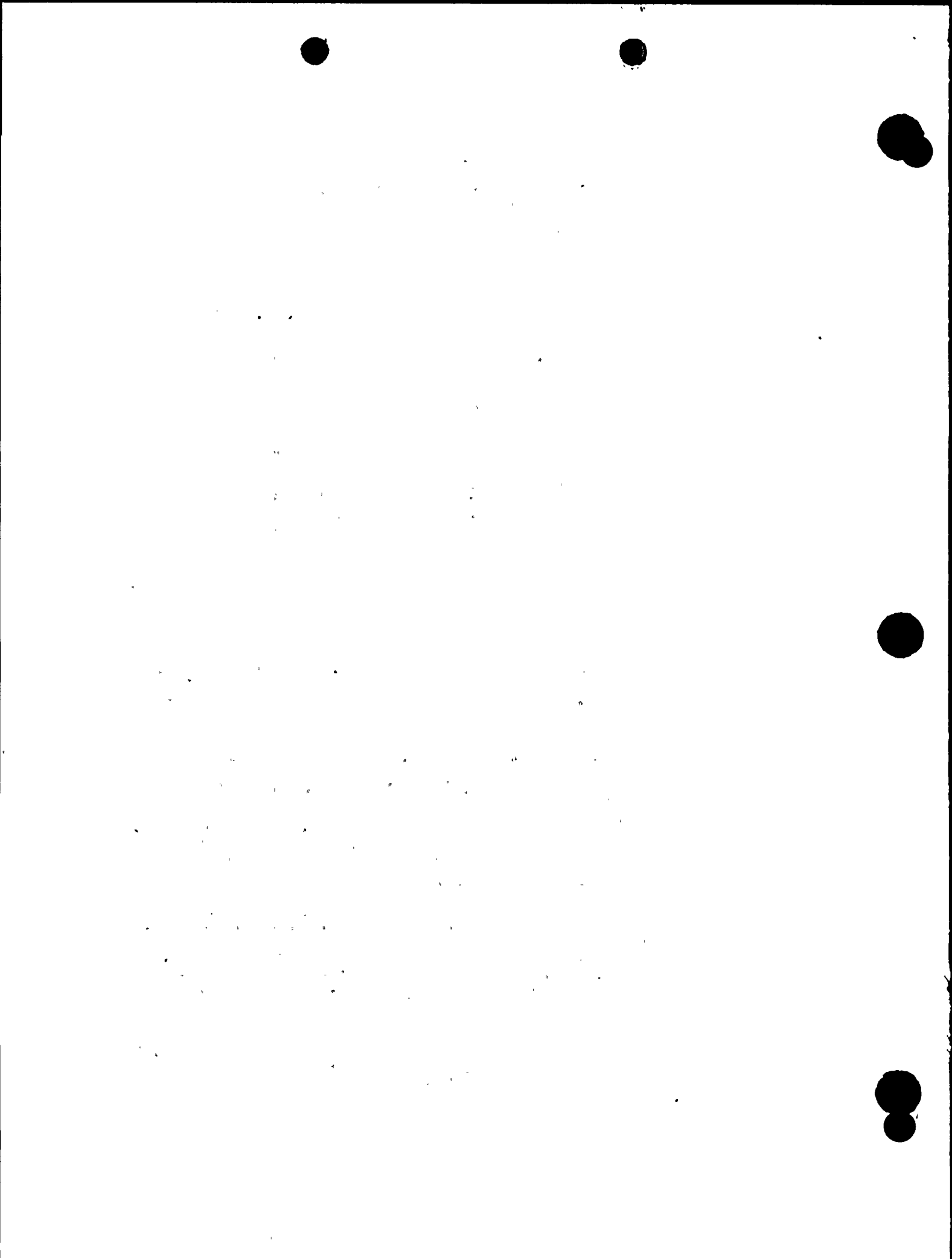
This instruction identifies the activities necessary to verify the adequacy of safety-related work in the WNP-2 plant completed prior to July, 1980. These activities comprise the Program implemented by the WNP-2 Project. The Supply System's Construction Management organization is responsible for this Program.

QVI-02 - Quality Verification Organization and Functional Responsibilities

This instruction describes the organization and functional responsibilities for fulfilling the requirements of the QVP. The functions of organizations performing activities in this Program are established in this instruction.

QVI-03 - Quality Verification Program Accountability

This instruction establishes WNP-2 Project organizational responsibility for the activities necessary to implement the QVP. It is used by Project participants to identify overall scope of their activities, and authorizes them to proceed with the Program.



QVI-04 - Deficiency Document Review

This instruction describes the process for performing reviews of deficiency documents to establish whether or not the dispositions of nonconformances, design changes, field change requests, and information requests, were technically correct.

QVI-05 - Evaluating Special Reviews for Quality Verification Program Credit

This is an instruction for evaluating special inspections or reviews performed by Project organizations or site contractors to correct identified deficiencies. The objective of this evaluation is to determine whether or not those inspections or reviews meet the objectives of the QVP and if so, document the results and acknowledge credit.

QVI-06 - Prepurchase and Inactive Site Contracts Evaluation, and Selection for Reinspection

This instruction describes the methods utilized to evaluate QC I and QC II SC I prepurchase and inactive site contracts to determine the need for verification reinspection.

QVI-07 - Active Site Contracts Evaluation, and Selection for Reinspection

This instruction describes the methods utilized to record the decision not to perform quality verification reinspection on QC I and QC II SC I active site contracts.

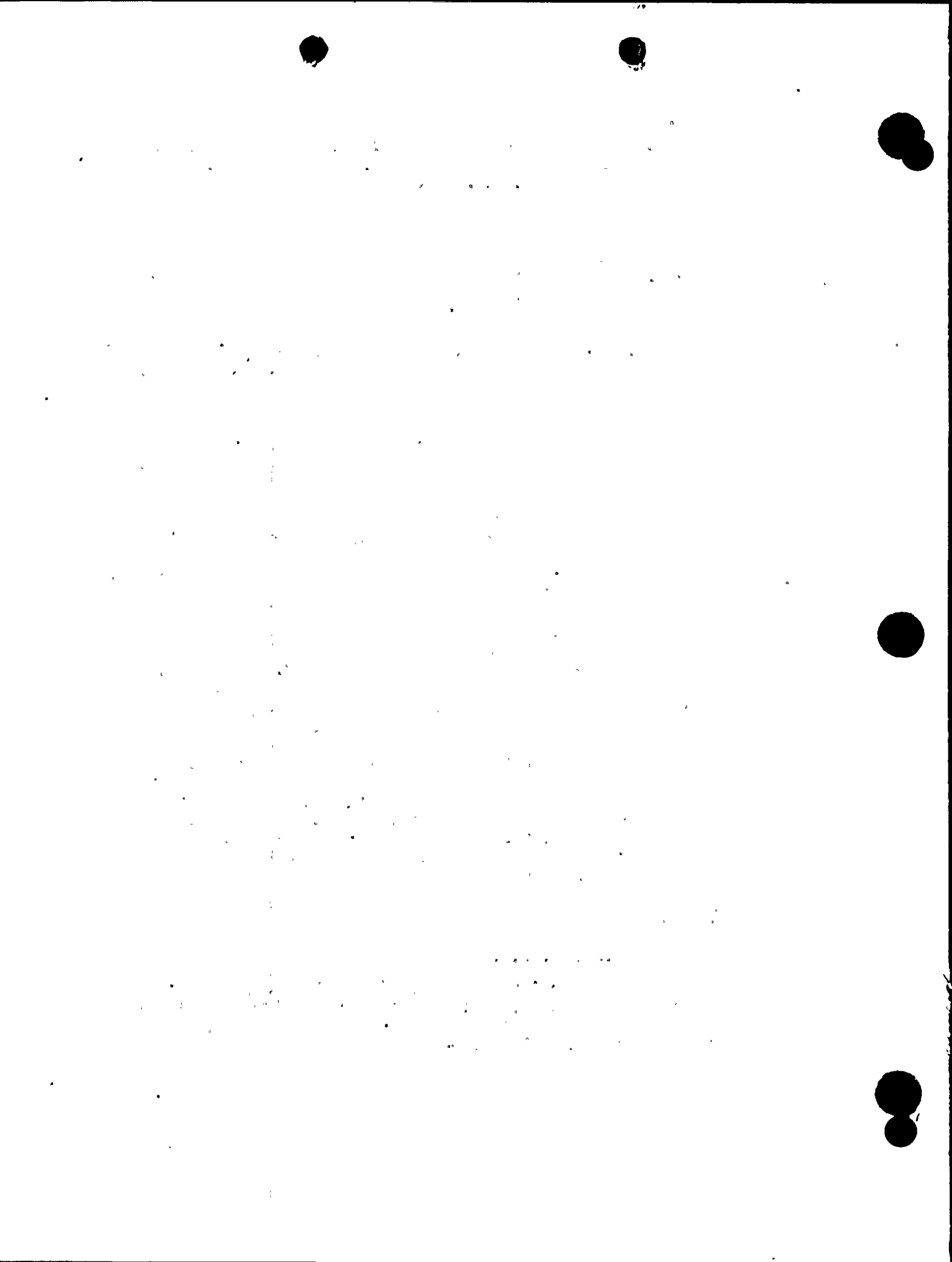
QVI-08 - Reverification Inspection Team Concept

This instruction describes the team-concept method to be used for verification reinspections of hardware at WNP-2. The team-concept method encompasses documenting and resolving discrepancies in the field. This QVI is applicable to reinspections for those contracts determined on a case basis by the Supply System QVP Manager.

QVI-09 - Special Structural Steel Reinspection Criteria

This instruction describes the criteria to be used to determine the significance of discrepancies discovered during the verification reinspections of structural steel welding at WNP-2.

QVI-08 and -09 were mainly used for the reinspection of hardware installed by contract 215, but were also used for reinspection of piping supports installed by contract 233, under



the special PP&IA program. A description of the development of these two instructions is included in the Contract 215 Reverification Report (Vol. IV, Book 3).

4.1.3 Contract Applicability

The construction of WNP-2 comprises some 200 contracts. Of these, 67 contain safety-related work that was accomplished prior to July, 1980. For the purpose of the QVP, these contracts can be categorized as one of the following:

- o Active Contract - a contract which installed QC I or QC II SC I hardware prior to July, 1980, and was restarted in 1981.
- o Inactive Contract - a contract which installed QC I or QC II SC I hardware prior to July, 1980, and was either closed prior to Restart or realigned at the time of the Restart Program.
- o Prepurchase Contract - a vendor supplying QC I or QC II SC I hardware to the Supply System prior to July, 1980.

A list of all contracts which contain safety-related work completed prior to July, 1980, is provided in Figure 4-2. This figure identifies the contracts as active, inactive or prepurchase contracts, and their respective elements of the QVP. The list in Figure 4-2 results from an initial list committed by the Supply System's 50.54(f) response letter, plus others subsequently identified. Four of the original contracts listed were found to have not actually furnished safety-related hardware; these are also identified in the figure.

The scope of work within the QVP can be divided into a number of major activities. Figure 4-3, Quality Verification Matrix, shows a method of dividing this work (by critical construction activities), and identifies the approximate work status as of June, 1980; the contracts responsible for the work; and the direct and indirect elements of the Program which serve to assure the adequacy of the plant.

4.2 Active Contracts

4.2.1 Contract Applicability

The Construction Completion Contractor, BPC, was responsible under the Systems Completion element of the QVP for the reinspection of nine active site contractors. These contractors are identified in Figure 4-2.



<u>Contract No.</u>	<u>Contractor</u>	<u>Description of Contract Work</u>	<u>Program Element</u>
2	General Electric	Nuclear Steam Supply	PP
7	Battelle Northwest	Meteorological Study	PP
17	Pathway Bellows	Refueling Bellows	PP
18	Farr Company	Standby Gas Treatment & HEPA Filters	PP
22A	Joy Manufacturing	HVAC Fans	PP
23	Byron Jackson	Standby Service Water Pumps	PP
24	HJICO, Inc.	Shop Fabricated Tanks	PP
28	Buffalo Forge	HVAC Fans	PP
31A	Whiting	Overhead Building Cranes	PP
3200	Clayton	Jib Cranes	PP
35A	Crane Co.	Pumps and Motors	PP
36	Acme Concrete	Production & Delivery of Concrete	PP
41A	Yelan	Nuclear Valves	PP
41B	Anchor/Darling	Nuclear Valves	PP
42A	Fisher Controls	Control Valves	PP
42B*	Fisher Controls	Control Valves	PP
47A	Westinghouse	Switchgear	PP
48	Westinghouse	480 Volt Substation	PP
49	I T E Imperial	Motor Control Centers	PP
51A	ESS, Inc.	Batteries	PP
51B	Power Conversion	Battery Chargers	PP
52*	Solid State Controls	Uninterruptible Power Supply	PP
53	Stewart Stevenson	Diesel Generators	PP
55	Westinghouse	Containment Electrical Penetrations	PP
57	Kinematics	Accelerometers	PP
58	Jeico	Instrument Racks	PP
59	General Electric	Instrument & Control Boards	PP
60A*	Sentry Equipment Corp.	Sampling & Analysis Systems	PP
62A	Okonite	Electrical Cable	PP
62B	Raychem	Electrical Cable	PP
62C	Rockbestos	Electrical Cable	PP
67	H K Porter	Air Handling Units	PP
68	BIF	Isolation Valves	PP
69	Yelan	Check Valves	PP
71	Air Products & Chemicals	Hydrogen Recombiner	PP
73	Elgar	15KVA Inverters	PP
90	Leckenby	Pipe Whip Restraints	PP
92A	Ingersoll Rand	Sampling Probes	PP
92B	Kaman Sciences	Radiation Monitoring	PP
93	GPE Controls	Vacuum Breaker Valves	PP
94	B F Shaw	MSRV Discharge	PP
205	Stewart Erikson	Reactor Building Substructure	IA
206	Bovee Crail	General Construction	IA
206A	Peter Kiewit Sons	Architectural Construction	IA
207	Pittsburgh-DesMoines	Structural Steel	IA
209	Rigging International	Rigging of Reactor Pressure Vessel	IA
210	Peter Kiewit Sons	Architectural Construction	IA
213	Pittsburgh-DesMoines	Primary Containment Vessel	IA
213A	Pittsburgh-DesMoines	Containment Modifications	A
215	WSH/Boecon/GERI	Mechanical	A
216	Waldinger	HVAC/Plumbing	A
217	Sentry	Fire Protection	A
218	Fischbach/Lord	Electrical	A
219	OB Cannon	Coatings - Drywell	A
220	Johnson Controls	Instrumentation & Controls	A
221	Pacific Testing Lab.	Construction Testing	IA
221A	Pacific Testing Lab.	Construction Testing	A
225	McMillan Brothers	Make-up Water Pumphouse	IA
226	Sime	Reactor Building Excavation	IA
233	B F Shaw	Spray Pond Alteration	IA
234	OB Cannon	Coatings - Wetwell	A
235	GE I&SE	Reactor Instrument Modifications	IA
6426	Wright-Schuchart-Harbor	Interim General Construction	IA
6809	Bethlehem	Reinforcing Steel	PP
690A	Welk Brothers	Annular Sleeves	PP
6905*	Welk Brothers	Skimmer Surge Tank	PP
6912	Pybus	Structural Steel	PP
6917	Texas Pipe	Pipe Sools	PP
7012	Brand Industrial	Form Separation System	PP
7426	Northwest Cooper	Exhaust Duct	PP
12409	Buenler Nuclear Products	BNR High-Density Spent Fuel Racks	PP

A = Active, IA = Inactive, PP = Prepurchase
 * = Review identified no safety related hardware

Figure 4-2



ITEM	CRITICAL ACTIVITY	WORK COMPL. PRIOR TO 6/80	CONTRACTS* PERFORMING WORK	QUALITY VERIFICATION ACTIONS
1	Soil Work	100%	<u>206, 206A, 205, 210, 6426, 226, 225</u>	2, E, T
			218	E
			215	E, M
2	Concrete/Rebar/Embeds (Including Pipe)	95%	<u>205, 206, 206A, 6426, 210, 225, 233</u>	2, 3
			215	3, A, M
			216, 218, 220	3, A
3	Containment	90%	213	2, V
			213A	I
4	Structural Steel	90%	206, 206A, 207, 210	2, F
			215	1, A, B, F, H, N, X
5	Equipment Installation	85%	209	2, T
			<u>216, 218, 220</u>	1, J, O
			215	J, H, O, S
			207, 235	2, J, O
6	Piping/Valves	85%	<u>205, 206, 206A, 213, 233, 6426</u>	2, J
			213A, 220	1, J, W
			215	1, I, J, H, P, W
7	Hangers	80%	213, 233	2, J
			<u>213A, 216, 217, 220</u>	I
			215	1, G, H, I, H, Q
8	Concrete Inserts/Anchor Bolts	80%	<u>206, 206A, 210, 233, 6426</u>	2, C
			<u>213A, 216, 217, 218, 220</u>	C
			215	1, C, M
9	Cable Tray/Conduit/Supports	80%	218 (Installed, not QC-Accepted)	N/A
			217	1, R
10	Cable/Terminations	70%	218	1, J
11	HVAC Ducting/Supports	50%	216	I
12	Tubing/Supports/Instrumentation	60%	220	1, J, O
13	Cathodic Protection/ Grounding	90%	<u>206, 206A, 210, 6426</u>	2
			215	M
			218 (Installed, not QC-Accepted)	N/A
14	Insulation	60%	215	M
15	Coatings	50%	213, 219, 234	L
16	NDE	75%	Prepurchase and Inactive Contracts	2, 3
			Active Site Contracts	1, 3
			215	1, D, K, M
17	Procurement	90%	Supply System and Inactive Contracts	2
			Active Site Contracts	I

*Major contracts performing the critical activity are underlined.

WNP-2 QUALITY VERIFICATION MATRIX SAFETY-RELATED WORK

Figure 4-3

DIRECT VERIFICATION PROGRAMS

- 1 - QVP Active Contracts
- 2 - QVP Pre-purchased & Inactive Contracts
- 3 - QVP Special Tasks

INDIRECT PROGRAMS EVALUATED BY QVP

- A - Sacrificial Shield Wall
- B - Pipe Whip Restraints Repair
- C - Concrete Expansion Anchor Bolts(79-02)
- D - Weld Radiograph Review
- E - Soil Backfill Testing
- F - Structural Steel Bolting
- G - Lubrite Plate Inspection
- H - Sway Brace Bracket Inspection (Pipe Support)
- I - Pipe & Hanger As-Built
- J - Test & Start-Up Component Inspection
- K - Pre Service Inspection
- L - Coating Rework
- M - WBG Documentation Completion
- N - 541' Steel Fabrication Program
- O - Equipment Qualification
- P - Arc Strike Inspection
- Q - Hanger Balancing
- R - Fire Protection Raceway Support Welds
- S - BPC Equipment Inspection
- T - RPV Set Task Force
- U - Building Settlement
- V - 213 Documentation Task Force
- W - Weld-o-let Inspection
- X - Leckenby Components Inspection



Contract 221A performed construction testing services only, and did not install hardware at WNP-2. An evaluation of this contract was performed in accordance with instruction QVI-07 and is reported in Volume IV, Book 1. The result of this evaluation is that reinspection of contract 221A work is inappropriate.

Contract 210A, Peter Kiewit Sons, for general construction is not listed in Figure 4-2, but was initially in the scope of the Program. However, it was subsequently determined that this contract did not perform any work prior to July, 1980, and therefore, is outside the scope of the QVP.

4.2.2 Program Content

The Systems Completion element of the QVP consists of reinspection of a sample of work completed prior to July, 1980, and review of the documentation associated with the sample. The reinspection sample, when compared with its documentation, validates the quality records for the entire population of hardware. The inspections were performed by BPC and the contractors, as discussed in Section 5.0.

The results of the reinspections are analyzed to determine the nature and number of deficiencies. Following this analysis, a decision is made: either further reinspection is required, or a positive statement is made about the remaining hardware, based upon the results of the sample reinspection. The methodology for selecting samples, performing inspections and evaluating results is discussed further in Section 6.0.

4.2.3 Plans and Procedures

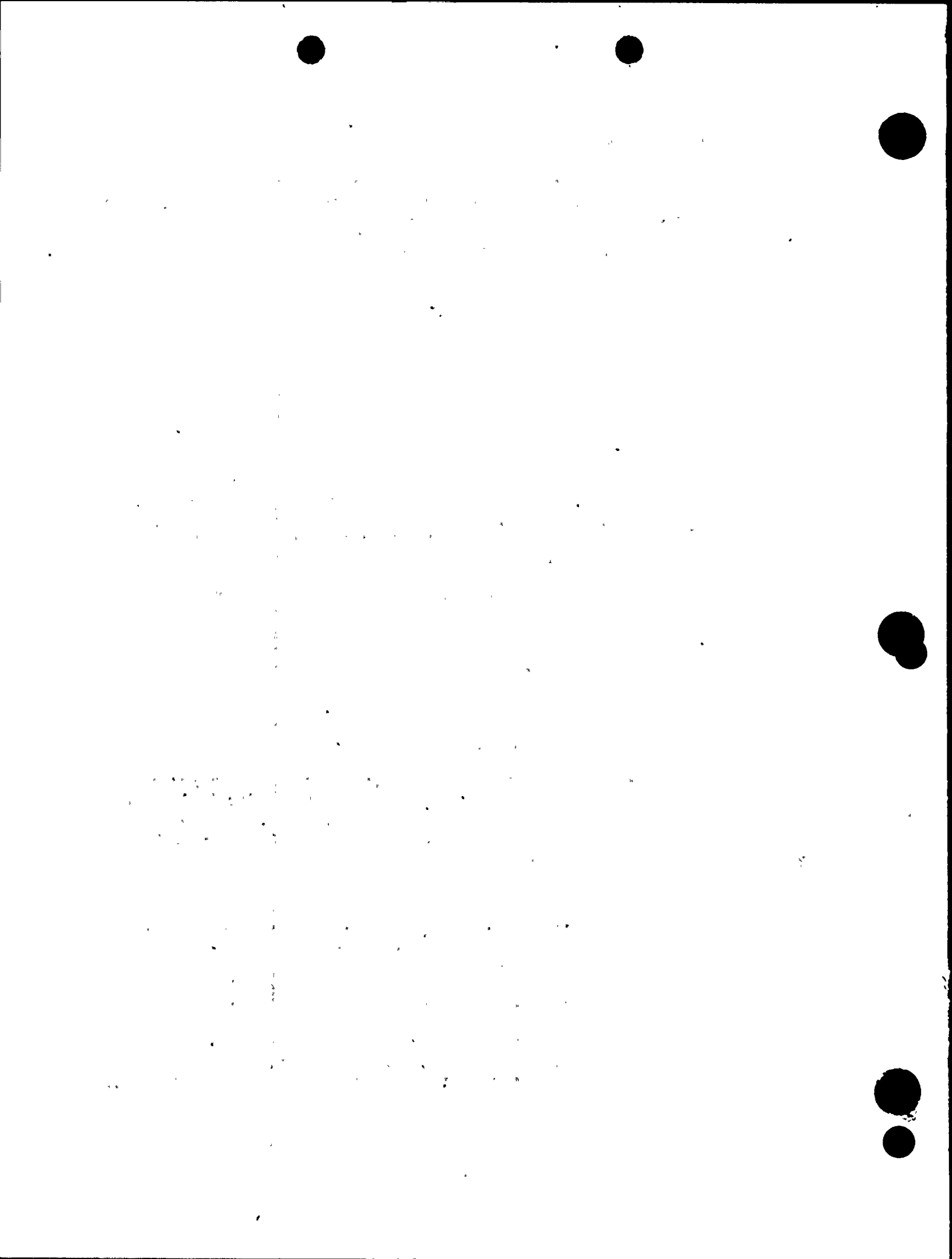
The verification of active contractors was performed in accordance with BPC Procedure SWP/P-G-14, "Reverification Coordination". This procedure directs the interactions of BPC Construction Management with the Supply System and contractors to meet the requirements of the QVP. A copy of this procedure and BPC's plan for verification are covered in Volume IV, Book 1.

The contractors' plans and procedures used for the verification activities are included in the respective contract reverification reports.

4.3 Prepurchase and Inactive Contracts

4.3.1 Contract Applicability

Forty-nine prepurchase contracts and 13 inactive site contracts comprise the scope of the PP&IA element of the QVP. These contracts are identified in Figure 4-2.



4.3.2 Program Content

The PP&IA element of the QVP is composed of two phases of work. First, the reviews outlined in the original program description and second, the special examination conducted in response to questions raised by the Region V Task Team in February, 1983⁽¹²⁾. These phases of PP&IA contract verification are covered separately below.

4.3.2.1 First Phase, Project QA Review

Documentation reviews of the quality records for safety-related hardware are accomplished to establish whether or not the records meet specification, code, and FSAR requirements. These reviews are conducted by the Project QA organization (PQA) in accordance with established procedures.

A review of the quality history of each contract is then performed by a cooperative effort between PQA and the QVP office to determine areas of questionable performance which could need further examination or inspection. This review consists of at least the following:

- o The collective results of document reviews
- o Past vendor surveillances
- o Past NRC-identified problems
- o Equipment operating history, if any
- o The collective results of NCRs and CARs

The results of the above are considered to identify the need for hardware inspection. If such a need is identified, then hands-on hardware inspection is performed by the appropriate Project organization in much the same manner as discussed in paragraph 4.2.2.

4.3.2.2 Second Phase, Special PP&IA Review

All 62 PP&IA contracts are candidates for review in this phase of the program, to confirm the effectiveness of the first phase of review. Each of the 62 contracts is evaluated against four criteria to determine which contracts warrant application of the full review process:

- o Did the contractor have an NRC-reviewed QA program? If so, no further review is necessary as such contracts are outside the scope of the 50.54(f) requests.



- o Did the contractor furnish critical or unique components? If not, drop from further review.
- o Can the work or component(s) be meaningfully re-inspected? If not, develop special plan for verification.
- o Is the work adequately verified by other related re-inspection programs? If so, drop from further review.

The full review process for contracts selected for further review has three parts:

- o Performance History Review

A determination of the contractor's qualifications as a contractor/supplier to the nuclear industry is accomplished by reviewing his history of performance on other similar projects prior to and during his work at WNP-2.

- o Procedure Review

A review for technical adequacy of the contractor's procedures is performed. Procedures are selected from among those the contractor was required to submit for A/E approval, and are those which are particularly critical to the work processes.

- o Record Review and Hardware Reinspection

A review of quality documentation and a visual re-inspection of a representative sample of the contractor's work is performed.

Following the above steps, results of reviews and re-inspections are analyzed for each contract to determine if they are adequate to verify acceptability of the hardware or if deficiencies identified indicate that additional reinspection of a larger sample should be performed. Inspections are performed and results are analyzed in the manner discussed in Paragraph 4.2.2.

4.4 Special Tasks

The Special Tasks element of the QVP was initially instigated to address three specific questions contained in the NRC's 50.54(f) letter:

- o "Were correct dispositions made for nonconformances, design changes, field change requests, and information requests?"

- o Were there instances in which improperly qualified personnel performed and inspected the work?
- o Were receipt inspection requirements followed for contractor produced items and why weren't deficiencies detected during receipt inspection?"

The Special Tasks element of the Program was designed to address these issues because they did not readily fall into the scope of the contract inspection elements of the QVP discussed in Sections 4.2 and 4.3. During the period the QVP was being implemented, three more tasks were incorporated in this element. These three tasks address grout, concrete and nondestructive examination (NDE). The following sections describe the six "special tasks".

4.4.1 Deficiency Document Review

The Deficiency Document Review (DDR) was established to determine whether the dispositions of nonconformances, design changes, field change requests, and information requests were correct, and is divided into two parts:

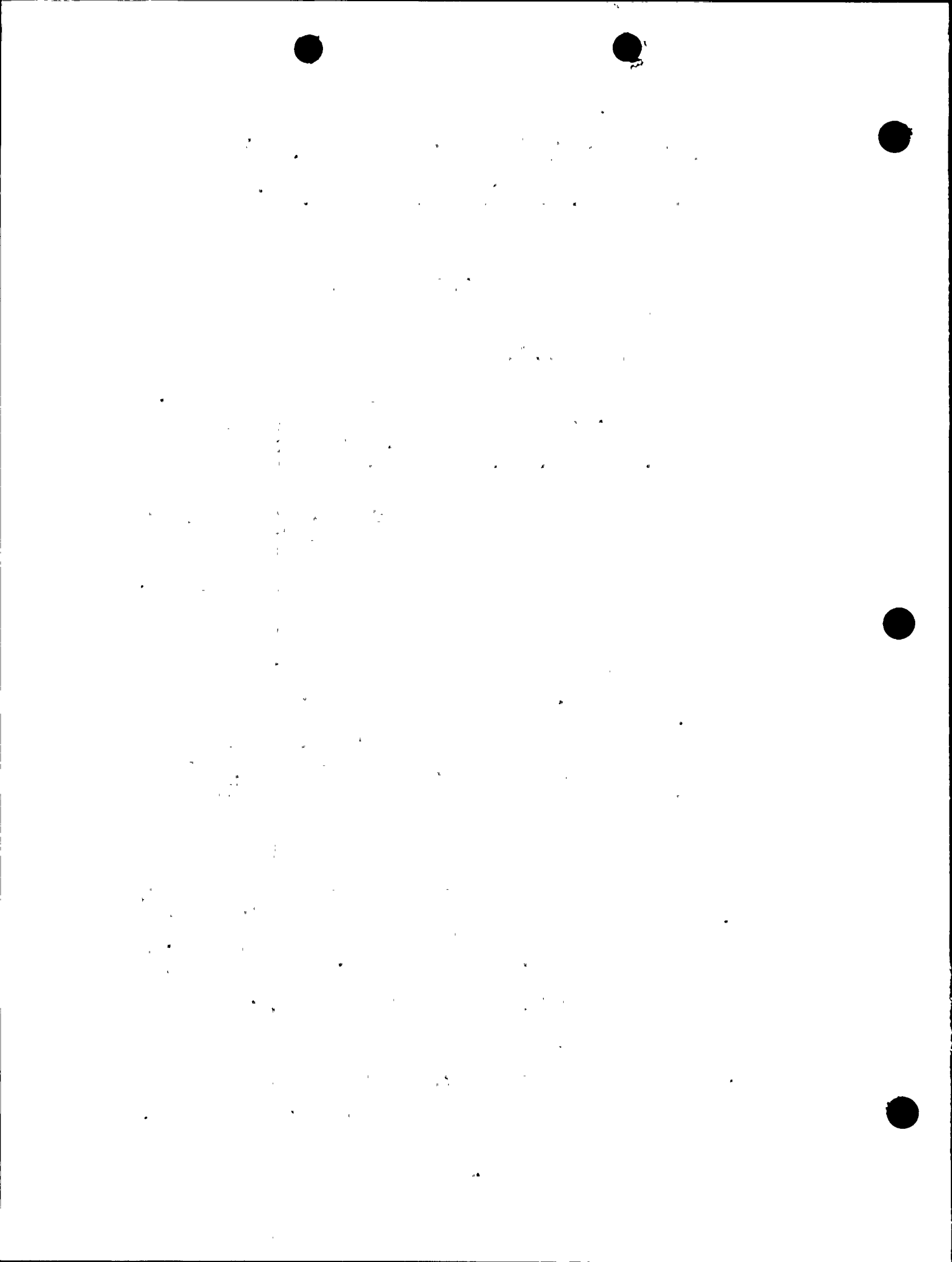
- o Site documentation, subject to disposition by BRI.
- o Contractors' internal documentation, dispositioned by contractors' personnel or BRI.

An examination of the procedures governing the control of each document identified for review under this program is conducted to determine that each disposition was subject to sufficient scrutiny to reasonably assure its adequacy. Where it can be demonstrated that an independent review for technical adequacy of deficiency-document dispositions or design-change information was conducted, an investigation is made to determine that surveillances on these reviews were performed to assure adherence to procedures, and to confirm that corrective action was taken where required. Where previous adequate independent reviews cannot be established, or to confirm the adequacy of previous, procedurally-conducted reviews, a random 10% sample of selected documents is reviewed for technical adequacy.

4.4.2 Personnel Qualifications Review

The Personnel Qualifications Review (PQR) was established to ascertain that properly qualified personnel performed and inspected the work or where qualifications were suspect, appropriate corrective action was taken. The review is divided into two parts:

- o Examination of A/E engineering personnel competency.
- o Examination of contractors' engineering and non-engineering personnel's work adequacy.



The engineering portion of this review consists of assessment of A/E and contractors' engineers by analyzing the results of the DDR. The reviews conducted there are qualitatively analyzed and researched for performance trends.

The second part of this review comprises an analysis of the results of reinspections in other elements of the QVP, previous corrective actions, PQA surveillances, and special reviews to determine the adequacy of the work and thereby the competence of non-engineering personnel.

4.4.3 Receiving Inspection Review

The Receiving Inspection Review (RIR) was established to provide insight into receiving inspection practices by assuring acceptability of material in the plant, both stored and installed. This task does not wholly verify contractors' past receiving inspection practices and inspection personnel qualifications.

To assure stored material acceptability, analysis of repeat receiving inspections performed on material in storage at the time of the stopwork is performed.

The acceptability of the installed items is verified by review and analysis of hardware reinspection and review of documentation accomplished in other elements of the QVP.

These actions are not directly responsive to the NRC's question on receiving inspection in its 50.54(f) request, because at the time of the stopwork, the plant was approximately 85% complete, and it was considered of less value to assess contractors' past receiving inspection programs than to provide assurance that the material in the plant was acceptable. The RIR task analyzed the information resulting from the above actions to contribute to an assessment of past receiving inspections and confirm material acceptability.

4.4.4 Grout Evaluation

The WNP-2 Project identified a lack of material traceability and quality control for the installation of sand-cement grout in contract 215. A field testing program was initiated to determine suitability of the installations, whereby cores of in-place grout are recovered, tested for compressive strength, and the test results compared with specification requirements. This program was implemented and expanded in three phases:

- o Phase I, contract 215 sand-cement grout
- o Phase II, all contracts, all grout types
- o Phase III, expanded sample from Phase II.



The results are analyzed to determine the adequacy of original installations or the need for replacement.

4.4.5 Cast-In-Place Concrete Evaluation

This task was initiated because meaningful reinspection of concrete and reinforcing steel cannot be accomplished without destructive techniques. A special technical review was conducted to collect quality-related information on concrete construction in the plant and provide a comprehensive assessment of its structural integrity.

The evaluation of concrete work at WNP-2 includes a technical review of applicable contract specifications and procedures, quality records, related programs, and other investigations. A determination of the adequacy of concrete work is made on the basis of these review results and takes into account the Project's resolution of the NRC's Construction Appraisal Team inspection findings.

4.4.6 NDE Verification

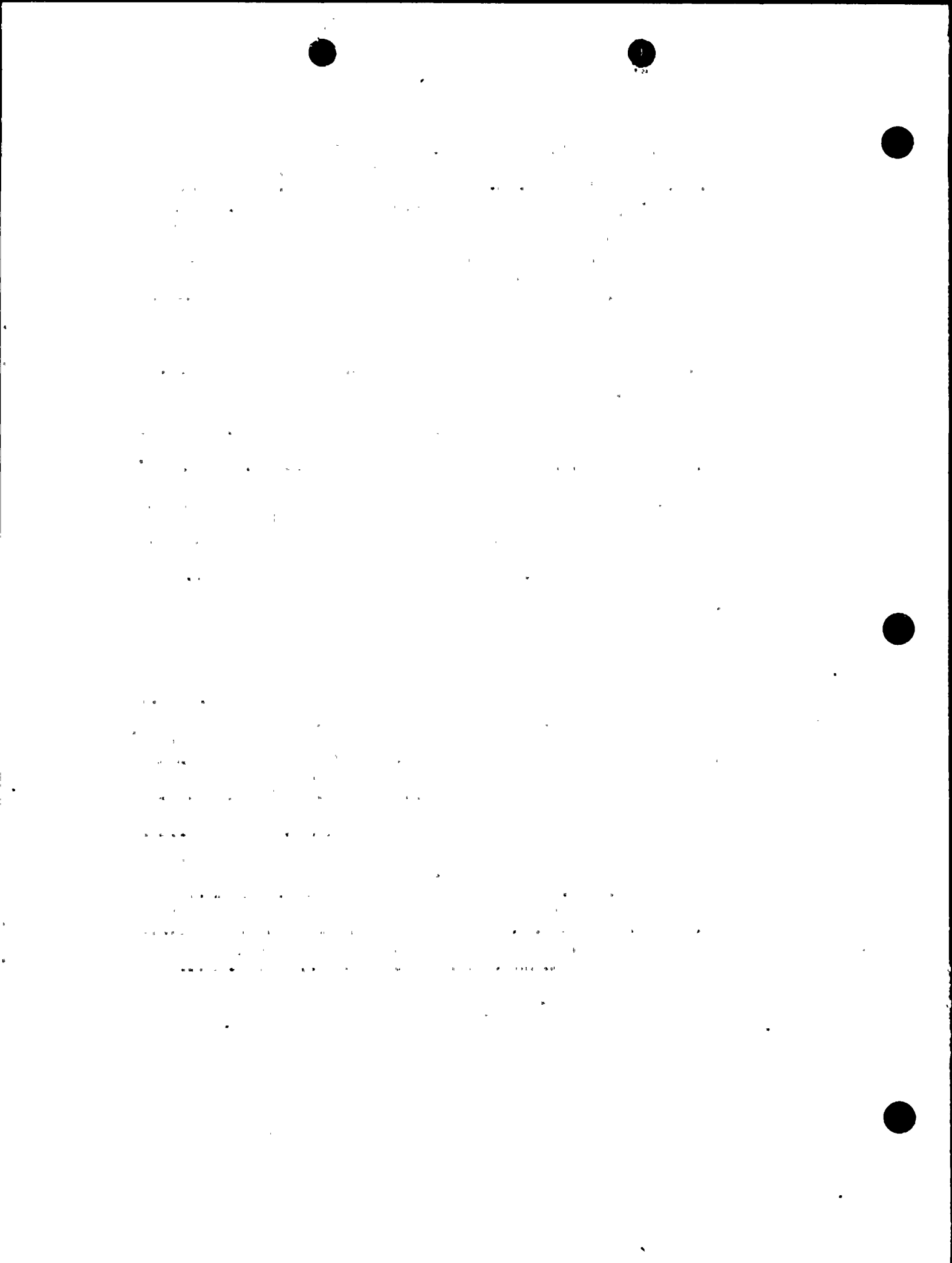
This task was initiated late in the Program and responds to an issue raised in an NRC review of the QVP. It was established to verify that NDE performed on the Project prior to July, 1980, is of satisfactory quality to conform with requirements. The task includes repeat NDE on a sample of previously examined hardware and an evaluation of other NDE programs.

4.5 Special Related Programs

A number of special reinspection programs have been conducted at WNP-2 for a variety of reasons:

- o Project response to IE Bulletin
- o Project response to a recognized or potential deficiency
- o Project management attention to a critical activity

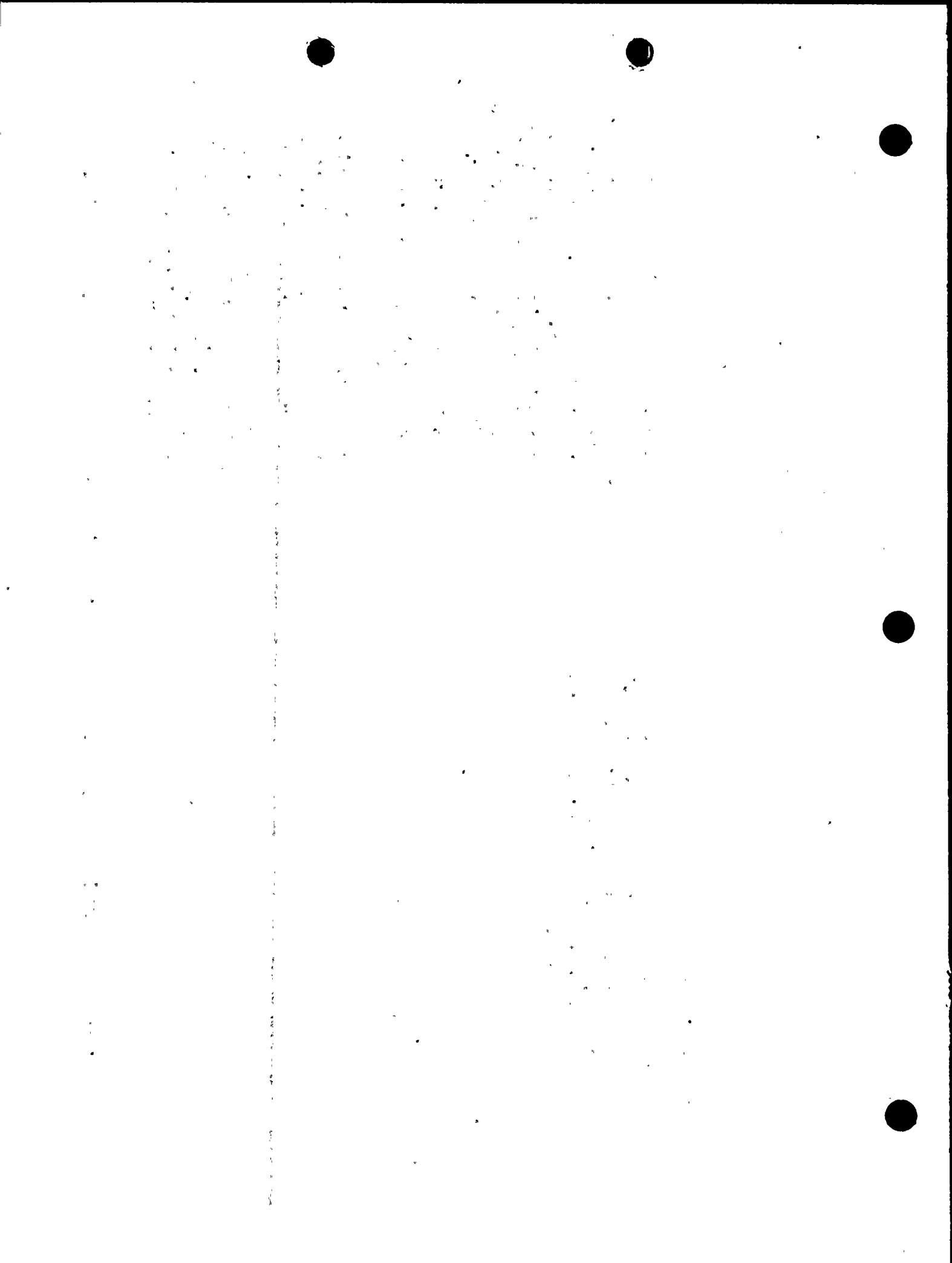
These special programs were generally performed on 100% of the hardware under investigation, although some of the programs were performed on a sample basis. A list of special programs related to quality verification is provided in Figure 4-4. This figure identifies each program with a brief statement about its content. Each of these programs is either reported within the context of the QVP or an evaluation of the special program is included in a QVP report.



IDENT	Name	Description	Where Reported	
			Vol. No.	Sk. No.
A	SACRIFICIAL SHIELD WALL EVALUATION	100% reinspection of accessible welds and other (contract 215)	IV	3
B	PIPE WHIP RESTRAINTS REPAIR PROGRAM	100% rework/reinspection (90, 215)	II	2
C	CONCRETE EXPANSION ANCHOR BOLT EVAL. (79-02)	Sample inspection and retorque (All)	IV	1
D	WELD RADIOGRAPH REVIEW	Reread all ASME radiographs (215)	III	7
E	SOIL BACKFILL TESTING PROGRAM	Sample density testing, assessment (All)	II	4
F	STRUCTURAL STEEL BOLTING	Sample retorque (215, 206, 206A, 210)	IV	3
G	LUBRITE PLATE INSPECTION	100% reinspection (215)	IV	3
H	SWAY-STRUT ASSEMBLY INSPECTION PROGRAM	100% field check (215)	IV	3
I	PIPE & HANGER AS-BUILT	100% field check QC I hangers, S. B. piping (215)	IV	3
J	TEST & STARTUP COMPONENT INSPECTION	Open-and-inspect mechanical & electrical equipment (All)	IV	3, 10
K	PRE SERVICE INSPECTION	Repeat examination of ASME welds (215)	III	7
L	COATING REWORK	Reinspection of QC I coatings (219, 234)	IV	12, 14
M	WEG DOCUMENTATION COMPLETION	Review quality records (215)	IV	7
N	541' STEEL FABRICATION PROGRAM	100% reinspection & rework 541' steel (215)	IV	6
O	EQUIPMENT QUALIFICATION	Field check critical equipment mounting (All)	IV	3
P	ARC STRIKE INSPECTION	100% piping reinspection (215)	IV	3
Q	HANGER BALANCING	Check and adjust hangers (215)	IV	3
R	FPS RACEWAY SUPPORT WELDS	100% reinspection of welds in fire protection raceways (217)	IV	9
S	BPC EQUIPMENT INSPECTION	Document review, field check equipment (215)	IV	3
T	RPV SET TASK FORCE	Management review of RPV installation (209)	II	4
U	BUILDING SETTLEMENT	Monitoring program (205)	II	4
V	213 DOCUMENTATION TASK FORCE	Management review of quality records (213)	II	4
W	WELD-O-LET INSPECTION	100% reinspection for weld size (215, 220)	IV	3
X	LECKENBY-FABRICATED COMPONENTS INSPECTION	100% Reinspection (215)	IV	3

SPECIAL RELATED PROGRAMS

Figure 4-4



COMMITMENT SUMMARY¹4/1/83
Page 1 of 18Washington Public Power Supply System
Letter No. G02-80-153, 7/17/80

(In Response to USNRC Letter No. EA-80-153, 6/17/80, 10CFR 50.54(f) Request)

COMMITMENT STATEMENTSDISCUSSIONPhase I - Short Term

- o Management resources have been allocated to three Task Forces to develop plans to a) expedite resolution of outstanding problem backlog at WNP-2, b) verify adequacy of prior work, and c) assure the management systems used to control continuing work are adequate.

a) Task Force I - Problem Backlog:

Plans for reducing the backlog of problems were initially outlined in Letter G02-80-259 to Region V, 11/12/80. Activities to carry out the plans have varied as necessary to respond to ongoing Project developments. Project instructions were issued for specific actions to be accomplished by participants.

b) Task Force II - Reverification:

This Task Force effort was separated into two phases:

Task Force II, Phase I - The Restart Program reviewed procedures to assure that work could be resumed with confidence that past problems would not recur.

Task Force II, Phase II - The Quality Verification Program was initiated in June 1981 to verify work completed prior to June, 1980. Reviews and reinspections were carried out through 1982. Results are now being analyzed.

¹ Supersedes the "COMPARISON" of commitments to Quality Verification Program activities, dated July 1982.



c) Task Force III - Management System Improvements:

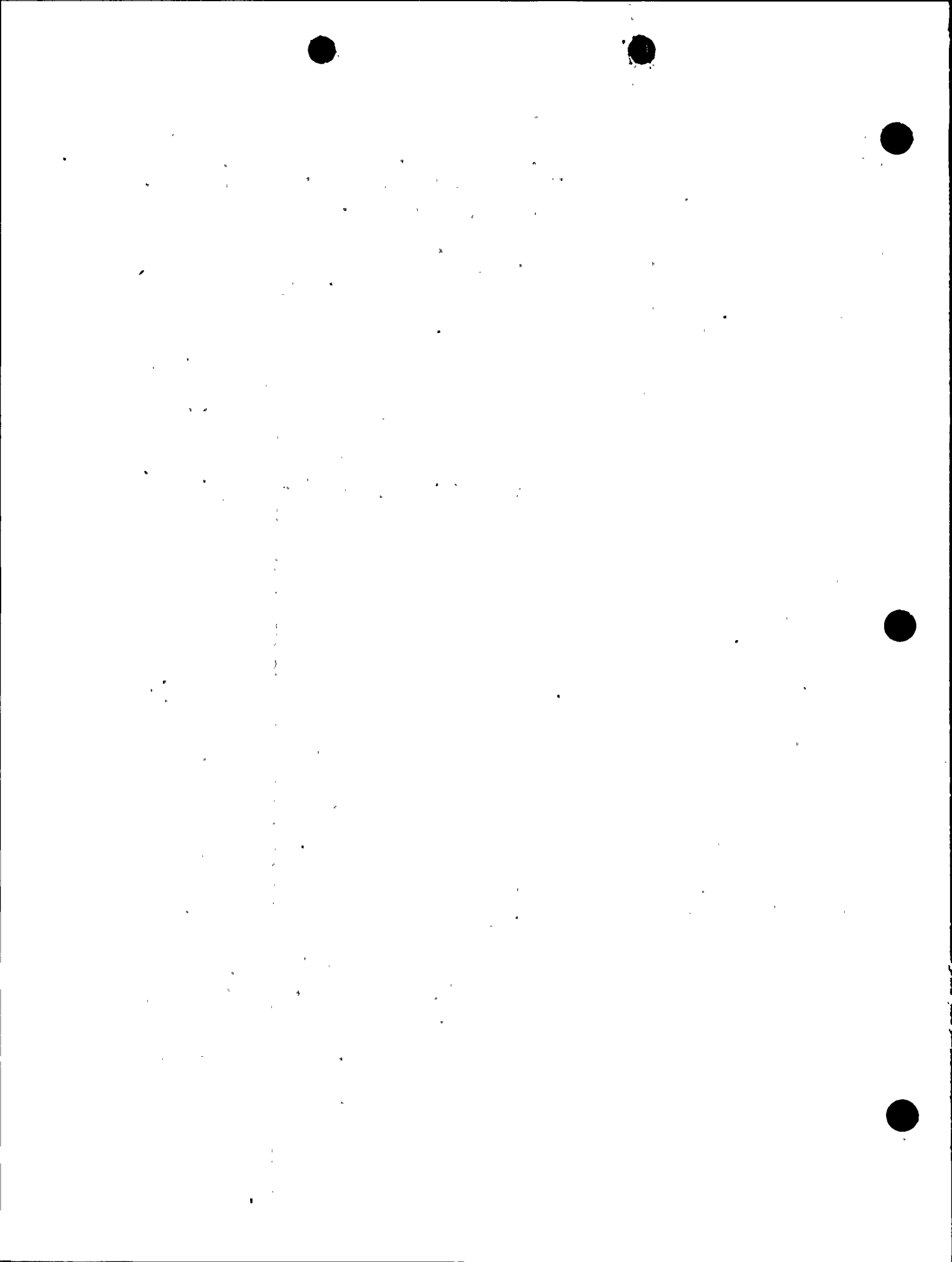
Management system improvements were addressed during the restart period. Measures to assure adequate management controls would be in place were initially outlined in Letter G02-80-259. These were further revised and improved by a new Construction Management Contractor being engaged in 1981 to carry out completion of the Project. The mechanical contract work was assumed by a new Systems Completion Contractor.

- o Each Task Force has been directed to review standards of performance and detailed controls for work methods. Recommendations for improvements will be a principal output of the Task Force efforts.

- o A requirement for approval by the Assistant Director of Technology prior to resumption of installation activities was placed on the WNP-2 major mechanical contract on June 19 pending additional owner evaluation of work methods, controls, and establishment of standards of performance. Key personnel were assigned to perform the evaluation.

Controls for work methods were checked as a part of the Restart procedures reviews, in accordance with project instructions developed for that purpose. The actual reduction of backlogs of problems provides evidence that recommended improvements were carried out.

This commitment was revised to require Program Director approval (IOM F-80-5928, 11/30/80) instead of the Assistant Director of Technology. Prior to each contractor's restart of construction, the activities leading to restart were reviewed by Task Force personnel, Project Quality Assurance, and in some cases, an independent review by corporate personnel was performed. Restart occurred on a commodity basis prior to unconditional release of the contractor's work. Shortly thereafter, however, the mechanical work was placed in the scope of WNP-2's Systems Completion Contractor.



- o A plan has been established to perform summary evaluations of other contractors' current work controls at WNP-2 to reassure ourselves that quality controls are effective and that resumption of work following the current labor related work stoppage would have minimal risk of quality problems and would not preclude inspection of past work.

Accordingly, on July 17, we directed all contractors doing safety-significant installation work at the site to stop work until these reviews are completed.

Phase II - Intermediate

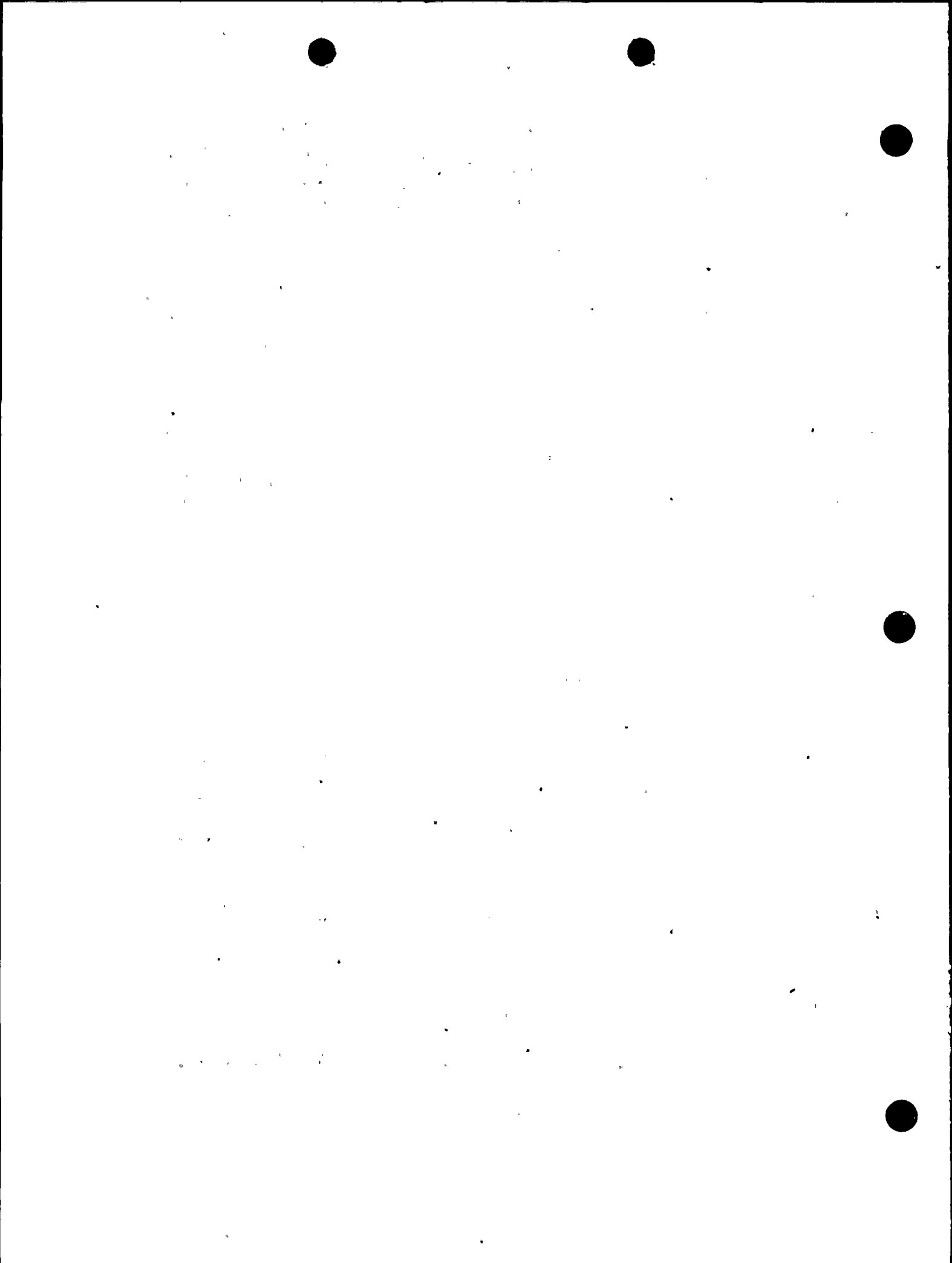
This phase will last until January 1, 1981, and will include:

- o Completion of all reviews of safety-related hardware and records associated with those cases where past quality problems occurred and in those cases where timely review is essential to integrate with the startup sequence or is essential for timely evaluation of management controls. The overall review plan is given in Attachment 1.
- o The results from the above reviews will be applied to our evaluation of management controls, and any necessary changes will be made to WNP-2 in this phase.
- o Reinspection was performed during ongoing construction, but its schedule was integrated with the system startup sequence. Verification reinspections were completed in each system prior to turnover.

Review of work controls for contractors performing safety-related construction work at WNP-2 was accomplished by the Task Forces associated with the Restart Program.

These contractors were individually released to resume construction by approval of the Program Director following satisfactory completion of reviews and corrective actions. Actual restarts were accomplished in early 1981.

These intermediate-term commitments were not met on the schedule originally anticipated. It became apparent early in the Restart activities that, to perform a thorough review of prior work, even in only those areas where past problems occurred, it would be necessary to separate the Task Force II review actions into two phases: Restart and Reverification. It was decided that work could be resumed, provided new installations did not prevent access to previously-installed hardware for reinspection. It was necessary to complete the evaluation of management controls prior to restarting construction, but this was done without applying results of hardware reinspections. Sufficient knowledge was acquired from the review of procedures and control methods to resume work with confidence that the management improvements made would result in quality construction. The Restart activities were actually completed in June, 1981, and the Quality Verification Program activities are scheduled to be complete in July, 1983.



Phase III - Continuing

- o The reviews of safety-related hardware and records will be completed in this phase and knowledge gained in reviewing past work at WNP-2 will be applied to evaluations of management control systems at all projects.

- o Further changes will be made in construction management systems which increase Owner awareness of contractor and subcontractor activities. Where necessary, Owner personnel will be resident with contractors for a sufficient time to evaluate work methods and quality controls. Additionally, certain contractor procedures are being individually analyzed and necessary improvements will be made. These actions will improve working level communication with the Owner and will permit more timely action to resolve problems.

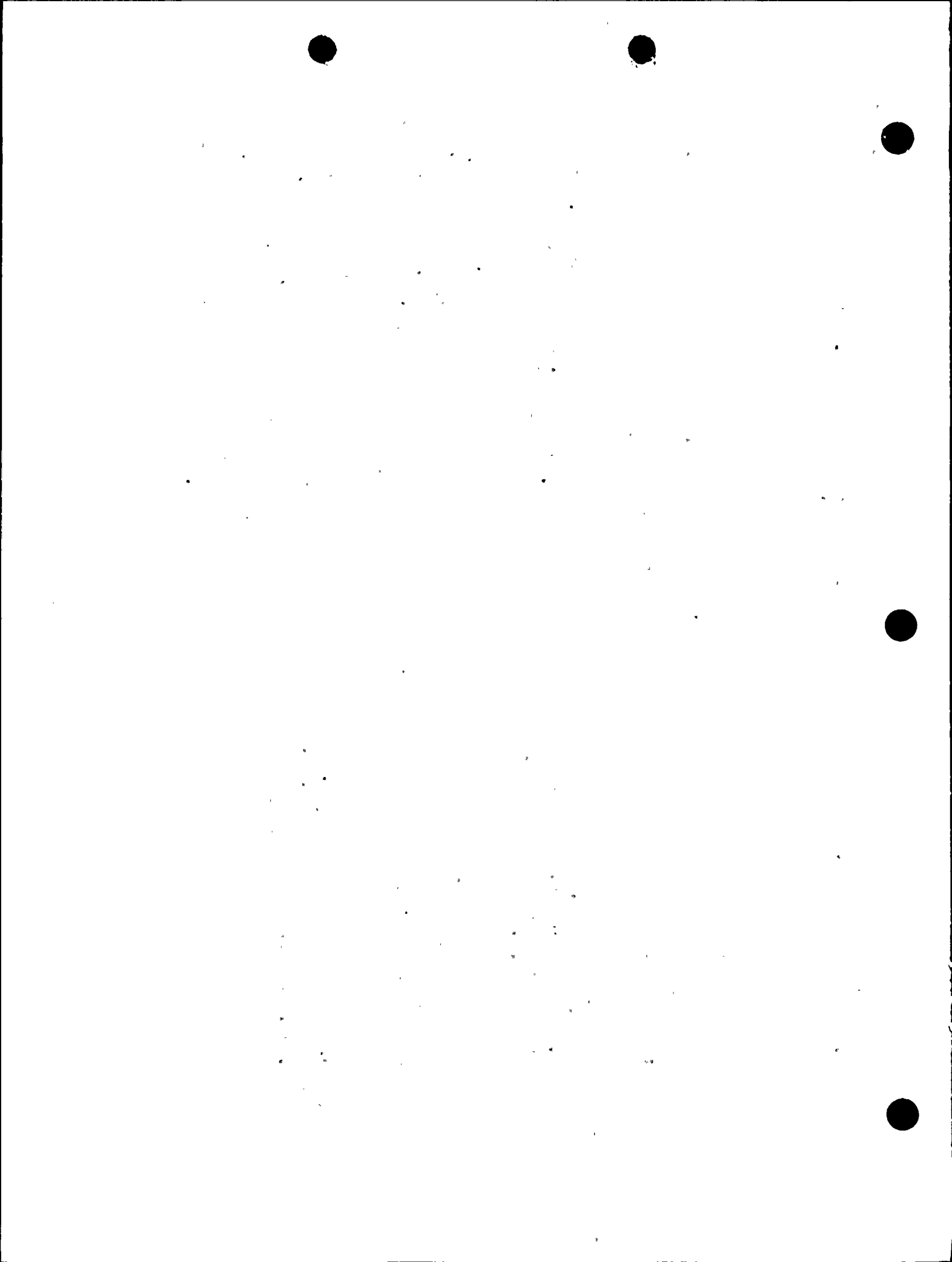
- o It is recognized that the resolution of outstanding concerns and problems at WNP-2 requires additional resources, more management involvement, improved performance standards, and improved tracking systems designed to inform project management of deviations from performance standards and require timely resolution and followup. Detailed recommendations will be made by the Task Forces.

These reviews are now (4/83) being completed and the results evaluated. During the course of all review actions, including those accomplished prior to resuming construction, knowledge acquired was disseminated to other Supply System Projects for use in evaluating management controls. This was accomplished through a corporate-administered "Lessons Learned" Program.

Owner representatives were placed in residence with some of the contractors during the Restart Program reviews. However, the methods for completing construction at WNP-2 had been altered by engaging a highly-experienced Construction Manager early in 1981. All work is being accomplished under Bechtel Power Corporation's Quality Assurance Program.

Contractor procedures used in the ongoing work after restart were reviewed and improved by the Restart Program task forces. Very close direct review and approval of contractors' management plans for resuming and continuing work were required prior to release for restart.

Task Force I reviewed the overall status of outstanding project issues and made recommendations that backlogs of Requests for Information, Project Engineering Directives, Non-conformance Reports, Corrective Action Requests, 50.55(e)'s, and NRC Inspection Items be reduced and management controls be established to minimize future backlogs. Performance standards have been established for deficiency reports, and backlog status is tracked for all items and reported in the Program Director's Report.



- o The quality assurance program will be augmented by more project, construction, and engineering management awareness and involvement in resolution of quality problems.

In both the intermediate and continuing phases, the following conditions will apply:

- o Reports on these contract-by-contract reviews will be prepared and given to the NRC Resident Inspector, and forwarded to Region V every two months until completion.
- o Repairs or further action on identified deficiencies will be reported in accordance with 10CFR50.55(e) and Part 21. Deficiencies not meeting these criteria will be in the periodic reporting and available for review by the Resident Inspector.
- o In addition to the contract-by-contract review presented in the schedule associated with the 50.54(f) response, we have provided a model of our strengthened system verification process, which provides further assurance of the acceptability of components and structures integrated into a system.

In conclusion, I reiterate that our corporate energy is dedicated to compliance with law, our public responsibility for nuclear safety and the need to resolve these issues on a rigorous schedule.

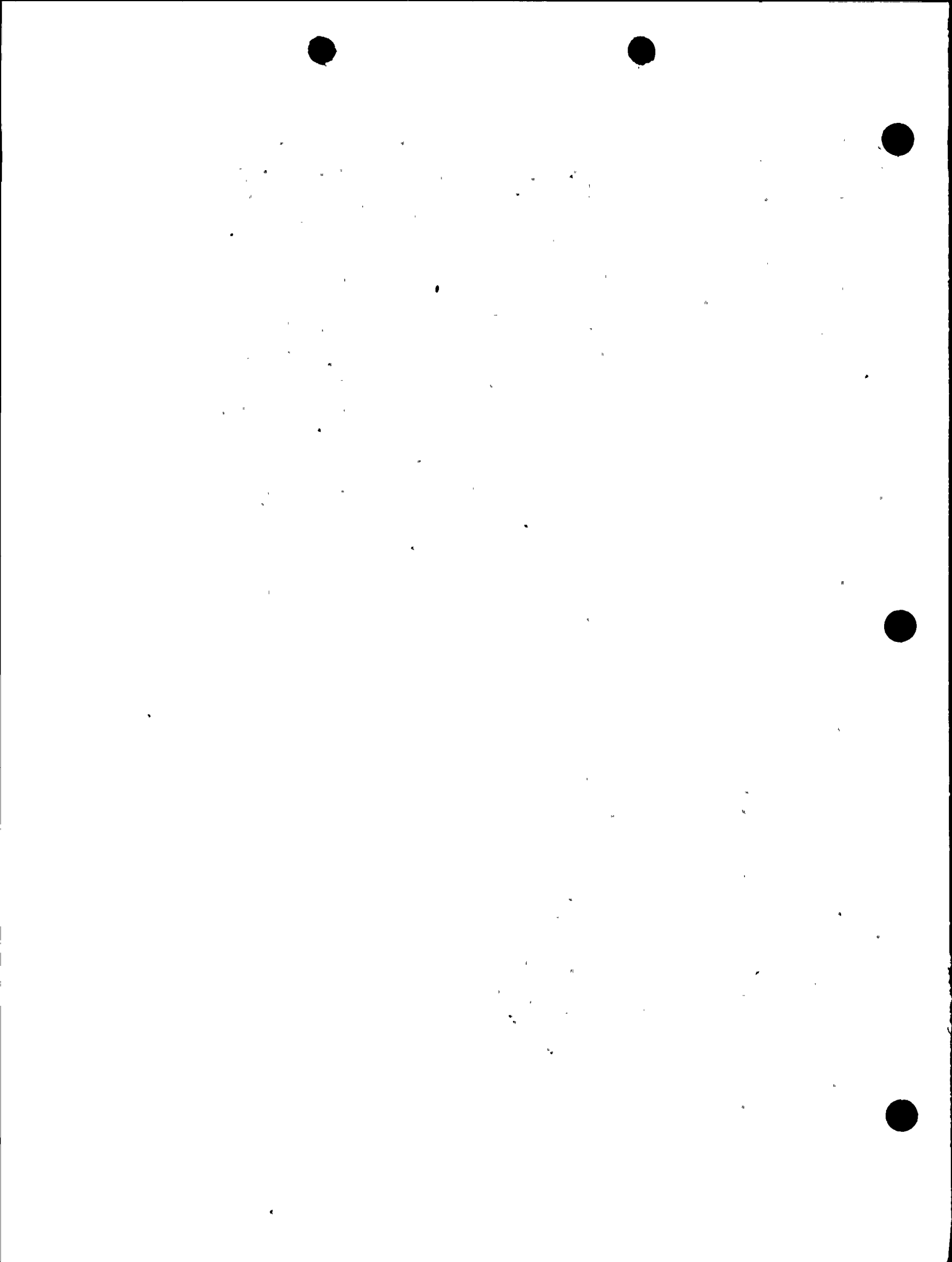
In addition to the normal management interfaces on the Project, a Monthly Program Director's Review is conducted to keep management informed and involved in significant problem issues. The review format requires participation by the Quality Assurance Department.

Bimonthly Reports have been provided to NRC, Region V until 9/82. With NRC concurrence, the frequency of reporting was revised to quarterly.

The Project has adhered to this commitment throughout the course of the Restart Program and Quality Verification Program as evident from the reports.

The verification process was rearranged when the Quality Verification Program (QVP) was prepared. Logic and flow diagrams are used in the QVP description to illustrate program activities and to depict the interrelated elements of the plans.

As presented to the NRC in regular progress reports since the June 1980 Stopwork, the Project has fulfilled these obligations in the past and continues to do so in its ongoing activities. Enormous resources have been dedicated to sample reinspections by all Project participants, in order to determine the adequacy of safety-related work accomplished prior to the stopwork.



The following is a "comparison" of commitments of the plan submitted as Attachment 1 with the activities accomplished (or under way) by the Supply System in its Restart and Quality Verification Programs. This attachment embodies the 50.54(f) Commitments. Subsequent attachments, also listed hereafter with a brief description of the contents, do not record commitments, per se. Rather, they provide a snapshot of activities under way or envisioned at the time of the response letter.

Revisions to the information in the Attachment 1 comparison subsequent to a July, 1982 version (submitted to the NRC with Bimonthly Progress Report No. 11) are indicated by vertical lines in the right-hand margin.

Commitment Statements

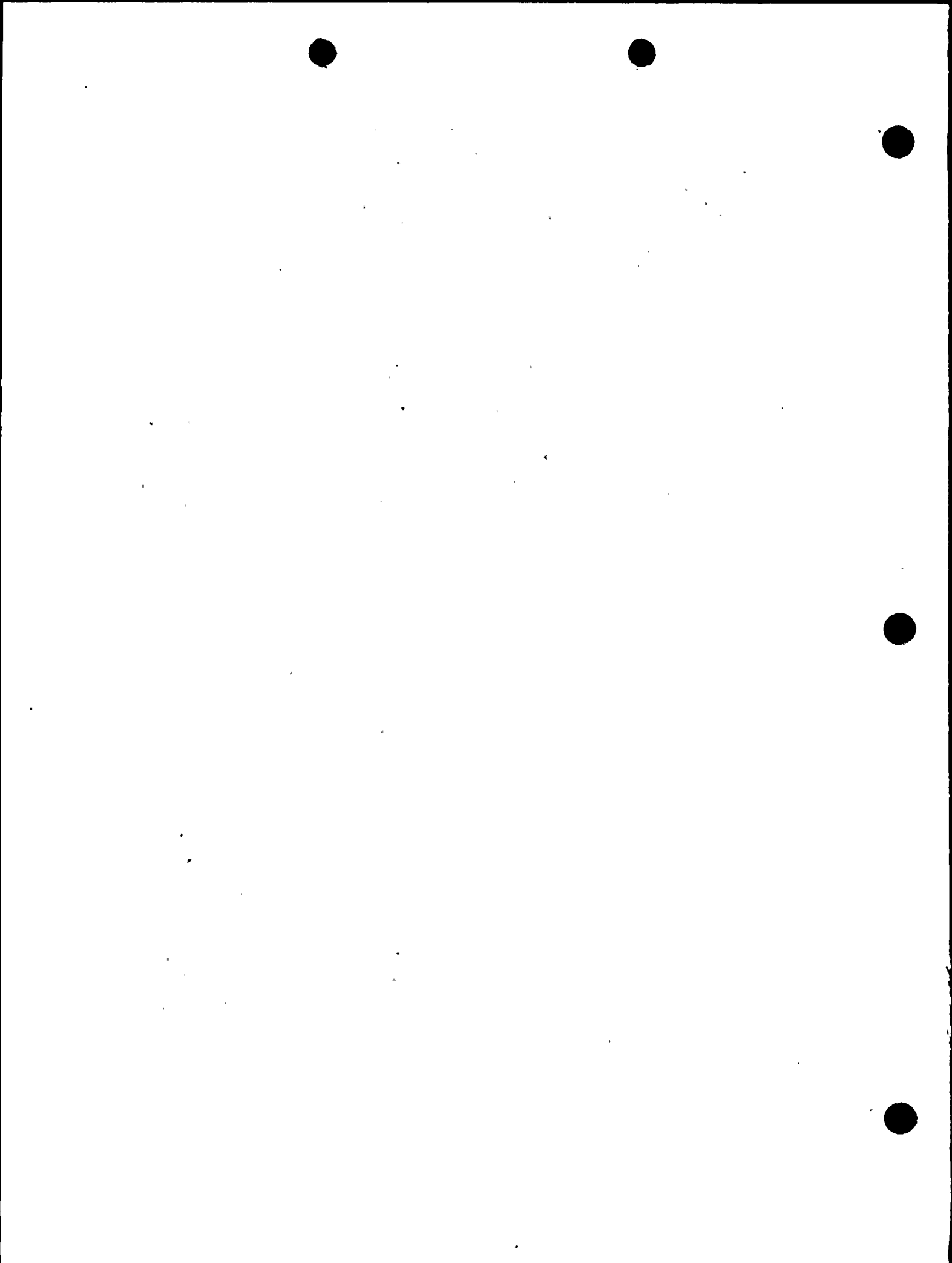
Discussion

A. Summary

This program describes the plan the Supply System will implement for the review and/or reinspection of completed safety work to determine the adequacy of documentation, installation and hardware. Also, included is a schedule for the review of contractors, subcontractors and prepurchased equipment contractors.

A general description of activities accomplished by the Supply System to review and reinspect completed safety-related work, and therefore comply with the provisions of this plan, is presented here. Although there are no basic deviations from the objectives and policies of this plan, changes from specific provisions have occurred.

Because some intermediate-term commitments were not met on the schedule originally planned, and because the amount of review associated with past work was greater than anticipated, another schedule was presented in the Quality Verification Program (QVP) document, QVI-01, Section 6.0. This schedule was not periodically updated because there are several contributing schedules involved in planning the work of the QVP, each of which was updated as necessary during the course of work.



B. Objectives

The objectives of this program are to:

- o Determine whether the quality assurance program was adequate in the past to assure completed safety-related work was properly performed.

- o Identify need for repairs or further action.

- o Apply knowledge gained to the review of QA programs at other Supply System Nuclear Projects.

C. Policies

The review and/or inspection of safety-related work at WNP-2 will be accomplished in accordance with the following policies:

- o Review of records, installation and hardware will be accomplished under Owner direction and control.

The Restart Program and Independent Review Team reviewed on-site contractor quality programs and that activity resulted in improvements to those programs. The QVP, while not specifically directed toward assessment of those programs, is dedicated to determining the adequacy of work completed by the contractors prior to the stopwork. The acceptability of that work will provide a relevant demonstration of the ability of past Quality Assurance Programs to confirm that safety-related work was performed properly.

Deficiency-review results and problems identified during Restart were used to plan QVP reinspections (reference: Generic Problem Areas List). NCRs or other appropriate non-conformance and corrective-action directives have been written for deficiencies encountered in the QVP.

Applicable knowledge has been disseminated through the corporate-administered Lessons Learned Program. This process will continue as appropriate through QVP completion.

The QVP, like Restart before it, is a Supply System program. It is directed by the Supply System with participation by personnel in all site organizations. Project instructions provided management direction for all activities.

o Review shall be integrated with on-going work plans and management systems to assure proper priority, feed back to ongoing work, and to adjust the review response to knowledge acquired.

Project direction had been given to participating organizations requiring verification of systems to be complete before turnover to the Supply System. Program activities were carefully scheduled to precede any construction milestones which would deny reinspection access.

Program instructions identify considerations to be given for an increase in inspection samples when negative reinspection results are acquired.

o This program will have priority over ongoing work. The project construction work pace will be adjusted accordingly.

The decision to resume construction prior to completing reinspection changed the perception of this commitment. Verification of hardware in each system by sample reinspection before system turnover is a requirement identified in the the Project's Master Work List control system. This policy assures that past work was neither covered by new work nor overlooked.

o The basis for key decisions will be documented.

QVP logic is documented in various program instructions. Specific decisions impacting the work of project participants are issued by letter from the WNP-2 Program Director or Construction Manager.

D. Program Description

The basic elements of the review and/or reinspection program are described below:

1. Identify all contractors, subcontractors and pre-purchased equipment contractors performing safety-related work, the status of their work and the status of final documentation review.

This was initially accomplished in the Restart Program. The list of closed contracts has been reviewed and amended during the course of QVP, as identified in regular progress reports. This list now includes thirteen more contracts than originally planned.

2. The review and/or reinspection program will be accomplished by using the following process. The attached logic diagram depicts the program.

2.1 Determine the criticality and priority of items for review and/or reinspection.

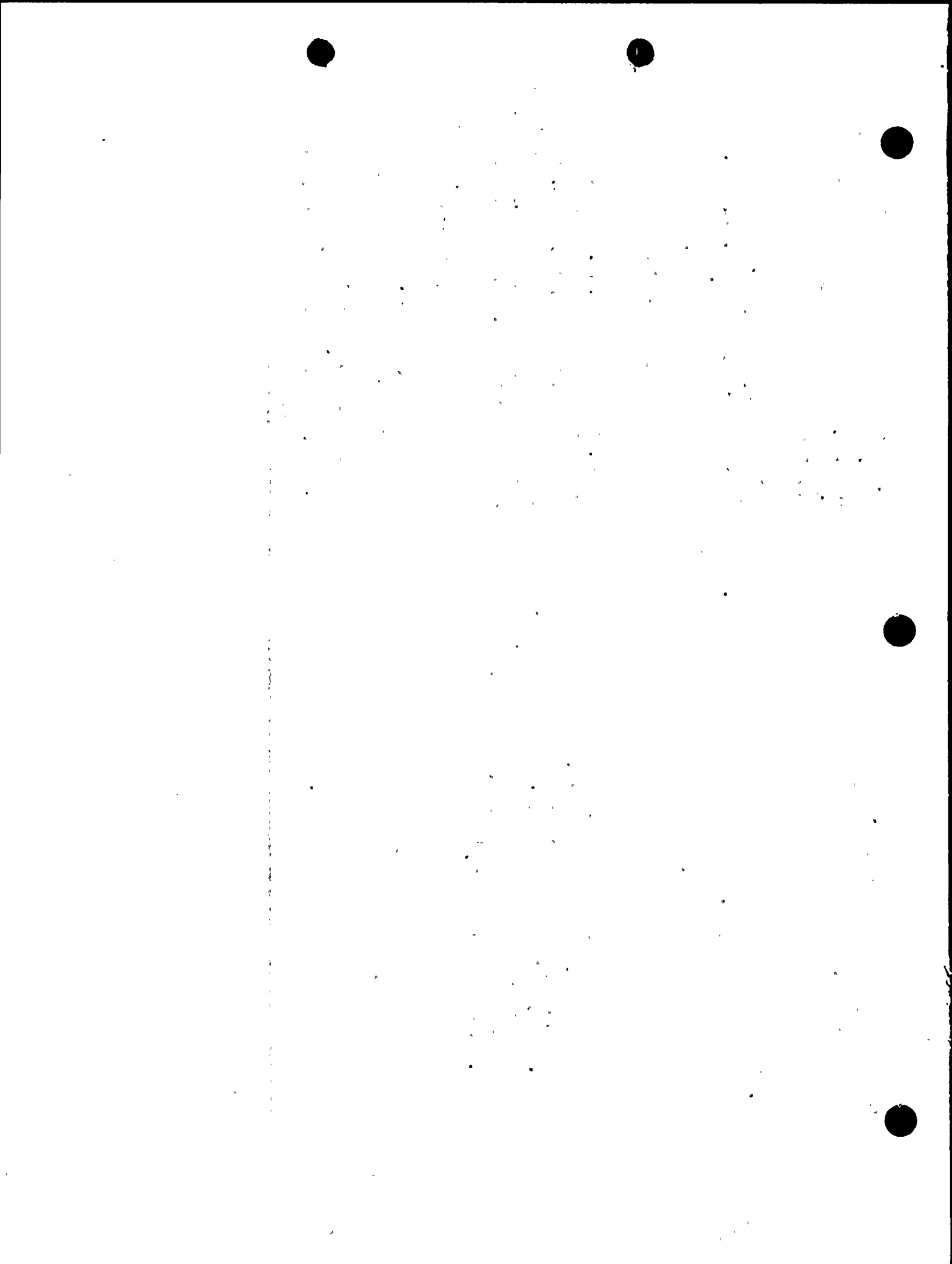
2.1.1 Evaluate the significance of the safety function, complexity of construction, time period of construction or fabrication activity, assessment, and trending of deficiency documentation, and discussions with selected crafts and quality control personnel.

The process for review and reinspection of past work was rearranged as described in Program instructions. The revised implementation process is more compatible with project activities and still assures that the proper reviews and reinspections are performed.

This determination was not made in the same manner described in the original examples given in the other attachments to the Supply System's 50.54(f)-response letter. All QC-I/SC-I hardware items, furnished or installed by seventy contracts; were considered to be candidates for reinspection in the QVP, and reinspection priority was determined by the system turnover schedule.

As the review effort on prepurchase and inactive contracts draws to a close, the Supply System is initiating a special review of hardware furnished or installed by these contracts to determine if there are critical components which should be reinspected, regardless of other program reviews which indicate otherwise. Procedures and documentation for these components are also covered by this review.

Some of these considerations were made during Restart and in QVP. However, determination of hardware reinspections were more dependent upon results of the documentation review. Trends of deficiency documentation established during Restart reviews, along with other identified concerns, were compiled into a Generic Problem Areas List, which was used in the development of reverification plans. Discussions were not held with craft personnel, but were held with QA, QC, and Field Engineering personnel to aid in determining past problems.



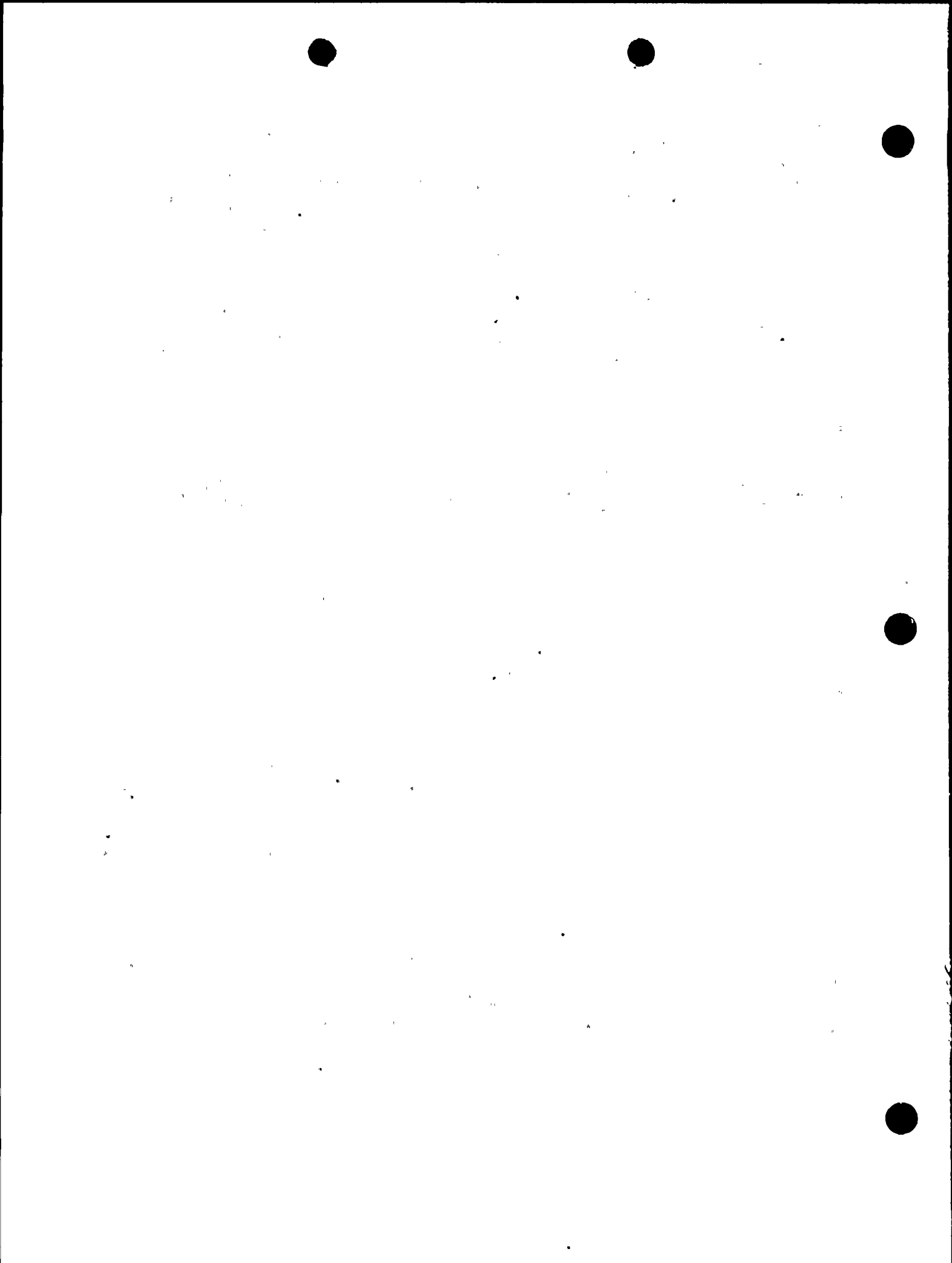
- 2.1.2 Identify all contractors with critical work remaining. These contractors will be the first priority for review. . .
- 2.1.3 Identify and evaluate all contractors with any work remaining which could limit access for reinspection of completed critical work.
- 2.2 Determine whether other inspection or evaluation programs have satisfied or will satisfy the requirements of this program. These inspections or evaluations will be referred to Engineering for a documented evaluation of compliance with reinspection objectives. Quality Assurance and Management will review and approve results.
- 2.3 Record Review - A review of a significant number of quality records for critical items shall be performed.

Accomplished in the Restart Program. For QVP, however, emphasis on systems completion had more properly prioritized reviews and re-inspections in the field in conjunction with system turnover.

Scheduling of reinspection activities was accomplished by system priority as stated above, not by contractor or commodity. For the randomly selected reinspections performed by the QVP, no such selected sample of prior work has been identified as having been covered by new work accomplished since Restart.

In the QVP, credit is taken for inspections performed by other programs only if they were appropriate and were conducted with sufficient independence to be objective. These programs are reviewed in accordance with established guidelines and the results documented (Ref. QVI-05). There are a number of such programs which have reviewed work that was already in place at the time of the stopwork.

QC-1/SC-1 hardware comprises the candidate population for review and reinspection (these were considered to be the "critical items"). As identified in the model diagram sent along with the 50.54(f)-response letter, a 10% sample of the QC-I/SC-I hardware and records was to be reviewed. In much of the work, 100% of the documentation was reviewed.



2.3.1 Quality and Work Procedures.

- o Verify that procedures incorporate applicable requirements from the SAR, specification, code, and standards.

Accomplished for current site contractor procedures by the Restart Program. Procedures for contracts already closed were not reviewed for technical adequacy, but were reviewed to determine that appropriate engineering approval had been obtained. In certain instances in the Special Tasks element of QVP, inactive-contract procedures were reviewed to ascertain appropriate document control measures were in place. Further, a special effort, briefly outlined in Section 2.1, will address technical adequacy of procedures for closed contracts.

- o Verify that procedures were approved by appropriate approval authorities.

Accomplished in QVP review of inactive contracts, and Restart review of active contracts.

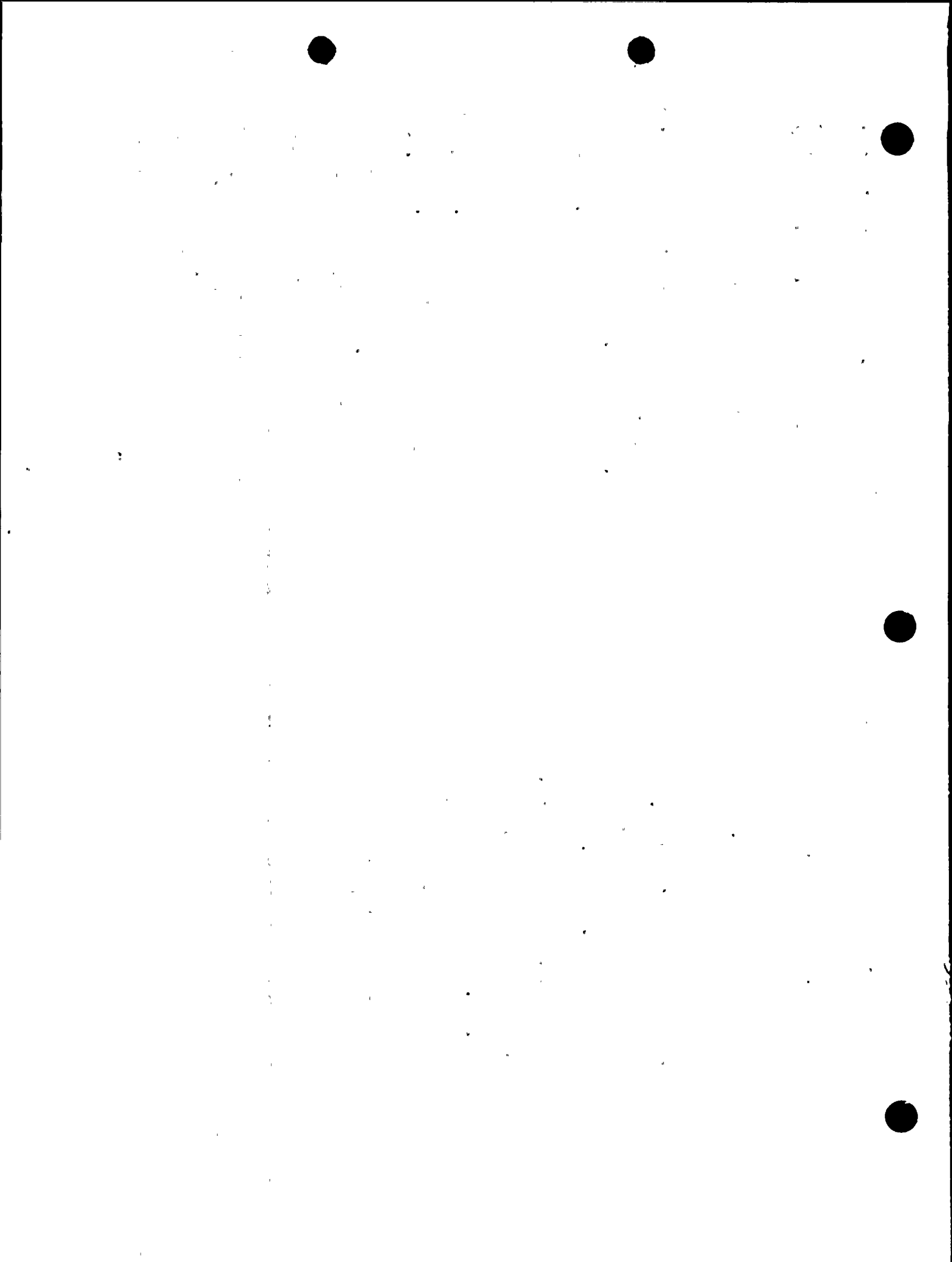
- o Verify that welding and special procedures were qualified.

Accomplished in QVP review of inactive contracts, and Restart review of active contracts.

2.3.2 Review personnel (welding/NDE/QC/Engineering) qualifications to determine whether they were qualified.

Welding, NDE, and QC Inspectors' qualifications are covered by document reviews described in Sections 3.1 and 4.1 of the QVP. The techniques described in Section 5.2 provide positive information on engineering qualifications by demonstrating individual performance, and are more valuable than less direct methods, such as verification of resume statements and the like. This review is not intended to be a resume search.

2.3.3 Review deficiency reports (NCRs, CARs, IRs, RFIs, etc.) for the following:



- o Significance of backlog on quality aspects. Accomplished by Task Force I, Deficiency Reviews.
 - o Quality of disposition as written. Covered on a sample basis by the Special Tasks element of the QVP: Deficiency Document Review.
 - o Quality of disposition as implemented. Covered on a sample basis by the reinspections of the Systems Completion element of the QVP.
- 2.3.4 Review selected sample of work packages for:
- o Completion of all required inspections. Covered by QVP, Section 3.0 for active contracts, and Section 4.0 for inactive contracts. In some cases, more than a sample are reviewed: 100% of Contract 215 (active) and all inactive contractors' quality documentation were reviewed.
 - o Use of proper forms.
 - o Completeness of package.
 - o Adequacy of review by contractor personnel.
- 2.3.5 If significant problems are identified, escalation of Records Reviews will be applied as shown in the logic diagram. The diagram is not a specific part of the QVP. Appropriate consideration is given to escalation of inspections/reviews in all parts of the Program as outlined in Section 5.1.
- 2.4 Receipt Inspection - Evaluation of Site Contractor receipt inspection programs will be conducted. No specific actions are directed to assessing the contractors' past programs, as this is not considered useful. Reinspections of the mechanical contractor's stored ASME material, and reinspection of owner-furnished, prepurchased material in storage was performed prior to use in the plant. Previously installed material was reinspected as a part of the Systems Completion and Prepurchase and Inactive Contracts elements of the QVP, and this included appropriate receiving-inspection attributes. Vendor drawings and information were utilized as appropriate for these and other inspection points. Deficiencies identified during reinspection of installed material, although pos-

2.4.1 Critical Items received by the contractor will be identified.

2.4.2 Contractor's documented receiving inspection programs will be reviewed for adequacy. This review shall include the following considerations:

- o Inclusion of PSAR and Specification Requirements.
- o Receiving Inspection personnel qualifications.
- o Use of drawings, vendor data and/or vendor specifications.
- o Review of deficiencies identified subsequent to receipt inspection to determine if they should have been documented at receipt inspection.

sibly receiving-inspection-related, are resolved within the project's corrective action process, and no specific action will be taken to identify their source.

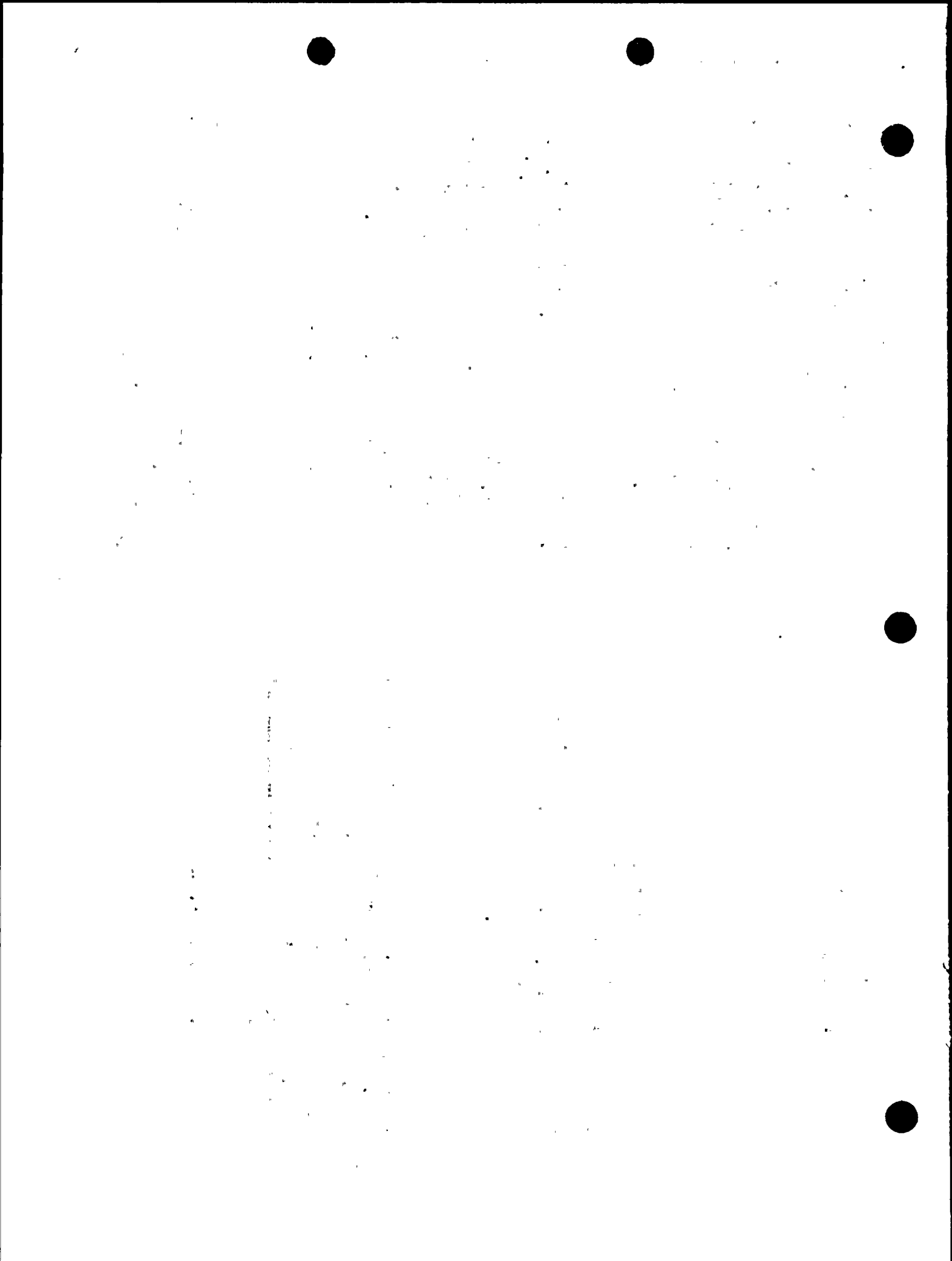
For the purpose of this program, critical items are basically defined as QC-I or QCII/SC-I.

Active contractor procedures for receiving inspection were reviewed in the Restart Program for inclusion of FSAR and specification requirements. Results of these reviews are being considered in QVP review of receiving inspection activities.

Receiving inspection personnel qualifications were checked prior to restart of construction. Earlier personnel will not be checked because only general requirements existed prior to restart, and verification is not considered useful. A more valuable method was the reinspection of stored material to verify that it meets project requirements, which indicates whether past inspections were satisfactory.

Relevant information provided by the vendor is utilized in performing verification reinspections of stored and installed hardware.

This will not be done. It would provide indirect information which is inconclusive because of the difficulty in determining if discovered deficiencies existed at the time of receiving inspection. Further, the reviews, inspections, and tests performed by the project in this and other programs are directed to verifying the in-place end product.



2.4.3

If the receiving inspection program is judged to not be adequate, a significant sample of installed hardware shall be reinspected.

The Quality Verification Program provided a complete reinspection of the mechanical contractor's critical items which had a potential for installation in the plant, to verify correct initial receiving inspection. With minor exceptions, the material was found satisfactory. The Supply System initiated a complete reinspection of owner-furnished materials in their custody. For hardware already installed, a 10% sample was reinspected to determine its acceptability.

2.4.4

If the receipt inspection program is judged adequate, a smaller sample of reinspection shall be accomplished.

Covered in 2.4.3.

2.4.5

Significant problems identified during the reinspection program shall result in a progressively larger sample size.

For prepurchased material in storage, 100% was reinspected. For the mechanical contractor's ASME material in storage, 100% was reinspected. For previously installed material, the Quality Verification Program analyzes the nature and number of deficiencies discovered in the reinspection process to determine appropriate increases in sampling.

2.5 Installation Reinspections - Installation Reinspections not covered by the reviews performed in 2.2 shall be accomplished as follows.

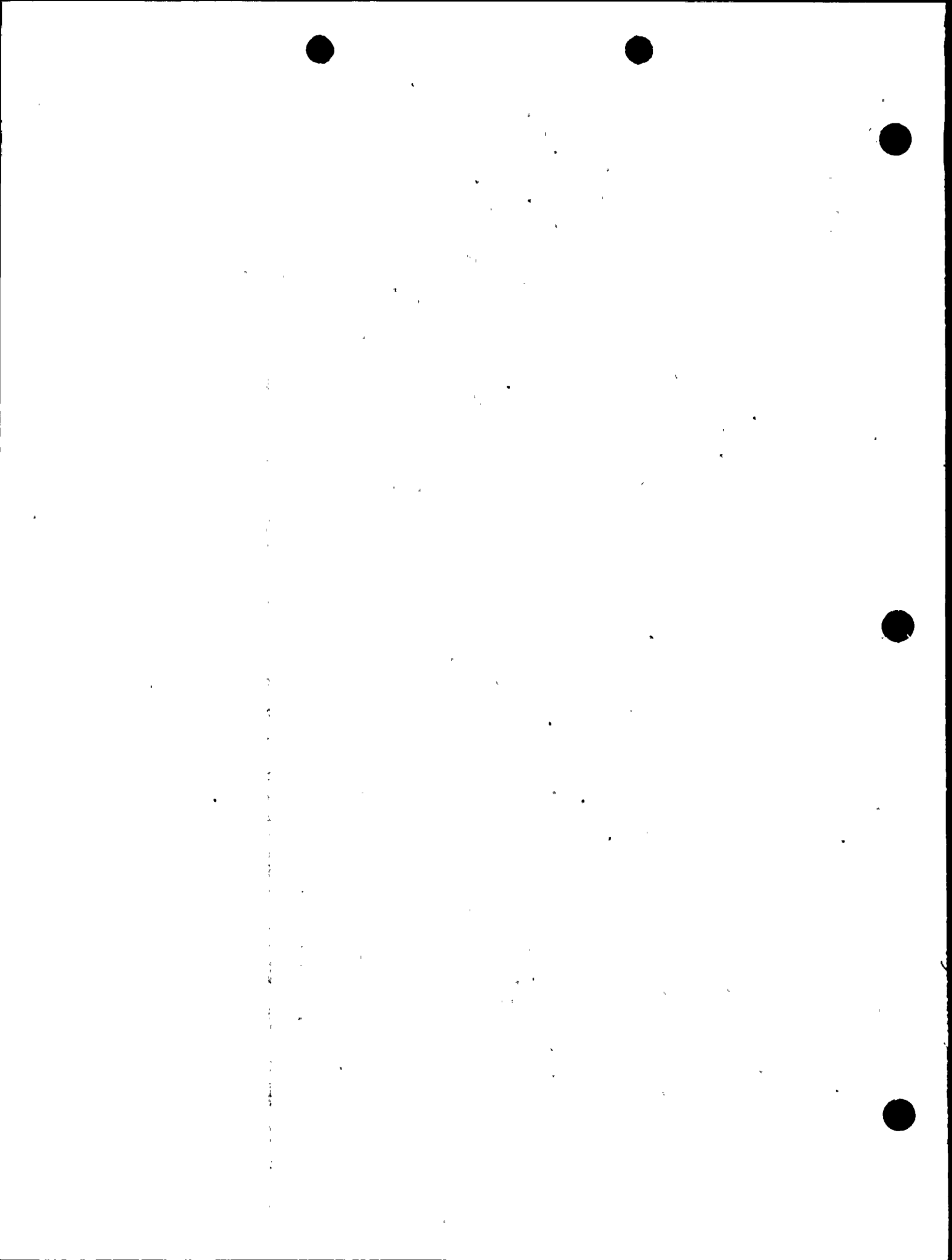
Installation reinspections are accomplished by the Quality Verification Program.

2.5.1 Critical work activities within the contractor's scope of work shall be identified. Critical work and activities are determined as identified in Section 2.1.

Covered in Section 2.1.

2.5.2 A significant sample of work activities will be selected for reinspection.

Basically, ten percent of the QC-I/SC-I items in the plant which are not covered by other inspection or evaluation programs are reinspected on a systems basis. The reinspections are repeat final visual inspections of the hardware.



2.5.3 Reinspection shall independently verify adequacy of the activity, as well as the accuracy of the associated records.

2.5.4 If significant problems are found in the installation, a progressively larger sample will be reinspected.

2.6 Deficiencies - Deficiencies identified during the performance of record review, reinspection of installations and received material shall be documented.

2.6.1 An analysis of the number and types of deficiencies identified shall be performed to determine the root cause of the problem and appropriate corrective action initiated. Relevant information will be communicated to all projects.

2.6.2 Deficiencies meeting the requirements of 10CFR50.55(e) and/or Part 21 shall be reported to the NRC in accordance with approved procedures. Others shall be summarized in the bimonthly report to the NRC Region V Office.

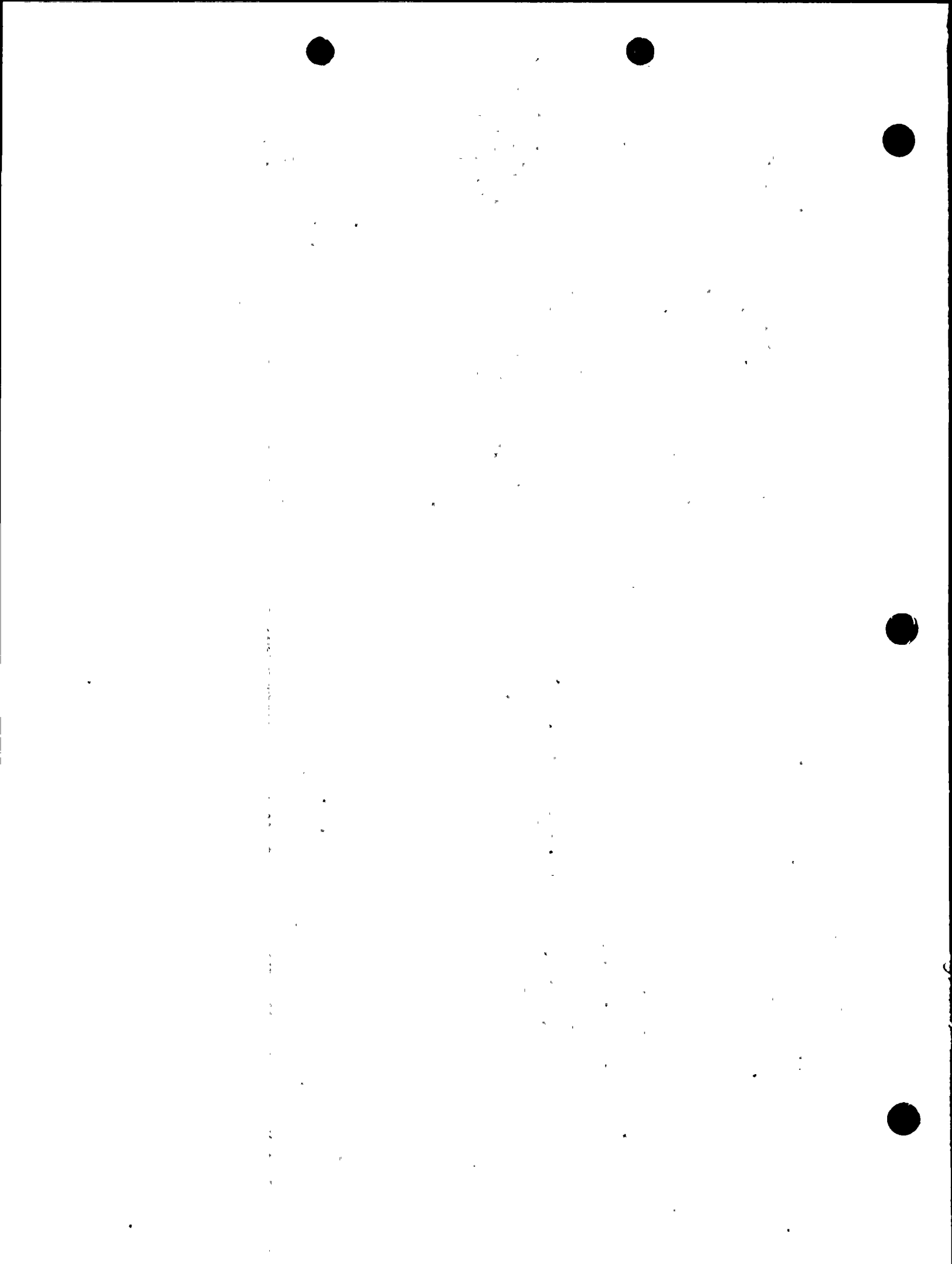
QC instructions have been provided to cover the reinspection activities and review of quality records. The instructions require that independence of the inspectors be maintained.

The QVP analyzes the nature and number of deficiencies discovered in the reinspection process to determine appropriate increases in sampling.

Deficiencies are recorded on Inspection Reports and Nonconformance Reports. The deficiencies are described and the corresponding deficiency-documents are identified in the final reports of the QVP.

Many deficiencies were identified and trended in the Restart Program, and subsequent management changes were made at WNP-2. The results of the analysis of these task force efforts were disseminated to all projects through the corporate-administered Lessons Learned Program. Likewise, the information on deficiency trends arising from the QVP are being communicated through that program.

Appropriate reporting to the NRC has been accomplished during the Restart and Quality Verification Programs. In addition, detailed reports of the reviews and re-inspections are being prepared to record the findings of the QVP, and will be published at the completion of the program.



ATTACHMENT 2 of 50.54(f)

Commitment Statements:

This attachment gives an example of the application of review criteria to Contract 216. It describes a rationale for selecting hardware for review.

Basically all QC-I and SC-I hardware which has been completed, inspected, and accepted prior to July, 1980, are candidates for review in the QVP. Not all work will be sampled for reinspection; however, decisions for not re-inspecting the work of a contract or a system will be documented in the reports of the reinspection programs.

ATTACHMENT 3 of 50.54(f)

Commitment Statements:

Attachment 3 is a description of the features, scopes, and functions of the three Supply System Task Forces established to respond to the 50.54(f) information request.

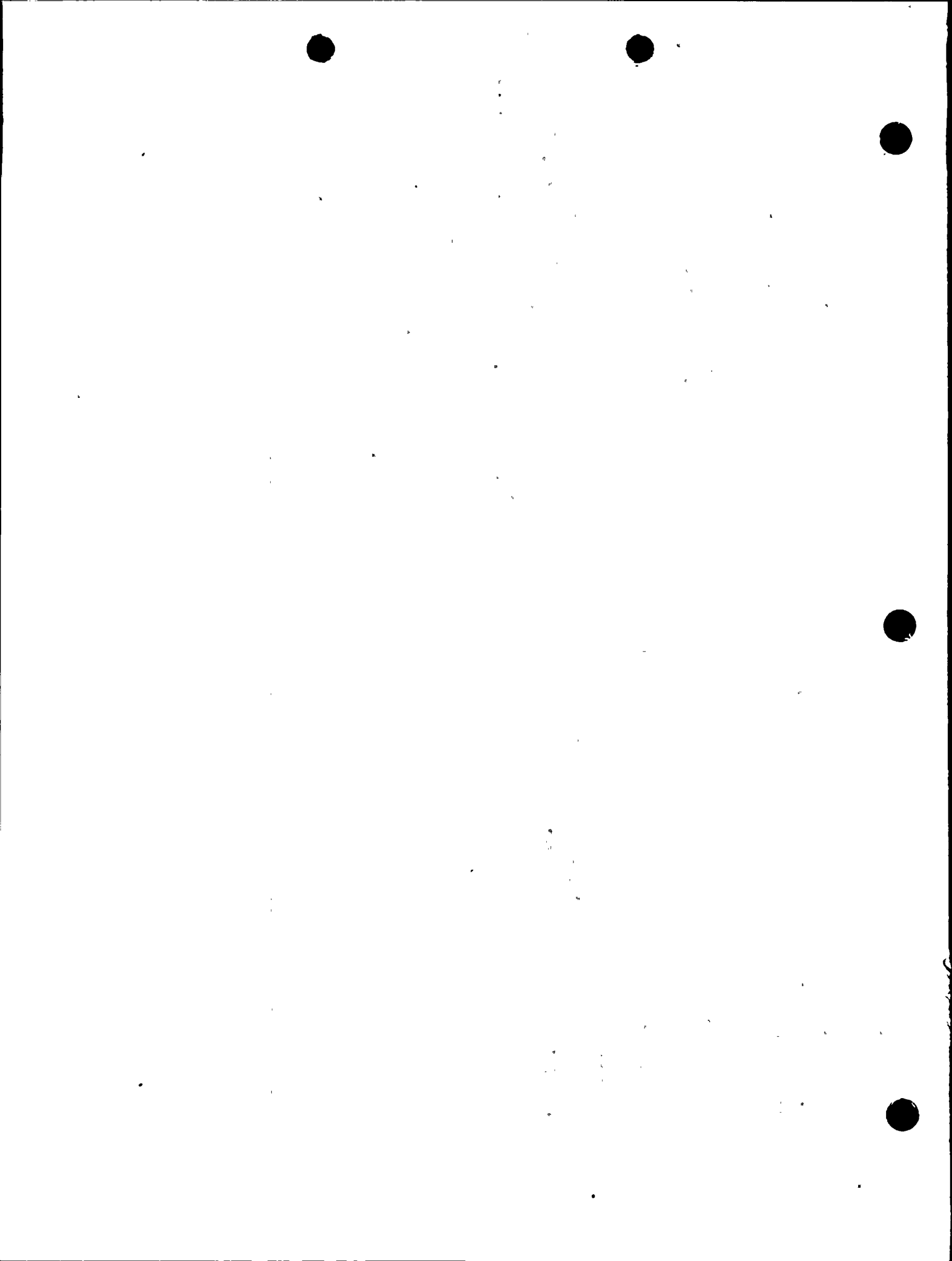
Task Force activities have been or are being performed in accordance with the provisions of this attachment. Aside from the condition where much of the Task Force III activity was identified and performed within Task Force II, Phase I, there have been and there are no anticipated significant deviations from the provisions of the attachment.

ATTACHMENT 4 of 50.54(f)

Commitment Statements:

Attachment 4 is an illustration of a Flow Diagram for a system verification process.

There are no significant departures from elements illustrated. More detailed illustrations of the verification processes are included in the Quality Verification Program description.



ATTACHMENT 5 of 50.54(f)

Commitment Statements:

Attachment 5 specifically relates to then-near-term actions for Contract 215.

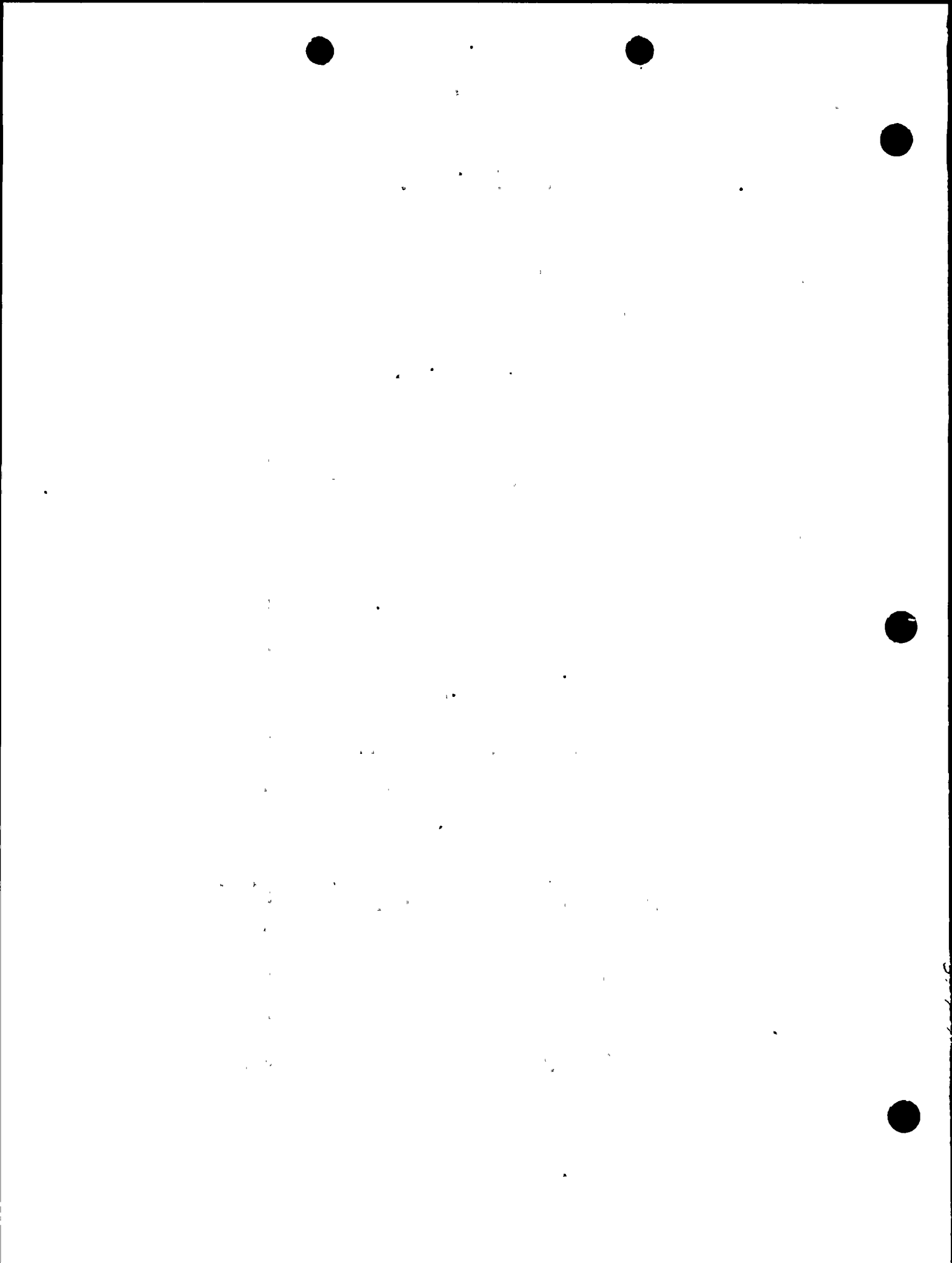
Except for some of the verification of past work, these issues were addressed in earlier activities, prior to the restart of construction. The past work is covered in the Quality Verification Program. The construction scope of Contract 215 was transferred to the Systems Completion Contractor.

ATTACHMENT 6 of 50.54(f)

Commitment Statements:

Attachment 6 described then-recent actions to strengthen management control of the Project.

This was a historical snapshot of management actions during the period preceding the cessation of work. The attachment contained no specific commitments pertaining to verification tasks. A number of these activities continue today.



SECTION 5.0

PROGRAM MANAGEMENT

This section describes the organization and management activities which control the QVP, and the methods by which close coordination and control were achieved.

5.1 Organization

The QVP was performed by the Supply System and its Construction Management Contractor, BPC. The Supply System QVP Manager was responsible for the overall implementation of the program. The QVP Manager, while reporting to the Supply System Construction Manager, was not directly involved in the ongoing construction of the plant. Figure 5-1 is a functional organization chart which illustrates the activities and responsibilities of the Program participants.

5.2 Program Interfaces

5.2.1 Internal Control

The activities which comprise the QVP have been performed by a diverse group of participants. This was realized at the beginning of the Program, so conscious steps were taken to ensure the Program was properly implemented. This was particularly the case in the Systems Completion element where verification of active contracts was being performed by the Construction Manager and the construction contractors.

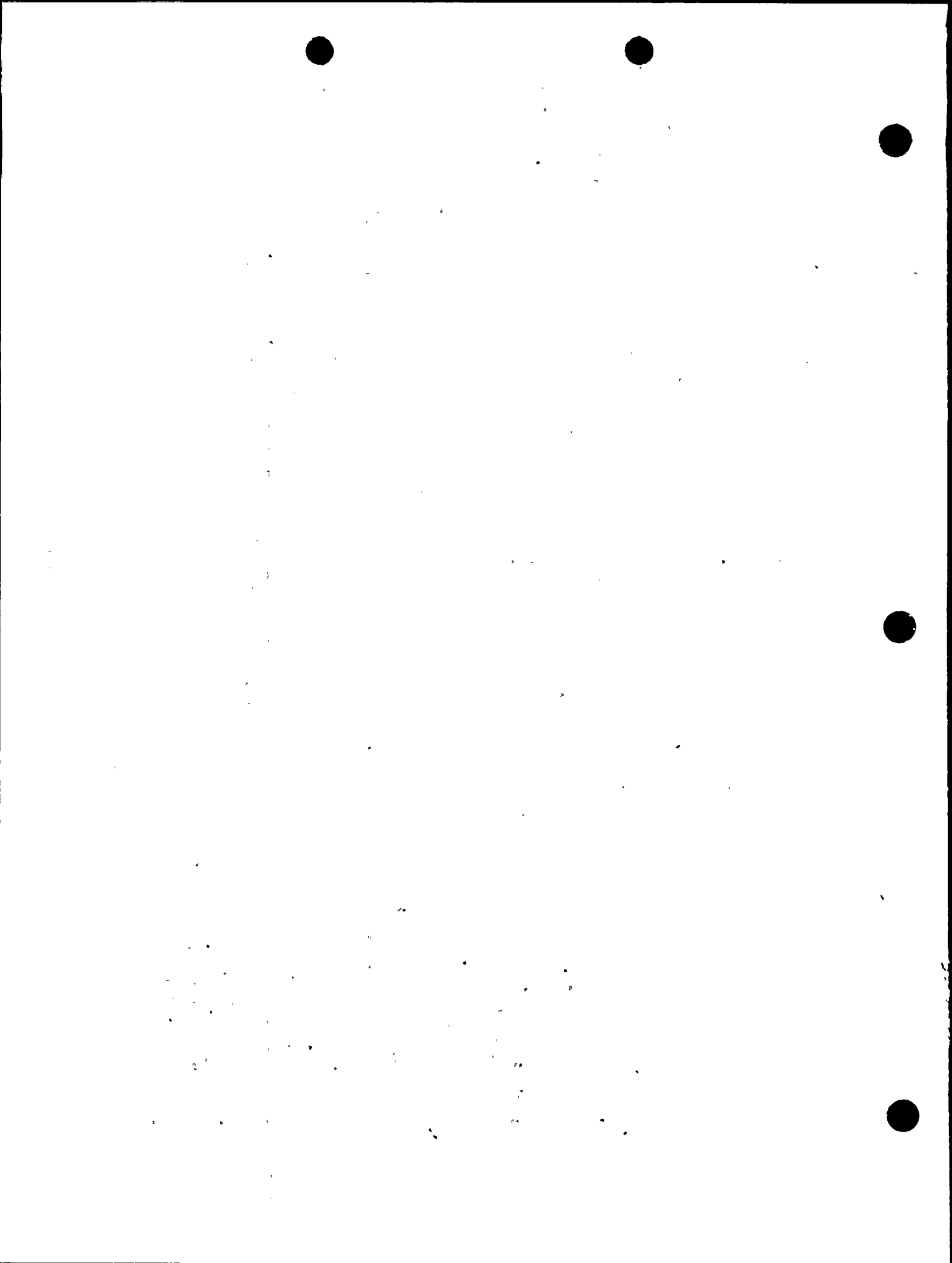
5.2.1.1 QVP - Bechtel Reverification Group

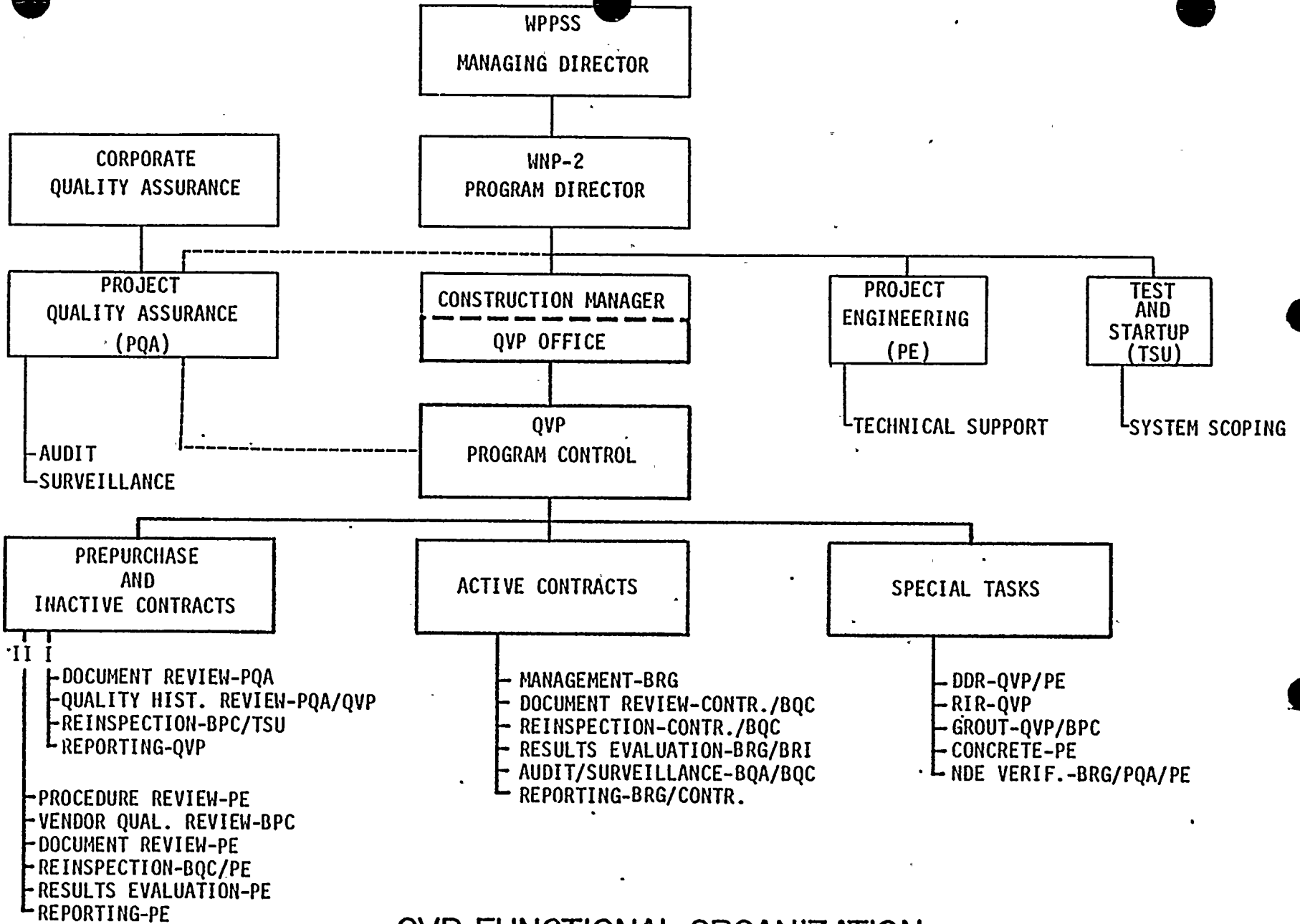
Daily interface meetings were held with the QVP Manager, his appropriate staff members, and the BRG lead engineer. The detailed philosophy for reinspection, progress and results were discussed at these meetings.

The BRG held frequent meetings with the contractors during the preparation and implementation of the Program. The QVP office was kept informed of these activities and participated in many of the contractor meetings.

5.2.1.2 QVP - Project

The internal control between the QVP office and other Project departments was managed by normal administrative processes. Requests for action were initiated by memoranda, and such actions were monitored by regular interface meetings.





5 - 2

QVP FUNCTIONAL ORGANIZATION

Figure 5-1



The main Project-related activities were the meetings between the QVP staff and the Project QA department for the control of the PP&IA document review; and the meetings among the QVP staff, Corporate and Project Engineering departments, Project QA, the A/E and active site contractors for the Special Tasks element of the QVP.

5.2.2 Management Involvement

WNP-2 Project management received information on the depth, status and findings of the QVP from a number of regular meetings between QVP participants and Project management staff, both Supply System and Bechtel. The major informational meetings are as follows:

- o Daily meetings with the Supply System Construction Manager
- o Periodic informal meetings with the WNP-2 Program Director
- o Formal presentations to Project management
- o Presentation to Corporate Nuclear Safety Review Board
- o BRG presentations to BPC corporate representatives

Project management also obtained information during the preparation of presentations to outside organizations, and feedback from its independent consultants, as discussed in Section 5.4.

5.2.3 NRC Involvement

The NRC Resident Inspectors kept themselves informed of the activities of the QVP by a variety of means:

- o The Resident Inspector (RI) attended many of the daily interface meetings between the QVP and the BRG, at which time these meetings were extended beyond the normal daily scope to address broader issues.
- o The RI attended the program presentations to Project management and some presentations to external auditors.
- o The RI requested copies of all BRG outgoing correspondence and all significant QVP correspondence. In addition, the RI receives copies of all completed reports.
- o The RI was provided additional information or documentation upon request during the course of the Program. These requests were tracked by the QVP office to ensure they were met. Tracked items included those which were recorded during NRC weekly and monthly exit meetings, as well as the RI's informal requests.



The QVP Manager periodically gave presentations to the NRC Region V staff on the QVP. These presentations have covered a broad spectrum of the Program, including content, results, status and methodology. Questions on Program content and methodology have, at times, resulted in additional Program commitments.

5.3 Reporting

The reports discussed in this section are those periodic reports related to management of the Program. The large number of reports which describe the activities and results of the Program are identified in Section 1.0 and will not be discussed here.

5.3.1 Internal Program Reports

The internal reporting of active construction contracts between the BRG and the QVP consisted of a semi-monthly report which described the status of the program and the major activities occurring during the report period. This report includes the semi-monthly reports submitted to the BRG by each of the contractors. These reports describe the status and activities for each contract.

In January, 1983, the frequency of BRG reporting was reduced to monthly because of the reduced level of reinspection activity toward the end of the Program.

5.3.2 Reports To Management

The QVP Manager submitted weekly reports to the Supply System Construction Manager. These reports contained general information and a section on each of the three major elements of the QVP. Information for the latter sections was prepared by each of the lead engineers in the QVP office. This report provided a detailed and accurate status of the activities being performed in the Program.

5.3.3 Reports To NRC

The Supply System provided periodic reports to the NRC Region V office describing the major activities in the QVP during the reporting periods. These reports were initiated to meet a commitment made in response to the NRC's 50.54(f) letter. Initially, the report described the activities occurring during earlier phases of the RCSW program (refer to Section 3.0). However, from mid-1981 onwards the Restart Program was complete and the reports dealt solely with the QVP.

The reports contain a description of the major activities occurring during the report period, including a description of any changes in the Program by which the Project was meeting its



commitments in the 50.54(f) response letter. The status of the Program is described along with the major findings.

The reports were initially submitted on a bi-monthly basis which continued until the end of June, 1982. From July 1, 1982, the reports were submitted on a quarterly basis, pursuant to an agreement between the Supply System Program Director and the Region V Administrator.

5.4 Audits

The QVP was periodically scrutinized through rigorous reviews by auditing agencies, both internal and external to the Project. Thirteen audits and 75 surveillances were conducted during the implementation period of the Program. These are listed below and discussed hereinafter.

Audits & Surveillances

Overall Program

Audit	Jan 82	Project QA
Management Assessment	Apr 82	Corporate QA
Audit	Jun 82-Sep 83	TAA
Audit	Jul 82	Administrative Auditor
Surveillance	Oct 82	Project QA
Audit	Jan 83	Corporate QA

Bechtel

Audit	Jun-Jul 82	Bechtel QA
Audit	Sep 82	Corporate QA
Audit	Jan 83	Bechtel QA

Contractors

5 Audits	Jan-Oct 82	Bechtel QA
74 Surveillances	Dec-81 - Oct 82	Bechtel QC

5.4.1 Internal Audits

5.4.1.1 Bechtel QA

Bechtel QA performed two audits of EPC's and five audits of the contractors' QVP activities. These audits verified



the implementation of the Program to the applicable procedures. They consisted of reviews to ensure compliance with Program requirements and thoroughness of reinspection. The audit reports are included in the appropriate book of Volume IV.

5.4.1.2 Bechtel QC

Bechtel QC performed a total of 74 surveillances of the contractors during the reinspection activities. These surveillances were performed to ensure compliance with Program requirements, and are included in the respective contract reports (Volume IV).

5.4.2 Management Reviews

5.4.2.1 Management Assessment

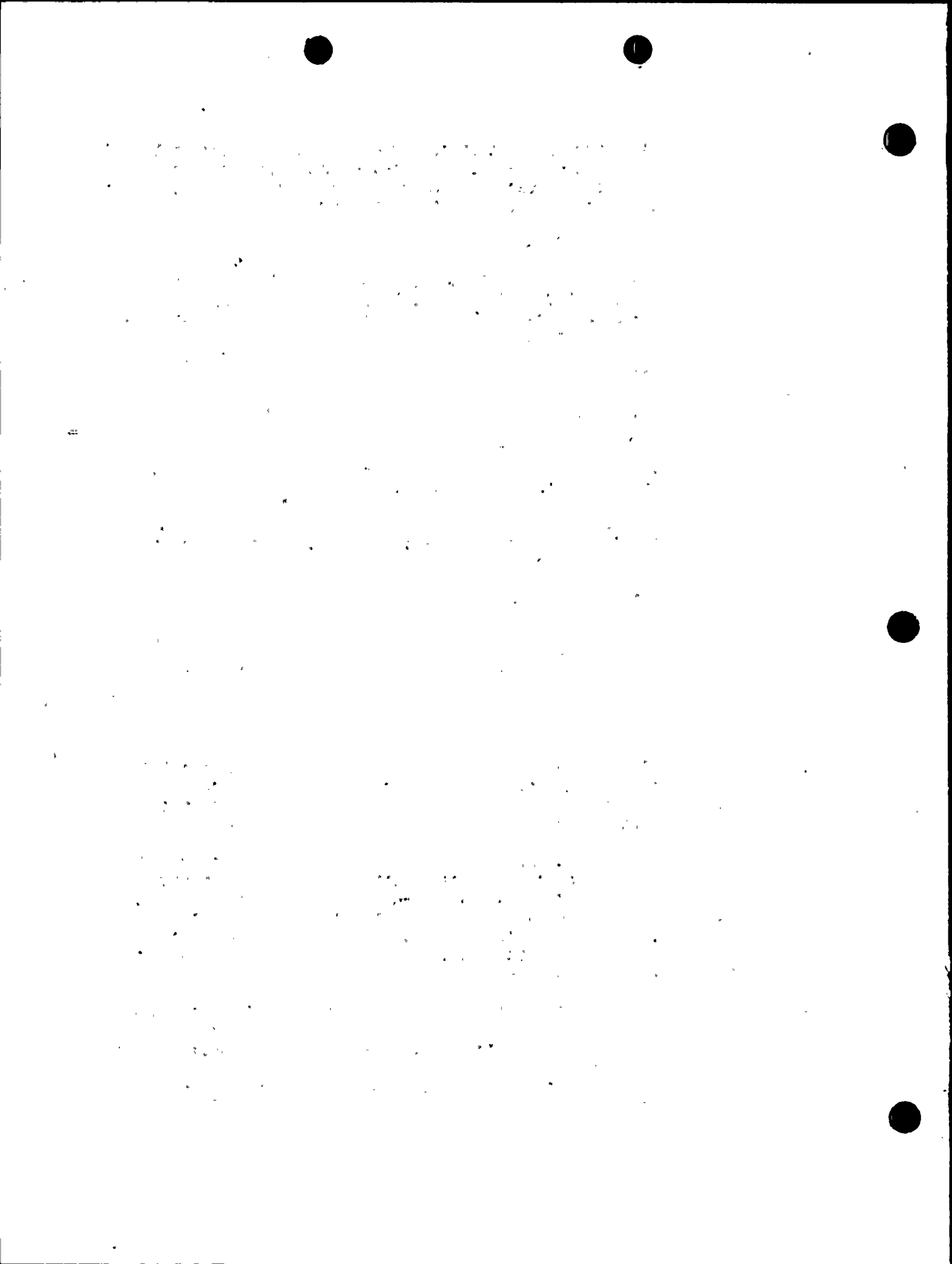
WNP-2 Project management initiated a Management Assessment of the QVP in April, 1982.⁽¹³⁾ The Management Assessment Team consisted of senior personnel from the Supply System Corporate QA organization. The objective of the assessment was to provide the WNP-2 Program Director with an evaluation of the ongoing Quality Verification Program's capabilities to satisfy the commitments made in the July, 1980, response to the NRC's 50.54(f) request.

The assessment was performed by a thorough review of commitments, reports to NRC, QVP procedures and correspondence; interviews with a complete cross-section of the personnel involved; and selected observations of the functioning program.

The assessment identifies a number of areas in the Program which required strengthening in order to most effectively meet the commitments. It also identifies a number of strong points, the most important of which was the knowledge, attitude, qualification, and organization of the personnel assigned to the Program. The Project initiated corrective action to strengthen the weak areas.

5.4.2.2 Technical Audit Associates (TAA)

The Supply System obtained the services of TAA to perform an independent review of the WNP-2 Plant Verification Program, of which QVP is a part. The Plant Verification Program is described in separate reports.⁽¹⁴⁾ TAA is a select group of senior management personnel, each of whom has many years of responsible experience in the nuclear industry.



TAA performed an ongoing review of the QVP which includes an in-depth review of selected Program reports. These reviews were performed to ensure the technical validity of the Program, its assumptions and conclusions.

5.4.2.3 Corporate QA

The Supply System Corporate QA organization performed an audit of BRG in September, 1982,⁽¹⁵⁾ and an audit of the QVP in January, 1983.⁽¹⁶⁾ These audits confirm the adequacy of the implementation of the Program as well as the inclusion of resolutions to earlier Management Assessment findings.

5.4.2.4 Project QA

The Project QA organization performed an audit of the QVP in January, 1982,⁽¹⁷⁾ to ensure the Program was being correctly implemented by its major participants.

Project QA performed a surveillance in October, 1982,⁽¹⁸⁾ to ensure Management Assessment findings had been resolved.

5.4.2.5 Administrative Auditor

The Supply System Administrative Auditor, who reports to the Board of Directors and interfaces with the Office of the Washington State Auditor, reviewed the Program in July, 1982.

5.4.3 NRC Overview and Inspections

The NRC Region V office has comprehensively covered the QVP during the period of its implementation. This has been achieved through the events outlined herein as well as by the direct involvement of the Resident Inspector discussed earlier.

- o In February, 1983, a Region V Task Team reviewed the QVP against the commitments in the Supply System's original response to the 50.54(f) request. This team identified 11 issues which were discussed at a meeting in March, 1983.⁽¹⁹⁾ At this meeting, Project responses to the questions raised were provided and additional commitments were made by the Supply System.
- o In June, 1983, the Supply System made a QVP presentation at the Region V office as part of an overall Project status report. This presentation evolved into a work session in which eight additional questions were raised. These questions were answered at a presentation at the Project site later that month, and also included additional commitments.⁽²⁰⁾

- o Early in the Program, the RI requested notification prior to performing any reinspection activities. This enabled the RI to perform unannounced checks of the adequacy of the reinspections.
- o The RI or Region V representatives have reviewed reports generated as a part of the Program. These reviews have included independent inspections of a sample of hardware to confirm the adequacy of the reinspections.
- o The RI or Region V representatives have reviewed the implementation of many aspects of the Program during its progress.

5.5 Resources and Cost

The Supply System and its contractors have expended approximately 150,000 manhours of effort in the execution of the QVP. This estimate includes those resources dedicated to reviews, inspections, management activities, and construction-craft support of the Program, but does not include the resources expended in special related programs. An estimate of these manhours, identified by Project organization, is provided below. The total cost of the QVP is estimated to approach \$10 million.

ESTIMATE OF
QVP PERSONNEL RESOURCES

<u>ORGANIZATION</u>	<u>AVERAGE NO. PERSONNEL</u>	<u>MANHOURS X 1000</u>
QVP Office	6	23
BRG Office	6	18
Project Engineering	8	15
Corporate Engineering	5	1
Project QA	6	28
Bechtel QA	2	4
Grout Program	13	6
Contractors	<u>51</u>	<u>53</u>
TOTALS	96	148

In addition to QVP resources, the Project has expended in excess of one and one-quarter million manhours and \$32 million on special related programs to verify the work in place.

SECTION 6.0

METHODOLOGY

This section addresses the rationale applied to sampling, and the techniques used to select hardware items for reinspection and design change documents for review. It covers the philosophy applied to inspections in this Program and the methods used to perform them. It also addresses the rationale used to evaluate results of the inspections and reviews so that conclusions may be drawn and appropriate corrective actions initiated. The entire process is displayed in the logic diagram in Figure 6-3 near the end of this section.

6.1 Sampling Rationale

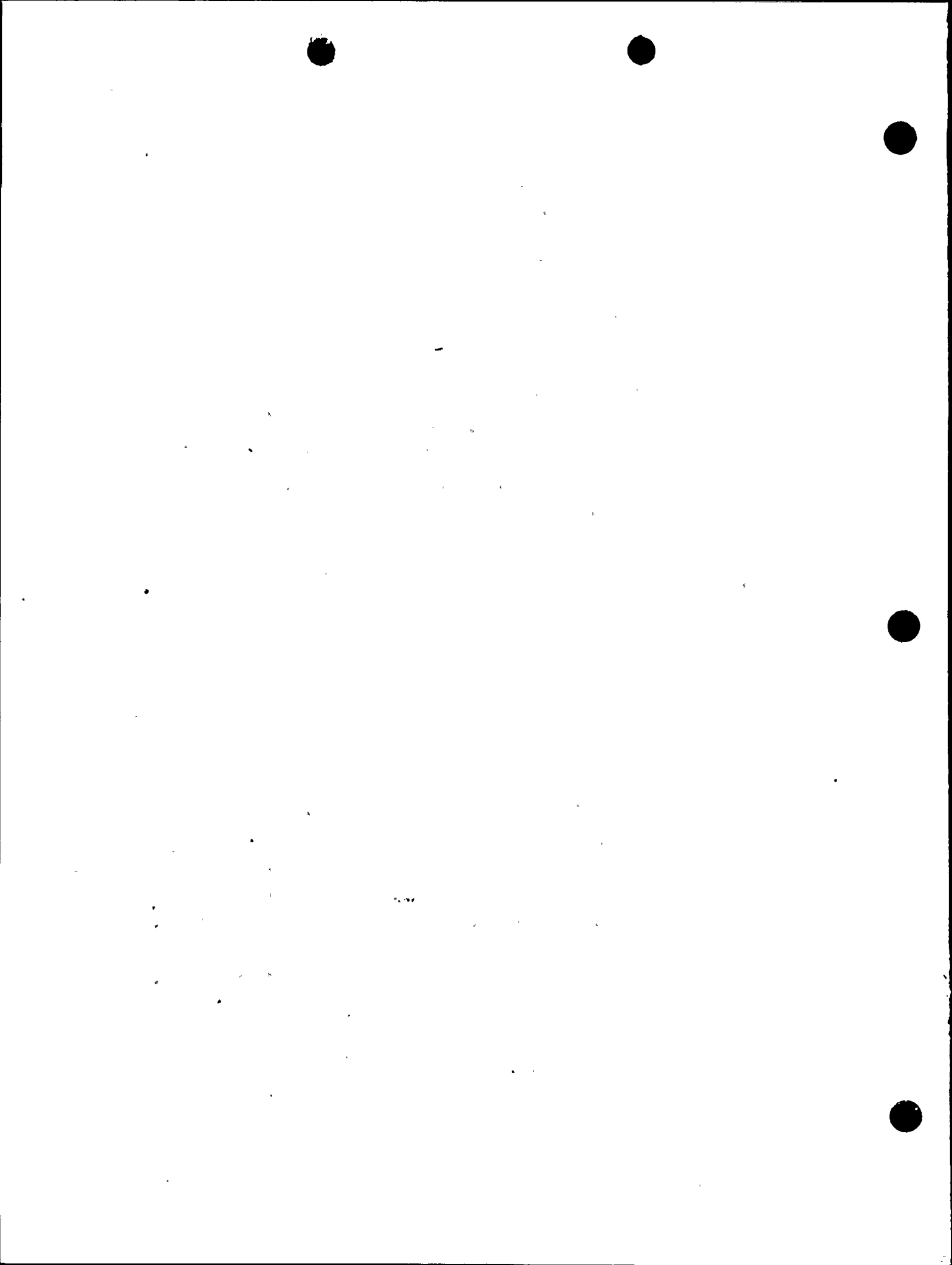
6.1.1 Active Contracts

6.1.1.1 Determine Hardware Population

The process of selecting a representative sample of hardware begins with a determination of the population of safety-related work completed by the construction force and accepted by the contractors' QC prior to July, 1980. The contractors' own management system control lists are used to do this wherever possible.

Those items constructed and accepted after July, 1980, are excluded from the scope of QVP because of the strengthened construction controls in place at the time of the NRC-approved restart. These improvements in the management system are:

- o Contractors' improved management systems, QA Programs, and procedures reviewed by Restart Program
- o New Construction Manager/Construction Completion Contractor with NRC-reviewed QA Program
- o Retraining of construction personnel and inspectors to improved procedures
- o Strengthened A/E responsibility for design by separating design and construction management functions
- o Realignment of contract scopes to avoid duplication of work types
- o Supply System management improvements made to strengthen projects.



The next step in the process is to determine those components which were reworked after July, 1980, either because of redesign or previously identified deficiencies. If so, the current Project QA Program covers this work, and the components can be removed from the scope of QVP.

The above does not affect the validity of the sampling process or the scope for the purpose of verification, because QVP addresses all safety-related work which was constructed, inspected and accepted prior to July, 1980, and which remains in place.

The final step in the determination of the population is the evaluation of other related programs to determine if these programs meet the requirements of the QVP. These programs were addressed in Section 4.5. If the programs meet the requirements of the QVP, then the population of hardware covered by these programs is eliminated from the scope of reinspection and the overall population for sampling is adjusted.

6.1.1.2 Select Items

The 50.54(f)-response letter committed the Supply System to review a "significant sample" of records and hardware. The logic diagram in the response letter indicates 10% of the records will be reviewed. Ten percent, therefore, has been taken to define "significant sample" for hardware as well.

For the larger contracts, a 10% sample size is considered to be a very significant amount, which allows statistical results and projections to be determined with a great degree of confidence.

The sample selection process is as follows:

- o Separate each contractor's work scope into similar components, i.e., piping, hangers, duct pieces, etc.
- o Select 10% of each component type at random using appropriate random number tables, hand selection, number generators, etc.
- o Document the sample selected prior to inspection.

For contracts 215 and 218, because of the large work scope, components are selected from within startup systems to facilitate schedule requirements. The system turnover schedule was used to guide the order of inspections for maintaining priority over on-going construction.

For contract 215, a random 10% sample of piping isometrics was selected within each system. The hangers on those isometrics comprise the 10% sample of hangers across the contract. A check was made to verify that the sample size of hangers was adequate to cover the total number of hangers installed by contract 215. This sampling process did not negate the randomness of hanger selection, rather, it selected hangers in random sub-groups.

To verify that the random samples represent a typical cross-section of the total population, a check was performed for contract 215, mechanical construction, and contract 218, electrical construction, the two largest active contracts. This was a comparison of the time of installation of the the sample with the time of installation of the total population. The excellent correlation between the sample and the total population is apparent from examining Figures 6-1a and b for contract 215 hardware, and Figures 6-2a and b for contract 218. The graphs are plotted on different scales (10X) to facilitate comparison of the 10% samples with the total populations.

A random selection should provide a correct distribution across time period, personnel performing and inspecting the work, complexity of installation, etc. The time-period check of the sample against the population shows this to be true.

6.1.2 PP&IA Contracts

6.1.2.1 Determine Population

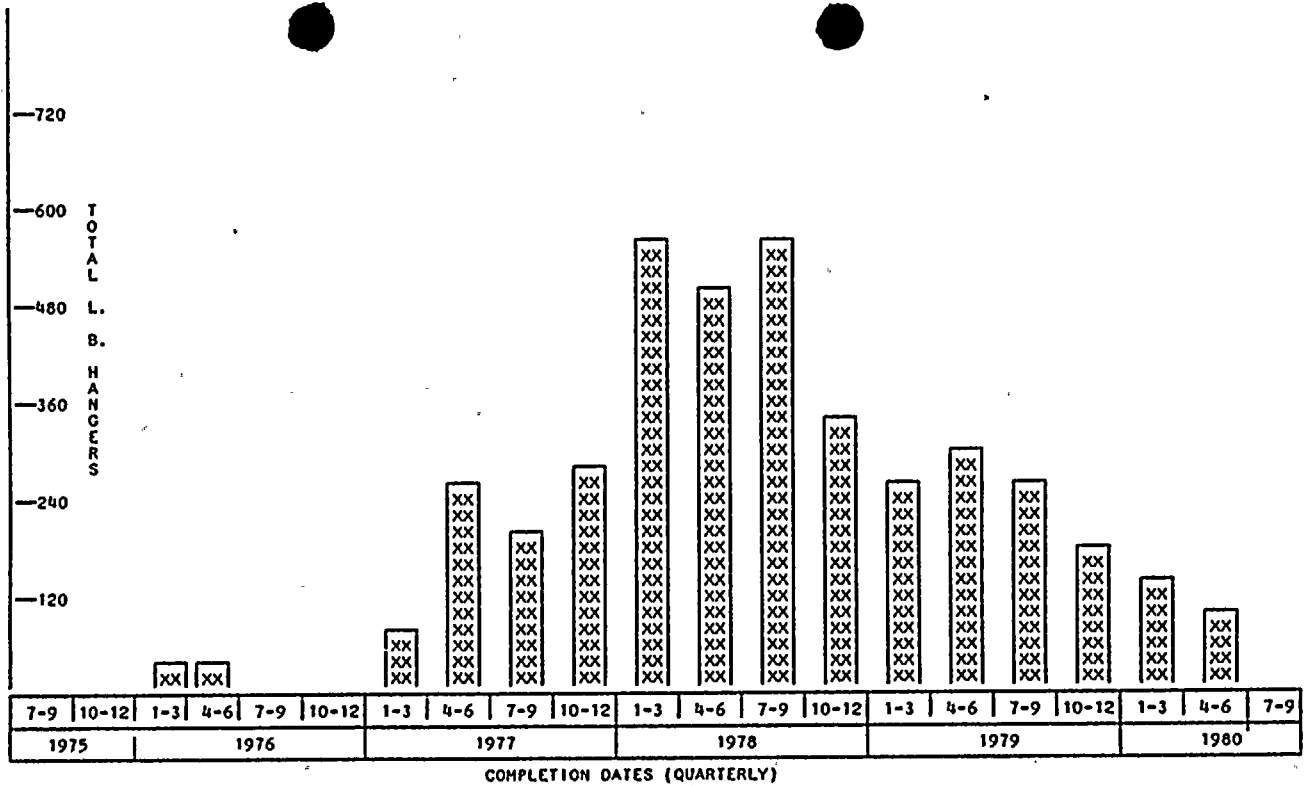
All of the hardware provided in the plant by these contracts is subject to verification. Therefore, in the first phase of the PP&IA element of the Program documentation for all safety-related hardware is subject to review, and hardware reinspection is determined by consideration of the results of the document reviews, contract-quality-history reviews, and special related programs.

In the second phase of this element, the process is oriented to reinspection of hardware, and the methodology for determining the candidate population for reinspection virtually follows that described in Paragraph 6.1.1.1.

6.1.2.2 Select Items

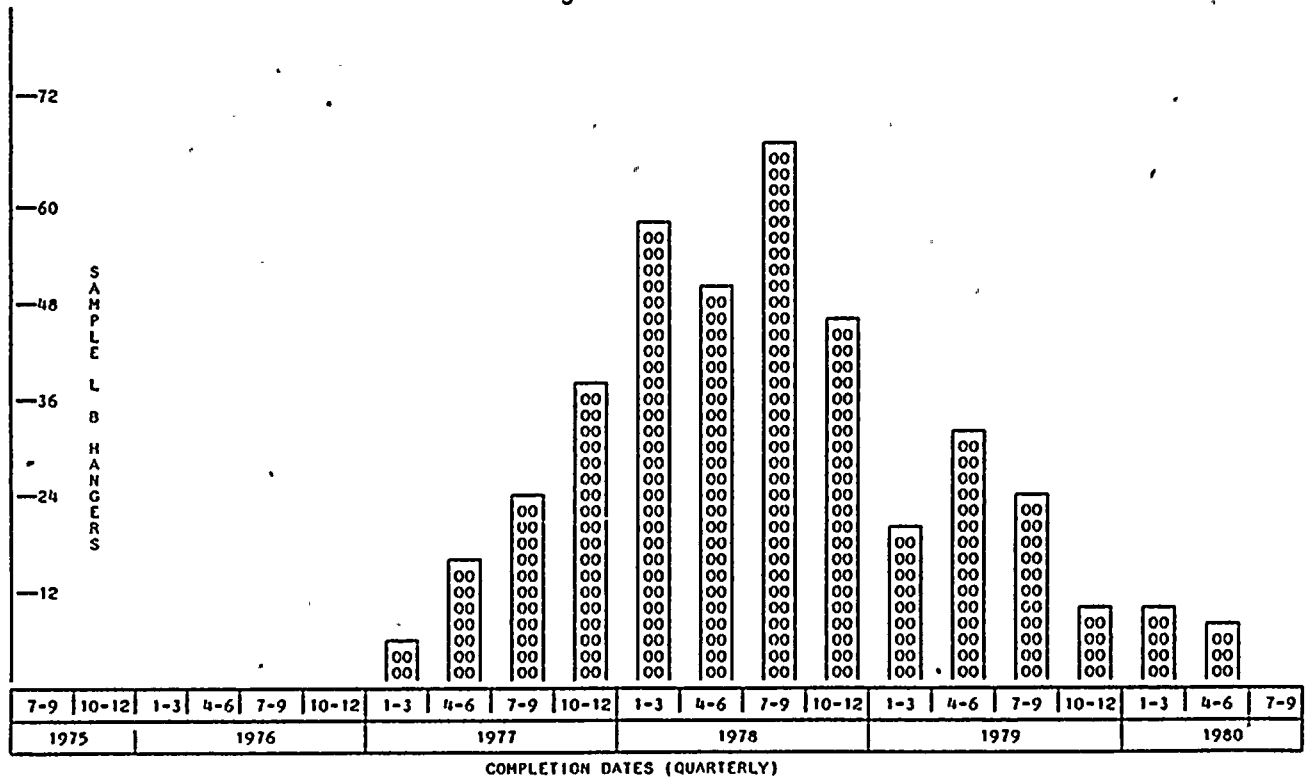
In both phases, following a decision to reinspect hardware, the sampling process for items which lend themselves to discrete counting is identical to that outlined in Paragraph 6.1.1.2. In the case of unique items for which discrete counting is inappropriate, such as, one safety-related crane, a reinspection plan is established.





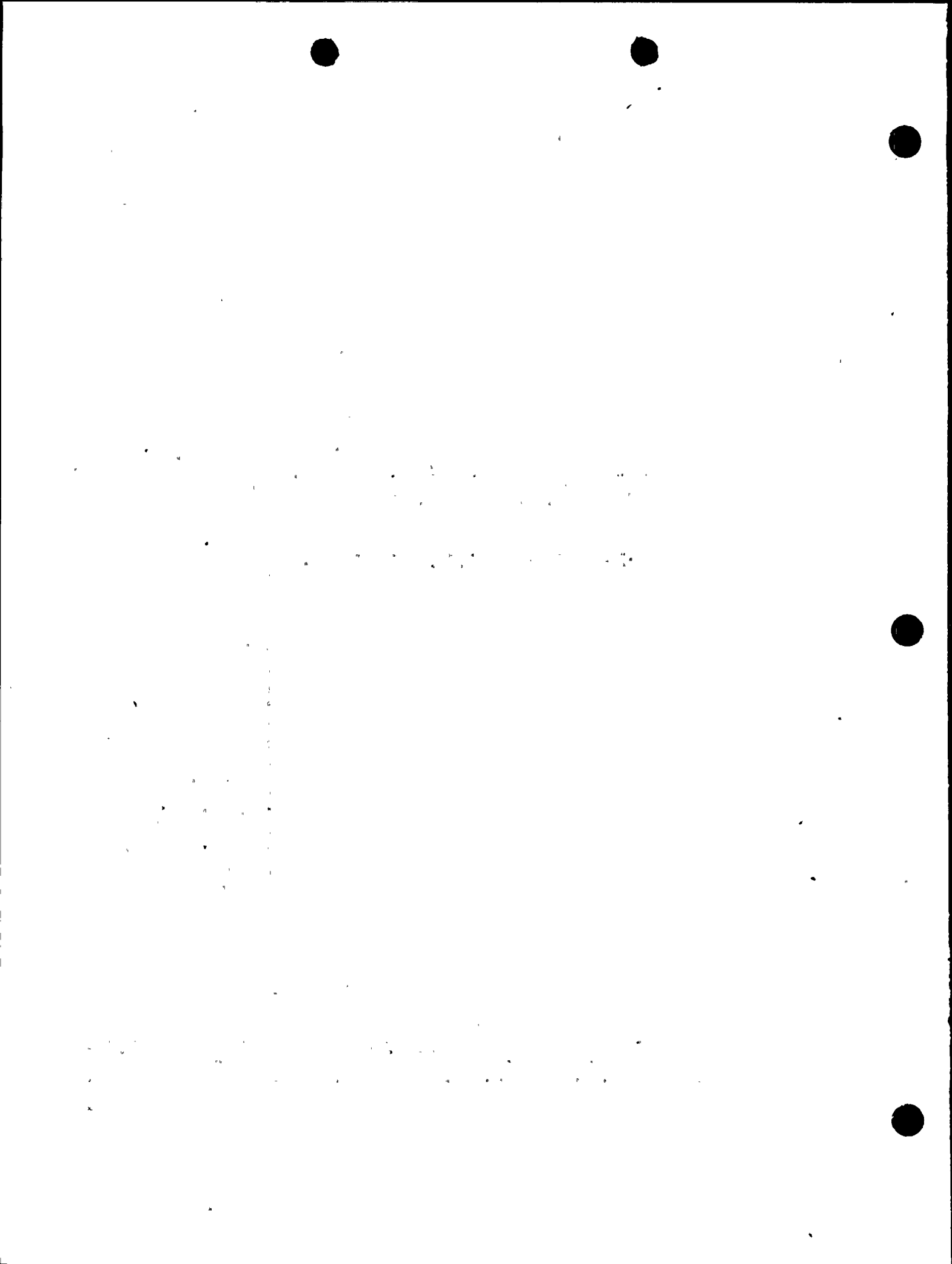
CONTRACT 215 LARGE-BORE HANGER POPULATION

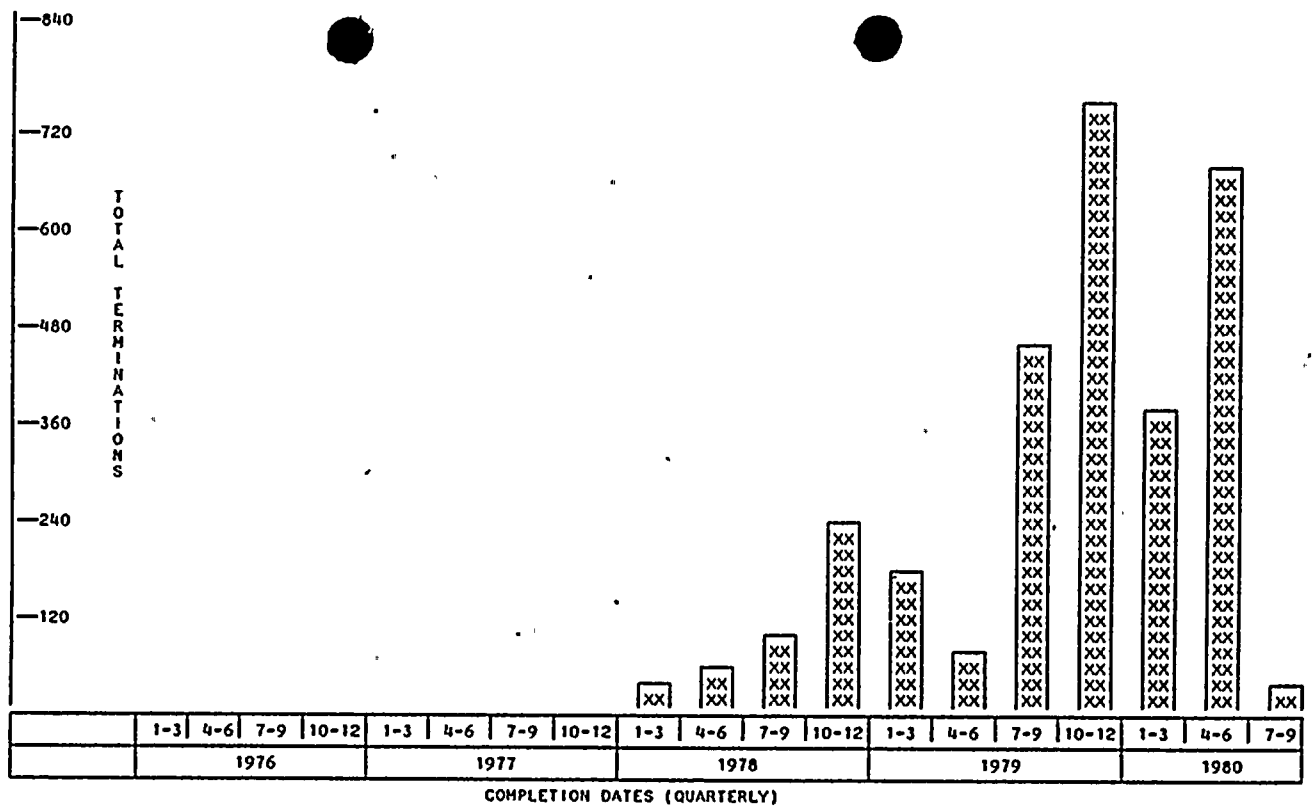
Figure 6-1a



CONTRACT 215 LARGE-BORE HANGER SAMPLE

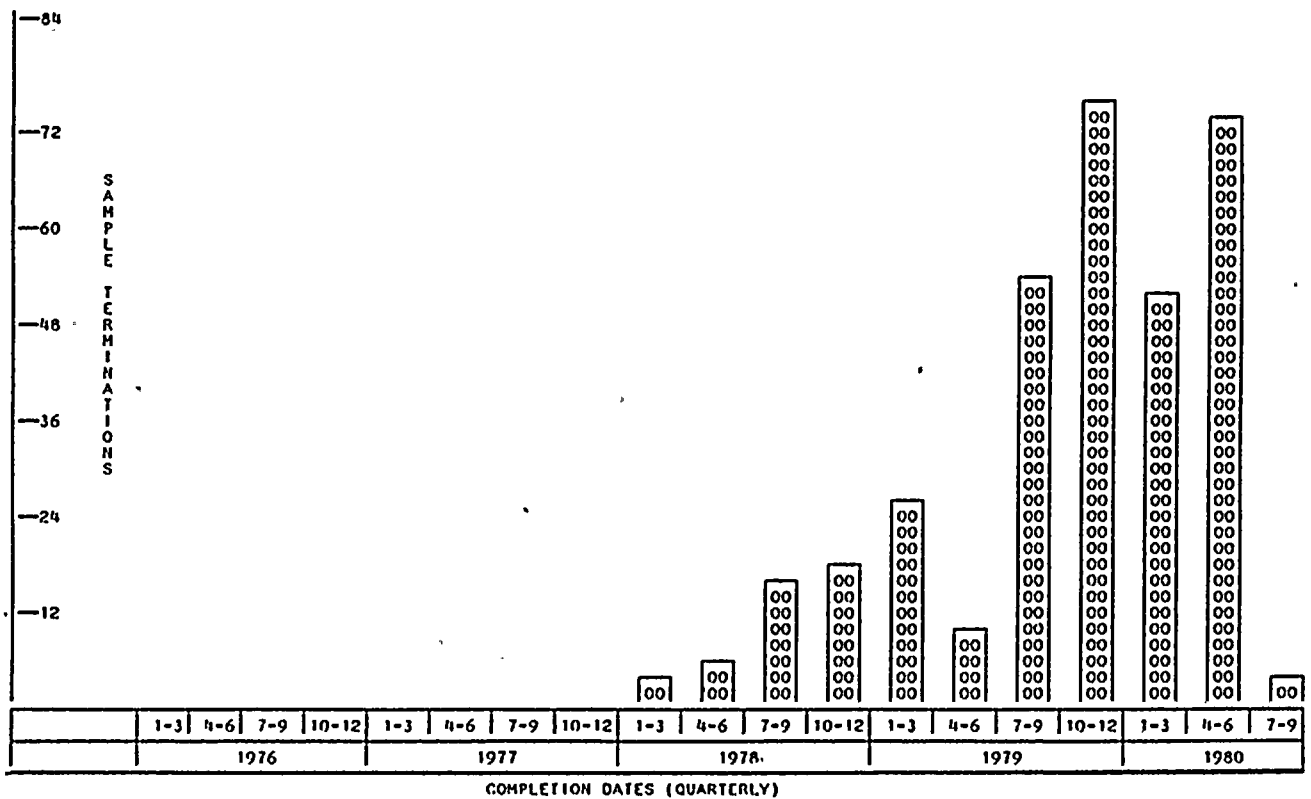
Figure 6-1b





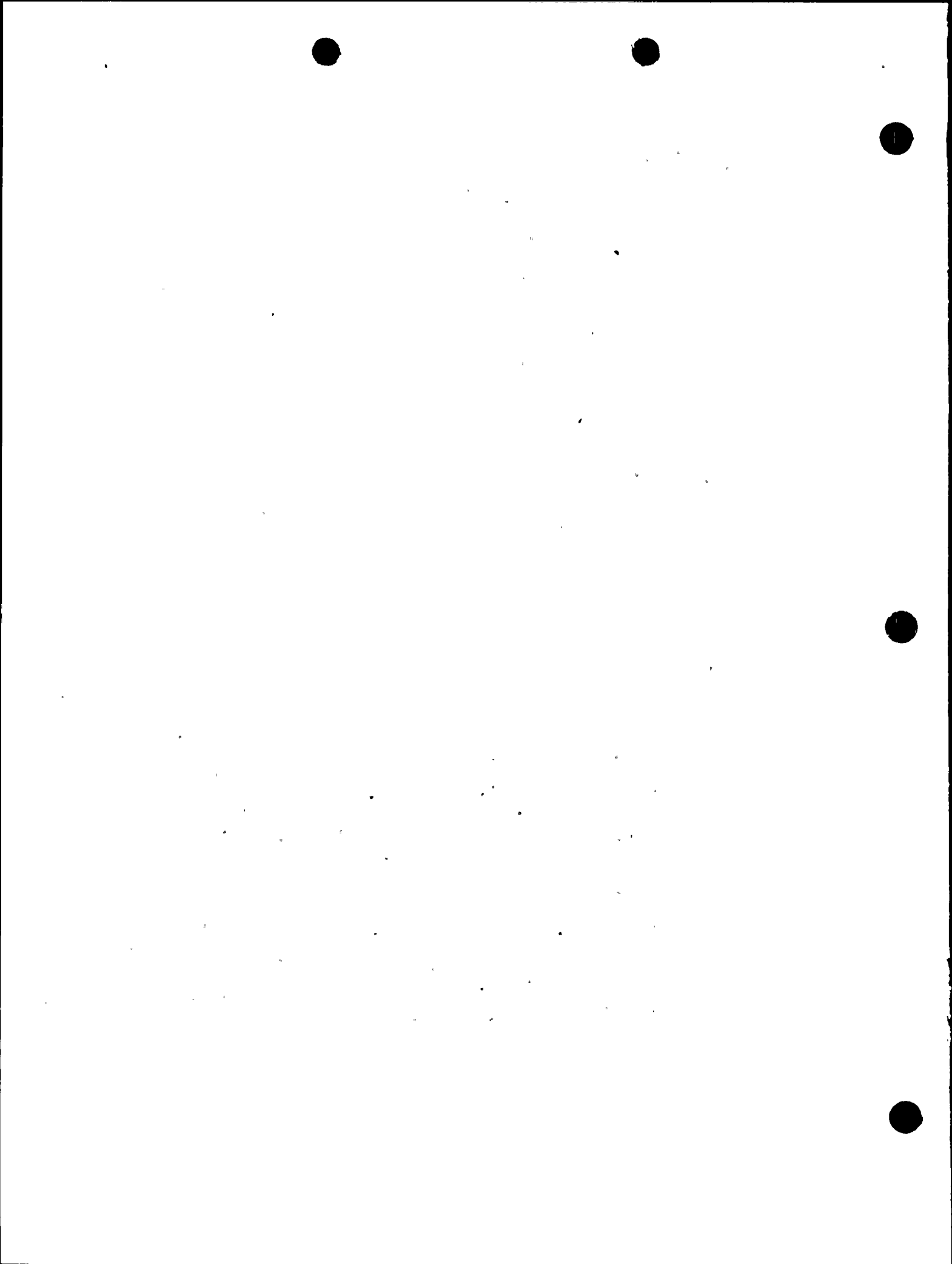
CONTRACT 218 CABLE TERMINATION POPULATION

Figure 6-2a



CONTRACT 218 CABLE TERMINATION SAMPLE

Figure 6-2b



6.1.3 Special Tasks

6.1.3.1 Deficiency Document Review

The determination of the candidate population of design-change documents, the segregation of documents into generic groups, the evaluation of past activities and special programs, and the random selection follow essentially the same process as that described for active contracts in Section 6.1.1.

6.1.3.2 Personnel Qualifications Review

This task utilizes the results of reviews conducted in other elements of the Program, and does not, in itself, include a sampling process.

6.1.3.3 Receiving Inspection Review

This task uses information obtained from a combination of 1) inspections in other elements of the Program, and 2) repeat receiving inspection of 100% of the hardware in storage at the time of the stop work order. The task does not, in itself, include a sampling process.

6.1.3.4 Grout Evaluation

The sampling and testing of grout microcores was accomplished in three phases. In the first phase, samples of one type of grout were selected randomly from one contract to determine the extent of an identified problem. This effort was later extended in the second phase to address a total population of all grout types in all contracts. Sampling of grout microcores was extended in the third phase to meet criteria established in NRC IE Bulletin 79-02, (21) for achieving a 95% confidence level that defects could exist in less than 5% of the population.

6.1.3.5 Cast-In-Place Concrete Evaluation

A technical review of essentially all quality records, procedures, specifications, and test results in all contracts which provided QC I or QC II SC I concrete construction in the plant, was directed to characterizing the quality of that work. The task does not, in itself, include a sampling process.



6.1.3.6 NDE Verification

The total population of NDE work completed prior to July, 1980, was determined by review of all contracts which produced safety-related work. An evaluation was then made of other related programs to ascertain verification activities already performed. Random samples were selected from the resultant population to meet the criteria established in IE Bulletin 79-02.

6.2 Inspection Philosophy

6.2.1 Generic Problem Areas

A set of Generic Problem Areas (GPA's) was developed prior to performing any reinspections. These GPA's were compiled from a review of the following items:

- o NRC Inspection Reports
- o 50.55(e) Reports
- o Restart Findings
- o System Walkdowns

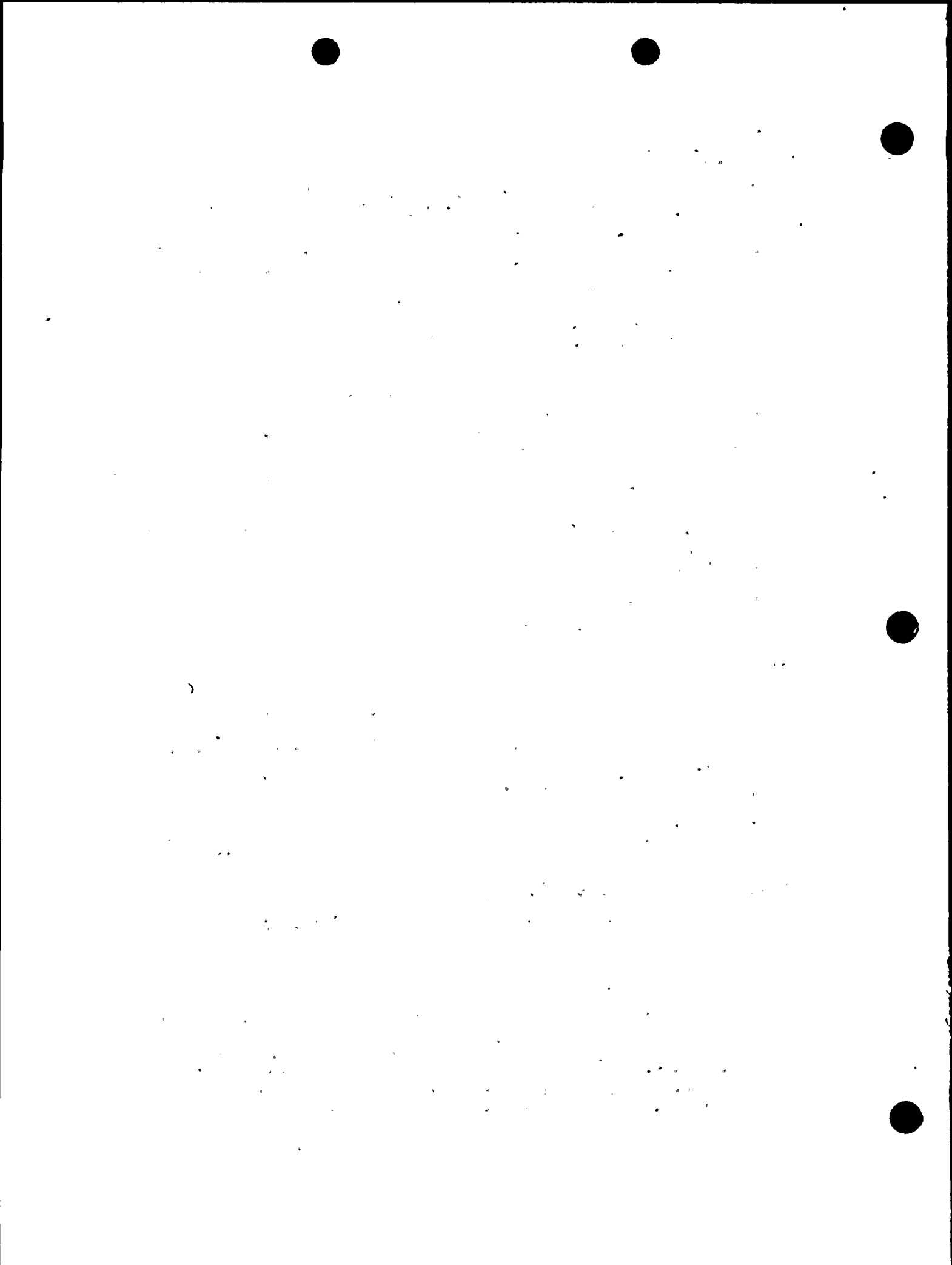
The GPA's consist of a list of 50 areas where problems had been identified on work completed prior to July, 1980. The purpose of the GPA's was to ensure, whenever possible, that reinspections adequately addressed the concerns over previous work. For active contracts, this was achieved by assigning the GPA's to all applicable contractors and requiring that the review process address each GPA. The ability of the reinspection to address the GPA is, of course, dependent upon the extent the problem remains visible in the final configuration.

The list of GPA's is covered more fully in Volume IV, Book I.

6.2.2 Personnel Independence

The hardware inspections and document reviews for active contracts were performed by either the contractors' QC inspectors or Bechtel QC engineers. The BQC engineers were obviously independent of the original inspections. The inspections performed by the contractors on their own work were performed by subcontractors or by the contractors' own QC personnel and surveillance of this was performed by BQC. In the latter case, the inspection personnel were not allowed to be those who performed the original inspection.

The PP&IA and Special Tasks elements were performed by Supply System or BPC personnel who were independent of the designers and constructors who performed the original work.



6.2.3 Inspection Scope

The reinspections of hardware were complete, repeat, final, visual inspections of the hardware components. These inspections were performed either to current contractor procedures, which, for active contracts, had been reviewed and approved during the Restart Program, or to new instructions or procedures. In general, disassembly or destructive work was not performed in order to repeat the inspections. However, sandblasting of major welded components was performed in order to adequately and critically examine the weld quality on pipe supports and structural steel.

Inspections of code-stamped items from ASME vendors were not reinspected for weld quality, nor were standard off-the-shelf components reinspected, provided that proper surveillance had been performed on the vendor. This is documented as Key Decision #2⁽²²⁾ in the QVP. The code data reports for ASME hardware are considered to be objective evidence of acceptability for these items, since they provide legal documentation of an independent inspection.

The document reviews were repeat technical reviews and were performed in accordance with current approved procedures on the quality records that support the hardware selected for reinspection.

The review scope of the Special Tasks element is adequately addressed in the descriptive information provided in Section 4.0.

6.2.4 Inspection Schedule

For active contracts, the inspections were performed and the results evaluated prior to turnover of a startup system from BPC to the Supply System. This maintained the priority over on-going work, and is documented as Key Decision #1⁽²³⁾ in the QVP. Although some items were inaccessible for reinspection, no items were made inaccessible by work performed after July, 1980.

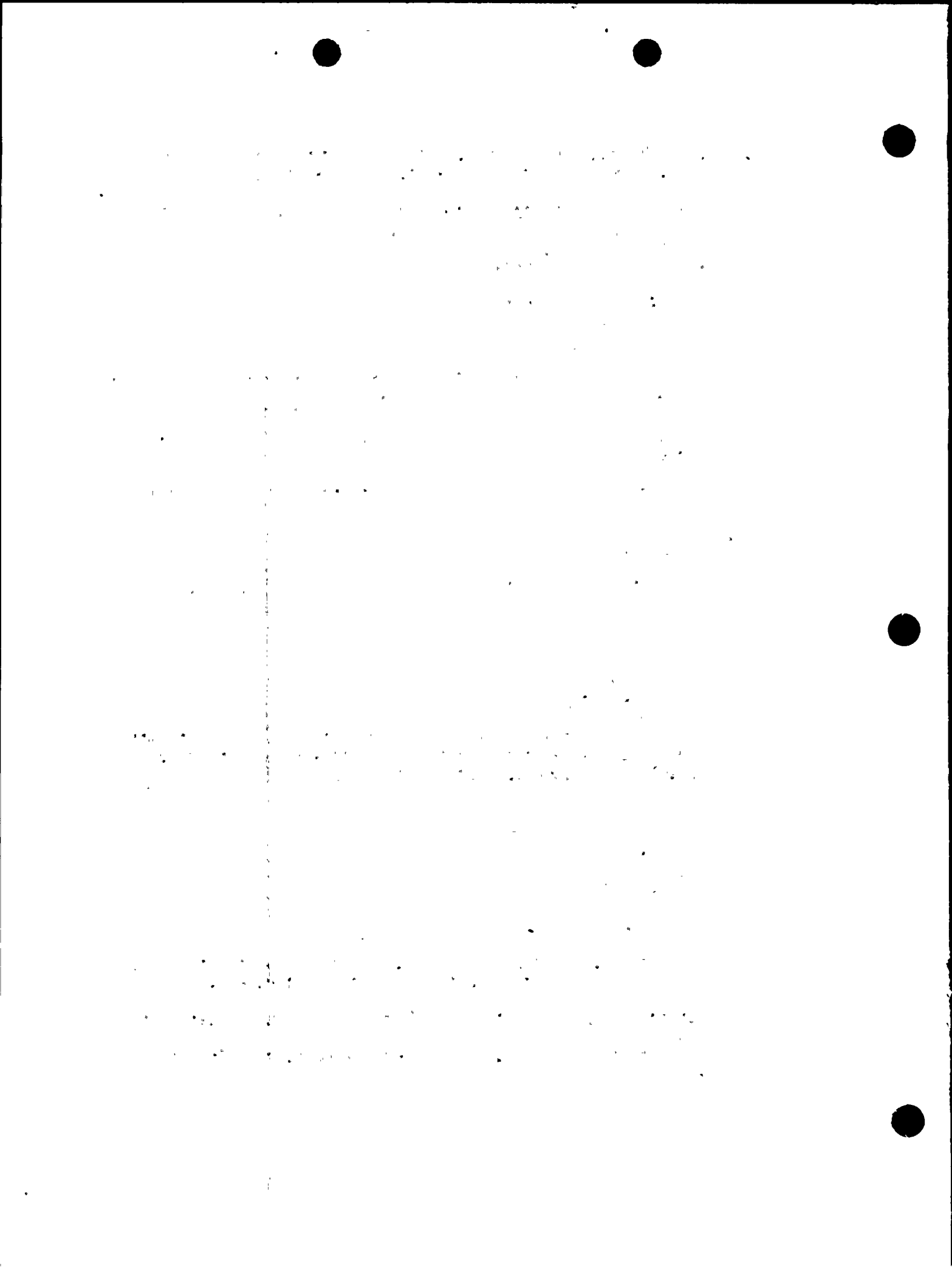
For inactive contracts, inspections were performed as soon as practical after the need for reinspection was identified.

6.3 Inspection Results Evaluation

This section presents the methodology for evaluating inspection and review results.

6.3.1 Active Contracts

The scope of reinspections varies greatly from contract to contract and hence the complexity of an analysis of the reinspection results also varies greatly. The deficiency evaluation process is described in this section for the most complex contract. The same major steps were applied to all contracts, but the specific details are simpler. The major steps of the deficiency evaluation process are:

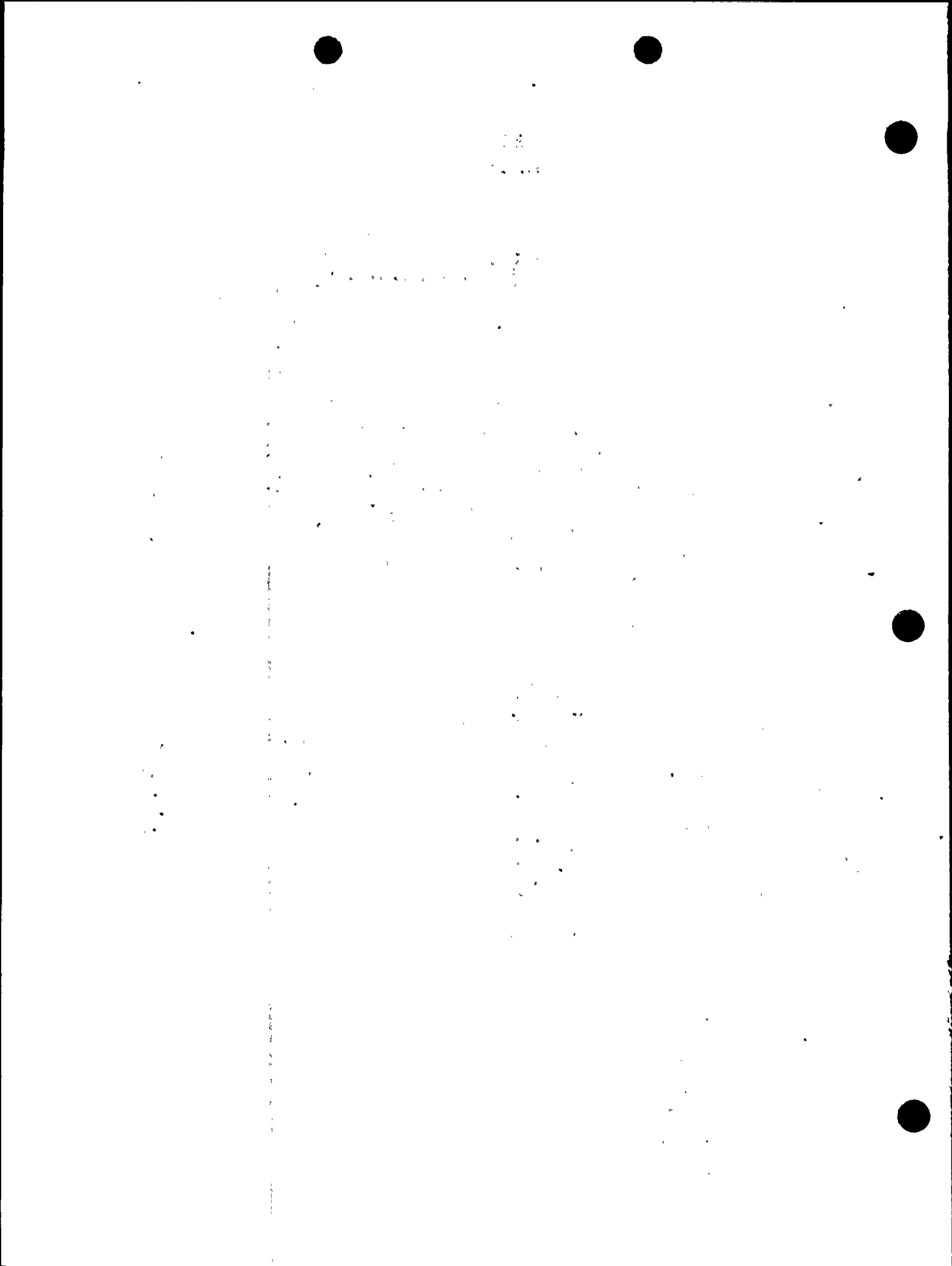


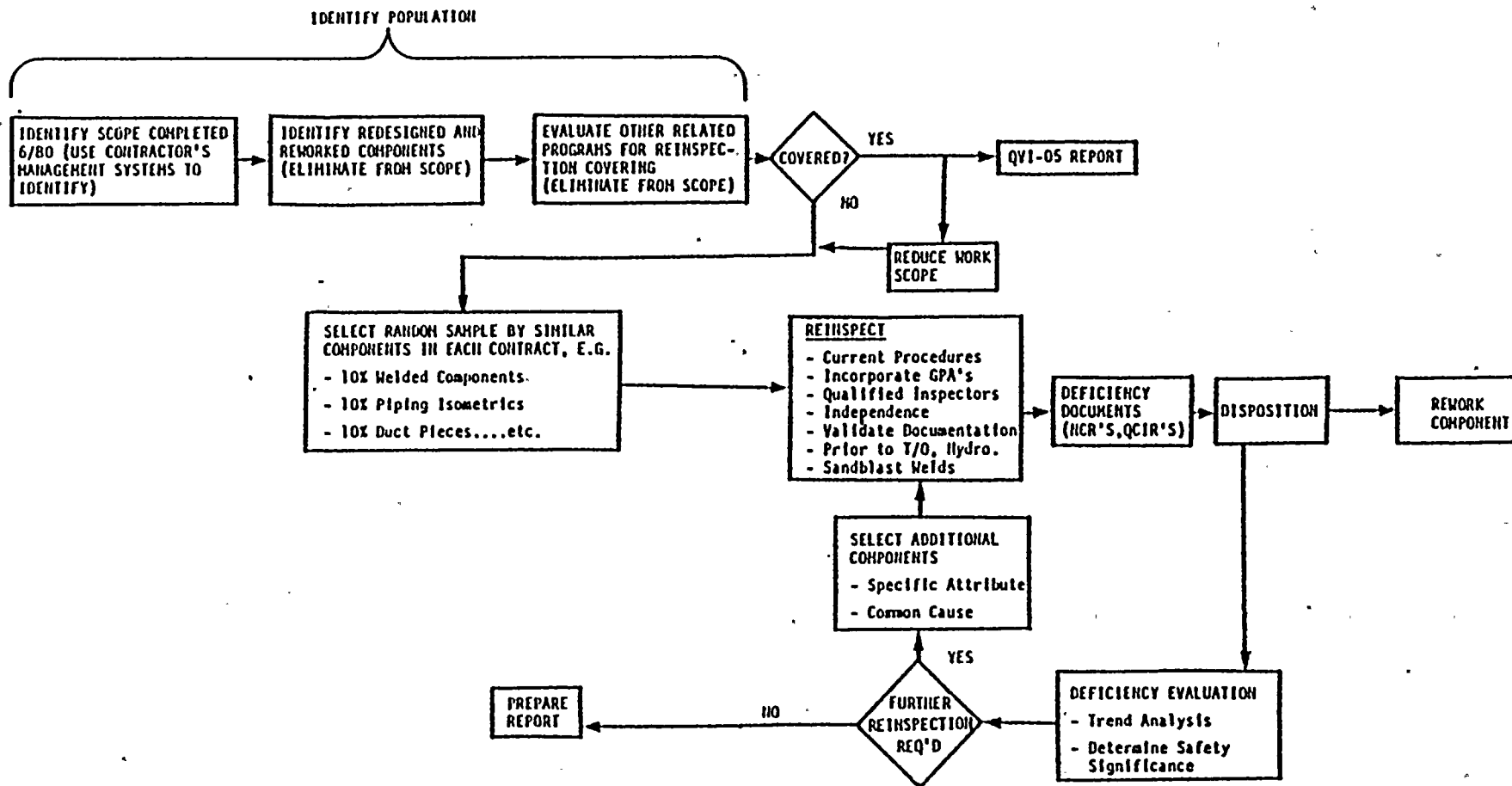
- o Sort the negative inspection results for common deficiencies, e.g., undercut, undersize, as-built variance, etc.
- o Check for deficiency coverage by a special related 100% inspection program. Eliminate these from further analysis, e.g.:
 - Arc strike program
 - As-built program
 - Hanger balancing

NOTE: Inspection programs performed under BPC's current QA program are corrective programs, where necessary.

- o Review common deficiencies (not covered by related programs) for safety significance:
 - Consider specification and code requirements, SAR commitments, etc.
 - Consider multiple deficiencies on components.
 - Determine remaining design margins with deficiency.
 - Determine likelihood and probable cause of failure, i.e., seismic event, design loading, etc.
 - Extrapolate identified deficiencies to population not reinspected.
- o If deficiencies are determined to be safety significant, sort for common causes and examine characteristics surrounding the deficiencies, such as (for contract 215):
 - Welder
 - QC Inspector
 - System
 - Component
- o Collect results of individual steps, search for common causes (e.g., QC Inspector vs number of weld deficiencies).
- o Perform further reinspection of the identified problem area.

The entire reinspection and results evaluation process is shown in Figure 6-3.





QUALITY VERIFICATION PROGRAM REINSPECTION PROCESS LOGIC DIAGRAM

Figure 6-3



6.3.2 Prepurchase and Inactive Contracts

The major steps of the deficiency evaluation process for PP&IA contracts closely follow those for the active contracts:

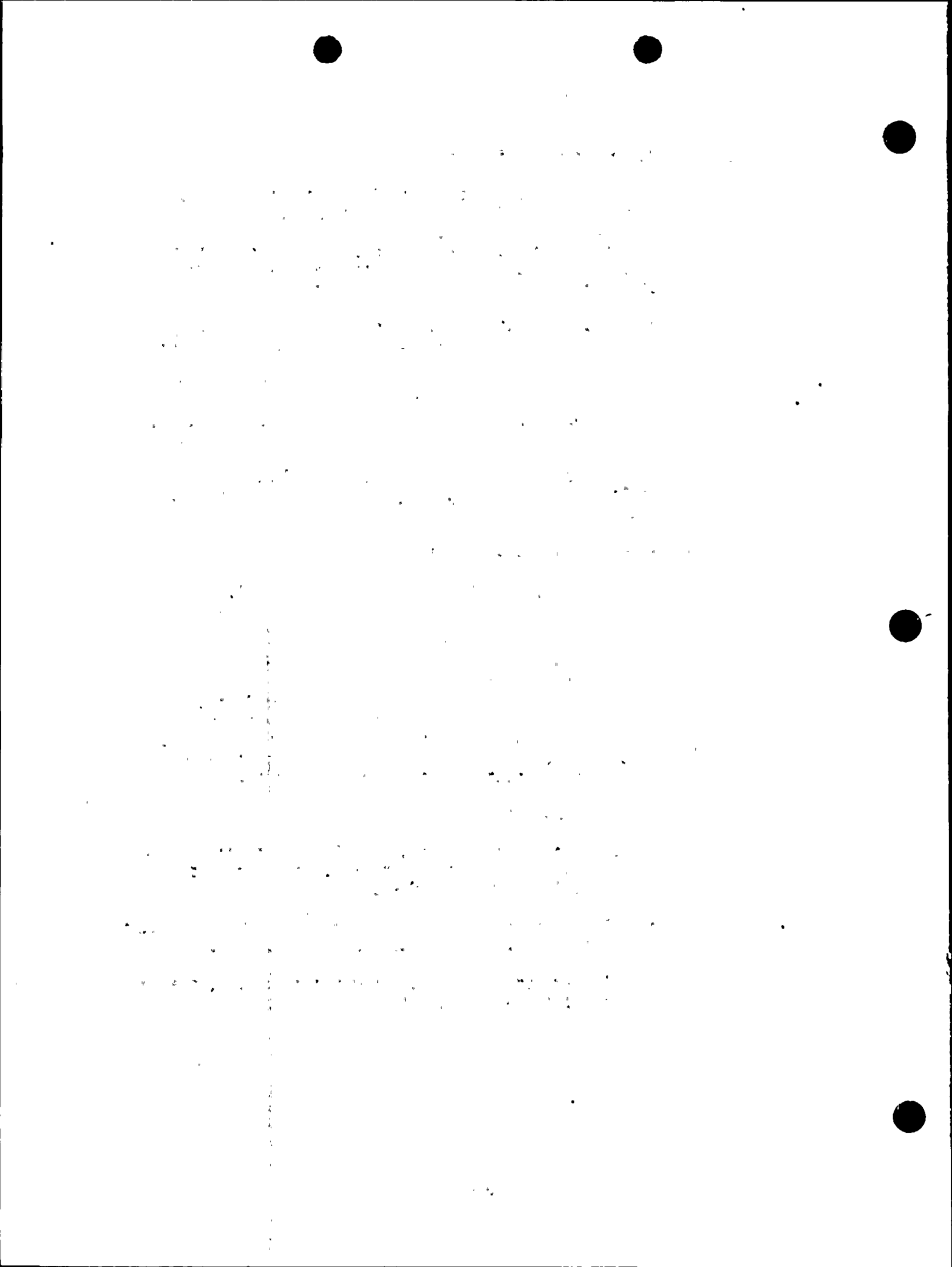
- o Sort the negative inspection or review results for common deficiencies (weld undersize, wrong material, etc.) and by commodity (valves, pumps, motor control center, etc.).
- o Analyze the sorted results to determine the safety significance of deficiencies.
- o Analyze the sorted results to determine if generic or repeating trends exist. If so, analyze further for common causes (same welder, same QC inspector, etc.).
- o Review the results of trend analysis and the determination of safety significance. Determine whether further inspection is required.
- o If further inspection is required, select additional components for reinspection, based on common causes of deficiencies and specific attributes found deficient.

6.3.3 Special Tasks

6.3.3.1 Deficiency Document Review

The sequence of steps for the evaluation of document dispositions found technically inadequate in this review follow essentially the same process as that for active contracts:

- o Sort the discrepant documents by type, contract, dispositioning engineer, discipline, and date of disposition.
- o Submit the discrepant dispositions for review by PQA and BRI to determine safety significance and corrective action requirements.
- o Review sorted documents for generic trends (same dispositioner, same contract, etc.), and record results.
- o If additional review is determined to be required, select an enlarged sample based on the trend analysis results (contract, document type, etc.).



6.3.3.2 Personnel Qualifications Review

The Personnel Qualifications Review is an analysis other elements of the QVP which ensures the competency and therefore the qualifications of those associated with quality affecting work. The process for the analysis of deficiencies discovered in these programs is discussed throughout this section. Two general areas are covered:

- o Technical inadequacy of dispositions by engineering personnel is addressed in the Deficiency Document Review.
- o Substandard performance by nonengineering personnel is addressed in active contracts, PP&IA contracts, NDE review, and others.

If a programmatic deficiency is found during this review, it is addressed through the existing management corrective action request system.

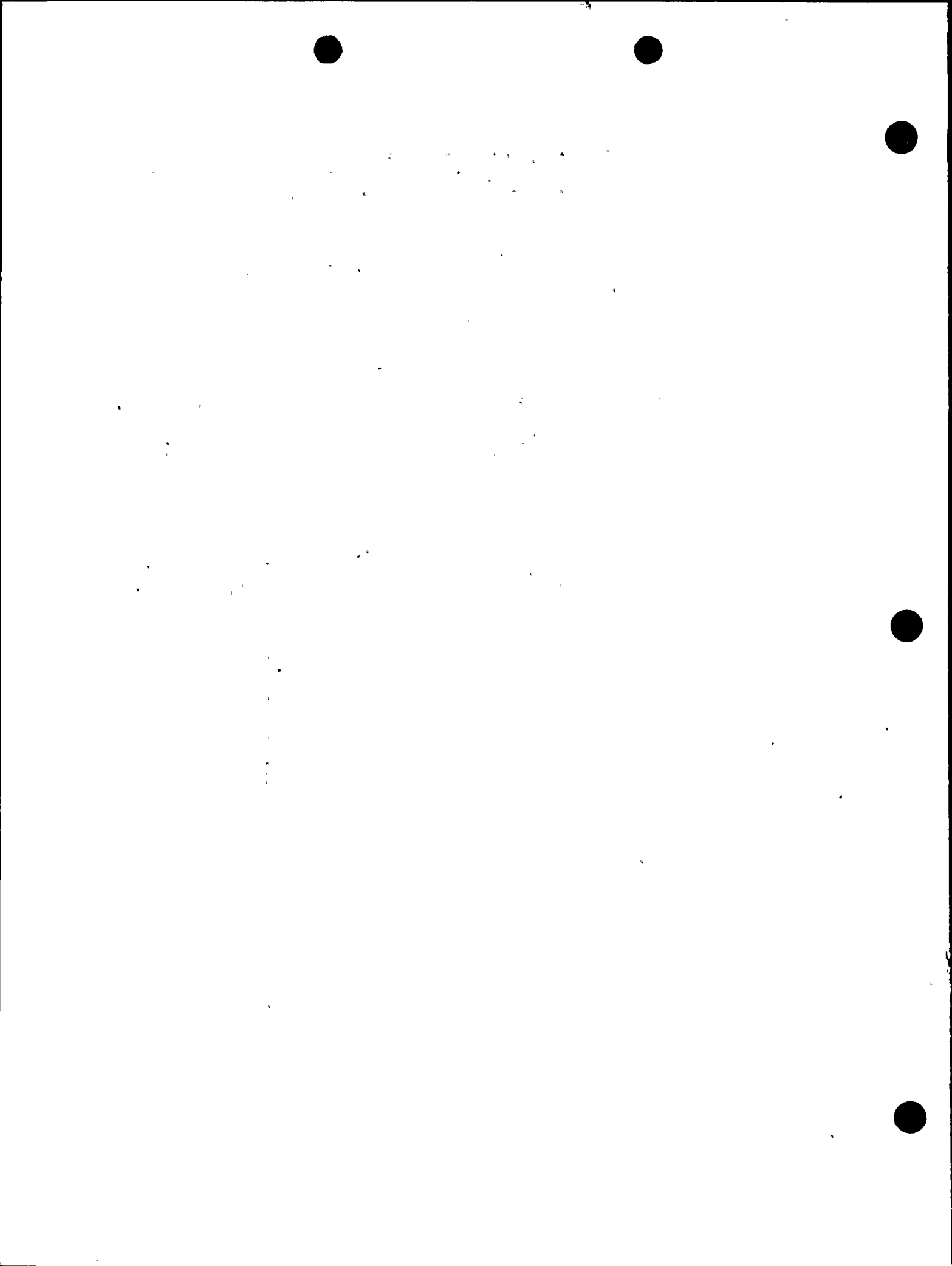
6.3.3.3 Receiving Inspection Review

The Receiving Inspection Review is an analysis of the effectiveness of several site programs to ensure the adequacy of material installed or in storage awaiting installation at the time of the stop work order. These programs include the active and PP&IA contract reviews, test and startup program, and special reviews. The process of analysis of deficiencies is presented throughout this section. Generic deficiencies identified in other reviews, as well as programmatic deficiencies identified as a result of this review, are resolved through the existing management corrective action request system.

6.3.3.4 Grout Evaluation

The sequence of steps for the evaluation of grout compressive-strength-test results which fail to meet specified requirements is as follows:

- o Sort nonconforming results by grout type, installing contractor, use, and date of installation.
- o Review sorted results for generic trends (same contractor, same grout application).



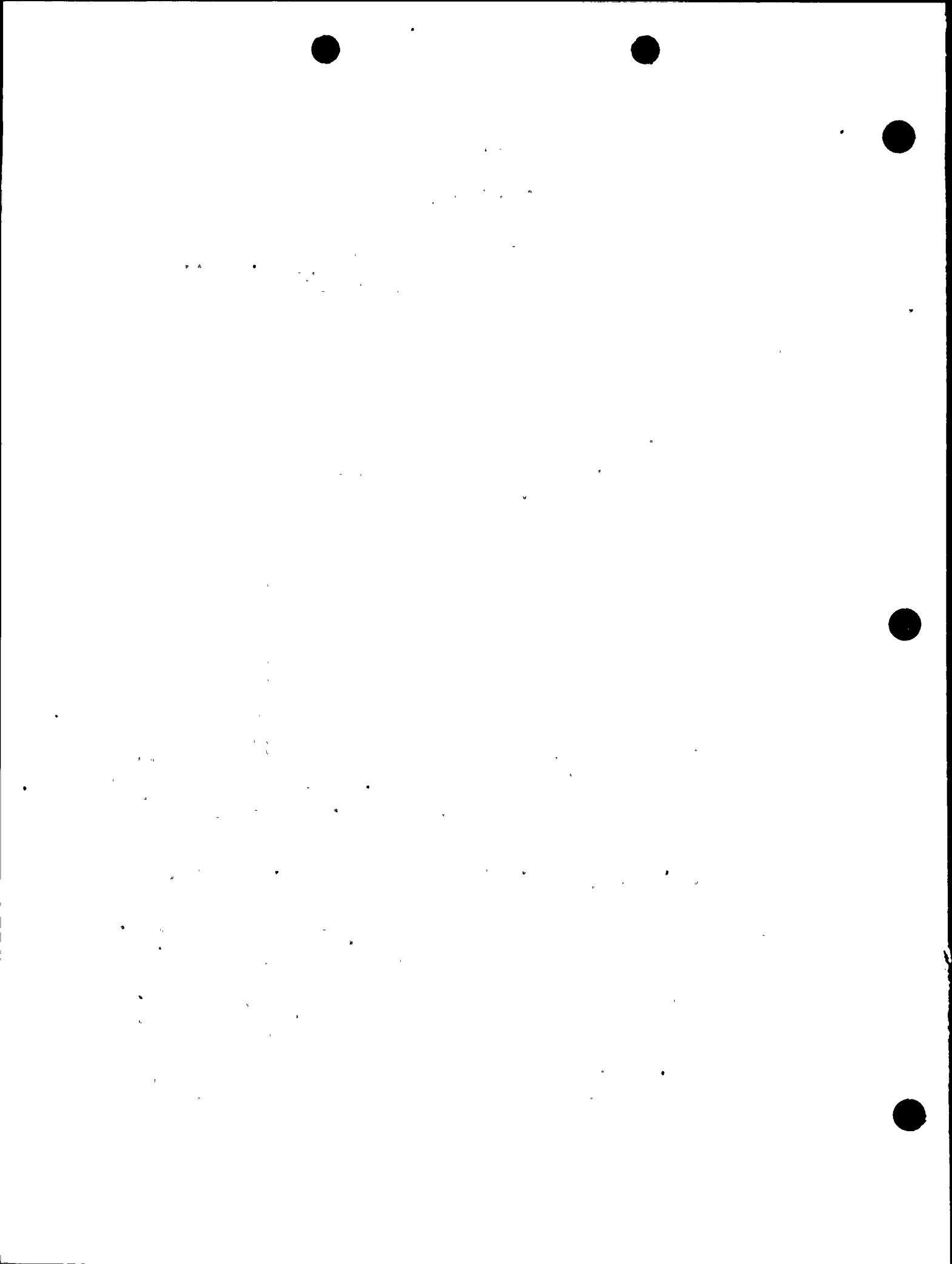
- o Submit nonconforming results to BRI for a comparison and analysis of test results to design requirements and corrective action if required.
- o Increase sample size in accordance with IE Bulletin 79-02 sampling requirements if BRI review of nonconforming test results indicates the grout strength is not acceptable.

6.3.3.5 Concrete Evaluation

The concrete quality evaluation is a collection, trend analysis, and discussion of quality issues in all contracts which installed concrete. Generic deficiencies identified in the contract work were resolved through the management corrective action programs in effect at the time of construction. These formed the basis for the evaluation.

6.3.3.6 NDE Verification

The actions associated with evaluation of deficiencies in NDE verification are essentially the same as those for active contracts. Sample sizes are increased in accordance with IE Bulletin 79-02 requirements.



SECTION 7.0

PROGRAM RESULTS

This section presents the quantitative results of the QVP reinspections of hardware and reviews of quality records, procedures, and design change documents. Those instances where further investigation was necessary are also identified.

7.1 Active Contracts

7.1.1 Contract 213A, PDM

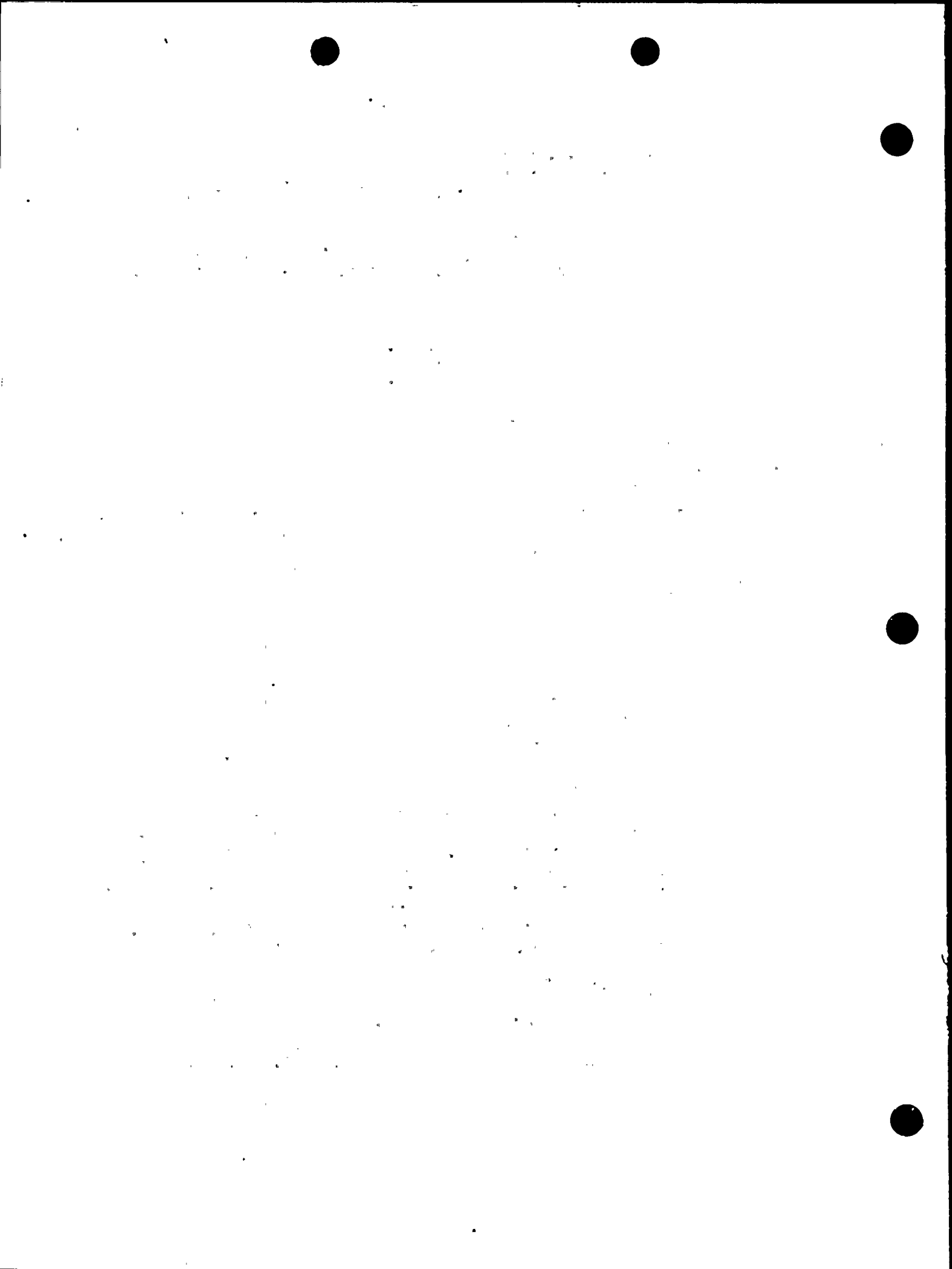
Pittsburgh-Des Moines Corporation (PDM) was responsible for the installation of components and piping for the containment. A substantial amount of the pre-1980 work was reinspected and/or reworked to resolve a major Corrective Action Request (CAR) generated during Restart. Of the hardware not addressed by the CAR, a sample of 40 items, representing weld pads, pedestal connections, downcomer attachments, and penetrations was selected from a population of 208 items. As a result of the reinspection of this hardware, the sample was increased in two areas (weld pads - 100%, pedestal connections - 20%) for a total sample of 82. The only safety-significant deficiencies were identified on weld pads, where the inspection covered them all; the ten significant deficiencies were reworked.

7.1.2 Contract 215, WBG

Wright-Schuchart-Harbor/Boecon/GERI (WBG) was responsible for the installation of mechanical systems and equipment for the plant, and certain structural steel in the containment drywell. A large portion of the pre-1980 work has been redesigned and/or reworked, or reinspected by special related programs. The reworked hardware is not covered in the figures presented below.

Samples were selected in the areas of piping, hangers, and structural steel:

- o Piping - A sample of 128 isometrics (1700 welds) was selected from a population of 1033. There was one increase in sample size during performance of this program (15, increased to 19 small-bore isometrics because of undersized socket welds). A total of 11 deficiencies identified in the remaining reinspections were reworked, although later analysis showed none would have failed in service. Engineering analysis of reinspection results indicated a potential problem, however. To resolve it, the flange-connection socket welds in small-bore high-energy systems are being reinspected for undersized welds.



- o Hangers - A sample of 661 hangers (9000 welds) was selected from a population of 6300. There were no increases in sample size. Forty-six deficiencies identified in the reinspections were reworked, although later analysis showed none would have failed in service. One recurring deficiency in this group was undersized welds, which is in part the reason for the Project's decision to repeat the as-built effort on pipe supports.
- o Structural Steel - A sample of 152 structural components (1700 welds) was selected from a population of 899 beam connections, and pipe-whip-supports. One increase in sample size was made because of misalignment of members at a particular type of connection (100%, to four beam seats). Forty-two deficiencies were reworked, although later analysis showed none would have failed in service.

7.1.3 Contract 216, TWC

The Waldinger Corporation (TWC) was responsible for the installation of HVAC and plumbing systems. A sample of 151 items, representing ductwork, equipment, and supports, was selected from a population of 1495 items. No significant deficiencies were identified and no increases in sample were necessary.

7.1.4 Contract 217, Sentry

The Sentry Automatic Sprinkler Company was responsible for the installation of fire protection systems. A sample of 449 brackets and conduit supports was selected from a population of 3312 items. No significant deficiencies were identified and no increases in sample were necessary.

7.1.5 Contract 218, F/L

Fischbach/Lord Electric Company (F/L) was responsible for the installation of electrical systems and equipment. A sample of 1824 items was selected from a population of 17,700 cables, terminations, equipment, and penetrations. No significant deficiencies were identified, but the A/E considered it advisable to confirm that terminations were checked for proper crimping again during system line-up tests. This has been confirmed, and no other increases in sample were necessary.

7.1.6 Contract 219, OBC

Oliver B. Cannon and Son, Inc. (OBC) was responsible for the containment drywell coating system. Because of construction wear and tear, the coating was fully reinspected and extensively reworked.



7.1.7 Contract 220, JCI

Johnson Controls, Inc. (JCI) was responsible for the installation of control and instrumentation systems. JCI performed a reinspection/as-built program on all QC-I and SC-I installations, including 4812 components and 45,000 feet of tubing and piping. Deficiencies identified were corrected as part of this 100% program.

7.1.8 Contract 234, OBC

Oliver B. Cannon and Son, Inc. was responsible for finishing the coating system for the containment wetwell, which also received a full reinspection because of construction wear and tear, and was reworked extensively.

7.2 Inactive Contracts

7.2.1 Contract 205, S/E

Stewart/Erikson (S/E) was responsible for construction of the reactor building concrete substructure. Review of the quality records and contract history, and analysis of concrete placement records resulted in no safety-significant deficiencies being identified.

7.2.2 Contract 206, B/C

Bovee/Crail Construction Company (B/C) was responsible for concrete and steel construction of major plant buildings and spray ponds. The review of quality records and contract history resulted in a decision to reinspect a sample of welded steel construction. A sample of 37 beams was selected from a population of 186 structural members. One increase in sample size was made because of two cases of deficient welding on beam moment-connections (100%, to 30 moment-connections). Concrete construction was not accessible for visual reinspection (except superficial surface check), but analysis of placement records and procedures resulted in no safety-significant deficiencies being identified.

7.2.3 Contract 206A, PKS

Peter Kiewit Sons Company (PKS) was responsible for general construction of major plant buildings. The review of quality records and contract history, and the analysis of concrete placement records and procedures resulted in no safety-significant deficiencies being identified.

7.2.4 Contract 207, PDM

The Pittsburgh-Des Moines Corporation was responsible for the steel superstructure of the Reactor and Turbine-Generator Buildings and the Circulating-Water Pumphouse. The review of quality records, procedures, and contract history resulted in no safety-significant deficiencies being identified; and a cursory field inspection of the Reactor Building superstructure disclosed no deficiencies.

7.2.5 Contract 209, RI/L

Rigging International/Lampson, Inc. (RI/L) was responsible for rigging, lifting, and setting the reactor pressure vessel, head, and other reactor components. Review of quality records and procedures resulted in the determination that the services provided by this contractor were acceptably performed.

7.2.6 Contract 210, PKS

Peter Kiewit Sons Company was responsible for general and architectural construction in the major plant buildings, including doors, siding roofing, concrete, and steel. The review of quality records and contract history, and analysis of concrete placement records and procedures, resulted in no safety-significant deficiencies being identified. Earlier problems associated with ray-proof doors were resolved by post-1980 construction.

7.2.7 Contract 213, PDM

The Pittsburgh-Des Moines Corporation was responsible for construction of the ASME containment vessel. Because of the large amount of welding in this work, a sample of 60 weld radiographs and 60 welds were selected to establish a 95% confidence that at least 95% of the original NDE work was adequate. No NDE deficiencies were revealed by this inspection, but lamellar discontinuities were discovered in a weld pad. The Project is currently pursuing the resolution of this issue, including its generic implications.

A sample of 280 feet of weld was also selected for visual reinspection, resulting in the identification of a fillet-weld undersize condition on attachments to the containment. The records show this condition had already been identified, evaluated, and determined to be acceptable in the past.

7.2.8 Contract 225, McMillan

McMillan Brothers Construction Company was responsible for construction of the Make-up Water Pumphouse. Review of the quality records and contract history, and analysis of concrete



placement records resulted in no safety-significant deficiencies being identified. A cursory field inspection of the pump-house also disclosed no deficiencies.

7.2.9 Contract 226, Sime

Sime Construction Company was responsible for excavation for the Reactor Building foundation, and associated backfilling. Review of the quality records and contract history resulted in no deficiencies being identified.

7.2.10 Contract 233, Shaw

The B. F. Shaw Company was responsible for Spray Pond piping and supports. Review of the quality records and procedures resulted in no safety-significant deficiencies being identified. A sample of eight pipe supports was selected from a population of approximately 60, resulting in the addition of Spray Pond supports to the Project's as-built program. Seven pipe supports were reinspected for weld quality, identifying a number of discrepancies which are currently under review by the A/E. If any of these are determined to be significant deficiencies, the inspection sample will be increased appropriately.

A sample of piping was also reinspected, including proper weld-out of weld-o-let fittings, with no deficiencies being identified. Another indicator of pipe welding quality is provided by the NDE Verification Task.

7.2.11 Contract 235, GE I&SE

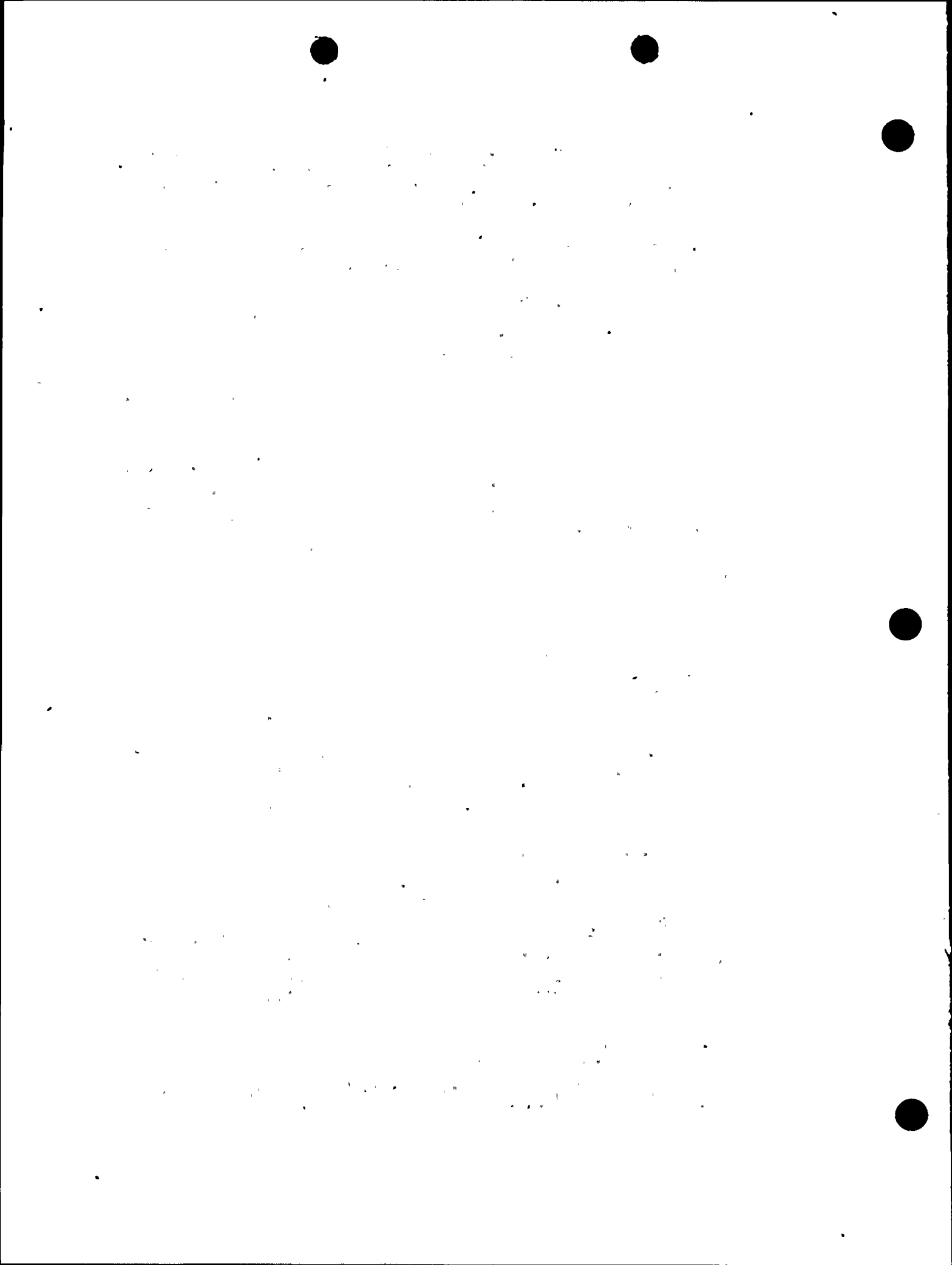
General Electric Installation and Service Engineering was responsible for modifications to instrument control boards. Review of quality records and contract history resulted in no deficiencies being identified. Two major switchgear components containing GE I&SE modifications were reinspected as part of the prepurchase contracts verification. No deficiencies were identified.

7.2.12 Contract 6426, WSH

Wright-Schuchart-Harbor (WSH) was responsible for interim continuation of the concrete construction begun by the defaulted contract 206. Review of quality records and contract history, and analysis of concrete placement records and procedures, resulted in no safety-significant deficiencies being identified.

7.3 Prepurchase Contracts

There were 49 prepurchase contracts providing mechanical, electrical, HVAC, and miscellaneous components to the Project. These contracts were reviewed in two phases, as were the inactive site contracts. Results of the major review activities are combined and summarized below.



- o Documents - The review of quality records and contract performance histories for all contracts resulted in isolated deficiencies being identified, but only in two contracts were there indications of an adverse trend: cranes and diesel-generators. Reinspection follow-up 1) resolved open issues on the diesel-generators, and 2) led to an increase in test-record review for cranes, eventually resulting in a Project program to retest all cranes and hoists.
- o Vendor Qualifications - Review of vendor qualifications was accomplished by sampling the nuclear industry experience history of 45 vendors, resulting in one contractor whose qualifications could not be confirmed (jib-crane vendor, no longer in business).
- o Procedures - A technical review was performed by sampling 187 procedures from 36 contracts, resulting in no safety-significant deficiencies being identified.
- o Hardware - In addition to the crane and diesel-generator reinspections mentioned above, a sample of 89 mechanical, electrical, HVAC, and other components was selected from a population of 643 items representing 29 individual vendor contracts. No safety significant deficiencies were identified in this equipment.

7.4 Special Tasks

7.4.1 Deficiency Document Review

Burns and Roe was responsible for review and disposition of design-change documents and deficiency documents used on the Project. A sample of 658 deficiency documents was selected for technical review. All dispositions were found to be adequate.

The contractors were also responsible for certain limited design work. A sample of 149 contractors' internal deficiency documents was selected for technical review, with no dispositions found to be inadequate.

7.4.2 Personnel Qualifications Review

A qualitative review was performed of 1) 20 site construction contracts and two construction testing contracts, 2) the A/E review of vendor submittals, and 3) the performance of engineering personnel dispositioning deficiency documents. The review results show that both construction and engineering personnel performed competently, and that individual cases of unqualified personnel involved in prior work had already been identified by the Project.

7.4.3 Receiving Inspection Review

Repeat receiving inspections of material in storage at the time of the stop work order yielded no significant deficiencies.



Reinspection of installed material is characterized by the information throughout this Results section of the report. On the whole, receiving inspections were effective.

7.4.4 Grout Evaluation

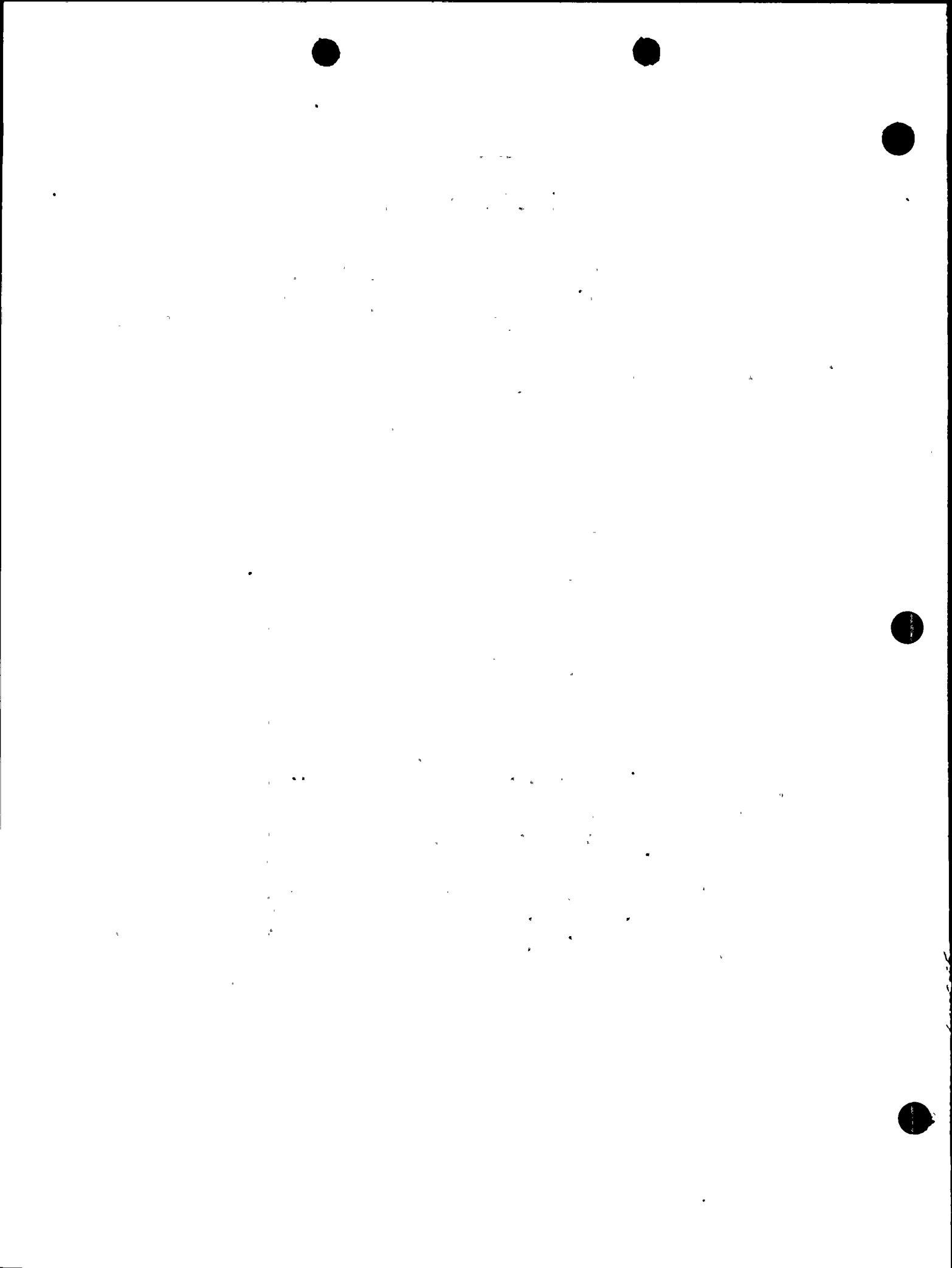
A statistical sampling method conforming with IE Bulletin 79-02 was used to investigate and test the strength of all grout-types installed by contractors at WNP-2. Sand-cement grout was found to be unsatisfactory and was replaced where necessary. This issue has been separately reported as 10CFR50.55(e) Item No. 73.

7.4.5 Concrete Evaluation

Review of concrete quality and placement records for 14 contracts responsible for production, installation, and testing of concrete, and review of procedures used for the work of six major concrete contractors at WNP-2, resulted in no unresolved deficiencies being identified. Characteristic problems encountered during construction included reinforcing steel misplacement, honeycombing, and formwork misalignment.

7.4.6 NDE Verification

A sample of 60 radiographs were reviewed, repeat penetrant-testing was performed on 60 welds, and repeat magnetic-particle testing was performed on 95 welds, all to verify the prior non-destructive examination performed by seven NDE contractors. No significant NDE deficiencies were identified, however, a problem with a containment weld pad was identified (discussed in Section 7.2.7).



SECTION 8.0

QVP/CAT COMPARISON

The QVP evaluation of the NRC's Construction Appraisal Team (CAT) findings consists of a review to determine the similarity of conclusions with those of the QVP and to assess the significance of the results. This section presents a comparative analysis of the CAT inspection findings versus those of the QVP.

8.1 Scope of Evaluation

The categories listed below represent the construction areas investigated during verification by the QVP and inspection by the CAT:

- o Electrical and Instrumentation
- o Mechanical
- o Welding and Nondestructive Examination
- o Civil/Structural

The analysis included hereinafter is arranged in these categories.

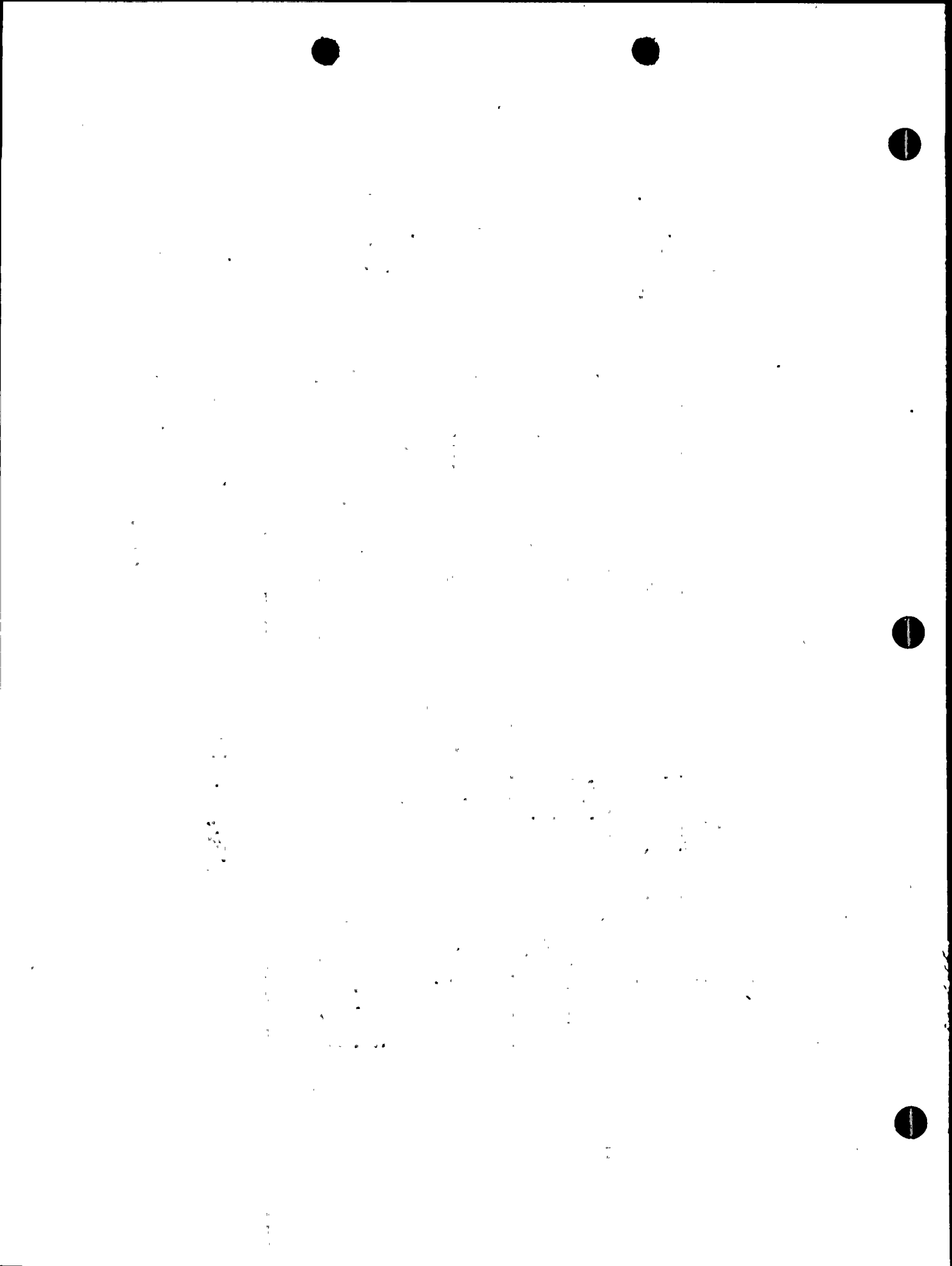
The evaluation is based upon the scope of the QVP and does not, therefore, address all CAT results. The Project's response to CAT findings is covered elsewhere⁽²⁴⁾.

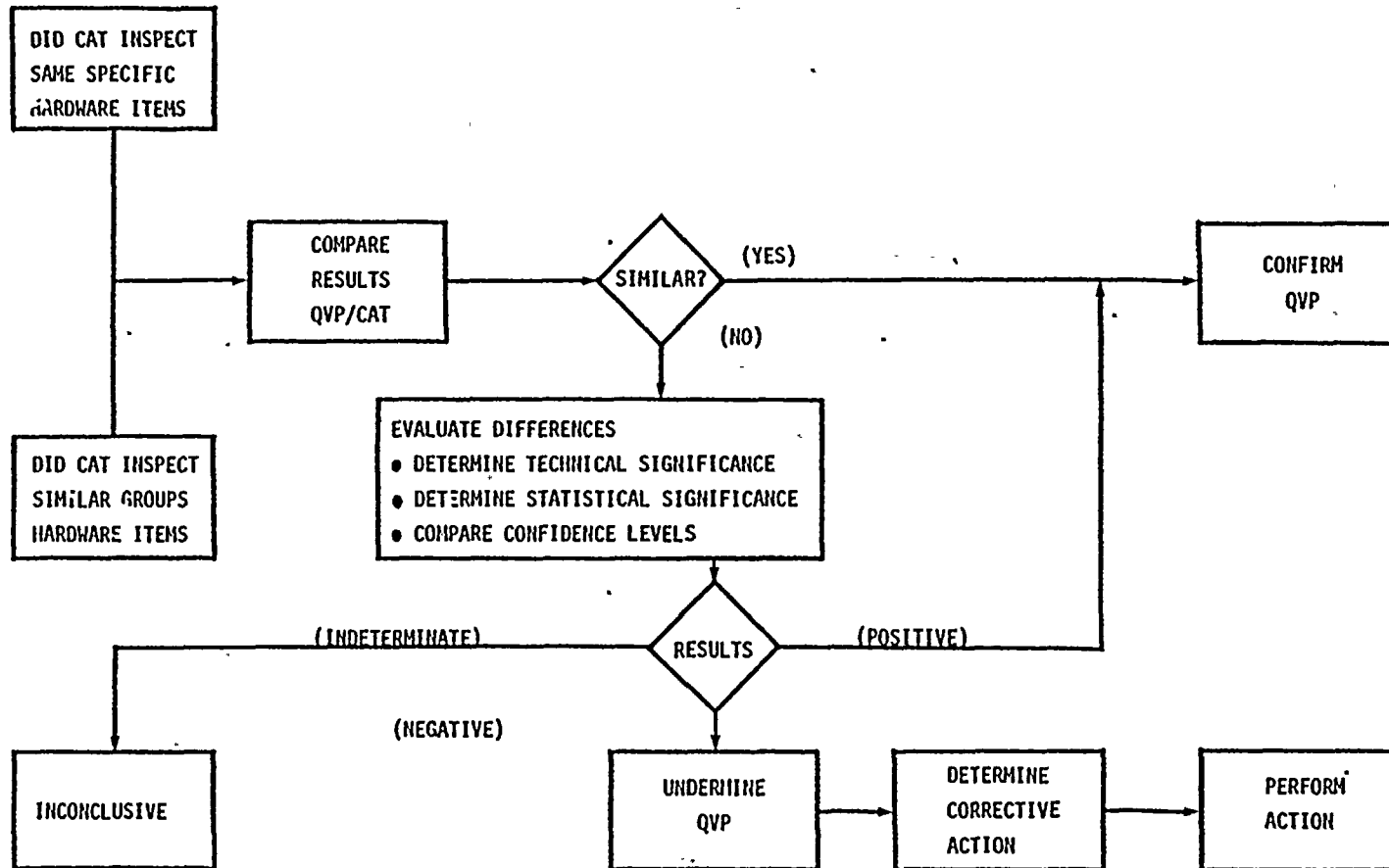
8.2 Program Description

The evaluation consists of a review of the report issued by the CAT to determine all the items inspected, and each item installed prior to July 1980. The hardware items on the resulting list are compared with the list of QVP-reinspected items to identify those specifically reinspected by both programs. Hardware which is similar is also identified, to aid in broader comparison of results.

Next, the findings of each program are compared on both, a specific-item basis and a similar-item basis, to determine the similarity of findings. Differences are evaluated and results are reported. Significant differences requiring corrective action are individually addressed.

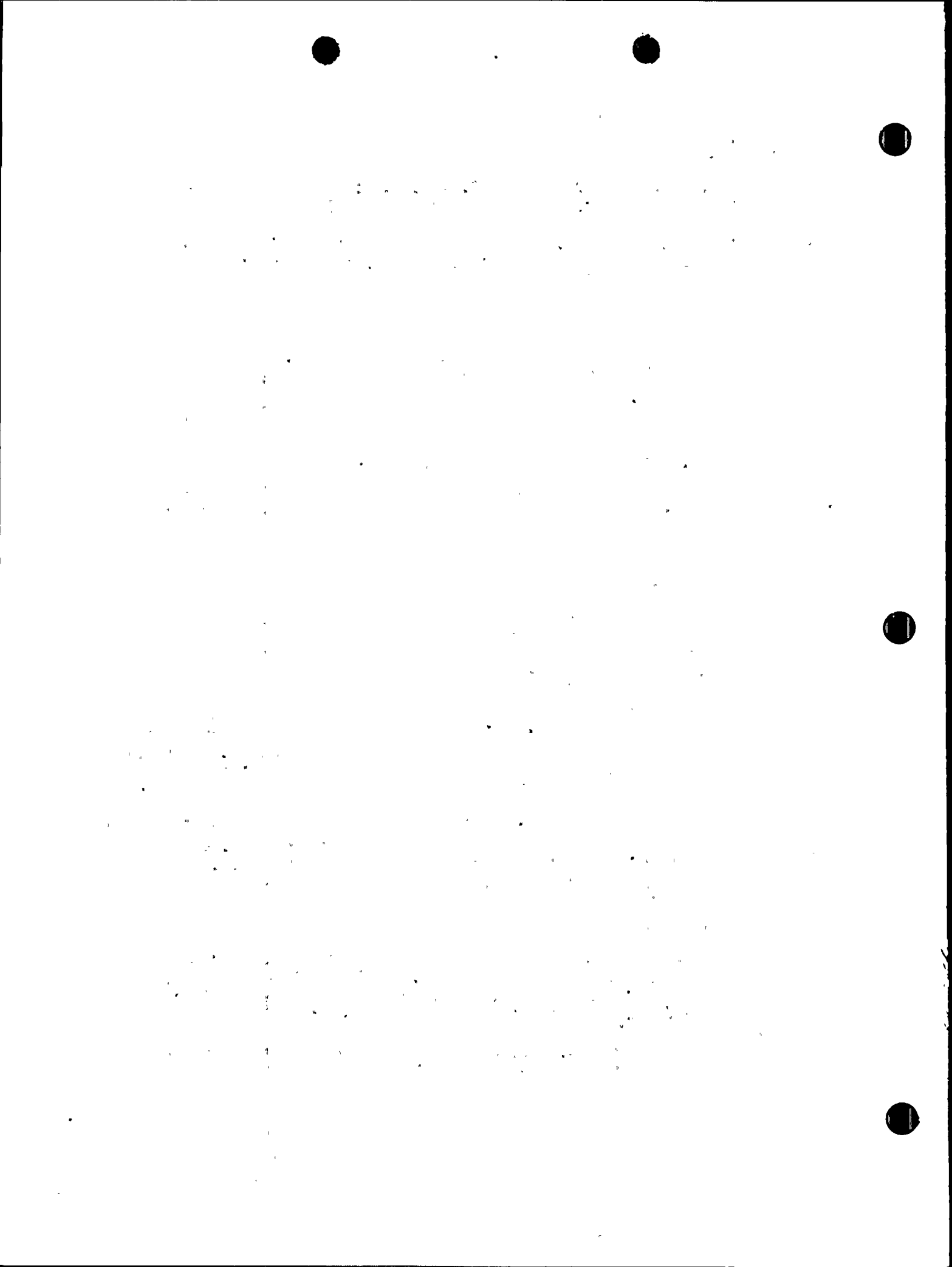
A logic diagram for the evaluation process is presented in Figure 8-1.





EVALUATION OF RESULTS OF CAT FINDINGS VS QVP - LOGIC DIAGRAM

Figure 8-1



8.3 Evaluation

Hardware items inspected by the CAT, which were installed and accepted prior to July, 1980, are collected in the categories identified in Section 8.1, and presented in Tables 8-A through 8-D. The numerical results of the inspections are included and compared in the tables. CAT-inspected items which do not appear in the tables are those which were completed after July, 1980, or are issues which have arisen after that date.

8.4 Comparison Results

8.4.1 Electrical and Instrumentation

There were three cases in which the same hardware items were inspected by both the CAT and the QVP. In two cases, identical findings were recorded. In the third case, Containment Instrument Air System, the minor deficiencies identified by the CAT are, most likely, construction damage which occurred since the QVP inspection of that system one year earlier. Otherwise, the results for the third case are also identical.

Overall, the results of both inspections compare favorably, regarding consistency of findings. The CAT report concludes that activities in the electrical and instrumentation construction areas appear to be adequate. This is the same conclusion reached by the QVP.

8.4.2 Mechanical Construction

There were no cases in which the same hardware items were inspected by both the QVP and the CAT so, no direct comparison can be made. The CAT identified a trend of inconsistency between design drawings and pipe supports, a situation also identified in QVP reinspections.

Even though only limited information can be discerned from this comparison due to the wide variation in number of items examined by both programs, the CAT results would still appear to support QVP conclusions.

8.4.3 Welding and NDE

There was one area in which the same items were examined by both the QVP and the CAT. Contract 215 (WBG - Mechanical) radiographs of pipe welds previously re-examined by Bechtel and the Supply System were also reviewed by the CAT. Findings were essentially identical, i.e., film density deficiencies exist in the original WBG radiographs, which the Project was aware of and has separately addressed.



In the area of piping inspection, the CAT identified a weld undersize condition on weld-o-let fittings, which was not identified by QVP inspections. To resolve the existence of a trend of these deficiencies, the Project has performed a reinspection of all weld-o-let fittings installed by the mechanical and instrumentation contractors. The weld-o-lets and piping in the spray ponds were randomly inspected for this condition.

The QVP identified a problem with undersized welds on small bore flange-connection socket welds. This area was apparently not addressed by the CAT.

Other than the above, conclusions drawn in the reinspection programs are similar.

8.4.4 Civil/Structural Construction

There was one area in which the same hardware items were examined in both programs, welded beam connections. Inspection findings were identical.

In other areas, the CAT checked structural steel bolts retorqued by the Project's existing program and found no discrepancies. Concrete and reinforcing steel were inspected by CAT by physical testing and destructive examination methods. The QVP addressed concrete construction by technical review of procedures and quality records for compliance with requirements. The basic results of both programs are the same. CAT members' concerns over the significance of concrete inspection findings have been separately addressed by the Project.

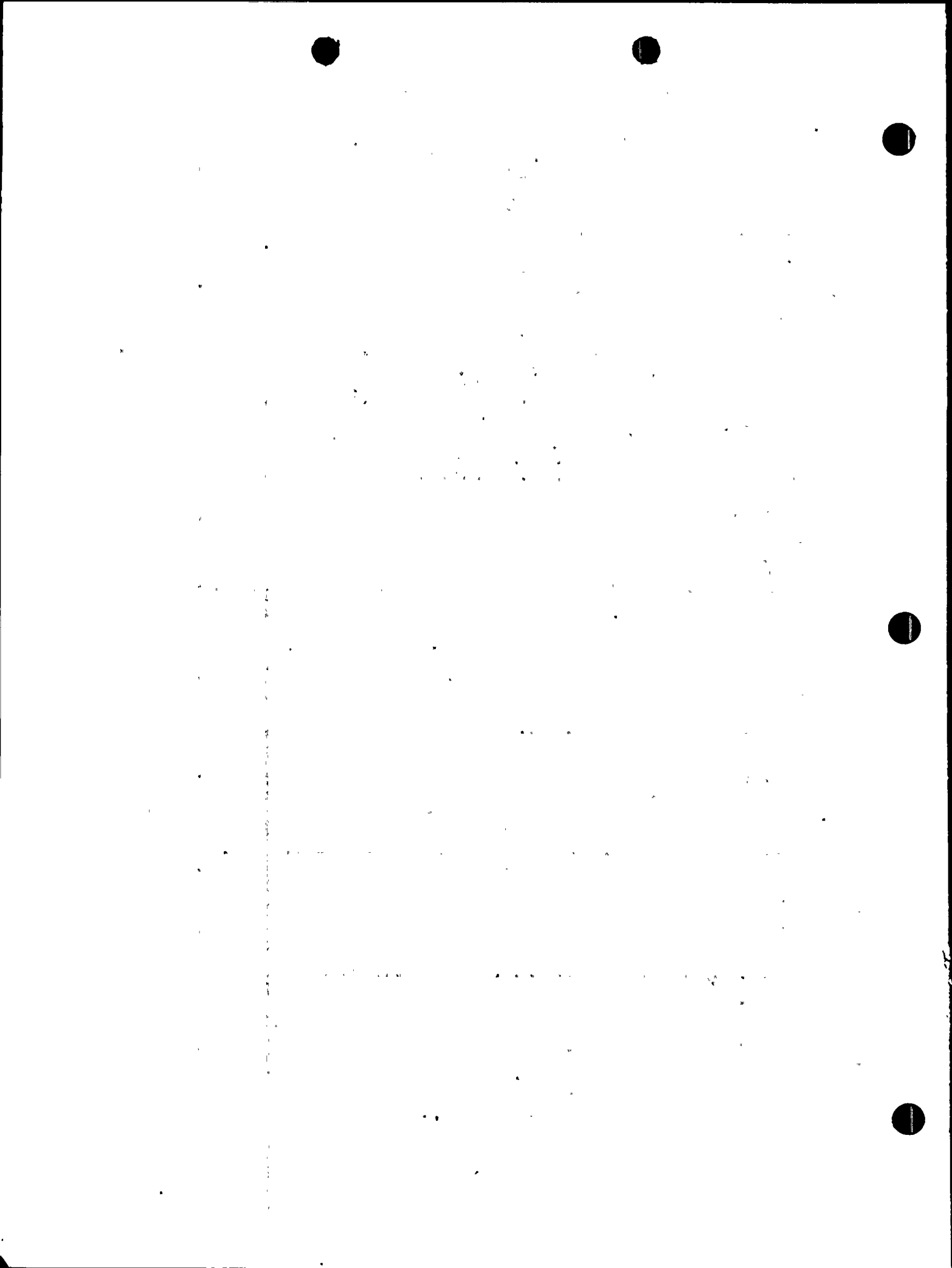
Specific Items/ Inspection Characteristic	Total Items Inspected By CAT	Items Inspected by CAT Installed Prior to 7/80	Deficiencies Identified by CAT On Pre-7/80 Items	Specific Items Inspected by Both CAT & QVP	Comparison of Specific Item Results	QVP Inspection of Similar Items	Deficiencies Identified by QVP
Cable Routing	18	10	1	1	Identical Findings Recorded	293	3
Cable Identifi- cation	18	(1) 10	1	0	No Basis for a Specific Comparison	5,665	6
Cable Termination	189 Cable Ends, 928 Terminations	189 Cable Ends, 928 Terminations	8	0	No Basis for a Specific Comparison	344 Cable Ends 1516 Terminations	44
Electrical Equipment	30	30	1	1	Identical Findings Recorded	13	1
Electrical Penetration	7	7	0	0	No Basis for a Specific Comparison	2	0
Instrument Panel	6	1	1	0	No Basis for a Specific Comparison	61	0
Containment Instrument Air	Entire System	Entire System	8 (Minor)	5 ISOs	No Basis for a Specific Comparison	5 ISOs	35

(1) QVP unable to identify actual of identifiers examined by CAT. Multiple labels in cables.

(2) QVP unable to sort Pre 7/80 items for this statistic. Number shown indicates total items examined by CAT.

ELECTRICAL AND INSTRUMENTATION STATISTICS

Table 8-A



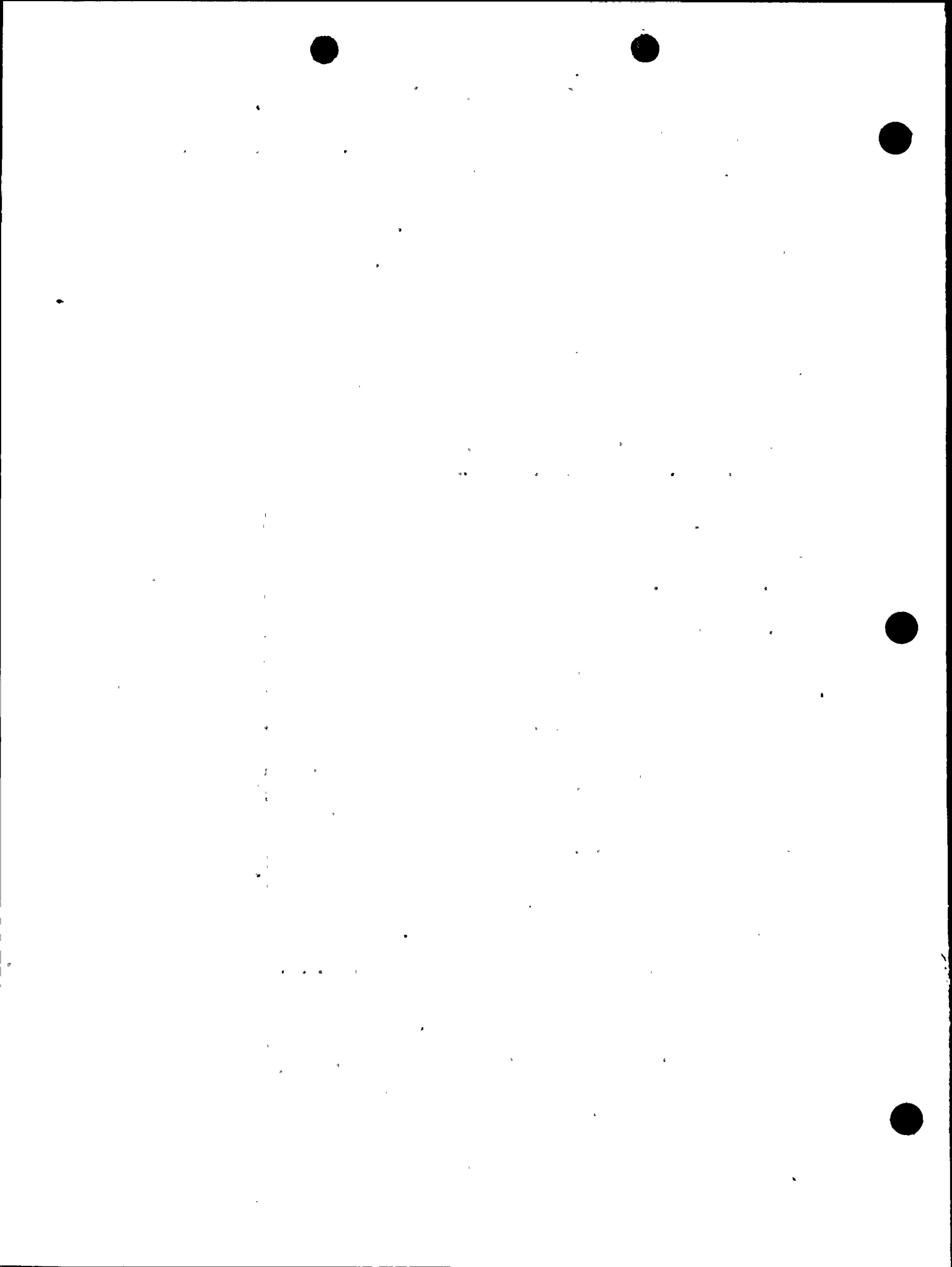
Specific Items/ Inspection Characteristic	Total Items Inspected By CAT	Items Inspected by CAT Installed Prior to 7/80	Deficiencies Identified by CAT On Pre-7/80 Items	Specific Items Inspected by Both CAT & QVP	Comparison of Specific Item Results	QVP Inspection of Similar Items	Deficiencies Identified by QVP
Pipe Supports	49 Supports	7 Supports	0	0	No Basis For Specific Comparison	409 Supports 8000 Welds	25
Radial Beam Stiffener Plates	1	1	1	0	No Basis For Specific Comparison	137 Structural Steel Members 1500 Welds	N/A (See Table 8-C)
Piping Isometrics	18	5	0	0	No Basis For Specific Comparison	128	N/A

MECHANICAL STATISTICS
Table 8-B

Specific Items/ Inspection Characteristic	Total Items Inspected By CAT	Items Inspected by CAT Installed Prior to 7/80	Deficiencies Identified by CAT On Pre-7/80 Items	Specific Items Inspected by Both CAT & QVP	Comparison of Specific Item Results	QVP Inspection of Similar Items	Deficiencies Identified by QVP
Piping Isometrics	24	7	5	0	No Basis For Specific Comparison	57	0
Weld Radiograph Review	126	93	4 Later shown Not To Be Deficiencies	52	QCP did not Identify Deficiencies On Same Items	2690 Radiographs	N/A

8 - 7

WELDING AND NDE STATISTICS
Table 8-C



Specific Items/ Inspection Characteristic	Total Items Inspected By CAT	Items Inspected by CAT Installed Prior to 7/80	Deficiencies Identified by-CAT On Pre 7/80 Items	Specific Items Inspected by Both CAT & QVP	Comparison of Specific Item Results	QVP Inspection of Similar Items	Deficiencies Identified by QVP
In-Situ Concrete Quality	14	14	0	0	N/A	0	N/A
Reinforce- ment Steel Placement	12	12	10	0	N/A	0	N/A
Structural Steel Bolted Connections	39	39	0	100% Inspected By Related Program	N/A	100% Inspection By Related Program	N/A
Structural Steel Welded Connections	40	40	6	12	Identical Findings Recorded	137 Structural Steel Members Approximate 1500 Welds	42

CIVIL/STRUCTURAL STATISTICS

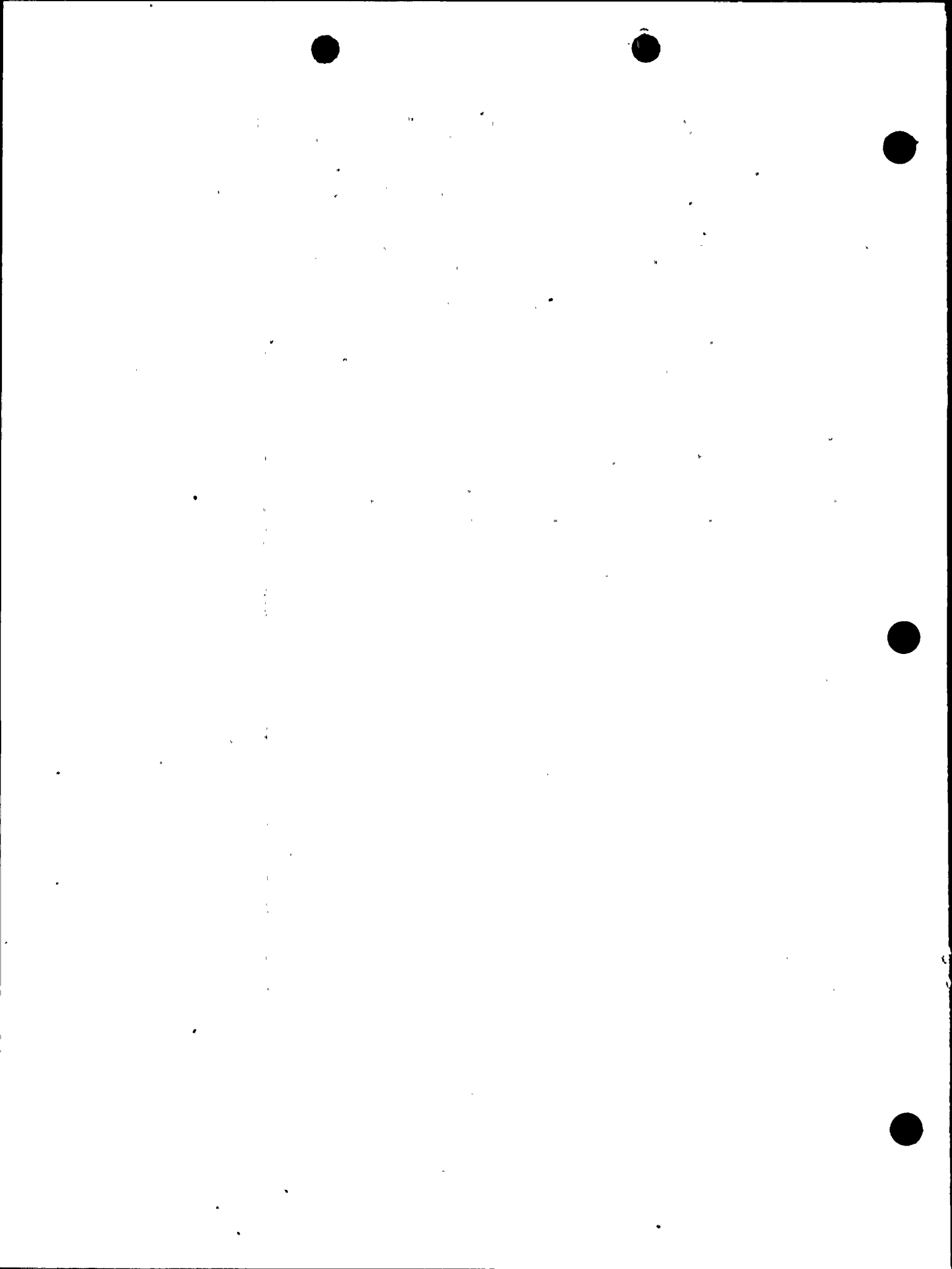
Table 8-D



SECTION 9.0

REFERENCES

1. Letter No. EA-80-020 to NO Strand, WPPSS, from Victor Stello, Jr., NRC, dated 06/17/80 Subject: 10CFR50.54(f) Request Regarding Quality Assurance
2. Ibid., Attached Notice of Violation
3. Letter No. G02-80-153 to Victor Stello, Jr., NRC, from NO Strand, WPPSS, dated 07/17/80 Subject: WPPSS Nuclear Project No.2, Docket No.50-397, EA-80-020, Notice of Violation and Additional Information - 10CFR50.54(f)
4. Letter No. WNP2MCL-F-80-0113 to All Contractors from DE Dobson, WPPSS, dated 07/17/80 Subject: WPPSS Nuclear Project No.2, Contract 2808, Stop Work Order, Quality Class I Work, #009
5. Letter No. G02-80-223 to RH Engelken, NRC, from RL Ferguson, WPPSS, dated 10/16/80 Subject: WPPSS Nuclear Project No.2, Docket No.50-397, First Progress Report - 10CFR50.54(f)
6. Letter No. G02-80-287 to RH Engelken, NRC, from RG Matlock, WPPSS, dated 12/29/80 Subject: WPPSS Nuclear Project No.2, Docket No.50-397, Second Progress Report - 10CFR50.54(f)
7. RCSW Manual, Vol. II, Instruction PJT-01, Plan--WNP-2 Restart of Safety Related Work, dated 07/31/80, Revision 1, dated 12/17/80, Revision 2, dated 01/26/81
8. Ibid., Vol. III, Instruction QVI-01, QVP Program Description, WNP-2 Quality Class I Systems Completion Plan, dated June 18, 1981
9. Ibid., Vol. III
10. Ibid.
11. RCSW Manual Vol. II - Project Instructions
12. Meeting Agenda, March 17, 1983, at WNP-2 between NRC, Region V and Supply System
13. Letter No. QA-JRZ-82-215 to RG Matlock, WPPSS, from RB Glasscock, WPPSS, dated 06/03/82 Subject: Assessment of WNP-2 Quality Verification Program - Report
14. WNP-2 Plant Verification Program, Revision 1, October, 1982
15. WPPSS Corporate Licensing & Assurance Audit No. 82-221 of Bechtel Power Corporation - WNP-2, dated August 30-September 3, 1982



16. Letter No. CA-JRZ-83-023 to RG Matlock, WPPSS, from TJ Houchins, WPPSS, dated 02/15/83 Subject: Corporate Licensing and Assurance Audit 83-242
17. Letter No. QA2-82-023 to RG Matlock, WPPSS, from RT Johnson, WPPSS, dated 01/25/82 Subject: PQA Audit Report WNP2-82-1, Quality Verification Program
18. WPPSS Surveillance Report No. 82-148-SS, Quality Verification Program dated 10/18-25/82
19. Meeting Agenda, March 17, 1983, at WNP-2 between NRC, Region V and Supply System
20. Meeting Agenda, June 21, 1983 at WNP-2 between NRC, Region V and Supply System
21. NRC IE Bulletin 79-02 to NO Strand, WPPSS, from RH Engelken, NRC, dated 03/08/79 Subject: Pipe Support Base Plate Designs Using Concrete Expansion Anchor Bolts
22. Letter No. WPBEC-C0500-F-82-283 to TA Mangelsdorf, BPC, from RG Matlock, WPPSS, dated 03/26/82 Subject: Quality Verification Program Key Decision No. 2
23. Letter No. WPBEC-C0500-F-81-0803 to TA Mangelsdorf, BPC, from WC Bibb, WPPSS, dated 09/03/81 Subject: Quality Verification Program Key Decision No. 1
24. Letter No. G02-83-732 to JB Martin, NRC, from CS Carlisle, WPPSS, dated 08/15/83 Subject: Nuclear Project 2 - Construction Appraisal Team Issues

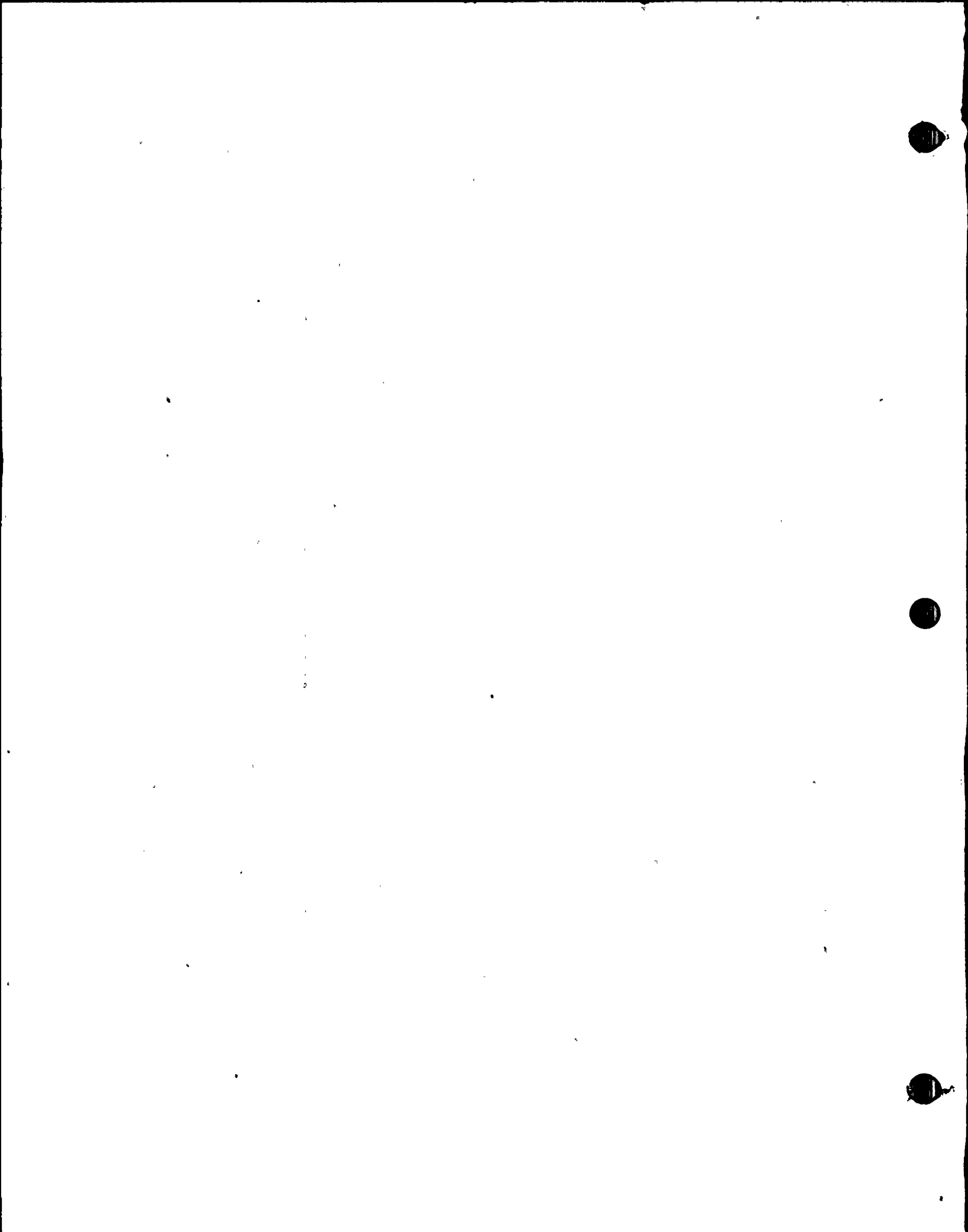


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ENGINEERING REPORT

WNP-2 ENVIRONMENTAL QUALIFICATION REPORT
FOR SAFETY RELATED EQUIPMENT

SEPTEMBER 1983



purpose of the plant specific analysis is to demonstrate that sufficient margin exists between the GE Generic Profile and WNP-2 plant specific profile and to define the post accident conditions as required by NUREG 0588 (Figure C2).

3.2.2 Spray

Operator initiation of a demineralized water spray could be used in primary containment at WNP-2 to mitigate the effects of an accident. No credit for this operator action has been taken in defining the temperature/pressure conditions inside containment. However, since spray impingement could occur (by operator action) its effect on Class 1E equipment inside primary containment has been evaluated.

3.2.3 Radiation Inside and Outside Containment

The accident radiation environments in the primary containment has been defined according to Section II.B.2 of NUREG 0737 (Reference 7) and NUREG 0588, Rev. 1. The calculated accident environment is based on the most severe nonmechanistic design basis accident during or following which equipment must function. This includes consideration of the entire spectrum of FSAR Chapter 15 accidents which can lead to a degraded core condition. The source term assumptions for postulated accidents are consistent with those defined in NUREG 0588 and Regulatory Guides 1.3 and 1.7. The source terms are calculated using the ORIGEN code (Reference 8).

For the review performed in this report the radiation environment in the primary containment was defined per Reference 19. This is a plant specific evaluation. Reference 19 contains the methodology and results of this evaluation. The results of this evaluation are provided in Appendix B for general areas of the containment and Reactor Building and also in Appendix C for each specific piece of equipment.

The radiation environment in the reactor building (secondary containment) is defined according to Section II.B.2 of NUREG 0737 (Reference 7) and

NUREG 0588, Rev. 1 and includes the sum of direct accident gamma dose, airborne gamma dose and 40-year normal gamma dose. The airborne dose is conservatively based on the maximum primary containment to reactor building leakage rate.

Airborne activity in both the containment and reactor building was calculated using the plateout assumptions of NUREG CR-0009 (Reference 9).

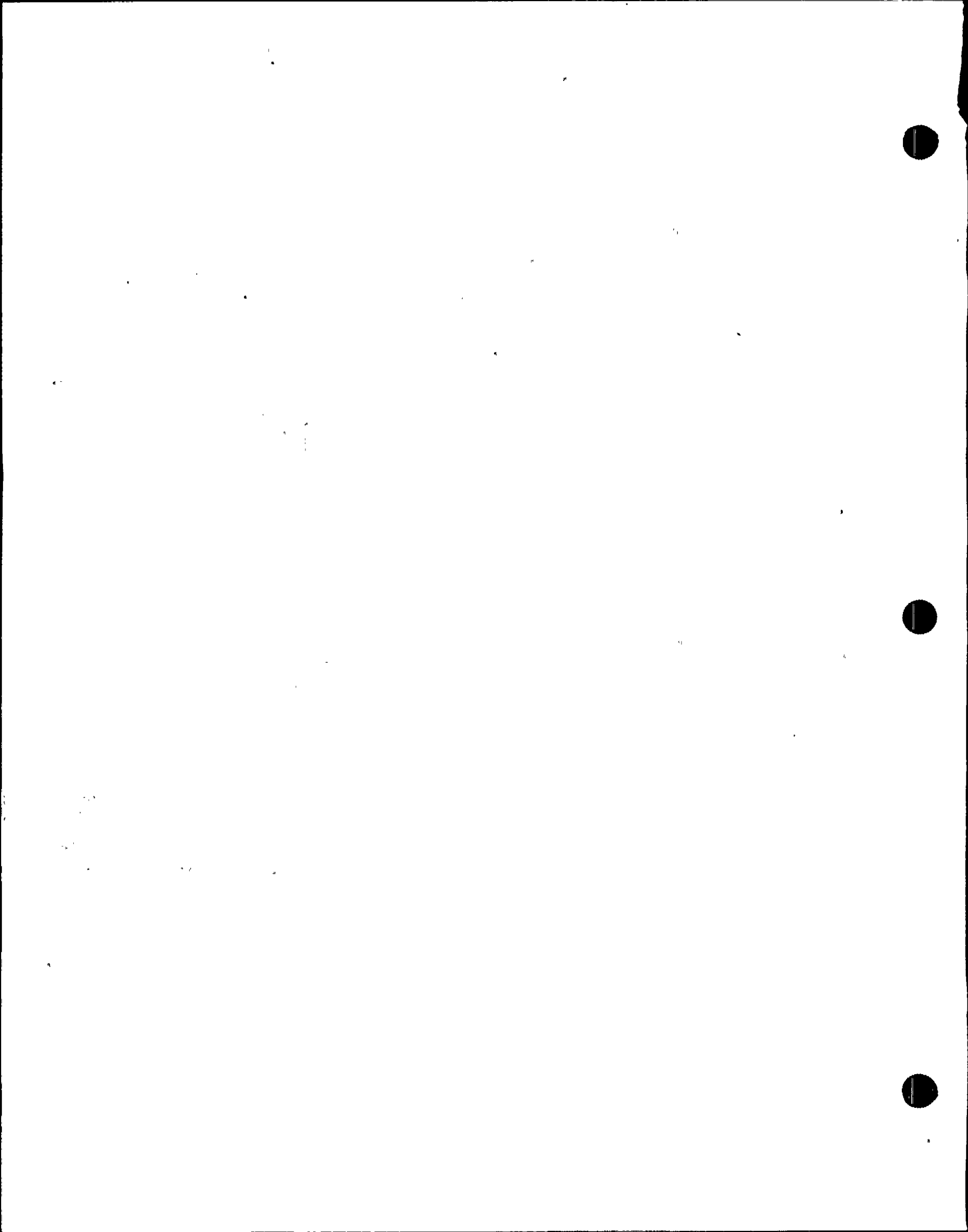
The reactor building (secondary containment) was divided into zones to define the equipment doses. The worst target (Class 1 component with the highest dose) in each zone was then chosen. The total integrated dose (TID) to this component was calculated using the QAD-P5A computer code (Reference 10). This TID was used as the required qualification level for most equipment in the zone. In some zones multiple target specific TID's were calculated where there was wide variation of radiation levels within the zone.

The methodology and results of the zone dose radiation evaluations are documented in calculation packages in Reference 11. Appendix B of this report contains a table of the radiation doses inside primary containment and the radiation zone maps for the reactor building. It should be noted that the containment and the reactor building radiation levels are six month integrated doses. Doses for equipment with shorter operating times were determined from the calculated packages in Reference 11 and are detailed in Appendix C on Equipment Qualification Report Summary Sheets.

3.2.3.1 Beta Radiation

The beta radiation effects on equipment important to safety are evaluated. Beta dose calculation and methods are presented in Reference 19 and 26.

Most equipment important to safety on WNP-2 are installed with watertight electrical conduit and are constructed such that beta produces surface effects only to the external housing of the equipment. Internal sensitive components within the equipment are not exposed. There are, however, some



However, equipment important to safety in primary containment is designed and installed to function in conditions which include high pressure, moisture, and water spray. Watertight electrical conduit and non-ventilated NEMA 3 and NEMA 4 equipment enclosures are specified. Where required, cable entry ports are sealed using Qualified Equipment Sealing methods. Where these conditions exist, beta is shielded from internal components and an evaluation of beta radiation is not required.

Some equipment, even though not of a ventilated design, has the potential during long-term exposure to varying high pressure and beta conditions of receiving some beta exposure. Equipment important to safety within the primary containment is reviewed and three potentially susceptible equipment types (terminal boxes with pressure relieving ports, continuous duty motors, and a few locations where exposed cabling was necessary) are identified. For these equipment types, detailed evaluation which included beta effects are performed.

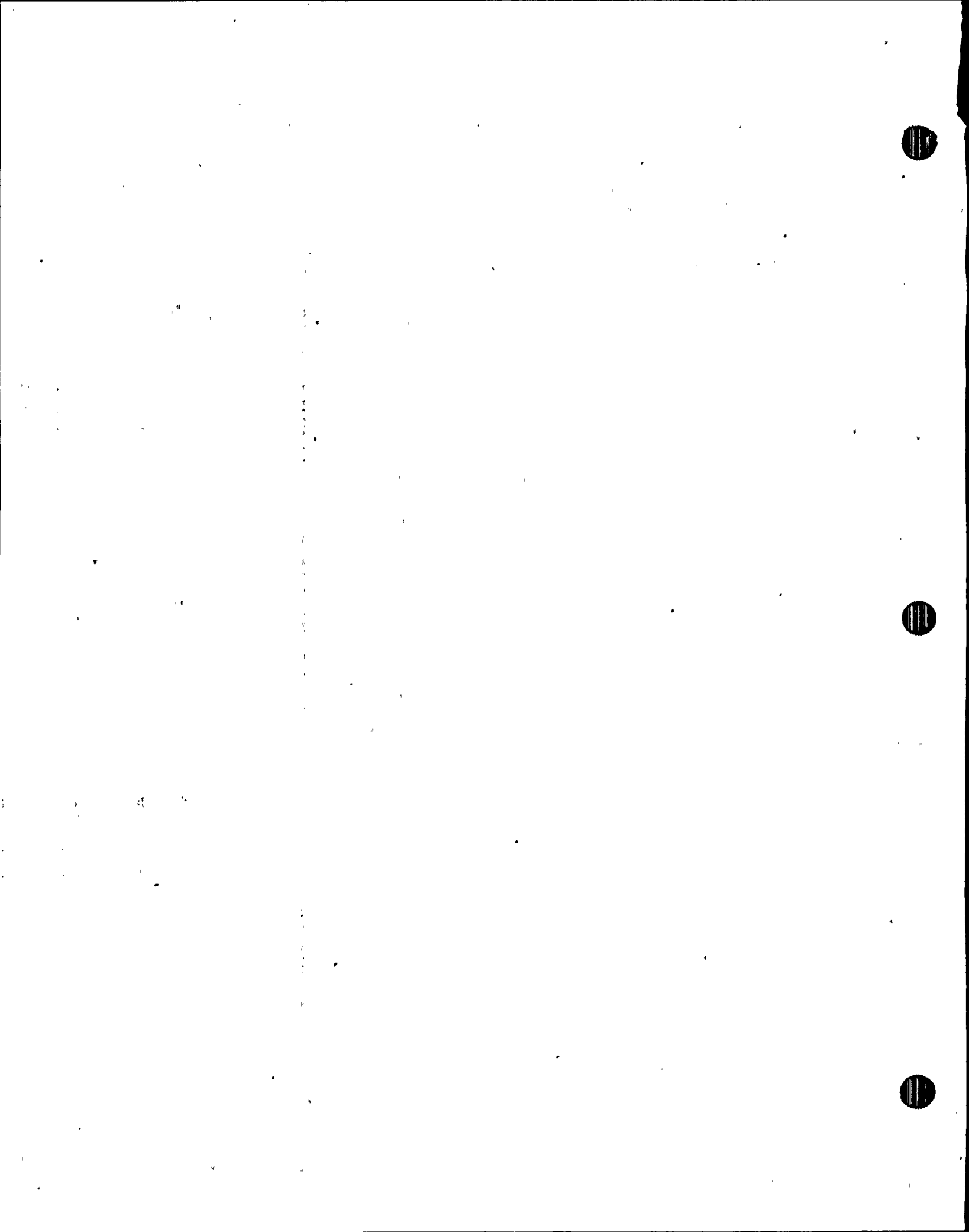
Beta Evaluation Status

Evaluations have been completed for equipment important to safety identified in the Justification for Interim Operation (Table A, Qualified Status) contained in Appendix D. The remaining equipment important to safety, Table B and Justified components from Table A, will be evaluated as described above and any corrective actions completed prior to November 1985.

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3.2.4 Flooding

The top of the main vents from the drywell to the suppression pool are approximately 12 inches above the drywell floor. This is the maximum flood level since any excess water would drain to the suppression pool. No Class 1E equipment or connections are located between the diaphragm floor and the top of the downcomer vent pipes inside the wetwell except for the wetwell level system and wetwell temperature monitors which are totally enclosed in water tight conduit systems.



As required by NUREG 0803 (Reference 15), the effects due to line breaks in the Control Rod Drive system have been evaluated. No safety related equipment would be submerged due to a break in this system (Reference 16).

The possibility of flooding in the reactor building has been evaluated. The reactor building flooding analysis was completed (Reference 23 and Reference 25). The procedure used in this evaluation consisted of the following sequential steps:

1. Calculate the maximum source flow (gpm) for each room. Includes high energy and moderate energy lines.
2. Calculate the water depth using the following assumptions:
 - o Floor area used to determine water depth excluded floor opening areas, in order to allow for curbs and lips.
 - o Twenty minute operator reaction time was allowed per NRC Question 211.059.
 - o No exit flow was considered.
3. Perform a field walkdown to identify room exit paths (for drainage) and equipment located below conservative flood level for impacted areas.
4. Re-calculate flood level considering water exit paths.
5. List equipment still flooded following recalculation.
6. Perform a safe shutdown analysis.
7. List flooded equipment required for safe shutdown.

8. Protect, relocate, or qualify equipment required for safe shutdown that is impacted by flood analysis.

Modification of the drain system for 4 MCC Rooms was required by the Moderate Energy Pipe Break Analysis. The results of this shutdown analysis for flooding (Reference 24) indicate that WNP-2 can be safely shutdown with alternate safety related equipment not affected by flooding and that flooded equipment will not defeat accomplishment of the safety function. Based on this flooding is not a required qualification parameter for WNP-2 safety related electrical equipment in secondary containment.

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The operator is alerted to flooding by leak detection sensors and can take action to initiate alternate safety systems not affected by flooding if required. As the operator is alerted to flooding, instrumentation that may subsequently become flooded and provide erroneous indication will not mislead the operator to take inappropriate action.

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3.2.5 Temperature/Pressure Outside Containment

Class 1E equipment in the reactor building could be exposed to two postulated accident types: a LOCA/MSLB in primary containment or an HELB in the reactor building. These conditions were determined from References 5, 6, and 12. As explained in Section 4.0 of this report, equipment is evaluated to the worst accident environment in which it is required to function.

A LOCA/MSLB in primary containment would cause an increase in the reactor building's temperature and humidity. The maximum conditions are presented in Profile 4 of Appendix B (Reference 21).

The pressure/temperature effects of all postulated high energy line breaks in the reactor building were determined. Breaks in the following high energy lines were considered:

26" main steam line (envelops feedwater line break)

4" RCIC steam line
6" RWCU steam line
4" RWCU steam line
4" Auxiliary steam
3" Auxiliary steam

Temperature/pressure profiles were developed for all areas that could be affected by these breaks. These profiles are presented in Appendix B. In addition, it was verified that pressure/temperature effects from moderate energy line breaks in these areas are less than the high energy line breaks.

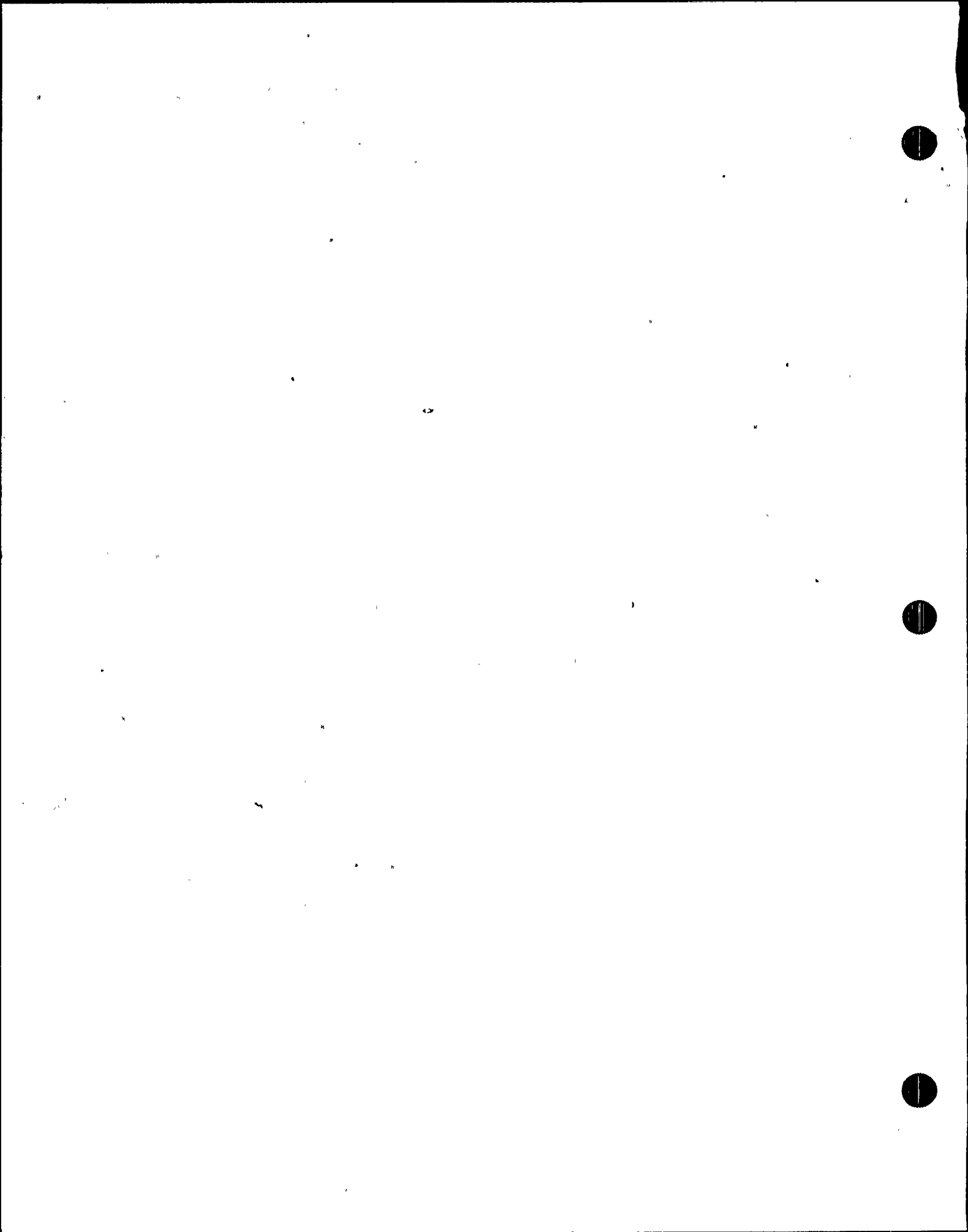
The accident profile due to a main steam line break in the steam tunnel was determined from Reference 5. The remaining temperature/pressure profiles in the reactor building were developed using the RELAP4 and COMPARE MODIA computer models (References 13 and 14). Detailed modeling of compartments and fluid flow paths were made. Heat sinks were modeled using appropriate heat transfer correlations.

For areas of the reactor building secondary containment where no high energy line breaks effects are postulated but moderate energy line breaks could be present, it has been determined that the pressure/temperature profile number 4 (effects in secondary containment of a LOCA/MSCB inside containment) exceed the moderate energy pressure/temperature conditions. Therefore, equipment in the secondary containment is qualified to at least the pressure/temperature profile No. 4.

3.3 MILD ENVIRONMENT AREAS IN SECONDARY CONTAINMENT

A mild environment is an area in which the maximum temperatures, pressures and humidity are not expected to change significantly during or following design basis events. In addition, the cumulative gamma radiation dose to equipment in these areas is below 10^4 rad (Reference 17).

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Some of the motor control center rooms in the reactor building are classified as mild environments. These rooms are isolated and serviced by Class 1 HVAC systems so the temperature, pressure and humidity conditions will not change significantly. Also, the total gamma radiation dose (normal + accident) in these rooms is less than 10^4 rad.

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Section 4.2.3 provides the Supply System's position on environmental qualification of safety related equipment in a mild environment.



A reasonable effort will be made to procure in kind equipment which are qualified to the requirements of 10CFR50.49. When this is not feasible, sound reasons to the contrary will be established consistent with NRC generic letter No. 8209 (April 20, 1982). Replacements in kind will be used which, at a minimum, preserve the present qualification status of equipment at WNP-2 (NUREG 0588, Category II).

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If it is not feasible to procure in kind replacements, then a reasonable effort will be made to procure engineering approved substitutes to the requirements of 10CFR50.49. If it is not feasible to obtain such replacements then engineering approved substitutes will be procured to the present qualification status of equipment at WNP-2 (NUREG 0588, Category II).

Subcomponents

In kind spares will be used when available. Subcomponents used as identical spares for existing qualified equipment will be qualified to Category II as a minimum, by virtue of qualification of the related component.

If an identical spare is not employed, an engineering approved substitute, which does not degrade the qualification of the original, may be used.



5.0 QUALIFICATION RESULTS

The environmental qualification of the components identified on the Class 1E Equipment List and active Safety Related Mechanical List (Appendix A) has been evaluated. The status of the evaluations is presented on the Equipment Qualification Reports in Appendix C. A justification for interim operation pending completion of the full Environmental Qualification Program is complete (see Section 6 and Appendix D).

The Class 1E List (Appendix A) identifies the safety related electrical equipment, along with its respective qualification status. The available qualification documentation has been obtained and reviewed for this equipment. The reviews, supplemented by engineering analyses, have determined that most of the components meet the intent of NUREG 0588, Category II. In some cases, it has been determined that there is insufficient documentation to support complete qualification. The method for completing the qualification is included on the individual Equipment Qualification Reports in Appendix C. This equipment will be qualified by November 30, 1985.

The following closure activities are being completed for equipment important to safety identified in Table "A", Appendix D (i.e., that equipment required to be qualified or justified prior to fuel load).

- o Field verification that equipment whose corrective action is replacement with qualified equipment has been accomplished prior to fuel load.
- o Completion of corrective action of equipment interface has been accomplished prior to fuel load for primary containment equipment.
- o Receipt of qualification documentation and completion of QID files (Q' Status).

The following activities are being completed for equipment important to safety identified in Table B and that equipment statused as "J" in Table A of Appendix D (i.e., that equipment that must be qualified by no later than November 30, 1985).

- o Development of a detailed plan that assures final qualification of all equipment important to safety by November 30, 1985.

On-going activities that will continue throughout the life of the plant include:

- o Review of Design Changes to assure qualified equipment is procured and installed in accordance with 10CFR50.49 as implemented by the WNP-2 equipment qualification program.
- o Continuing input to the scheduled maintenance system for equipment replacement or required maintenance based on the Equipment Qualification Program results.
- o Continuing review and modification of the SMS program based on results from Maintenance/Surveillance activities.
- o Review of spares and replacement equipment to assure qualification level is maintained and upgraded where necessary.
- o Continued participation in and review of industry efforts in the equipment qualification area and review of NRC notices, circulars and bulletins as they are received with respect to the equipment qualification.

11. EDS Nuclear Inc., Zone Dose Calculations, Series 0740-004-xxx.
12. Impell Corporation, Reactor Building Environmental Analysis, calculation 0740-032-137-THI, Rev. 0, dated September 9, 1983.
13. Idaho National Engineering Laboratory, "RELAP4/MOD5, A Computer Program for Transient Thermal Hydraulic Analysis of Nuclear Reactors and Related Systems", Volumes I and II, ANCR-NUREG 1335, September 1976.
14. COMPARE MOD1A - NUREG/CR-1185.
15. NRC Office of Nuclear Reactor Regulation, "Generic Safety Evaluation Report Regarding Integrity of BWR Scram System Piping", NUREG 0803.
16. Washington Public Power Supply System, "Supply System Response to NRC SER Issue - Pipe Breaks in BWR Scram Discharge Volume", Memo R. O. Vosburgh to C. D. Taylor, December 30, 1981.
17. EPRI, "Radiation Effects on Organic Materials in Nuclear Plants", Report NP-2129, Project 1707-3, November 1981.
18. Washington Public Power Supply System, "Acceptance Criteria for WNP-2 Safety Related Equipment Qualification", TDP 3.32.
19. WNP-2 Final Shielding Evaluation Report, September 1982.
20. Washington Public Power Supply System Calculation NE-02-82-39-0.
21. Washington Public Power Supply System Calculation NE-02-81-14-0.

9. PLANT LOCATION The location of the component within the plant by building, elevation and coordinates.

10. Q.S. Qualification Status (second column) indicates the environmental qualification of the equipment. The following list shows the meaning of the codes used.

A or X - Acceptable, thermal aging completed

B or Y - Acceptable, thermal aging being covered by surveillance

C - Acceptable, not installed

D - No documentation in files

G - Being requalified by modification of the hardware or the environment

J - Justification provided

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M - Being requalified by analysis

N - Not Acceptable

P - Purchasing qualified replacement

R - Documentation not complete

T - Being requalified by test

The first column shows the seismic qualification status.

11. HOURS

The time, in hours, a component is required to function following an accident.

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12. EQUIPMENT DESCRIPTION A description of the equipment function.
13. DRAWING The plant P&ID on which the component appears.
14. USE Contains codes which describe equipment use during accident and/or normal plant shutdown conditions. The USE field is based on Item 2 Appendix E of NUREG 0588.

The "USE" input field is a two-digit field. The first digit shows the equipment operability requirement for accident mitigation and the second shows the equipment operability requirements for Hot or Cold shutdown conditions.

X X

0 The equipment is not required before, during or after an accident.

Example: Equipment in this category provides no active function, but may provide a passive function by containing radioactive material outside the Reactor Building. It need not be qualified to demonstrate operability, even under non-accident service environments.

1 Equipment that will experience the environmental conditions of design basis accidents for which it must function to mitigate said accidents, and that will be qualified to demonstrate operability in the accident environment for the time required for accident mitigation with safety margin to failure.

CONTRACT	FPN LEVEL	DESCRIPTION EC	MFG USE	SAFETY FUNCTION	MODEL A/E	BLDG DRAWING	ELFV DRAWING	STATUS S E DETAIL A/E ZONE	QID	TM ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
											HL	TEST	ANL	FO	C	FREQ	AGING
CAC-CNTR-1A CONTACTOR FOR CAC-EHC-1A 71	2	A	1	0	D	A103D	R 577 M.8/7.0 71-00-0104	A X E11	045002	N	E21				10	S	4320
CAC-CNTR-1B CONTACTOR FOR CAC-EHC-1B 71	2	A	1	0	D	A103D	R 577 M.7/7.1 71-00-0104	X X D11	045002	Y	621				10	S	4320
CAC-EHC-1A 37 KW PREHEATER 71	2	A	1	0	D	SA213-T347 S.S. M554	R 580 M.5/6.6 E14	A X E14	109007	N	621						4320
CAC-EHC-1B 37 KW PREHEATER 71	2	A	1	0	D	SA213-T347 S.S. M554	R 580 M.5/7.4 E2	X X E2	109007	N	621						4320
CAC-EHO-FCV/1A EHO FOR CAC-FCV-1A 42A	2	A	1	0	D	NH91J4002F2L18 M554	R 575 L.9/5.3 J10	A X J10	110004	P	Y 121 03		33+	10143	10	S	4320
CAC-EHO-FCV/1B EHO FOR CAC-FCV-1B 42A	2	A	1	0	D	NH91J4002F2L18 M554	R 565 J.6/6.7 H6	A X H6	110004	P	Y 121 03		33+	10143	00	S	4320
CAC-EHO-FCV/2A EHO FOR CAC-FCV-2A 42A	2	A	1	0	D	NH91J4002F2218 M554	R 558 M.2/7.1 G11	A X G11	110004	P	Y 121 03		33+	10143	10	S	4320
CAC-EHO-FCV/2B EHO FOR CAC-FCV-2B 42A	2	A	1	0	D	NH91J4002F2118 M554	R 560 M.4/6.6 G6	A X G6	110004	P	Y 121 03		33+	10143	00	S	4320
CAC-EHO-FCV/3A EHO FOR CAC-FCV-3A 42A	2	A	1	0	D	NH91J4002F2L18 M554	R 494 M.8/4.4 D11	A X D11	110004	P	Y 121 03		33+	10143	10	S	4320
CAC-EHO-FCV/3B EHO FOR CAC-FCV-3B 42A	2	A	1	0	D	NH91J4002F2L18 M554	R 496 J.2/7.4 G6	A X G6	110004	P	Y 121 03		33+	10143	00	S	4320
CAC-EHO-FCV/4A EHO FOR CAC-FCV-4A 42A	2	A	1	0	D	NH91J4002F2L18 M554	R 493 M.4/7.8 E11	A X E11	110004	P	Y 121 03		33+	10143	10	S	4320
CAC-EHO-FCV/4B EHO FOR CAC-FCV-4B 42A	2	A	1	0	D	NH91J4002F2L18 M554	R 492 N.2/6.0 E6	A X E6	110004	P	Y 121 03		33+	10143	00	S	4320
CAC-EHO-FCV/5A EHO FOR CAC-FCV-5A 71	2	A	1	0	D	NH91H4070F3L16 M554	R 572 H.6/6.5 F14	A X F14	110004	P	N 121 03		33+	10143	10	S	4320

CONTRACT	EPH LEVEL	MFG DESCRIPTION EC USE	SAFETY FUNCTION	MODEL A/E DRAWING	BLDG ELEV A/E	STATUS S E DETAIL A/E ZONE	QID ZONE	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*					
								TH	HL	TEST	ANL FO C ACCURACY	FREQ	AGING	DBE C COMPOSITE, EPN	HOURS		
CAC-EHO-FCV/5B EHO FOR CAC-FCV-5B 71	2	A 1 0 D		NH91H4070F3L16 H554	R 573	A X M.5/7.5 F2	110004 R73	P	N	121	03	33+	10143	00	S	4320	CAC-FCV-5B+
CAC-EHO-FCV/6A EHO FOR CAC-FCV-6A 71	2	A 1 0 D		NH91H4070F3L16 H554	R 572	A X M.6/6.5 612	110001 R73	P	N	121	03	33+	10143	10	S	4320	CAC-FCV-6A+
CAC-EHO-FCV/6B EHO FOR CAC-FCV-6B 71	2	A 1 0 D		NH91H4070F3L16 H554	R 573	A X M.5/7.5 G4	110004 R73	P	N	121	03	33+	10143	00	S	4320	CAC-FCV-6B+
CAC-EHO-TCV/4A EHO FOR CAC-TCV-4A 71	2	A 1 0 D		NH92H9970F3L29 H554	R 573	A X M.5/6.6 D12	110001 R73	P	N	121	03	33+	10143	10	S	4320	CAC-TCV-4A+
CAC-EHO-TCV/4B EHO FOR CAC-TCV-4B 71	2	A 1 0 D		NH92H9970F3L29 H554	R 573	A X M.5/7.4 D4	110001 R73	P	N	121	03	33+	10143	00	S	4320	CAC-TCV-4B+
CAC-EHO-V/1A 37 KW PREHEATER 71	2	A 1 0 D		NH95H2670F3L2 H554	R 573	A X M.5/6.6 F15	110002 R73	P	N	121	03	33+	10143	10	S	4320	CAC-V-1A+
CAC-EHO-V/1B EHO FOR CAC-V-1B 71	2	A 1 0 D		NH95H2670F3L2 H554	R 573	A X M.5/7.4 F2	110002 R63	P	N	121	03	33+	10143	00	S	4320	CAC-V-1B+
CAC-EHO-V/2A EHO FOR CAC-V-2A 71	2	A 1 0 D		NH91H2070F3L2 H554	R 573	A X M.5/6.6 F12	110004 R73	P	N	121	03	33+	10143	10	S	4320	CAC-V-2A+
CAC-EHO-V/2B EHO FOR CAC-V-2B 71	2	A 1 0 D		NH91H2070F3L2 H554	R 573	A X M.5/7.4 F4	110004 R63	P	N	121	03	33+	10143	00	S	4320	CAC-V-2B+
CAC-EHO-V/3A EHO FOR CAC-V-3A 71	2	A 1 0 D		NH91H2070F3L2 H554	R 573	A X M.5/6.6 D12	110004 R73	P	N	121	03	33+	10143	10	S	4320	CAC-V-3A+
CAC-EHO-V/3B EHO FOR CAC-V-3B 71	2	A 1 0 D		NH91H2070F3L2 H554	R 573	A X M.5/7.4 D4	110004 R63	P	N	121	03	33+	10143	00	S	4320	CAC-V-3B
CAC-FT-1A FT TO CAC-FIC-1A 220	3	P 2 0 G		R369 11530B3 H554	R 575	Y X L.9/5.3 J11	156009 R63	R	N	114		50				4320	
CAC-FT-1B FT TO CAC-FIC-1B 220	3	P 2 0 G		R369 11530B3 H554	R 551	Y X H.7/8.1 J5	156009 R61	R	N	114		50				4320	

CONTRACT	EPN LEVEL	DESCRIPTION EC	MFG USE	SAFETY FUNCTION	MODEL A/E DRAWING	STATUS S E BLOG ELEV A/E DRAWING	S E DETAIL A/E ZONE	OID ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
									TM ROOM	HL ROOM	TEST ACCURACY	ANL FO C	FO C ACCURACY	FREQ	AGING COMPOSITE EPN
CAC-FT-2A FT TO CAC-FIC-2A 220	3	P	R369	1153DB3	M554	Y X R 551 N.8/5.7 .611	156009	R	N	114	50				4320
CAC-FT-2B FT TO CAC-FIC-2B 220	3	P	R369	1153DB3	M554	Y X R 551 H.7/8.1 G5	156009	R	N	114	50				4320
CAC-FT-3A FT TO CAC-FIC-3A 220	3	P	R369	1153DB3	M554	Y X R 504 N.8/5.5 D11	156009	R	N	114	50				4320
CAC-FT-3B FT TO CAC-FIC-3B 220	3	P	R369	1153DB3	M554	Y X R 504 L4/9.3 D5	156009	R	N	114	50				4320
CAC-FT-4A FT TO CAC-FIC-4A 220	3	P	R369	1153DB3	M554	Y X R 504 N8/5.5 F11	156009	R	N	114	50				4320
CAC-FT-4B FT TO CAC-FIC-4B 220	3	P	R369	1153DB3	M554	Y X R 504 N.0/4.9 F5	156009	R	N	114	50				4320
CAC-FT-5A SCRUBBER 1A SW INLET FT 71	3	P	B080	386	M554	X X R 473 M.3/6.8 G14	156004		N	621		01653	10	E	4320
CAC-FT-5B SCRUBBER 1B SW INLET FT 71	3	P	B080	386	M554	X X R 578 M.3/7.5 G2	156004		N	621		06153	10	E	4320
CAC-FT-6A FT TO CAC-FC-67A 71	3	A	B080	386	M554	X X R 575 M.5/6.5 F12	156004		N	621		06153	10	E	4320
CAC-FT-6B FT TO CAC-FC-67B 71	3	A	B080	386	M554	X X R 575 M.5/7.3 F4	156004		N	621		06153	10	E	4320
CAC-FT-7A FT TO CAC-FIC-67A 71	3	A	B080	386	M554	X X R 575 M.3/6.6 F12	156004		N	621		06153	10	E	4320
CAC-FT-7B FT TO CAC-FIC-67B 71	3	A	B080	386	M554	X X R 576 M.3/7.4 F4	156004		N	621		06153	10	E	4320
CAC-LT-1A LT FOR NS-1A 71	2	A	B080	386	M554	X X R 574 M.3/6.8 D13	209002		N	621		06153	10	E	4320

CONTRACT	EPN	LEVEL	DESCRIPTION EC	MFG USE	SAFETY FUNCTION	MODEL	BLDG ELEV. A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID	TM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
											HL TEST	ANL FO C	FREQ	AGING	DBE C	HOURS		
											ROOM	ACCURACY						
CAC-LT-1B LT FOR MS-1B 71		2	A	B080 1 0	386 D			X X D3	209002		N	621 R604			06153	10	E	4320
						H554	R 574 M.3/7.5		R73						CAC-HR-1B+			
CAC-M-FN/1A MTR FOR CAC-FN-1A 71		2	A	W120 1 0	75D42473 D			X X E13	213048		N	621 R604						4320
						H554	R 572 M.5/6.6		R73						CAC-HR-1A+			
CAC-M-FN/1B MTR FOR CAC-FN-1B 71		2	A	W120 1 0	75D42473 D			X X F3	213048		N	621 R604						4320
						H554	R 572 M.5/7.4		R73						CAC-HR-1B+			
CAC-MO-11 MOTOR OPERATOR CAC-V-11 41A		2	A	L200 1 0	SMB-000-5 D			A X G6	221001	P	Y	114 R511		33+				4320
						H554	R 560 M.2/6.5		R63						CAC-V-11+			
CAC-MO-13 .361HP/3.8A MOTOR OPER. CAC-V-13 41A		2	A	L200 1 0	SMB-000-5 D			A X E6	221001		N	14 R206	00	35				4320
						H554	R 495 M.4/6.0		R33						CAC-V-13+			
CAC-MO-15 .361HP/5.8A MO FOR CAC-V-15 41A		2	A	L200 1 0	SMB-000-5 D			A X H6	221001	P	Y	114 R509		33+				4320
						H554	R 570 J.8/6.8		R61						CAC-V-15+			
CAC-MO-17 .361HP/3.8A MOTOR OPER. CAC-V-17 41A		2	A	L200 1 0	SMB-000-5 D			A X D6	221001	P	Y	114 R211		33+				4320
						H554	R 494 J.0/7.4		R31						CAC-V-17+			
CAC-MO-2 MOTOR OPERATOR CAC-V-2 41A		2	A	L200 1 0	SMB-000-5 D			A X E10	221001	P	Y	114 R604		33+				4320
						H554	R 558 M.2/7.1		R73						CAC-V-2+			
CAC-MO-4 .361HP/3.8A MOTOR OPER. CAC-V-4 41A		2	A	L200 1 0	SMB-000-5 D			A X F10	221001	P	N	114 R206		33+				4320
						H554	R 495 M.2/7.8		R33						CAC-V-4+			
CAC-MO-6 MOTOR OPERATOR CAC-V-6 41A		2	A	L200 1 0	SMB-000-5 D			A X H10	221001	P	Y	114 R611		33+				4320
						H554	R 575 L.9/5.0		R73						CAC-V-6+			
CAC-MO-8 MOTOR OPERATOR CAC-V-8 41A		2	A	L200 1 0	SMB-000-5 D			A X D10	221001	P	Y	114 R206		33+				4320
						H554	R 480 M.8/4.3		R33						CAC-V-8+			
CAC-PT-1A 0-30 PSIG FOR CAC-FN-1A 71		2	P	B080 2 0	386 G2			X X F13	259006		N	621 R73			06153	10	E	4320
						H554	R 572 M.5/6.6		R73						CAC-HR-1A+			
CAC-PT-1B 0-30 PSIG FOR CAC-FN-1B 71		2	P	B080 2 0	386 G2			X X	259006		N	621 R73			06153	10	E	4320
						H554	R 575 M.5/7.4		R73						CAC-HR-1B+			

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL	BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
									TM	HL TEST	ANL FO C	FREQ	AGING	OBE C
								ZONE	ROOM	ACCURACY				
CAC-PT-68A PRESS TRANS ON CAC-MS-1A 71		2	A 1 0 0	B080 386			X X M554	259006 R 572 M.5/6.6 D13				06153 10 E 4320		
CAC-PT-68R PRESS TRANS ON CAC-MS-1B 71		2	A 1 0 0	B080 386			X X M554	259006 R 572 M.5/7.4 D03	N 621			06153 10 E 4320		
CAC-RLY-4A/CR1 OPEN INDICATION RELAY CAC-FCV-4A 218		3	A 1 0 I	A500 RXHK1			X X E519/13	283011 R 476 N.1/9.0 G3				06153 14 E 4320		
CAC-RLY-4A/CR2 CLOSED INDICATION RELAY CAC-FCV-4A 218		3	A 1 0 I	A500 RXHK1			X X E519/13	283011 R 476 N.1/9.0 G3				06153 14 E 4320		
CAC-RLY-4B/CR1 OPEN INDICATION RELAY CAC-FCV-4B 218		3	A 1 0 I	A500 RXHK1			X X E519/13	283011 R 476 N.0/8.3 G3				06153 05 E 4320		
CAC-RLY-4B/CR2 CLOSED INDICATION RELAY CAC-FCV-4B 213		3	A 1 0 I	A500 RXHK1			X X E519/13	283011 R 476 N.0/8.3 G3				06153 05 E 4320		
CAC-RLY-FCV1A80 POWER AVAIL RLY FOR CAC-FCV-1A 218		3	P 2 0 G1	A500 RXHK1			X X M519/15	283011 R 475 N.1/9.3 K1	R N 021 R33 R206			06153 10 E 4320		
CAC-RLY-FCV1B80 POWER AVAIL RLY FOR CAC-FCV-1B 218		3	P 2 0 G1	A500 RXHK1			X X E519/15	283011 R 475 N.0/8.3 K1	R N 021 R33 R206			06153 00 E 4320		
CAC-RLY-FCV2A80 POWER AVAIL RLY FOR CAC-FCV-2A 218		3	P 2 0 G1	A500 RXHK1			X X E519/15	283011 R 475 N.1/9.3 K4	R N 021 R33 R206			06153 10 E 4320		
CAC-RLY-FCV2B80 POWER AVAIL RLY FOR CAC-FCV-2B 218		3	P 2 0 G1	A500 RXHK1			X X E519/15	283011 R 475 N.0/8.3 K4	R N 021 R43 R305			06153 00 E 4320		
CAC-RLY-FCV3A80 POWER AVAIL RLY FOR CAC-FCV-3A 218		3	P 2 0 G1	A500 RXHK1			X X E519/15	283011 R 475 N.1/9.3 K4	R N 021 R33 R206			06153 10 E 4320		
CAC-RLY-FCV3B80 POWER AVAIL RLY FOR CAC-FCV-3B 218		3	P 2 0 G1	A500 RXHK1			X X E519/15	283011 R 475 N.0/8.3 K4	R N 021 R33 R206			06153 00 E 4320		
CAC-RLY-FCV4A80 POWER AVAIL RLY FOR CAC-FCV-4A 218		3	P 2 0 G1	A500 RXHK1			X X E519/13	283011 R 475 N.1/9.3 H3	R N 021 R33 R206			06153 10 E 4320		

EPN		MFG		STATUS		***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*								
CONTRACT	LEVEL	DESCRIPTION	USE	SAFETY FUNCTION	MODEL	BLDG ELEV	ELEV	DETAL	ZONE	TH	HL TEST	ANL FDC	FREQ	AGING	DBE	C	HOURS	
71	2	EC	2 0	G	H554	A/E DRAWING		A/E ZONE			ROOM	ACCURACY			COMPOSITE	EPN		
CAC-TE-106		TEMP ELEMENT ON CAC-FHC-1B			T165	80500			X X	339006	N	621						
71	2	P	2 0	G	H554	R 575 M.5/7.2		D2		R73							CAC-HR-1B+	4320
CAC-TE-107		TEMP ELEMENT ON CAC-EHC-1B			T165	80500			X X	339006	N	621						
71	2	P	2 0	G	H554	R 576 M.5/7.2		D2		R73							CAC-HR-1B+	4320
CAC-TE-2A		PREHEATER 1A HI TEMP ALARM			T165	80500			X X	339006	N	621						
71	2	A	1 0	D	H554	R 581 M.5/6.6		E13		R73	R604						CAC-HR-1A+	4320
CAC-TE-2B		PREHEATER 1B HI TEMP ALARM			T165	80500			X X	339006	N	621						
71	2	A	1 0	D	H554	R 581 M.5/7.4		E2		R73	R604						CAC-HR-1B+	4320
CAC-TE-3A		PREHEATER 1A HI TEMP ALARM			T165	80500			X X	339006	N	621						
71	2	A	1 0	D	H554	R 576 M.5/6.6		E14		R73	R604						CAC-HR-1A+	4320
CAC-TE-3B		PREHEATER 1B HI TEMP ALARM			T165	80500			X X	339006	N	621						
71	2	A	1 0	D	H554	R 576 M.5/7.4		E2		R73	R604						CAC-HR-1B+	4320
CAC-TE-4A		TEMP ELEMENT DISCH FROM CAC-HS-1R			T165	80500			X X	339006	N	621						
71	2	A	1 0	D	H554	R 579 M.5/6.7		E14		R73	R604						CAC-HR-1A+	4320
CAC-TE-4B		TEMP ELEMENT DISCH FROM CAC-HS-1R			T165	80500			X X	339006	N	621						
71	2	A	1 0	D	H554	R 579 M.5/7.5		E4		R73	R604						CAC-HR-4B+	4320
CAC-TE-5A		PREHEATER 1A HI TEMP SHUTDOWN			T165	80500			X X	339006	N	621						
71	2	A	1 0	D	H544	R 576 M.5/6.6		D13		R73	R604						CAC-HR-1A+	4320
CAC-TE-5B		PREHEATER 1B HI TEMP SHUTDOWN			T165	80500			X X	339006	N	621						
71	2	A	1 0	D	H554	R 576 M.5/7.4		D2		R73	R604						CAC-HR-1B+	4320
CAC-TE-6A		MOISTURE SEPTR 1A HI TEMP SHUTDOWN			T165	80500			X X	339006	N	621						
71	2	A	1 0	D	H554	R 578 M.5/6.6		E13		R73	R604						CAC-HR-1A+	4320
CAC-TE-6B		MOISTURE SEPTR 1B HI TEMP SHUTDOWN			T165	80500			X X	339006	N	621						
71	2	A	1 0	D	H554	R 578 M.5/7.4		E13		R73	R604						CAC-HR-1B+	4320
CAC-TE-7A		TEMP ELEMENT DISCH FROM CAC-FN-1P			T165	80500			X X	339006								
71	2	A	1 0	D	H554	P 580 M.5/6.6		F13									06153 14 E	4320
																	CAC-HR-1A+	

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	BLDG ELEV A/E	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*																
									TM	HL	TEST	ANL	FO	C	FREQ	AGING	DBE	C	HOURS										
CMS-LT-1			R369 SUPPRESS CHAMB WTR LEVEL MONITOR	1151DP4D22T0003AB			X X R 465 J.5/4.3 M543 B14	209007	N	14	00					50		4320											
CMS-LT-2			R369 SUPPRES CHAMBER WTR LEVEL MONIT IR	1151DP4D22T0003AB			X X R 464 M.2/7.7 M543 B6	209007	N	14	00					50		4320											
CMS-LT-2R			R369 SUPPRESSION POOL WATER LEVEL	1153-DB4			X X R 464 M.2/7.7 M543 B6	156001									05253	03 E	4320										
CMS-ME-1			P047 ME FOR DRYWELL	600-09A			X X R 536 190 D AZ M543 E13	217002										04153	10 E	4320									
CMS-ME-2			P047 ME FOR DRYWELL	600-09A			X X R 536 195 D AZ M543 F7	217002											04153	10 E	4320								
CMS-ME-3			P047 ME FOR DRYWELL	600-09A			X X R 536 195 D AZ M543 E7	217002												04153	10 E	4320							
CMS-ME-4			P047 ME FOR DRYWELL	600-09A			X X R 536 190 D AZ M543 E13	217002													04153	10 E	4320						
CMS-ME-5			P047 ME FOR DRYWELL	600-09A			X X R 536 45 D AZ M543 E7	217002														04153	10 E	4320					
CMS-PT-1			R369 CONTAINMENT PRESS. MONITORING IR-6	1153AB5			Y X R 555 H.8/5.8 M543 F13	156009	R	N	114												50	E-IR-67+	4320				
CMS-PT-2			R369 CONTAINMENT PRESS MONITORING IR-6B	1153GB6			Y X R 551 H.7/8.1 M543 C7	156009	R	N	114													50	E-IR-68+	4320			
CMS-PT-2R			R369 PRIMARY CONT. PRESS.	1151GF4E22PB			X X R 550 H.7/8.2 M543 G7	259003	R	N	114														50	E-IR-68+	4320		
CMS-PT-3			R369 SUPPRES.CHAMB.PRESS.MONITOR IR-6F	1151GF7E22PB			X X R 501 N.8/5.3 M543 C15	259003	R	N	114															50	E-IR-66+	4320	
CMS-PT-4			R369 SUPPRES.CHAMB.PRESS.MONITOP IR-6F	1151GP7E22PB			X X R 501 L.4/9.3 M543 F6	259003	R	N	114																50	E-IR-63+	4320

CONTRACT	EPN	LEVEL	DESCRIPTION EC	MFG USE	MODEL SAFETY FUNCTION	BLOG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
									TM	HL	TEST ANL FO C ACCURACY	FREQ	AGING	DBE C COMPOSITE EPN
CHS-PT-5 59		2	CONTAINMENT PRESS. MONITORING IR-C7 A 1 3 I	R369	1151GP7E22PB	R 555 M.8/5.8 M543 G13	X X 613	259003	R	N 114 R504	50	E-IR-67+	4320	
CHS-PT-6 59		2	CONTAINMENT PRESS. MONITORING IR-68 A 1 3 I	R369	1151GP7E22PB	R 551 M.7/8.1 M543 H7	X X H7	259003	R	N 114 R504	50	E-IR-68+	4320	
CHS-PT-6R 59		2	CONTAINMENT PRESS. HIGH RANGE P 2 0 G	R369	1151GP7E22PB	R 550 M.7/8.2 M543 H7	X X H7	259003	R	N 114 R61	50	E-IR-68+	4320	
CHS-PT-7 220		2	-5TO+3PS/GPTFORDIVICONT. PRESSMON. A 1 3 I	R369	1153-687	R 552 M.8/5.8 M543 G13	X X G13	156001	R	R63		05253 E-IR-67+	11 E 4320	
CHS-PT-8 220		2	=5TO+3PS/G FOR DIVII CONT. PRESS. MCN A 1 3 I	R369	1153-AB5	R 550 M.7/8.2 M543 J7	X X J7	156001	R	R61		05253 E-IR-68+	11 E 4320	
CHS-RE-27E 218		2	DIVI CMS RAD ELEMENTS (1-105 R/HR) A 1 3 I	V115	875	C 516 300 DEG AZ M543 H12	X X H12	277007		U42		06153 13 E	4320	
CHS-RE-27F 218		2	DIVI CMS RAD ELEMENT (1-105R/HR) A 1 3 I	V115	875	C 516 45 DEG AZ M543 G8	X X G8	277007		U42		06153 03 E	4320	
CHS-RHS-HTP71 SS		3	CS FOR CHS LOCA HT TRACE P 2 0 G1	G080	CR2940YB203D	R 548 M.1/4.4	Y J	285017				06153 E-JB-HTP/78/E+	13 E 20	
CHS-RHS-HTP80 SS		3	CS FOR MCS LOCA HT TRACE P 2 0 G1	G080	CR2940YB203D	R 548 M.1/4.7	Y R	285012				06153 E-JB-HTP/88/A+	03 E 4320	
CHS-SR-13+ 92A		1	SAMPLE RACK 13 FOR H202 P 2 0 H	B135	771172	R 548 M.3/4.5 M569 G4	X	025002				06303 CMS-SR-13+	05 E	
CHS-SR-14+ 92A		1	SAMPLE RACK 14 FOR H202 P 2 0 H	B135	771172	R 569 M.3/4.7 M569 G4	X	025002				06303 CMS-SR-14+	05 E	
CHS-TE-1 218		2	AIR INLET RECIRC PUMP MOTOR A A 1 3 I	F329	TC2370CCA250TT68JXH7	C 517 115 DEG AZ M543 E13	X J E13	339003		C47		06153 11 E	4320	
CHS-TE-10 216		2	CRA-FIA DISCHARGE TEMP A 1 3 I	W108	101-1-A-3-C-8-2-1	C 512 72 M543 AZ	X P AZ	339025		C45		06153 11 E	4320	

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	BLDG ELEV A/E	ELEV DRAWING	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
										TM	HL TEST	ANL FO C	FREQ	AGING	OBE C	HOURS
CMS-TE-11			W108 CRA-FN-1B DISCHARGE AIR TEMP 216 2 A 1 3 I		101-1-A-3-C-8-2-1 H543			X P 339025 C 520 193 DEG AZ C46 011					06153	11	E	4320
CMS-TE-12			W108 CRA-FN-1C DISCHARGE TEMP 216 2 A 1 3 I		101-1-A-3-C-8-2-1 H543			X P 339025 C 520 260 DEG AZ C46 08					06153	11	E	4320
CMS-TE-13			W108 CRA-FN-2A DISCHARGE AIR TEMP 216 2 A 1 3 I		101-1-A-3-C-8-2-1 H543			X P 339025 C 549 355 DEG AZ C54 J11					06153	11	E	4320
CMS-TE-14			W108 CRA-FN-2B DISCHARGE AIR TEMP 216 2 A 1 3 I		101-1-A-3-C-8-2-1 H543			X P 339025 C 544 220 DEG AZ C56 J9					06153	11	E	4320
CMS-TE-2			H329 CONT TEMP MONITOR 218 2 A 1 3 I		TC2370CCA250TT68JXH7 H543			X J 339003 C 517 150 DEG AZ C47 E11					05103	11	E	4320
CMS-TE-24			H329 CONTAINMENT HEAD MONITOR 218 2 A 1 3 I		TC2370CCA250TT68JXH7 H543			X R 339003 C 596 330 DEG AZ C74 K8					06153	04	E	4320
CMS-TE-25			H329 CONTAINMENT HEAD MONITOR 218 2 A 1 3 I		TC2370CCA250TT68JXH7 H543			X R 339003 C 596 210 DEG AZ R76 K9					06153	04	E	4320
CMS-TE-26			H329 CONTAINMENT HEAD MONITOR 218 2 A 1 3 I		TC2370CCA250TT68JXH7 H543			X J 339003 C 596 90 DEG AZ R77 K11					06153	14	E	4320
CMS-TE-27			H329 CRA-FC-5B DISCHARGE TEMPERATURE 218 2 A 1 3 I		TC2370CCA250TT68JXH7 H543			X J 339003 C 553 210 DEG AZ C66 J12					06153	14	E	4320
CMS-TE-28			H329 CRA-FN-5C AREA TEMPERATURE 218 2 A 1 3 I		TC2370CCA250TT68JXH7 H543			X R 339003 C 560 144 DEG AZ C67 J8					06153	14	E	4320
CMS-TE-29			H329 CRA-FC-2A AREA TEMPERATURE 218 2 A 1 3 I		TC2370CCA250TT68JXH7 H543			X J 339003 C 560 72 DEG AZ C65 G11					06153	14	E	4320
CMS-TE-3			H329 AIR INLET RECIRC PUMP MOTOR 218 2 A 1 3 I		TC2370CCA250TT68JXH7 H543			X R 339003 C 517 300 DEG AZ C44 E8					06153	14	E	4320
CMS-TE-30			H329 AIR TEMPERATURE AT ELEV 547 218 2 A 1 3 I		TC2370CCA250TT68JXH7 H543			X J 339003 C 560 0 DEG AZ C65 G12					06153	14	E	4320

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL /A/E DRAWING	STATUS S E BLDG ELEV DETAIL /A/E ZONE	QID TM ZONE	***SEISMIC (S) PARAMETERS*** HL TEST ANL FO C ROOM ACCURACY	*ENV. (E) PARAMETERS*			
									AGING	DBE	C	HOURS COMPOSITE EPN
CMS-TE-31				H329	TC2370CCA250TT68JXH7	X R	339003		06153	14	E	4320
CRA-FC-2B		2	AREA TEMPERATURE A 1 3 I		M543	C 560 288 DEG AZ G9	C64					
CMS-TE-4				H329	TC2370CCA250TT68JXH7	X R	339003		06153	14	E	4320
AIR INLET RECIRC PUMP MOTOR		2	A 1 3 I		M543	C 550 280 DEG AZ E7	C44					
CMS-TE-5				W108	101-1-A-3-C-8-2-1	X P	339025		06153	11	E	4320
CRA-FC-1A		2	AIR INLET TEMP A 1 3 I		M543	C 504 72 DEG AZ C13	C45					
CMS-TE-6				W108	101-1-A-3-C-8-2-1	X P	339025		06153	11	E	4320
CRA-FC-1C		2	AIR INLET TEMP A 1 3 I		M543	C 504 190 DEG AZ C12	C46					
CMS-TE-7				W108	101-1-A-3-C-8-2-1	A P	339025		06153	11	E	4320
CRA-FC-1C		2	AIR INLET TEMP A 1 3 I		M543	C 504 275 DEG AZ D8	C44					
CMS-TE-8				W108	101-1-A-3-C-8-2-1	X P	339025		06153	11	E	4320
CRA-FC-2A		2	AIR INLET TEMPERATURE A 1 3 I		M543	C 560 355 DEG AZ H12	C64					
CMS-TE-9				W108	101-1-A-3-C-8-2-1	X P	339025		06153	11	E	4320
CRA-FN-2B		2	AIR INLET TEMP A 1 3 I		M543	C 547 222 DEG AZ H8	C56					
CMS-TS-4A				A499	SC11AR/QT11A4R	J	355020		06153	12	E	4320
SAMPLE RACK 13 HEAT TRACE TEMP SV		2	A 1 0 I		M543	R 548 M.7/4.3						
CMS-TS-4B				A499	SC11AR/QT11A4R	J	355020		06153	12	E	4320
SAMPLE RACK 13 HEAT TRACE TEMP SV		2	A 1 0 I		M543	R 548 M.7/4.3						
CMS-TS-4C				A499	SC11AR/QT11A4R	J	355020		06153	12	E	4320
SAMPLE RACK 13 HEAT TRACE TEMP SV		2	A 1 0 I		M543	R 548 M.7/4.3						
CMS-TS-4D				A499	SC11AR/QT11A4R	J	355020		06153	12	E	4320
SAMPLE RACK 13 HEAT TRACE TEMP SV		2	A 1 0 I		M543	R 548 M.7/4.3						
CMS-TS-5A				A499	SC11AR/QT11A4R	J	355020		06153	12	E	4320
SAMPLE RACK 13 HEAT TRACE TEMP SV1		2	A 1 0 I		M543	R 548 M.7/4.5						
CMS-TS-5B				A499	SC11AR/QT11A4R	J	355020		06153	12	E	4320
SAMPLE RACK 13 HEAT TRACE TEMP SV		2	A 1 0 I		M543	R 548 M.7/4.5						

CONTRACT	EPN	LEVEL	MFG DESCRIPTION EC USE	SAFETY FUNCTION	MODEL	BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
									TM	HL	TEST	ANL	FO	C	FREQ	AGING
CRA-M-FN/4A			R165 10HP/17.1A MTR DRIVER CRA-FN-4A		254TCZ		Y X C 572 330 D AZ R17 C74						03313	10	E	4320
2		2	A 1 3 0		M543		J10						CRA-FN-4A+			
CRA-M-FN/4B			R165 10HP/17.1A MTR DRIVER CRA-FN-4B		254TCZ		Y X C 572 206 D AZ R17 C74						03313	00	E	4320
2		2	A 1 3 0		M543		J9						CRA-FN-4B+			
CRA-M-FN/5A			R165 10HP/17.1A MTR DRIVER CRA-FN-5A		324TCZ		X X C 564 160 D AZ R17 C74			14	00	60	03313	10	E	4320
2		2	A 1 3 0		M543		J8						CRA-FN-5A+			
CRA-M-FN/5B			R165 10HP/17.1A MTR DRIVER CRA-FN-5B		324TCZ		X X C 564 20 D AZ R17 C74			14	00	60	03313	00	E	4320
2		2	A 1 3 0		M543		J11						CRA-FN-5B+			
CRA-M-FN/5C			R165 10HP/17.1A MTR DRIVER CRA-FN-5C		324TCZ		X X C 564 270 D AZ R17 C74			14	00	60	05253	01	E	4320
2		2	A 1 3 0		M543		H8						CRA-FN-5C+			
CRA-M-FN/5D			R165 10HP/17.1A MTR DRIVER CRA-FN-5D		324TCZ		X X C 564 90 D AZ R17 C74			14	00	60	03313	00	E	4320
2		2	A 1 3 0		M543		H11						CRA-FN-5D+			
CRD-IR-3+			B341 CRD INSTR RACK		X10175EM401		X X R 522 H.8/3.8									00
215		1	P 2 3 H		M528		D14						CRD-IR-3+			
CRD-LS-13E			M040 CRD LEVEL SWITCH		5.0-751-2X-MPG-M14HY		X X R 528 J.2/4.9		207004	W	N	14	00			4320
02C12		2	P 2 3 G		M528		H7		R52		R408					
CRD-LS-13F			M040 CRD LEVEL SWITCH		5.0-751-2X-MPG-M14HY		X X R 522 J.0/4.9		207004	W	N	14	00			4320
02C12		2	P 2 3 G		M528		H7		R52		R408					
CRD-LS-13G			M040 SCRAM DISCHARGE INSTR VOL-A LEVEL		751		X X R 522 J.0/7.0		207004				06153	02	E	4320
02		2	P 2 3 G		M528		H11									
CRD-LS-13H			M040 SCRAM DISCHARGE INSTR VOL-A LEVEL		751		X X R 522 J.0/7.0		207004				06153	02	E	4320
02		2	P 2 3 G		M528		H11									
CRD-POS-1260219			M302 POSITION SWITCH		BZE6-2RN72		Y X R 528 L5/P.4		248003		N	612				.17
02C12		3	A 1 0 A		M528		C4						CRD-HCU-0219+			
CRD-POS-1260223			M302 POSITION SWITCH		BZE6-2RN72		Y X R 528 L5/P.4		248003		N	612				.17
02C12		3	A 1 0 A		M528								CRD-HCU-0223+			

CONTRACT	EPN	LEVEL	DESCRIPTION			MODEL	STATUS			***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*						
			EC	USE	SAFETY FUNCTION		S	E	QID	TM	HL	TEST	ANL	FO	C	FREQ	AGING	DBE	C	HOURS
						BLDG	ELEV	DETAIL	ZONE	ROOM	ACCURACY									
						A/E	DRAWING	A/E	ZONE											
CRD-POS-1260227				M302	BZE6-2RN72			Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A		M528	R 528 L5/R.4	C4											CRD-HCU-0227+	.17
CRD-POS-1260231				M302	BZE6-2RN72			Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A		M528	R 528 L5/R.4	C4											CRD-HCU-0231+	.17
CRD-POS-1260235				M302	BZE6-2RN72			Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A		M528	R 528 K2/R.4	C4											CRD-HCU-0235+	.17
CRD-POS-1260239				M302	BZE6-2RN72			Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A		M528	R 528 K2/R.4	C4											CRD-HCU-0239+	.17
CRD-POS-1260243				M302	BZE6-2RN72			Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A		M528	R 528 K2/R.4	C4											CRD-HCU-0243+	.17
CRD-POS-1260615				M302	BZE6-2RN72			Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A		M528	R 528 L5/R.4	C4											06153 00 E	.17
CRD-POS-1260619				M302	BZE6-2RN72			Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A		M528	R 528 L5/R.4	C4											CRD-HCU-0619+	.17
CRD-POS-1260623				M302	BZE6-2RN72			Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A		M528	R 528 L5/R.4	C4											CRD-HCU-0623+	.17
CRD-POS-1260627				M302	BZE6-2RN72			Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A		M528	R 528 L5/R.4	C4											CRD-HCU-0627+	.17
CRD-POS-1250631				M302	BZE6-2RN72			Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A		M528	R 528 L5/R.4	C4											CRD-HCU-0631+	.17
CRD-POS-1260635				M302	BZF6-2RN72			Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A		M528	R 528 K2/R.4	C4											CRD-HCU-0635+	.17
CRD-POS-1260639				M302	BZE6-2RN72			Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A		M528	R 528 K2/R.4	C4											CRD-HCU-0639+	.17
CRD-POS-1260643				M302	BZE6-2RN72			Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A		M528	R 528 K2/R.4	C4											CRD-HCU-0643+	.17

CONTRACT	LEVEL	EPN	MFG DESCRIPTION		MODEL	BLOG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID ZONE	TM ROOM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
			EC	USE						SAFETY	FUNCTION	HL TEST	ANL FO C	FREQ	AGING	DBE C	HOURS
CRD-POS-1260647 POSITION SWITCH 02C12	3	A	1	0	A	M302 BZE6-2RN72 H528	Y X R 528 K2/8.4 C4	248003	N	612						CRD-HCU-0647+	.17
CRD-POS-1261011 POSITION SWITCH 02C12	3	A	1	0	A	M302 BZE6-2RN72 H528	Y X R 528 L5/8.4 C4	248003	N	612						CRD-HCU-1011+	.17
CRD-POS-1261015 POSITION SWITCH 02C12	3	A	1	0	A	M302 BZE6-2RN72 H528	Y X R 528 L5/8.4 C4	248003	N	612						CRD-HCU-1015+	.17
CRD-POS-1261019 POSITION SWITCH 02C12	3	A	1	0	A	M302 BZE6-2RN72 H528	Y X R 528 L5/8.4 C4	248003	N	612						CRD-HCU-1019+	.17
CRD-POS-1261023 POSITION SWITCH 02C12	3	A	1	0	A	M302 BZE6-2RN72 H528	Y X R 528 L5/8.4 C4	248003	N	612						CRD-HCU-1023+	.17
CRD-POS-1261027 POSITION SWITCH 02C12	3	A	1	0	A	M302 BZE6-2RN72 H528	Y X R 528 L5/8.4 C4	248003	N	612						CRD-HCU-1027+	.17
CRD-POS-1261031 POSITION SWITCH 02C12	3	A	1	0	A	M302 BZE6-2RN72 H528	Y X R 528 L5/8.4 C4	248003	N	612						CRD-HCU-1031+	.17
CRD-POS-1261035 POSITION SWITCH 02C12	3	A	1	0	A	M302 BZE6-2RN72 H528	Y X R 528 K2/8.4 C4	248003	N	612						CRD-HCU-1035+	.17
CRD-POS-1261039 POSITION SWITCH 02C12	3	A	1	0	A	M302 BZE6-2RN72 H528	Y X R 528 K2/8.4 C4	248003	N	612						CRD-HCU-1039+	.17
CRD-POS-1261043 POSITION SWITCH 02C12	3	A	1	0	A	M302 BZE6-2RN72 H528	Y X R 528 K2/8.4 C4	248003	N	612						CRD-HCU-1043+	.17
CRD-POS-1261047 POSITION SWITCH 02C12	3	A	1	0	A	M302 BZE6-2RN72 H528	Y X R 528 K2/8.4 C4	248003	N	612						CRD-HCU-1047+	.17
CRD-POS-1261051 POSITION SWITCH 02C12	3	A	1	0	A	M302 BZE6-2RN72 H528	Y X R 528 K2/8.4 C4	248003	N	612						CRD-HCU-1051+	.17
CRD-POS-1261407 POSITION SWITCH 02C12	3	A	1	0	A	M302 BZE6-2RN72 H528	Y X R 528 L5/8.4 C4	248003	N	612						CRD-HCU-1407+	.17

CONTRACT	EPN LEVEL	DESCRIPTION EC	MFG USE	SAFETY FUNCTION	MODEL A/E DRAWING	BLDG ELEV A/E	STATUS S E DETAIL ZONE	QID TM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
									HL TEST	ANL FO C	FREQ	AGING	DBE C	HOURS	
CRD-POS-1261807 POSITION SWITCH 02C12	3	A	M302 1 0	BZE6-2RN72 A	H528	R	Y X 528 L5/8.4 C4	248003	N	612				CRD-HCU-1807+	.17
CRD-POS-1261811 POSITION SWITCH 02C12	3	A	M302 1 0	BZE6-2RN72 A	H528	R	Y X 528 L5/8.4 C4	248003	N	612				CRD-HCU-1811+	.17
CRD-POS-1261815 POSITION SWITCH 02C12	3	A	M302 1 0	BZE6-2RN72 A	H528	R	Y X 528 L5/8.4 C4	248003	N	612				CRD-HCU-1815+	.17
CRD-POS-1261819 POSITION SWITCH 02C12	3	A	M302 1 0	BZE6-2RN72 A	H528	R	Y X 528 L5/8.4 C4	248003	N	612				CRD-HCU-1819+	.17
CRD-POS-1261823 POSITION SWITCH 02C12	3	A	M302 1 0	BZE6-2RN72 A	H528	R	Y X 528 L5/8.4 C4	248003	N	612				CRD-HCU-1823+	.17
CRD-POS-1261827 POSITION SWITCH 02C12	3	A	M302 1 0	BZE6-2RN72 A	H528	R	Y X 528 L5/8.4 C4	248003	N	612				CRD-HCU-1827+	.17
CRD-POS-1261831 POSITION SWITCH 02C12	3	A	M302 1 0	BZE6-2RN72 A	H528	R	Y X 528 L5/8.4 C4	248003	N	612				CRD-HCU-1831+	.17
CRD-POS-1261835 POSITION SWITCH 02C12	3	A	M302 1 0	BZE6-2RN72 A	H528	R	Y X 528 K2/8.4 C4	248003	N	612				CRD-HCU-1835+	.17
CRD-POS-1261839 POSITION SWITCH 02C12	3	A	M302 1 0	BZE6-2RN72 A	H528	R	Y X 528 K2/8.4 C4	248003	N	612				CRD-HCU-1839+	.17
CRD-POS-1261843 POSITION SWITCH 02C12	3	A	M302 1 0	BZE6-2RN72 A	H528	R	Y X 528 K2/8.4 C4	248003						CRD-HCU-1843+	.17
CRD-POS-1261847 POSITION SWITCH 02C12	3	A	M302 1 0	BZE6-2RN72 A	H528	R	Y X 528 K2/8.4 C4	248003	N	612				CRD-HCU-1847+	.17
CRD-POS-1261851 POSITION SWITCH 02C12	3	A	M302 1 0	BZE6-2RN72 A	H528	R	Y X 528 K2/8.4 C4	248003	N	612				CRD-HCU-1851+	.17
CRD-POS-1261855 POSITION SWITCH 02C12	3	A	M302 1 0	BZE6-2RN72 A	H528	R	Y X 528 K2/8.4 C4	248003	N	612				CRD-HCU-1855+	.17

CONTRACT	EPN LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	STATUS S E BLDG ELEV DETAIL A/E ZONE	OID ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
							TM	HL	TEST ANL FO C. ACCURACY	FREQ	AGING DBE C	HOURS COMPOSITE EPN	
CRD-POS-1261859 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	M528	Y X R 528 K2/8.4 C4	248003	N	612				CRD-HCU-1859+	.17
CRD-POS-1262203 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	M528	Y X R 528 L5/8.4 C4	248003	N	612				CRD-HCU-2203+	.17
CRD-POS-1262207 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	M528	Y X R 528 L5/8.4 C4	248003	N	612				CRD-HCU-2207+	.17
CRD-POS-1262211 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	M528	Y X R 528 L5/8.4 C4	248003	N	612				CRD-HCU-2211+	.17
CRD-POS-1262215 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	M528	Y X R 528 L5/8.4 C4	248003	N	612				CRD-HCU-2215+	.17
CRD-POS-1262219 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	M528	Y X R 528 L5/8.4 C4	248003	N	612				CRD-HCU-2219+	.17
CRD-POS-1262223 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	M528	Y X R 528 L5/8.4 C4	248003	N	612				CRD-HCU-2223+	.17
CRD-POS-1262227 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	M528	Y X R 528 L5/8.4 C4	248003	N	612				CRD-HCU-2227+	.17
CRD-POS-1262231 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	M528	Y X R 528 L5/8.4 C4	248003	N	612				CRD-HCU-2231+	.17
CRD-POS-1262235 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2PN72	M528	Y X R 528 K2/8.4 C4	248003	N	612				CRD-HCU-2235+	.17
CRD-POS-1262239 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	M528	Y X R 528 K2/8.4 C4	248003	N	612				CRD-HCU-2239+	.17
CRD-POS-1262243 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	M528	Y X R 528 K2/8.4 C4	248003	N	612				CRD-HCU-2243+	.17
CRD-POS-1262247 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	M528	Y X R 528 K2/8.4 C4	248003	N	612				CRD-HCU-2247+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	STATUS		QID ZONE	TH ROOM	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*							
						S E DETAIL A/E ZONE	Y X			HL TEST	ANL FO C ACCURACY	FREQ	AGING	DBE C	HOURS						
CRD-POS-1262251 POSITION SWITCH 02C12	3	A	1 0 A	H302 BZE6-2RN72	M528	R	528 K2/8.4 C4	Y X	248003	N	612									CRD-HCU-2251+	.17
CRD-POS-1262255 POSITION SWITCH 02C12	3	A	1 0 A	H302 BZE6-2RN72	M528	R	528 K2/8.4 C4	Y X	248003	N	612									CRD-HCU-2255+	.17
CRD-POS-1262259 POSITION SWITCH 02C12	3	A	1 0 A	M302 BZE6-2RN72	M528	R	528 K2/8.4 C4	Y X	248003	N	612									CRD-HCU-2259+	.17
CRD-POS-1262603 POSITION SWITCH 02C12	3	A	1 0 A	H302 BZE6-2RN72	M528	R	528 L5/8.4 C4	Y X	248003	N	612									CRD-HCU-2603+	.17
CRD-POS-1262607 POSITION SWITCH 02C12	3	A	1 0 A	H302 BZE6-2RN72	M528	R	528 L5/8.4 C4	Y X	248003	N	612									CRD-HCU-2607+	.17
CRD-POS-1262611 POSITION SWITCH 02C12	3	A	1 0 A	M302 BZE6-2RN72	M528	R	528 L5/8.4 C4	Y X	248003	N	612									CRD-HCU-2611+	.17
CRD-POS-1262615 POSITION SWITCH 02C12	3	A	1 0 A	M302 BZE6-2RN72	M528	R	528 L5/8.4 C4	Y X	248003	N	612									CRD-HCU-2615+	.17
CRD-POS-1262619 POSITION SWITCH 02C12	3	A	1 0 A	M302 BZE6-2RN72	M528	R	528 L5/8.4 C4	Y X	248003	N	612									CRD-HCU-2619+	.17
CRD-POS-1262623 POSITION SWITCH 02C12	3	A	1 0 A	H302 BZE6-2RN72	M528	R	528 L5/8.4 C4	Y X	248003	N	612									CRD-HCU-2623+	.17
CRD-POS-1262627 POSITION SWITCH 02C12	3	A	1 0 A	M302 BZE6-2RN72	M528	R	528 L5/8.4 C4	Y X	248003	N	612									CRD-HCU-2627+	.17
CRD-POS-1262631 POSITION SWITCH 02C12	3	A	1 0 A	H302 BZE6-2RN72	M528	R	528 L5/8.4 C4	Y X	248003	N	612									CRD-HCU-2631+	.17
CRD-POS-1262635 POSITION SWITCH 02C12	3	A	1 0 A	H302 BZE6-2RN72	M528	R	528 K2/8.4 C4	Y X	248003	N	612									CRD-HCU-2635+	.17
CRD-POS-1262639 POSITION SWITCH 02C12	3	A	1 0 A	M302 BZE6-2RN72	M528	R	528 K2/8.4 C4	Y X	248003	N	612									CRD-HCU-2639+	.17

EPN		MFG			MODEL	STATUS			***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*		
CONTRACT	LEVEL	DESCRIPTION EC USE SAFETY FUNCTION	A/E	BLDG ELEV DRAWING		S E	QID	TM	HL TEST	ANL FO C	FREQ	AGING DBE C	HOURS		
								ZONE	ROOM	ACCURACY			COMPOSITE EPN		
CRD-POS-1262643		M302	BZE6-2RN72			Y X	248003	N	612				CRD-HCU-2643+	.17	
POSITION SWITCH															
02C12	3	A	1 0 A	M528	R	528 K2/8.4	C4								
CRD-POS-1262647		M302	BZE6-2RN72			Y X	248003	N	612				CRD-HCU-2647+	.17	
POSITION SWITCH															
02C12	3	A	1 0 A	M528	R	528 K2/8.4	C4								
CRD-POS-1262651		M302	BZE6-2RN72			Y X	248003	N	612				CRD-HCU-2651+	.17	
POSITION SWITCH															
02C12	3	A	1 0 A	M528	R	528 K2/8.4	C4								
CRD-POS-1262655		M302	BZE6-2RN72			Y X	248003	N	612				CRD-HCU-2655+	.17	
POSITION SWITCH															
02C12	3	A	1 0 A	M528	R	528 K2/8.4	C4								
CRD-POS-1262659		M302	BZE6-2RN72			Y X	248003	N	612				CRD-HCU-2659+	.17	
POSITION SWITCH															
02C12	3	A	1 0 A	M528	R	528 K2/8.4	C4								
CRD-POS-1263003		M302	BZE6-2RN72			Y X	248003	N	612				CRD-HCU-3003+	.17	
POSITION SWITCH															
02C12	3	A	1 0 A	M528	R	528 L5/8.4	C4								
CRD-POS-1263007		M302	BZE6-2RN72			Y X	248003	N	612				CRD-HCU-3007+	.17	
POSITION SWITCH															
02C12	3	A	1 0 A	M528	R	528 L5/8.4	C4								
CRD-POS-1263011		M302	BZE6-2RN72			Y X	248003	N	612				CRD-HCU-3011+	.17	
POSITION SWITCH															
02C12	3	A	1 0 A	M528	R	528 L5/8.4	C4								
CRD-POS-1263015		M302	BZE6-2RN72			Y X	248003	N	612				CRD-HCU-3015+	.17	
POSITION SWITCH															
02C12	3	A	1 0 A	M528	R	528 L5/8.4	C4								
CRD-POS-1263019		M302	BZE6-2RN72			Y X	248003	N	612				CRD-HCU-3019+	.17	
POSITION SWITCH															
02C12	3	A	1 0 A	M528	R	528 L5/8.4	C4								
CRD-POS-1263023		M302	BZE6-2RN72			Y X	248003	N	612				CRD-HCU-3023+	.17	
POSITION SWITCH															
02C12	3	A	1 0 A	M528	R	528 L5/8.4	C4								
CRD-POS-1263027		M302	BZE6-2RN72			Y X	248003	N	612				CRD-HCU-3027+	.17	
POSITION SWITCH															
02C12	3	A	1 0 A	M528	R	528 L5/8.4	C4								
CRD-POS-1263031		M302	BZE6-2RN72			Y X	248003	N	612				CRD-HCU-3031+	.17	
POSITION SWITCH															
02C12	3	A	1 0 A	M528	R	528 K.2/3.7	C4								

CONTRACT	EPN	LEVEL	DESCRIPTION			MODEL	BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	OID	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*							
			FC	USE	SAFETY FUNCTION					ZONE	TM	HL TEST	ANL FO C	FREQ	ACCURACY	AGING	DBE C	HOURS			
CRD-POS-1263035				M302	BZE6-2RN72			Y X	248003	N	612										
	POSITION SWITCH																				
	02C12	3	A	1 0	A	M528	R 528	K.2/3.7 C4												CRD-HCU-3035+	.17
CRD-POS-1263039				M302	BZE6-2RN72			Y X	248003	N	612										
	POSITION SWITCH																				
	02C12	3	A	1 0	A	M528	R 528	K2/8.4 C4												CRD-HCU-3039+	.17
CRD-POS-1263043				M302	BZE6-2RN72			Y X	248003	N	612										
	POSITION SWITCH																				
	02C12	3	A	1 0	A	M528	R 528	K.2/3.7 C4												CRD-HCU-3043+	.17
CRD-POS-1263047				M302	BZE6-2RN72			Y X	248003	N	612										
	POSITION SWITCH																				
	02C12	3	A	1 0	A	M528	R 528	K.2/3.7 C4												CRD-HCU-3047+	.17
CRD-POS-1263051				M302	BZE6-2RN72			Y X	248003	N	612										
	POSITION SWITCH																				
	02C12	3	A	1 0	A	M528	R 528	K.2/3.7 C4												CRD-HCU-3051+	.17
CRD-POS-1263055				M302	BZE6-2RN72			Y X	248003	N	612										
	POSITION SWITCH																				
	02C12	3	A	1 0	A	M528	R 528	K.2/3.7 C4												CRD-HCU-3055+	.17
CRD-POS-1263059				M302	BZE6-2RN72			Y X	248003	N	612										
	POSITION SWITCH																				
	02C12	3	A	1 0	A	M528	R 528	K.2/3.7 C4												CRD-HCU-3059+	.17
CRD-POS-1263403				M302	BZE6-2RN72			Y X	248003	N	612										
	POSITION SWITCH																				
	02C12	3	A	1 0	A	M528	R 528	L.5/3.7 C4												CRD-HCU-3403+	.17
CRD-POS-1263407				M302	BZE6-2RN72			Y X	248003	N	612										
	POSITION SWITCH																				
	02C12	3	A	1 0	A	M528	R 528	L.5/3.7 C4												CRD-HCU-3407+	.17
CRD-POS-1263411				M302	BZE6-2RN72			Y X	248003	N	612										
	POSITION SWITCH																				
	02C12	3	A	1 0	A	M528	R 528	L.5/3.7 C4												CRD-HCU-3411+	.17
CRD-POS-1263415				M302	BZE6-2RN72			Y X	248003	N	612										
	POSITION SWITCH																				
	02C12	3	A	1 0	A	M528	R 528	L.5/3.7 C4												CRD-HCU-3415+	.17
CRD-POS-1263419				M302	BZE6-2RN72			Y X	248003	N	612										
	POSITION SWITCH																				
	02C12	3	A	1 0	A	M528	R 528	L.5/3.7 C4												CRD-HCU-3419+	.17
CRD-POS-1263423				M302	BZE6-2RN72			Y X	248003	N	612										
	POSITION SWITCH																				
	02C12	3	A	1 0	A	M528	R 528	L.5/3.7 C4												CRD-HCU-3423+	.17

CONTRACT	LEVEL	EPN	DESCRIPTION			MODEL	STATUS		QID	TM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*						
			EC	USE	SAFETY FUNCTION		BLOG ELEV	S E			HL	TEST	ANL	FO	C	FREQ	AGING	DBE	C	HOURS
						A/E DRAWING	DETAIL	ZONE	ROOM	ACCURACY										
CRD-POS-1263427			M302	BZE6-2RN72			Y X	248003	N	612										
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R 528	L.5/3.7 C4												CRD-HCU-3427+	.17
CRD-POS-1263431			M302	BZE6-2RN72			Y X	248003	N	612										
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R 528	K.2/3.7 C4												CRD-HCU-3431+	.17
CRD-POS-1263435			M302	BZE6-2RN72			Y X	248003	N	612										
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R 528	K.2/3.7 C4												CRD-HCU-3435+	.17
CRD-POS-1263439			M302	BZE6-2RN72			Y X	248003	N	612										
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R 528	K.2/3.7 C4												CRD-HCU-3439+	.17
CRD-POS-1263443			M302	BZE6-2RN72			Y X	248003	N	612										
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R 528	K.2/3.7 C4												CRD-HCU-3443+	.17
CRD-POS-1263447			M302	BZE6-2RN72			Y X	248003	N	612										
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R 528	K.2/3.7 C4												CRD-HCU-3447+	.17
CRD-POS-1263451			M302	BZE6-2RN72			Y X	248003	N	612										
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R 528	K.2/3.7 C4												CRD-HCU-3451+	.17
CRD-POS-1263455			M302	BZE6-2RN72			Y X	248003	N	612										
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R 528	K.2/3.7 C4												CRD-HCU-3455+	.17
CRD-POS-1263459			M302	BZE6-2RN72			Y X	248003	N	612										
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R 528	K.2/3.7 C4												CRD-HCU-3459+	.17
CRD-POS-1263803			M302	BZE6-2RN72			Y X	248003	N	612										
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R 528	L.5/3.7 C4												CRD-HCU-3803+	.17
CRD-POS-1263807			M302	BZE6-2RN72			Y X	248003	N	612										
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R 528	L.5/3.7 C4												CRD-HCU-3807+	.17
CRD-POS-1263811			M302	BZE6-2RN72			Y X	248003	N	612										
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R 528	L.5/3.7 C4												CRD-HCU-3811+	.17
CRD-POS-1263815			M302	BZE6-2RN72			Y X	248003	N	612										
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R 528	L.5/3.7 C4												CRD-HCU-3815+	.17

CONTRACT	EPN LEVEL	DESCRIPTION EC USE SAFETY FUNCTION	MFG MODEL	BLOG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*				
							TM	HL TEST ROOM	ANL FO C	FREQ ACCURACY	AGING DBE C	HOURS	COMPOSITE EPN		
CRD-POS-1263819		M302 BZE6-2RN72			Y X	248003	N	612							
POSITION SWITCH															
02C12	3	A 1 0 A	M528	R 528 L.5/3.7	C4									CRD-HCU-3819+	.17
CRD-POS-1263823		M302 BZE6-2RN72			Y X	248003	N	612							
POSITION SWITCH															
02C12	3	A 1 0 A	M528	R 528 L.5/3.7	C4									CRD-HCU-3823+	.17
CRD-POS-1263827		M302 BZE6-2RN72			Y X	248003	N	612							
POSITION SWITCH															
02C12	3	A 1 0 A	M528	R 528 L.5/3.7	C4									CRD-HCU-3827+	.17
CRD-POS-1263831		M302 BZE6-2RN72			Y X	248003	N	612							
POSITION SWITCH															
02C12	3	A 1 0 A	M528	R 528 K.2/3.7	C4									CRD-HCU-3831+	.17
CRD-POS-1263835		M302 BZE6-2RN72			Y X	248003	N	612							
POSITION SWITCH															
02C12	3	A 1 0 A	M528	R 528 K.2/3.7	C4									CRD-HCU-3835+	.17
CRD-POS-1263839		M302 BZE6-2RN72			Y X	248003	N	612							
POSITION SWITCH															
02C12	3	A 1 0 A	M528	R 528 K.2/3.7	C4									CRD-HCU-3839+	.17
CRD-POS-1263843		M302 BZE6-2RN72			Y X	248003	N	612							
POSITION SWITCH															
02C12	3	A 1 0 A	M528	R 528 K.2/3.7	C4									CRD-HCU-3843+	.17
CRD-POS-1263847		M302 BZE6-2RN72			Y X	248003	N	612							
POSITION SWITCH															
02C12	3	A 1 0 A	M528	R 528 K.2/3.7	C4									CRD-HCU-3847+	.17
CRD-POS-1263851		M302 BZE6-2RN72			Y X	248003	N	612							
POSITION SWITCH															
02C12	3	A 1 0 A	M528	R 528 K.2/3.7	C4									CRD-HCU-3851+	.17
CRD-POS-1263855		M302 BZE6-2RN72			Y X	248003	N	612							
POSITION SWITCH															
02C12	3	A 1 0 A	M528	R 528 K.2/3.7	C4									CRD-HCU-3855+	.17
CRD-POS-1263859		M302 BZE6-2RN72			Y X	248003	N	612							
POSITION SWITCH															
02C12	3	A 1 0 A	M528	R 528 K.2/3.7	C4									CRD-HCU-3859+	.17
CRD-POS-1264203		M302 BZE6-2RN72			Y X	248003	N	612							
POSITION SWITCH															
02C12	3	A 1 0 A	M528	R 528 L.5/3.7	C4									CRD-HCU-4203+	.17
CRD-POS-1264207		M302 BZE6-2RN72			Y X	248003	N	612							
POSITION SWITCH															
02C12	3	A 1 0 A	M528	R 528 L.5/3.7	C4									CRD-HCU-4207+	.17

CONTRACT	EPN LEVEL	DESCRIPTION EC	MFG USE	SAFETY FUNCTION	MODEL A/E	BLDG ELEV DRAWING	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*					
									TM	HL	TEST	ANL	FO	C	FREQ	AGING	DBE
CRD-POS-1264607 POSITION SWITCH 02C12	3	A	1 0	A	M528	R 528 L.5/3.7 C4	Y X 248003	612								CRD-HCU-4607+	.17
CRD-POS-1264611 POSITION SWITCH 02C12	3	A	1 0	A	M528	R 528 L.5/3.7 C4	Y X 248003	612								CRD-HCU-4611+	.17
CRD-POS-1264615 POSITION SWITCH 02C12	3	A	1 0	A	M528	R 528 L.5/3.7 C4	Y X 248003	612								CRD-HCU-4615+	.17
CRD-POS-1264619 POSITION SWITCH 02C12	3	A	1 0	A	M528	R 528 L.5/3.7 C4	Y X 248003	612								CRD-HCU-4619+	.17
CRD-POS-1264623 POSITION SWITCH 02C12	3	A	1 0	A	M528	R 528 L.5/3.7 C4	Y X 248003	612								CRD-HCU-4623+	.17
CRD-POS-1264627 POSITION SWITCH 02C12	3	A	1 0	A	M528	R 528 L.5/3.7 C4	Y X 248003	612								CRD-HCU-4627+	.17
CRD-POS-1264631 POSITION SWITCH 02C12	3	A	1 0	A	M528	R 528 K.2/3.7 C4	Y X 248003	612								CRD-HCU-4631+	.17
CRD-POS-1264635 POSITION SWITCH 02C12	3	A	1 0	A	M528	R 528 K.2/3.7 C4	Y X 248003	612								CRD-HCU-4635+	.17
CRD-POS-1264639 POSITION SWITCH 02C12	3	A	1 0	A	M528	R 528 K.2/3.7 C4	Y X 248003	612								CRD-HCU-4639+	.17
CRD-POS-1264643 POSITION SWITCH 02C12	3	A	1 0	A	M528	R 528 K.2/3.7 C4	Y X 248003	612								CRD-HCU-4643+	.17
CRD-POS-1264647 POSITION SWITCH 02C12	3	A	1 0	A	M528	R 528 K.2/3.7 C4	Y X 248003	612								CRD-HCU-4647+	.17
CRD-POS-1264651 POSITION SWITCH 02C12	3	A	1 0	A	M528	R 528 K.2/3.7 C4	Y X 248003	612								CRD-HCU-4651+	.17
CRD-POS-1264655 POSITION SWITCH 02C12	3	A	1 0	A	M528	R 528 K.2/3.7 C4	Y X 248003	612								CRD-HCU-4655+	.17

CONTRACT	LEVEL	EPN	MFG DESCRIPTION			MODEL	BLOG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
			EC	USE	SAFETY FUNCTION					TM	HL	TEST ANL FO C ACCURACY	FREQ	AGING DBE C COMPOSITE EPN	HOURS		
CRD-POS-1265843			M302	BZE6-2RN72			A X	248003									.17
POSITION SWITCH																	
02C12	3	A	1 0	A	H528	R 528 K.2/3.7	C4							CRD-HCU-5843+			
CRD-POS-1270219			M302	BZE6-2RN72			Y X	248003		N	612						.17
POSITION SWITCH																	
02C12	3	A	1 0	A	H528	R 528 L5/8.4	C4							CRD-HCU-0219+			
CRD-POS-1270223			M302	BZE6-2RN72			Y X	248003		N	612						.17
POSITION SWITCH																	
02C12	3	A	1 0	A	H528	R 528 L5/8.4	C4							CRD-HCU-0223+			
CRD-POS-1270227			M302	BZE6-2RN72			Y X	248003		N	612						.17
POSITION SWITCH																	
02C12	3	A	1 0	A	H528	R 528 L5/8.4	C4							CRD-HCU-0227+			
CRD-POS-1270231			M302	BZE6-2RN72			Y X	248003		N	612						.17
POSITION SWITCH																	
02C12	3	A	1 0	A	H528	R 528 L5/8.4	C4							CRD-HCU-0231+			
CRD-POS-1270235			M302	BZE6-2RN72			Y X	248003		N	612						.17
POSITION SWITCH																	
02C12	3	A	1 0	A	H528	R 528 K2/8.4	C4							CRD-HCU-0235+			
CRD-POS-1270239			M302	BZE6-2RN72			Y X	248003		N	612						.17
POSITION SWITCH																	
02C12	3	A	1 0	A	H528	R 528 K2/8.4	C4							CRD-HCU-0239+			
CRD-POS-1270243			P302	BZE6-2RN72			Y X	248003		N	612						.17
POSITION SWITCH																	
02C12	3	A	1 0	A	H528	R 528 K2/8.4	C4							CRD-HCU-0243+			
CRD-POS-1270615			M302	BZE6-2RN72			Y X	248003		N	612						.17
POSITION SWITCH																	
02C12	3	A	1 0	A	H528	R 528 L5/8.4	C4							CRD-HCU-0615+			
CRD-POS-1270619			M302	BZE6-2RN72			Y X	248003		N	612						.17
POSITION SWITCH																	
02C12	3	A	1 0	A	H528	R 528 L5/8.4	C4							CRD-HCU-0619+			
CRD-POS-1270623			P302	BZE6-2RN72			Y X	248003		N	612						.17
POSITION SWITCH																	
02C12	3	A	1 0	A	H528	R 528 L5/8.4	C4							CRD-HCU-0623+			
CRD-POS-1270627			P302	BZE6-2RN72			Y X	248003		N	612						.17
POSITION SWITCH																	
02C12	3	A	1 0	A	H528	R 528 L5/8.4	C4							CRD-HCU-0627+			
CRD-POS-1270631			P302	BZE6-2RN72			Y X	248003		N	612						.17
POSITION SWITCH																	
02C12	3	A	1 0	A	H528	R 528 L5/8.4	C4							CRD-HCU-0631+			

CONTRACT	EPN	LEVEL	DESCRIPTION			MODEL	BLDG	ELEV	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*						
			EC	USE	SAFETY FUNCTION						ZONE	TH	HL TEST	ANL FO C	ACCURACY	FREQ	AGING	DBE C	HOURS	
CRD-POS-1270635			M302	BZE6-2RN72				Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R	528	K2/8.4 C4											CRD-HCU-0635+	.17
CRD-POS-1270639			M302	BZE6-2RN72				Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R	528	K2/8.4 C4											CRD-HCU-0639+	.17
CRD-POS-1270643			M302	BZE6-2RN72				Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R	528	K2/8.4 C4											CRD-HCU-0643+	.17
CRD-POS-1270647			M302	BZE6-2RN72				Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R	528	K2/8.4 C4											CRD-HCU-0647+	.17
CRD-POS-1271011			M302	BZE6-2RN72				Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R	528	L5/8.4 C4											CRD-HCU-1011+	.17
CRD-POS-1271015			M302	BZE6-2RN72				Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R	528	L5/8.4 C4											CRD-HCU-1015+	.17
CRD-POS-1271019			M302	BZE6-2RN72				Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R	528	L5/8.4 C4											CRD-HCU-1019+	.17
CRD-POS-1271023			M302	BZE6-2RN72				Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R	528	L5/8.4 C4											CRD-HCU-1023+	.17
CRD-POS-1271027			M302	BZE6-2RN72				Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R	528	L5/8.4 C4											CRD-HCU-1027+	.17
CRD-POS-1271031			M302	BZE6-2RN72				Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R	528	L5/8.4 C4											CPD-HCU-1031+	.17
CRD-POS-1271035			M302	BZE6-2RN72				Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R	528	K2/8.4 C4											CRD-HCU-1035+	.17
CRD-POS-1271039			M302	BZE6-2RN72				Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R	528	K2/8.4 C4											CPD-HCU-1039+	.17
CRD-POS-1271043			M302	BZE6-2RN72				Y X	248003	N	612									
POSITION SWITCH																				
02C12	3	A	1 0	A	M528	R	528	K2/8.4 C4											CRD-HCU-1043+	.17

CONTRACT	EPN LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	BLDG ELEV DRAWING	STATUS S E DETAIL A/E ZONE	OID ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
								TH	HL TEST	ANL FO C	FREQ	AGING	DBE C	HOURS
CRD-POS-1271451 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	H528	R 528 K2/R.4 C4	Y X 248003	N	612					CRD-HCU-1451+	.17
CRD-POS-1271455 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	H528	R 528 K2/R.4 C4	Y X 248003	N	612					CRD-HCU-1455+	.17
CRD-POS-1271403 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	H528	R 528 L5/R.4 C4	Y X 248003	N	612					CRD-HCU-1803+	.17
CRD-POS-1271807 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	H528	R 528 L5/R.4 C4	Y X 248003	N	612					CRD-HCU-1807+	.17
CRD-POS-1271811 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	H528	R 528 L5/R.4 C4	Y X 248003	N	612					CRD-HCU-1811+	.17
CRD-POS-1271815 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	H528	R 528 L5/R.4 C4	Y X 248003	N	612					CRD-HCU-1815+	.17
CRD-POS-1271819 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	H528	R 528 L5/R.4 C4	Y X 248003	N	612					CRD-HCU-1819+	.17
CRD-POS-1271823 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	H528	R 528 L5/R.4 C4	Y X 248003	N	612					CRD-HCU-1823+	.17
CRD-POS-1271827 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	H528	R 528 L5/R.4 C4	Y X 248003	N	612					CRD-HCU-1827+	.17
CRD-POS-1271831 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	H528	R 528 L5/R.4 C4	Y X 248003	N	612					CRD-HCU-1831+	.17
CRD-POS-1271835 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	H528	R 528 K2/R.4 C4	Y X 248003	N	612					CRD-HCU-1835+	.17
CRD-PCS-1271839 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	M528	R 528 K2/R.4 C4	Y X 248003	N	612					CRD-HCU-1839+	.17
CRD-POS-1271843 POSITION SWITCH 02C12	3	A 1 0 A	M302 BZE6-2RN72	H528	R 528 K2/R.4 C4	Y X 248003	N	612					CRD-HCU-1843+	.17

CONTRACT	LEVEL	EPN	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E	BLOG ELEV DRAWING	STATUS S E DETAIL	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*		
								QID	TM	HL	TEST	ANL	FO	C
								ZONE	ROOM	ACCURACY		COMPOSITE EPN		
CRD-POS-1271847 POSITION SWITCH 02C12	3	A	1 0 A	M302 BZE6-2RN72	M528	R 528 K2/8.4 C4	Y X	248003	N	612			CRD-HCU-1847+	.17
CRD-POS-1271851 POSITION SWITCH 02C12	3	A	1 0 A	M302 BZE6-2RN72	M528	R 528 K2/8.4 C4	Y X	248003	N	612			CRD-HCU-1851+	.17
CRD-POS-1271855 POSITION SWITCH 02C12	3	A	1 0 A	M302 BZE6-2RN72	M528	R 528 K2/8.4 C4	Y X	248003	N	612			CRD-HCU-1855+	.17
CRD-POS-1271859 POSITION SWITCH 02C12	3	A	1 0 A	M302 BZE6-2RN72	M528	R 528 K2/8.4 C4	Y X	248003	N	612			CRD-HCU-1859+	.17
CRD-POS-1272203 POSITION SWITCH 02C12	3	A	1 0 A	M302 BZE6-2RN72	M528	R 528 L5/8.4 C4	Y X	248003	N	612			CRD-HCU-2203+	.17
CRD-POS-1272207 POSITION SWITCH 02C12	3	A	1 0 A	M302 BZE6-2RN72	M528	R 528 L5/8.4 C4	Y X	248003	N	612			CRD-HCU-2207+	.17
CRD-POS-1272211 POSITION SWITCH 02C12	3	A	1 0 A	M302 BZE6-2RN72	M528	R 528 L5/8.4 C4	Y X	248003	N	612			CRD-HCU-2211+	.17
CRD-POS-1272215 POSITION SWITCH 02C12	3	A	1 0 A	M302 BZE6-2RN72	M528	R 528 L5/8.4 C4	Y X	248003	N	612			CRD-HCU-2215+	.17
CRD-POS-1272219 POSITION SWITCH 02C12	3	A	1 0 A	M302 BZE6-2RN72	M528	R 528 L5/8.4 C4	Y X	248003	N	612			CRD-HCU-2219+	.17
CRD-POS-1272223 POSITION SWITCH 02C12	3	A	1 0 A	M302 BZE6-2RN72	M528	R 528 L5/8.4 C4	Y X	248003	N	612			CRD-HCU-2223+	.17
CRD-POS-1272227 POSITION SWITCH 02C12	3	A	1 0 A	M302 BZE6-2RN72	M528	R 528 L5/P.4 C4	Y X	248003	N	612			CRD-HCU-2227+	.17
CRD-POS-1272231 POSITION SWITCH 02C12	3	A	1 0 A	M302 BZE6-2RN72	M528	R 528 L5/8.4 C4	Y X	248003	N	612			CRD-HCU-2231+	.17
CRD-POS-1272235 POSITION SWITCH 02C12	3	A	1 0 A	M302 BZE6-2RN72	M528	R 528 K2/P.4 C4	Y X	248003	N	612			CRD-HCU-2235+	.17

EPN CONTRACT LEVEL	MFG DESCRIPTION			MODEL BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE		***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*				
	EC	USE	SAFETY FUNCTION		OID	TH	HL TEST ROOM	ANL FO C	FREQ ACCURACY	AGING DBE C	COMPOSITE EPN	HOURS			
CRD-POS-1272239 POSITION SWITCH 02C12 3	A	1 0	A	M528	R	528 K2/8.4 C4	Y X	248003	N	612				CRD-HCU-2239+	.17
CRD-POS-1272243 POSITION SWITCH 02C12 3	A	1 0	A	M528	R	528 K2/8.4 C4	Y X	248003	N	612				CRD-HCU-2243+	.17
CRD-POS-1272247 POSITION SWITCH 02C12 3	A	1 0	A	M528	R	528 K2/8.4 C4	Y X	248003	N	612				CRD-HCU-2247+	.17
CRD-POS-1272251 POSITION SWITCH 02C12 3	A	1 0	A	M528	R	528 K2/8.4 C4	Y X	248003	N	612				CRD-HCU-2251+	.17
CRD-POS-1272255 POSITION SWITCH 02C12 3	A	1 0	A	M528	R	528 K2/8.4 C4	Y X	248003	N	612				CRD-HCU-2255+	.17
CRD-POS-1272259 POSITION SWITCH 02C12 3	A	1 0	A	M528	R	528 K2/8.4 C4	Y X	248003	N	612				CRD-HCU-2259+	.17
CRD-POS-1272603 POSITION SWITCH 02C12 3	A	1 0	A	M528	R	528 L5/8.4 C4	Y X	248003	N	612				CRD-HCU-2603+	.17
CRD-POS-1272607 POSITION SWITCH 02C12 3	A	1 0	A	M528	R	528 L5/8.4 C4	Y X	248003	N	612				CRD-HCU-2607+	.17
CRD-POS-1272611 POSITION SWITCH 02C12 3	A	1 0	A	M528	R	528 L5/8.4 C4	Y X	248003	N	612				CRD-HCU-2611+	.17
CRD-POS-1272615 POSITION SWITCH 02C12 3	A	1 0	A	M528	R	528 L5/8.4 C4	Y X	248003	N	612				CRD-HCU-2615+	.17
CRD-POS-1272619 POSITION SWITCH 02C12 3	A	1 0	A	M528	R	528 L5/8.4 C4	Y X	248003	N	612				CRD-HCU-2619+	.17
CRD-POS-1272623 POSITION SWITCH 02C12 3	A	1 0	A	M528	P	528 L5/8.4 C4	Y X	248003	N	612				CRD-HCU-2623+	.17
CRD-POS-1272627 POSITION SWITCH 02C12 3	A	1 0	A	M528	R	528 L5/8.4 C4	Y X	248003	N	612				CRD-HCU-2627+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION			MODEL	BLDG ELEV	ELEV DRAWING	STATUS S E DETAIL A/E ZONE	OJD ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
			EC	USE	SAFETY FUNCTION						TH	HL TEST	ANL FO C	FREQ	AGING	DBE C
CRD-POS-1273023			M302	BZE6-2RN72				Y X	248003	N	612					.17
	POSITION SWITCH															
	02C12	3	A	1 0 A		H528							CRD-HCU-3023+			
CRD-POS-1273027			M302	BZE6-2RN72				Y X	248003	N	612					.17
	POSITION SWITCH															
	02C12	3	A	1 0 A		H528							CRD-HCU-3027+			
CRD-POS-1273031			M302	BZE6-2RN72				Y X	248003	N	612					.17
	POSITION SWITCH															
	02C12	3	A	1 0 A		H528							CRD-HCU-3031+			
CRD-POS-1273035			M302	BZE6-2RN72				Y X	248003	N	612					.17
	POSITION SWITCH															
	02C12	3	A	1 0 A		H528							CRD-HCU-3035+			
CRD-POS-1273039			M302	BZE6-2RN72				Y X	248003	N	612					.17
	POSITION SWITCH															
	02C12	3	A	1 0 A		H528							CRD-HCU-3039+			
CRD-POS-1273043			M302	BZE6-2RN72				Y X	248003	N	612					.17
	POSITION SWITCH															
	02C12	3	A	1 0 A		H528							CRD-HCU-3043+			
CRD-POS-1273047			M302	BZE6-2RN72				Y X	248003	N	612					.17
	POSITION SWITCH															
	02C12	3	A	1 0 A		H528							CRD-HCU-3047+			
CRD-POS-1273051			M302	BZE6-2RN72				Y X	248003	N	612					.17
	POSITION SWITCH															
	02C12	3	A	1 0 A		H528							CRD-HCU-3051+			
CRD-POS-1273055			M302	BZE6-2RN72				Y X	248003	N	612					.17
	POSITION SWITCH															
	02C12	3	A	1 0 A		H528							CRD-HCU-3055+			
CRD-POS-1273059			M302	BZE6-2RN72				Y X	248003	N	612					.17
	POSITION SWITCH															
	02C12	3	A	1 0 A		H528							CRD-HCU-3059+			
CRD-POS-1273403			M302	BZE6-2RN72				Y X	248003	N	612					.17
	POSITION SWITCH															
	02C12	3	A	1 0 A		H528							CRD-HCU-3403+			
CRD-POS-1273407			M302	BZE6-2RN72				Y X	248003	N	612					.17
	POSITION SWITCH															
	02C12	3	A	1 0 A		H528							CRD-HCU-3407+			
CRD-POS-1273411			M302	BZE6-2RN72				Y X	248003	N	612					.17
	POSITION SWITCH															
	02C12	3	A	1 0 A		H528							CRD-HCU-3411+			

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	BLDG ELEV DRAWING	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
									TH ZONE	HL ROOM	TEST ANL FO C ACCURACY	FREQ	AGING DBE C	HOURS COMPOSITE EPN	
CRD-POS-1273807 POSITION SWITCH 02C12		3	A 1 0 A	M302 BZE6-2RN72	M528	R 528 L.5/3.7 C4	Y X 248003	N	612					CRD-HCU-3807+	.17
CRD-POS-1273811 POSITION SWITCH 02C12		3	A 1 0 A	M302 BZE6-2RN72	M528	R 528 L.5/3.7 C4	Y X 248003	N	612					CRD-HCU-3811+	.17
CRD-POS-1273815 POSITION SWITCH 02C12		3	A 1 0 A	M302 BZE6-2RN72	M528	R 528 L.5/3.7 C4	Y X 248003	N	612					CRD-HCU-3815+	.17
CRD-POS-1273819 POSITION SWITCH 02C12		3	A 1 0 A	P302 BZE6-2RN72	M528	R 528 L.5/3.7 C4	Y X 248003	N	612					CRD-HCU-3819+	.17
CRD-POS-1273823 POSITION SWITCH 02C12		3	A 1 0 A	M302 BZE6-2RN72	M528	R 528 L.5/3.7 C4	Y X 248003	N	612					CRD-HCU-3823+	.17
CRD-POS-1273827 POSITION SWITCH 02C12		3	A 1 0 A	M302 BZE6-2RN72	M528	R 528 L.5/3.7 C4	Y X 248003	N	612					CRD-HCU-3827+	.17
CRD-POS-1273831 POSITION SWITCH 02C12		3	A 1 0 A	M302 BZE6-2RN72	M528	R 528 K.2/3.7 C4	Y X 248003	N	612					CRD-HCU-3831+	.17
CRD-POS-1273835 POSITION SWITCH 02C12		3	A 1 0 A	P302 BZE6-2RN72	M528	R 528 K.2/3.7 C4	Y X 248003	N	612					CRD-HCU-3835+	.17
CRD-POS-1273839 POSITION SWITCH 02C12		3	A 1 0 A	M302 BZE6-2RN72	M528	R 528 K.2/3.7 C4	Y X 248003	N	612					CRD-HCU-3839+	.17
CRD-POS-1273843 POSITION SWITCH 02C12		3	A 1 0 A	M302 BZE6-2RN72	M528	R 528 K2/8.4 C4	Y X 248003	N	612					CRD-HCU-3843+	.17
CRD-POS-1273847 POSITION SWITCH 02C12		3	A 1 0 A	M302 BZE6-2RN72	M528	R 528 K2/8.4 C4	Y X 248003	N	612					CRD-HCU-3847+	.17
CRD-POS-1273851 POSITION SWITCH 02C12		3	A 1 0 A	P302 BZE6-2RN72	M528	R 528 K2/8.4 C4	Y X 248003	N	612					CRD-HCU-3851+	.17
CRD-POS-1273855 POSITION SWITCH 02C12		3	A 1 0 A	M302 BZE6-2RN72	M528	R 528 K2/8.4 C4	Y X 248003	N	612					CRD-HCU-3855+	.17

CONTRACT	EPH LEVEL	DESCRIPTION FC	HFG USE	SAFETY FUNCTION	MODEL A/E	BLDG ELEV DRAWING	STATUS S E DETAIL A/E ZONE	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*			
								QID ZONE	TH ROOM	HL TEST ANL FO C ACCURACY	FREQ	AGING	DBE C	HOURS	
CRD-POS-1274251 POSITION SWITCH 02C12	3	A	1 0	A	M302 H528	BZE6-2RN72	Y X R 528 K2/8.4 C4	248003	N	612				CRD-HCU-4251+	.17
CRD-POS-1274255 POSITION SWITCH 02C12	3	A	1 0	A	M302 H528	BZE6-2RN72	Y X R 528 K2/8.4 C4	248003	N	612				CRD-HCU-4255+	.17
CRD-POS-1274259 POSITION SWITCH 02C12	3	A	1 0	A	M302 H528	BZE6-2RN72	Y X R 528 K2/8.4 C4	248003	N	612				CRD-HCU-4259+	.17
CRD-POS-1274607 POSITION SWITCH 02C12	3	A	1 0	A	M302 H528	BZE6-2RN72	Y X R 528 L5/8.4 C4	248003	N	612				CRD-HCU-4607+	.17
CRD-POS-1274611 POSITION SWITCH 02C12	3	A	1 0	A	M302 H528	BZE6-2RN72	Y X R 528 L5/8.4 C4	248003	N	612				CRD-HCU-4611+	.17
CRD-POS-1274615 POSITION SWITCH 02C12	3	A	1 0	A	M302 H528	BZE6-2RN72	Y X R 528 L5/8.4 C4	248003	N	612				CRD-HCU-4615+	.17
CRD-POS-1274619 POSITION SWITCH 02C12	3	A	1 0	A	M302 H528	BZE6-2RN72	Y X R 528 L5/8.4 C4	248003	N	612				CRD-HCU-4619+	.17
CRD-POS-1274623 POSITION SWITCH 02C12	3	A	1 0	A	M302 H528	BZE6-2RN72	Y X R 528 L5/8.4 C4	248003	N	612				CRD-HCU-4623+	.17
CRD-POS-1274627 POSITION SWITCH 02C12	3	A	1 0	A	M302 H528	BZE6-2RN72	Y X R 528 L5/8.4 C4	248003	N	612				CRD-HCU-4627+	.17
CRD-POS-1274631 POSITION SWITCH 02C12	3	A	1 0	A	M302 H528	BZE6-2RN72	Y X R 528 K2/8.4 C4	248003	N	612				CRD-HCU-4631+	.17
CRD-POS-1274635 POSITION SWITCH 02C12	3	A	1 0	A	M302 H528	BZE6-2RN72	Y X R 528 K2/8.4 C4	248003	N	612				CRD-HCU-4635+	.17
CRD-POS-1274639 POSITION SWITCH 02C12	3	A	1 0	A	M302 H528	BZE6-2RN72	Y X R 528 K2/8.4 C4	248003	N	612				CRD-HCU-4639+	.17
CRD-POS-1274643 POSITION SWITCH 02C12	3	A	1 0	A	M302 H528	BZE6-2RN72	Y X R 528 K.2/3.7	248003	N	612				CRD-HCU-4643+	.17

CONTRACT	EPN LEVEL	DESCRIPTION			MODEL	BLOG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID ZONE	TM ROOM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
		EC	USE	SAFETY FUNCTION						HL TEST	ANL FO C	FREQ	AGING	DBE C	HOURS	
CRD-POS-1274647 POSITION SWITCH 02C12	3	A	1 0	A	M302 BZE6-2RN72 M528	R 528 K.2/3.7 C4	Y X 248003	N	612						CRD-HCU-4647+	.17
CRD-POS-1274651 POSITION SWITCH 02C12	3	A	1 0	A	M302 BZE6-2RN72 M528	R 528 K.2/3.7 C4	Y X 248003	N	612						CRD-HCU-4651+	.17
CRD-POS-1274655 POSITION SWITCH 02C12	3	A	1 0	A	M302 BZE6-2RN72 M528	R 528 K.2/3.7 C4	Y X 248003	N	612						CRD-HCU-4655+	.17
CRD-POS-1275011 POSITION SWITCH 02C12	3	A	1 0	A	M302 DZE6-2RN72 M528	R 528 L.5/3.7 C4	Y X 248003	N	612						CRD-HCU-5011+	.17
CRD-POS-1275015 POSITION SWITCH 02C12	3	A	1 0	A	M302 BZE6-2RN72 M528	R 528 L.5/3.7 C4	Y X 248003	N	612						CRD-HCU-5015+	.17
CRD-POS-1275019 POSITION SWITCH 02C12	3	A	1 0	A	M302 BZE6-2RN72 M528	R 528 L.5/3.7 C4	Y X 248003	N	612						CRD-HCU-5019+	.17
CRD-POS-1275023 POSITION SWITCH 02C12	3	A	1 0	A	M302 BZE6-2RN72 M528	R 528 L.5/3.7 C4	Y X 248003	N	612						CRD-HCU-5023+	.17
CRD-POS-1275027 POSITION SWITCH 02C12	3	A	1 0	A	M302 BZE6-2RN72 M528	R 528 L.5/3.7 C4	Y X 248003	N	612						CRD-HCU-5027+	.17
CRD-POS-1275031 POSITION SWITCH 02C12	3	A	1 0	A	M302 BZE6-2RN72 M528	R 528 K.2/3.7 C4	Y X 248003	N	612						CRD-HCU-5031+	.17
CRD-POS-1275035 POSITION SWITCH 02C12	3	A	1 0	A	M302 BZE6-2RN72 M528	R 528 K.2/3.7 C4	Y X 248003	N	612						CRD-HCU-5035+	.17
CRD-POS-1275039 POSITION SWITCH 02C12	3	A	1 0	A	M302 BZE6-2RN72 M528	R 528 K.2/3.7 C4	Y X 248003	N	612						CRD-HCU-5039+	.17
CRD-POS-1275043 POSITION SWITCH 02C12	3	A	1 0	A	M302 BZE6-2RN72 M528	R 528 K.2/3.7 C4	Y X 248003	N	612						CRD-HCU-5043+	.17
CRD-POS-1275047 POSITION SWITCH 02C12	3	A	1 0	A	M302 DZE6-2RN72 M528	R 528 K.2/3.7 C4	Y X 248003	N	612						CRD-HCU-5047+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION EC	MFG USE	SAFETY FUNCTION	MODEL A/E	BLDG DRAWING	ELEV DETAIL	STATUS S E A/E	OID	TM ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			HOURS	
												HL TEST	ANL FO C	ACCURACY	FREQ	AGING	DBE C		COMPOSITE EPN
	CRD-POS-1275051		POSITION SWITCH 02C12	3	A	1 0 A	M302	BZE6-2RN72	Y X	248003	N	612							.17
	CRD-POS-1275415		POSITION SWITCH 02C12	3	A	1 0 A	M302	BZE6-2RN72	Y X	248003	N	612							.17
	CRD-POS-1275419		POSITION SWITCH 02C12	3	A	1 0 A	M302	BZE6-2RN72	Y X	248003	N	612							.17
	CRD-POS-1275423		POSITION SWITCH 02C12	3	A	1 0 A	M302	BZE6-2RN72	Y X	248003	N	612							.17
	CRD-POS-1275427		POSITION SWITCH 02C12	3	A	1 0 A	M302	BZE6-2RN72	Y X	248003	N	612							.17
	CRD-POS-1275431		POSITION SWITCH 02C12	3	A	1 0 A	M302	BZE6-2RN72	Y X	248003	N	612							.17
	CRD-POS-1275435		POSITION SWITCH 02C12	3	A	1 0 A	M302	BZE6-2RN72	Y X	248003	N	612							.17
	CRD-POS-1275439		POSITION SWITCH 02C12	3	A	1 0 A	M302	BZE6-2RN72	Y X	248003	N	612							.17
	CRD-POS-1275443		POSITION SWITCH 02C12	3	A	1 0 A	M302	BZE6-2RN72	Y X	248003	N	612							.17
	CRD-POS-1275447		POSITION SWITCH 02C12	3	A	1 0 A	M302	BZE6-2RN72	Y X	248003	N	612							.17
	CRD-POS-1275819		POSITION SWITCH 02C12	3	A	1 0 A	M302	BZE6-2RN72	Y X	248003	N	612							.17
	CRD-POS-1275823		POSITION SWITCH 02C12	3	A	1 0 A	M302	BZE6-2RN72	Y X	248003	N	612							.17
	CRD-POS-1275827		POSITION SWITCH 02C12	3	A	1 0 A	M302	BZE6-2RN72	Y X	248003	N	612							.17

EPN	MFG	DESCRIPTION	MODEL	STATUS	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*			
					S E	QID	TM	HL TEST	ANL FO C	FREQ	AGING	DBE
CONTRACT	LEVEL	EC USE	SAFETY FUNCTION	BLDG ELEV	DETAIL	ZONE	ROOM	ACCURACY				
				A/E DRAWING	A/E ZONE							
CRD-SPV-1170615	A610	HVA904052-J		A X	315020	N	612					.17
SCRAM SOLENOID PILOT	CRD-V-126&127			R	530 L5/8.4					CRD-HCU-0615+		
02C12	2	A	1 0 A	M528	D2							
CRD-SPV-1170619	A610	HVA904052-J		A X	315020	N	612					.17
SCRAM SOLENOID PILOT	CRD-V-126&127			R	530 L5/8.4					CRD-HCU-0619+		
02C12	2	A	1 0 A	M528	D2							
CRD-SPV-1170623	A610	HVA904052-J		A X	315020	N	612					.17
SCRAM SOLENOID PILOT	CRD-V-126&127			R	530 L5/8.4					CRD-HCU-0623+		
02C12	2	A	1 0 A	M528	D2							
CRD-SPV-1170627	A610	HVA904052-J		A X	315020	N	612					.17
SCRAM SOLENOID PILOT	CRD-V-126&127			R	530 L5/8.4					CRD-HCU-0627+		
02C12	2	A	1 0 A	M528	D2							
CRD-SPV-1170631	A610	HVA904052-J		A X	315020	N	612					.17
SCRAM SOLENOID PILOT	CRD-V-126&127			R	530 L5/8.4					CPD-HCU-0631+		
02C12	2	A	1 0 A	M528	D2							
CRD-SPV-1170635	A610	HVA904052-J		A X	315020	N	612					.17
SCRAM SOLENOID PILOT	CRD-V-126&127			R	530 K2/8.4					CRD-HCU-0635+		
02C12	2	A	1 0 A	M528	D2							
CRD-SPV-1170639	A610	HVA904052-J		A X	315020	N	612					.17
SCRAM SOLENOID PILOT	CRD-V-126&127			R	530 K2/8.4					CRD-HCU-0639+		
02C12	2	A	1 0 A	M528	D2							
CRD-SPV-1170643	A610	HVA904052-J		A X	315020	N	612					.17
SCRAM SOLENOID PILOT	CRD-V-126&127			R	530 K2/8.4					CRD-HCU-0643+		
02C12	2	A	1 0 A	M528	D2							
CRD-SPV-1170647	A610	HVA904052-J		A X	315020	N	612					.17
SCRAM SOLENOID PILOT	CRD-V-126&127			R	530 K2/8.4					CRD-HCU-0647+		
02C12	2	A	1 0 A	M528	D2							
CRD-SPV-1171011	A610	HVA904052-J		A X	315020	N	612					.17
SCRAM SOLENOID PILOT	CRD-V-126&127			R	530 L5/8.4					CRD-HCU-1011+		
02C12	2	A	1 0 A	M528	D2							
CRD-SPV-1171015	A610	HVA904052-J		A X	315020	N	612					.17
SCRAM SOLENOID PILOT	CRD-V-126&127			R	530 L5/8.4					CRD-HCU-1015+		
02C12	2	A	1 0 A	M528	D2							
CRD-SPV-1171019	A610	HVA904052-J		A X	315020	N	612					.17
SCRAM SOLENOID PILOT	CRD-V-126&127			R	530 L5/8.4					CRD-HCU-1019+		
02C12	2	A	1 0 A	M528	D2							
CRD-SPV-1171023	A610	HVA904052-J		A X	315020	N	612					.17
SCRAM SOLENOID PILOT	CRD-V-126&127			R	530 L5/8.4					CPD-HCU-1023+		
02C12	2	A	1 0 A	M528	D2							

CONTRACT	EPN LEVEL	MFG DESCRIPTION EC USE SAFETY FUNCTION	MODEL A/E	BLDG ELEV DRAWING	STATUS S E QID	TH HL TEST ANL FO C FREQ	***SEISMIC (S) PARAMETERS***	•ENV. (E) PARAMETERS• AGING DBE C HOURS	COMPOSITE EPN
CRD-SPV-1171027 SCRAM SOLENOID 02C12	2	A610 PILOT CRD-V-126&127 A 1 0 A	HVA904052-J M528	530 L5/8.4 D2	A X 315020	N 612			CRD-HCU-1027+ .17
CRD-SPV-1171031 SCRAM SOLENOID 02C12	2	A610 PILOT CRD-V-126&127 A 1 0 A	HVA904052-J M528	530 L5/8.4 D2	A X 315020	N 612			CRD-HCU-1031+ .17
CRD-SPV-1171035 SCRAM SOLENOID 02C12	2	A610 PILOT CRD-V-126&127 A 1 0 A	HVA904052-J M528	530 K2/8.4 D2	A X 315020	N 612			CRD-HCU-1035+ .17
CRD-SPV-1171039 SCRAM SOLENOID 02C12	2	A610 PILOT CRD-V-126&127 A 1 0 A	HVA904052-J M528	530 K2/8.4 D2	A X 315020	N 612			CRD-HCU-1039+ .17
CRD-SPV-1171043 SCRAM SOLENOID 02C12	2	A610 PILOT CRD-V-126&127 A 1 0 A	HVA904052-J M528	530 K2/8.4 D2	A X 315020	N 612			CRD-HCU-1043+ .17
CRD-SPV-1171047 SCRAM SOLENOID 02C12	2	A610 PILOT CRD-V-126&127 A 1 0 A	HVA904052-J M528	530 K2/8.4 D2	A X 315020	N 612			CRD-HCU-1047+ .17
CRD-SPV-1171051 SCRAM SOLENOID 02C12	2	A610 PILOT CRD-V-126&127 A 1 0 A	HVA904052-J M528	530 K2/8.4 D2	A X 315020	N 612			CRD-HCU-1051+ .17
CRD-SPV-1171407 SCRAM SOLENOID 02C12	2	A610 PILOT CRD-V-126&127 A 1 0 A	HVA904052-J M528	530 L5/8.4 D2	A X 315020	N 612			CRD-HCU-1407+ .17
CRD-SPV-1171411 SCRAM SOLENOID 02C12	2	A610 PILOT CRD-V-126&127 A 1 0 A	HVA904052-J M528	530 L5/8.4 D2	A X 315020	N 612			CRD-HCU-1411+ .17
CRD-SPV-1171415 SCRAM SOLENOID 02C12	2	A610 PILOT CRD-V-126&127 A 1 0 A	HVA904052-J M528	530 L5/8.4 D2	A X 315020	N 612			CRD-HCU-1415+ .17
CRD-SPV-1171419 SCRAM SOLENOID 02C12	2	A610 PILOT CRD-V-126&127 A 1 0 A	HVA904052-J M528	530 L5/8.4 D2	A X 315020	N 612			CRD-HCU-1419+ .17
CRD-SPV-1171423 SCRAM SOLENOID 02C12	2	A610 PILOT CRD-V-126&127 A 1 0 A	HVA904052-J M528	530 L5/8.4 D2	A X 315020	N 612			CRD-HCU-1423+ .17
CRD-SPV-1171427 SCRAM SOLENOID 02C12	2	A610 PILOT CRD-V-126&127 A 1 0 A	HVA904052-J M528	530 L5/8.4 D2	A X 315020	N 612			CRD-HCU-1427+ .17

CONTRACT	LEVEL	EPM	MFG DESCRIPTION EC USE SAFETY FUNCTION	MODEL BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID TM ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
							HL	TEST	ANL FO C ACCURACY	FREQ	AGING DBE C COMPOSITE EPN	HOURS	
CRD-SPV-1171827			A610 HVA904052-J		A X	315020	N	612					
SCRAM SOLENOID PILOT			CRD-V-126&127										
02C12	2	A	1 0 A	M528	R	530 L5/8.4 D2					CRD-HCU-1827+		.17
CRD-SPV-1171831			A610 HVA904052-J		A X	315020	N	612					
SCRAM SOLENOID PILOT			CRD-V-126&127										
02C12	2	A	1 0 A	M528	R	530 L5/8.4 D2					CRD-HCU-1831+		.17
CRD-SPV-1171835			A610 HVA904052-J		A X	315020	N	612					
SCRAM SOLENOID PILOT			CRD-V-126&127										
02C12	2	A	1 0 A	M528	R	530 K2/8.4 D2					CRD-HCU-1835+		.17
CRD-SPV-1171839			A610 HVA904052-J		A X	315020	N	612					
SCRAM SOLENOID PILOT			CRD-V-126&127										
02C12	2	A	1 0 A	M528	R	530 K2/8.4 D2					CRD-HCU-1839+		.17
CRD-SPV-1171843			A610 HVA904052-J		A X	315020	N	612					
SCRAM SOLENOID PILOT			CRD-V-126&127										
02C12	2	A	1 0 A	M528	R	530 K2/8.4 D2					CRD-HCU-1843+		.17
CRD-SPV-1171847			A610 HVA904052-J		A X	315020	N	612					
SCRAM SOLENOID PILOT			CRD-V-126&127										
02C12	2	A	1 0 A	M528	R	530 K2/8.4 D2					CRD-HCU-1847+		.17
CRD-SPV-1171851			A610 HVA904052-J		A X	315020	N	612					
SCRAM SOLENOID PILOT			CRD-V-126&127										
02C12	2	A	1 0 A	M528	R	530 K2/8.4 D2					CRD-HCU-1851+		.17
CRD-SPV-1171855			A610 HVA904052-J		A X	315020	N	612					
SCRAM SOLENOID PILOT			CRD-V-126&127										
02C12	2	A	1 0 A	M528	R	530 K2/8.4 D2					CRD-HCU-1855+		.17
CRD-SPV-1171859			A610 HVA904052-J		A X	315020	N	612					
SCRAM SOLENOID PILOT			CRD-V-126&127										
02C12	2	A	1 0 A	M528	R	530 K2/8.4 D2					CRD-HCU-1859+		.17
CRD-SPV-1172203			A610 HVA904052-J		A X	315020	N	612					
SCRAM SOLENOID PILOT			CRD-V-126&127										
02C12	2	A	1 0 A	M528	R	530 L5/8.4 D2					CRD-HCU-2203+		.17
CRD-SPV-1172207			A610 HVA904052-J		A X	315020	N	612					
SCRAM SOLENOID PILOT			CRD-V-126&127										
02C12	2	A	1 0 A	M528	R	530 L5/8.4 D2					CRD-HCU-2207+		.17
CRD-SPV-1172211			A610 HVA904052-J		A X	315020	N	612					
SCRAM SOLENOID PILOT			CRD-V-126&127										
02C12	2	A	1 0 A	M528	R	530 L5/8.4 D2					CRD-HCU-2211+		.17
CRD-SPV-1172215			A610 HVA904052-J		A X	315020	N	612					
SCRAM SOLENOID PILOT			CRD-V-126&127										
02C12	2	A	1 0 A	M528	R	530 L5/8.4 D2					CRD-HCU-2215+		.17

CONTRACT	EPN	LEVEL	MFG DESCRIPTION			MODEL	BLDG	ELEV	STATUS S E	QID	***SEISMIC (S) PARAMETERS***			*ENV: (E) PARAMETERS*						
			EC	USE	SAFETY FUNCTION						ZONE	TM	HL	TEST	ANL	FO	C	FREQ	AGING	DBE
						A/E	DRAWING	A/E	ZONE	ROOM	ACCURACY									
CRD-SPV-1172219			A610	HVA904052-J				A X	315020	N	612									
	SCRAM SOLENOID	PILOT	CRD-V-126&127			R	530 L5/8.4													
	02C12	2	A	1 0 A		M528		D2											CRD-HCU-2219+	.17
CRD-SPV-1172223			A610	HVA904052-J				A X	315020	N	612									
	SCRAM SOLENOID	PILOT	CRD-V-126&127			R	530 L5/8.4													
	02C12	2	A	1 0 A		M528		D2											CRD-HCU-2223+	.17
CRD-SPV-1172227			A610	HVA904052-J				A X	315020	N	612									
	SCRAM SOLENOID	PILOT	CRD-V-126&127			R	530 L5/8.4													
	02C12	2	A	1 0 A		M528		D2											CRD-HCU-2227+	.17
CRD-SPV-1172231			A610	HVA904052-J				A X	315020	N	612									
	SCRAM SOLENOID	PILOT	CRD-V-126&127			R	530 L5/8.4													
	02C12	2	A	1 0 A		M528		D2											CRD-HCU-2231+	.17
CRD-SPV-1172235			A610	HVA904052-J				A X	315020	N	612									
	SCRAM SOLENOID	PILOT	CRD-V-126&127			R	530 K2/8.4													
	02C12	2	A	1 0 A		M528		D2											CRD-HCU-2235+	.17
CRD-SPV-1172239			A610	HVA904052-J				A X	315020	N	612									
	SCRAM SOLENOID	PILOT	CRD-V-126&127			R	530 K2/8.4													
	02C12	2	A	1 0 A		M528		D2											CRD-HCU-2239+	.17
CRD-SPV-1172243			A610	HVA904052-J				A X	315020	N	612									
	SCRAM SOLENOID	PILOT	CRD-V-126&127			R	530 K2/8.4													
	02C12	2	A	1 0 A		M528		D2											CRD-HCU-2243+	.17
CRD-SPV-1172247			A610	HVA904052-J				A X	315020	N	612									
	SCRAM SOLENOID	PILOT	CRD-V-126&127			R	530 K2/8.4													
	02C12	2	A	1 0 A		M528		D2											CRD-HCU-2247+	.17
CRD-SPV-1172251			A610	HVA904052-J				A X	315020	N	612									
	SCRAM SOLENOID	PILOT	CRD-V-126&127			R	530 K2/8.4													
	02C12	2	A	1 0 A		M528		D2											CRD-HCU-2251+	.17
CRD-SPV-1172255			A610	HVA904052-J				A X	315020	N	612									
	SCRAM SOLENOID	PILOT	CRD-V-126&127			R	530 K2/8.4													
	02C12	2	A	1 0 A		M528		D2											CRD-HCU-2255+	.17
CRD-SPV-1172259			A610	HVA904052-J				A X	315020	N	612									
	SCRAM SOLENOID	PILOT	CRD-V-126&127			R	530 K2/8.4													
	02C12	2	A	1 0 A		M528		D2											CRD-HCU-2259+	.17
CRD-SPV-1172603			A610	HVA904052-J				A X	315020	N	612									
	SCRAM SOLENOID	PILOT	CRD-V-126&127			R	530 L5/8.4													
	02C12	2	A	1 0 A		M528		D2											CRD-HCU-2603+	.17
CRD-SPV-1172607			A610	HVA904052-J				A X	315020	N	612									
	SCRAM SOLENOID	PILOT	CRD-V-126&127			R	530 L5/8.4													
	02C12	2	A	1 0 A		M528		D2											CRD-HCU-2607+	.17

EPN CONTRACT	LEVEL	HFG DESCRIPTION EC USE SAFETY FUNCTION	MODEL A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*					
						TM	HL	TEST	ANL	FO	C	FREQ	AGING	DBE
						ACCURACY			COMPOSITE EPN					
CRD-SPV-1172611 SCRAM SOLENOID 02C12	2	A 1 0 A A610 HVA904052-J CRD-V-126&127	M528	A X R 530 L5/8.4 D2	315020	N	612						CRD-HCU-2611+	.17
CRD-SPV-1172615 SCRAM SOLENOID 02C12	2	A 1 0 A A610 HVA904052-J CRD-V-126&127	M528	A X R 530 L5/8.4 D2	315020	N	612						CRD-HCU-2615+	.17
CRD-SPV-1172619 SCRAM SOLENOID 02C12	2	A 1 0 A A610 HVA904052-J CRD-V-126&127	M528	A X R 530 L5/8.4 D2	315020	N	612						CRD-HCU-2619+	.17
CRD-SPV-1172623 SCRAM SOLENOID 02C12	2	A 1 0 A A610 HVA904052-J CRD-V-126&127	M528	A X R 530 L5/8.4 D2	315020	N	612						CRD-HCU-2623+	.17
CRD-SPV-1172627 SCRAM SOLENOID 02C12	2	A 1 0 A A610 HVA904052-J CRD-V-126&127	M528	A X R 530 L5/8.4 D2	315020	N	612						CRD-HCU-2627+	.17
CRD-SPV-1172631 SCRAM SOLENOID 02C12	2	A 1 0 A A610 HVA904052-J CRD-V-126&127	M528	A X R 530 L5/8.4 D2	315020	N	612						CRD-HCU-2631+	.17
CRD-SPV-1172635 SCRAM SOLENOID 02C12	2	A 1 0 A A610 HVA904052-J CRD-V-126&127	M528	A X R 530 K2/8.4 D2	315020	N	612						CRD-HCU-2635+	.17
CRD-SPV-1172639 SCRAM SOLENOID 02C12	2	A 1 0 A A610 HVA904052-J CRD-V-126&127	M528	A X R 530 K2/8.4 D2	315020	N	612						CRD-HCU-2639+	.17
CRD-SPV-1172643 SCRAM SOLENOID 02C12	2	A 1 0 A A610 HVA904052-J CRD-V-126&127	M528	A X R 530 K2/8.4 D2	315020	N	612						CRD-HCU-2643+	.17
CRD-SPV-1172647 SCRAM SOLENOID 02C12	2	A 1 0 A A610 HVA904052-J CRD-V-126&127	M528	A X R 530 K2/8.4 D2	315020	N	612						CRD-HCU-2647+	.17
CRD-SPV-1172651 SCRAM SOLENOID 02C12	2	A 1 0 A A610 HVA904052-J CRD-V-126&127	M528	A X R 530 K2/8.4 D2	315020	N	612						CRD-HCU-2651+	.17
CRD-SPV-1172655 SCRAM SOLENOID 02C12	2	A 1 0 A A610 HVA904052-J CRD-V-126&127	M528	A X R 530 K2/8.4 D2	315020	N	612						CRD-HCU-2655+	.17
CRD-SPV-1172659 SCRAM SOLENOID 02C12	2	A 1 0 A A610 HVA904052-J CRD-V-126&127	M528	A X R 530 K2/8.4 D2	315020	N	612						CRD-HCU-2659+	.17

CONTRACT	EPR	LEVEL	DESCRIPTION CC USE SAFETY FUNCTION	MODEL BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
						GID	TH	HL TEST ZONE ROOM	ANL FO C ACCURACY	FREQ	AGING DBE C COMPOSITE EPN	HOURS	
CRD-SPV-1173003			A610 HVA904052-J SCRAM SOLENOID PILOT CRD-V-126&127 02C12 2 A 1 0 A	H528	A X L5/R.4 02	315020	N	612				CRD-HCU-3003+	.17
CRD-SPV-1173007			A610 HVA904052-J SCRAM SOLENOID PILOT CRD-V-126&127 02C12 2 A 1 0 A	H528	A X L5/R.4 02	315020	N	612				CRD-HCU-3007+	.17
CRD-SPV-1173011			A610 HVA904052-J SCRAM SOLENOID PILOT CRD-V-126&127 02C12 2 A 1 0 A	H528	A X L5/R.4 02	315020	N	612				CRD-HCU-3011+	.17
CRD-SPV-1173015			A610 HVA904052-J SCRAM SOLENOID PILOT CRD-V-126&127 02C12 2 A 1 0 A	H528	A X L5/R.4 02	315020	N	612				CRD-HCU-3015+	.17
CRD-SPV-1173019			A610 HVA904052-J SCRAM SOLENOID PILOT CRD-V-126&127 02C12 2 A 1 0 A	H528	A X L5/R.4 02	315020	N	612				CRD-HCU-3019+	.17
CRD-SPV-1173023			A610 HVA904052-J SCRAM SOLENOID PILOT CRD-V-126&127 02C12 2 A 1 0 A	H528	A X L5/R.4 02	315020	N	612				CRD-HCU-3023+	.17
CRD-SPV-1173027			A610 HVA904052-J SCRAM SOLENOID PILOT CRD-V-126&127 02C12 2 A 1 0 A	H528	A X L5/R.4 02	315020	N	612				CRD-HCU-3027+	.17
CRD-SPV-1173031			A610 HVA904052-J SCRAM SOLENOID PILOT CRD-V-126&127 02C12 2 A 1 0 A	H528	A X K.2/3.7 02	315020	N	612				CPD-HCU-3031+	.17
CRD-SPV-1173035			A610 HVA904052-J SCRAM SOLENOID PILOT CRD-V-126&127 02C12 2 A 1 0 A	H528	A X K.2/3.7 02	315020	N	612				CRD-HCU-3035+	.17
CRD-SPV-1173039			A610 HVA904052-J SCRAM SOLENOID PILOT CRD-V-126&127 02C12 2 A 1 0 A	H528	A X K.2/3.7 02	315020	N	612				CRD-HCU-3039+	.17
CRD-SPV-1173043			A610 HVA904052-J SCRAM SOLENOID PILOT CRD-V-126&127 02C12 2 A 1 0 A	H528	A X K.2/3.7 02	315020	N	612				CRD-HCU-3043+	.17
CRD-SPV-1173047			A610 HVA904052-J SCRAM SOLENOID PILOT CRD-V-126&127 02C12 2 A 1 0 A	H528	A X K.2/3.7 02	315020	N	612				CRD-HCU-3047+	.17
CRD-SPV-1173051			A610 HVA904052-J SCRAM SOLENOID PILOT CRD-V-126&127 02C12 2 A 1 0 A	H528	A X K.2/3.7 02	315020	N	612				CRD-HCU-3051+	.17

CONTRACT	EPH LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	STATUS S E BLDG ELEV DETAIL A/E ZONE	QID ZONE	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*			
							TM	HL	TEST	ANL	FO	C	FREQ	AGING
CRD-SPV-1173055 SCRAM SOLENOID 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	A X R 530 K.2/3.7 02	315020	N	612					CRD-HCU-3055+	.17
CRD-SPV-1173059 SCRAM SOLENOID 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	A X R 530 L.5/3.7 02	315020	N	612					CRD-HCU-3059+	.17
CRD-SPV-1173403 SCRAM SOLENOID 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	A X R 530 L.5/3.7 02	315020	N	612					CRD-HCU-3403+	.17
CRD-SPV-1173407 SCRAM SOLENOID 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	A X R 530 L.5/3.7 02	315020	N	612					CRD-HCU-3407+	.17
CRD-SPV-1173411 SCRAM SOLENOID 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	A X R 530 L.5/3.7 02	315020	N	612					CRD-HCU-3411+	.17
CRD-SPV-1173415 SCRAM SOLENOID 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	A X R 530 L.5/3.7 02	315020	N	612					CRD-HCU-3415+	.17
CRD-SPV-1173419 SCRAM SOLENOID 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	A Y R 530 L.5/3.7 02	315020	N	612					CRD-HCU-3419+	.17
CRD-SPV-1173423 SCRAM SOLENOID 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	A X R 530 L.5/3.7 02	315020	N	612					CRD-HCU-3423+	.17
CRD-SPV-1173427 SCRAM SOLENOID 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	A X R 530 L.5/3.7 02	315020	N	612					CRD-HCU-3427+	.17
CRD-SPV-1173431 SCRAM SOLENOID 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	A X R 530 K.2/3.7 02	315020	N	612					CPD-HCU-3431+	.17
CRD-SPV-1173435 SCRAM SOLENOID 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	A X R 530 K.2/3.7 02	315020	N	612					CRD-HCU-3435+	.17
CRD-SPV-1173439 SCRAM SOLENOID 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	A X R 530 K.2/3.7 02	315020	N	612					CRD-HCU-3439+	.17
CRD-SPV-1173443 SCRAM SOLENOID 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	A Y R 530 K.2/3.7 02	315020	N	612					CPD-HCU-3443+	.17

CONTRACT	EPN LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL	BLDG A/E	ELEV DRAWING	STATUS S E DETAIL A/E ZONE	QID ZONE	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*									
									TM	HL	TEST	ANL	FO	C	FREQ	AGING	DBE	C	HOURS			
		CRD-SPV-1173447 SCRAM SOLENOID PILOT 02C12 2 A 1 0 A	A610 HVA904052-J				A X 530 K.2/3.7 D2	315020	N	612											CRD-HCU-3447+	.17
		CRD-SPV-1173451 SCRAM SOLENOID PILOT 02C12 2 A 1 0 A	A610 HVA904052-J				A X 530 K.2/3.7 D2	315020	N	612											CRD-HCU-3451+	.17
		CRD-SPV-1173455 SCRAM SOLENOID PILOT 02C12 2 A 1 0 A	A610 HVA904052-J				A X 530 K.2/3.7 D2	315020	N	612											CRD-HCU-3455+	.17
		CRD-SPV-1173459 SCRAM SOLENOID PILOT 02C12 2 A 1 0 A	A610 HVA904052-J				A X 530 K.2/3.7 D2	315020	N	612											CRD-HCU-3459+	.17
		CRD-SPV-1173803 SCRAM SOLENOID PILOT 02C12 2 A 1 0 A	A610 HVA904052-J				A X 530 L.5/3.7 D2	315020	N	612											CRD-HCU-3803+	.17
		CRD-SPV-1173807 SCRAM SOLENOID PILOT 02C12 2 A 1 0 A	A610 HVA904052-J				A X 530 L.5/3.7 D2	315020	N	612											CRD-HCU-3807+	.17
		CRD-SPV-1173811 SCRAM SOLENOID PILOT 02C12 2 A 1 0 A	A610 HVA904052-J				A X 530 L.5/3.7 D2	315020	N	612											CRD-HCU-3811+	.17
		CRD-SPV-1173815 SCRAM SOLENOID PILOT 02C12 2 A 1 0 A	A610 HVA904052-J				A X 530 L.5/3.7 D2	315020	N	612											CRD-HCU-3815+	.17
		CRD-SPV-1173819 SCRAM SOLENOID PILOT 02C12 2 A 1 0 A	A610 HVA904052-J				A X 530 L.5/3.7 D2	315020	N	612											CRD-HCU-3819+	.17
		CRD-SPV-1173823 SCRAM SOLENOID PILOT 02C12 2 A 1 0 A	A610 HVA904052-J				A X 530 L.5/3.7 D2	315020	N	612											CRD-HCU-3823+	.17
		CRD-SPV-1173827 SCRAM SOLENOID PILOT 02C12 2 A 1 0 A	A610 HVA904052-J				A X 530 L.5/3.7 D2	315020	N	612											CRD-HCU-3827+	.17
		CRD-SPV-1173831 SCRAM SOLENOID PILOT 02C12 2 A 1 0 A	A610 HVA904052-J				A X 530 K.2/3.7 D2	315020	N	612											CRD-HCU-3831+	.17
		CRD-SPV-1173835 SCRAM SOLENOID PILOT 02C12 2 A 1 0 A	A610 HVA904052-J				A X 530 K.2/3.7 D2	315020	N	612											CRD-HCU-3835+	.17

CONTRACT	EPH LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E	BLDG DRAWING	ELEV DRAWING	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*					
									TM	HL TEST	ANL FO C	FREQ	AGING	DBE C	HOURS			
								ZONE	ROOM	ACCURACY		COMPOSITE EPN						
CRD-SPV-1174627 SCRAM SOLENOID PILOT 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	R 530	L.5/3.7 02	A X	315020	N	612							.17	CRD-HCU-4627+
CRD-SPV-1174631 SCRAM SOLENOID PILOT 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	R 530	K.2/3.7 02	A X	315020	N	612							.17	CRD-HCU-4631+
CRD-SPV-1174635 SCRAM SOLENOID PILOT 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	R 530	K.2/3.7 02	A X	315020	N	612							.17	CRD-HCU-4635+
CRD-SPV-1174639 SCRAM SOLENOID PILOT 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	R 530	K.2/3.7 02	A X	315020	N	612							.17	CRD-HCU-4639+
CRD-SPV-1174643 SCRAM SOLENOID PILOT 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	R 530	K.2/3.7 02	A X	315020	N	612							.17	CRD-HCU-4643+
CRD-SPV-1174647 SCRAM SOLENOID PILOT 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	R 530	K.2/3.7 02	A X	315020	N	612							.17	CRD-HCU-4647+
CRD-SPV-1174651 SCRAM SOLENOID PILOT 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	R 530	K.2/3.7 02	A X	315020	N	612							.17	CRD-HCU-4651+
CRD-SPV-1174655 SCRAM SOLENOID PILOT 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	R 530	K.2/3.7 02	A X	315020	N	612							.17	CRD-HCU-4655+
CRD-SPV-1175011 SCRAM SOLENOID PILOT 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	R 530	L.5/3.7 02	A X	315020	N	612							.17	CRD-HCU-5011+
CRD-SPV-1175015 SCRAM SOLENOID PILOT 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	R 530	L.5/3.7 02	A X	315020	N	612							.17	CRD-HCU-5015+
CRD-SPV-1175019 SCRAM SOLENOID PILOT 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	R 530	L.5/3.7 02	A X	315020	N	612							.17	CRD-HCU-5019+
CRD-SPV-1175023 SCRAM SOLENOID PILOT 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	R 530	L.5/3.7 02	A X	315020	N	612							.17	CRD-HCU-5023+
CRD-SPV-1175027 SCRAM SOLENOID PILOT 02C12	2	A 1 0 A	A610 HVA904052-J CRD-V-126&127	H528	R 530	L.5/3.7 02	A X	315020	N	612							.17	CRD-HCU-5027+

CONTRACT	EPN LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	STATUS S E BLOG ELEV DETAIL A/E ZONE	GID ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
							TH ROOM	HL ACCURACY	TEST FREQ	ANL COMPOSITE	FO EPN	C HOURS	
CRD-SPV-1175443 SCRAM SOLENOID 02C12	2	PILOT A	A610 CRD-V-126&127 1 0 A	HVA904052-J M528	A X K.2/3.7 D2	315020	N	612				CRD-HCU-5443+	.17
CRD-SPV-1175447 SCRAM SOLENOID 02C12	2	PILOT A	A610 CRD-V-126&127 1 0 A	HVA904052-J M528	A X K.2/3.7 D2	315020	N	612				CRD-HCU-5447+	.17
CRD-SPV-1175819 SCRAM SOLENOID 02C12	2	PILOT A	A610 CRD-V-126&127 1 0 A	HVA904052-J M528	A X K.2/3.7 D2	315020	N	612				CRD-HCU-5819+	.17
CRD-SPV-1175823 SCRAM SOLENOID 02C12	2	PILOT A	A610 CRD-V-126&127 1 0 A	HVA904052-J M528	A X K.2/3.7 D2	315020	N	612				CRD-HCU-5823+	.17
CRD-SPV-1175827 SCRAM SOLENOID 02C12	2	PILOT A	A610 CRD-V-126&127 1 0 A	HVA904052-J M528	A X K.2/3.7 D2	315020	N	612				CRD-HCU-5827+	.17
CRD-SPV-1175831 SCRAM SOLENOID 02C12	2	PILOT A	A610 CRD-V-126&127 1 0 A	HVA904052-J M528	A X K.2/3.7 D2	315020	N	612				CRD-HCU-5831+	.17
CRD-SPV-1175835 SCRAM SOLENOID 02C12	2	PILOT A	A610 CRD-V-126&127 1 0 A	HVA904052-J M528	A X K.2/3.7 D2	315020	N	612				CRD-HCU-5835+	.17
CRD-SPV-1175839 SCRAM SOLENOID 02C12	2	PILOT A	A610 CRD-V-126&127 1 0 A	HVA904052-J M528	A X K.2/3.7 D2	315020	N	612				CRD-HCU-5839+	.17
CRD-SPV-1175843 SCRAM SOLENOID 02C12	2	PILOT A	A610 CRD-V-126&127 1 0 A	HVA904052-J M528	A X K.2/3.7 D2	315020	N	612				CRD-HCU-5843+	.17
CRD-SPV-1180219 SCRAM SOLENOID 02C12	2	PILOT A	A610 CRD-V-126&127 1 0 A	HVA904052-J M528	A X L5/R.4 D2	315020	N	612				CRD-HCU-0219+	.17
CRD-SPV-1180223 SCRAM SOLENOID 02C12	2	PILOT A	A610 CRD-V-126&127 1 0 A	HVA904052-J M528	A X L5/P.4 D2	315020	N	612				CRD-HCU-0223+	.17
CRD-SPV-1180227 SCRAM SOLENOID 02C12	2	PILOT A	A610 CRD-V-126&127 1 0 A	HVA904052-J M528	A X L5/P.4 P2	315020	N	612				CRD-HCU-0227+	.17
CRD-SPV-1180231 SCRAM SOLENOID 02C12	2	PILOT A	A610 CRD-V-126&127 1 0 A	HVA904052-J M528	A X L5/P.4 P2	315020	N	612				CRD-HCU-0231+	.17

CONTRACT	EPN LEVEL	DESCRIPTION EC USE	HFG SAFETY FUNCTION	MODEL A/E DRAWING	STATUS S E QID	BLOG ELEV A/E ZONE	DETAIL A/E ZONE	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*		
								TH	HL	TEST	ANL FO C	FREQ	AGING	DRE C
CRD-SPV-1181015 SCRAM SOLENOID 02C12	2	PILOT CRD-V-126&127 A 1 0 A	A610 HVA904052-J	H528	A X	530 L5/8.4 D2	315020	N	612				CRD-HCU-1015+	.17
CRD-SPV-1181019 SCRAM SOLENOID 02C12	2	PILOT CRD-V-126&127 A 1 0 A	A610 HVA904052-J	H528	A X	530 L5/8.4 D2	315020	N	612				CRD-HCU-1019+	.17
CRD-SPV-1181023 SCRAM SOLENOID 02C12	2	PILOT CRD-V-126&127 A 1 0 A	A610 HVA904052-J	H528	A X	530 L5/8.4 D2	315020	N	612				CRD-HCU-1023+	.17
CRD-SPV-1181027 SCRAM SOLENOID 02C12	2	PILOT CRD-V-126&127 A 1 0 A	A610 HVA904052-J	H528	A X	530 L5/8.4 D2	315020	N	612				CRD-HCU-1027+	.17
CRD-SPV-1181031 SCRAM SOLENOID 02C12	2	PILOT CRD-V-126&127 A 1 0 A	A610 HVA904052-J	H528	A X	530 L5/8.4 D2	315020	N	612				CRD-HCU-1031+	.17
CRD-SPV-1181035 SCRAM SOLENOID 02C12	2	PILOT CRD-V-126&127 A 1 0 A	A610 HVA904052-J	H528	A X	530 K2/8.4 D2	315020	N	612				CRD-HCU-1035+	.17
CRD-SPV-1181039 SCRAM SOLENOID 02C12	2	PILOT CRD-V-126&127 A 1 0 A	A610 HVA904052-J	H528	A X	530 K2/8.4 D2	315020	N	612				CRD-HCU-1039+	.17
CRD-SPV-1181043 SCRAM SOLENOID 02C12	2	PILOT CRD-V-126&127 A 1 0 A	A610 HVA904052-J	H528	A X	530 K2/8.4 D2	315020	N	612				CRD-HCU-1043+	.17
CRD-SPV-1181047 SCRAM SOLENOID 02C12	2	PILOT CRD-V-126&127 A 1 0 A	A610 HVA904052-J	H528	A X	530 K2/8.4 D2	315020	N	612				CRD-HCU-1047+	.17
CRD-SPV-1181051 SCRAM SOLENOID 02C12	2	PILOT CRD-V-126&127 A 1 0 A	A610 HVA904052-J	H528	A X	530 K2/8.4 D2	315020	N	612				CRD-HCU-1051+	.17
CRD-SPV-1181407 SCRAM SOLENOID 02C12	2	PILOT CRD-V-126&127 A 1 0 A	A610 HVA904052-J	H528	A X	530 L5/8.4 D2	315020	N	612				CRD-HCU-1407+	.17
CRD-SPV-1181411 SCRAM SOLENOID 02C12	2	PILOT CRD-V-126&127 A 1 0 A	A610 HVA904052-J	H528	A X	530 L5/8.4 D2	315020	N	612				CRD-HCU-1411+	.17
CRD-SPV-1181415 SCRAM SOLENOID 02C12	2	PILOT CRD-V-126&127 A 1 0 A	A610 HVA904052-J	H528	A X	530 L5/8.4 D2	315020	N	612				CRD-HCU-1415+	.17

CONTRACT	EPN LEVEL	DESCRIPTION EC USE SAFETY FUNCTION	HFG MODEL	BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
							TM ZONE	HL ROOM	TEST ANL FO C ACCURACY	FREQ	AGING DBE C	COMPOSITE EPN	HOURS
CRD-SPV-1181419		A610 HVA904052-J			A X	315020		N	612				
SCRAM SOLENOID PILOT	02C12	CRD-V-126&127	H528	R 530 L5/8.4	02						CRD-HCU-1419+	.17	
CRD-SPV-1181423		A610 HVA904052-J			A X	315020		N	612				
SCRAM SOLENOID PILOT	02C12	CRD-V-126&127	H528	R 530 L5/8.4	02						CRD-HCU-1423+	.17	
CRD-SPV-1181427		A610 HVA904052-J			A X	315020		N	612				
SCRAM SOLENOID PILOT	02C12	CRD-V-126&127	H528	R 530 L5/8.4	02						CRD-HCU-1427+	.17	
CRD-SPV-1181431		A610 HVA904052-J			A X	315020		N	612				
SCRAM SOLENOID PILOT	02C12	CRD-V-126&127	H528	R 530 L5/8.4	02						CRD-HCU-1431+	.17	
CRD-SPV-1181435		A610 HVA904052-J			A X	315020		N	612				
SCRAM SOLENOID PILOT	02C12	CRD-V-126&127	H528	R 530 K2/8.4	02						CRD-HCU-1435+	.17	
CRD-SPV-1181439		A610 HVA904052-J			A X	315020		N	612				
SCRAM SOLENOID PILOT	02C12	CRD-V-126&127	H528	R 530 K2/8.4	02						CRD-HCU-1439+	.17	
CRD-SPV-1181443		A610 HVA904052-J			A X	315020		N	612				
SCRAM SOLENOID PILOT	02C12	CRD-V-126&127	H528	R 530 K2/8.4	02						CRD-HCU-1443+	.17	
CRD-SPV-1181447		A610 HVA904052-J			A X	315020		N	612				
SCRAM SOLENOID PILOT	02C12	CRD-V-126&127	H528	R 530 K2/8.4	02						CRD-HCU-1447+	.17	
CRD-SPV-1181451		A610 HVA904052-J			A X	315020		N	612				
SCRAM SOLENOID PILOT	02C12	CRD-V-126&127	H528	R 530 K2/8.4	02						CRD-HCU-1451+	.17	
CRD-SPV-1181455		A610 HVA904052-J			A X	315020		N	612				
SCRAM SOLENOID PILOT	02C12	CRD-V-126&127	H528	R 530 K2/8.4	02						CRD-HCU-1455+	.17	
CRD-SPV-1181803		A610 HVA904052-J			A X	315020		N	612				
SCRAM SOLENOID PILOT	02C12	CRD-V-126&127	H528	R 530 L5/8.4	02						CRD-HCU-1803+	.17	
CRD-SPV-1181807		A610 HVA904052-J			A X	315020		N	612				
SCRAM SOLENOID PILOT	02C12	CRD-V-126&127	H528	R 530 L5/8.4	02						CRD-HCU-1807+	.17	
CRD-SPV-1181811		A610 HVA904052-J			A X	315020		N	612				
SCRAM SOLENOID PILOT	02C12	CRD-V-126&127	H528	R 530 L5/8.4	02						CRD-HCU-1811+	.17	

CONTRACT	EPN LEVEL	DESCRIPTION FC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	BLDG ELEV A/E	STATUS S E QID ZONE	TM HL ROOM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			HOURS		
								TEST	ANL	FO C ACCURACY	FREQ	AGING	DBE C COMPOSITE EPN			
CRD-SPV-1181815		A610 SCRAM SOLENOID PILOT 02C12 2 A	HVA904052-J CRD-V-126&127 1 0 A	M528	530	L5/8.4 D2	A X	315020	N	612					.17	CRD-HCU-1815+
CRD-SPV-1181819		A610 SCRAM SOLENOID PILOT 02C12 2 A	HVA904052-J CRD-V-126&127 1 0 A	M528	530	L5/8.4 D2	A X	315020	N	612					.17	CRD-HCU-1819+
CRD-SPV-1181823		A610 SCRAM SOLENOID PILOT 02C12 2 A	HVA904052-J CRD-V-126&127 1 0 A	M528	530	L5/8.4 D2	A X	315020	N	612					.17	CRD-HCU-1823+
CRD-SPV-1181827		A610 SCRAM SOLENOID PILOT 02C12 2 A	HVA904052-J CRD-V-126&127 1 0 A	M528	530	L5/8.4 D2	A X	315020	N	612					.17	CRD-HCU-1827+
CRD-SPV-1181831		A610 SCRAM SOLENOID PILOT 02C12 2 A	HVA904052-J CRD-V-126&127 1 0 A	M528	530	L5/8.4 D2	A X	315020	N	612					.17	CRD-HCU-1831+
CRD-SPV-1181835		A610 SCRAM SOLENOID PILOT 02C12 2 A	HVA904052-J CRD-V-126&127 1 0 A	M528	530	K2/8.4 D2	A X	315020	N	612					.17	CRD-HCU-1835+
CRD-SPV-1181839		A610 SCRAM SOLENOID PILOT 02C12 2 A	HVA904052-J CRD-V-126&127 1 0 A	M528	530	K2/8.4 D2	A X	315020	N	612					.17	CRD-HCU-1839+
CRD-SPV-1181843		A610 SCRAM SOLENOID PILOT 02C12 2 A	HVA904052-J CRD-V-126&127 1 0 A	M528	530	K2/8.4 D2	A X	315020	N	612					.17	CRD-HCU-1843+
CRD-SPV-1181847		A610 SCRAM SOLENOID PILOT 02C12 2 A	HVA904052-J CRD-V-126&127 1 0 A	M528	530	K2/8.4 D2	A X	315020	N	612					.17	CRD-HCU-1847+
CRD-SPV-1181851		A610 SCRAM SOLENOID PILOT 02C12 2 A	HVA904052-J CRD-V-126&127 1 0 A	M528	530	K2/8.4 D2	A X	315020	N	612					.17	CRD-HCU-1851+
CRD-SPV-1181855		A610 SCRAM SOLENOID PILOT 02C12 2 A	HVA904052-J CRD-V-126&127 1 0 A	M528	530	K2/8.4 D2	A X	315020	N	612					.17	CPD-HCU-1855+
CRD-SPV-1181859		A610 SCRAM SOLENOID PILOT 02C12 2 A	HVA904052-J CRD-V-126&127 1 0 A	M528	530	K2/8.4 D2	A X	315020	N	612					.17	CRD-HCU-1859+
CRD-SPV-1182203		A610 SCRAM SOLENOID PILOT 02C12 2 A	HVA904052-J CRD-V-126&127 1 0 A	M528	530	L5/8.4 D2	A X	315020	N	612					.17	CRD-HCU-2203+

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	BLDG ELEV A/E	STATUS S E DETAIL A/E ZONE	QID ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
									TM	HL TEST	ANL FO C	FREQ	AGING	OBE C	HOURS
	CRD-SPV-1182207		A610 SCRAM SOLENOID PILOT CRD-V-126&127 02C12	HVA904052-J			A X R 530 L5/8.4 D2	315020	N	612					.17
					H528							CRD-HCU-2207+			
	CRD-SPV-1182211		A610 SCRAM SOLENOID PILOT CRD-V-126&127 02C12	HVA904052-J			A X R 530 L5/8.4 D2	315020	N	612					.17
					H528							CRD-HCU-2211+			
	CRD-SPV-1182215		A610 SCRAM SOLENOID PILOT CRD-V-126&127 02C12	HVA904052-J			A X R 530 L5/8.4 D2	315020	N	612					.17
					H528							CRD-HCU-2215+			
	CRD-SPV-1182219		A610 SCRAM SOLENOID PILOT CRD-V-126&127 02C12	HVA904052-J			A X R 530 L5/8.4 D2	315020	N	612					.17
					H528							CRD-HCU-2219+			
	CRD-SPV-1182223		A610 SCRAM SOLENOID PILOT CRD-V-126&127 02C12	HVA904052-J			A X R 530 L5/8.4 D2	315020	N	612					.17
					H528							CRD-HCU-2223+			
	CRD-SPV-1182227		A610 SCRAM SOLENOID PILOT CRD-V-126&127 02C12	HVA904052-J			A X R 530 L5/8.4 D2	315020	N	612					.17
					H528							CRD-HCU-2227+			
	CRD-SPV-1182231		A610 SCRAM SOLENOID PILOT CRD-V-126&127 02C12	HVA904052-J			A X R 530 L5/8.4 D2	315020	N	612					.17
					H528							CRD-HCU-2231+			
	CRD-SPV-1182235		A610 SCRAM SOLENOID PILOT CRD-V-126&127 02C12	HVA904052-J			A X R 530 K2/8.4 D2	315020	N	612					.17
					H528							CRD-HCU-2235+			
	CRD-SPV-1182239		A610 SCRAM SOLENOID PILOT CRD-V-126&127 02C12	HVA904052-J			A X R 530 K2/8.4 D2	315020	N	612					.17
					H528							CRD-HCU-2239+			
	CRD-SPV-1182243		A610 SCRAM SOLENOID PILOT CRD-V-126&127 02C12	HVA904052-J			A X R 530 K2/8.4 D2	315020	N	612					.17
					H528							CRD-HCU-2243+			
	CRD-SPV-1182247		A610 SCRAM SOLENOID PILOT CRD-V-126&127 02C12	HVA904052-J			A X R 530 K2/8.4 D2	315020	N	612					.17
					H528							CRD-HCU-2247+			
	CRD-SPV-1182251		A610 SCRAM SOLENOID PILOT CRD-V-126&127 02C12	HVA904052-J			A X R 530 K2/8.4 D2	315020	N	612					.17
					H528							CRD-HCU-2251+			
	CRD-SPV-1182255		A610 SCRAM SOLENOID PILOT CRD-V-126&127 02C12	HVA904052-J			A X R 530 K2	315020	N	612					.17
					H528							CRD-HCU-2255+			

CONTRACT	EPM LEVEL	DESCRIPTION EC	MFG USF	SAFETY FUNCTION	MODEL A/E DRAWING	BLDG ELEV A/E	STATUS S E DETAIL A/E ZONE	QID ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
									TM ROOM	HL ACCURACY	TEST ANL FO C FREQ	AGING COMPOSITE EPN	DBE C	HOURS	
CRD-SPV-1182259 SCRAM SOLENOID 02C12	2	PILOT	A610 A	HVA904052-J CRD-V-126&127 1 0 A	M528	R 530	A X K2/8.4 D2	315020	N	612				CRD-HCU-2259+	.17
CRD-SPV-1182603 SCRAM SOLENOID 02C12	2	PILOT	A610 A	HVA904052-J CRD-V-126&127 1 0 A	M528	R 530	A X L5/8.4 D2	315020	N	612				CRD-HCU-2603+	.17
CRD-SPV-1182607 SCRAM SOLENOID 02C12	2	PILOT	A610 A	HVA904052-J CRD-V-126&127 1 0 A	M528	R 530	A X L5/8.4 D2	315020	N	612				CRD-HCU-2607+	.17
CRD-SPV-1182611 SCRAM SOLENOID 02C12	2	PILOT	A610 A	HVA904052-J CRD-V-126&127 1 0 A	M528	R 530	A X L5/8.4 D2	315020	N	612				CRD-HCU-2611+	.17
CRD-SPV-1182615 SCRAM SOLENOID 02C12	2	PILOT	A610 A	HVA904052-J CRD-V-126&127 1 0 A	M528	R 530	A X L5/8.4 D2	315020	N	612				CRD-HCU-2615+	.17
CRD-SPV-1182619 SCRAM SOLENOID 02C12	2	PILOT	A610 A	HVA904052-J CRD-V-126&127 1 0 A	M528	R 530	A X L5/8.4 D2	315020	N	612				CRD-HCU-2619+	.17
CRD-SPV-1182623 SCRAM SOLENOID 02C12	2	PILOT	A610 A	HVA904052-J CRD-V-126&127 1 0 A	M528	R 530	A X L5/8.4 D2	315020	N	612				CRD-HCU-2623+	.17
CRD-SPV-1182627 SCRAM SOLENOID 02C12	2	PILOT	A610 A	HVA904052-J CRD-V-126&127 1 0 A	M528	R 530	A X L5/8.4 D2	315020	N	612				CRD-HCU-2627+	.17
CRD-SPV-1182631 SCRAM SOLENOID 02C12	2	PILOT	A610 A	HVA904052-J CRD-V-126&127 1 0 A	M528	R 530	A X L5/8.4 D2	315020	N	612				CRD-HCU-2631+	.17
CRD-SPV-1182635 SCRAM SOLENOID 02C12	2	PILOT	A610 A	HVA904052-J CRD-V-126&127 1 0 A	M528	R 530	A X K2/8.4 D2	315020	N	612				CRD-HCU-2635+	.17
CRD-SPV-1182639 SCRAM SOLENOID 02C12	2	PILOT	A610 A	HVA904052-J CRD-V-126&127 1 0 A	M528	R 530	A X K2/8.4 D2	315020	N	612				CRD-HCU-2639+	.17
CRD-SPV-1182643 SCRAM SOLENOID 02C12	2	PILOT	A610 A	HVA904052-J CRD-V-126&127 1 0 A	M528	R 530	A X K2/8.4 D2	315020	N	612				CRD-HCU-2643+	.17
CRD-SPV-1182647 SCRAM SOLENOID 02C12	2	PILOT	A610 A	HVA904052-J CRD-V-126&127 1 0 A	M528	R 530	A X K2/8.4 D2	315020	N	612				CRD-HCU-2647+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL -A/E DRAWING	BLDG ELEV DRAWING	STATUS S E DETAIL A/E ZONE	QID	ZONE	***SEISMIC (S) PARAMETERS*** TM HL TEST ANL FO C ROOM ACCURACY	*ENV. (E) PARAMETERS* AGING DBE C COMPOSITE EPN	FREQ	HOURS
CRD-SPV-1183435			A610	HVA904052-J			A X	315020	N	612			
SCRAM SOLENOID	PILOT	CRD-V-126&127				R	530 K.2/3.7				CRD-HCU-3435+		.17
02C12	2	A	1 0 A		H528		D2						
CRD-SPV-1183439			A610	HVA904052-J			A X	315020	N	612			
SCRAM SOLENOID	PILOT	CRD-V-126&127				R	530 K.2/3.7				CRD-HCU-3439+		.17
02C12	2	A	1 0 A		H528		D2						
CRD-SPV-1183443			A610	HVA904052-J			A X	315020	N	612			
SCRAM SOLENOID	PILOT	CRD-V-126&127				R	530 K.2/3.7				CRD-HCU-3443+		.17
02C12	2	A	1 0 A		H528		D2						
CRD-SPV-1183447			A610	HVA904052-J			A X	315020	N	612			
SCRAM SOLENOID	PILOT	CRD-V-126&127				R	530 K.2/3.7				CRD-HCU-3447+		.17
02C12	2	A	1 0 A		H528		D2						
CRD-SPV-1183451			A610	HVA904052-J			A X	315020	N	612			
SCRAM SOLENOID	PILOT	CRD-V-126&127				R	530 K.2/3.7				CRD-HCU-3451+		.17
02C12	2	A	1 0 A		H528		D2						
CRD-SPV-1183455			A610	HVA904052-J			A X	315020	N	612			
SCRAM SOLENOID	PILOT	CRD-V-126&127				R	530 K.2/3.7				CRD-HCU-3455+		.17
02C12	2	A	1 0 A		H528		D2						
CRD-SPV-1183459			A610	HVA904052-J			A X	315020	N	612			
SCRAM SOLENOID	PILOT	CRD-V-126&127				R	530 K.2/3.7				CRD-HCU-3459+		.17
02C12	2	A	1 0 A		H528		D2						
CRD-SPV-1183803			A610	HVA904052-J			A X	315020	N	612			
SCRAM SOLENOID	PILOT	CRD-V-126&127				R	530 L.5/3.7				CRD-HCU-3803+		.17
02C12	2	A	1 0 A		H528		D2						
CRD-SFV-1183807			A610	HVA904052-J			A X	315020	N	612			
SCRAM SOLENOID	PILOT	CRD-V-126&127				R	530 L.5/3.7				CRD-HCU-3807+		.17
02C12	2	A	1 0 A		H528		D2						
CRD-SPV-1183811			A610	HVA904052-J			A X	315020	N	612			
SCRAM SOLENOID	PILOT	CRD-V-126&127				R	530 L.5/3.7				CRD-HCU-3811+		.17
02C12	2	A	1 0 A		H528		D2						
CRD-SPV-1183815			A610	HVA904052-J			A X	315020	N	612			
SCRAM SOLENOID	PILOT	CRD-V-126&127				R	530 L.5/3.7				CRD-HCU-3815+		.17
02C12	2	A	1 0 A		H528		D2						
CRD-SPV-1183819			A610	HVA904052-J			A X	315020	N	612			
SCRAM SOLENOID	PILOT	CRD-V-126&127				R	530 L.5/3.7				CRD-HCU-3819+		.17
02C12	2	A	1 0 A		H528		D2						
CRD-SPV-1183923			A610	HVA904052-J			A X	315020	N	612			
SCRAM SOLENOID	PILOT	CRD-V-126&127				R	530 L.5/3.7				CRD-HCU-3823+		.17
02C12	2	A	1 0 A		H528		D2						

CONTRACT	EPH LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	STATUS S E DETAIL A/E ZONE	RID ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
							TM	HL	TEST ANL FO C ROOM ACCURACY	AGING DBE C COMPOSITE EPH	FREQ HOURS	
CRD-SPV-1185431		A610	HVA904052-J		A X	315020	N	612				
SCRAM SOLENOID PILOT	2	A 1 0 A	CRD-V-126&127	M528	R 530 K.2/3.7 D2						CRD-HCU-5431+	.17
CRD-SPV-1185435		A610	HVA904052-J		A X	315020	N	612				
SCRAM SOLENOID PILOT	2	A 1 0 A	CRD-V-126&127	M528	R 530 K.2/3.7 D2						CRD-HCU-5435+	.17
CRD-SPV-1185439		A610	HVA904052-J		A X	315020	N	612				
SCRAM SOLENOID PILOT	2	A 1 0 A	CRD-V-126&127	M528	R 530 K.2/3.7 D2						CRD-HCU-5439+	.17
CRD-SPV-1185443		A610	HVA904052-J		A X	315020	N	612				
SCRAM SOLENOID PILOT	2	A 1 0 A	CRD-V-126&127	M528	R 530 K.2/3.7 D2						CRD-HCU-5443+	.17
CRD-SPV-1185447		A610	HVA904052-J		A X	315020	N	612				
SCRAM SOLENOID PILOT	2	A 1 0 A	CRD-V-126&127	M528	R 530 K.2/3.7 D2						CRD-HCU-5447+	.17
CRD-SPV-1185819		A610	HVA904052-J		A X	315020	N	612				
SCRAM SOLENOID PILOT	2	A 1 0 A	CRD-V-126&127	M528	R 530 L.5/3.7 D2						CRD-HCU-5819+	.17
CRD-SPV-1185823		A610	HVA904052-J		A X	315020	N	612				
SCRAM SOLENOID PILOT	2	A 1 0 A	CRD-V-126&127	M528	R 530 L.5/3.7 D2						CRD-HCU-5823+	.17
CRD-SPV-1185827		A610	HVA904052-J		A X	315020	N	612				
SCRAM SOLENOID PILOT	2	A 1 0 A	CRD-V-126&127	M528	R 530 L.5/3.7 D2						CRD-HCU-5827+	.17
CRD-SPV-1185831		A610	HVA904052-J		A X	315020	N	612				
SCRAM SOLENOID PILOT	2	A 1 0 A	CRD-V-126&127	M528	R 530 K.2/3.7 D2						CRD-HCU-5831+	.17
CRD-SPV-1185835		A610	HVA904052-J		A X	315020	N	612				
SCRAM SOLENOID PILOT	2	A 1 0 A	CRD-V-126&127	M528	R 530 K.2/3.7 D2						CRD-HCU-5835+	.17
CRD-SPV-1185839		A610	HVA904052-J		A X	315020	N	612				
SCRAM SOLENOID PILOT	2	A 1 0 A	CRD-V-126&127	M528	R 530 K.2/3.7 D2						CRD-HCU-5839+	.17
CRD-SPV-1185843		A610	HVA904052-J		A X	315020	N	612				
SCRAM SOLENOID PILOT	2	A 1 0 A	CRD-V-126&127	M528	R 530 K.2/3.7 D2						CRD-HCU-5843+	.17
CRD-SPV-182		V030	V070900-45S/H10		P	315026						
SOL. VALVE TO	2	A 1 0 A, P1	CRD-V-180/181	M52P	R 525 J.1/4.8 C10						16 E	.17

CONTRACT	EPN	LEVEL	DESCRIPTION			MODEL	BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QTD ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
			EC	USE	SAFETY FUNCTION					TH	HL TEST	ANL FO C	FREQ	AGING DRE C	HOURS	COMPOSITE EPN
	CRD-SV-120/0635	2	A	1 0	A,P1	M528	R 522 K2/8.4 C4	X X 324007		N	612				CRD-HCU-0635+	.17
	CRD-SV-120/0639	2	A	1 0	A,P1	M528	R 522 K2/8.4 C4	X X 324007		N	612				CRD-HCU-0639+	.17
	CRD-SV-120/0643	2	A	1 0	A,P1	M528	R 522 K2/8.4 C4	X X 324007		N	612				CRD-HCU-0643+	.17
	CRD-SV-120/0647	2	A	1 0	A,P1	M528	R 522 K2/8.4 C4	X X 324007		N	612				CRD-HCU-0647+	.17
	CRD-SV-120/1011	2	A	1 0	A,R1	M528	R 522 L5/8.4 C4	X X 324007		N	612				CRD-HCU-1011+	.17
	CRD-SV-120/1015	2	A	1 0	A,B1	M528	R 522 L5/8.4 C4	X X 324007		N	612				CRD-HCU-1015+	.17
	CRD-SV-120/1019	2	A	1 0	A,P1	M528	R 522 L5/8.4 C4	X X 324007		N	612				CRD-HCU-1019+	.17
	CRD-SV-120/1023	2	A	1 0	A,R1	M528	R 522 L5/8.4 C4	X X 324007		N	612				CRD-HCU-1023+	.17
	CRD-SV-120/1027	2	A	1 0	A,B1	M528	R 522 L5/8.4 C4	X X 324007		N	612				CRD-HCU-1027+	.17
	CRD-SV-120/1031	2	A	1 0	A,P1	M528	R 522 L5/8.4 C4	X X 324007		N	612				CRD-HCU-1031+	.17
	CRD-SV-120/1035	2	A	1 0	A,P1	M528	R 522 K2/8.4 C4	X X 324007		N	612				CRD-HCU-1035+	.17
	CRD-SV-120/1039	2	A	1 0	A,B1	M528	R 522 K2/8.4 C4	X X 324007		N	612				CRD-HCU-1039+	.17
	CRD-SV-120/1043	2	A	1 0	A,P1	M528	R 522 K2/8.4 C4	X X 324007		N	612				CRD-HCU-1043+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	BLDG ELEV DRAWING	STATUS S E DETAIL A/E ZONE	GID	TH ZONE	***SEISHIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
										HL TEST	ANL FO C	FREQ	AGING DRE C	HOURS	COMPOSITE EPN		
	CRD-SV-120/1047		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12	HVA1709662A			X X K2/R.4 C4	324007	N	612						CRD-HCU-1047+	.17
	CRD-SV-120/1051		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12	HVA1709662A			X X K2/R.4 C4	324007	N	612						CRD-HCU-1051+	.17
	CRD-SV-120/1407		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12	HVA1709662A			X X L5/R.4 C4	324007	N	612						CRD-HCU-1407+	.17
	CRD-SV-120/1411		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12	HVA1709662A			X X L5/R.4 C4	324007	N	612						CRD-HCU-1411+	.17
	CRD-SV-120/1415		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12	HVA1709662A			X X L5/R.4 C4	324007	N	612						CRD-HCU-1415+	.17
	CRD-SV-120/1419		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12	HVA1709662A			X X L5/R.4 C4	324007	N	612						CRD-HCU-1419+	.17
	CRD-SV-120/1423		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12	HVA1709662A			X X L5/R.4 C4	324007	N	612						CRD-HCU-1423+	.17
	CRD-SV-120/1427		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12	HVA1709662A			X X L5/R.4 C4	324007	N	612						CRD-HCU-1427+	.17
	CRD-SV-120/1431		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12	HVA1709662A			X X L5/R.4 C4	324007	N	612						CRD-HCU-1431+	.17
	CRD-SV-120/1435		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12	HVA1709662A			X X K2/P.4 C4	324007	N	612						CRD-HCU-1435+	.17
	CRD-SV-120/1439		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12	HVA1709662A			X X K2/R.4 C4	324007	N	612						CRD-HCU-1439+	.17
	CRD-SV-120/1443		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12	HVA1709662A			X X K2/R.4 C4	324007	N	612						CRD-HCU-1443+	.17
	CRD-SV-120/1447		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12	HVA1709662A			X X K2 C4	324007	N	612						CRD-HCU-1447+	.17

CONTRACT	EPH LEVEL	DESCRIPTION			MODEL	BLDG A/E	ELEV DRAWING	STATUS		QID	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*				
		EC	USE	SAFETY FUNCTION				S E	TH		HL	TEST	ANL	FO	C	FREQ	AGING	OBE	C
CRD-SV-120/1451	2	A	1	0	A,01	H528	R	522 K2/8.4	X X	324007								CRD-HCU-1451+	.17
CRD-SV-120/1455	2	A	1	0	A,B1	H528	R	522 K2/8.4	X X	324007								CRD-HCU-1455+	.17
CRD-SV-120/1803	2	A	1	0	A,P1	H528	R	522 L5/8.4	X X	324007								CRD-HCU-1803+	.17
CRD-SV-120/1807	2	A	1	0	A,R1	H528	R	522 L5/8.4	X X	324007								CRD-HCU-1807+	.17
CRD-SV-120/1811	2	A	1	0	A,P1	H528	R	522 L5/8.4	X X	324007								CRD-HCU-1811+	.17
CRD-SV-120/1815	2	A	1	0	A,B1	H528	R	522 L5/8.4	X X	324007								CRD-HCU-1815+	.17
CRD-SV-120/1819	2	A	1	0	A,P1	H528	R	522 L5/8.4	X X	324007								CRD-HCU-1819+	.17
CRD-SV-120/1823	2	A	1	0	A,P1	H528	R	522 L5/8.4	X X	324007								CRD-HCU-1823+	.17
CRD-SV-120/1827	2	A	1	0	A,R1	H528	R	522 L5/8.4	X X	324007								CRD-HCU-1827+	.17
CRD-SV-120/1831	2	A	1	0	A,P1	H528	R	522 L5/8.4	X X	324007								CRD-HCU-1831+	.17
CRD-SV-120/1835	2	A	1	0	A,P1	H528	R	522 K2/8.4	X X	324007								CRD-HCU-1835+	.17
CRD-SV-120/1839	2	A	1	0	A,P1	H528	R	522 K2/8.4	X X	324007								CRD-HCU-1839+	.17
CRD-SV-120/1843	2	A	1	0	A,P1	H528	R	522 K2/8.4	X X	324007								CRD-HCU-1843+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION			MODEL	BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
			EC	USE	SAFETY FUNCTION					TM	HL TEST ROOM	ANL FO C ACCURACY	FREQ	AGING OBE COMPOSITE EPN	C HOURS	
	CRD-SV-120/2239	2	A	1 0	A,B1	A610 HVA1709662A	H528	R 522 K2/8.4 C4	X X 324007	N	612				CRD-HCU-2239+	.17
	CRD-SV-120/2243	2	A	1 0	A,D1	A610 HVA1709662A	H528	R 522 K2/8.4 C4	X X 324007	N	612				CRD-HCU-2243+	.17
	CRD-SV-120/2247	2	A	1 0	A,P1	A610 HVA1709662A	H528	R 522 K2/8.4 C4	X X 324007	N	612				CRD-HCU-2247+	.17
	CRD-SV-120/2251	2	A	1 0	A,B1	A610 HVA1709662A	H528	R 522 K2/8.4 C4	X X 324007	N	612				CRD-HCU-2251+	.17
	CRD-SV-120/2255	2	A	1 0	A,F1	A610 HVA1709662A	H528	R 522 K2/8.4 C4	X X 324007	N	612				CRD-HCU-2255+	.17
	CRD-SV-120/2259	2	A	1 0	A,P1	A610 HVA1709662A	H528	R 522 K2/8.4 C4	X X 324007	N	612				CRD-HCU-2259+	.17
	CRD-SV-120/2603	2	A	1 0	A,B1	A610 HVA1709662A	H528	R 522 L5/8.4 C4	X X 324007	N	612				CRD-HCU-2603+	.17
	CRD-SV-120/2607	2	A	1 0	A,B1	A610 HVA1709662A	H528	R 522 L5/8.4 C4	X X 324007	N	612				CRD-HCU-2607+	.17
	CRD-SV-120/2611	2	A	1 0	A,P1	A610 HVA1709662A	H528	R 522 L5/8.4 C4	X X 324007	N	612				CRD-HCU-2611+	.17
	CRD-SV-120/2615	2	A	1 0	A,P1	A610 HVA1709662A	H528	R 522 L5/8.4 C4	X X 324007	N	612				CRD-HCU-2615+	.17
	CRD-SV-120/2619	2	P	1 0	A,F1	A610 HVA1709662A	H528	R 522 L5/8.4 C4	X X 324007	N	612				CRD-HCU-2619+	.17
	CRD-SV-120/2623	2	A	1 0	A,P1	A610 HVA1709662A	H529	R 522 L5/8.4 C4	X X 324007	N	612				CRD-HCU-2623+	.17
	CRD-SV-120/2627	2	A	1 0	A,F1	A610 HVA1709662A	H528	R 522 L5/8.4 C4	X X 324007	N	612				CRD-HCU-2627+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	BLOG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID ZONE	TH ROOM	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*				
										HL TEST	ANL FO C	FREQ	ACCURACY	AGING DBE C	COMPOSITE EPN	HOURS		
CRD-SV-120/2631			A610 HVA1709662A .5*SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1		M528	R 522 L5/R.4	X X CA	324007	N	612							CRD-HCU-2631+	.17
CRD-SV-120/2635			A610 HVA1709662A .5*SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1		M528	R 522 K2/R.4	X X CA	324007	N	612							CRD-HCU-2635+	.17
CRD-SV-120/2639			A610 HVA1709662A .5*SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,B1		M528	R 522 K2/R.4	X X CA	324007	N	612							CRD-HCU-2639+	.17
CRD-SV-120/2643			A610 HVA1709662A .5*SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,B1		M528	R 522 K2/R.4	X X CA	324007	N	612							CRD-HCU-2643+	.17
CRD-SV-120/2647			A610 HVA1709662A .5*SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,B1		M528	R 522 K2/R.4	X X CA	324007	N	612							CRD-HCU-2647+	.17
CRD-SV-120/2651			A610 HVA1709662A .5*SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,B1		M528	R 522 K2/R.4	X X CA	324007	N	612							CRD-HCU-2651+	.17
CRD-SV-120/2655			A610 HVA1709662A .5*SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1		M528	R 522 K2/R.4	X X CA	324007	N	612							CRD-HCU-2655+	.17
CRD-SV-120/2659			A610 HVA1709662A .5*SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1		M528	R 522 K2/R.4	X X CA	324007	N	612							CRD-HCU-2659+	.17
CRD-SV-120/3003			A610 HVA1709662A .5*SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,E1		M528	R 522 L5/R.4	X X CA	324007	N	612							CRD-HCU-3003+	.17
CRD-SV-120/3007			A610 HVA1709662A .5*SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1		M528	R 522 L5/R.4	X X CA	324007	N	612							CRD-HCU-3007+	.17
CRD-SV-120/3011			A610 HVA1709662A .5*SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1		M528	R 522 L5/R.4	X X CA	324007	N	612							CRD-HCU-3011+	.17
CRD-SV-120/3015			A610 HVA1709662A .5*SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1		M528	R 522 L5/R.4	A Y CA	324007	N	612							CRD-HCU-3015+	.17
CRD-SV-120/3019			A610 HVA1709662A .5*SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1		M528	R 522 L5/R.4	X X CA	324007	N	612							CRD-HCU-3019+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	BLDG ELEV A/E	STATUS S E DETAIL	QID ZONE	TH ROOM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
										HL TEST	ANL FO C	FREQ	AGING DBE C	COMPOSITE EPN	HOURS	
	CRD-SV-120/3415		A610 .5" SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709662A	H528	R 522 L.5/3.7 C4	X X	324007	N	612					CRD-HCU-3415+	.17
	CRD-SV-120/3419		A610 .5" SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709662A	H528	R 522 L.5/3.7 C4	X X	324007	N	612					CRD-HCU-3419+	.17
	CRD-SV-120/3423		A610 .5" SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,F1	HVA1709662A	H528	R 522 L.5/3.7 C4	X X	324007	N	612					CRD-HCU-3423+	.17
	CRD-SV-120/3427		A610 .5" SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709662A	H528	R 522 L.5/3.7 C4	X X	324007	N	612					CRD-HCU-3427+	.17
	CRD-SV-120/3431		A610 .5" SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709662A	H528	R 522 K.2/3.7 C4	X X	324007	N	612					CRD-HCU-3431+	.17
	CRD-SV-120/3435		A610 .5" SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,E1	HVA1709662A	H528	R 522 K.2/3.7 C4	X X	324007	N	612					CRD-HCU-3435+	.17
	CRD-SV-120/3439		A610 .5" SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709662A	H528	R 522 K.2/3.7 C4	X X	324007	N	612					CRD-HCU-3439+	.17
	CRD-SV-120/3443		A610 .5" SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709662A	H528	R 522 K2/8.4 C4	X X	324007	N	612					CRD-HCU-3443+	.17
	CRD-SV-120/3447		A610 .5" SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709662A	H528	R 522 K.2/3.7 C4	X X	324007	N	612					CRD-HCU-3447+	.17
	CPD-SV-120/3451		A610 .5" SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709662A	H528	R 522 K.2/3.7 C4	X X	324007	N	612					CRD-HCU-3451+	.17
	CRD-SV-120/3455		A610 .5" SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,F1	HVA1709662A	H528	R 522 K.2/3.7 C4	X X	324007	N	612					CRD-HCU-3455+	.17
	CRD-SV-120/3459		A610 .5" SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709662A	H528	R 522 K.2/3.7 C4	X X	324007	N	612					CRD-HCU-3459+	.17
	CRD-SV-120/3P03		A610 .5" SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,F1	HVA1709662A	H528	R 522 L. .7	X X	324007	N	612					CRD-HCU-3803+	.17

CONTRACT	EPH LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	STATUS S E BLOG ELEV A/E ZONE	OID ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
							TM	HL	TEST ANL FO C	FREQ	AGING DBE C	HOURS
CRD-SV-120/3859		A610 HVA1709662A			X X	324007	N	612				
.5"SOLENOID WITHDRAW EXHAUST VALVE												.17
02C12	2	A 1 0 A.P1		M528	R 522 K.2/3.7 C4						CRD-HCU-3859+	
CRD-SV-120/4203		A610 HVA1709662A			X X	324007	N	612				
.5"SOLENOID WITHDRAW EXHAUST VALVE												.17
02C12	2	A 1 0 A.P1		M528	R 522 L.5/3.7 C4						CRD-HCU-4203+	
CRD-SV-120/4207		A610 HVA1709662A			X X	324007	N	612				
.5"SOLENOID WITHDRAW EXHAUST VALVE												.17
02C12	2	A 1 0 A.P1		M528	R 522 L.5/3.7 C4						CRD-HCU-4207+	
CRD-SV-120/4211		A610 HVA1709662A			X X	324007	N	612				
.5"SOLENOID WITHDRAW EXHAUST VALVE												.17
02C12	2	A 1 0 A.P1		M528	R 522 L.5/3.7 C4						CRD-HCU-4211+	
CRD-SV-120/4215		A610 HVA1709662A			X X	324007	N	612				
.5"SOLENOID WITHDRAW EXHAUST VALVE												.17
02C12	2	A 1 0 A.P1		M528	R 522 L.5/3.7 C4						CRD-HCU-4215+	
CRD-SV-120/4219		A610 HVA1709662A			X X	324007	N	612				
.5"SOLENOID WITHDRAW EXHAUST VALVE												.17
02C12	2	A 1 0 A.P1		M528	R 522 L.5/3.7 C4						CRD-HCU-4219+	
CRD-SV-120/4223		A610 HVA1709662A			X X	324007	N	612				
.5"SOLENOID WITHDRAW EXHAUST VALVE												.17
02C12	2	A 1 0 A.P1		M528	R 522 L.5/3.7 C4						CRD-HCU-4223+	
CRD-SV-120/4227		A610 HVA1709662A			X X	324007	N	612				
.5"SOLENOID WITHDRAW EXHAUST VALVE												.17
02C12	2	A 1 0 A.P1		M528	R 522 L.5/3.7 C4						CRD-HCU-4227+	
CRD-SV-120/4231		A610 HVA1709662A			X X	324007	N	612				
.5"SOLENOID WITHDRAW EXHAUST VALVE												.17
02C12	2	A 1 0 A.P1		M528	R 522 K.2/3.7 C4						CRD-HCU-4231+	
CRD-SV-120/4235		A610 HVA1709662A			X X	324007	N	612				
.5"SOLENOID WITHDRAW EXHAUST VALVE												.17
02C12	2	A 1 0 A.P1		M528	R 522 K.2/3.7 C4						CRD-HCU-4235+	
CRD-SV-120/4239		A610 HVA1709662A			X X	324007	N	612				
.5"SOLENOID WITHDRAW EXHAUST VALVE												.17
02C12	2	A 1 0 A.P1		M528	R 522 K.2/3.7 C4						CRD-HCU-4239+	
CRD-SV-120/4243		A610 HVA1709662A			X X	324007	N	612				
.5"SOLENOID WITHDRAW EXHAUST VALVE												.17
02C12	2	A 1 0 A.P1		M528	R 522 K.2/3.7 C4						CRD-HCU-4243+	
CRD-SV-120/4247		A610 HVA1709662A			X X	324007	N	612				
.5"SOLENOID WITHDRAW EXHAUST VALVE												.17
02C12	2	A 1 0 A.P1		M528	R 522 K.2/3.7 C4						CRD-HCU-4247+	

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	HFG SAFETY FUNCTION	MODEL A/E DRAWING	BLOG ELEV DRAWING	STATUS S E DETAIL A/E ZONE	GID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		HOURS	
									TM	HL TEST	ANL FO C	FREQ	AGING DRE C		COMPOSITE EPN
	CRD-SV-120/4647		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,B1	HVA1709662A	M528	R 522 K.2/3.7	X X C4	324007	N	612				.17	CRD-HCU-4647+
	CRD-SV-120/4651		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709662A	M528	R 522 K.2/3.7	X X C4	324007	N	612				.17	CRD-HCU-4651+
	CRD-SV-120/4655		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,F1	HVA1709662A	M528	R 522 K.2/3.7	X X C4	324007	N	612				.17	CRD-HCU-4655+
	CRD-SV-120/5011		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709662A	M528	R 522 L.5/3.7	X X C4	324007	N	612				.17	CRD-HCU-5011+
	CRD-SV-120/5015		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,B1	HVA1709662A	M528	R 522 L.5/3.7	X X C4	324007	N	612				.17	CRD-HCU-5015+
	CRD-SV-120/5019		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,E1	HVA1709662A	M528	R 522 L.5/3.7	X X C4	324007	N	612				.17	CRD-HCU-5019+
	CRD-SV-120/5023		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,B1	HVA1709662A	M528	R 522 L.5/3.7	X X C4	324007	N	612				.17	CRD-HCU-5023+
	CRD-SV-120/5027		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709662A	M528	R 522 L.5/3.7	X X C4	324007	N	612				.17	CRD-HCU-5027+
	CRD-SV-120/5031		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709662A	M528	R 522 K.2/3.7	X X C4	324007	N	612				.17	CRD-HCU-5031+
	CRD-SV-120/5035		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709662A	M528	R 522 K.2/3.7	X X C4	324007	N	612				.17	CRD-HCU-5035+
	CRD-SV-120/5039		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,F1	HVA1709662A	M528	R 522 K.2/3.7	X X C4	324007	N	612				.17	CRD-HCU-5039+
	CRD-SV-120/5043		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,F1	HVA1709662A	M528	R 522 K.2/3.7	X X C4	324007	N	612				.17	CRD-HCU-5043+
	CRD-SV-120/5047		A610 .5"SOLENOID WITHDRAW EXHAUST VALVE 02C12 2 A 1 0 A,F1	HVA1709662A	M528	R 522 K.2/3.7	X X C4	324007	N	612				.17	CRD-HCU-5047+

EPN	MFG	DESCRIPTION	MODEL	STATUS	S E	QID	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*			
							TM	HL	TEST	ANL	FO C	FREQ	AGING	OBE
CONTRACT	LEVEL	EC	USE	SAFETY	FUNCTION	A/E	DRAWING	A/E	ZONE	ZONE	ROOM	ACCURACY	COMPOSITE	EPN
CRD-SV-120/5831		A610	HVA1709662A		X X	324007	N	612						
		.5"SOLENOID WITHDRAW EXHAUST VALVE												
02C12	2	A	1 0	A,P1		R 522 K.2/3.7								CRD-HCU-5831+
							M528							
CRD-SV-120/5835		A610	HVA1709662A		X X	324007	N	612						
		.5"SOLENOID WITHDRAW EXHAUST VALVE												
02C12	2	A	1 0	A,F1		R 522 K.2/3.7								CRD-HCU-5835+
							M528							
CRD-SV-120/5839		A610	HVA1709662A		X X	324007	N	612						
		.5"SOLENOID WITHDRAW EXHAUST VALVE												
02C12	2	A	1 0	A,P1		R 522 K.2/3.7								CRD-HCU-5839+
							M528							
CRD-SV-120/5843		A610	HVA1709662A		X X	324007	N	612						
		.5"SOLENOID WITHDRAW EXHAUST VALVE												
02C12	2	A	1 0	A,P1		R 522 K.2/3.7								CRD-HCU-5843+
							M528							
CRD-SV-121/0219		A610	HVA1709661A		A X	324007	N	612						
		.5"SOLENOID INSERT EXHAUST VALVE												
02C12	2	A	1 0	A,P1		R 528 L5/8.4								CRD-HCU-0219+
							M528							
CRD-SV-121/0223		A610	HVA1709661A		A X	324007	N	612						
		.5"SOLENOID INSERT EXHAUST VALVE												
02C12	2	A	1 0	A,F1		R 528 L5/8.4								CRD-HCU-0223+
							M528							
CRD-SV-121/0227		A610	HVA1709661A		A X	324007	N	612						
		.5"SOLENOID INSERT EXHAUST VALVE												
02C12	2	A	1 0	A,B1		R 528 L5/8.4								CRD-HCU-0227+
							M528							
CRD-SV-121/0231		A610	HVA1709661A		A X	324007	N	612						
		.5"SOLENOID INSERT EXHAUST VALVE												
02C12	2	A	1 0	A,P1		R 528 L5/8.4								CRD-HCU-0231+
							M528							
CRD-SV-121/0235		A610	HVA1709661A		A X	324007	N	612						
		.5"SOLENOID INSERT EXHAUST VALVE												
02C12	2	A	1 0	A,B1		R 528 K2/8.4								CRD-HCU-0235+
							M528							
CRD-SV-121/0239		A610	HVA1709661A		A X	324007	N	612						
		.5"SOLENOID INSERT EXHAUST VALVE												
02C12	2	A	1 0	A,F1		R 528 K2/P.4								CRD-HCU-0239+
							M528							
CRD-SV-121/0243		A610	HVA1709661A		A X	324007	N	612						
		.5"SOLENOID INSERT EXHAUST VALVE												
02C12	2	A	1 0	A,F1		R 528 K2/8.4								CRD-HCU-0243+
							M528							
CRD-SV-121/0615		A610	HVA1709661A		A X	324007	N	612						
		.5"SOLENOID INSERT EXHAUST VALVE												
02C12	2	A	1 0	A,P1		R 528 L5/8.4								CRD-HCU-0615+
							M528							
CRD-SV-121/0619		A610	HVA1709661A		A X	324007	N	612						
		.5"SOLENOID INSERT EXHAUST VALVE												
02C12	2	A	1 0	A,F1		R 528 L5/8.4								CRD-HCU-0619+
							M528							

CONTRACT	EPH LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E	BLDG DRAWING	ELEV A/E	STATUS S E DETAIL A/E ZONE	QID ZONE	***SEISMIC (S) PARAMETERS**				*ENV. (E) PARAMETERS*						
									TM	HL	TEST	ANL	FO	C	FREQ	AGING	DBE	C	HOURS
CRD-SV-121/0623		A610 .5"SOLENOID INSERT EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709661A	H528	R 528	L5/8.4 C4	A X C4	324007	N	612								CRD-HCU-0623+	.17
CRD-SV-121/0627		A610 .5"SOLENOID INSERT EXHAUST VALVE 02C12 2 A 1 0 A,E1	HVA1709661A	H528	R 528	L5/8.4 C4	A X C4	324007	N	612								CRD-HCU-0627+	.17
CRD-SV-121/0631		A610 .5"SOLENOID INSERT EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709661A	H528	R 528	L5/8.4 C4	A X C4	324007	N	612								CRD-HCU-0631+	.17
CRD-SV-121/0635		A610 .5"SOLENOID INSERT EXHAUST VALVE 02C12 2 A 1 0 A,B1	HVA1709661A	H528	R 528	K2/8.4 C4	A X C4	324007	N	612								CRD-HCU-0635+	.17
CRD-SV-121/0639		A610 .5"SOLENOID INSERT EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709661A	H528	R 528	K2/8.4 C4	A X C4	324007	N	612								CRD-HCU-0639+	.17
CRD-SV-121/0643		A610 .5"SOLENOID INSERT EXHAUST VALVE 02C12 2 A 1 0 A,B1	HVA1709661A	H528	R 528	K2/8.4 C4	A X C4	324007	N	612								CRD-HCU-0643+	.17
CRD-SV-121/0647		A610 .5"SOLENOID INSERT EXHAUST VALVE 02C12 2 A 1 0 A,B1	HVA1709661A	H528	R 528	K2/R.4 C4	A X C4	324007	N	612								CRD-HCU-0647+	.17
CRD-SV-121/1011		A610 .5"SOLENOID INSERT EXHAUST VALVE 02C12 2 A 1 0 A,B1	HVA1709661A	H528	R 528	L5/8.4 C4	A X C4	324007	N	612								CRD-HCU-1011+	.17
CRD-SV-121/1015		A610 .5"SOLENOID INSERT EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709661A	H528	R 528	L5/8.4 C4	A X C4	324007	N	612								CRD-HCU-1015+	.17
CRD-SV-121/1019		A610 .5"SOLENOID INSERT EXHAUST VALVE 02C12 2 A 1 0 A,R1	HVA1709661A	H528	R 528	L5/8.4 C4	A X C4	324007	N	612								CRD-HCU-1019+	.17
CRD-SV-121/1023		A610 .5"SOLENOID INSERT EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709661A	H528	R 528	L5/P.4 C4	A X C4	324007	N	612								CRD-HCU-1023+	.17
CRD-SV-121/1027		A610 .5"SOLENOID INSERT EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709661A	H528	R 528	L5/8.4 C4	A X C4	324007	N	612								CRD-HCU-1027+	.17
CRD-SV-121/1031		A610 .5"SOLENOID INSERT EXHAUST VALVE 02C12 2 A 1 0 A,P1	HVA1709661A	P528	R 528	L5/8.4 C4	A X C4	324007	N	612								CRD-HCU-1031+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E	BLDG DRAWING	ELEV A/E	STATUS S E DETAIL ZONE	QID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
										TH ZONE	HL TEST ROOM	ANL FO C ACCURACY	AGING DBE C COMPOSITE EPN.	HOURS	
	CRD-SV-121/1035	2	.5*SOLENOID INSERT EXHAUST VALVE 02C12 A 1 0 A,P1	A610 HVA1709661A	H528	R 52B K2/8.4		A X CA	324007	N	612		CRD-HCU-1035+	.17	
	CRD-SV-121/1039	2	.5*SOLENOID INSERT EXHAUST VALVE 02C12 A 1 0 A,P1	A610 HVA1709661A	H528	R 52R K2/8.4		A X CA	324007	N	612		CRD-HCU-1039+	.17	
	CRD-SV-121/1043	2	.5*SOLENOID INSERT EXHAUST VALVE 02C12 A 1 0 A,P1	A610 HVA1709661A	H528	R 52B K2/8.4		A X CA	324007	N	612		CRD-HCU-1043+	.17	
	CRD-SV-121/1047	2	.5*SOLENOID INSERT EXHAUST VALVE 02C12 A 1 0 A,P1	A610 HVA1709661A	H528	R 52B K2/8.4		A X CA	324007	N	612		CRD-HCU-1047+	.17	
	CRD-SV-121/1051	2	.5*SOLENOID INSERT EXHAUST VALVE 02C12 A 1 0 A,P1	A610 HVA1709661A	H528	R 52B K2/8.4		A X CA	324007	N	612		CRD-HCU-1051+	.17	
	CRD-SV-121/1407	2	.5*SOLENOID INSERT EXHAUST VALVE 02C12 A 1 0 A,P1	A610 HVA1709661A	H528	R 52B L5/8.4		A X CA	324007	N	612		CRD-HCU-1407+	.17	
	CRD-SV-121/1411	2	.5*SOLENOID INSERT EXHAUST VALVE 02C12 A 1 0 A,P1	A610 HVA1709661A	H528	R 52B L5/8.4		A X CA	324007	N	612		CRD-HCU-1411+	.17	
	CRD-SV-121/1415	2	.5*SOLENOID INSERT EXHAUST VALVE 02C12 A 1 0 A,P1	A610 HVA1709661A	H528	R 52B L5/8.4		A X CA	324007	N	612		CRD-HCU-1415+	.17	
	CRD-SV-121/1419	2	.5*SOLENOID INSERT EXHAUST VALVE 02C12 A 1 0 A,P1	A610 HVA1709661A	H528	R 52R L5/8.4		A X CA	324007	N	612		CRD-HCU-1419+	.17	
	CRD-SV-121/1423	2	.5*SOLENOID INSERT EXHAUST VALVE 02C12 A 1 0 A,P1	A610 HVA1709661A	H528	R 52B L5/8.4		A X CA	324007	N	612		CRD-HCU-1423+	.17	
	CRD-SV-121/1427	2	.5*SOLENOID INSERT EXHAUST VALVE 02C12 A 1 0 A,P1	A610 HVA1709661A	H528	R 52B L5/8.4		A X CA	324007	N	612		CRD-HCU-1427+	.17	
	CRD-SV-121/1431	2	.5*SOLENOID INSERT EXHAUST VALVE 02C12 A 1 0 A,P1	A610 HVA1709661A	H528	R 52R L5/8.4		A Y CA	324007	N	612		CRD-HCU-1431+	.17	
	CRD-SV-121/1435	2	.5*SOLENOID INSERT EXHAUST VALVE 02C12 A 1 0 A,P1	A610 HVA1709661A	H528	R 52B K2/8.4		A X CA	324007	N	612		CRD-HCU-1435+	.17	

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE SAFETY FUNCTION	MFG A610	MODEL HVA1709661A	BLDG A/E	ELEV DRAWING	STATUS S E DETAIL A/E ZONE	QID	TM	**SEISMIC (S) PARAMETERS**				*ENV. (E) PARAMETERS*					
											HL	TEST	ANL	FO C	FREQ	AGING	DBE	C	HOURS	
	CRD-SV-121/2619		.5" SOLENOID INSERT EXHAUST VALVE	A610	HVA1709661A	R	528 L5/8.4	A X	324007		N	612							CRD-HCU-2619+	.17
	CRD-SV-121/2623		.5" SOLENOID INSERT EXHAUST VALVE	A610	HVA1709661A	R	528 L5/8.4	A X	324007		N	612							CRD-HCU-2623+	.17
	CRD-SV-121/2627		.5" SOLENOID INSERT EXHAUST VALVE	A610	HVA1709661A	R	528 L5/8.4	A X	324007		N	612							CRD-HCU-2627+	.17
	CRD-SV-121/2631		.5" SOLENOID INSERT EXHAUST VALVE	A610	HVA1709661A	R	528 L5/8.4	A X	324007		N	612							CRD-HCU-2631+	.17
	CRD-SV-121/2635		.5" SOLENOID INSERT EXHAUST VALVE	A610	HVA1709661A	R	528 K2/8.4	A X	324007		N	612							CRD-HCU-2635+	.17
	CRD-SV-121/2639		.5" SOLENOID INSERT EXHAUST VALVE	A610	HVA1709661A	R	528 K2/8.4	A X	324007		N	612							CRD-HCU-2639+	.17
	CRD-SV-121/2643		.5" SOLENOID INSERT EXHAUST VALVE	A610	HVA1709661A	R	528 K2/8.4	A X	324007		N	612							CRD-HCU-2643+	.17
	CRD-SV-121/2647		.5" SOLENOID INSERT EXHAUST VALVE	A610	HVA1709661A	R	528 K2/8.4	A X	324007		N	612							CRD-HCU-2647+	.17
	CRD-SV-121/2651		.5" SOLENOID INSERT EXHAUST VALVE	A610	HVA1709661A	R	528 K2/8.4	A X	324007		N	612							CRD-HCU-2651+	.17
	CRD-SV-121/2655		.5" SOLENOID INSERT EXHAUST VALVE	A610	HVA1709661A	R	528 K2/8.4	A X	324007		N	612							CRD-HCU-2655+	.17
	CRD-SV-121/2659		.5" SOLENOID INSERT EXHAUST VALVE	A610	HVA1709661A	R	528 K2/8.4	A X	324007		N	612							CRD-HCU-2659+	.17
	CRD-SV-121/3003		.5" SOLENOID INSERT EXHAUST VALVE	A610	HVA1709661A	R	528 L5/8.4	A X	324007		N	612							CRD-HCU-3003+	.17
	CRD-SV-121/3007		.5" SOLENOID INSERT EXHAUST VALVE	A610	HVA1709661A	P	528 L5/8.4	A X	324007		N	612							CRD-HCU-3007+	.17

EPN		MFG		MODEL		STATUS		***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*			
CONTRACT	LEVEL	DESCRIPTION EC USE SAFETY FUNCTION	EC	USE	SAFETY FUNCTION	A/E	BLOG ELEV DRAWING	S E DETAIL A/E ZONE	QID	TM ZONE	HL ROOM	TEST ANL FO C ACCURACY	FREQ	AGING OBE C COMPOSITE EPN	HOURS
CRD-SV-121/3455		A610 HVA1709661A						A X	324007	N	612				
.5"SOLENOID INSERT	02C12	EXHAUST VALVE	2	A	1 0 A,B1	M528	R 528 K.2/3.7 C4							CRD-HCU-3455+	.17
CRD-SV-121/3459		A610 HVA1709661A						A X	324007	N	612				
.5"SOLENOID INSERT	02C12	EXHAUST VALVE	2	A	1 0 A,B1	M528	R 528 K.2/3.7 C4							CRD-HCU-3459+	.17
CRD-SV-121/3803		A610 HVA1709661A						A X	324007	N	612				
.5"SOLENOID INSERT	02C12	EXHAUST VALVE	2	A	1 0 A,B1	M528	R 528 L.5/3.7 C4							CRD-HCU-3803+	.17
CRD-SV-121/3807		A610 HVA1709661A						A X	324007	N	612				
.5"SOLENOID INSERT	02C12	EXHAUST VALVE	2	A	1 0 A,B1	M528	R 528 L.5/3.7 C4							CRD-HCU-3807+	.17
CRD-SV-121/3811		A610 HVA1709661A						A X	324007	N	612				
.5"SOLENOID INSERT	02C12	EXHAUST VALVE	2	A	1 0 A,B1	M528	R 528 L.5/3.7 C4							CRD-HCU-3811+	.17
CRD-SV-121/3815		A610 HVA1709661A						A X	324007	N	612				
.5"SOLENOID INSERT	02C12	EXHAUST VALVE	2	A	1 0 A,B1	M528	R 528 L.5/3.7 C4							CRD-HCU-3815+	.17
CRD-SV-121/3819		A610 HVA1709661A						A X	324007	N	612				
.5"SOLENOID INSERT	02C12	EXHAUST VALVE	2	A	1 0 A,B1	M528	R 528 L.5/3.7 C4							CRD-HCU-3819+	.17
CRD-SV-121/3823		A610 HVA1709661A						A X	324007	N	612				
.5"SOLENOID INSERT	02C12	EXHAUST VALVE	2	A	1 0 A,F1	M528	R 528 L.5/3.7 C4							CRD-HCU-3823+	.17
CRD-SV-121/3827		A610 HVA1709661A						A X	324007	N	612				
.5"SOLENOID INSERT	02C12	EXHAUST VALVE	2	A	1 0 A,B1	M528	R 528 L.5/3.7 C4							CRD-HCU-3827+	.17
CRD-SV-121/3831		A610 HVA1709661A						A X	324007	N	612				
.5"SOLENOID INSERT	02C12	EXHAUST VALVE	2	A	1 0 A,F1	M528	R 528 K.2/3.7 C4							CRD-HCU-3831+	.17
CRD-SV-121/3835		A610 HVA1709661A						A X	324007	N	612				
.5"SOLENOID INSERT	02C12	EXHAUST VALVE	2	A	1 0 A,B1	M528	R 528 K.2/3.7 C4							CRD-HCU-3835+	.17
CRD-SV-121/3839		A610 HVA1709661A						A X	324007	N	612				
.5"SOLENOID INSERT	02C12	EXHAUST VALVE	2	A	1 0 A,B1	M528	R 528 K.2/3.7 C4							CRD-HCU-3839+	.17
CRD-SV-121/3843		A610 HVA1709661A						A X	324007	N	612				
.5"SOLENOID INSERT	02C12	EXHAUST VALVE	2	A	1 0 A,F1	M528	R 528 K.2/3.7 C4							CRD-HCU-3843+	.17

CONTRACT	EPN LEVEL	DESCRIPTION EC USE	HFG SAFETY FUNCTION	MODEL A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID ZONE	TM ROOM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*					
								HL TEST	ANL FO C	FREQ	AGING	DBE C	HOURS			
CRD-SV-121/3847	02C12	2	A 1 0 A,R1	A610 HVA1709661A H528	A X K.2/3.7 C4	324007	N 612								CRD-HCU-3847+	.17
CRD-SV-121/3851	02C12	2	A 1 0 A,R1	A610 HVA1709661A H528	A X K.2/3.7 C4	324007	N 612								CRD-HCU-3851+	.17
CRD-SV-121/3855	02C12	2	A 1 0 A,P1	A610 HVA1709661A H528	A X K.2/3.7 C4	324007	N 612								CRD-HCU-3855+	.17
CRD-SV-121/3859	02C12	2	A 1 0 A,R1	A610 HVA1709661A H528	A X K.2/3.7 C4	324007	N 612								CRD-HCU-3859+	.17
CRD-SV-121/4203	02C12	2	A 1 0 A,P1	A610 HVA1709661A H528	A X L.5/3.7 C4	324007	N 612								CRD-HCU-4203+	.17
CRD-SV-121/4207	02C12	2	A 1 0 A,B1	A610 HVA1709661A H528	A X L.5/3.7 C4	324007	N 612								CRD-HCU-4207+	.17
CRD-SV-121/4211	02C12	2	A 1 0 A,R1	A610 HVA1709661A H528	A X L.5/3.7 C4	324007	N 612								CRD-HCU-4211+	.17
CRD-SV-121/4215	02C12	2	A 1 0 A,R1	A610 HVA1709661A H528	A X L.5/3.7 C4	324007	N 612								CRD-HCU-4215+	.17
CRD-SV-121/4219	02C12	2	A 1 0 A,P1	A610 HVA1709661A H528	A X L.5/3.7 C4	324007	N 612								CRD-HCU-4219+	.17
CRD-SV-121/4223	02C12	2	A 1 0 A,F1	A610 HVA1709661A H528	A X L.5/3.7 C4	324007	N 612								CRD-HCU-4223+	.17
CRD-SV-121/4227	02C12	2	A 1 0 A,P1	A610 HVA1709661A H528	A X L.5/3.7 C4	324007	N 612								CRD-HCU-4227+	.17
CRD-SV-121/4231	02C12	2	A 1 0 A,H1	A610 HVA1709661A H528	A X K.2/3.7 C4	324007	N 612								CRD-HCU-4231+	.17
CRD-SV-121/4235	02C12	2	A 1 0 A,P1	A610 HVA1709661A H528	A X K.2/3.7 C4	324007	N 612								CRD-HCU-4235+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E	BLOG ELEV DRAWING	STATUS S E DETAIL A/E ZONE	QID ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*						
									TH	HL	TEST	ANL	FO	C	FREQ	AGING	DRE	C
								ACCURACY			COMPOSITE EPN							
	CRD-SV-121/4239		A610 HVA1709661A .5"SOLENOID INSERT EXHAUST VALVE				A X 528 K.2/3.7 M528 C4	324007	N	612							CRD-HCU-4239+	.17
	CRD-SV-121/4243		A610 HVA1709661A .5"SOLENOID INSERT EXHAUST VALVE				A X 528 K.2/3.7 M528 C4	324007	N	612							CRD-HCU-4243+	.17
	CRD-SV-121/4247		A610 HVA1709661A .5"SOLENOID INSERT EXHAUST VALVE				A X 528 K.2/3.7 M528 C4	324007	N	612							CRD-HCU-4247+	.17
	CRD-SV-121/4251		A610 HVA1709661A .5"SOLENOID INSERT EXHAUST VALVE				A X 528 K.2/3.7 M528 C4	324007	N	612							CRD-HCU-4251+	.17
	CRD-SV-121/4255		A610 HVA1709661A .5"SOLENOID INSERT EXHAUST VALVE				A X 528 K.2/3.7 M528 C4	324007	N	612							CRD-HCU-4255+	.17
	CRD-SV-121/4259		A610 HVA1709661A .5"SOLENOID INSERT EXHAUST VALVE				A X 528 K.2/3.7 M528 C4	324007	N	612							CRD-HCU-4259+	.17
	CRD-SV-121/4607		A610 HVA1709661A .5"SOLENOID INSERT EXHAUST VALVE				A X 528 L.5/3.7 M528 C4	324007	N	612							CRD-HCU-4607+	.17
	CRD-SV-121/4611		A610 HVA1709661A .5"SOLENOID INSERT EXHAUST VALVE				A X 528 L.5/3.7 M528 C4	324007	N	612							CRD-HCU-4611+	.17
	CRD-SV-121/4615		A610 HVA1709661A .5"SOLENOID INSERT EXHAUST VALVE				A X 528 L.5/3.7 M528 C4	324007	N	612							CRD-HCU-4615+	.17
	CRD-SV-121/4619		A610 HVA1709661A .5"SOLENOID INSERT EXHAUST VALVE				A X 528 L.5/3.7 M528 C4	324007	N	612							CRD-HCU-4619+	.17
	CRD-SV-121/4623		A610 HVA1709661A .5"SOLENOID INSERT EXHAUST VALVE				A X 528 L.5/3.7 M528 C4	324007	N	612							CRD-HCU-4623+	.17
	CRD-SV-121/4627		A610 HVA1709661A .5"SOLENOID INSERT EXHAUST VALVE				A X 528 L.5/3.7 M528 C4	324007	N	612							CRD-HCU-4627+	.17
	CRD-SV-121/4631		A610 HVA1709661A .5"SOLENOID INSERT EXHAUST VALVE				A X 528 K.2/3.7 M528 C4	324007	N	612							CRD-HCU-4631+	.17

EPN	HFG	DESCRIPTION	MODEL	STATUS	QID	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*				
						TH	HL	TEST	ANL	FO	C	FREQ	AGING	DBE
CONTRACT	LEVEL	EC	USE	SAFETY FUNCTION	A/E	DRAWING	A/E	ZONE	ROOM	ACCURACY	COMPOSITE EPN			
CRD-SV-121/5039		A610	HVA1709661A		A X	324007		N	612					.17
.5"SOLENOID INSERT		EXHAUST VALVE												
02C12	2	A	1 0	A,B1	M528	528 K.2/3.7	C4				CRD-HCU-5039+			
CRD-SV-121/5043		A610	HVA1709661A		A X	324007		N	612					.17
.5"SOLENOID INSERT		EXHAUST VALVE												
02C12	2	A	1 0	A,B1	M528	528 K.2/3.7	C4				CRD-HCU-5043+			
CRD-SV-121/5047		A610	HVA1709661A		A X	324007		N	612					.17
.5"SOLENOID INSERT		EXHAUST VALVE												
02C12	2	A	1 0	A,B1	M528	528 K.2/3.7	C4				CRD-HCU-5047+			
CRD-SV-121/5051		A610	HVA1709661A		A X	324007		N	612					.17
.5"SOLENOID INSERT		EXHAUST VALVE												
02C12	2	A	1 0	A,B1	M528	528 K.2/3.7	C4				CRD-HCU-5051+			
CRD-SV-121/5415		A610	HVA1709661A		A X	324007		N	612					.17
.5"SOLENOID INSERT		EXHAUST VALVE												
02C12	2	A	1 0	A,B1	M528	528 L.5/3.7	C4				CRD-HCU-5415+			
CRD-SV-121/5419		A610	HVA1709661A		A X	324007		N	612					.17
.5"SOLENOID INSERT		EXHAUST VALVE												
02C12	2	A	1 0	A,B1	M528	528 L.5/3.7	C4				CRD-HCU-5419+			
CRD-SV-121/5423		A610	HVA1709661A		A X	324007		N	612					.17
.5"SOLENOID INSERT		EXHAUST VALVE												
02C12	2	A	1 0	A,B1	M528	528 L.5/3.7	C4				CRD-HCU-5423+			
CRD-SV-121/5427		A610	HVA1709661A		A X	324007		N	612					.17
.5"SOLENOID INSERT		EXHAUST VALVE												
02C12	2	A	1 0	A,P1	M528	528 L.5/3.7	C4				CRD-HCU-5427+			
CRD-SV-121/5431		A610	HVA1709661A		A X	324007		N	612					.17
.5"SOLENOID INSERT		EXHAUST VALVE												
02C12	2	A	1 0	A,B1	M528	528 K.2/3.7	C4				CRD-HCU-5431+			
CRD-SV-121/5435		A610	HVA1709661A		A X	324007		N	612					.17
.5"SOLENOID INSERT		EXHAUST VALVE												
02C12	2	A	1 0	A,E1	M528	528 K.2/3.7	C4				CRD-HCU-5435+			
CRD-SV-121/5439		A610	HVA1709661A		A X	324007		N	612					.17
.5"SOLENOID INSERT		EXHAUST VALVE												
02C12	2	A	1 0	A,P1	M528	528 K.2/3.7	C4				CRD-HCU-5439+			
CRD-SV-121/5443		A610	HVA1709661A		A X	324007		N	612					.17
.5"SOLENOID INSERT		EXHAUST VALVE												
02C12	2	A	1 0	A,P1	M528	528 K.2/3.7	C4				CRD-HCU-5443+			
CRD-SV-121/5447		A610	HVA1709661A		A X	324007		N	612					.17
.5"SOLENOID INSERT		EXHAUST VALVE												
02C12	2	A	1 0	A,P1	M528	528 K.2/3.7	C4				CRD-HCU-5447+			

PROGRAM C1E-STD

WASHINGTON PUBLIC-POWER SUPPLY SYSTEM
WNP-2 CLASS 1E EQUIPMENT LIST

PAGE NO 00107
DATE 09/06/83

CONTRACT	EPN	LEVEL	DESCRIPTION TC	MFG USF	SAFETY FUNCTION	MODEL A/E	BLOG ELEV DRAWING	STATUS S E DETAIL A/E ZONE	QID	TM	HL	TEST	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
													ANL	FO	C	FREQ	AGING	DBE	C
CRD-SV-122/0243			.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A		R 528 K2/R.4	A X C4	324007	N	612							CRD-HCU-0243+	.17
CRD-SV-122/0615			.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A		R 528 L5/R.4	A X C4	324007	N	612							CRD-HCU-0615+	.17
CRD-SV-122/0619			.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A		R 528 L5/R.4	A X C4	324007	N	612							CRD-HCU-0619+	.17
CRD-SV-122/0623			.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A		R 528 L5/R.4	A X C4	324007	N	612							CRD-HCU-0623+	.17
CRD-SV-122/0627			.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A		R 528 L5/R.4	A X C4	324007	N	612							CRD-HCU-0627+	.17
CRD-SV-122/0631			.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A		R 528 L5/R.4	A X C4	324007	N	612							CRD-HCU-0631+	.17
CRD-SV-122/0635			.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A		R 528 K2/R.4	A X C4	324007	N	612							CRD-HCU-0635+	.17
CRD-SV-122/0639			.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A		R 528 K2/R.4	A X C4	324007	N	612							CRD-HCU-0639+	.17
CRD-SV-122/0643			.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A		R 528 K2/R.4	A X C4	324007	N	612							CRD-HCU-0643+	.17
CRD-SV-122/0647			.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A		R 528 K2/R.4	A X C4	324007	N	612							CRD-HCU-0647+	.17
CRD-SV-122/1011			.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A		R 528 L5/R.4	A X C4	324007	N	612							CRD-HCU-1011+	.17
CRD-SV-122/1015			.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A		R 528 L5/R.4	A X C4	324007	N	612							CRD-HCU-1015+	.17
CRD-SV-122/1019			.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A		R 528 L5/R.4	A X C4	324007	N	612							CPD-HCU-1019+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E	BLDG ELEV DRAWING	STATUS S E DETAIL A/E ZONE	QID	TH	HL	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
											ZONE	ROOM	ANL FO C ACCURACY	FREQ	AGING COMPOSITE EPN	DBE C	HOURS	
	CRD-SV-122/1023		A610 .5*SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,P1	HVA1709661A		R 528 L5/8.4 M528 C4	A X	324007		N	612						CRD-HCU-1023+	.17
	CRD-SV-122/1027		A610 .5*SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,R1	HVA1709661A		R 528 L5/8.4 M528 C4	A X	324007		N	612						CRD-HCU-1027+	.17
	CRD-SV-122/1031		A610 .5*SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	HVA1709661A		R 528 L5/8.4 M528 C4	A X	324007		N	612						CRD-HCU-1031+	.17
	CRD-SV-122/1035		A610 .5*SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	HVA1709661A		R 528 K2/8.4 M528 C4	A X	324007		N	612						CRD-HCU-1035+	.17
	CRD-SV-122/1039		A610 .5*SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	HVA1709661A		R 528 K2/8.4 M528 C4	A X	324007		N	612						CRD-HCU-1039+	.17
	CRD-SV-122/1043		A610 .5*SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	HVA1709661A		R 528 K2/8.4 M528 C4	A X	324007		N	612						CRD-HCU-1043+	.17
	CRD-SV-122/1047		A610 .5*SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,P1	HVA1709661A		R 528 K2/8.4 M528 C4	A X	324007		N	612						CRD-HCU-1047+	.17
	CRD-SV-122/1051		A610 .5*SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	HVA1709661A		R 528 K2/8.4 M528 C4	A X	324007		N	612						CRD-HCU-1051+	.17
	CRD-SV-122/1407		A610 .5*SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,P1	HVA1709661A		R 528 L5/8.4 M528 C4	A X	324007		N	612						CRD-HCU-1407+	.17
	CRD-SV-122/1411		A610 .5*SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	HVA1709661A		R 528 L5/8.4 M528 C4	A X	324007		N	612						CRD-HCU-1411+	.17
	CRD-SV-122/1415		A610 .5*SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,P1	HVA1709661A		R 528 L5/8.4 M528 C4	A X	324007		N	612						CFD-HCU-1415+	.17
	CRD-SV-122/1419		A610 .5*SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,P1	HVA1709661A		R 528 L5/8.4 M528 C4	A X	324007		N	612						CRD-HCU-1419+	.17
	CRD-SV-122/1423		A610 .5*SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,P1	HVA1709661A		R 528 L5/8.4 M528 C4	A X	324007		N	612						CFD-HCU-1423+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL	BLOG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID	TM	HL	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
											TEST	ANL	FO C	FREQ	AGING	DBE	C	HOURS
											ACCURACY	COMPOSITE EPN						
	CRD-SV-122/2215		A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	HVA1709661A		R 528 L5/8.4	A X C4	324007		N	612						CRD-HCU-2215+	.17
	CRD-SV-122/2219		A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	HVA1709661A		R 528 L5/8.4	A X C4	324007		N	612						CRD-HCU-2219+	.17
	CRD-SV-122/2223		A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	HVA1709661A		R 528 L5/8.4	A X C4	324007		N	612						CRD-HCU-2223+	.17
	CRD-SV-122/2227		A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	HVA1709661A		R 528 L5/8.4	A X C4	324007		N	612						CRD-HCU-2227+	.17
	CRD-SV-122/2231		A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	HVA1709661A		R 528 L5/8.4	A X C4	324007		N	612						CRD-HCU-2231+	.17
	CRD-SV-122/2235		A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	HVA1709661A		R 528 K2/8.4	A X C4	324007		N	612						CRD-HCU-2235+	.17
	CRD-SV-122/2239		A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	HVA1709661A		R 528 K2/8.4	A X C4	324007		N	612						CRD-HCU-2239+	.17
	CRD-SV-122/2243		A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	HVA1709661A		R 528 K2/8.4	A X C4	324007		N	612						CRD-HCU-2243+	.17
	CRD-SV-122/2247		A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	HVA1709661A		R 528 K2/8.4	A X C4	324007		N	612						CRD-HCU-2247+	.17
	CRD-SV-122/2251		A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	HVA1709661A		R 528 K2/8.4	A X C4	324007		N	612						CRD-HCU-2251+	.17
	CRD-SV-122/2255		A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	HVA1709661A		R 528 K2/8.4	A X C4	324007		N	612						CRD-HCU-2255+	.17
	CRD-SV-122/2259		A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	HVA1709661A		R 528 K2/8.4	A X C4	324007		N	612						CRD-HCU-2259+	.17
	CRD-SV-122/2603		A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	HVA1709661A		R 528 L5/8.4	A X C4	324007		N	612						CPD-HCU-2603+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE SAFETY FUNCTION	HFG A/B1	MODEL A/E	BLDG ELEV DRAWING	STATUS S E DETAIL A/E ZONE	QID ZONE	TM ROOM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
										HL TEST	ANL FO C	FREQ	AGING	DBE C	HOURS		
CRD-SV-122/2607		2	.5*SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A	528	A X L5/8.4 C4	324007	N	612						CRD-HCU-2607+	.17
CRD-SV-122/2611		2	.5*SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A	528	A X L5/8.4 C4	324007	N	612						CRD-HCU-2611+	.17
CRD-SV-122/2615		2	.5*SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A	528	A X L5/8.4 C4	324007	N	612						CRD-HCU-2615+	.17
CRD-SV-122/2619		2	.5*SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A	528	A X L5/8.4 C4	324007	N	612						CRD-HCU-2619+	.17
CRD-SV-122/2623		2	.5*SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A	528	A X L5/8.4 C4	324007	N	612						CRD-HCU-2623+	.17
CRD-SV-122/2627		2	.5*SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A	528	A X L5/8.4 C4	324007	N	612						CRD-HCU-2627+	.17
CRD-SV-122/2631		2	.5*SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A	528	A X L5/8.4 C4	324007	N	612						CRD-HCU-2631+	.17
CRD-SV-122/2635		2	.5*SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A	528	A X K2/8.4 C4	324007	N	612						CRD-HCU-2635+	.17
CRD-SV-122/2639		2	.5*SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A	528	A X K2/8.4 C4	324007	N	612						CRD-HCU-2639+	.17
CRD-SV-122/2643		2	.5*SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A	528	A X K2/8.4 C4	324007	N	612						CRD-HCU-2643+	.17
CRD-SV-122/2647		2	.5*SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A	528	A X K2/8.4 C4	324007	N	612						CRD-HCU-2647+	.17
CRD-SV-122/2651		2	.5*SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A	528	A X K2/8.4 C4	324007	N	612						CPD-HCU-2651+	.17
CRD-SV-122/2655		2	.5*SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A	528	A X K2/8.4 C4	324007	N	612						CRD-HCU-2655+	.17

CONTRACT	EPH LEVEL	DESCRIPTION EC USE SAFETY FUNCTION	MFG A610	MODEL HVA1709661A	BLDG A/E	ELEV DRAWING	STATUS S E DETAIL A/E ZONE	QID ZONE	TH ROOM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
										HL TEST	ANL FO C	FREQ	AGING DBE C	COMPOSITE EPN	HOURS
CRD-SV-122/2659	2	A 1 0 A,B1	A610	HVA1709661A	R	528 K2/8.4	A X C4	324007	N	612				CRD-HCU-2659+	.17
CRD-SV-122/3003	2	A 1 0 A,B1	A610	HVA1709661A	R	528 L5/8.4	A X C4	324007	N	612				CRD-HCU-3003+	.17
CRD-SV-122/3007	2	A 1 0 A,B1	A610	HVA1709661A	R	528 L5/8.4	A X C4	324007	N	612				CRD-HCU-3007+	.17
CRD-SV-122/3011	2	A 1 0 A,B1	A610	HVA1709661A	R	528 L5/8.4	A X C4	324007	N	612				CRD-HCU-3011+	.17
CRD-SV-122/3015	2	A 1 0 A,B1	A610	HVA1709661A	R	528 L5/8.4	A X C4	324007	N	612				CRD-HCU-3015+	.17
CRD-SV-122/3019	2	A 1 0 A,B1	A610	HVA1709661A	R	528 L5/8.4	A X C4	324007	N	612				CRD-HCU-3019+	.17
CRD-SV-122/3023	2	A 1 0 A,B1	A610	HVA1709661A	R	528 L5/8.4	A X C4	324007	N	612				CRD-HCU-3023+	.17
CRD-SV-122/3027	2	A 1 0 A,P1	A610	HVA1709661A	R	528 L5/8.4	A X C4	324007	N	612				CRD-HCU-3027+	.17
CRD-SV-122/3031	2	A 1 0 A,P1	A610	HVA1709661A	R	528 K.2/3.7	A X C4	324007	N	612				CRD-HCU-3031+	.17
CRD-SV-122/3035	2	A 1 0 A,P1	A610	HVA1709661A	R	528 K.2/3.7	A X C4	324007	N	612				CRD-HCU-3035+	.17
CRD-SV-122/3039	2	A 1 0 A,P1	A610	HVA1709661A	R	528 K.2/3.7	A X C4	324007	N	612				CRD-HCU-3039+	.17
CRD-SV-122/3043	2	A 1 0 A,B1	A610	HVA1709661A	R	528 K.2/3.7	A X C4	324007	N	612				CRD-HCU-3043+	.17
CRD-SV-122/3047	2	A 1 0 A,P1	A610	HVA1709661A	R	528 K.2/3.7	A X C4	324007	N	612				CRD-HCU-3047+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE SAFETY FUNCTION	MFG A610	MODEL HVA1709661A	BLOG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID ZONE	TH ROOM	HL TEST ACCURACY	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
											ANL	FO	C	FREQ	AGING	DBE	C	HOURS
	CRD-SV-122/3051	2	.5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709661A	R 528 K.2/3.7 M528 C4	A X 324007	N 612									CRD-HCU-3051+	.17
	CRD-SV-122/3055	2	.5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709661A	R 528 K.2/3.7 M528 C4	A X 324007	N 612									CRD-HCU-3055+	.17
	CRD-SV-122/3059	2	.5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709661A	R 528 K.2/3.7 M528 C4	A X 324007	N 612									CRD-HCU-3059+	.17
	CRD-SV-122/3403	2	.5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709661A	R 528 L.5/3.7 M528 C4	A X 324007	N 612									CRD-HCU-3403+	.17
	CRD-SV-122/3407	2	.5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709661A	R 528 L.5/3.7 M528 C4	A X 324007	N 612									CRD-HCU-3407+	.17
	CRD-SV-122/3411	2	.5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709661A	R 528 L.5/3.7 M528 C4	A X 324007	N 612									CRD-HCU-3411+	.17
	CRD-SV-122/3415	2	.5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709661A	R 528 L.5/3.7 M528 C4	A X 324007	N 612									CRD-HCU-3415+	.17
	CRD-SV-122/3419	2	.5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709661A	R 528 L.5/3.7 M528 C4	A X 324007	N 612									CRD-HCU-3419+	.17
	CRD-SV-122/3423	2	.5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709661A	R 528 L.5/3.7 M528 C4	A X 324007	N 612									CRD-HCU-3423+	.17
	CRD-SV-122/3427	2	.5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,F1	A610	HVA1709661A	R 528 L.5/3.7 M528 C4	A X 324007	N 612									CRD-HCU-3427+	.17
	CRD-SV-122/3431	2	.5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,F1	A610	HVA1709661A	R 528 K.2/3.7 M528 C4	A X 324007	N 612									CRD-HCU-3431+	.17
	CRD-SV-122/3435	2	.5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,F1	A610	HVA1709661A	R 528 K.2/3.7 M528 C4	A X 324007	N 612									CRD-HCU-3435+	.17
	CRD-SV-122/3439	2	.5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709661A	R 528 K.2/3.7 M528 C4	A X 324007	N 612									CRD-HCU-3439+	.17

CONTRACT	EPM LEVEL	DESCRIPTION EC USE SAFETY FUNCTION	HFG A610 1 0 A,P1	MODEL HVA1709661A	STATUS		***SEISHIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*			
					BLDG ELEV A/E DRAWING	DETAIL A/E ZONE	S E QID	TM ZONE	HL ROOM	TEST ANL FO C	FREQ ACCURACY	AGING COMPOSITE EPN	DBE C	HOURS
CRD-SV-122/3443 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	2	A	1 0 A,P1	HVA1709661A	R 528 K.2/3.7	A X M528 C4	324007		N	612			CRD-HCU-3443+	.17
CRD-SV-122/3447 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	2	A	1 0 A,P1	HVA1709661A	R 528 K.2/3.7	A X M528 C4	324007		N	612			CRD-HCU-3447+	.17
CRD-SV-122/3451 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	2	A	1 0 A,P1	HVA1709661A	R 528 K.2/3.7	A X M528 C4	324007		N	612			CRD-HCU-3451+	.17
CRD-SV-122/3455 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	2	A	1 0 A,P1	HVA1709661A	R 528 K.2/3.7	A X M528 C4	324007		N	612			CRD-HCU-3455+	.17
CRD-SV-122/3459 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	2	A	1 0 A,P1	HVA1709661A	R 528 K.2/3.7	A X M528 C4	324007		N	612			CRD-HCU-3459+	.17
CRD-SV-122/3803 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	2	A	1 0 A,P1	HVA1709661A	R 528 L.5/3.7	A X M528 C4	324007		N	612			CRD-HCU-3803+	.17
CRD-SV-122/3807 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	2	A	1 0 A,P1	HVA1709661A	R 528 L.5/3.7	A X M528 C4	324007		N	612			CRD-HCU-3807+	.17
CRD-SV-122/3811 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	2	A	1 0 A,P1	HVA1709661A	R 528 L.5/3.7	A X M528 C4	324007		N	612			CRD-HCU-3811+	.17
CRD-SV-122/3815 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	2	A	1 0 A,P1	HVA1709661A	R 528 L.5/3.7	A X M528 C4	324007		N	612			CRD-HCU-3815+	.17
CRD-SV-122/3819 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	2	A	1 0 A,P1	HVA1709661A	R 528 L.5/3.7	A X M528 C4	324007		N	612			CRD-HCU-3819+	.17
CRD-SV-122/3823 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	2	A	1 0 A,P1	HVA1709661A	R 528 L.5/3.7	A X M528 C4	324007		N	612			CRD-HCU-3823+	.17
CRD-SV-122/3827 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	2	A	1 0 A,P1	HVA1709661A	R 528 L.5/3.7	A X M528 C4	324007		N	612			CRD-HCU-3827+	.17
CRD-SV-122/3831 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	2	A	1 0 A,P1	HVA1709661A	R 528 K.2/3.7	A X M528 C4	324007		N	612			CRD-HCU-3831+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE SAFETY FUNCTION	MFG A/E DRAWING	MODEL A/E DRAWING	BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	OID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
									ZONE	ROOM	ACCURACY	FREQ	AGING DBE C	HOURS COMPOSITE EPN	
	CRD-SV-122/3835		A610 HVA1709661A .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1		M528	R 528 K.2/3.7 C4	A X 324007		N	612				CRD-HCU-3835+	.17
	CRD-SV-122/3839		A610 HVA1709661A .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1		M528	R 528 K.2/3.7 C4	A X 324007		N	612				CRD-HCU-3839+	.17
	CRD-SV-122/3843		A610 HVA1709661A .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1		M528	R 528 K.2/3.7 C4	A X 324007		N	612				CRD-HCU-3843+	.17
	CRD-SV-122/3847		A610 HVA1709661A .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1		M528	R 528 K.2/3.7 C4	A X 324007		N	612				CRD-HCU-3847+	.17
	CRD-SV-122/3851		A610 HVA1709661A .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1		M528	R 528 K.2/3.7 C4	A X 324007		N	612				CRD-HCU-3851+	.17
	CRD-SV-122/3855		A610 HVA1709661A .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1		M528	R 528 K.2/3.7 C4	A X 324007		N	612				CRD-HCU-3855+	.17
	CRD-SV-122/3859		A610 HVA1709661A .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1		M528	R 528 K.2/3.7 C4	A X 324007		N	612				CRD-HCU-3859+	.17
	CRD-SV-122/4203		A610 HVA1709661A .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1		M528	R 528 L.5/3.7 C4	A X 324007		N	612				CRD-HCU-4203+	.17
	CRD-SV-122/4207		A610 HVA1709661A .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,B1		M528	R 528 L.5/3.7 C4	A X 324007		N	612				CRD-HCU-4207+	.17
	CRD-SV-122/4211		A610 HVA1709661A .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,P1		M528	R 528 L.5/3.7 C4	A X 324007		N	612				CRD-HCU-4211+	.17
	CRD-SV-122/4215		A610 HVA1709661A .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,P1		M528	R 528 L.5/3.7 C4	A X 324007		N	612				CRD-HCU-4215+	.17
	CRD-SV-122/4219		A610 HVA1709661A .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,F1		M528	R 528 L.5/3.7 C4	A X 324007		N	612				CRD-HCU-4219+	.17
	CRD-SV-122/4223		A610 HVA1709661A .5"SOLENOID WITHDRAW DRIVE VALVE 02C12 2 A 1 0 A,F1		M528	R 528 L.5/3.7 C4	A X 324007		N	612				CRD-HCU-4223+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	HFG SAFETY FUNCTION	MODEL A/E	BLDG DRAWING	ELEV DRAWING	STATUS S E DETAIL A/E ZONE	QID ZONE	TM ROOM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*					
											HL TEST	ANL FO C	FREQ	AGING	DBE C	HOURS			
	CRD-SV-122/4227		.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A			A X	324007	N	612								
02C12	2	A	1 0 A,B1		M528			R 528 L.5/3.7 C4										CRD-HCU-4227+	.17
	CRD-SV-122/4231		.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A			A X	324007	N	612								
02C12	2	A	1 0 A,P1		M528			R 528 K.2/3.7 C4										CPD-HCU-4231+	.17
	CRD-SV-122/4235		.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A			A X	324007	N	612								
02C12	2	A	1 0 A,P1		M528			R 528 K.2/3.7 C4										CRD-HCU-4235+	.17
	CRD-SV-122/4239		.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A			A X	324007	N	612								
02C12	2	A	1 0 A,P1		M528			R 528 K.2/3.7 C4										CRD-HCU-4239+	.17
	CRD-SV-122/4243		.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A			A X	324007	N	612								
02C12	2	A	1 0 A,E1		M528			R 528 K.2/3.7 C4										CRD-HCU-4243+	.17
	CRD-SV-122/4247		.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A			A X	324007	N	612								
02C12	2	A	1 0 A,B1		M528			R 528 K.2/3.7 C4										CRD-HCU-4247+	.17
	CRD-SV-122/4251		.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A			A X	324007	N	612								
02C12	2	A	1 0 A,P1		M528			R 528 K.2/3.7 C4										CRD-HCU-4251+	.17
	CRD-SV-122/4255		.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A			A X	324007	N	612								
02C12	2	A	1 0 A,P1		M528			R 528 K.2/3.7 C4										CRD-HCU-4255+	.17
	CRD-SV-122/4259		.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A			A X	324007	N	612								
02C12	2	A	1 0 A,P1		M528			R 528 K.2/3.7 C4										CRD-HCU-4259+	.17
	CRD-SV-122/4607		.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A			A X	324007	N	612								
02C12	2	A	1 0 A,E1		M528			R 528 L.5/3.7 C4										CRD-HCU-4607+	.17
	CRD-SV-122/4611		.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A			A X	324007	N	612								
02C12	2	A	1 0 A,F1		M528			R 528 L.5/3.7 C4										CRD-HCU-4611+	.17
	CRD-SV-122/4615		.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A			A X	324007	N	612								
02C12	2	A	1 0 A,F1		M528			R 528 L.5/3.7 C4										CRD-HCU-4615+	.17
	CRD-SV-122/4619		.5"SOLENOID WITHDRAW DRIVE VALVE	A610	HVA1709661A			A X	324007	N	612								
02C12	2	A	1 0 A,F1		M528			R 528 L.5/3.7 C4										CRD-HCU-4619+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	STATUS S E Q10 DETAIL A/E ZONE	BLOG ELEV ZONE	TH HL TEST ROOM	***SEISMIC (S) PARAMETERS*** ANL FO C ACCURACY	*ENV. (E) PARAMETERS* AGING DBE C COMPOSITE EPN	HOURS
CRD-SV-122/4623			A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	HVA1709661A	H528	A X 324007 L.5/3.7 C4	R 528	N 612		CRD-HCU-4623+	.17
CRD-SV-122/4627			A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	HVA1709661A	H528	A X 324007 L.5/3.7 C4	R 528	N 612		CRD-HCU-4627+	.17
CRD-SV-122/4631			A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	HVA1709661A	H528	A X 324007 K.2/3.7 C4	R 528	N 612		CRD-HCU-4631+	.17
CRD-SV-122/4635			A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	HVA1709661A	H528	A X 324007 K.2/3.7 C4	R 528	N 612		CRD-HCU-4635+	.17
CRD-SV-122/4639			A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	HVA1709661A	H528	A X 324007 K.2/3.7 C4	R 528	N 612		CRD-HCU-4639+	.17
CRD-SV-122/4643			A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	HVA1709661A	H528	A X 324007 K.2/3.7 C4	R 528	N 612		CRD-HCU-4643+	.17
CRD-SV-122/4647			A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	HVA1709661A	H528	A X 324007 K.2/3.7 C4	R 528	N 612		CRD-HCU-4647+	.17
CRD-SV-122/4651			A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	HVA1709661A	H528	A X 324007 K.2/3.7 C4	R 528	N 612		CRD-HCU-4651+	.17
CRD-SV-122/4655			A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	HVA1709661A	H528	A X 324007 K.2/3.7 C4	R 528	N 612		CRD-HCU-4655+	.17
CRD-SV-122/5011			A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	HVA1709661A	H528	A X 324007 L.5/3.7 C4	R 528	N 612		CRD-HCU-5011+	.17
CRD-SV-122/5015			A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	HVA1709661A	H528	A X 324007 L.5/3.7 C4	R 528	N 612		CRD-HCU-5015+	.17
CRD-SV-122/5019			A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	HVA1709661A	H528	A X 324007 L.5/3.7 C4	R 528	N 612		CRD-HCU-5019+	.17
CRD-SV-122/5023			A610 .5"SOLENOID WITHDRAW DRIVE VALVE 02C12	HVA1709661A	H528	A X 324007 L.5/3.7 C4	R 528	N 612		CRD-HCU-5023+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION	MFG EC. USE SAFETY FUNCTION	MODEL	BLOG ELEV. A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID ZONE	TM ROOM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
										HL TEST	ANL FO C	FREQ	AGING DBE C	COMPOSITE EPN	HOURS	
	CRD-SV-122/5439		.5"SOLENOID WITHDRAW DRIVE VALVE	A610 HVA1709661A			A X	324007	N 612							.17
	02C12	2	A 1 0 A,R1		H528	R 528 K.2/3.7 C4								CRD-HCU-5439+		
	CRD-SV-122/5443		.5"SOLENOID WITHDRAW DRIVE VALVE	A610 HVA1709661A			A X	324007	N 612							.17
	02C12	2	A 1 0 A,R1		H528	R 528 K.2/3.7 C4								CRD-HCU-5443+		
	CRD-SV-122/5447		.5"SOLENOID WITHDRAW DRIVE VALVE	A610 HVA1709661A			A X	324007	N 612							.17
	02C12	2	A 1 0 A,R1		H528	R 528 K.2/3.7 C4								CRD-HCU-5447+		
	CRD-SV-122/5819		.5"SOLENOID WITHDRAW DRIVE VALVE	A610 HVA1709661A			A X	324007	N 612							.17
	02C12	2	A 1 0 A,R1		H528	R 528 L.5/3.7 C4								CRD-HCU-5819+		
	CRD-SV-122/5823		.5"SOLENOID WITHDRAW DRIVE VALVE	A610 HVA1709661A			A X	324007	N 612							.17
	02C12	2	A 1 0 A,R1		H528	R 528 L.5/3.7 C4								CRD-HCU-5823+		
	CRD-SV-122/5827		.5"SOLENOID WITHDRAW DRIVE VALVE	A610 HVA1709661A			A X	324007	N 612							.17
	02C12	2	A 1 0 A,R1		H528	R 528 L.5/3.7 C4								CRD-HCU-5827+		
	CRD-SV-122/5831		.5"SOLENOID WITHDRAW DRIVE VALVE	A610 HVA1709661A			A X	324007	N 612							.17
	02C12	2	A 1 0 A,R1		H528	R 528 K.2/3.7 C4								CRD-HCU-5831+		
	CRD-SV-122/5835		.5"SOLENOID WITHDRAW DRIVE VALVE	A610 HVA1709661A			A X	324007	N 612							.17
	02C12	2	A 1 0 A,R1		H528	R 528 K.2/3.7 C4								CRD-HCU-5835+		
	CRD-SV-122/5839		.5"SOLENOID WITHDRAW DRIVE VALVE	A610 HVA1709661A			A X	324007	N 612							.17
	02C12	2	A 1 0 A,R1		H528	R 528 K.2/3.7 C4								CRD-HCU-5839+		
	CRD-SV-122/5843		.5"SOLENOID WITHDRAW DRIVE VALVE	A610 HVA1709661A			A X	324007	N 612							.17
	02C12	2	A 1 0 A,F1		H528	R 528 K.2/3.7 C4								CRD-HCU-5843+		
	CRD-SV-123/0219		.5"SOLENOID INSERT DRIVE VALVE	A610 HVA1709662A			A X	324007	N 612							.17
	02C12	2	A 1 0 A,F1		H528	R 527 L5/8.4 C4								CRD-HCU-0219+		
	CRD-SV-123/0223		.5"SOLENOID INSERT DRIVE VALVE	A610 HVA1709662A			A X	324007	N 612							.17
	02C12	2	A 1 0 A,F1		H528	R 527 L5/8.4 C4								CRD-HCU-0223+		
	CRD-SV-123/0227		.5"SOLENOID INSERT DRIVE VALVE	A610 HVA1709662A			A X	324007	N 612							.17
	02C12	2	A 1 0 A,F1		H528	R 527 L5/8.4 C4								CRD-HCU-0227+		

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
WNP-2 CLASS 1E EQUIPMENT LIST

CONTRACT	EPN	LEVEL	DESCRIPTION			MODEL	STATUS		BLDG	ELEV	DETAIL	A/E	ZONE	ROOM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
			EC	USE	SAFETY FUNCTION		SE	EQD							TM	HL	TEST	ANL	FO	C	FREQ	AGING
				A610	HVA1709662A		A X	324007		N	612											
				.5"SOLENOID INSERT DRIVE VALVE																		
				02C12	2	A	1 0	A,B1	H528													
				A610	HVA1709662A		A X	324007		N	612											
				.5"SOLENOID INSERT DRIVE VALVE																		
				02C12	2	A	1 0	A,B1	H528													
				A610	HVA1709662A		A X	324007		N	612											
				.5"SOLENOID INSERT DRIVE VALVE																		
				02C12	2	A	1 0	A,B1	H528													
				A610	HVA1709662A		A X	324007		N	612											
				.5"SOLENOID INSERT DRIVE VALVE																		
				02C12	2	A	1 0	A,B1	H528													
				A610	HVA1709662A		A X	324007		N	612											
				.5"SOLENOID INSERT DRIVE VALVE																		
				02C12	2	A	1 0	A,B1	H528													
				A610	HVA1709662A		A X	324007		N	612											
				.5"SOLENOID INSERT DRIVE VALVE																		
				02C12	2	A	1 0	A,B1	H528													
				A610	HVA1709662A		A X	324007		N	612											
				.5"SOLENOID INSERT DRIVE VALVE																		
				02C12	2	A	1 0	A,B1	H528													
				A610	HVA1709662A		A X	324007		N	612											
				.5"SOLENOID INSERT DRIVE VALVE																		
				02C12	2	A	1 0	A,B1	H528													
				A610	HVA1709662A		A X	324007		N	612											
				.5"SOLENOID INSERT DRIVE VALVE																		
				02C12	2	A	1 0	A,B1	H528													
				A610	HVA1709662A		A X	324007		N	612											
				.5"SOLENOID INSERT DRIVE VALVE																		
				02C12	2	A	1 0	A,B1	H528													

CRD-HCU-0231+

.17

CRD-HCU-0235+

.17

CRD-HCU-0239+

.17

CRD-HCU-0243+

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CRD-HCU-0615+

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CRD-HCU-0619+

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CRD-HCU-0623+

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CRD-HCU-0627+

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CRD-HCU-0631+

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CRD-HCU-0635+

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CRD-HCU-0639+

.17

CRD-HCU-0643+

.17

CRD-HCU-0647+

.17

CONTRACT	EPN LEVEL	MFG DESCRIPTION EC USE	SAFETY FUNCTION	MODEL A/E DRAWING	BLDG ELEV DETAIL	STATUS S E A X A/E ZONE	OID ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
								TM	HL TEST	ANL FO C	FREQ	AGING	DBE C
								ROOM	ACCURACY			COMPOSITE EPN	
CRD-SV-123/1011		A610	HVA1709662A			A X	324007	N	612				
.5"SOLENOID INSERT DRIVE VALVE	2	A 1 0 A,B1		H528	R 527 L5/8.4	C4						CRD-HCU-1011+	.17
CRD-SV-123/1015		A610	HVA1709662A			A X	324007	N	612				
.5"SOLENOID INSERT DRIVE VALVE	2	A 1 0 A,B1		H528	R 527 L5/8.4	C4						CRD-HCU-1015+	.17
CRD-SV-123/1019		A610	HVA1709662A			A X	324007	N	612				
.5"SOLENOID INSERT DRIVE VALVE	2	A 1 0 A,B1		H528	R 527 L5/8.4	C4						CRD-HCU-1019+	.17
CRD-SV-123/1023		A610	HVA1709662A			A X	324007	N	612				
.5"SOLENOID INSERT DRIVE VALVE	2	A 1 0 A,B1		H528	R 527 L5/8.4	C4						CRD-HCU-1023+	.17
CRD-SV-123/1027		A610	HVA1709662A			A X	324007	N	612				
.5"SOLENOID INSERT DRIVE VALVE	2	A 1 0 A,B1		H528	R 527 L5/8.4	C4						CRD-HCU-1027+	.17
CRD-SV-123/1031		A610	HVA1709662A			A X	324007	N	612				
.5"SOLENOID INSERT DRIVE VALVE	2	A 1 0 A,B1		H528	R 527 L5/8.4	C4						CRD-HCU-1031+	.17
CRD-SV-123/1035		A610	HVA1709662A			A X	324007	N	612				
.5"SOLENOID INSERT DRIVE VALVE	2	A 1 0 A,B1		H528	R 527 K2/8.4	C4						CRD-HCU-1035+	.17
CRD-SV-123/1039		A610	HVA1709662A			A X	324007	N	612				
.5"SOLENOID INSERT DRIVE VALVE	2	A 1 0 A,B1		H528	R 527 K2/8.4	C4						CRD-HCU-1039+	.17
CRD-SV-123/1043		A610	HVA1709662A			A X	324007	N	612				
.5"SOLENOID INSERT DRIVE VALVE	2	A 1 0 A,B1		H528	R 527 K2/8.4	C4						CRD-HCU-1043+	.17
CRD-SV-123/1047		A610	HVA1709662A			A X	324007	N	612				
.5"SOLENOID INSERT DRIVE VALVE	2	A 1 0 A,B1		H528	R 527 K2/8.4	C4						CRD-HCU-1047+	.17
CRD-SV-123/1051		A610	HVA1709662A			A X	324007	N	612				
.5"SOLENOID INSERT DRIVE VALVE	2	A 1 0 A,F1		H528	R 527 K2/8.4	C4						CRD-HCU-1051+	.17
CRD-SV-123/1407		A610	HVA1709662A			A X	324007	N	612				
.5"SOLENOID INSERT DRIVE VALVE	2	A 1 0 A,F1		H528	R 527 L5/8.4	C4						CRD-HCU-1407+	.17
CRD-SV-123/1411		A610	HVA1709662A			A X	324007	N	612				
.5"SOLENOID INSERT DRIVE VALVE	2	A 1 0 A,F1		H528	R 527 L.5/8.4	C4						CRD-HCU-1411+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE SAFETY FUNCTION	MFG A610	MODEL HVA1709662A	BLDG A/E DRAWING	ELEV A/E ZONE	STATUS S E DETAIL	QID ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*					
										TH	HL	TEST	ANL	FO	C	FREQ	AGING	DBE
CRD-SV-123/2203			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	M528	R 527 L5/8.4 C4	A X	324007	N	612						CRD-HCU-2203+	.17
CRD-SV-123/2207			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	M528	R 527 L5/8.4 C4	A X	324007	N	612						CRD-HCU-2207+	.17
CRD-SV-123/2211			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	M528	R 527 L5/8.4 C4	A X	324007	N	612						CRD-HCU-2211+	.17
CRD-SV-123/2215			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	M528	R 527 L5/8.4 C4	A X	324007	N	612						CRD-HCU-2215+	.17
CRD-SV-123/2219			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	M528	R 527 L5/8.4 C4	A X	324007	N	612						CRD-HCU-2219+	.17
CRD-SV-123/2223			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	M528	R 527 L5/8.4 C4	A X	324007	N	612						CRD-HCU-2223+	.17
CRD-SV-123/2227			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	M528	R 527 L5/8.4 C4	A X	324007	N	612						CRD-HCU-2227+	.17
CRD-SV-123/2231			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	M528	R 527 L5/8.4 C4	A X	324007	N	612						CRD-HCU-2231+	.17
CRD-SV-123/2235			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	M528	R 527 K2/8.4 C4	A X	324007	N	612						CRD-HCU-2235+	.17
CRD-SV-123/2239			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,F1	A610	HVA1709662A	M528	R 527 K2/8.4 C4	A X	324007	N	612						CRD-HCU-2239+	.17
CRD-SV-123/2243			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,P1	A610	HVA1709662A	M528	R 527 K2/8.4 C4	A X	324007	N	612						CRD-HCU-2243+	.17
CRD-SV-123/2247			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,F1	A610	HVA1709662A	M528	R 527 K2/8.4 C4	A X	324007	N	612						CRD-HCU-2247+	.17
CRD-SV-123/2251			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,F1	A610	HVA1709662A	M528	R 527 K2/8.4 C4	A X	324007	N	612						CRD-HCU-2251+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE SAFETY FUNCTION	MFG A610	MODEL HVA1709662A	BLDG A/E	ELEV DRAWING	STATUS S E DETAIL A/E ZONE	Q1D ZONE	TM ROOM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
											HL	TEST	ANL	FO	C	FREQ	AGING	DBE
CRD-SV-123/2647			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	R	527 K2/8.4	A X C4	324007	N	612						CRD-HCU-2647+	.17
CRD-SV-123/2651			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	R	527 K2/8.4	A X C4	324007	N	612						CRD-HCU-2651+	.17
CRD-SV-123/2655			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	R	527 K2/8.4	A X C4	324007	N	612						CRD-HCU-2655+	.17
CRD-SV-123/2659			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	R	527 K2/8.4	A X C4	324007	N	612						CRD-HCU-2659+	.17
CRD-SV-123/3003			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,P1	A610	HVA1709662A	R	527 L5/8.4	A X C4	324007	N	612						CRD-HCU-3003+	.17
CRD-SV-123/3007			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	R	527 L5/8.4	A X C4	324007	N	612						CRD-HCU-3007+	.17
CRD-SV-123/3011			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 P 2 0 A,P1	A610	HVA1709662A	R	527 L5/8.4	A X C4	324007	N	612						CRD-HCU-3011+	4320
CRD-SV-123/3015			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,P1	A610	HVA1709662A	R	527 L5/8.4	A X C4	324007	N	612						CRD-HCU-3015+	.17
CRD-SV-123/3019			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,C1	A610	HVA1709662A	R	527 L5/8.4	A X C4	324007	N	612						CRD-HCU-3019+	.17
CRD-SV-123/3023			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,P1	A610	HVA1709662A	R	527 L5/8.4	A X C4	324007	N	612						CRD-HCU-3023+	.17
CRD-SV-123/3027			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,K1	A610	HVA1709662A	R	527 L5/8.4	A X C4	324007	N	612						CRD-HCU-3027+	.17
CRD-SV-123/3031			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,P1	A610	HVA1709662A	R	527 K.2/3.7	A X C4	324007	N	612						CRD-HCU-3031+	.17
CRD-SV-123/3035			.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,P1	A610	HVA1709662A	R	527 K.2/3.7	A X C4	324007	N	612						CRD-HCU-3035+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	BLOG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
									TM	HL	TEST ANL FO C ROOM ACCURACY	FREQ	AGING DRE C COMPOSITE EPN	HOURS		
	CRD-SV-123/3039		.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	R 527 K.2/3.7 M528 C4	A X 324007 N 612								CRD-HCU-3039+	.17
	CRD-SV-123/3043		.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	R 527 K.2/3.7 M528 C4	A X 324007 N 612								CRD-HCU-3043+	.17
	CRD-SV-123/3047		.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	R 527 K.2/3.7 M528 C4	A X 324007 N 612								CRD-HCU-3047+	.17
	CRD-SV-123/3051		.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	R 527 K.2/3.7 M528 C4	A X 324007 N 612								CRD-HCU-3051+	.17
	CRD-SV-123/3055		.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	R 527 K.2/3.7 M528 C4	A X 324007 N 612								CRD-HCU-3055+	.17
	CRD-SV-123/3059		.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	R 527 K.2/3.7 M528 C4	A X 324007 N 612								CRD-HCU-3059+	.17
	CRD-SV-123/3403		.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	R 527 L.5/3.7 M528 C4	A X 324007 N 612								CRD-HCU-3403+	.17
	CRD-SV-123/3407		.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	R 527 L.5/3.7 M528 C4	A X 324007 N 612								CRD-HCU-3407+	.17
	CRD-SV-123/3411		.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	R 527 L.5/3.7 M528 C4	A X 324007 N 612								CRD-HCU-3411+	.17
	CRD-SV-123/3415		.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	R 527 L.5/3.7 M528 C4	A X 324007 N 612								CRD-HCU-3415+	.17
	CRD-SV-123/3419		.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	R 527 L.5/3.7 M528 C4	A X 324007 N 612								CRD-HCU-3419+	.17
	CRD-SV-123/3423		.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	R 527 L.5/3.7 M528 C4	A X 324007 N 612								CRD-HCU-3423+	.17
	CRD-SV-123/3427		.5"SOLENOID INSERT DRIVE VALVE 02C12 2 A 1 0 A,B1	A610	HVA1709662A	R 527 L.5/3.7 M528 C4	A X 324007 N 612								CRD-HCU-3427+	.17

CONTRACT	LEVEL	EPN	DESCRIPTION EC USE SAFETY FUNCTION	MFG	MODEL	BLDG ELEV A/E DRAWING	STATUS S E QID DETAIL A/E ZONE	TH HL TEST ANL FO C ZONE ROOM	***SEISMIC (S) PARAMETERS*** ACCURACY	*ENV. (E) PARAMETERS* AGING DBE C HOURS COMPOSITE EPN		
CRD-SV-123/3431	2		A610 .5"SOLENOID INSERT DRIVE VALVE 02C12	A610	HVA1709662A	527 K.2/3.7	A X C4	324007	N	612	CRD-HCU-3431+	.17
CRD-SV-123/3435	2		A610 .5"SOLENOID INSERT DRIVE VALVE 02C12	A610	HVA1709662A	527 K.2/3.7	A X C4	324007	N	612	CRD-HCU-3435+	.17
CRD-SV-123/3439	2		A610 .5"SOLENOID INSERT DRIVE VALVE 02C12	A610	HVA1709662A	527 K.2/3.7	A X C4	324007	N	612	CRD-HCU-3439+	.17
CRD-SV-123/3443	2		A610 .5"SOLENOID INSERT DRIVE VALVE 02C12	A610	HVA1709662A	527 K.2/3.7	A X C4	324007	N	612	CRD-HCU-3443+	.17
CRD-SV-123/3447	2		A610 .5"SOLENOID INSERT DRIVE VALVE 02C12	A610	HVA1709662A	527 K.2/3.7	A X C4	324007	N	612	CRD-HCU-3447+	.17
CRD-SV-123/3451	2		A610 .5"SOLENOID INSERT DRIVE VALVE 02C12	A610	HVA1709662A	527 K.2/3.7	A X C4	324007	N	612	CRD-HCU-3451+	.17
CRD-SV-123/3455	2		A610 .5"SOLENOID INSERT DRIVE VALVE 02C12	A610	HVA1709662A	527 K.2/3.7	A X C4	324007	N	612	CRD-HCU-3455+	.17
CRD-SV-123/3459	2		A610 .5"SOLENOID INSERT DRIVE VALVE 02C12	A610	HVA1709662A	527 K.2/3.7	A X C4	324007	N	612	CRD-HCU-3459+	.17
CRD-SV-123/3803	2		A610 .5"SOLENOID INSERT DRIVE VALVE 02C12	A610	HVA1709662A	527 L.5/3.7	A X C4	324007	N	612	CRD-HCU-3803+	.17
CRD-SV-123/3807	2		A610 .5"SOLENOID INSERT DRIVE VALVE 02C12	A610	HVA1709662A	527 L.5/3.7	A X C4	324007	N	612	CRD-HCU-3807+	.17
CRD-SV-123/3811	2		A610 .5"SOLENOID INSERT DRIVE VALVE 02C12	A610	HVA1709662A	527 L.5/3.7	A X C4	324007	N	612	CRD-HCU-3811+	.17
CRD-SV-123/3815	2		A610 .5"SOLENOID INSERT DRIVE VALVE 02C12	A610	HVA1709662A	527 L.5/3.7	A X C4	324007	N	612	CRD-HCU-3815+	.17
CRD-SV-123/3819	2		A610 .5"SOLENOID INSERT DRIVE VALVE 02C12	A610	HVA1709662A	527 L.5/3.7	A X C4	324007	N	612	CRD-HCU-3819+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	STATUS S E BLDG ELEV DRAWING	QID DETAIL A/E ZONE	TH ZONE	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*						
									HL	TEST	ANL	FO C	FREQ	AGING	OBE	C	HOURS		
CRD-SV-123/3823			.5"SOLENOID INSERT DRIVE VALVE	A610 HVA1709662A	M528	R 527 L.5/3.7	A X 324007	N 612										CRD-HCU-3823+	.17
CRD-SV-123/3827			.5"SOLENOID INSERT DRIVE VALVE	A610 HVA1709662A	M528	R 527 L.5/3.7	A X 324007	N 612										CRD-HCU-3827+	.17
CRD-SV-123/3831			.5"SOLENOID INSERT DRIVE VALVE	A610 HVA1709662A	M528	R 527 K.2/3.7	A X 324007	N 612										CRD-HCU-3831+	.17
CRD-SV-123/3835			.5"SOLENOID INSERT DRIVE VALVE	A610 HVA1709662A	M528	R 527 K.2/3.7	A X 324007	N 612										CRD-HCU-3835+	.17
CRD-SV-123/3839			.5"SOLENOID INSERT DRIVE VALVE	A610 HVA1709662A	M528	R 527 K.2/3.7	A X 324007	N 612										CRD-HCU-3839+	.17
CRD-SV-123/3843			.5"SOLENOID INSERT DRIVE VALVE	A610 HVA1709662A	M528	R 527 K.2/3.7	A X 324007	N 612										CRD-HCU-3843+	.17
CRD-SV-123/3847			.5"SOLENOID INSERT DRIVE VALVE	A610 HVA1709662A	M528	R 527 K.2/3.7	A X 324007	N 612										CRD-HCU-3847+	.17
CRD-SV-123/3851			.5"SOLENOID INSERT DRIVE VALVE	A610 HVA1709662A	M528	R 527 K.2/3.7	A X 324007	N 612										CRD-HCU-3851+	.17
CRD-SV-123/3855			.5"SOLENOID INSERT DRIVE VALVE	A610 HVA1709662A	M528	R 527 K.2/3.7	A X 324007	N 612										CRD-HCU-3855+	.17
CRD-SV-123/3859			.5"SOLENOID INSERT DRIVE VALVE	A610 HVA1709662A	M528	R 527 K.2/3.7	A X 324007	N 612										CRD-HCU-3859+	.17
CRD-SV-123/4203			.5"SOLENOID INSERT DRIVE VALVE	A610 HVA1709662A	M528	R 527 L.5/3.7	A X 324007	N 612										CRD-HCU-4203+	.17
CRD-SV-123/4207			.5"SOLENOID INSERT DRIVE VALVE	A610 HVA1709662A	M528	R 527 L.5/3.7	A X 324007	N 612										CRD-HCU-4207+	.17
CRD-SV-123/4211			.5"SOLENOID INSERT DRIVE VALVE	A610 HVA1709662A	M528	R 527 L.5/3.7	A X 324007	N 612										CRD-HCU-4211+	.17

CONTRACT	EPN	LEVEL	DESCRIPTION	MFG	MODEL	BLDG ELEV	STATUS	S E	QID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
										TM	HL	TEST ANL FO C	FREQ	AGING DRE C	HOURS
			EC USE SAFETY FUNCTION			A/E DRAWING	DETAIL	ZONE	ROOM	ACCURACY			COMPOSITE EPN		
CRD-SV-123/4215			A610 HVA1709662A				A X	324007	N	612			CRD-HCU-4215+	.17	
.5"SOLENOID INSERT DRIVE VALVE															
02C12	2	A	1 0 A,B1			M528	R 527 L.5/3.7	C4							
CRD-SV-123/4219			A610 HVA1709662A				A X	324007	N	612			CRD-HCU-4219+	.17	
.5"SOLENOID INSERT DRIVE VALVE															
02C12	2	A	1 0 A,P1			M528	R 527 L.5/3.7	C4							
CRD-SV-123/4223			A610 HVA1709662A				A X	324007	N	612			CRD-HCU-4223+	.17	
.5"SOLENOID INSERT DRIVE VALVE															
02C12	2	A	1 0 A,B1			M528	R 527 L.5/3.7	C4							
CRD-SV-123/4227			A610 HVA1709662A				A X	324007	N	612			CRD-HCU-4227+	.17	
.5"SOLENOID INSERT DRIVE VALVE															
02C12	2	A	1 0 A,B1			M528	R 527 L.5/3.7	C4							
CRD-SV-123/4231			A610 HVA1709662A				A X	324007	N	612			CRD-HCU-4231+	.17	
.5"SOLENOID INSERT DRIVE VALVE															
02C12	2	A	1 0 A,B1			M528	R 527 K.2/3.7	C4							
CRD-SV-123/4235			A610 HVA1709662A				A X	324007	N	612			CRD-HCU-4235+	.17	
.5"SOLENOID INSERT DRIVE VALVE															
02C12	2	A	1 0 A,P1			M528	R 527 K.2/3.7	C4							
CRD-SV-123/4239			A610 HVA1709662A				A X	324007	N	612			CRD-HCU-4239+	.17	
.5"SOLENOID INSERT DRIVE VALVE															
02C12	2	A	1 0 A,P1			M528	R 527 K.2/3.7	C4							
CRD-SV-123/4243			A610 HVA1709662A				A X	324007	N	612			CRD-HCU-4243+	.17	
.5"SOLENOID INSERT DRIVE VALVE															
02C12	2	A	1 0 A,P1			M528	R 527 K.2/3.7	C4							
CRD-SV-123/4247			A610 HVA1709662A				A X	324007	N	612			CRD-HCU-4247+	.17	
.5"SOLENOID INSERT DRIVE VALVE															
02C12	2	A	1 0 A,P1			M528	R 527 K.2/3.7	C4							
CRD-SV-123/4251			A610 HVA1709662A				A X	324007	N	612			CRD-HCU-4251+	.17	
.5"SOLENOID INSERT DRIVE VALVE															
02C12	2	A	1 0 A,P1			M528	R 527 K.2/3.7	C4							
CRD-SV-123/4255			A610 HVA1709662A				A X	324007	N	612			CRD-HCU-4255+	.17	
.5"SOLENOID INSERT DRIVE VALVE															
02C12	2	A	1 0 A,P1			M528	R 527 K.2/3.7	C4							
CRD-SV-123/4259			A610 HVA1709662A				A X	324007	N	612			CRD-HCU-4259+	.17	
.5"SOLENOID INSERT DRIVE VALVE															
02C12	2	A	1 0 A,P1			M528	R 527 K.2/3.7	C4							
CRD-SV-123/4607			A610 HVA1709662A				A X	324007	N	612			CRD-HCU-4607+	.17	
.5"SOLENOID INSERT DRIVE VALVE															
02C12	2	A	1 0 A,P1			M52P	R 527 L.5/3.7	C4							

EPN CONTRACT LEVEL	DESCRIPTION EC USE SAFETY FUNCTION	HFG A/E DRAWING	MODEL A/E ZONE	STATUS S E DETAIL	OID ZONE	TH ROOM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*								
							HL	TEST	ANL FO C ACCURACY	FREQ	AGING	OBE	C COMPOSITE	HOURS EPN				
CRD-SV-123/5427 .5"SOLENOID INSERT DRIVE VALVE 02C12 2	A 1 0 A,P1	A610 H528	HVA1709662A	A X R 527 L.5/3.7 C4	324007	N 612											CRD-HCU-5427+	.17
CRD-SV-123/5431 .5"SOLENOID INSERT DRIVE VALVE 02C12 2	A 1 0 A,P1	A610 M528	HVA1709662A	A X R 527 K.2/3.7 C4	324007	N 612											CRD-HCU-5431+	.17
CRD-SV-123/5435 .5"SOLENOID INSERT DRIVE VALVE 02C12 2	A 1 0 A,B1	A610 M528	HVA1709662A	A X R 527 K.2/3.7 C4	324007	N 612											CRD-HCU-5435+	.17
CRD-SV-123/5439 .5"SOLENOID INSERT DRIVE VALVE 02C12 2	A 1 0 A,B1	A610 M528	HVA1709662A	A X R 527 K.2/3.7 C4	324007	N 612											CRD-HCU-5439+	.17
CRD-SV-123/5443 .5"SOLENOID INSERT DRIVE VALVE 02C12 2	A 1 0 A,B1	A610 M528	HVA1709662A	A X R 527 K.2/3.7 C4	324007	N 612											CRD-HCU-5443+	.17
CRD-SV-123/5447 .5"SOLENOID INSERT DRIVE VALVE 02C12 2	A 1 0 A,B1	A610 M528	HVA1709662A	A X R 527 K.2/3.7 C4	324007	N 612											CRD-HCU-5447+	.17
CRD-SV-123/5819 .5"SOLENOID INSERT DRIVE VALVE 02C12 2	A 1 0 A,B1	A610 M528	HVA1709662A	A X R 527 L.5/3.7 C4	324007	N 612											CRD-HCU-5819+	.17
CRD-SV-123/5823 .5"SOLENOID INSERT DRIVE VALVE 02C12 2	A 1 0 A,P1	A610 M528	HVA1709662A	A X R 527 L.5/3.7 C4	324007	N 612											CRD-HCU-5823+	.17
CRD-SV-123/5827 .5"SOLENOID INSERT DRIVE VALVE 02C12 2	A 1 0 A,P1	A610 M528	HVA1709662A	A X R 527 L.5/3.7 C4	324007	N 612											CRD-HCU-5827+	.17
CRD-SV-123/5831 .5"SOLENOID INSERT DRIVE VALVE 02C12 2	A 1 0 A,P1	A610 M528	HVA1709662A	A X R 527 K.2/3.7 C4	324007	N 612											CRD-HCU-5831+	.17
CRD-SV-123/5835 .5"SOLENOID INSERT DRIVE VALVE 02C12 2	A 1 0 A,P1	A610 M528	HVA1709662A	A X R 527 K.2/3.7 C4	324007	N 612											CRD-HCU-5835+	.17
CRD-SV-123/5839 .5"SOLENOID INSERT DRIVE VALVE 02C12 2	A 1 0 A,P1	A610 M528	HVA1709662A	A X R 527 K.2/3.7 C4	324007	N 612											CRD-HCU-5839+	.17
CRD-SV-123/5843 .5"SOLENOID INSERT DRIVE VALVE 02C12 2	A 1 0 A,P1	A610 M528	HVA1709662A	A X R 527 K.2/3.7 C4	324007	N 612											CRD-HCU-5843+	.17

CONTRACT	EPN LEVEL	DESCRIPTION			MODEL A/E DRAWING	BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID ZONE	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*							
		EC	USE	SAFETY FUNCTION					TM	HL	TEST	ANL	FO	C	FREQ	AGING	DBE	C	HOURS	
CSP-POS-V/6 POS FOR CSP-V-6 58	2	A	1	3	I	N015 EA740-80100	R M543	488 H.6/6.1 B14	X R43	200015	N	14	00	35					4320	CSP-V-6+
CSP-POS-V/7/P1 POS FOR CSP-V-7	2	A	1	3	I	A415 4-3869-002	R E519/11	475 N.5/7.7 E3	X X	248002									4320	06153 CSP-V-7+
CSP-POS-V/7/P2 POS FOR CSP-V-7	2	A	1	3	I	A415 04-3869-002	R E519/11	475 N.5/7.7 E3	X X	248002									4320	06153 CSP-V-7+
CSP-POS-V/7/P3 POS FOR CSP-V-7	2	A	1	3	I	A415 04-3869-002	R E519/11	475 N.5/7.7 E3	X X	248002									4320	06153 CSP-V-7+
CSP-POS-V/7/P4 POS FOR CSP-V-7	2	A	1	3	I	A415 04-3869-002	R E519/11	475 N.5/7.7 E3	X X	248002									4320	06153 CSP-V-7+
CSP-POS-V/7/P9 POS FOR CSP-V-7	2	A	1	3	I	A415 04-3869-002	R E519/11	475 N.5/7.7 E3	X X	248002									4320	06153 CSP-V-7+
CSP-POS-V/8/P1 POS FOR CSP-V-8	2	A	1	3	I	A415 04-3869-002	R E519/11	491 H.6/6.0 E3	X X	248002									4320	06153 CSP-V-8+
CSP-POS-V/8/P2 POS FOR CSP-V-8	2	A	1	3	I	A415 04-3869-002	R E519/11	491 H.6/6.0 E3	X X	248002									4320	06153 CSP-V-8+
CSP-POS-V/8/P3 POS FOR CSP-V-8	2	A	1	3	I	A415 04-3869-001	R E519/11	491 H.6/6.0 E3	X X	248002									4320	06153 CSP-V-8+
CSP-POS-V/8/P4 POS FOR CSP-V-8	2	A	1	3	I	A415 04-3869-001	R E519/11	491 H.6/6.0 F3	X X	248002									4320	06153 CSP-V-8+
CSP-POS-V/8/P9 POS FOR CSP-V-8	2	A	1	3	I	A415 04-3869-001	R E519/11	491 H.6/6.0 L3	X X	248002									4320	06153 CSP-V-8+
CSP-POS-V/9 POS FOR CSP-V-9 58	2	A	1	3	I	N015 D2400X	R M543	490 H.9/5.1 D6	C R43	200009									4320	CSP-V-9+
CSP-RLY-ARCSRV5 CONTROL RELAY FOR CSP-V-5 58	3	A	1	3	BI	A500 RXMK1	R E519/18	501 N.0/4.8 KA	X	288015									4320	E-IP-64+

CONTRACT	EPN	LEVEL	DESCRIPTION	MFG	MODEL	BLDG	ELEV	DETAIL	STATUS	S/E	QID	ZONE	TH	ROOM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
															HL	TEST	ANL	FO	C	FREQ
			EC	USE	SAFETY FUNCTION	A/E	DRAWING	A/E	ZONE						ACCURACY			COMPOSITE	EPN	
E-CONN-X100C/01				A380	AMPHENOL JACK#82-503				X X	049001							04293	00	E	4320
SOURCE RANGE 55		3	P	2 3	H					D AZ R40		C44					E-X-100C+			
				A380	AMPHENOL PLUG#28650				X X	049002							04293	00	E	4320
SOURCE RANGE 55		3	P	2 3	H					D AZ R40		C44					E-X-100C+			
				A380	AMPHENOL JACK#82-503				X X	049001							04293	10	E	4320
SOURCE RANGE 55		3	P	2 3	H					D AZ R40		C44					E-X-100D+			
				A380	AMPHENOL PLUG#28650				X X	049002							04293	10	E	4320
SOURCE RANGE 55		3	P	2 3	H					D AZ R40		C44					E-X-100D+			
				A382	SOLIDSTRAND 34130				X X	049006										4320
CONNECTOR (SPLICE) 218		3	P	2 3	H					D AZ R40		C56					E-X-102A+			
				R098	WCSF-N SHRINK TUBE				A X	049007										4320
CONNECTOR 218		3	P	2 3	H					D AZ R40							E-X-102A+			
				A382	SOLIDSTRAND 34130				X X	049006										4320
CONNECTOR (SPLICE) 218		3	P	2 3	H					D AZ R40		C56					E-X-102B+			
				R098	WCSF-N SHRINK TUBE				A X	049007										4320
CONNECTOR 218		3	P	2 3	H					D AZ R40							E-X-102B+			
				J035	757-E-518				X X	185002			F	N	121	01				24
R BLDG INSTRU RACK DIV II 58		1	P	2 0	H					N1/3.5 H10							E-IR-61+			
				J035	757-E-597				X X	185002			F	N	121	01				33
R BLDG INST RACK DIV I 58		1	P	2 0	H					H4/6.8 E14					R206		E-IR-62+			
				J035	DWG 757-E-599				X X	185002			F	N	21	01				33
R BLDG INSTRU RACK DIV II 58		1	P	2 0	H					L.4/9.4 C6					R305		E-IR-63+			
				J035	DWG 757-C-652				X X	185002			F	N	21	01				33
R BLDG INSTRU RACK DIV II 58		1	P	2 0	H					N/4.8 G4					R305		E-IR-64+			
				J035	757-E-520				X X	185002			F	N	21	01				33
R BLDG INSTRU RACK DIV I 58		1	P	2 0	H					N.0/4.0 H10					R206		E-IP-65+			

CONTRACT	LEVEL	EPN	DESCRIPTION EC USE SAFETY FUNCTION	MFG	MODEL	BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	***SEISMIC (S) PARAMETERS***					*ENV. (E) PARAMETERS*				
								QID	TM	HL	TEST	ANL	FO C	FREQ	AGING	DBE	C
E-IR-P006+				G080	127D1834TC		Y X	185003	F	N	121	03	10				E-IR-P006+
RECIRC PUMP A INST RACK 02	1	P	2 3 H		M568	R 471 L.5/4.1 G12											
E-IR-P008+				G080	145C3432TC		R X	185003	F	N	121	03		06153	00	G	E-IR-P008+
SRM/IRM CONTROL RLY RACK 02	1	P	2 3 H		M569	R 522 H.7/9.3 C10				R403							
E-IR-P009+				G080	127D1822TC		Y X	185003	F	N	121	03	10				E-IR-P009+
JET PUMP INST PNL A 02	1	P	2 1 H		M568	R 471 J.7/8.0 D13											
E-IR-P010+				G080	127D1832TC		Y X	185003	F	N	121	03	10				E-IR-P010+
JET PUMP INST PNL B 02	1	P	2 1 H		M568	R 471 H.6/4.5 G11											
E-IR-P011+				G080	127D1825TC		R X	185003	F	N	121	03		06153	00	G	E-IR-P011+
SLC INST RACK 02	1	P	2 3 H		M569	R 568 H.8/4.3 G4				R504							
E-IR-P015+				G082	368X270TCG1		Y X	185003	F	N	121	03	10				E-IR-P015+
MN STM FLOW INST B 02	1	P	2 3 H		M568	R 501 H.7/7.3 D8				R305							
E-IR-P017+				G080	127D1828TC		Y X	185003	F	N	121	03	10				E-IR-P017+
RCIC SYS INST RACK 02	1	P	2 1 H		M568	R 471 L.0/8.0 D12											
E-IR-P018+				G080	127D1836TC		Y X	185003	F	N	121	03	10				E-IR-P018+
RMR-INST RACK DIV 1 02	1	P	2 3 H		M568	R 501 J.5/3.8 H7											
E-IR-P021+				G080	127D1841TC		Y X	185003	F	N	121	03	10				E-IR-P021+
RHR INST RACK DIV II 02	1	P	2 3 H		M568	R 501 H.9/9.3 C8				R305							
E-IR-P022+				G080	127D1838TC		Y X	185003	F	N	121	03	10				E-IR-P022+
RECIRC PUMP B INST PNL 02	1	P	2 3 H		M568	R 471 H.5/7.9 D11											
E-IR-P024+				G080	127D1840TC		Y X	185003									E-IR-P024+
HPCS INST RACK 02	1	P	2 0 H		M568	R 471 L.1/4.1 G12											
E-IR-P025+				G080	127D1844TC		Y X	185003	F	N	121	03	10				E-IR-P025+
MN STM FLOW INST RACK B 02	1	P	2 3 H		M568	R 501 L.9/3.7 H5				R305							
E-IR-P026+				G080	127D1830TC		Y X	185003	F	N	121	03	10				E-IR-P026+
RPV INST RACK D 02	1	P	2 3 H		M569	R 522 J.8/4.6 G13				R404							

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL	BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
									TH	HL	TEST	ANL	FO	C	FREQ	AGING
								ZONE	ROOM	ACCURACY						
E-X-101D+			W120 CRD POS INDIC ELECT PENFT TB 55 1 P 2 3 H	WX-32648			X X 382003 C 511 318 DEG AZ S796				Y				E-X-101D+	4320
E-X-102A+			W120 T/C AND RTD ELECT PENFT TB 55 1 P 2 3 H	WX-32649			X X 382003 C 534 189 DEG AZ S796				Y				E-X-102A+	4320
E-X-102B+			W120 T/C AND RTD ELECT PENFT TB 55 1 P 2 3 H	WX-32649			X X 382003 C 534 218 DEG AZ S796				Y				E-X-102B+	4320
E-X-103A+			W120 MED VOLTAGE POWER ELECT PENFT TB 55 1 P 2 3 H	WX-32555			X X 382001 C 534 203 DEG AZ S796				Y		05313	10	E-X-103A+	4320
E-X-103B+			W120 MED VOLTAGE POWER ELECT PENFT TB 55 1 P 2 3 H	WX-32555			X X 382001 C 534 212 DEG AZ S796				Y		05313	10	E-X-103B+	4320
E-X-103C+			W120 MED VOLTAGE POWER ELECT PENFT TB 55 1 P 2 3 H	WX-32555			X X 382001 C 534 305 DEG AZ S796				Y		05313	10	E-X-103C+	4320
E-X-103D+			W120 MED VOLTAGE POWER ELECT PENFT TB 55 1 P 2 3 H	WX-32555			X X 382001 C 534 322 DEG AZ S796				Y		05313	10	E-X-103D+	4320
E-X-104A+			W120 LOW VOLTAGE POWER ELECT PENFT TB 55 1 P 2 3 H	WX-32651			X X 382003 C 511 112 DEG AZ S796				Y				E-X-104A+	4320
E-X-104B+			W120 LOW VOLTAGE POWER ELECT PENFT TB 55 1 P 2 3 H	WX-32651			X X 382003 C 511 115 DEG AZ S796				Y				E-X-104B+	4320
E-X-104C+			W120 LOW VOLTAGE POWER ELECT PENFT TB 55 1 P 2 3 H	WX-32651			X X 382003 C 534 192 DEG AZ S796				Y				E-X-104C+	4320
E-X-104D+			W120 LOW VOLTAGE POWER ELECT PENFT TB 55 1 P 2 3 H	WX-32651			X X 382003 C 534 222 DEG AZ S796				Y				E-X-104D+	4320
E-X-105A+			W120 CONTROL AND INDIC ELECT PENFT TB 55 1 P 2 3 H	WX-32650			X X 382003 C 507 100 DEG AZ S796 ER				Y				E-X-105A+	4320
E-X-105B+			W120 CONTROL AND INDIC ELECT PENFT TB 55 1 P 2 3 H	WX-32650			X X 382003 C 511 135 DEG AZ S796				Y				E-X-105B+	4320

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	BLOG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	GID ZONE	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*				
									TM	HL	TEST	ANL	FO	C	FREQ	AGING	DBE
FDR-LS-46 LD HPCS PMP RM 215		2	A 1 0 F	M040 BCS-751	H539	R 422	Z X 207027 B8	R12						01653	10	E	4320
FDR-POS-V/3 POS FOR FDR-V-3 41		2	A 1 0 B1,I	N007 SAI-133	H539	R 467 H.0/4.1	C P 248004 D6							05023	11	S	4320
FDR-POS-V/4 POS FOR FDR-V-4 41		2	A 1:0 B1,I	N007 SAI-133	H539	R 467 H.0/4.1	C J 248004 D6							05023	11	S	4320
FDR-SPV-3 CONT. F R ISO VLV 58		2	A 1 0 B1	A499 WJHT831654	H539	R 426 H.1/3.6	A X 315004 D6	R13	R	N	114	03	33+	E-IR-61+			4320
FDR-SPV-4 SOLENOID PILOT FOR EDR-V-4 58		2	A 1 0 B1	A499 WJHT831654	H539	R 477 H.0/3.9	A X 315004 D6	R33	R	N	114	03	33+	E-IR-65+			4320
FPC-MO-153 MO FOR FPC-V-153 41A		2	A 1 3 B1	L200 SHB-000-5	H526	R 452 K/7.9	A X 221001 B11	R21	P	Y	114		33+	FPC-V-153+	06		4320
FPC-MO-154 MO FOR FPC-V-154 41A		2	A 1 3 B1	L200 SHB-000-5	H526	R 452 J9/8	A X 221001 B11	R21	P	Y	114		33+	FPC-V-154+	06		4320
FPC-MO-156 MO FOR FPC-V-156 41A		2	A 1 3 B1	L200 SHB	H526	R 468 K2/8.2	A X 221001 C11	R21	P	Y	114		33+	FPC-V-156+	06		4320
FPC-TE-7 FUEL POOL 215		2	A 1 3 F		H526	R 57?	R D H11	R31							00	B	4320
HPCS-FIS-6 HPCS-P-1 DISCH 02E22		3	A 1 0 C	B080 289 P22-P024	H520	R 475 L.2/3.4	Y X 140001 F4	R33	N	14	00		33+	E-IR-P024+			24
HPCS-FT-5 HPCS-P-1 DISCH 02		3	A 1 0 I	B040 50-555-11CHA4WCF	H520	R 475 L.1/4.1	Y J 156003 D4	R33	N	14	00		33+	05153 E-IR-P024+	10	P	4320
HPCS-LS-1A HPCS-P-1 EMERGENCY SWITCHOVER 215		2	A 1 0 C	M040 3.5-751-1Y-MPG-M14HY	H527	R 446 H.6/5.0	X X 207002 J2	E						05253	11	E	24
HPCS-LS-1B HPCS-P-1 EMERGENCY SWITCHOVER 215		2	A 1 0 C	M040 3.5-751-1X-MPG-M14HY	H527	R 446 H.6/5.0	X X 207002 J7	E						05253	11	E	24

CONTRACT	EPH LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	STATUS S E DETAIL A/E ZONE	Q10 ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
							TM	HL	TEST ANL	FO C	FREQ	AGING OBE	C	HOURS
HPCS-LS-2A 02E22	2	SUPPRESSION POOL LVL HPCS VLV CNTL A 1 0 C	M040 3.5-751-1X-MPG-M14HY	H543	X X J.5/4.3 B14	207002 R32	N	14	00		06303	17	E	24
HPCS-LS-2R 02E22	2	SUPPRESSION POOL LVL HPCS VLV CNTL A 1 0 C	M040 3.5-751-1X-MPG-M14HY	H543	X X L.8/7.9 B5	207002 R33	N	14	00		06303	17	E	24
HPCS-M-P/1 02E	2	3000HP/373A MOTOR DRIVER HPCS-P-1 A 1 0 C.E	G080 5K6357XC10A/P255	H520	R X M.2/3.7 B6	213032 R13	N				05153 HPCS-P-1+	10	E	4320
HPCS-M-P/3 35A	2	15HP/18A MOTOR FOR HPCS-P-3 A 1 0 C.E	W120 TBDP/256T	H520	X X L.5/3.5 C6	213016 R13	R11				HPCS-P-3+			4320
HPCS-MO-1 02E22	2	1.6HP 3.4A MOTOR OPER. HPCS-V-1 A 1 0 C.E	L200 SMB-000-25	H520	A X M.0/3.9 C7	221001 P R13	N	114		33+	HPCS-V-1+			4320
HPCS-MO-10 02E22	2	26.0HP MOTOR OPERATOR HPCS-V-10 A 1 0 C.E	L200 SMB-3-150	H520	A X M/3.8 E3	221001 R23	N	114		33+	HPCS-V-10+			24
HPCS-MO-11 02E22	2	9.75HP MOTOR OPERATOR HPCS-V-11 A 1 0 C.E	L200 SMB-3-150	H520	A X M/3.8 E3	221001 P R23	N	114		33+	HPCS-V-11+			24
HPCS-MO-12 02E22	2	5HP 8.4A MOTOR OPER. HPCS-V-12 A 1 0 C.E	L200 SMB-2-40	H520	A X M/3.4 D5	221001 P R13	N	114		33+	HPCS-V-12+			24
HPCS-MO-15 02E22	2	MOTOR OPERATOR HPCS-V-15 A 1 0 C.E	L200 SMB-2-40	H520	A X L.4/3.8 D7	221001 P R23	Y	114		33+	HPCS-V-15+	10		4320
HPCS-MO-23 02E22	2	9.75HP MOTOR OPERATOR HPCS-V-23 A 1 0 C	L200 SMB-4-150	H520	A X L.6/3.9 E5	221001 P R23	N	114		33+	HPCS-V-23+			24
HPCS-MO-4 02E22	2	26HP 35A MOTOR OPERATOR HPCS-V-4 A 1 0 C.E	L200 SMB-4-200	H520	A X M.3/7.3 C7	221001 P R53	Y	114		33+	HPCS-V-4+			4320
HPCS-PIS-13 02E22	3	HPCS-P-3 LOW DISCH ALARM H22-P024 F 2 0 G	E080 288	H520	Y X L.2/3.9 C4	198001 R33	N	121		09	E-IR-P024+			24
HPCS-PIS-3 02F22	3	HPCS-P-1 SUCTION PRESSURE P 2 0 G	R080 288	H520	X X L.1/3.5 F6	198001					06153	02	E	24

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG USE SAFETY FUNCTION	MODEL A/E DRAWING	BLDG ELEV A/E DRAWING	STATUS S E QID	TH ZONE	HL TEST ROOM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
										ANL	FO	C	FREQ	AGING	DBE
HPCS-PS-12 HPCS-P-1 DISCH 215	2	A	1-0 C+E	S382 SN-AA3-X10SST F22-P024	M520	471 L.2/3.9 B5	X X 256016	R N 114			33+				24
HPCS-PT-4 PT FOR HPCS-P-1 DISCH PRESS 02E22	3	P	2 0 G	B040 556	M520	471 L.2/3.9 B5	X X 259001	R33 R206					06103 E-1R-P024+	13	E 4320
HY-V-17A .75" SOLEN. ISO. VALVE 215	2	A	1 0 B1	T020 82M-002	M530	525 H.0/4.5 E5	X X 361012	T26					06153	13	.17
HY-V-17B .75" SOLEN. ISO. VALVE 215	2	A	1 0 B1	T020 82M-002	M530	525 J.8/7.3 E4	X X 361012	T26					06153	13	.17
HY-V-18A .75" SOLEN. ISO. VALVE 215	2	A	1 0 B1	T020 82M-002	M530	525 H.0/4.5 E5	X X 361012	T26					06153	13	.17
HY-V-18B .75" SOLEN. ISO. VALVE 215	2	A	1 0 B1	T020 82M-002	M530	525 J.8/7.3 E4	X X 361012	T26					06153	13	.17
HY-V-19A .75" SOLEN. ISO. VALVE 215	2	A	1 0 B1	T020 82M-002	M530	525 H.0/4.5 E5	X X 361012	T26					06153	13	.17
HY-V-19B .75" SOLEN. ISO. VALVE 215	2	A	1 0 B1	T020 82M-002	M530	525 J.8/7.3 E4	X X 361012	T26					06153	13	.17
HY-V-20A .75" SOLEN. ISO. VALVE 215	2	A	1 0 B1	M095 HV250	M530	525 H.0/4.5 D5	X 361009	T26					01014	13	2 .17
HY-V-20B .75" SOLEN. ISO. VALVE 215	2	A	1 0 B1	M095 HV250	M530	525 J.8/7.3 E4	R X 361009	T26					01014	13	2 .17
HY-V-33A .75" SOLEN. ISO. VALVE 215	2	A	1 0 B1	T020 82M-002	M530	525 H.0/4.5 E13	X X 361012	R51					06153	13	.17
HY-V-33B .75" SOLEN. ISO. VALVE 215	2	A	1 0 R1	T020 82M-002	M530	525 J.8/7.3 E13	X X 361012	R51					06153	13	.17
HY-V-34A .75" SOLEN. ISO. VALVE 215	2	A	1 0 B1	T020 82M-002	M530	525 H.0/4.5 E13	X X 361012	R51					06153	13	.17

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE SAFETY FUNCTION	HFG	MODEL	BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
									TH	HL	TEST ANL	FO C	FREQ	AGING
								ZONE	ROOM	ACCURACY				COMPOSITE EPN
LD-TE-29D			P427 N145C3224PI				X X	339004	N	01	99+	06153	10 E	24
LD TE MH STM LINE TUNNEL INLET VEN						R 502 H.4/6.2		R41	R310	01				
02E31	2	A	1 0 F,R1			807E154TC/	3F6							
LD-TE-2A			P427 282N1A72				X X	339004	W N	01	99+	06153	10 E	24
LD TE RVCU PMP RH 1 OUTLET VENT						R 532 H.3/4.5								
02E31	2	A	1 0 F,R1			807E154TC/	2E2							
LD-TE-2B			P427 282N1A72				X X	339004	W N	01	99+	06153	10 E	24
LD TE RVCU PMP RH 1 OUTLET VENT						R 532 H.3/4.5								
02E31	2	A	1 0 F,R1			807E154TC/	2K2							
LD-TE-2C			P427 282N1A72				X X	339004	W N	01	99+	06153	10 E	24
LD TE RVCU PMP RH 2 OUTLET VENT						R 532 H.8/5.4								
02E31	2	A	1 0 F,R1			807E154TC/	2E4							
LD-TE-2D			P427 282N1A72				X X	339004	W N	01	99+	06153	10 E	24
LD TE RVCU PMP RH 2 OUTLET VENT						R 532 H.8/5.4								
02E31	2	A	1 0 F,R1			807E154TC/	2K4							
LD-TE-2E			P427 288F9734				X X	339004	N	01	99+	06153	10 E	24
LD TE RVCU HEAT EXCH RH OUTLET VEN						R 570 L.9/4.4		R62	R510					
02E31	2	A	1 0 F,R1			807E154TC/	2E5							
LD-TE-2F			P427 282N1A72				X X	339004	N	01	99+	06153	10 E	24
LD TE RVCU HEAT EXCH RH OUTLET VEN						R 570 L.9/4.4		R62	R510					
02E31	2	A	1 0 F,R1			807E154TC/	2K5							
LD-TE-30A			P427 282N1A72				X X	339004	W N	01	99+	06153	10 E	24
LD TE MH STM LINE TUNNEL OUTLET V						R 526 J.0/5.9		R42	R310					
02E31	2	A	1 0 F,R1			807E154TC/	3E5							
LD-TE-30B			P427 282N1A72				X X	339004	W N	01	99+	06153	10 E	24
LD TE MH STM LINE TUNNEL OUTLET V						R 526 J.0/5.6		R42	R310					
02E31	2	A	1 0 F,R1			807E154TC/	3E6							
LD-TE-30C			P427 282N1A72				X X	339004	W N	01	99+	06153	10 E	24
LD TE MH STM LINE TUNNEL OUTLET V						R 526 J.0/5.2		R41						
02E31	2	A	1 0 F,R1			807E154TC/	3K5							
LD-TE-30D			P427 282N1A72				X X	339004	W N	01	99+	06153	10 E	24
LD TE MH STM LINE TUNNEL OUTLET V						R 526 J.0/6.1		R41	R310					
02E31	2	A	1 0 F,R1			807E154TC/	3K6							
LD-TE-31A			K070 N145C3224PI				X X	339004	N	01	99+	06153	10 E	24
LD TE MH STM LINE TUNNEL AIR TEMP						R 502 H.7/5.8		R42	R310					
02E31	2	A	1 0 F,R1			807E154TC/	3B7							
LD-TE-31B			N070 N145C3224PI				A X	339004	N	01	99+	06153	10 E	24
LD TE MH STM LINE TUNNEL AIR TEMP						R 502 H.7/5.6		R42	R310					
02E31	2	A	1 0 F,R1			807E154TC/	3B8							

CONTRACT	EPN LEVEL	MFG DESCRIPTION EC USE SAFETY FUNCTION	MODEL BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID TH ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
						HL TEST ANL FO C ROOM ACCURACY	FREQ	AGING DBE C COMPOSITE EPN	HOURS			
LD-TE-31C		N070 N145C3224P1		A X	339004	N	01	99+	06153	10	E	24
LD TE MH STM LINE TUNNEL AMB TEMP												
02E31	2	A 1 0 F,B1		R 502 H.7/6.6 807E154TC/ 3F7	R41	R310						
LD-TE-31D		N070 N145C3224P1		A X	339004	N	01	99+	06153	10	E	24
LD TE MH STM LINE TUNNEL AMB TEMP												
02E31	2	A 1 0 F,B1		R 502 H.7/6.6 807E154TC/ 3F8	R41	R310						
LD-TE-3A		P427 282N1A72		X X	339004	N	01	99+	06153	10	E	24
LD TE RVCU PHP RM 1												
02E31	2	A 1 0 F,B1		R 532 H.5/4.6 807E154TC/ 2B9								
LD-TE-3B		P427 282N1A72		X X	339004	W N	01	99+	06153	10	E	24
LD TE RVCU PHP RM 1												
02E31	2	A 1 0 F,P1		R 532 H.5/4.6 807E154TC/ 2F9								
LD-TE-3C		P427 282N1A72		X X	339004	W N	01	99+	06153	10	E	24
LD TE RVCU PHP RM 2												
02E31	2	A 1 0 F,B1		R 532 H.8/5.3 807E154TC/ 2B								
LD-TE-3D		P427 282N1A72		X X	339004	W N	01	99+	06153	10	E	24
LD TE RVCU PHP RM 2												
02E31	2	A 1 0 F,P1		R 532 H.8/5.3 807E154TC/ 2F								
LD-TE-3E		P427 282N1A72		X X	339004	N	01	99+	06153	10	E	24
LD TE RVCU HEAT EXCH RM												
02E31	2	A 1 0 F,P1		R 570 L.0/4.1 807E154TC/ 286	R61	R510						
LD-TE-3F		P427 282N1A72		X X	339004	N	01	99+	06153	10	E	24
LD TE RVCU HEAT EXCH RM												
02E31	2	A 1 0 F,P1		R 570 L.0/4.1 807E154TC/ 2F6	R61	R510						
LD-TE-4A		P427 282N1A72		X X	339004	N	01	99+	05153	10	E	24
LD TE RCIC EQUIP AREA												
02E31	2	A 1 0 F,B1		R 467 J.0/7.5 807E154TC/ 384	R21	R112						
LD-TE-4B		P427 282N1A72		X X	339004	N	01	99+	06153	10	E	24
LD TE RCIC EQUIP AREA												
02E31	2	A 1 0 F,P1		R 467 J.0/7.5 807E154TC/ 3F4	R21	R112						
LD-TE-5A		N070 N145C3224P1		X X	339004	N	01	99+	06153	10	E	24
LD TE RCIC EQUIP AREA INLET VENT												
02E31	2	A 1 0 F,P1		R 436 807E154TC/ 3B2								
LD-TE-5B		N070 N145C3224P1		X X	339004	N	01	99+	06153	10	E	24
LD TE RCIC EQUIP AREA INLET VENT												
02E31	2	A 1 0 F,P1		R 436 807E154TC/ 3F2								
LD-TE-6A		N070 N145C3224P1		X X	339004	N	01	99+	06153	10	E	24
LD TE RCIC EQUIP AREA OUTLET VENT												
02E31	2	A 1 0 F,B1		R 460 H.4/7.5 807E154TC/ 3F2	R21	R112						

CONTRACT	EPN	LEVEL	MFG DESCRIPTION EC USE	SAFETY FUNCTION	MODEL	BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	GID	TM ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
										HL	TEST	ANL	FO	C	FREQ	AGING
LPRM-CONN-13CDA CONNECTOR FOR LPRM-DET-13C,D,A 02B13		3	A380 P 2 3 L		CAT. X901-200		J 049003 C 501 BENEATH RPV 807E163TC						06153	11	E	.17
LPRM-CONN-14ABD CONNECTOR FOR LPRM-DET-1-4A,B,D 02B13		3	A380 P 2 3 L		CAT. X901-200		J 049003 C 501 BENEATH RPV						06153	11	E	.17
LPRM-CONN-15ABC CONNECTOR FOR LPRM-DET-1-5A,B,C 02B13		3	A380 P 2 3 L		CAT. X901-200		J 049003 C 501 BENEATH RPV 807E163TC						06153	11	E	.17
LPRM-CONN-16BCD CONNECTOR FOR LPRM-DET-1-6B,C,D 02B13		3	A380 P 2 3 L		CAT. X901-200		J 049003 C 501 BENEATH RPV 807E163TC						06153	11	E	.17
LPRM-CONN-21ABC CONNECTOR FOR LPRM-DET-2-1A,B,C 02B13		3	A380 P 2 3 L		CAT. X901-200		J 049003 C 501 BENEATH RPV 807E163TC						06153	11	E	.17
LPRM-CONN-22DAB CONNECTOR FOR LPRM-DET-2-2D,A,B 02B13		3	A380 P 2 3 L		CAT. X901-200		J 049003 C 501 BENEATH RPV 807E163TC						06153	11	E	.17
LPRM-CONN-23CDA CONNECTOR FOR LPRM-DET-2-3C,D,A 02B13		3	A380 P 2 3 L		CAT. X901-200		J 049003 C 501 BENEATH RPV						06153	11	E	.17
LPRM-CONN-24BCD CONNECTOR FOR LPRM-DET-2-4B,C,D 02B13		3	A380 P 2 3 L		CAT. X901-200		J 049003 C 501 BENEATH RPV 807E163TC						06153	11	E	.17
LPRM-CONN-25ABC CONNECTOR FOR LPRM-DET-2-5A,B,C 02B13		3	A380 P 2 3 L		CAT. X901-200		J 049003 C 501 BENEATH RPV 807E163TC						06153	11	E	.17
LPRM-CONN-26DAB CONNECTOR FOR LPRM-DET-2-6C,A,B 02B13		3	A380 P 2 3 L		CAT. X901-200		J 049003 C 501 BENEATH RPV 807E163TC						06153	11	E	.17
LPRM-CONN-27CDA CONNECTOR FOR LPRM-DET-2-7,D,A 02B13		3	A380 P 2 3 L		CAT. X901-200		J 049003 C 501 BENEATH RPV 807E163TC						06153	11	E	.17
LPRM-CONN-31CDA CONNECTOR FOR LPRM-DET-3-1C,D,A 02B13		3	A380 P 2 3 L		CAT. X901-200		J 049003 C 501 BENEATH RPV 807E163TC						06153	11	E	.17
LPRM-CONN-32DAB CONNECTOR FOR LPRM-DET-3-2D,A,B 02B13		3	A380 P 2 3 L		CAT. X901-200		J 049003 C 501 BENEATH RPV 807E163TC						06153	11	E	.17

CONTRACT	LEVEL	EPN	DESCRIPTION	MFG	MODEL	STATUS	S E QID	TH	HL	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
										TEST	ANL	FO C	FREQ	AGING	DBE
			EC USE SAFETY FUNCTION		A/E DRAWING	BLDG ELEV	DETAIL	ZONE	ROOM	ACCURACY					
LPRH-CONN-73ABC	3		CONNECTOR FOR LPRH-DET-7-3A,B,C 02B13	A380	CAT X901-200	C 501 BENEATH RPV 807E163TC	J				049003				06153 11 E .17
LPRH-CONN-74BCD	3		CONNECTOR FOR LPRH-DET-7-4B,C,D 02B13	A380	CAT X901-200	C 501 BENEATH RPV 807E163TC	J				049003				06153 11 E .17
LPRH-CONN-75CDA	3		CONNECTOR FOR LPRH-DET-7-5C,D,A 02B13	A380	CAT X901-200	C 501 BENEATH RPV 807E163TC	J				049003				06153 13 E .17
LPRH-DET-12BCD	2		PWR RGE DET ASSM CH 12B,C,D 02C51	G080	163C1154G1	C 501 IN RPV 807E163TC	X J				067002	W	Y	04	11 G .17
LPRH-DET-13CDA	2		PWR RGE DET ASSM CH 13C,D,A 02C51	G080	163C1154G1	C 501 IN RPV 807E163TC	X J				067002	W	Y	04	11 G .17
LPRH-DET-14ABD	2		PWR RGE DET ASSM CH 14A,B,D 02C51	G080	163C1154G1	C 501 IN RPV	X J				067002				11 G .17
LPRH-DET-15ABC	2		PWR RGE DET ASSM CH 15A,B,C 02C51	G080	163C1154G1	C 501 IN RPV 807E163TC	X J				067002	W	Y	04	11 G .17
LPRH-DET-16BCD	2		PWR RGE DET ASSM CH 16B,C,D 02C51	G080	163C1154G1	C 501 IN RPV 807E163TC	X J				067002	W	Y	04	11 G .17
LPRH-DET-21ARC	2		PWR RGE DET ASSM CH 21A,B,C 02C51	G080	163C1154G1	C 501 IN RPV 807E163TC	X J				067002	W	Y	04	11 G .17
LPRH-DET-22DAB	2		PWR RGE DET ASSM CH 22D,A,B 02C51	G080	163C1154G1	C 501 IN RPV 807E163TC	X J				067002	W	Y	04	11 G .17
LPRH-DET-23CDA	2		PWR RGE DET ASSM CH 23C,D,A 02C51	G080	163C1154G1	C 501 IN RPV	X J				067002				11 G .17
LPRH-DET-24BCD	2		PWR RGE DET ASSM CH 24B,C,D 02C51	G080	163C1154G1	C 501 IN RPV 807E163TC	X J				067002	W	Y	04	11 G .17
LPRH-DET-25ARC	2		PWR RGE DET ASSM CH 25A,B,C 02C51	G080	163C1154G1	C 501 IN RPV 807E163TC	X J				067002	W	Y	04	11 G .17

CONTRACT	LEVEL	EPN	DESCRIPTION	MFG	SAFETY FUNCTION	MODEL	BLOG ELEV	STATUS S E	A/E DRAWING	A/E ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
											QID	TM	HL TEST	ANL FO C	FREQ	AGING	DBE C
MS-COHN-V28B/J1			CONN FOR POS SW-1 FOR VLV	C515	N-11105-01			X X			049008				06153	04	4320
218	3	P	2 3 G1				R	513 H.7/5.8	E539/21						MS-V-28B+		
MS-COHN-V28B/J2			CONN FOR POS SW-2 FOR VLV	C515	N-11105-01			X X			049008				06153	04	4320
218	3	P	2 3 G1				R	513 H.7/5.8	E539/21						MS-V-28B+		
MS-COHN-V28B/J3			CONN FOR POS SW-3 FOR VLV	C515	N-11105-01			Y X			049008				06153	04	4320
218	3	P	2 3 G1				R	513 H.7/5.8	E539/21						MS-V-28B+		
MS-COHN-V28C/J1			CONN FOR POS SW-1 FOR VLV	C515	N-11105-01			X X			049008				06153	04	4320
218	3	P	2 3 G1				R	513 H.7/5.6	E539/21						MS-V-28C+		
MS-COHN-V28C/J2			CONN FOR POS SW-2 FOR VLV	C515	N-11105-01			X X			049008				06153	04	4320
218	3	P	2 3 G1				R	513 H.7/5.6	E539/21						MS-V-28C+		
MS-COHN-V28C/J3			CONN FOR POS SW-3 FOR VLV	C515	N-11105-01			X X			049008				06153	04	4320
218	3	P	2 3 G1				R	513 H.7/5.6	E539/21						MS-V-28C+		
MS-COHN-V28D/J1			CONN FOR POS SW-1 FOR VLV	C515	N-11105-01			X X			049008				06153	04	4320
218	3	P	2 3 G1				R	513 H.7/6.1	E539/21						MS-V-28D+		
MS-COHN-V28D/J2			CONN FOR POS SW-2 FOR VLV	C515	N-11105-01			X X			049008				06153	04	4320
218	3	P	2 3 G1				R	513 H.7/6.1	E539/21						MS-V-28D+		
MS-COHN-V28D/J3			CONN FOR POS SW-3 FOR VLV	C515	N-11105-01			X X			049008				06153	04	4320
218	3	P	2 3 G1				R	513 H.7/6.1	E539/21						MS-V-28D+		
MS-DPIS-11A			PCIS HI STM FLOW LINE D	9080	288A			Y X			086001	R	N 121	09			.17
02H	3	A	H22-P015				R	506 H6/7.3	H529			R41	R305		E-IR-P015+		
MS-DPIS-11B			PCIS HI STM FLOW LINE D	9080	288A			Y X			086001	R	N 121	09			.17
02H	3	A	B1,I,F				R	475 H.5/7.9	H529			R33	R206		E-IR-P022+		
MS-DPIS-11C			PCIS HI STM FLOW LINE D	9080	288A			Y X			086001	R	N 121	09			.17
02E31	3	A	B1,I,F				R	475 H.5/4.5	H529			R33	R206		E-IR-P010+		
MS-DPIS-11D			PCIS HI STM FLOW LINE D	9080	288A			Y X			086001	R	N 121	09			.17
02H	3	A	B1,I,F				R	505 L.9/3.7	H529			R43	R305		E-IR-P025+		

CONTRACT	EPN	LEVEL	DESCRIPTION	MFG	MODEL	STATUS	S E	QID	TM	HL	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
											ANL	FO	C	FREQ	AGING	DBE	C
			EC	USE	SAFETY FUNCTION	BLDG ELEV	DETAIL	ZONE	ROOM	ACCURACY							
						A/E DRAWING	A/E ZONE										
MS-DPIS-810A				B080	288A		Y X	086001									
PCIS HI STM FLOW LINE C																	
58		3	A	1 0	B1,I,F	M529	R 501 H.7/7.3 E3	R41						05253	11	G	.17
														E-IR-P015+			
MS-DPIS-810B				B080	288A		Y X	086001									
PCIS HI STM FLOW LINE C																	
58		3	A	1 0	B1,I,F	M529	R 471 H.5/7.9 E3	R33						05253	11	G	.17
														E-IR-P022+			
MS-DPIS-810C				B080	288A		Y X	086001									
PCIS HI STM FLOW LINE C																	
58		3	A	1 0	B1,I,F	M529	R 471 H.5/4.5 E3	R33						05253	01	G	.17
														E-IR-P010+			
MS-DPIS-810D				B080	288A		Y X	086001									
PCIS HI STM FLOW LINE C																	
58		3	A	1 0	B1,I,F	M529	R 505 L.9/3.7 E3	R43						05253	01	G	.17
														E-IR-P025+			
MS-DPIS-8A				B080	288A		Y X	086001	R	N 121			09				
PCIS HI STM FLOW LINE A					H22-P015												
02E31		3	A	1 0	B1,I,F	M529	R 505 H.6/7.3 E14	R41	R305					E-IR-P015+			.17
MS-DPIS-8B				B080	288A		Y X	086001	R	N 121			09				
PCIS HI STM FLOW LINE A					H22-P022												
02E		3	A	1 0	B1,I,F	M529	R 475 H.5/7.9 E14	R33	R206					E-IR-P022+			.17
MS-DPIS-8C				B080	288A		Y X	086001	R	N 121			09				
PCIS HI STM FLOW LINE A																	
02E31		3	A	1 0	B1,I,F	M529	R 475 H.5/4.5 E14	R33	R206					E-IR-P010+			.17
MS-DPIS-8D				B080	288A		Y X	086001	R	N 121			09				
PCIS HI STM FLOW LINE A																	
02E31		3	A	1 0	B1,I,F	M529	R 505 L.9/3.6 E14	R43	R305					E-IR-P025+			.17
MS-DPIS-9A				B080	288A		Y X	086001	R	N 121			09				
PCIS HI STM LINE A					H22-P015												
02E31		3	A	1 0	B1,I,F	M529	R 504 H.6/7.3 D14	R41	R305					E-IR-P015+			.17
MS-DPIS-9B				B080	288A		Y X	086001	R	N 121			09				
PCIS HI STM FLOW LINE B					H22-P022												
02E31		3	A	1 0	B1	M529	R 475 H.6/8.1 D14	R53	R404					E-IR-P022+			.17
MS-DPIS-9C				B080	288A		Y X	086001	R	N 121			09				
PCIS HI STM FLOW LINE B																	
02E31		3	A	1 0	B1	M529	R 475 H.5/4.5 C14	R33	R206					E-IR-P010+			.17
MS-DPIS-9D				B080	288A		Y X	086001	R	N 121			09				
PCIS HI STM FLOW LINE B																	
02E31		3	A	1 0	B1	M529	R 505 L.9/3.6 C14	R43	R305					E-IR-P025+			.17
MS-FI-33A				B080	50555111R0AA4VCA		Y X	156003									
MS FLOW - - H22-P010																	
02		2	P	2 3	G	M530	R 471 H.5/4.5 H12	R33						F-IR-P010+			4320

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
								TH ZONE	HL TEST ROOM	ANL FO C ACCURACY	FREQ	AGING DBE C	COMPOSITE EPN	HOURS	
MS-LITS-260 RPV LEVEL 2 TRIP 02B		2	A 1 0 A	B080 760 H22-P026	M529	Y R M.7/6.8 J13	199001 R53	N	14	00	33+	04153 E-IR-P027+	10	S	4320
MS-LITS-44A MS LEVEL TRIP 02B22		2	A 1 0 I	B080 760 P22-P010	M530	Y P M.7/4.7 H14	199001 R33					04153 E-IR-P010+	10	P	4320
MS-LITS-44B MS LEVEL TRIP 02B22		2	A 1 0 I	B080 760 H22-P009	M530	Y R J.7/8.0 G6	199001 C34	N	14	00	33+	04153 E-IR-P009+	10	S	4320
MS-LT-27 MS LEVEL 02H		2	P 2 0 G	R040 555 P22-P027	M529	Y X M.8/6.6 J4	209005 R53	R	N			05153 E-IR-P027+	10	G	4320
MS-HO-16 MOTOR OPERATOR 41A	MS-V-16	2	A 1 3 B1,F	L200 SMB-000-7.5	M529	A X O D AZ R13	221001 C45	P	Y	114	33+	MS-V-16+			4320
MS-HO-19 0.36HP 3.8A MOTOR OPERATOR 41A	MS-V-19	2	A 1 3 B1,F	L200 SMB-000-5	M529	A X H.8/6.2 B14	221001 R42	P	N	114 R310	33+	MS-V-19+			4320
MS-HO-67A .5 HP MOTOR OPERATOR FOR 215	MS-V-67A	2	A 1 3 B1,F	L200 SMB-000-5	M529	A X H.2/5.9 F13	221001 R42	P		114 R310	33+	MS-V-67A+			24
MS-HO-67B .5 HP MOTOR OPERATOR FOR 215	MS-V-67B	2	A 1 3 B1,F	L200 SMB-000-5	M529	A X H.2/5.3 D13	221001 R42	P		114 R310	33+	MS-V-67B+			24
MS-HO-67C .5 HP MOTOR OPERATOR FOR 215	MS-V-67C	2	A 1 3 B1,F	L200 SMB-000-5	M529	A X H.2/6.1 F4	221001 R41	P		114 R310	33+	MS-V-67C+			24
MS-HO-67D .5 HP MOTOR OPERATOR FOR 215	MS-V-67D	2	A 1 3 B1,F	L200 SMB-000-5	M529	A X H.2/6.1 D4	221001 R41	P		114 R310	33+	MS-V-67D+			24
MS-POE-1A ACOUSTIC POS SENSOR RV 1A C0442		2	A 1 3 I	T068 BBN-424-1S0	M529	X X D AZ F11	246001 C55					06153	11		4320
MS-POE-1B ACOUSTIC POS SENSOR RV1B C0442		2	A 1 3 I	T068 DBN-424-1S0	M529	X X D AZ D11	246001 C55					06153	11		4320
MS-POE-1C ACOUSTIC POS SENSOR RV1C C0442		2	A 1 3 I	T068 DBN-424-1S0	M529	X X D AZ F6	246001 C54					06153	11		4320

CONTRACT	EPN LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E	BLDG DRAWING	ELEV A/E	STATUS S E DETAIL ZONE	QID TM	HL ROOM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
										ANL	FO	C	FREQ	AGING	DBE
MS-POE-1D ACOUSTIC POS C0442	2	SENSOR RV1D A 1 3 I	T068	BBN-424-ISO	M529	C	547 333 D AZ E7	X X	246001 C54				06153	11	4320
MS-POE-2A ACOUSTIC POS C0442	2	SENSOR RV2A A 1 3 I	T068	BBN-424-ISO	M529	C	547 35 F10	X X	246001 C55				06153	11	4320
MS-POE-2B ACOUSTIC POS C0442	2	SENSOR RV2B A 1 3 I	T068	BBN-424-ISO	M529	C	547 60 D AZ D10	X X	246001 C55				06153	11	4320
MS-POE-2C ACOUSTIC POS C0442	2	SENSOR RV2C A 1 3 I	T068	BBN-424-ISO	M529	C	547 305 D AZ F7	X X	246001 C54				06153	11	4320
MS-POE-2D ACOUSTIC POS C0442	2	SENSOR RV2D A 1 3 I	T068	BBN-424-ISO	M529	C	547 321 D AZ E7	X X	246001 C54				06153	11	4320
MS-POE-3A ACOUSTIC POS C0442	2	SENSOR RV3A A 1 3 I	T068	BBN-424-ISO	M529	C	547 45 D AZ F9	X X	246001 C55				06153	11	4320
MS-POE-3B ACOUSTIC POS C0442	2	SENSOR RV3B A 1 3 I	T068	BBN-424-ISO	M529	C	547 67 D AZ D10	X X	246001 C55				06153	11	4320
MS-POE-3C ACOUSTIC POS C0442	2	SENSOR RV3C A 1 3 I	T068	BBN-424-ISO	M529	C	547 293 D AZ E8	X X	246001 C54				06153	11	4320
MS-POE-3D ACOUSTIC POS C0442	2	SENSOR RV3D A 1 3 I	T068	BBN-424-ISO	M529	C	547 315 D AZ E8	X X	246001 C54				06153	11	4320
MS-POE-4A ACOUSTIC POS C0442	2	SENSOR RV4A A 1 3 I	T068	BBN-424-ISO	M529	C	547 60 D AZ F9	X X	246001 C55				06153	11	4320
MS-POE-4B ACOUSTIC POS C0442	2	SENSOR RV4B A 1 3 I	T068	BBN-424-ISO	M529	C	547 75 D AZ D9	X X	246001 C55				06153	11	4320
MS-POE-4C ACOUSTIC POS C0442	2	SENSOR RV4C A 1 3 I	T068	BBN-424-ISO	M529	C	547 288 D AZ F8	X X	246001 C54				06153	11	4320
MS-POE-4D ACOUSTIC POS C0442	2	SENSOR RV4D A 1 3 I	T068	BBN-424-ISO	M529	C	547 305 D AZ E8	X X	246001 C54				06153	11	4320

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	STATUS S E DETAIL A/E ZONE	BLDG ELEV DRAWING	OID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
									TH	HL	TEST ANL FO C	FREQ	AGING	DBE C
MS-POE-5B ACOUSTIC POS C0442	SENSOR RV5B A	2	T068 1 3 I	BBN-424-ISO	M529	X X D AZ E9	547 80	246001 C55				06153	11	4320
MS-POE-5C ACOUSTIC POS C0442	SENSOR RV5C A	2	T068 1 3 I	BBN-424-ISO	M529	X X D AZ F8	547 279	246001 C54				06153	11	4320
MS-POS-V/22A/1 POS SW-1 FOR 02B	VLV HS-V-22A A	2	N007 1 3 A+I	EA740-86010	M529	H P AZ R27 F12	513 5D	200015				06153 HS-V-22A+	11	P 4320
MS-POS-V/22A/2 POS SW-2 FOR 02B	VLV HS-V-22A A	2	N007 1 3 A+I	EA740-86010	M529	N P AZ R27 F12	513 5D	200015				06153 HS-V-22A+	14	P 4320
MS-POS-V/22A/3 POS SW-3 FOR 02B	VLV HS-V-22A A	2	N007 1 3 A+I	EA740-86010	M529	N P AZ R27 F12	513 5D	200015				06153 HS-V-22A+	14	P 4320
MS-POS-V/22A/4 POS SW-4 FOR 02B	VLV HS-V-22A A	2	N007 1 3 A+I	EA740-86010	M529	N P AZ R27 F12	513 5D	200015				06153 HS-V-22A+	14	S 4320
MS-POS-V/22B/1 POS SWITCH-1 FOR 02B	VLV HS-V-22B A	2	N007 1 3 A+I	EA740-86010	M529	B P D AZ R27 E12	513 315	200015				06153 HS-V-22B+	11	P 4320
MS-POS-V/22B/2 POS SWITCH-2 FOR 02B	VLV HS-V-22B A	2	N007 1 3 A+I	EA740-86010	M529	B P D AZ R27 E12	513 315	200015				06153 HS-V-22B+	14	P 4320
MS-POS-V/22B/3 POS SWITCH-3 FOR 02B	VLV HS-V-22B A	2	N007 1 3 A+I	EA740-86010	M529	B P D AZ R27 E12	513 315	200015				06153 HS-V-22B+	14	P 4320
MS-POS-V/22B/4 POS SWITCH-4 FOR 02B	VLV HS-V-22B A	2	N007 1 3 A+I	EA740-86010	M529	B P D AZ R27 E12	513 315	200015				06153 HS-V-22B+	14	S 4320
MS-POS-V/22C/1 POS SWITCH-1 FOR 02B	VLV HS-V-22C A	2	N007 1 3 A+I	EA740-86010	M529	N P D AZ P27 F5	513 345	200015				06153 HS-V-22C+	11	P 4320
MS-POS-V/22C/2 POS SWITCH-2 FOR 02B	VLV HS-V-22C A	2	N007 1 3 A+I	EA740-86010	M529	N P D AZ R27 F5	513 345	200015				06153 HS-V-22C+	14	P 4320
MS-POS-V/22C/3 POS SWITCH-3 FOR 02B	VLV HS-V-22C A	2	N007 1 3 A+I	EA740-86010	M529	N P D AZ R27 F5	513 345	200015				06153 HS-V-22C+	14	P 4320

CONTRACT	EPN LEVEL	DESCRIPTION EC	PFG USE	SAFETY FUNCTION	MODEL A/E	BLDG ELEV. DRAWING	STATUS S E	QID	TH	HL	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
											TEST ANL	FO C	FREQ	AGING DBE C	HOURS	COMPOSITE EPN
							DETAIL A/E ZONE		ROOM	ACCURACY						
MS-POT-3B		T068		504B			Z X	249002						06153	11	4320
PREAMP/ACOUSTIC POS SENSOR 3B																
C0442	3	A	1 3	I	H529	C 547 67 D AZ	D10			C55						
MS-POT-3C		T068		504B			Z X	249002						06153	11	4320
PREAMP/ACOUSTIC POS SENSOR 3C																
C0442	3	A	1 3	I	H529	C 547 293 D AZ	E8			C54						
MS-POT-3D		T068		504B			Z X	249002						06153	11	4320
PREAMP/ACOUSTIC POS SENSOR 3D																
C0442	3	A	1 3	I	H529	C 547 293 D AZ	E8			C54						
MS-POT-4A		T068		504B			Z X	249002						06153	11	4320
PREAMP/ACOUSTIC POS SENSOR 4A																
C0442	3	A	1 3	I	H529	C 547 60 D AZ	F9			C55						
MS-POT-4B		T068		504B			Z X	249002						06153	11	4320
PREAMP/ACOUSTIC POS SENSOR 4B																
C0442	3	A	1 3	I	H529	C 547 7 75 D AZ	D9			C55						
MS-POT-4C		T068		504B			Z X	249002						06153	11	4320
PREAMP/ACOUSTIC POS SENSOR 4C																
C0442	3	A	1 3	I	H529	C 547 288 D AZ	F8			C54						
MS-POT-4D		T068		504B			Z X	249002						06153	11	4320
PREAMP/ACOUSTIC POS SENSOR 4D																
C0442	3	A	1 3	I	H529	C 547 305 D AZ	E8			C54						
MS-POT-5B		T068		504B			Z X	249002						06153	11	4320
PREAMP/ACOUSTIC POS SENSOR 5B																
C0442	3	A	1 3	I	H529	C 522				C55						
MS-POT-5C		T068		504B			Z X	249002						06153	13	4320
PREAMP/ACOUSTIC POS SENSOR 5C																
C0442	3	A	1 3	I	E529	C 547 279 D AZ	F8			C54						
MS-PS-20A		P069		BIT-M12SS			Y X	256002	R	N						24
MAIN STEAM ISO. VLV SCRAM INTERLOCK														E-IR-P004+		
02B22	2	A	1 0	A	H529	R 524 J.5/7.2	H12			R51						
MS-PS-20B		P069		BIT-M12SS			Y X	256002	R	N						24
MS ISO VLV SCRAM INTLK														E-IR-P027+		
02B22	2	A	1 0	A	H529	R 526 J.8/4.7	J5			R53						
MS-PS-20C		P069		BIT-M12SS			Y X	256002	R	N						24
MS ISO VLV SCRAM INTLK														E-IR-P005+		
02B22	2	A	1 0	A	H529	R 524 N.8/5.8	H5			R53						
MS-PS-20D		P069		BIT-M12SS			Y X	256002	R	N						24
MS ISO VLV SCRAM INTLK														E-IR-P026+		
02B22	2	A	1 0	A	H529	R 524 M.8/6.6	J12			R52						

CONTRACT	EPN	LEVEL	DESCRIPTION EC	MFG USE	SAFETY FUNCTION	MODEL A/E DRAWING	BLDG ELEV A/E	STATUS S E DETAIL A/E ZONE	GID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
										TM	HL	TEST	ANL	FO	C	FREQ
MS-PS-23A				B069	BIT-M12SS			Y X	256002	R	N					24
			HIGH VESSEL PRESSURE													
02B22		2	A	1 0 A		H529	524	J.5/7.1 H13	R51	R404				E-IR-P004+		
MS-PS-23B				B069	BIT-M12SS			Y X	256002	R	N					24
			HIGH VESSEL PRESSURE													
02B22		2	A	1 0 A		H529	524	J.8/4.7 J5	R53	R404				E-IR-P026+		
MS-PS-23C				B069	BIT-M12SS			Y X	256002	R	N					24
			HIGH VESSEL PRESSURE													
02B22		2	A	1 0 A	H22-P005	H529	526	N.8/5.8 H5	R53	R404				E-IR-P005+		
MS-PS-23D				B069	BIT-M12SS			Y X	256002	R	N					24
			HIGH VESSEL PRESSURE													
02B22		2	A	1 0 A	H22-P026	H529	524	J.9/4.5 J13	R52	R404				E-IR-P026+		
MS-PS-39A				B069	BIT-M12SS-GE			Y X	256002	R	N					4320
			RELIEF VLV PRESS SWITCH													
02B22		2	P	2 0 C		H529	524	J.9/4.5 J13	R52	R404				E-IR-P026+		
MS-PS-39B				B069	BIT-M12SS-GE			A X	256002	R	N					4320
			RELIEF VLV PRESS SWITCH													
02B22		2	P	2 0 C		H529	524	J.9/4.5 J13	R52	R404				E-IR-P026+		
MS-PS-39C				B069	BIT-M12SS-GE			A X	256002	R	N					4320
			RELIEF VLV PRESS SWITCH													
02B22		2	P	2 0 C		H529	524	J.9/4.5 J13	R52	R404				E-IR-P026+		
MS-PS-39D				B069	BIT-M12SS-GE			A X	256002	R	N					4320
			RELIEF VLV PRESS SWITCH													
02B22		2	P	2 0 C		H529	524	J.9/4.5 J13	R52	R404				E-IR-P026+		
MS-PS-39E				B069	BIT-M12SS-GE			A X	256002	R	N					4320
			RELIEF VLV PRESS SWITCH													
02B22		2	P	2 0 C		H530	524	J.9/4.5 J15	R52	R404				E-IR-P026+		
MS-PS-39F				B069	BIT-M12SS-GE			A X	256002	R	N					4320
			RELIEF VLV PRESS SWITCH													
02B22		2	P	2 0 C		H529	524	J.9/4.5 J13	R52	R404				E-IR-P026+		
MS-PS-39G				B069	BIT-M12SS-GE			A X	256002	R	N					4320
			RELIEF VLV PRESS SWITCH													
02B22		2	P	2 0 C		H529	524	J.9/4.5 J13	R52	R404				E-IR-P026+		
MS-PS-39H				B069	BIT-M12SS-GE			Y X	256002	R	N					4320
			RELIEF VLV PRESS SWITCH													
02B		2	P	2 0 C		H529	526	J.9/4.5 J13	R52	R404				E-IR-P026+		
MS-PS-39J				B069	BIT-M12SS-GE			Y X	256002	R	N					4320
			RELIEF VLV PRESS SWITCH													
02B22		2	P	2 0 C		H529	526	J.9/4.5 J13	R52	R404				E-IR-P026+		

CONTRACT	EPN	LEVEL	DESCRIPTION EC	MFG USE	MODEL SAFETY FUNCTION	BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID	TH	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
										HL	TEST	ANL	FO	C	FREQ	AGING	DBE
											ACCURACY		COMPOSITE EPN				
HS-PS-39K			RELIEF VLV PRESS SWITCH	B069	BIT-M12SS-GE		A X	256002	R	N							4320
02B22	2	P	2 0 C		M529	526	J.9/4.5 U13		R52	R404				E-IR-P026+			
HS-PS-39L			RELIEF VLV PRESS SWITCH	B069	BIT-M12SS-GE		A X	256002	R	N							4320
02B22	2	P	2 0 C		M529	526	J.9/4.5 J13		R52	R404				E-IR-P026+			
HS-PS-39H			RELIEF VLV PRESSURE SWCH	B069	BIT-M12SS-GE		A X	256002	R	N							4320
02B22	2	P	2 0 C	H22-P26	M529	524	J.9/4.5 J13		R52	R404				E-IR-P026+			
HS-PS-39N			RELIEF VLV PRESS SWITCH	B069	BIT-M12SS-GE		Y X	256002	R	N							4320
02B22	2	P	2 0 C		M529	524	J.9/4.5 J13		R52	R404				E-IR-P026+			
HS-PS-39P			RELIEF VLV PRESS SWITCH	B069	BIT-M12SS-GE		Y X	256002	R	N							4320
02B22	2	P	2 0 C		M529	524	J.9/4.5 J13		R52	R404				E-IR-P026+			
HS-PS-39R			RELIEF VLV PRESS SWITCH	B069	BIT-M12SS-GE		Y X	256002	R	N							4320
02B22	2	P	2 0 C		M529	524	J.9/4.5 J13		R52	R404				E-IR-P026+			
HS-PS-39S			RELIEF VLV PRESS SWITCH	B069	BIT-M12SS-GE		Y X	256002	R	N							4320
02B22	2	P	2 0 C		M529	524	J.9/4.5 J13		R52	R404				E-IR-P026+			
HS-PS-39U			RELIEF VLV PRESS SWITCH	B069	BIT-M12SS-GE		Y X	256002	R	N							4320
02B22	2	P	2 0 C		M529	524	J.9/4.5 J13		R52	R404				E-IR-P026+			
HS-PS-39V			RELIEF VLV PRESS SWITCH	B069	BIT-M12SS-GE		Y X	256002	R	N							4320
02B22	2	P	2 0 C		M529	524	J.9/4.5 J13		R52	R404				E-IR-P026+			
HS-PS-45A			MS PRESSURE	B069	BIT-M12SS-GE		Y X	256002	R	N							4320
02B22	2	P	2 0 G	F22-P026	M529	524	J.5/4.5 J13		R52	R404				E-IR-P026+			
HS-PS-45B			MS PRESSURE	B069	BIT-M12SS-GE		Y X	256002	R	N							4320
02B22	2	P	2 0 G	H22-P026	M529	524	N.3/9.0 J13		R52	R404				E-IR-P026+			
HS-PS-45C			MS PRESSURE	B069	BIT-M12SS-GE		Y X	256002	R	N							4320
02B22	2	P	2 0 G	I'22-P027	M529	524	M.7/6.8 J5		R53	R404				E-IR-P027+			
HS-PS-45D			MS PRESSURE	B069	BIT-M12SS-GE		Y X	256002	R	N							24
02B22	2	P	2 0 G	I22-P027	M529	524	M.7/6.8 J5		R53	R404				E-IR-P027+			

CONTRACT	EPN	LEVEL	DESCRIPTION			MODEL	BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*						
			EC	USE	SAFETY FUNCTION					TH	HL	TEST	ANL	FO	C	FREQ	AGING	DBE	C	HOURS
MS-PS-47A DRYWELL 02B22		2	A	1 0	C	S382 H529	12N-AA5-X10TT	Y X J.5/7.2 G12	256016 R51	R	N	114					33+	E-IR-P004+	24	
MS-PS-47B DRYWELL PRESS FOR 02B22		2	A	1 0	C	S382 H529	12N-AA5-X10TT H22-P005	Y X H.8/5.8 G4	256016 R53	R	N	114					33+	E-IR-P005+	24	
MS-PS-47C DRYWELL PRESSURE 02B22		2	A	1 0	C	S382 H529	12N-AA5-X10TT	Y X J.5/7.2 G12	256016 R51	R	N	114					33+	E-IR-P004+	24	
MS-PS-47D DRYWELL PRESS FOR 02B22		2	A	1 0	C	S382 H529	12N-AA5-X0TT H22-P005	Y X H.8/5.8 G4	256016 R53	R	N	114					33+	E-IR-P005+	24	
MS-PS-48A DRYWELL PRESSURE 02B22		2	A	1 0	C	S382 H529	12N-AA5-X1051TT H22-P026	A X J.5/4.5 G12	256016 R52	R	N	114					33+	E-IR-P026+	24	
MS-PS-48B DRYWELL PRESSURE 02B22		2	A	1 0	C	S382 H529	12N-AA5-X1051TT H22-P027	Y X H.7/6.8 G5	256016 R53	R	N	114					33+	E-IR-P027+	24	
MS-PS-48C DRYWELL PRESSURE 02B22		2	A	1 0	C	S382 H529	12N-AA5-X1051TT F22-P026	A X J.5/4.5 G12	256016 R52	R	N	114	00				33+	E-IR-P026+	24	
MS-PS-48D DRYWELL PRESSURE 02B22		2	A	1 0	C	S382 H529	12N-AA5-X1051TT H22-P027	A X H.7/6.8 G5	256016 R53	R	N	114					33+	E-IR-P027+	24	
MS-PT-2 PRESS TO REMOTE SHUTDOWN 02C61		2	P	2 0	G	B040 H529	556110EAAA1WEN C61-N006	Z X H.3/4.1 J5	259001 W21	R							05033	01 B	4320	
MS-PT-5 RFW PRESSURE 02		2	P	2 0	G	B040 H529	556	Y X J.5/7.2 J13	259001 R41	R							E-IR-P004+	G	4320	
MS-PT-51A MS PRESSURE - - 02B		2	A	1 0	I	B040 H529	556110EAAA1WEN H22-P026	Y P K.0/4.5 H12	259001 R52	F	N	14	00				33+	05153 E-IR-P026+	10 P	4320
MS-PT-51B MS PRESSURE - - 02B		2	A	1 0	I	B040 H529	556110EAAA1WEN H22-P027	Y P H.7/6.8 J4	259001 R53		N	14	00				33+	05153 E-IR-P027+	10 P	4320
MS-PT-80B H.P. TURB STM FOR RFW SYSTEM 02		2	P	2 0	G	B040 H529	556	Y X J.5/7.2 H13	259001 R41	R							E-IR-P004+	G	4320	

CONTRACT	EPN LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	BLDG ELEV A/E ZONE	STATUS S'E DETAIL A/E ZONE	QID ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
								TH	HL	TEST ANL FO C	FREQ	AGING DBE C	COMPOSITE EPN	HOURS	
HSLC-H-C 215	2	A 1 0 F	C268 MAIN STH LEAKAGE CONTROL HTR C	14HTV1-CT	R 477 H.4/5.8	2 R E8	164004 R32					06153	00	E	24
HSLC-H-C+	1	A 1 0 F	C268 MAIN STEAM LEAK CONTROL HT C COMP	14HTV1-CT	R 477 H.4/5.8	2 R E8	164004					06153	04	E	
HSLC-H-D 215	2	A 1 0 F	C268 MAIN STH LEAKAGE CONTROL HTR D	14HTV1-CT	R 474 H.4/5.8	2 R E7	164004 R32					06153	00	E	24
HSLC-H-D+	1	A 1 0 F	C268 MAIN STEAM LEAK CONTROL HT D COMP	14HTV1-CT	R 477 H.4/5.8	2 R E7	164004					06153	04	E	
HSLC-M-FN/1 28	2	A 1 0 F	W120 1.5 HP MOTOR FOR HSLC-FN-1	T8FC/213T	R 473 H.4/6.3	X X E4	213020 R31								4320
HSLC-M-FN/2 28	2	A 1 0 F	W120 1.5HP MOTOR FOR HSLC-FN-2	T8FC/213T	R 512 H.6/7.3	X X H3	213020 R41								4320
HSLC-MO-10 215	2	A 1 0 F	L200 1HP MOTOR OPERATOR HSLC-V-10	SMB-000-5	R 504 H.4/6.6	D X H5	221001 P R42		114 R310		33+				4320
HSLC-MO-1A 215	2	A 1 0 F	L200 1HP MOTOR OPERATOR HSLC-V-1A	SMC-043D9319A	R 482 H.4/5.6	A R C7	221001 R42		R310				00	C	4320
HSLC-MO-1B 215	2	A 1 0 F	L200 1HP MOTOR OPERATOR HSLC-V-1B	SMC-043D9319A	R 477 H.4/5.7	A R C6	221001 P R42		114 R310		33+		00		4320
HSLC-MO-1C 215	2	A 1 0 F	L200 1HP MOTOR OPERATOR HSLC-V-1C	SMC-04-3/42	R 482 H.4/5.7	A R D7	221001 P R41		114 R310		33+		00	C	4320
HSLC-MO-1D 215	2	A 1 0 F	L200 1HP MOTOR OPERATOR HSLC-V-1D	SMC-04-3/42	R 477 H.4/5.6	A R D6	221001 P R41		114 R310		33+		00	C	4320
HSLC-MO-2A 215	2	A 1 0 F	L200 1HP MOTOR OPERATOR HSLC-V-2A	SMB-000-5	R 505 H.7/5.7	A X C8	221001 P R42		114 R310		33+				4320
HSLC-MO-2B 215	2	A 1 0 F	L200 1HP MOTOR OPERATOR HSLC-V-2B	SMB-000-5	R 505 H.4/5.3	A X C8	221001 P R42		114 R310		33+				4320

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MF6 SAFETY FUNCTION	MODEL	BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
									TM	HL TEST	ANL FO C ACCURACY	FREQ	AGING	DBE C COMPOSITE EPN	HOURS
HSLC-MO-2C 1HP MOTOR OPERATOR 215		2	L200 HSLC-V-2C A 1 0 F	SMB-000-5	M557	R 505 H.7/6.4 E8	A X E8	221001	P	R41	114 R310	33+			4320
HSLC-MO-2D 1HP MOTOR OPERATOR 215		2	L200 HSLC-V-2D A 1 0 F	SMB-000-5	M557	R 505 H.5/6.1 E8	A X E8	221001	P	R41	114 R310	33+	10 C		4320
HSLC-MO-3A 1HP MOTOR OPERATOR 215		2	L200 HSLC-V-3A A 1 0 F	SMB-000-5	M557	R 505 H.3/5.9 C9	A X C9	221001	P	R42	114 R310	33+			4320
HSLC-MO-3B 1HP MOTOR OPERATOR 215		2	L200 HSLC-V-3B A 1 0 F	SMB-000-5	M557	R 505 H.3/5.3 C8	A X C8	221001	P	R42	114 R310	33+			4320
HSLC-MO-3C 1HP MOTOR OPERATOR 215		2	L200 HSLC-V-3C A 1 0 F	SMB-000-5	M557	R 505 H.7/6.4 E9	A X E9	221001	P	R41	114 R310	33+			4320
HSLC-MO-3D 1HP MOTOR OPERATOR 215		2	L200 HSLC-V-3D A 1 0 F	SMB-000-5	M557	R 505 H.3/6.1 E8	A X E8	221001	P	R41	114 R310	33+			4320
HSLC-MO-4 1.0HP MOTOR OPERATOR 215		2	L200 HSLC-V-4 A 1 0 F	SMB-000-5	M557	R 504 H.3/6.4 J5	D X J5	221001	P	R42	114 R310	33+			4320
HSLC-MO-5 1.0HP MOTOR OPERATOR 215		2	L200 HSLC-V-5 A 1 0 F	SMB-000-5	M557	R 504 H.3/6.3 J5	D X J5	221001	P	R42	114 R310	33+			4320
HSLC-MO-9 1 HP MOTOR OPERATOR 215		2	L200 HSLC-V-9 A 1 0 F	SMB-000-5	M557	R 517 H.3/6.2 H5	D X H5	221001	P	R42	114 R310	33+			4320
HSLC-PS-20 REACTOR PRESS INTRLK 58		3	B080 A 1 0 F	288A	M557	R 522 H.4/7.1 K8	X X K8	256007	R	N 121 R51 R404	09				4320
HSLC-PS-24 HEADER PRESS 58		3	B080 A 1 0 F	288A	M557	R 522 H.4/7.1 J8	X X J8	256007	R	N 121 R51 R404	09				4320
HSLC-PS-25 HEADER PRESS 58		3	B080 A 1 0 F	288A	M557	R 522 H.4/7.1 J8	X X J8	256007	R	N 121 R51 R404	09				4320
HSLC-PS-60 HEADER PRESS 58		3	B080 A 1 0 F	288A	M557	R 522 H.4/7.1 J8	X X J8	256007	R	N 121 R51 R404	09				4320

CONTRACT	EPN LEVEL	DESCRIPTION EC	MFG USE	SAFETY FUNCTION	MODEL A/E	BLDG ELEV DRAWING	STATUS S E DETAIL A/E ZONE	QID	TM ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
										HL TEST	ANL FO C	FREQ	AGING	DBE C	HOURS
										ROOM	ACCURACY	COMPOSITE EPN			
HSLC-PS-70A LOOP "A" PRESS 58	3	A	B080 1 0 F	288A	M557	R 526 H.4/4.2 68'	X X R52	256007	R	N 121 R404	09	E-IR-73+	4320		
HSLC-PS-70B LOOP "B" PRESS 58	3	A	B080 1 0 F	288A	M557	R 526 H.4/4.2 F8	X X R52	256007	R	N 121 R404	09	E-IR-73+	4320		
HSLC-PS-70C LOOP "C" PRESS 58	3	A	B080 1 0 F	288A	M557	R 526 H.4/4.2 FB	X X R52	256007	R	N 121 R404	09	E-IR-73+	4320		
HSLC-PS-70D LOOP "D" PRESS 58	3	A	B080 1 0 F	288A	M557	R 526 H.4/4.2 FB	X X R52	256007	R	N 121 R404	09	E-IR-73+	4320		
HSLC-PS-7A LOOP "A" 58	3	A	B080 1 0 F	288A	M557	R 526 H.4/4.2 G10	X X R52	256007	R	N 121 R404	09	E-IR-73+	4320		
HSLC-PS-7B LOOP "B" 58	3	A	B080 1 0 F	288A	M557	R 526 H.4/4.2 F9	X X R52	256007	R	N 121 R404	09	E-IR-73+	4320		
HSLC-PS-7C LOOP "C" 58	3	A	B080 1 0 F	288A	M557	R 528 H.4/4.2 F10	X X R52	256007	R	N 121 R404	09	E-IR-73+	4320		
HSLC-PS-7D LOOP "D" 58	3	A	B080 1 0 F	288A	M557	R 528 H.4/4.2 F10	X X R52	256007	R	N 121 R404	09	E-IR-73+	4320		
HSLC-PS-8A REACTOR PRESS INTRLK 58	3	A	B080 1 0 F	288A	M557	R 528 H.4/4.2 G11	X X R52	256007	P	N 121 R404	09	E-IR-73+	4320		
HSLC-PS-8B REACTOR PRESS INTRLK 58	3	A	B080 1 0 F	288A	M557	R 525 H.4/4.2 G11	X X R52	256007	R	N 121 R404	09	E-IR-73+	4320		
HSLC-PS-8C REACTOR PRESS INTRLK 58	3	A	B080 1 0 F	288A	M557	R 526 H.4/4.2 G11	X X R52	256007	R	N 121 R404	09	E-IR-73+	4320		
HSLC-PS-8D REACTOR PRESS INTRLK 58	3	A	B080 1 0 F	288A	M557	R 526 H.4/4.2 F11	X X R52	256007	R	N 121 R404	09	E-IR-73+	4320		
HSLC-PT-10A 0-8PSIG LEAK PRESS 220	2	A	R369 XMITER CHL A 1 0 I	1153-GR5	M557	R 528 H.3/3.7 FB	X R	156001			05253	13 E	4320		

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL	BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID	TM	HL	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*							
											TEST	ANL	FO C	FREQ	AGING	DBE	C	HOURS			
											ACCURACY	COMPOSITE EPN									
MSLC-PT-6D MS LINE D PRESS 59		3	P 2 0 G	P369	11516P9A22MB6E3	R 525 H.4/4.2 M557	X X F10	259003	R	N	114							50	E-IR-73+	4320	
MSLC-RLY-CR/1 DIV 2, MS-MSLC CONTROL 58		3	A 1 0 F	A500	RXMH2	R 526 H.4/7.1 E519/31	X X J9	283015	R	N	021								06153	10 2 24	
MSLC-RLY-CR/10 MSIV CLOSURE INTERLK 58		3	A 1 0 F	A500	RXMH2	R 527 H.4/4.2 E519/30	X X E1	283015	R	N	021								06153	00 2 4320	
MSLC-RLY-CR/11 MS-MSLC CONTROL INTERLK 58		3	A 1 0 F	A500	RXMH2	R 527 H.4/4.2 E519/30	X X E1	283015	R	N	021								06153	00 2 4320	
MSLC-RLY-CR/12 MS-MSLC CONTROL INTERLK 58		3	A 1 0 F	A500	RXMH2	R 527 H.4/4.2 E519/30	X X E1	283015	R	N	021								06153	00 2 4320	
MSLC-RLY-CR/13 MS-MSLC CONTROL INTERLK 58		3	A 1 0 F	A500	RXMH2	R 527 H.4/4.2 E519/30	X X D1	283015	R	N	021								06153	00 2 4320	
MSLC-RLY-CR/1A DIV 1, MS-MSLC CONTROL INTERLK 58		3	A 1 0 F	A500	RXMH2	R 528 H.4/4.2 E519/30	X X K13	283015	R	N	021								06153	00 2 4320	
MSLC-RLY-CR/1B MS-MSLC CONTROL INTERLK 58		3	A 1 0 F	A500	RXMH2	R 528 H.4/4.2 E519/30	X X J13	283015	R	N	021								06153	00 2 4320	
MSLC-RLY-CR/1C MS-MSLC CONTROL INTERLK 58		3	A 1 0 F	A500	RXMH2	R 527 H.4/4.2 E519/30	A X F13	283015	R	N	021								06153	00 2 4320	
MSLC-RLY-CR/1D MS-MSLC CONTROL INTERLK 58		3	A 1 0 F	A500	RXMH2	R 527 H.4/4.2 E519/30	X X E13	283015	R	N	021								06153	00 2 4320	
MSLC-RLY-CR/3 DIV 2, ATMOS PRESS CNTRL INTERLK 58		3	A 1 0 F	A500	RXMH2	R 526 H.4/7.1 E519/31	X X J9	283015	R	N	021								06153	10 2 4320	
MSLC-RLY-CR/4 DIV 2, CONTROL SV INTERLK 218		3	A 1 0 F	A500	RXMH2	R 522 H.4/7.1 E519/31	X X	283015	R	N	021								06153	10 2 4320	
MSLC-RLY-CR/5 DIV 2, ATMOS PRESS CONTROL INTERLK 218		3	A 1 0 F	S440	219XDXP	R 522 H.4/7.1 E519/31	X X	283041	R	N	149								17+	06153	10 2 4320

CONTRACT	EPN	LEVEL	DESCRIPTION EC	MFG USE	SAFETY FUNCTION	MODEL A/E	BLDG DRAWING	ELEV A/E	STATUS S E DETAIL A/E ZONE	GID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*					
											TH	HL	TEST ANL	FO C	FREQ	AGING	OBE C	HOURS	
										ZONE	ROOM	ACCURACY							
MSLC-RLY-CR/6C2				A500	RXHK1				X X	283011	R	N	021						
MSL PRESSURE INTERLK (150 SEC TD)																06153	00	4320	
58		3	A	1 0 F												E-IR-73+			
MSLC-RLY-CR/6D1				A500	RXMH2				X X	283015	R	N	021						
MSL PRESSURE INTERLK (150 SEC TD)																06153	00	Z	4320
58		3	A	1 0 F												E-IR-73+			
MSLC-RLY-CR/6D2				A500	RXHK1				X X	283011	R	N	021						
MSL PRESSURE INTERLK (150 SEC TD)																06153	00	4320	
58		3	A	1 0 F												E-IR-73+			
MSLC-RLY-CR/8				A500	RXMH2				X X	283015	R	N	021						
CONTROL SWITCH INTERLK																06153	00	Z	4320
58		3	A	1 0 F												E-IR-73+			
MSLC-RLY-CR/9				A500	RXMH2				X X	283015	R	N	021						
CONTROL SWITCH INTERLK																06153	00	Z	4320
58		3	A	1 0 F												E-IR-73+			
MSLC-TD-TK/2				A109	7012AE				X X	283013									
DIV 2, TIME DELAY PKUP RLY (60 SEC)																05253	11	4320	
58		3	A	1 0 F												E-IR-74+			
MSLC-TD-TK/2A				A109	7012AE				X X	283013									
DIV 1, TIME DELAY PKUP (60 SEC)																05253	01	4320	
58		3	A	1 0 F												E-IR-73+			
MSLC-TD-TK/2B				A109	7012AE				X X	283013									
DIV 1, TIME DELAY PKUP (60 SEC)																05253	01	4320	
58		3	A	1 0 F												E-IR-73+			
MSLC-TD-TK/2C				A109	7012AE				X X	283013									
DIV 1, TIME DELAY PKUP (60 SEC)																05253	01	4320	
58		3	A	1 0 F												E-IR-73+			
MSLC-TD-TK/2D				A109	7012AE				X X	283013									
DIV 1, TIME DELAY PKUP (60 SEC)																05253	01	4320	
58		3	A	1 0 F												E-IR-73+			
MSLC-TD-TK/3A				A109	7012AE				X X	283013									
DIV. 1, TIME DELAY PICKUP (60 SEC)																05253	01	4320	
58		3	A	1 0 F												E-IR-73+			
MSLC-TD-TK/3B				A109	7012AE				X X	283013									
DIV. 1, TIME DELAY PICKUP (60 SEC)																05253	01	4320	
58		3	A	1 0 F												E-IR-73+			
MSLC-TD-TK/3C				A109	7012AE				X X	283013									
DIV 1 TIME DELAY PICKUP																25253	01	4320	
58		3	A	1 0 F												E-IR-73+			

EPN	DESCRIPTION	MFG	MODEL	STATUS	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*				
					OID	TM	HL TEST	ANL FO C	FREQ	AGING	DBE C	HOURS	
CONTRACT	LEVEL	EC	USE	SAFETY FUNCTION	A/E DRAWING	BLDG ELEV	DETAIL	ZONE	ROOM	ACCURACY	COMPOSITE	EPN	
HSLC-TD-TK/30		A109	7012AE		X X	283013					05253	01	4320
DIV. 1; TIME DELAY PICKUP (120 SEC)				R	528 H.4/4.2						E-IR-73+		
58	3	A	1 0 F		E519/30		D13						
HSLC-TD-TK/4A		A109	7012AE		X X	283013					05253	01	4320
DIV. 1; TIME DELAY PICKUP (150 SEC)				R	528 H.4/4.2						E-IR-73+		
58	3	A	1 0 F		E519/30		J13						
HSLC-TD-TK/4B		A109	7012AE		X X	283013					05253	01	4320
DIV. 1; TIME DELAY PICKUP (150 SEC)				R	528 H.4/4.2						E-IR-73+		
58	3	A	1 0 F		E519/30		H13						
HSLC-TD-TK/4C		A109	7012AE		X X	283013					05253	01	4320
DIV. 1; TIME DELAY PICKUP (150 SEC)				R	528 H.4/4.2						E-IR-73+		
58	3	A	1 0 F		E519/30		E13						
HSLC-TD-TK/4D		A109	7012AE		X X	283013					05253	01	4320
DIV. 1; TIME DELAY PICKUP (150 SEC)				R	528 H.4/4.2						E-IR-73+		
58	3	A	1 0 F		E519/30		D13						
HSLC-TE-10A		H329	TC-2370-C-A-250-TT		X R	339003					04293	00	E 24
LOOP "A" TO MANIFOLD				R	477 H.4/5.7			R32	R206		HSLC-H-A+		
215	3	A	1 0 F		H557		CB						
HSLC-TE-10B		H329	TC-2370-C-A-250-TT		X R	339003					04293	00	E 24
LOOP "B" TO MANIFOLD				R	474 H.4/5.7			R32	R206		HSLC-H-B+		
215	3	A	1 0 F		H557		C7						
HSLC-TE-10C		H329	TC-2370-C-A-250-TT		X R	339003					04293	00	E 24
LOOP "C" TO MANIFOLD				R	477 H.4/5.8			R32	R206		HSLC-H-C+		
215	3	A	1 0 F		H557		E8						
HSLC-TE-10D		H329	TC-2370-C-A-250-TT		X R	339003					04293	00	E 24
LOOP "D" TO MANIFOLD				R	474 H.4/5.8			R32	R206		HSLC-H-D+		
215	3	A	1 0 F		H557		E7						
HSLC-TS-12A		A499	SC11AR/QL11A4R		Z X	355020					06153	02	E 4320
HEAT TRACE LOW TEMP ALARM LINE A				R	471 H.3/5.9			R32					
218	3	P	2 0 G		H557		B8						
HSLC-TS-12B		A499	SC11AR/QL11A4R		Z X	355020					06153	02	E 4320
HEAT TRACE LOW TEMP ALARM LINE B				R	471 H.3/5.9			R32					
218	3	P	2 0 G		H557		C7						
HSLC-TS-12C		A499	SC11AR/QL11A4R		Z X	355020					06153	02	E 4320
HEAT TRACE LOW TEMP ALARM LINE C				R	471 H.3/5.9			R32					
218	3	P	2 0 G		H557		D8						
HSLC-TS-12D		A499	SC11AR/QL11A4R		Z X	355020					06153	02	E 4320
HEAT TRACE LOW TEMP ALARM LINE D				R	471 H.3/5.9			R32					
218	3	P	2 0 G		H557		F7						

EPN	MFG	DESCRIPTION	MODEL	STATUS	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*						
					S	E	QID	TH	HL	TEST	ANL	FO	C	FREQ	AGING
CONTRACT	LEVEL	EC	USE	SAFETY FUNCTION	A/E	BLDG ELEV	DETAIL	ZONE	ROOM	ACCURACY					
					DRAWING		A/E	ZONE							
PI-V-X269		T020	79TT-001				A X	324002			05313	11	E	4320	
1" SO GLOBE		CHS-SR-14	INLET#4	X73C	R	471	H.9/4.8								
220	2	A	1	0	B1	M543	D6								
PSR-V-003/A		T020	82M-001				X	361015			06153	14	E	4320	
3/8" SOL VLV		RHR LOOP A	SYS	BNDRY	R	432	K.9/8.7								
220	2	A	1	0	B1	M896	E12								
PSR-V-003/B		T020	82M-001				X	361015			06153	14	E	4320	
3/8" SOL VLV		RHR LOOP B	SYS	BNDRY	R	431	L.1/8.8								
220	2	A	1	0	B1	M896	E12								
PSR-V-X73/1		V030	526-5940				X X	361014			06153	04	E	4320	
CONT ISO SOL		VLV PENETRATION	X73F		C	522	J13								
220	2	A	1	0	B1	M896									
PSR-V-X73/2		V030	526-5940				X X	361014			06153	14	E	4320	
CONT ISO SOL		VLV PENETRATION	X73F		R	534	H.5/4.8								
220	2	A	1	0	B1	M896	J12								
PSR-V-X77A/1		T020	82M-001				X D	361015			06153	04	E	4320	
CONT ISO SOL		VLV PENETRATION	X77AC		C	501	E13								
220	2	A	1	0	B1	M896									
PSR-V-X77A/2		T020	82M-001				X X	361015			06153	14	E	4320	
CONT ISO SOL		VLV PENETRATION	X77AC		R	503	J.6/8.0								
220	2	A	1	0	B1	M896	E12								
PSR-V-X77A/3		T020	82M-001				X D	361015			06153	04	E	4320	
CONT ISO SOL		VLV PENETRATION	X77AD		C	501	F13								
220	2	A	1	0	B1	M896									
PSR-V-X77A/4		T020	82M-001				X X	361015			06153	14	E	4320	
CONT ISO SOL		VLV PENETRATION	X77AD		R	503	J.6/7.4								
220	2	A	1	0	B1	M896	F12								
PSR-V-X80/1		V030	526-5940				X X	361014			06153	04	E	4320	
CONT ISO SOL		VLV PENETRATION	X80E		C	522	K13								
220	2	A	1	0	B1	M896									
PSR-V-X80/2		V030	526-5940				X X	361014			06153	14	E	4320	
CONT ISO SOL		VLV PENETRATION	X80F		R	534	H.2/7.4								
220	2	A	1	0	B1	M896	K12								
PSR-V-X82/1		V030	526-5295				X X	361014			06153	04	E	4320	
CONT ISO SOL		VLV PENETRATION	X82G		R	476	H.7/7.7								
220	2	A	1	0	B1	M896	K13								
PSR-V-X82/2		V030	526-5295				X X	361014			06153	05	E	4320	
CONT ISO SOL		VLV PENETRATION	X82G		R	476	H.7/7.7								
220	2	A	1	0	B1	M896	K11								

CONTRACT	EPN	LEVEL	DESCRIPTION	MFG	MODEL	BLDG ELEV	A/E	STATUS	S E' QID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
										TH	HL	TEST ANL FO C	FREQ	AGING	DBE C	HOURS
			EC USE SAFETY FUNCTION					DETAIL	ZONE	ROOM	ACCURACY					
								A/E ZONE								
PSR-V-X82/7				V030	526-5940			A X	361014				06153	04	E	4320
CONT ISO SOL VLV PENETRATION X82F																
220	2	A	1 0 B1					R 476 M.4/7.7								
								M896	F13							
PSR-V-X82/8				V030	526-5940			X X	361014				06153	14	E	4320
CONT ISO SOL VLV PENETRATION X82F																
220	2	A	1 0 B1					R 476 M.6/7.7								
								M896	F12							
PSR-V-X83/1				V030	526-5940			X X	361014				06153	04	E	4320
CONT ISO SOL VLV PENETRATION X83A																
220	2	A	1 0 B1					R 476 M.4/7.7								
								M896	J13							
PSR-V-X83/2				V030	526-5940			X X	361014				06153	15	E	4320
CONT ISO SOL VLV PENETRATION X83A																
220	2	A	1 0 B1					R 476 M.6/7.7								
								M896	J11							
PSR-V-X84/1				V030	526-5940			X X	361014				06153	04	E	4320
CONT ISO SOL VLV PENETRATION X84F																
220	2	A	1 0 B1					R 477 J.0/4.9								
								M896	H12							
PSR-V-X84/2				V030	526-5940			X X	361014				06153	14	E	4320
CONT ISO SOL VLV PENETRATION X84F																
220	2	A	1 0 B1					R 477 J.0/4.9								
								M896	H11							
PSR-V-X88/1				V030	526-5295			A X	361014				06153	04	E	4320
CONT ISO SOL VLV PENETRATION X88																
220	2	A	1 0 B1					R 455 N.2/6.1								
								M896	D13							
PSR-V-X88/2				V030	526-5295			A X	361014				06153	14	E	4320
CONT DSO VLO PENETRATION X88																
220	2	A	1 0 B1					R 455 N.2/6.2								
								M896	D11							
RCC-DPIS-10A				B080	288A			X X	086001				05253	04	E	4320
RCC TO FUEL POOL HX1A													E-IR-71+			
220	2	P	2 0 G					R 522 J.0/6.7			R51					
								M525	G5							
RCC-DPIS-10B				B080	288A			X X	086001				05253	04	E	4320
RCC TO FUEL POOL HX1B													E-IR-69+			
220	2	P	2 0 G					R 522 N.0/8.1			R53					
								M525	F6							
RCC-MO-104				L200	SHR-0			A X	221001	P	Y	114	33+		10	4320
MOTOR OPERATOR FOR RCC-V-104														RCC-V-104+		
215	2	A	1 0 B1					R 517 K.0/4.3								
								M525	E11							
RCC-MO-129				L200	SHB-00			C X	221001	P		114	33+		10	4320
MOTOR OPERATOR FOR RCC-V-129														RCC-V-129+		
41A	2	A	1 0 B2					R 560 K.5/8.9								
								M525	E5							
RCC-MO-130				L200	SHB			A X	221001	P		114	33+		10	C
MOTOR OPERATOR FOR RCC-V-130														RCC-V-130+		
41A	2	A	1 0 B2					R 559 K.6/9.3								
								M525	F6							

CONTRACT	EPH LEVEL	MFG DESCRIPTION EC USE	MODEL SAFETY FUNCTION	BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*						
							TH	HL	TEST	ANL	FO	C	FREQ	AGING	DBE	C	HOURS
						ZONE	ROOM	ACCURACY									
RCIC-LS-10 LEVEL SWITCH FOR 8" DRIP POT 02E51	2	P040 A 1 1 L	5.0-751-1X-MPG-M13HY	R 426	X X J7/7.3 F9	207004	U R11	H R6	14	00	17	06153	05	E	24		
RCIC-LS-11 RCIC BAR COND VACUUM TANK LEVEL 02	2	S345 P 2.0 L	9038-AG1-S4	R 422	X H.6/7.1 C9	090006						06153	05	E	24		
RCIC-LS-15A RCIC-P-1 EMERGENCY SWITCHOVER 215	2	M040 A 1 1 L	3.5-751-1X-MPG-M14HY	R 446	X X H.4/5.0 J8	207002						06153	02	E	24		
RCIC-LS-15B RCIC-P-1 EMERGENCY SWITCHOVER 215	2	M040 A 1 1 L	3.5-751-1X-MPG-M14HY	R 446	X X H.4/5.0 J7	207002						06153	02	E	24		
RCIC-LS-3 LEVEL SW. TURB EXH DRIP LEG LEVEL 215	2	M040 P 2 1 L	751-SPX-M14	R 426	X X H.4/7.4 D12	207011		Y	21	00	17	06153	05	E	24		
RCIC-LS-4 RCIC STM TRAP 4 TO RHR HX DRP LEG 215	2	P040 P 2 1 L	402-XXS-SP-M14	R 565	X X J.0/9.0 H14	207020		Y	21	00	17	06153	01	E	24		
RCIC-LS-5 RCIC STM TRAP 5 TO RHR HX DRP LEG 215	2	M040 P 2 1 L	402-XXS-SP-M14	R 563	X X N.0/9.0 H14	207020		Y	21	00	17	06153	01	E	24		
RCIC-LS-6 RCIC STM TRAP 6 TO RHR HX DRP LEG 215	2	P040 P 2 1 L	402-XXS-S1-M14	R 550	X X L.8/4.3 G14	207011		Y	21	10	17	06153	05	E	24		
RCIC-M-P/3 15HP MTR FOR RCIC-P-3 35A	2	W120 A 1 1 L	TRDP/256T	R 422	X R J.0/8.3 B14	213016		R11	R15			06153	05	E	24		RCIC-P-3+
RCIC-MO-1 MOTOR OPERATOR RCIC-V-1 02E51	2	L200 A 1 1 L	SHB-000-2	R 430	D X H.6/7.2 E11	221001		P R11	N R15	114	33+						RCIC-V-1+
RCIC-MO-10 1.08HP RA MOTOR OPER. RCIC-V-10 41A	2	L200 A 1 1 L	SHB-00-15	R 430	A X H.4/6.6 Q14	221001		P R11	N R15	114	33+				00		RCIC-V-10+
RCIC-MO-13 2.9HP MOTOR OPERATOR RCIC-V-13 41A	2	L200 A 1 1 B1.L	SHB-0-40	R 552	A X 5.5/M.6 H7	221001		P R63	Y R511	114	33+						RCIC-V-13+
RCIC-MO-19 2.0HP MOTOR OPERATOR RCIC-V-19 215	2	L200 A 1 1 B1.L	SPB-000-5	R 467	C X J.4/7.7 F7	221001		P R21	Y R116	114	33+	06153	10				RCIC-V-19+

CONTRACT	EPN	LEVEL	DESCRIPTION	MFG	MODEL	STATUS	S E	QID	TM	HL	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*					
											TEST	ANL	FO C	FREQ	AGING	DBE	C	HOURS	
			EC	USE	SAFETY FUNCTION	A/E	DRAWING	A/E	ZONE	ROOM	ACCURACY								
RCIC-RLY-CR1				S440	2198BXP-DC			R	283041										
RCIC-V-45 POS IND RLY								R	422	H.4/7.1					06153	05	E	4320	
218		3	A	1 1	G1,L		E546/15								E-JB-TB/R435+				
RCIC-RLY-CR2				S440	2198BXP-DC			R	283041										
RCIC-V-45 POS IND RLY								R	422	H.4/7.1					06153	05	E	24	
218		3	A	1 1	L		E546/15								E-JB-TB/R435+				
RCIC-SE-C002				W290	1680-622			X R	318001										
RCIC MAGNETIC PICKUP SENSOR								R	422	H.6/7.4					06153	05	G	24	
02		2	A	1 1	L										RCIC-DT-1+				
RCIC-SPV-25				A499	NP831654E			X X	315006	R	N	114	03						
SPV-RCIC-V-25 STM SPLY LNE IR-62								R	478	H.4/6.8					33+		24		
58		2	A	1 1	L		H519			D9		R31	R206		E-IR-62+				
RCIC-SPV-26				A499	NP831654E			X X	315006	R	N	114	03						
SPV-RCIC-V-26 STM SPLY LNE DR								R	504	L.4/9.3					33+		24		
58		2	A	1 1	L		H519			D9		R43	R306		E-IR-63+				
RCIC-SPV-4				A499	NP831654E			X X	315006	R	N	114	03						
PILOT VALVE FOR AO RCIC-V-4 IR-62								R	478	H.4/6.8					33+		24		
58		2	A	1 1	L		H519			B10		R31	R206		E-IR-62+				
RCIC-SPV-5				A499	NP831654E			X X	315006	R	N	114	03						
PILOT VALVE FOR AO RCIC-V-5								R	506	L.4/9.3					33+		24		
58		2	A	1 1	L		H519			B10		R43	R306		E-IR-63+				
RCIC-SPV-54				A499	NP831654E			X X	315006	R	N	114	03						
SPV FOR RCIC-V-54 IR-62								R	477	H.4/6.8					33+		24		
58		2	A	1 1	L		H519			E9		R31	R206		E-IR-62+				
RCIC-SS-1				P302	B2LN2			X R	318001	R	N		03						
RCIC TURB MECH OVER SPEED TRIP								R	427	H.7/6.9									
02		3	P	1 1	L		807E173TC/			6						RCIC-DT-1+	G	24	
RCIC-SV-C002				G080	CR9503			X R	318001	R	N		03						
TURB TRIP THROT VALVE								R	423	H.3/7.1									
		3	P	1 1	L		807E173TC/			6CB							RCIC-DT-1+	G	24
RCIC-TIS-10A				A502	1165			X X	318001										
RCIC BRG TEMP IND SW (GOVERNER)								R	422										
02		2	P	2 1	L		H519			012		R11				06153	02	E	24
RCIC-TIS-10B				A502	1165			X X	318001										
RCIC BRG TEMP IND SW (COUPLING)								R	422										
02		2	P	2 1	L		H519			012		R11				06153	02	E	24
RCIC-TIS-10B				A502	1165			X X	318001										
RCIC BRG TEMP IND SW (COUPLING)								R	422										
02		2	P	2 1	L		H519			012		R11				06153	02	E	24
RCIC-TIS-10B				A502	1165			X X	318001										
RCIC BRG TEMP IND SW (COUPLING)								R	422										
02		2	P	2 1	L		H519			012		R11				06153	02	E	24
RCIC-TIS-10B				A502	1165			X X	318001										
RCIC BRG TEMP IND SW (COUPLING)								R	422										
02		2	P	2 1	L		H519			012		R11				06153	02	E	24
REA-DPT-1A1				R369	11510P3022H6GE01			X X	091001	W	N	114							
SECONDARY CONTAINMENT PRESS. CONTROL								R	576	H.3/8.2									
59		2	A	1 3	F		H545			[2		R72	R608			50		4320	

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	STATUS S E DETAIL A/E ZONE	BLOG ELEV DRAWING	QID	TM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
										HL TEST ROOM	ANL FO C ACCURACY	FREQ	AGING COMPOSITE EPN	DBE C	HOURS
REA-DPT-1A2			R369 SECONDARY CONTAINMNTPRESS. CONTROL	1151DP3022MBGE01		X X	R 576 H.7/3.5	091001	W	N 114			50		4320
59	2	A	1 3 F	H545		E1			R73	R604					
REA-DPT-1A3			R369 SECONDARY CONTAINMNTPRESS. CONTROL	1151DP3022MBGE01		X X	R 576 H.8/3.9	091001	W	N 114			50		4320
59	2	A	1 3 F	H545		E1			R73	R604					
REA-DPT-1A4			R369 SECONDARY CONTAINMNTPRESS. CONTROL	1151DP3022MBGE01		X X	R 576 H.8/9.4	091001	W	N 114			50		4320
59	2	A	1 3 F	H545		E1			R71	R507					
REA-DPT-1B1			R369 SECONDARY CONTAINMNTPRESS. CONTROL	1151DP3022MBGE01		X X	R 576 H.3/5.3	091001	W	N 114			50		4320
59	2	A	1 3 F	H545		D2			R71	R504					
REA-DPT-1B2			R369 SECONDARY CONTAINMNTPRESS. CONTROL	1151DP3022MBGE01		X X	R 576 H.7/3.5	091001	W	N 114			50		4320
59	2	A	1 3 F	H545		D2			R73	R605					
REA-DPT-1B3			R369 SECONDARY CONTAINMNTPRESS. CONTROL	1151DP3022MBGE01		X X	R 576 H.8/7.6	091001	W	N 114			50		4320
59	2	A	1 3 F	H545		D1			R73	R604					
REA-DPT-1B4			R369 SECONDARY CONTAINMNTPRESS. CONTROL	1151DP3022MBGE01		X X	R 576 H.1/9.4	091001	W	N 114			50		4320
59	2	A	1 3 F	H545		D1			R73	R605					
REA-H-AD/8			R066 MOTOR FOR REA-AD-8	HA418			R 559 L.0/8.1	221002						06153	03 E 4320
	2	A	1 0 J	H545		F10								REA-AD-8+	
REA-POS-AD/8			N007 POS FOR REA-AD-8	EA70050100			R L.0/8.1	200014	Z R					05123	04 S 4320
	2	A	1 0 J	H545		F10								REA-AD-8+	
REA-POS-V/1			N007 POS SWITCH FOR REA-V-1	EA740			R 593 H.5/6.0	200015	A X						00 4320
68	2	A	1 3 FI	H545		J3			R73					REA-V-1+	
REA-POS-V/2			N007 POS SWITCH FOR REA-V-2	EA740			R 593 H.5/6.2	200015	A X						00 4320
68	2	A	1 3 I	H545		J3								REA-V-2+	
REA-RE-9A			G080 R BLDG VENT RAD ELEMENT	TYPE 194X927G11			R 591 H.1/4.3	277001	R X					06153	10 F 4320
02D17	2	A	1 3 F,P2	H545		K6			R73						
REA-RE-9B			G080 EXH AIR PLENUM RAD DETECTOR	TYPE 194X927G11			R 591 H.5/4.3	277001	R X					06153	00 E 4320
02D17	2	A	1 3 B2,F	H545		F1			R73						

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*				
								ZONE	TM	HL ROOM	TEST ANL FO C ACCURACY	FREQ	AGING	DBE C	HOURS	COMPOSITE EPN
RFW-SPV-32A2			A499	WJHT831654		X X	315004	R	N	114	03	33+			4320	
			SOLENOID PILOT FOR RFW-V-32A IR-E2										E-IR-64+			
	58	2	A 1 3 R1		M529				R31	R206						
RFW-SPV-32B1			A499	WJHT831654		X X	315004		N	21	00	33+			4320	
			SOLENOID PILOT FOR RFW-V-32B IR-E2										E-IR-64+			
	58	2	A 1 3 B1		M529				R31	R206						
RFW-SPV-32B2			A499	WJHT831654		X X	315004		N	21	00	33+			4320	
			SOLENOID PILOT FOR RFW-V-32B IR-E2										E-IR-64+			
	58	2	A 1 3 R1		M529				R31	R206						
RHR-CE-1A			B135	CEL-IT(SS)X3-002-KGX35-Y69X2-Y		X X	038001						05253	00	E	4320
			CONDUCTIVITY ELEMENT FOR RHR-HX-1A													
	02E12	2	P 2 0 G		M521/1				R61							
RHR-CE-1B			B135	CEL-IT(SS)X3-002-KGX35-Y69X2-Y		X X	038001						05253	00	E	4320
			RHR CONDUCTIVITY - -													
	02E12	2	P 2 0 G		M521/2				R63							
RHR-DPIS-12A			B080	288A		Y X	086001		N	14	00	33+			4320	
			RHR HIGH FLOW LEAK DETECTION										E-IR-P018+			
	02E12	2	A 1 0 B1		M530				R42	R305						
RHR-DPIS-12B			B080	288A		Y X	086001		N	14	00	33+			4320	
			RHR HIGH FLOW LEAK DETECTION										E-IR-P021+			
	02E12	2	A 1 0 B1		M521/1				R41	R305						
RHR-FIS-10A			B080	288		A X	140001	R	N	121		10			4320	
			SHUTDOWN COOLING LOOP "A" FLOW										E-IR-P018+			
	02E12	3	A 1 0 C+E		M521/1				R42							
RHR-FIS-10B			B080	288		A X	140001	R	N	121		10			4320	
			SHUTDOWN COOLING LOOP "B" FLOW										E-IR-P021+			
	02E12	3	A 1 0 C+F		M521/2				R43							
RHR-FIS-10C			B080	288		A X	140001	R	N	121		10			4320	
			LOOP "C" FLOW TO VESSEL										E-IR-P021+			
	02E12	3	A 1 0 C+F		M521/2				R42							
RHR-FT-1			P040	50-555111BMANCG		X X	156003						05253	01	E	4320
			HEAT EXCH B-REMOTE SHUTDOWN													
	02C61	2	P 2 0 G		M521/2				R21							
RHR-FT-13			G080	555-111BMAA4UCF		X X	156003	U							4320	
			FLOW TRANSMIT TO REACTOR HD SPRAY(RM 11)										E-IR-P021+			
	02E12	3	P 2 3 G		M521/2				R63							
RHR-FT-15A			R369	1151DP5E22		Y X	156005		N	14	00	33+			4320	
			FLOW TRANSMIT TO COOLING LOOP A										E-IR-P018+	10	P	
	02	3	A 1 3 I		M521/1				R42							

CONTRACT	EPN LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	STATUS S E BLDG ELEV DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*			
							TH	HL TEST	ANL FO C	FREQ	ACCURACY	AGING	DBE C	HOURS
RHR-M-P/2B MOTOR FOR RHR-P-2B 02E12	2	A 1 3 C,E	G080 5K6339XC122A/PZ36	M521/2	R X 429 L.8/8.5 05	213032	N	R13	R7		05153	00	E	4320
RHR-H-P/2C MOTOR FOR RHR-P-2C 02E12	2	A 1 0 C,F	G080 5K6339XC122A/PZ36	M521/2	R X 429 H.7/4.6 06	213032	N	R12	R14		05153	00	E	4320
RHR-H-P/3 MOTOR FOR RHR-P-3 35A	2	A 1 3 C,E	W120 75D40786	M521/2	R X X 422 H.4/4.9 C8	213016		R12	R14					4320
RHR-MO-11A .33HP .95A MOTOR OPER. RHR-V-11A 41A	2	A 1 1 B1	L200 SMB-000-5	M521/1	R A X 475 K.2/8.1 E11	221001	P	R31	Y 114 R213	33+				24
RHR-MO-11B .33HP MOTOR OPERATOR RHR-V-11B 41A	2	A 1 1 B1	L200 SMB-000-5	M521/2	R A X 475 L.8/8.1 C12	221001	P	R33	Y 114 R214	33+				24
RHR-MO-124A 1HP MOTOR OPERATOR RHR-V-124A 215	2	A 1 1 B1	L200 SMC-043D0583A	M521/1	R A X 473 K.7/6.1 E14	221001		R31	N 14 R213	33		10	C	24
RHR-MO-124B 5.3HP/16.8-8.4A MO FOR RHR-V-124A 215	2	A 1 1 B1	L200 SMC-043D0583A	M521/1	R A X 473 K.9/8.1 C13	221001		R31	N 14 R213	33		10	C	24
RHR-MO-125A .33HP MOTOR OPERATOR RHR-V-125A 215	2	A 1 1 C	L200 SMC-043D0583A	M521/2	R A X 473 L.7/8.0 D4	221001		R33	R214			10	C	24
RHR-MO-125B .33 HP MOTOR OPERATOR RHR-V-125B 215	2	A 1 1 C	L200 SMC-043D0583A	M521/2	R A X 473 L.6/8.0 D4	221001		R33	N 14 R214	33		10	C	24
RHR-MO-134A MOTOR OPERATOR RHR-V-134A 215	2	A 1 0 D	L200 SMC-04-5	M521/1	R A X 548 K.1/9.0 E14	221001	P	R61	114 R504	33+		10	C	4320
RHR-MO-134B MOTOR OPERATOR RHR-V-134B 215	2	A 1 0 D	L200 SMC-04-5	M521/2	R A X 551 L5/9.2 E5	221001	P	R63	114 R506	33+		10	C	4320
RHR-MO-16A 10.6HP 13.8A MOTOR OPER. RHR-V-16A 41A	2	A 1 0 B1	L200 SP-2-80	M521/1	R A X 556 L.0/4.4 H7	221001	P	R63	Y 114 R510	33+				24
RHR-MO-16B 10.6HP 13.8A MOTOR OPER. RHR-V-16B 41A	2	A 1 0 B1	L200 SD-2-80	M521/2	R A X 516 K.7/8.1 D10	221001	P	R41	Y 114 R305	33+				24

CONTRACT	EPN	LEVEL	DESCRIPTION	MFG	MODEL	BLDG ELEV	STATUS	S E	QID	TM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
											HL	TEST	ANL	FO	C	FREQ	AGING
			EC	USE	SAFETY FUNCTION	A/E DRAWING	DETAIL	A/E ZONE	ZONE	ROOM	ACCURACY						
RHR-MO-17A				L200	SB-2-80		A X		221001	P	Y	114					
10.6HP 13.8A MOTOR OPER.				RHP-V-17A													
41A		2	A	1 0	B1	H521/1	R 556 L.0/4.4 H6		R63	R510			33+				24
RHR-MO-17B				L200	SB-2-80		A X		221001		N	114	00				
10.6HP 13.8A MOTOR OPER.				RHR-V-17B													
41A		2	A	1 0	B1	H521/2	R 516 K.5/8.0 D12		R41	R310			33				24
RHR-MO-21				L200	SMB-3-80		A X		221001	P	Y	114					
5.3HP 8.4A MOTOR OPER.				RHR-V-21													
41B		2	A	1 0	B1,C,E	H521/2	R 455 H.4/5.2 E8		R22	R113			33+				24
RHR-MO-23				L200	SMB-0-15		A X		221001	P	N	114					
1.08HP 4.7A MOTOR OPER.				RHR-V-23													
41B		2	A	1 3	D1	H521/2	R 552 M.6/5.4 J13		R63	R511			33+				24
RHR-MO-24A				L200	SMB-3-80		A X		221001	P	Y	114					
5.3HP 8.3A MOTOR OPER.				RHR-V-24A													
41B		2	A	1 3	D1,C,E	H521/1	R 476 K.0/R.1 E10		R31	R213			33+				4320
RHR-MO-24B				L200	SMB-3-80		A X		221001	P	Y	114					
5.3HP MOTOR OPERATOR				RHR-V-24B													
41B		2	A	1 3	D1,C,E	H521/2	R 476 M.2/8.1 C11		R33	R214			33+				4320
RHR-MO-26A				L200	SMB-000-5		A X		221001		Y	114	00				
0.333HP MOTOR OPERATOR				RHR-V-26A													
41A		2	A	1 0	C,E	H521/1	R 476 K.5/8.2 F12		R31	R213			35				24
RHR-MO-26B				L200	SMB-000-5		A X		221001	P	Y	114					
0.333HP MOTOR OPERATOR				RHR-V-26B													
41A		2	A	1 0	C,E	H521/2	R 474 L.2/8.1 E8		R33	R214			33+				24
RHR-MO-27A				L200	SMB-00-7.5		A X		221001		Y	114					
0.5HP MOTOR OPERATOR				RHR-V-27A													
41A		2	A	1 0	B1,C,E	H521/1	R 495 K.3/4.1 D7		R32	R206			33+				24
RHR-MO-27B				L200	SMB-00-7.5		N X		221001	P	Y	114					
0.5HP MOTOR OPERATOR				RHR-V-27B													
41A		2	A	1 0	B1,C,E	H521/2	R 493 M.2/7.9 C11		P33	R206			33+				24
RHR-MO-3A				L200	SMR-1-40		A X		221001	P	N	114					
2.6HP MOTOR OPERATOR				RHR-V-3A													
41A		2	A	1 3	C,E	H521/1	R 562 J.9/8.5 H11		R61	R507			33+				24
RHR-MO-3B				L200	SMR-1-40		A X		221001	P	N	114					
2.6HP MOTOR OPERATOR				RHR-V-3B													
41A		2	A	1 3	C,E	H521/2	R 560 M.2/8.4 J9		R63	R505			33+				24
RHR-MO-40				L200	SMR-000-2		A Y		221001	P	N	114					
.3HP 1.9A MOTOR OPER.				RHR-V-40													
41B		2	A	1 0	C,E	H521/2	R 553 M.6/8.4 G4		R63	R505			33+		10	C	4320

CONTRACT	EPN	LEVEL	DESCRIPTION EC	MFG USE	SAFETY FUNCTION	MODEL A/E	BLDG DRAWING	ELEV A/E	STATUS S E DETAIL A/E ZONE	QID ZONE	TH ROOM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
												HL TEST	ANL FO C	FREQ	AGING DBE C	COMPOSITE EPN	HOURS	
RHR-MO-53A			L200	SMB-2-60					A X	221001	P	Y 114						
8.2HP MOTOR OPERATOR	RHR-V-53A												33+	RHR-V-53A+	10	C	4320	
41B	2	A	1 3	C,E,B1	M521/1	515	K.9/4.1	F6		R42	R312							
RHR-MO-53B			L200	SMB-2-60					A X	221001	P	Y 114						
7.9HP 10A MOTOR OPER.	RHR-V-53B												33+	RHR-V-53B+	10	C	4320	
41B	2	A	1 3	C,E,B1	M521/2	515	L.2/8.0	F12		R43	R316							
RHR-MO-64A			L200	SMB-000-5					A X	221001	P	N 114						
2.66HP MOTOR OPERATOR	RHR-FCV-64A												33+	RHR-FCV-64A+			4320	
42A	2	A	1 3	B1,C,E	M521/1	446	K.2/9.2	E12		R21	R116							
RHR-MO-64B			L200	SMB-000-5					A X	221001	P	N 114						
MOTOR OPERATOR	RHR-FCV-64B												33+	RHR-FCV-64B+			4320	
42A	2	A	1 3	B1,C,E	M521/2	448	M.0/9.2	B7		R23	R115							
RHR-MO-64C			L200	SMB-000-5					A X	221001	P	N 114						
MOTOR OPERATOR	RHR-FCV-64C												33+	RHR-FCV-64C+			4320	
42A	2	A	1 0	B1,C,E	M521/2	450	J.0/4.9	F7		R22	R113							
RHR-MO-68A			L200	SMB-0-40					B X	221001	P	N 114						
2.6HP 5.75A MOTOR OPER.	RHR-V-68A												33+	RHR-V-68A+			4320	
41A	2	A	1 3	C,E,F	M524/1	558	J.1/9.3	D13		R61	R507							
RHR-MO-68B			L200	SMB-0-40					B X	221001	P	N 114						
2.6HP 5.75A MOTOR OPER.	RHR-V-68B												33+	RHR-V-68B+			4320	
41A	2	A	1 3	C,E,F	M524/2	555	M.8/9.3	F14		R63	R505							
RHR-MO-6A			L200	SMB-0-25					A X	221001	P	N 114						
2.66HP MOTOR OPERATOR	RHR-V-6A												33+	RHR-V-6A+			4320	
41A	2	A	1 3	C,F	M521/1	430	K.8/8.3	B8		R11	R6							
RHR-MO-6B			L200	SMB-0-25					A X	221001	P	N 114						
2.66HP MOTOR OPERATOR	RHR-V-6B												33+	RHR-V-6B+			4320	
41A	2	A	1 3	C,E	M521/1	430	L.8/8.5	B7		R13	R7							
RHR-MO-73A			L200	SMC-04-5					A X	221001	P	N 114						
2.0HP MOTOR OPERATOR	RHR-V-73A												33+	RHR-V-73A+	10	C	4320	
215	2	A	1 3	C,F	M521/1	590	J.9/9.2	H13		R71	R606							
RHR-MO-73B			L200	SMC-04-5					A Y	221001	F	114						
2.0HP MOTOR OPERATOR	RHR-V-73B												33+	RHR-V-73B+	10	C	4320	
215	2	A	1 3	C,F	M521/2	590	M.2/9.1	H4		R73								
RHR-MO-74A			L200	SMC-04-5					A X	221001	P	N 114						
2.0HP MOTOR OPERATOR	RHR-V-74A												33+	RHR-V-74A+	10	C	4320	
215	2	A	1 3	C,F	M521/1	590	J.9/9.1	H13		R71								
RHR-MO-74B			L200	SMC-04-5					A Y	221001	P	114						
2.6HP MOTOR OPERATOR	RHR-V-74B												33+	RHR-V-74B+	10	C	4320	
215	2	A	1 3	C,E	M521/2	590	M.3/9.1	J5		R73	R605							

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	BLDG ELEV A/E	STATUS S E DETAIL A/E ZONE	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*			
								QID	TH	HL TEST	ANL FO C	FREQ	AGING	DBE C	HCURS
RHR-MO-8			L200	SMB-2-80			A X	221001	P	Y	114	33+			4320
5.8HP MOTOR OPERATOR	RHR-V-8												RHR-V-8+		
41A	2	A	1 3	B1,C,E	M521/1	"12 N.3/7.3	E7	R43	R315						
RHR-MO-87A			L200	SMB-00-10			A X	221001	P	N	114	33+			24
3.89HP MOTOR OPERATOR	RHR-V-87A												RHR-V-87A+		
42A	2	A	1 1	C,E	M521/1	578 J/9.3	J10	R71	R606						
RHR-MO-87B			L200	SMB-00-10			A X	221001	P	N	114	33+			24
MOTOR OPERATOR	RHR-V-87B												RHR-V-87B+		
42A	2	A	1 1	C,E	M521/2	578 H.8/8.6	J6	R73	R604						
RHR-MO-9			L200	SMB-2-60			A X	221001	P	Y	114	33+			4320
10.6HP MOTOR OPERATOR	RHR-V-9												RHR-V-9+		
41A	2	A	1 3	B1,C,E	M521/1	511 160 D AZ	F6	R23	C47						
RHR-MO-93			L200	SMB-0-40/T56			A X	221001						17	4320
2.6HP 5.75A MOTOR OPER.	RHR-V-11E												RHR-V-116+		
02G11	2	A	1 0	B2,C,F	M521/2	548 N.0/8.6	J9		R63						
RHR-MO-94			L200	SMB-0-40/T56			A X	221001						07	4320
2.6HP 5A MOTOR OPER.	RHR-V-115												RHR-V-115+		
02G11	2	A	1 0	B2,C,F	M521/2	548 N.0/9.0	J9		R63						
RHR-MO-99A			L200	SMB-000-5			D X	221001	P	Y	114	33+		10 C	4320
MOTOR OPERATOR FOR	RHR-V-123A												RHR-V-123A+		
215	2	A	1 3	B1,C,E	M521/1	514 95 D AZ	E5	R28	C47						
RHR-MO-99B			L200	SMB-000-5			D X	221001	P	Y	114	33+		10 C	.017
MOTOR OPERATOR FOR	RHR-V-123B												RHR-V-123B		
215	2	A	1 0	B1	M521/2	510 2700 AZ	E13	R27	C44						
RHR-PIS-22A			P080	28RA			Y X	245002							4320
PRESSURE INDICATING SWITCH	H22-P018												E-IR-P018+		
02	2	P	2 3	G	M521/1	505 J.7/3.7	E14		R42						
RHR-PIS-22B			P080	28RA			Y X	245002	R	N	114	33+			4320
PRESSURE INDICATING SWITCH	H22-P021												E-IR-P021+		
02E12	2	P	2 3	G	M521/2	505 H.6/9.3	D3		R41						
RHR-PIS-22C			P080	28RA			Y X	245002							4320
PRESSURE INDICATING SWITCH	H22-P021												E-IR-P021+		
02	2	P	2 3	G	M521/2	503 H.6/9.3	F5		R41						
RHR-PS-16A			S382	5N-AA3-(X10)-STT			Y X	256016	R	N	114	33+			24
ADS PERMISSIVE (10-240.PSIC)													E-IR-P018+		
02E12	2	A	1 0	C,E	M521/1	503 J.6/3.6	C15		R42	R305					
RHR-PS-16B			S3P2	5N-AA3-(X10)-STT			X X	256016	R	N	114	33+			24
ADS PERMISSIVE (10-240 PSIG)													E-IR-P021+		
02E12	2	A	1 0	C,E	M521/2	503 H.6/9.3	C3		R41	R305					

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	HFG SAFETY FUNCTION	MODEL A/E DRAWING	BLDG ELEV A/E ZONE	STATUS S E DETAIL A/E ZONE	QID ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
									TH	HL	TEST ANL FO C ROOM ACCURACY	FREQ	AGING DBE C COMPOSITE EPN	HOURS	
RHR-PS-16C			S382	5H-AA3-(X10)-STT			X X	256016	R	N	114	33+		24	
ADS PERMISSIVE (10-240 PSIG)					R	503	H.8/9.3	R41			R305		E-IR-P021+		
02E12	2	A	1 0	C,E	M521/2		D5								
RHR-PS-18			S382	6N6-E45-NX/CIATTX5			X X	256016	R	N	114	33+		4320	
PRESS SWITCH SHUTDOWN COOL SUCT.					R	507	N.1/7.7								
02E12	2	P	2 0	G	M521/1		D8								
RHR-PS-19A			S382	5H-AA3-(X10)-STT			X X	256016	R	N	114	33+		24	
ADS PERMISSIVE (10-240 PSIG) PUMP					R	503	J.6/3.8	R42					E-IR-P018+		
02	2	A	1 0	C,E	M521/1		C14								
RHR-PS-19B			S382	5H-AA3-(X10)-STT			X X	256016	R	N	114	33+		24	
ADS PERMISSIVE (10-240 PSIG) PUMP					R	503	H.8/9.3	R41					E-IR-P021+		
02	2	A	1 0	C,E	M521/2		C3								
RHR-PS-19C			S382	5H-AA3-(X10)-STT			X X	256016	R	N	114	33+		24	
ADS PERMISSIVE (10-240 PSIG) PUMPC					R	505	H.8/9.3	R41					E-IR-P021+		
02	2	A	1 0	C,E	M521/2		D5								
RHR-TE-27A			P427	117C3485P022			X X	339023		N		99+	06153	10 E	4320
TEMPERATURE ELEMENT (PRIMARY)					R	565	J.2/8.0	R61							
2	2	P	2 3	G	M521/1		H10								
RHR-TE-27B			P427	117C3485P022			X X	339023		N		99+	06153	10 E	4320
TEMPERATURE ELEMENT (PRIMARY)					R	565	H.6/8.0	R63							
2	2	P	2 3	G	M521/2		J10								
RHR-TE-4A			P427	117C3485P022			X X	339023		N		99+	06153	10 E	4320
TEMPERATURE ELEMENT (PRIMARY)					R	588	J.8/9.0	R71							
02E12	2	P	2 3	G	M521/1		H10								
RHR-TE-4B			P427	117C3485P022			X X	339023		N		99+	06153	10 E	4320
TEMPERATURE ELEMENT (PRIMARY)					R	588	H.4/9.0	R73							
02E12	2	P	2 3	G	M521/2		J7								
RHR-TE-5A			P427	117C3485P022			X X	339023		N		99+	06153	10 E	4320
RHR-HX-2A SSW OUTLET TEMP					R	560	J.3/8.5	R61							
02F	2	P	2 3	G	M524/1		C13								
RHR-TE-5B			P427	117C3485P022			X X	339023		N		99+	06153	10 E	4320
RHR-HX-2B SSW OUTLET TEMP					R	560	H.7/8.5	R61							
02E	2	P	2 3	G	M524/2		F13								
RHR-V-60A			M095	HV36RP-H3			X T	324006	W	N	200	99+	01014	10	4320
SOLENOID VALVE, SAMPLE ISO					R	560	J.8/8.5	R61							
215	2	A	1 0	P2	M521		J12								
RHR-V-60B			M095	HV36RP-H3			X F	324006	W	N	200	99+	01014	00	4320
SOLENOID VLV. SAMPLE ISO					R	560	H.4/8.4	R63							
215	2	A	1 0	B2	M521		J5								

CONTRACT	EPN	LEVEL	MFG DESCRIPTION			MODEL	BLDG ELEV	STATUS S E DETAIL A/E ZONE	***SEISMIC (S) PARAMETERS***				FREQ	*ENV. (E) PARAMETERS*		
			EC	USE	SAFETY FUNCTION				QID	TM	HL TEST	ANL FO C		ACCURACY	AGING	DBE C
RHR-V-75A			M095		MV36RP-H3		X J	324006	W	N	200	01	99+	01014	10	4320
	SOLENOID VLV, SAMPLE ISO.															
215	2	A	1	0	B2	M521	J.8/8.5 J12		R61							
RHR-V-75B			M095		MV36RP-H3		X J	324006	W	N	200	01	99+	01014	10	4320
	SOLENOID VLV, SAMPLE ISO															
215	2	A	1	0	B2	M521	M.4/8.5 J5		R63							
ROA-M-AD/19			B066		MA418		R	221002						06153	14	E 4320
	MOTOR FOR ROA-AD-19															
64	2	A	1	0	J	M545	L.9/8.2 F8									
ROA-POS-V/1			N007		70050100		Y J	200014						05033	11	S 4320
	POS FOR ROA-V-1													ROA-V-1+		
2	A	1	3	B2,F		E519/12	M.7/5.7 D8									
ROA-POS-V/2			N007		70050100		Y P	200014						05033	11	S 4320
	POS FOR ROA-V-2													ROA-V-2+		
2	A	1	3	B2,F		E519/12	M.7/5.0 D8									
ROA-RLY-CR1A			A500		RXHK1		X X	283011						06153	00	4320
	CONTROL ISOLATION VALVE ROA-V-1													E-IR-67+		
3	P	2	3	G1		E519/12	M.0/6.0 D7									
ROA-RLY-CR200			A500		RXHK1		X X	283011	F					06153	00	4320
	CONTROL ISOLATION VALVE ROA-V-2													E-IR-69+		
3	P	2	3	G1		E519/12	M.0/8.3 D7									
ROA-SPV-10			A499		HBX8320A-1		X X	315002	D	N	114	03	33+			4320
	DIV II MCC ROOM DAMPER SOL PILOT -															
216	2	P	2	0	G1	M545	M.5/3.9 E15		R32	R410						
ROA-SPV-100			A499		WJHT831654		X X	315004	P	N	114	03	33+			4320
	ROA-V-1 SOL PILOT VA - -													E-IR-67+		
216	2	A	1	3	B2,F	M545	M.8/5.7 F3		R63	R504						
ROA-SPV-11			A499		HBX8320B-1		X X	315002	D	N	114	03	33+			4320
	DIV I MCC ROOM DAMPER SOL PILOT -															
216	2	P	2	0	G1	M545	M.7/8.1 D7		R31	R212						
ROA-SPV-12			A499		HBX8320B-1		X X	315002	D	N	114	03	33+			4320
	DC MCC ROOM DAMPER SOL PILOT - -															
216	2	P	2	0	G1	M545	M.8/8.1 C7		R31	R212						
ROA-SPV-13			A499		HBX8320A-1		X X	315002	D	N	114	03	33+			4320
	H2 RECOMB MCC RM (DIV I) DAMPER SO															
216	2	P	2	0	G1	M545	M.3/5.9 G15		R73	R611						
ROA-SPV-14			A499		HBX8320A-1		X X	315002	D	N	114	03	33+			4320
	H2 RECOMB MCC RM (DIV II) DAMPER S															
216	2	P	2	0	G1	M545	M.4/8.1 G14		R73	R612						

CONTRACT	EPN	LEVEL	HFG DESCRIPTION			MODEL	BLDG ELEV	STATUS S E DETAIL	A/E DRAWING	A/E ZONE	QID	TH ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
			EC	USE	SAFETY FUNCTION								HL	TEST	ANL	FO C	FREQ	AGING	DBE C	HOURS
ROA-SPV-15 SOLENOID PILOT VALVE 216		2	P	2 0	G1	A499 HBX8320A-1		X X M545			315002	D	N	114	03		33+		4320	
ROA-SPV-17 ANALYZER RM 18 DAMPER SOL PILOT LO 216		2	P	2 0	G1	A499 HBX8320A-1		X X M545			315002	D	N	114	03		33+		4320	
ROA-SPV-200 ROA-V-2 SOL PILOT VA - - 216		2	A	1 3	B2,F	A499 WJHT8316E35		X R M545			315004	P	N	114	03		33+	E-IR-69+	4320	
RPS-PS-2A HIGH DRYWELL PRESSURE 0.2-6 PSI 02C72		2	A	1 0	A	S382 12N-AA4-X10TT		Y X 807E178TC/			256016	R	N	114			33+	E-IR-P004+	.17	
RPS-PS-2B HIGH DRYWELL PRESSURE 0.2-6 PSI 02C72		2	A	1 0	A	S382 12N-AA4-X10TT		A X 807E178TC/			256016	R	N	114			33+	E-IR-P027+	.17	
RPS-PS-2C HIGH DRYWELL PRESSURE 0.2-6 PSI 02C72		2	A	1 0	A	S382 12N-AA5-X10TT		Y X 807E178TC/			256016	R	N	114			33+	E-IR-P005+	.17	
RPS-PS-2D HIGH DRYWELL PRESSURE 0.2-6 PSI 02C72		2	A	1 0	A	S382 12N-AA5-X10TT		X X 807E178TC/			256016	R	N	114	03		10	E-IR-P026+	.17	
RPS-PS-4 PRIN. CONT HIGH PRESS - - 02C72		2	P	2 0	G	B080 2R8A		A X M529			256007	R	N	121			09	E-IR-P004+	4320	
RRA-H-FN/1 3HP/4.7A MOTOR FOR RRA-FN-1 67		2	A	1 3	J	W120 SBFC/182T		X X M545			213012							RRA-FC-1+	4320	
RRA-H-FN/10 3HP/4.65A MOTOR FOR RRA-FN-10 67		2	A	1 0	J	W120 SRFC		X X M545			213023							05153	00	4320
RRA-H-FN/11 3HP/4.65A MOTOR FOR RRA-FN-11 67		2	A	1 0	J	W120 SBFC		X X M545			213023							05153	00	4320
RRA-H-FN/12 5HP/5.5A MOTOR FOR RRA-FN-12 216		2	A	1 0	J	W120 TBAN		X X M545			213015							05253	01	4320
RRA-H-FN/13 3HP/7A MOTOR FOR RRA-FN-13 216		2	A	1 0	J	W120 TBAN		X X M545			213015	F						05253	01	4320

CONTRACT	EPH LEVEL	MFG DESCRIPTION EC USE	SAFETY FUNCTION	MODEL A/E DRAWING	STATUS S E BLDG ELEV DETAIL A/E ZONE	QID ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
							TH ROOM	HL ACCURACY	TEST ANL FO C FREQ	AGING COMPOSITE EPN	DBE C	HOURS
RRA-RMS-FN/4 CONTROL SWITCH FOR RRA-FN-4	3	S345 P 2 3 J	KYC-1	H545	X X 444 M.4/4.7 B12	285002				05253	11	4320
RRA-RMS-FN/5 CONTROL SWITCH FOR RRA-FN-5	3	S345 P 2 0 J	KYC-1	H545	X X 444 K.7/3.8 B13	285002				05253	01	4320
RRA-RMS-FN/6 CONTROL SWITCH FOR RRA-FN-6	3	S345 P 2 1 L	KYC-1	H545	X X 444 H.6/8.0 B7	285002				05253	01	24
RRC-FT-11A FLOW TRANSMITTER 02B35	3	R369 P 2 0 G	1151DP8A22MB	H530	Y X 473 L.6/4.0 G13	259003 R33				E-IR-P006+	05	G .17
RRC-FT-11B FLOW TRANSMITTER 02B35	3	R369 P 2 0 G	1151DP8A22MB	H530	B X 473 M.6/8.1 G5	259003 R33				E-IR-P022+	05	G .17
RRC-MO-16A 2HP MOTOR OPERATOR FOR RRC-V-16A 215	2	L200 A 1 0 B1	SMC-04	H530	A X 506 M.5/4.4 C14	221001 R43	R307			RRC-V-16A+	10	24
RRC-MO-16B 2 HP MOTOR OPERATOR FOR RRC-V-16B 215	2	L200 A 1 0 B1	SMC-04	H530	D X 506 J.5/7.6 R14	221001 R41	R305			RRC-V-16B+	10	C 24
RRC-PS-18A PRESSURE SWITCH NON IND H22-P006 02B35	2	S382 A 1 0 B1	SNAAX105TT	H530	Y X 475 L.6/4.0 G12	256016 R33	N 114 R206	03	10	E-IR-P006+		4320
RRC-PS-18B PRESSURE SWITCH NON IND H22-P022 02B	2	P069 A 1 0 B1	B1T-H12SS-GE	H530	Y X 475 M.6/8.1 F5	256002 R33	N 14 R206	00	33+	E-IR-P022+		4320
RRC-PS-36A INHIBITOR SWITCH FOR RRC-V-67A 220	2	S382 P 2 0 G	12N-K4	H530	X X 548 N.8/5.7 E10	256016 R33				06153 E-IR-67+	11	E 4320
RRC-PS-36B INHIBITOR SWITCH FOR RRC-V-67B 220	2	S382 P 2 0 G	12N-K4	H530	X X 548 H.7/8.1 F7	256016 R33				06153 E-IR-68+	11	E 4320
RRC-PT-38A VESSEL DOME PRESSURE 02	2	R369 P 2 0 G	1152GF9E22T02R0PB	H529	X 522 J.5/7.2 J14	259003				06153 E-IR-P004+	02	G 4320
RRC-PT-38B VESSEL DOME PRESSURE 02	2	R369 P 2 0 G	1152GF9E22T02R0PB	H529	X 522 M.8/6.6 H5	259003				06153 F-IR-P027+	02	G 4320

CONTRACT	EPN LEVEL	MFG DESCRIPTION EC USE	SAFETY FUNCTION	MODEL A/E DRAWING	BLDG ELEV DRAWING	STATUS S E DETAIL A/E ZONE	QID ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
								TH	HL	TEST	ANL	FO	C	FREQ	AGING
RRC-TE-21 RRC TEMP. ELEM. 02	2	P 2 3 G		N275 117C3485P083	C 501 H523	X X F13	339023 C45					06303	06	E	4320
RRC-TE-23A RRC TEMP ELEM. 02B35	2	P 2 3 G		G080 159C4520F004	C 506 H530	X X D AZ C12	339023 C47					06153	05		4320
RRC-TC-23B RRC TEMP ELEM 02B35	2	P 2 3 G		G080 159C4520F004	C 506 H530	X X D AZ C5	339023 C44					06153	05		4320
RRC-TE-28A RRC TEMP ELEM 02B35	2	P 2 3 G		R369 177-443-4	C 506 H530	X X D AZ C12	339027 C47					06153	05	E	4320
RRC-TE-28B RRC TEMP ELEM 02B35	2	P 2 3 G		R369 177-443-4	C 506 H530	X X D AZ C5	339027 C44					06153	05	E	4320
RRC-V-19 1.0" SOLENOID SAMPLING VALVE 220	2	A 1 0 B1		T020 82M-001	C 509 H530	X X D AZ F11	361015 R35 C44			Y		06153 RRC-V-19+	10	E	24
RRC-V-20 1.0" SOLENOID SAMPLING VALVE 215	2	A 1 0 B1		H095 MV36RP-H3	R 506 H530	X X J.0/6.9 F12	361009 R41					01014 RRC-V-20+	10		24
RVCU-DPIS-25 DPIS PRESS. BOUNT. FOR FE-35 3	P 2 0 G			B040 289	R 522 H523	Y X N.8/5.0 F15	086001 R53					05253 E-IR-P002+	13	G	4320
RVCU-FI-15 LD RVCU ISOL FLOW 02E31	3	A 1 0 B1,F		B040 50-555111RLAA4WCJ	R 522 H523	Y X N.8/5.0 R11	156003 R53					05033 E-IR-P002+	11	P	24
RVCU-FI-36 FLOW ELEMENT 35 PRESSURE BOUNDARY 02E31	3	A 1 0 B1,F		R040 555111BHAA4WRP	R 524 H523	Y X N.8/5.0 F15	156003 R53	R N			33+	05153 E-IR-P002+	10	P	24
RVCU-FI-41 FLOW TRANSMITTER 02E31	3	A 1 0 B1,F		E040 555111BHAA4WRM	P 524 H523	Y X N.8/5.0 H11	156003 R53	R N				05153 E-IR-P002+	10	P	24
RVCU-MO-1 1.6HP 4.0A MOTOR OPER. RVCU-V-1 41A	2	A 1 0 B1		L200 SMB-0-25	C 54 H523	M X 150 DEG F15	221001 C57	P Y	114		33+	RVCU-V-1+			24
RVCU-MO-4 1.8HP 7.5A MOTOR OPER. RVCU-V-4 41A	2	A 1 0 B1		L200 SHR-0-25	R 53 H523	A X M.7/5.0 F15	221001 R53	P Y	114 R406		33+	RVCU-V-4+			24

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID	TH	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*														
									HL TEST ROOM	ANL FO C	FREQ	AGING	DBE C	HOURS												
SGT-EHC-1A1			C332	2747499		X X	109008	D	N	200	03															
22.5 KW ELECTRIC HEATING COIL																										
18	2	A	1 0	D,F	M544	H.7/5.6 H13		R72	R608										SGT-FU-1A+	4320						
SGT-EHC-1A2			C332	2747499		X X	109008	D	N	200	03															
ELECTRIC HEATING COIL																										
18	2	A	1 0	D,F	M544	H.7/5.6 H13		R72	R608											SGT-FU-1A+	4320					
SGT-EHC-1B1			C332	27-47499		X X	109008	D	N	200	03															
22.5 KW ELECTRIC HEATING COIL																										
18	2	A	1 0	D,F	M544	J.3/5.6 D13		R72	R607												SGT-FU-1B+	4320				
SGT-EHC-1B2			C332	27-47499		X X	109008	D	N	200	03															
ELECTRIC HEATING COIL																										
18	2	A	1 0	D,F	M544	J.3/5.6 D13		R72	R607													SGT-FU-1B+	4320			
SGT-EHO-1A1			I206	NH91GZ073E1F-ZN20		A X	110004	P	N	121	03	33+	10143	10	S											
SGT-FN-1A1 INLET VANES OPER																										
28	2	A	1 0	D,F	M544	H.5/7.7 J7		R71	R608													SGT-FN-1A1+	4320			
SGT-EHO-1A2			I206	NH91GZ073E1F-ZN20		A X	110004	P	N	121	03	33+	10143	10	S											
SGT-FN-1A2 INLET VANES OPER																										
28	2	A	1 0	D,F	M544	H.8/7.7 G7		R71	R608														SGT-FN-1A2+	4320		
SGT-EHO-1B1			I206	NH91GZ073E1F-ZN20		A X	110004	P	N	121	03	33+	10143	00	S											
SGT-FN-1B1 INLET VANES OPER																										
28	2	A	1 0	D,F	M544	J.1/7.7 C7		R71	R607														SGT-FN-1B1+	4320		
SGT-EHO-1B2			I206	NH91GZ073E1F-ZN20		A X	110004	P	N	121	03	33+	10143	00	S											
SGT-FN-1B2 INLET VANES OPER																										
28	2	A	1 0	D,F	M544	J.4/7.7 E7		R71	R607														SGT-FN-1B2+	4320		
SGT-FS-2A2			B080	289A		Z X	154005	F																		
SGT-FN-1A-1 DISCH. LOC-AL-																										
220	2	A	1 0	D,F	M544	H.9/7.8 J6		R71															06153	10	E	4320
SGT-FS-2B1			B080	289A		Z X	154005	F																		
SGT-FN-1B-2 DISCH. LOC-AL-																										
220	2	A	1 0	D,F	M544	J.2/8.0 E6		R71															06153	00	E	4320
SGT-FT-1A1			T363	PRC(S)-4		X X	156010																			
FLOW AFTER SGT-FN-1A-1 LOC-AL-																										
SS	3	A	1 0	F,I	M544	H8/7.1 J6		R71	R608														06303	16	E	4320
SGT-FT-1A2			T363	PRC(S)-4		X X	156010																			
FLOW AFTER SGT-FN-1A-2 LOC-AL-																										
SS	3	A	1 0	F,I	M544	H8/7.1 G6		R71	R608														06303	16	E	4320
SGT-FT-1B1			T363	PRC(S)-4		X X	156010																			
FLOW AFTER SGT-FN-1B-1 LOC-AL-																										
SS	3	A	1 0	F,I	M544	H8/7.1 C6		R71	R608														06303	06	E	4320

CONTRACT	LEVEL	EPH	MFG DESCRIPTION	SAFETY FUNCTION	MODEL	BLDG A/E	ELEV DRAWING	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
										TM	HL	TEST ANL FO C	FREQ	AGING DBE C	HOURS	
			EC USE						ZONE	ROOM	ACCURACY					
SGT-FT-1B2			T363	PRC(S)-4				X X	156010							
FLOW AFTER SGT-FN-1B-2 LOC-AL-SS	3	A	1 0	F,I	M544	R	585 H8/7.1	E6	R71	R608			06303	06	E	4320
SGT-M-FN/1A1			W120	TBDP/286T				X X	213017	F						
25HP/61-30.5A MOTOR FOR SGT-FN-1A1	2	A	1 0	D,F	M544	R	576 H.5/7.6	J7	R71	R608						4320
SGT-M-FN/1A2			W120	TBDP/286T				X X	213017	F						
25HP/61-30.5A MOTOR FOR SGT-FN-1A2	2	A	1 0	D,F	M544	R	576 H.9/7.6	G6	R71	R608						4320
SGT-M-FN/1B1			W120	TBDP/286T				X X	213017	F						
25HP/61-30.5A MOTOR FOR SGT-FN-1B1	2	A	1 0	D,F	M544	R	576 J.2/7.6	C6	R71	R607						4320
SGT-M-FN/1B2			W120	TBDP/286T				X X	213017	F						
25HP/61-30.5A MOTOR FOR SGT-FN-1B2	2	A	1 0	D,F	M544	R	576 J.5/7.6	E6	R71	R607						4320
SGT-ME-16A			H349	XNAM10205				Y X	217001	D	N	021				
MOISTURE ELEMENT AFTER SGT-MS-1A	2	P	2 0	G	M544	R	572 H.7/5.5	J13	R72				06153	04	E	4320
SGT-ME-16B			H349	XNAM10205				Y X	217001	D	N	021				
MOISTURE ELEMENT AFTER SGT-MS-1B	2	P	2 0	G	M544	R	572 J.3/5.5	E13	R72				06153	04	E	4320
SGT-ME-17A			H349	XNAM10205				Y X	217001	D	N	021				
MOISTURE ELEMENT AFTER SGT-MS-1A	2	P	2 0	G	M544	R	572 H.7/5.5	H13	R72				06153	04	E	4320
SGT-ME-17B			H349	XNAM10205				Y X	217001	D	N	021				
MOISTURE ELEMENT AFTER SGT-MS-1B	2	P	2 0	G	M544	R	572 J.3/5.5	C13	R72				06153	04	E	4320
SGT-ME-4A			H349	XNAM10205				X X	217001	D	N	021				
SGT-FU-1A MOIST. AFTER SGT-FN-1A-1	2	P	2 0	G	M544	R	582 H.7/6.2	H11	R72				06153	04	E	4320
SGT-ME-4B			H349	XNAM10205				X X	217001	D	N	021				
SGT-FU-1B MOIST. AFTER SGT-FN-1B-1	2	P	2 0	G	M544	R	582 J.3/6.2	C11	R72				06153	04	E	4320
SGT-ME-6A1			H349	XMS-7AP				X X	217001	D	N	021				
MOISTURE AFTER SGT-MS-1A	2	A	1 0	D,F	M544	R	572 H.6/5.5	J13	R72	R608						4320
SGT-ME-6A2			H349	XMS-7AP				X X	217001							
MOISTURE AFTER SGT-MS-1A	2	A	1 0	D,F	M544	R	572 H.8/5.5	J13					06153	14	E	4320

CONTRACT	EPH LEVEL	MFG DESCRIPTION EC USE SAFETY FUNCTION	MODEL A/E DRAWING	BLDG ELEV A/E ZONE	STATUS S E DETAIL A/E ZONE	QID ZONE	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
							TH	HL	TEST ANL FO C ACCURACY	FREQ	AGING COMPOSITE EPH	OBE C
SGT-MO-3A2 1.33HP 2.4A MOTOR OPER. SGT-V-3A2 68 2 A 1 0 D,F	L200 SMB-00-10	M544	R 578 H.8/7.7 J7	A X	221001 P N 114 R71 R608	33+						SGT-V-3A2+ 4320
SGT-MO-3B1 1.33HP 2.4A MOTOR OPER. SGT-V-3B1 68 2 A 1 0 D,F	L200 SMB-00-10	M544	R 578 J.3/7.7 E7	A X	221001 P N 114 R72 R607	33+						SGT-V-3B1+ 4320
SGT-MO-3B2 1.33HP 2.4A MOTOR OPER. SGT-V-3B2 68 2 A 1 0 D,F	L200 SMB-00-10	M544	R 578 J.6/7.7 C7	A X	221001 P N 114 R71 R607	33+						SGT-V-3B2+ 4320
SGT-MO-4A1 1.3HP 2.4A MOTOR OPER. SGT-V-4A1 68 2 A 1 0 D,F	L200 SMB-00-10	M544	R 588 H.4/7.0 H5	A X	221001 P N 114 R71 R608	33+						SGT-V-4A1+ 4320
SGT-MO-4A2 1.3HP 2.4A MOTOR OPER. SGT-V-4A2 68 2 A 1 0 D,F	L200 SMB-00-10	M544	R 585 J.0/7.0 G5	A X	221001 P N 114 R71 R608	33+						SGT-V-4A2+ 4320
SGT-MO-4B1 1.33HP 2.4A MOTOR OPER. SGT-V-4B1 68 2 A 1 0 D,F	L200 SMB-00-10	M544	R 587 J.0/7.0 C5	A X	221001 P N 114 R71 R608	33+						SGT-V-4B1+ 4320
SGT-MO-4B2 1.33HP 2.4A MOTOR OPER. SGT-V-4B2 68 2 A 1 0 D,F	L200 SMB-00-10	M544	R 587 J.8/7.0 E5	A X	221001 P N 114 R71 R607	33+						SGT-V-4B2+ 4320
SGT-MO-5A1 1.33HP 2.4A MOTOR OPER. SGT-V-5A1 68 2 A 1 0 D,F	L200 SMB-00-10	M544	R 588 H.4/7.0 J5	A X	221001 P N 114 R71 R608	33+						SGT-V-5A1+ 4320
SGT-MO-5A2 1.33HP 2.4A MOTOR OPER. SGT-V-5A2 68 2 A 1 0 D,F	L200 SMB-00-10	M544	R 588 H.9/7.0 J5	A X	221001 P N 114 R71 R608	33+						SGT-V-5A2+ 4320
SGT-MO-5B1 1.33HP 2.4A MOTOR OPER. SGT-V-5B1 68 2 A 1 0 D,F	L200 SMB-00-10	M544	R 585 J.1/7.0 C5	A X	221001 P N 114 R71 R608	33+						SGT-V-5B1+ 4320
SGT-MO-5B2 1.33HP 2.4A MOTOR OPER. SGT-V-5B2 68 2 A 1 0 0	L200 SMB-00-10	M544	R 587 J.6/7.0 F5	A X	221001 P N 114 R71 R607	33+						SGT-V-5B2+ 4320
SGT-POS-V/2A POS FOR SGT-V-2A 68 2 A 1 0 I	NC07 EA740	M544	R 583 J.3/5.5 H15	A X	200015 P N 114						00	SGT-V-2A+ 4320
SGT-POS-V/2B POS FOR SGT-V-2B 68 2 A 1 0 I	NC07 EA740	M544	R 580 J.4/5.2 H15	A X	200015 P N 114	33+						SGT-V-2B+ 4320

CONTRACT	EPN	LEVEL	DESCRIPTION	MFG USE	SAFETY FUNCTION	MODEL	BLDG A/E	ELEV DRAWING	STATUS S E DETAIL A/E ZONE	QID	TM ZONE	HL ROOM	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
													TEST	ANL	FO C	FREQ	AGING	DBE
			EC										ACCURACY				COMPOSITE EPN	
SGT-TC-2A2				A160	837-A4J				X X	334001	R	N		04				
SGT-FU-1A	TEMP. AFTER	2	F	2 0 G		M544	R 579	H.9/6.7	J9	R71	R608				05253	04	E	4320
SGT-FU-1A															SGT-FU-1A+			
SGT-TC-2B1				A160	837-A4J				X X	334001	R	N		04				
SGT-FU-1B	TEMP. BEFORE	2	P	2 0 G		M544	R 579	J.3/6.7	E9	R71	R607				05253	04	E	4320
SGT-FU-1B															SGT-FU-1B+			
SGT-TC-2B2				A160	837-A4J				X X	334001	R	N		04				
SGT-FU-1B	TEMP. AFTER	2	P	2 0 G		M544	R 579	J.3/6.7	E9	R71	R607				05253	04	E	4320
SGT-FU-1B															SGT-FU-1B+			
SGT-TE-1A				T361	TA-20(JD)-TW157-1B				R X	339009	F							
SGT-FU-1A	TEMP. BEFORE	2	P	2 0 G		M544	R 582	H.7/5.5	J13	R72					06153	00	E	4320
SGT-FU-1A															SGT-FU-1A+			
SGT-TE-1B				T361	TA-20(JD)-TW157-1B				X	339009	F							
SGT-FU-1B	TEMP. BEFORE	2	P	2 0 G		M544	R 582	J.3/5.5	D13	R71					06153	00	E	4320
SGT-FU-1B															SGT-FU-1B+			
SGT-TE-6A				T361	TA-20(JD)-TW157-1B				Z X	339009								
SGT-FU-1A	TEMP. AFTER	2	P	2 0 G		M544	R 577	H.6/6.0	H11	R71					05273	00	E	4320
SGT-FU-1A															SGT-FU-1A+			
SGT-TE-6B				T361	TA-20(JD)-TW157-1B				Z X	339009		N						
SGT-FU-1B	TEMP. AFTER	2	P	2 0 G		M544	R 576	J.5/6.0	C10	R71					05273	04	E	4320
SGT-FU-1B															SGT-FU-1B+			
SGT-TE-7A				T361	TA-20(JD)-TW157-1B				Z X	339009		N						
SGT-FU-1A	TEMP. AFTER	2	P	2 0 G		M544	R 577	H.6/7.2	H9	R71					05273	04	E	4320
SGT-FU-1A															SGT-FU-1A+			
SGT-TE-7B				T361	TA-20(JD)-TW157-1B				Z X	339009		N						
SGT-FU-1B	TEMP. AFTER	2	P	2 0 G		M544	R 577	J.5/7.2	C9	R71					05273	04	E	4320
SGT-FU-1B															SGT-FU-1B+			
SGT-TE-8A				H329	A-10402				X X	339009								
SGT FAN DISCH HEADER		2	P	2 0 G		M544	R 572		F4	R72					06153	05		4320
SGT-TE-8B				H329	A-10402				X X	339009								
SGT FAN DISCH HEADER		2	P	2 0 G		M544	R 572		F4	R72					06153	05		4320
SGT-TS-1A1				F081	21110-0				X X	355014	D	N						
SGT-ESH-1A	UPSTREAM LO TEMP	2	P	2 0 G		M544	R 579	H.8/6.4	J11	R72					05273	04	E	4320
SGT-ESH-1A															SGT-FU-1A+			
SGT-TS-1A11				F081	18000-0				X X	355003	D	N	221					
SGT-ESH-1A	UPSTREAM HI TEMP	2	P	2 0 G		M544	R 579	H.8/6.3	J11	R72	R608			33+				4320
SGT-ESH-1A															SGT-FU-1A+			

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL	BLDG A/E	ELEV DRAWING	STATUS S E DETAIL A/E ZONE	OID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
										TH	HL	TEST	ANL	FO	C	FREQ	AGING
											ACCURACY		COMPOSITE EPN				
SGT-TS-1B41 SGT-ESH-1B 18			DWNSTRM 2 P	HI TEMP 2 0 G	F081 M544	18000-0		X X E10	355003	D	N	221	33+				4320
									R 579	J.2/6.4	R71	R607		SGT-FU-1B+			
SGT-TS-2A1 SGT-ESH-2A 18			UPSTM 2 P	LO TEMP 2 0 G	F081 M544	21110-0		X X J10	355014	D	N			05273	04	E	4320
									R 579	H.8/6.7	R72			SGT-FU-1A+			
SGT-TS-2A11 SGT-ESH-2A 18			UPSTM 2 P	HI TEMP 2 0 G	F081 M544	18000-00		X X J10	355003	D	N	221	33+				4320
									R 579	H.7/7.0	R72	R608		SGT-FU-1A+			
SGT-TS-2A2 SGT-ESH-2A 18			UPSTM 2 P	HI TEMP 2 0 G	F081 M544	21110-0		X X J10	355014	D	N			05273	04	E	4320
									R 579	H.7/6.8	R71			SGT-FU-1A+			
SGT-TS-2A21 SGT-ESH-2A 18			UPSTM 2 P	HI TEMP 2 0 G	F081 M544	18000-00		X X J11	355003	D	N	221	33+				4320
									R 579	H.9/7.0	R71	R608		SGT-FU-1A+			
SGT-TS-2A3 SGT-ESH-2A 18			DWNSTM 2 P	LO TEMP 2 0 G	F081 M544	21110-0		X X J9	355014	D	N			05273	04	E	4320
									R 579	H.8/6.8	R71			SGT-FU-1A+			
SGT-TS-2A31 SGT-ESH-2A 18			DWNSTM 2 P	HI TEMP 2 0 G	F081 M544	18000-00		X X J9	355003	D	N	221	33+				4320
									R 579	H.8/6.9	R71	R608		SGT-FU-1A+			
SGT-TS-2A4 SGT-ESH-2A 18			DWNSTM 2 P	HI TEMP 2 0 G	F081 M544	21110-0		X J9	355014	D	N			05273	04	E	4320
									R 572	H.8/6.8	R71			SGT-FU-1A+			
SGT-TS-2A41 SGT-ESH-2A 18			DWNSTM 2 P	HI TEMP 2 0 G	F081 M544	18000-00		X X E9	355003	D	N	221	33+				4320
									R 579	H.8/6.9	R71	R608		SGT-FU-1A+			
SGT-TS-2B1 SGT-ESH-2B 18			UPSTRM 2 P	LO TEMP 2 0 G	F081 M544	21110-0		X X E10	355014	D	N			05273	04	E	4320
									R 579	J.1/6.7	R71			SGT-FU-1B+			
SGT-TS-2B11 SGT-ESH-2B 18			UPSTRM 2 P	HI TEMP 2 0 G	F081 M544	18000-0		X X E10	355003	D	N	221	33+				4320
									R 579	J.3/7.0	R71	R607		SGT-FU-1B+			
SGT-TS-2B2 SGT-ESH-2B 18			UPSTRM 2 P	HI TEMP 2 0 G	F081 M544	21110-0		X E10	355014	D				05273	04	E	4320
									R 579	J.3/6.8	R71			SGT-FU-1B+			
SGT-TS-2B21 SGT-ESH-2B 18			UPSTRM 2 P	HI TEMP 2 0 G	F081 M544	18000-0		X X E10	355003	D	N	221	33+				4320
									R 579	J.1/7.0	R71	R607		SGT-FU-1B+			

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	NFG SAFETY FUNCTION	MODEL	BLOG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID	TH	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*				
										HL TEST	ANL FO C	FREQ	AGING	DBE C	HOURS		
SGT-TS-2B3				F081	21110-0		X X	355014	D	N				05273	04	E	4320
SGT-ESH-2B	18	2	DWNSTM LO TEMP P 2 0 G	AL	H544	R 579 J.2/6.8 E9		R71						SGT-FU-1B+			
SGT-TS-2B31				F081	18000-0		X X	355003	D	N	221	33+		SGT-FU-1B+			4320
SGT-ESH-2B	18	2	DWNSTM HI TEMP P 2 0 G	C/O	H544	R 579 J.2/6.9 E9		R71	R607					SGT-FU-1B+			
SGT-TS-2B4				F081	21110-0		X X	355014	D	N				05273	04	E	4320
SGT-ESH-2B	18	2	DWNSTM HI TEMP P 2 0 G	AL	H544	R 579 J.2/6.8 E9		R71						SGT-FU-1B+			
SGT-TS-2B41				F081	18000-0		X X	355003	D	N	221	33+		SGT-FU-1B+			4320
SGT-ESH-2B	18	2	DWNSTM HI TEMP P 2 0 G	C/O	H544	R 579 J.2/6.9 J9		R71	R607					SGT-FU-1B+			
SGT-TS-EH1A11				F081	18000-0		X X	355003	D	N	221	33+		SGT-FU-1A+			4320
CONTROL OF STAGE 1 OF	18	2	A 1 0 D,F	SGT-EHC-1A1	H544	R 572 H.4/5.9 J11								SGT-FU-1A+			
SGT-TS-EH1A110				F081	18000-0		X X	355003	D	N	221	33+		SGT-FU-1A+			4320
CONTROL OF SGT-EHC-1A1	18	2	A 1 0 D,F		E686	R 572 H.4/5.9								SGT-FU-1A+			
SGT-TS-EH1A111				F081	18000-0		X X	355003	D	N	221	33+		SGT-FU-1A+			4320
CONTROL OF HEATER	18	2	A 1 0 D,F	SGT-EHC-1A1	18-00-0092	R 572 H.4/5.9 C7								SGT-FU-1A+			
SGT-TS-EH1A112				F081	18000-0		X X	355003	D	N	221	33+		SGT-FU-1A+			4320
CONTROL OF HEATER	18	2	A 1 0 D,F	SGT-EHC-1A1	E686	R 572 H.4/5.9								SGT-FU-1A+			
SGT-TS-EH1A113				F081	18000-0		X X	355003	D	N	221	33+		SGT-FU-1A+			4320
CONTROL OF HEATER	18	2	A 1 0 D,F	SGT-EHC-1A1	18-00-0092	R 572 H.4/5.9 C7								SGT-FU-1A+			
SGT-TS-EH1A114				F081	18000-0		X X	355003	D	N	221	33+		SGT-FU-1A+			4320
CONTROL OF HEATER	18	2	A 1 0 D,F	SGT-EHC-1A1	18-00-0092	R 572 H.4/5.9 C6								SGT-FU-1A+			
SGT-TS-EH1A115				F081	18000-0		X X	355003	D	N	221	33+		SGT-FU-1A+			4320
CONTROL OF HEATER	18	2	A 1 0 D,F	SGT-EHC-1A1	18-00-0092	R 572 H.4/5.9 C6								SGT-FU-1A+			
SGT-TS-EH1A116				F081	18000-0		X X	355003	D	N	221	33+		SGT-FU-1A+			4320
CONTROL OF HEATER	18	2	A 1 0 D,F	SGT-EHC-1A1	18-00-0092	R 572 H.4/5.9 C6								SGT-FU-1A+			
SGT-TS-EH1A117				F081	18000-0		X X	355003	D	N	221	33+		SGT-FU-1A+			4320
CONTROL OF HEATER	18	2	A 1 0 D,F	SGT-EHC-1A1	18-00-0092	R 572 H.4/5.9 C6								SGT-FU-1A+			

CONTRACT	EPN	LEVEL	DESCRIPTION	MFG EC USE SAFETY FUNCTION	MODEL	BLDG ELEV A/E DRAWING	STATUS S E DETAIL A/E ZONE	QID	TH	HL	***SEISHIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
											TEST	ANL	FO C	FREQ	AGING	DBE	C
											ACCURACY			COMPOSITE EPN			
SGT-TS-EH1A118			CONTROL OF HEATER	F081 18 2 A 1 0 D,F	18000-0	R 572 H.4/5.9 18-00-0092	X X C6	355003	D	N	221				33+	SGT-FU-1A+	4320
SGT-TS-EH1A12			CONTROL OF STAGE 1 OF	F081 18 2 A 1 0 D,F	18000-0	R 572 H.4/5.9 18-00-0092	X X E6	355003	D	N	221				33+	SGT-FU-1A+	4320
SGT-TS-EH1A13			CONTROL OF STAGE 1 OF	F081 18 2 A 1 0 D,F	18000-0	R 572 H.4/5.9 18-00-0092	X X E6	355003	D	N	221				33+	SGT-FU-1A+	4320
SGT-TS-EH1A14			CONTROL OF STAGE 2 OF	F081 18 2 A 1 0 D,F	18000-0	R 572 H.4/5.9	X X	355003	D	N	221				33+	SGT-FU-1A+	4320
SGT-TS-EH1A15			CONTROL OF STAGE 2 OF	F081 18 2 A 1 0 D,F	18000-0	R 572 H.4/5.9	X X	355003	D		221				33+	SGT-FU-1A+	4320
SGT-TS-EH1A16			CONTROL OF STAGE 2 OF	F081 18 2 A 1 0 D,F	18000-0	R 572 H.4/5.9	X X	355003	D	N	221				33+	SGT-FU-1A+	4320
SGT-TS-EH1A17			CONTROL OF STAGE OF	F081 18 2 A 1 0 D,F	18000-0	R 572 H.4/5.9	X X	355003	D	N	221				33+	SGT-FU-1A+	4320
SGT-TS-EH1A18			CONTROL OF STAGE 3 OF	F081 18 2 A 1 0 D,F	18000-0	R 572 H.4/5.9	X X	355003	D	N	221				33+	SGT-FU-1A+	4320
SGT-TS-EH1A19			CONTROL OF STAGE 3 OF	F081 18 2 A 1 0 D,F	18000-0	R 572 H.4/5.9	X X	355003	D	N	221				33+	SGT-FU-1A+	4320
SGT-TS-EH1A21			CONTROL OF STAGE 1 OF	F081 18 2 A 1 0 D,F	18000-0	R 572 H.8/6.0	X X	355003	D	N	221				33+	SGT-FU-1A+	4320
SGT-TS-EH1A210			CONTROL OF HEATER	F081 18 2 A 1 0 D,F	18000-0	R 572 H.8/6.0	X X	355003	D	N	221				33+	SGT-FU-1A+	4320
SGT-TS-EH1A211			CONTROL OF HEATER	F081 18 2 A 1 0 D,F	18000-0	R 572 H.8/6.0	X X	355003	D	N	221				33+	SGT-FU-1A+	4320
SGT-TS-EH1A212			CONTROL OF HEATER	F081 18 2 A 1 0 D,F	18000-0	R 572 H.8/6.0	X X	355003	D	N	221				33+	SGT-FU-1A+	4320

CONTRACT	EPH LEVEL	MFG DESCRIPTION EC USE SAFETY FUNCTION	MODEL BLDG ELEV A/E DRAWING	STATUS S E QID TH HL TEST ANL FO C FREQ	***SEISMIC (S) PARAMETERS*** ENV. (E) PARAMETERS* AGING DBE C HOURS	PARAMETERS		COMPOSITE EPN
						ZONE	ROOM	
SGT-TS-EH1B216		F081 18000-0		X X 355003	D 221	33+		4320
CONTROL OF HEATER	SGT-EHC-1B2		R 572 J.2/6.0				SGT-FU-1B+	
18	2 A 1 0 D,F		18-00-0092	C6				
SGT-TS-EH1B217		F081 18000-0		X X 355003	D N 221	33+		4320
CONTROL OF HEATER	SGT-EHC-1B2		R 572 J.2/6.0				SGT-FU-1B+	
18	2 A 1 0 D,F		18-00-0092	C6				
SGT-TS-EH1B218		F081 18000-0		X X 355003	D N 221	33+		4320
CONTROL OF HEATER	SGT-EHC-1B2		R 572 J.2/6.0				SGT-FU-1B+	
18	2 A 1 0 D,F		18-00-0092	C6				
SGT-TS-EH1B22		F081 18000-0		X X 355003	D N 221	33+		4320
CONTROL OF STAGE 1 OF	SGT-EHC-1B2		R 572 J.2/6.0				SGT-FU-1B+	
18	2 A 1 0 D,F		18-00-0092	E6				
SGT-TS-EH1B23		F081 18000-0		X X 355003	D N 221	33+		4320
CONTROL OF STAGE 1 OF	SGT-EHC-1B2		R 572 J.2/6.0				SGT-FU-1B+	
18	2 A 1 0 D,F		18-00-0092	E6				
SGT-TS-EH1B24		F081 18000-0		X X 355003	D N 221	33+		4320
CONTROL OF STAGE 2 OF	SGT-EHC-1B2		R 572 J.2/6.0				SGT-FU-1B+	
18	2 A 1 0 D,F		18-00-0092	E7				
SGT-TS-EH1B25		F081 18000-0		X X 355003	D N 221	33+		4320
CONTROL OF STAGE 2 OF	SGT-EHC-1B2		R 572 J.2/6.0				SGT-FU-1B+	
18	2 A 1 0 D,F		18-00-0092	E7				
SGT-TS-EH1B26		F081 18000-0		X X 355003	D N 221	33+		4320
CONTROL OF STAGE 2 OF	SGT-EHC-1B2		R 572 J.2/6.0				SGT-FU-1B+	
18	2 A 1 0 D,F		18-00-0092	E6				
SGT-TS-EH1B27		F081 18000-0		X X 355003	D N 221	33+		4320
CONTROL OF STAGE 3 OF	SGT-EHC-1B2		R 572 J.2/6.0				SGT-FU-1B+	
18	2 A 1 0 D,F		18-00-0092	E6				
SGT-TS-EH1B28		F081 18000-0		X X 355003	D N 221	33+		4320
CONTROL OF STAGE 3 OF	SGT-EHC-1B2		R 572 J.2/6.0				SGT-FU-1B+	
18	2 A 1 0 D,F		18-00-0092	E6				
SGT-TS-EH1B29		F081 18000-0		X X 355003	D N 221	33+		4320
CONTROL OF STAGE 3 OF	SGT-EHC-1B2		R 572 J.2/6.0				SGT-FU-1B+	
18	2 A 1 0 D,F		18-00-0092	E6				
SLC-V-4A		C515 1832159		X X 361003	114	33+		4320
1.5" EXPLO SLC INLET TO PRIMARY			R 548 H.2/3.7		R63		SLC-V-4A+	
02C41	2 P 2 0 B1,G		H522	F8				
SLC-V-4B		C515 1832159		X X 361003	114	33+		4320
1.5" EXPLO SLC INLET TO PRIMARY			R 548 H.2/3.8		R63		SLC-V-4B+	
02C41	2 P 2 0 R1,G		H522	D8				

CONTRACT	EPN	LEVEL	DESCRIPTION	HFG EC USE SAFETY FUNCTION	MODEL	BLDG A/E DRAWING	ELEV A/E ZONE	STATUS S E DETAIL A/E ZONE	QID	***SEISMIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*		
										TM	HL	TEST ANL FO C	FREQ	AGING OBE C	HOURS COMPOSITE EPN
SW-FS-19			FLOW SW LPCS-P-1 COOL WTR	S254	7PS11DOW			X X	090001				06153	02	4320
220	3	P		2 0 G	M524/1	R 426 K.2/3.5	C9		R22						
SW-FS-23A			FLOW SW RRA-CC-2 OUTLET	S254	7PS11DOW			X X	090001				06153	02	4320
220	3	P		2 0 G	M524/1	R 444 K.7/8.1	G9		R13						
SW-FS-23B			FLOW SW RRA-CC-3 OUTLET	S254	7PS11DOW			X X	090001				06153	02	4320
220	3	P		2 0 G	M524/2	R 448 L.3/8.0	E10		R23						
SW-FS-23C			FLOW SW RRA-CC-1 OUTLET	S254	7PS11DOW			X X	090001				06153	02	4320
220	3	P		2 0 G	M524/2	R 448 H.7/4.2	J10		R22						
SW-FS-25			FLOW SW RRA-CC-5 OUTLET	S254	7PS11DOW			X X	090001				06153	02	4320
220	3	P		2 0 G	M524/1	R 449 K.9/4.0	D9		R21						
SW-FS-29			FLOW SW RRA-CC-6 OUTLET	S254	7PS11DOW			X X	090001				06153	02	4320
220	3	P		2 0 G	M524/2	R 445 J.0/7.7	C11		R21						
SW-FS-39			FLOW SW RRA-CC-10 OUTLET	S254	7PS11DOW			X X	090001				06153	02	4320
220	3	P		2 0 G	M524/2	R 526 H.1/4.1	F13		R53						
SW-FS-40			FLOW SW RRA-CC-11 OUTLET	S254	7PS11DOW			X X	090001				06153	02	4320
220	3	P		2 0 G	M524/1	R 526 H.6/7.6	D11		R51						
SW-FS-41			FLOW SW RRA-CC-12 OUTLET	S254	7PS11DOW			X X	090001				06153	02	4320
220	3	P		2 0 G	M524/1	R 471 H.3/8.4	B11		R31						
SW-FS-43			FLOW SW RRA-CC-15 OUTLET	S254	7PS11DOW			X X	090001				06153	02	4320
220	3	P		2 0 G	M524/1	R 553 H.7/4.4	D12		R63						
SW-FS-44			FLOW SWITCH RRA-CC-17 OUTLET	S254	7PS11DOW			X X	090001				06153	02	4320
220	3	P		2 0 G	M524/2	R 552 H.7/5.4	J13		R63						
SW-FS-60			FLOW SW RRA-CC-13 OUTLET	S254	7PS11DOW			X X	090001				06153	02	4320
220	3	P		2 0 G	M524/1	R 577 H.3/6.1	H12		R73						
SW-FS-61			FLOW SW RRA-CC-14 OUTLET	S254	7PS11DOW			X X	090001				06153	07	F 4320
220	3	P		2 0 G	M524/2	R 577 H.7/7.9	I11		R73						

CONTRACT	EPN	LEVEL	DESCRIPTION EC USE	MFG SAFETY FUNCTION	MODEL A/E DRAWING	BLDG ELEV A/E ZONE	STATUS S E DETAIL A/E ZONE	***SEISMIC (S) PARAMETERS***				*ENV. (E) PARAMETERS*				
								QID	TM	HL TEST	ANL FO C	FREQ	ACCURACY	AGING	DBE C	HOURS
SW-FS-69A			S254	7PS1100W			X X	090001						06153	02	4320
			FLOW SW CAC-HR-1A OUTLET													
220		3	P 2 0 G													
					H524/1	R 576 M.5/6.9	F12	R73								
SW-FS-69B			S254	7PS1100W			X X	090001						06153	02	E 4320
			FLOW SW CAC-HR-1B OUTLET													
220		3	P 2 0 G													
					H524/2	R 577 M.6/7.8	H11	R73								
SW-FS-71A			S254	7PS1100W			X X	090001						06153	02	E 4320
			FLOW SWITCH FROM RRA-CC-20													
220		3	P 2 0 G													
					H524/1	R 548	G14									
SW-FS-71B			S254	7PS1100W			X X	090001						06153	02	E 4320
			FLOW SWITCH FROM RRC-CC-19													
220		3	P 2 0 G													
					H524/2	R 548	C13									
SW-FT-7A			R369	1151			Y X	259003		N	14	00	33+			4320
			SW FLOW TO RHR-HX-1A XMITER											E-IR-P018+		
02E12		3	P 2 3 G													
					H524/1	R 503 J.6/3.6	B15	R73								
SW-FT-7B			R369	1151			Y X	259003		N	14	00	33+			4320
			SW FLOW TO RHR-HX-1B XMITER											E-IR-P021+		
02E12		3	P 2 3 G													
					H524/2	R 503 H.9/9.3	E15	R73								
SW-MO-187A			L200	SMB00			G J	221001							10	C 4320
			MO FOR SW-V-187A INTO FPC-HX-1A													
41A		2	A 1 0 F													
					H524/1	R 554 K.6/8.4	G14									
SW-MO-187B			L200	SMB-00			G H	221001							00	C 4320
			SW-V-187B MO SW INTO FPC-HX-1B													
41A		2	A 1 0 F													
					H524/2	R 560 L.4/9.1	C14									
SW-MO-188A			L200	SMB-00			G J	221001							10	C 4320
			SW-V-188A MO SW OUT OF FPC-HX-1A													
41A		2	A 1 0 F													
					H524/1	R 552 K.6/9.1	H14									
SW-MO-188B			L200	SMB-00			G H	221001							00	C 4320
			SW-V-188B MO SW OUT OF FPC-HX-1B													
41A		2	A 1 0 F													
					H524/2	R 552 L.4/9.1	D12									
SW-MO-24A			L200	SMC-04-5/42			A X	221001		N	14	00	33		10	C 4320
			0.32HP MOTOR OPERATOR SW-V-24A													
215		2	A 1 3 C,E,J													
					H524/1	R 448 K.6/8.0	G9	R21		R116						
SW-MO-24B			L200	SMC-04-5/42			A X	221001		N	14	00	33		10	4320
			0.32HP MOTOR OPERATOR SW-V-24B													
215		2	A 1 3 C,E,J													
					H524/2	R 450 L8/8.3	F10	R23		R115						
SW-MO-24C			L200	SMC-04-5/42			A X	221001		N	14	00	33		10	C 4320
			0.32HP MOTOR OPERATOR SW-V-24C													
215		2	A 1 3 C,E,J													
					H524/2	R 444 H.7/4.3	K10	R22		R113						

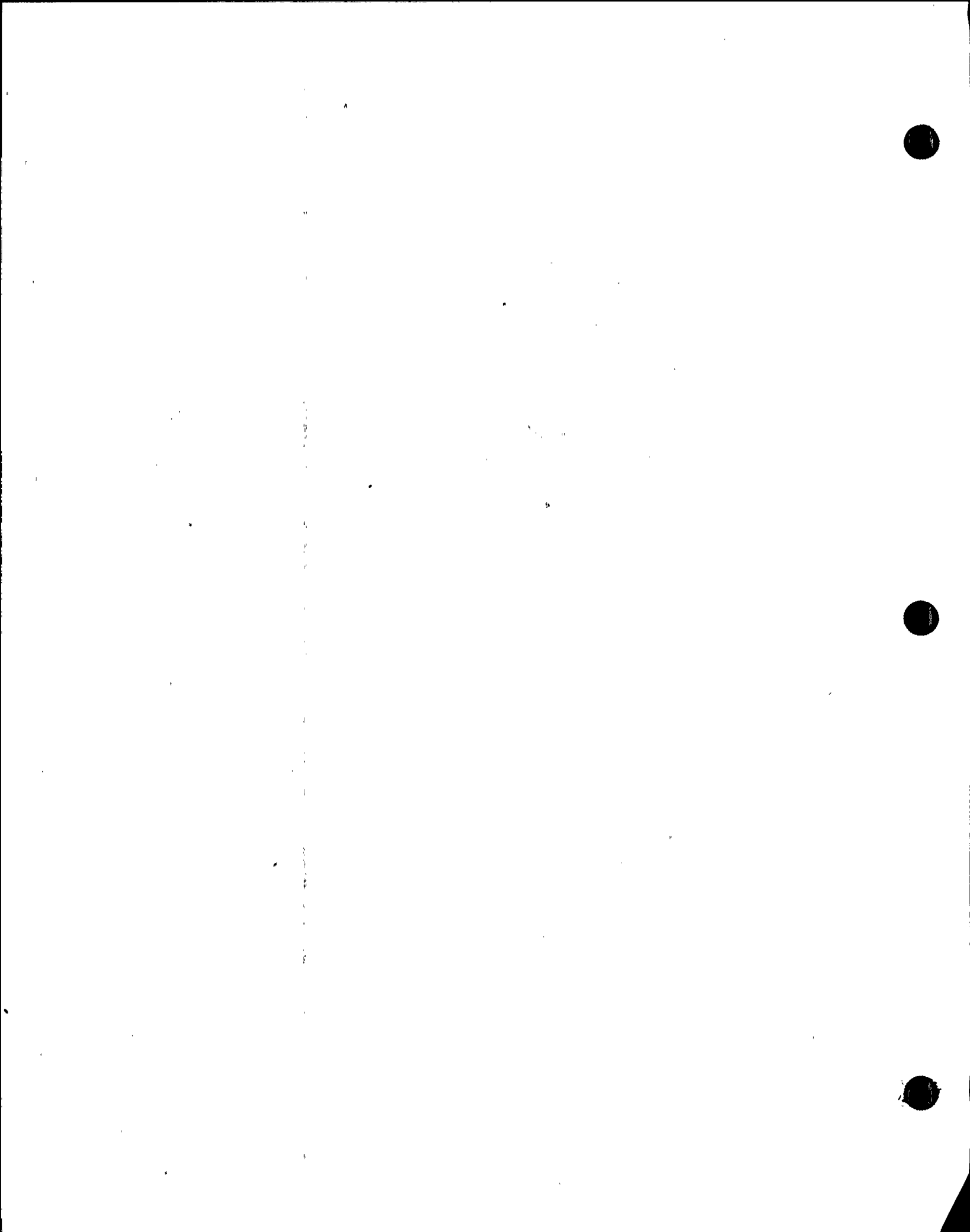
CONTRACT	EPN LEVEL	DESCRIPTION EC	HFG USE	SAFETY FUNCTION	MODEL A/E DRAWING	STATUS S E BLDG ELEV DETAIL A/E ZONE	QID ZONE	***SEISHIC (S) PARAMETERS***			*ENV. (E) PARAMETERS*			
								TM ROOM	HL ROOM	TEST ACCURACY	FREQ	AGING COMPOSITE	OBE EPN	C HOURS
SW-TS-19 TEMP SW 220	2	P	U075 2 0 G	6BS	M524/1	X X 443 J.9/3.6 C9	355021 R12					06153	02	4320
SW-TS-23A TEMP SW 220	2	P	U075 2 0 G	6BS	M524/1	X X 449 K.2/8.4 G9	355021 R21					06153	02	4320
SW-TS-23B TEMP SW 220	2	P	U075 2 0 G	6BS	M524/2	X X 448 H.0/8.3 E10	355021 R23					06153	02	4320
SW-TS-23C TEMP SW 220	2	P	U075 2 0 G	F3026BS	M524/2	X X 441 J10	355021 R22					06153	02	4320
SW-TS-25 TEMP SW 220	2	P	U075 2 0 G	6BS	M524/1	X X 450 K.9/4.0 D10	355021 R22					06153	02	4320
SW-TS-29 TEMP SW 215	2	P	U075 2 0 G	F3026BS	M524/2	X X 549 H.8/8.0 C11	355021 R21					06153	02	4320
SW-TS-38A TEMP SW 215	2	P	U075 2 0 G	F-302	M524/1	X X 548 G14	341003					06153	02	4320
SW-TS-38B TEMP SW 215	2	P	U075 2 0 G	F-302	M524/2	A X 548 C13	341003					06153	02	4320
SW-V-201 0.5" SOLENOID LOOP A SMPLE TO SR13 220	2	A	M095 1 0 F	HV229HQ-L2	H607/2	X J 558 H.6/4.3 C15	324004					01014	16	Z 4320
SW-V-204 0.5" SOLENOID TSW INLET TO SR-13 220	2	A	M095 1 0 F	HV229HQ-L2	H607/2	X J 55R H.6/4.3 C15	324004					01014	16	Z 4320
SW-V-206 0.5" SOLENOID LP.B SMPLE TO SR-14 220	2	A	M095 1 0 F	HV229HQ-L2	H607/2	X X 558 H.6/5.0 B15	324004					01014	06	Z 4320
SW-V-209 0.5" SOLENOID TSW INLET TO SR-14 220	2	A	M095 1 0 F	HV229HQ-L2	H607/2	X X 565 H.6/5.0 B15	324004					01014	06	Z 4320
SW-V-210 0.5" SOLENOID TSW RTN FRM SR14 220	2	A	M095 1 0 F	HV229HQ-L2	H607/2	X T 558 H.6/5.0 A11	324004 R63					01014	00	Z 4320

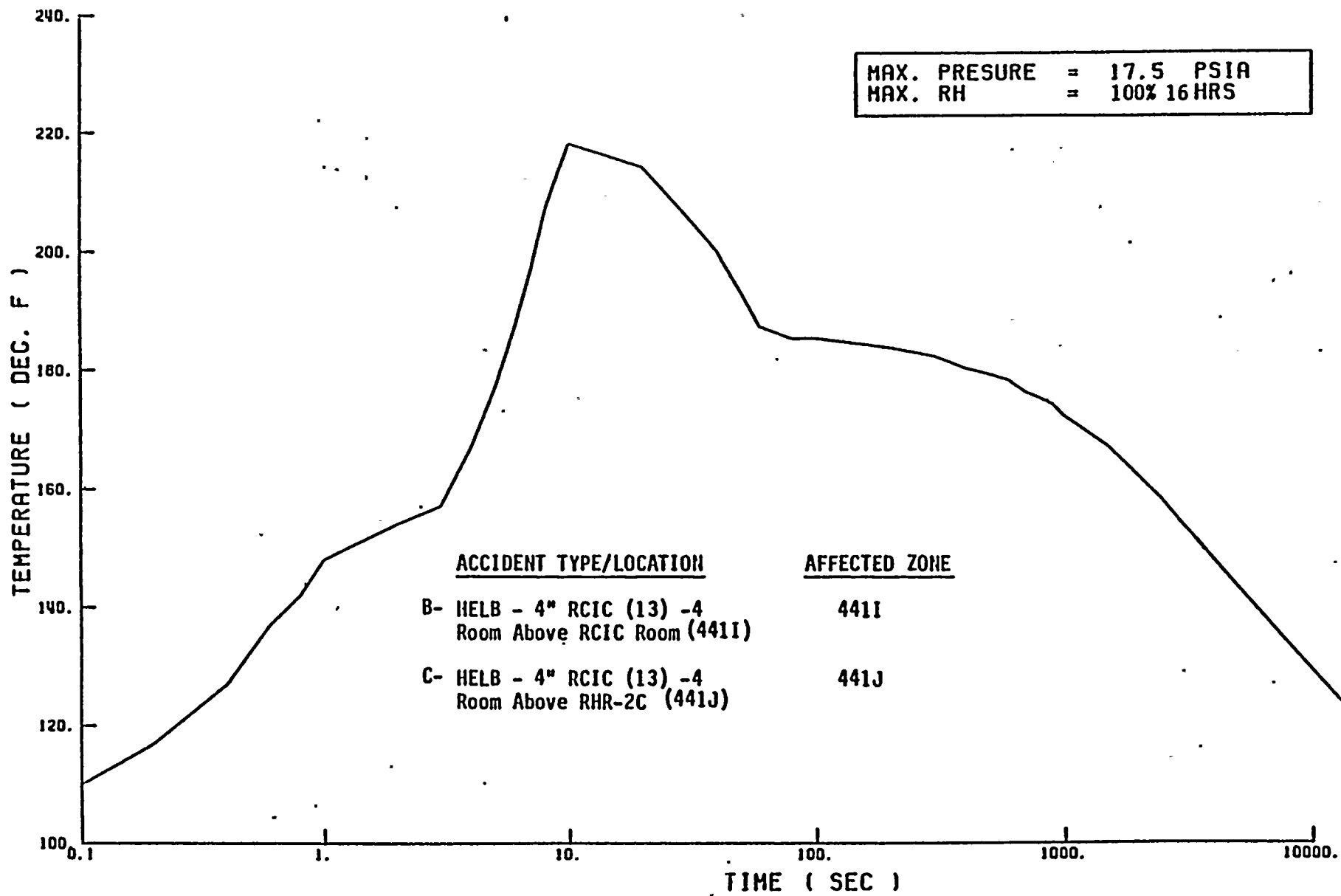
CONTRACT	EPN	LEVEL	MFG DESCRIPTION		MODEL	BLDG ELEV	STATUS S E QID	***SEISMIC (S) PARAMETERS*** TM HL TEST ANL FO C FREQ	***ENV. (E) PARAMETERS*** AGING DBE C HOURS COMPOSITE EPN
			EC	USE					
SW-V-211			M095	MV229HS-L2			X T	324004	01014 01 Z 4320
0.5" SOLENOID SR-14 DISCHARGE									
220	2	A	1 0 F			R 565 M.6/5.0	M607/2	B11	
SW-V-212			M095	MV229HQ-L2			Y J	324004 W N	01014 10 Z 4320
0.5" SOLENOID TSU RTN FRM SR13									
220	2	A	1 0 F			R 558 M.6/4.3	M607/2	A13 R63	
SW-V-213			M095	MV229HS-L2			X J	324004	01014 10 Z 4320
0.5" SOLENOID SW-A RTN FROM SR13									
220	2	A	1 0 F			R 558 M.6/4.3	M607/2	B13 R63	
SW-V-34			M095	MV252-1			X T	361009	01014 00 Z 24
SOL. OPERATE V-34 RCIC PHP RM RTN									
215	2	A	1 1 L			R 452 M.7/8.0	M524/2	C11 R21	
SW-V-840			V030	V526-5683			Z X	361014	05313 11 E 4320
3/4" SOL LOOP A SW SYS BOUNDARY									
220	2	A	1 0 E			R 479 L.9/9.2	M524/1	C3	
SW-V-842			V030	V526-5683			Z X	361014	05313 11 E 4320
3/4" SOL LOOP B SW SYS BOUNDARY									
220	2	A	1 0 E			R 479 L.9/9.2	M524/1	C3	
SW-V-844			V030	V526-5683			Z X	361014	05313 11 E 4320
3/4" SOL LOOP A SW SYS BOUNDARY									
220	2	A	1 0 E			R 479 L.9/9.2	M524/1	C3	
SW-V-846			V030	V526-5683			Z X	361014	05313 11 E 4320
3/4" SOL LOOP B SW SYS BOUNDARY									
220	2	A	1 0 E			R 479 L.9/9.2	M524/1	C3	
TIP-SV-1			C560	73110-2			X R	324008	06153 04 E .17
TIP BALL ISO VLV 1									TIP-SV-1+
2	A	1 0 B1				R 504 J.3/4.8			
TIP-SV-2			C560	73110-2			X R	324008	06153 04 E .17
TIP BALL ISO VLV 2									TIP-SV-2+
2	A	1 0 B1				R 504 J.3/4.8			
TIP-SV-3			C560	73110-2			X R	324008	06153 04 E .17
TIP BALL ISO VLV 3									TIP-SV-3+
2	A	1 0 B1				R 504 J.5/4.5			
TIP-SV-4			C560	73110-2			X R	324008	06153 04 E .17
TIP BALL ISO VLV 4									TIP-SV-4+
2	A	1 0 B1				R 501 J.6/4.6			
TIP-SV-5			C560	73110-2			X R	324008	06153 04 E .17
TIP BALL ISO VLV 5									TIP-SV-5+
2	A	1 0 B1				R 501 J.5/4.6			

Appendix B contains the following information:

- o Normal and Abnormal Service Conditions: the normal and abnormal temperature, pressure and humidity for harsh environment areas. B.1
- o Primary Containment Service Conditions Due to a LOCA/HELB in Primary Containment. B.2
- o Reactor Building Service Conditions Due to a LOCA/HELB in Primary Containment: the temperature, pressure, humidity and radiation service conditions. B.3
- o Pressure/Temperature Profiles: the accident profiles due to a LOCA/HELB in containment and HELB's in the reactor building.* B.4
- o Radiation Zone Maps: the zone maps of the Reactor Building locating the Class 1E equipment and defining the 6-month accident plus 40-year normal radiation dose. B.34

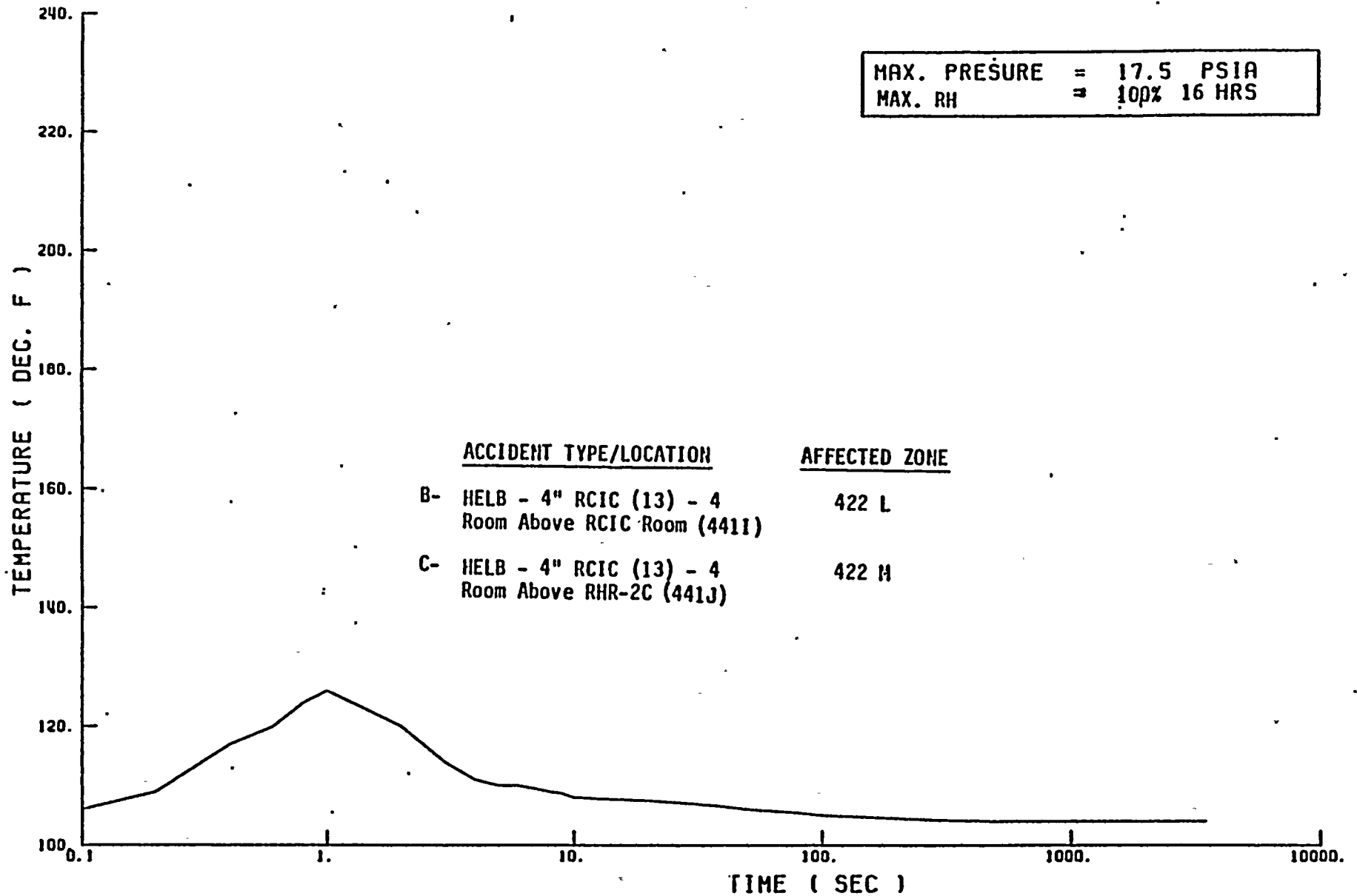
NOTE: The auxiliary steam line break profiles (Profiles 9-11, 31 and 32) have not been revised. A design modification has been initiated to install isolation valves. Justification for operation prior to completion of this change has been addressed in separate correspondence with the NRC. The modification will bring the final profiles below the above profiles.



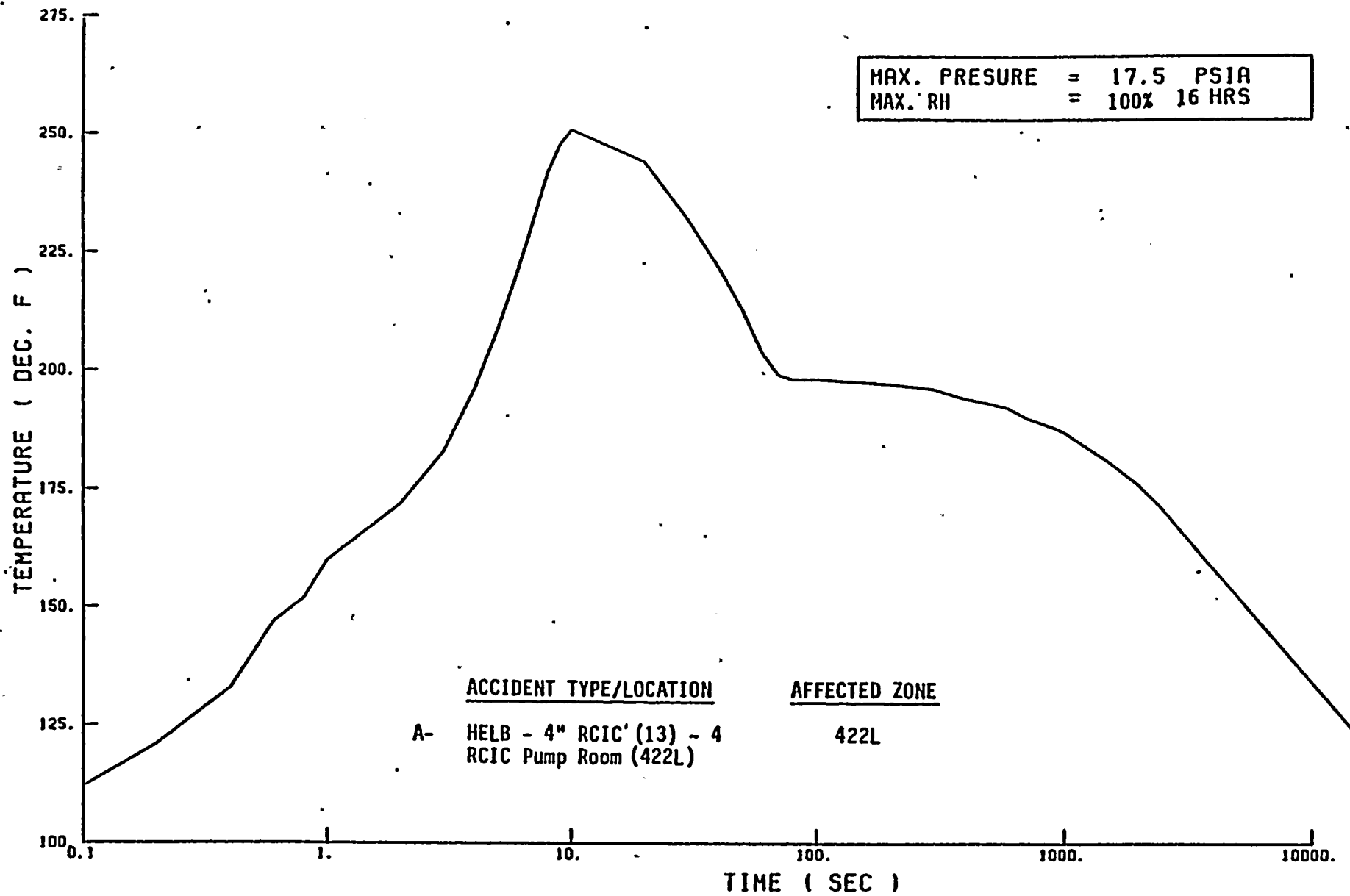


Profile 1X - 4" RCIC Line Break In Room Above RCIC (or RHR) Pump Room



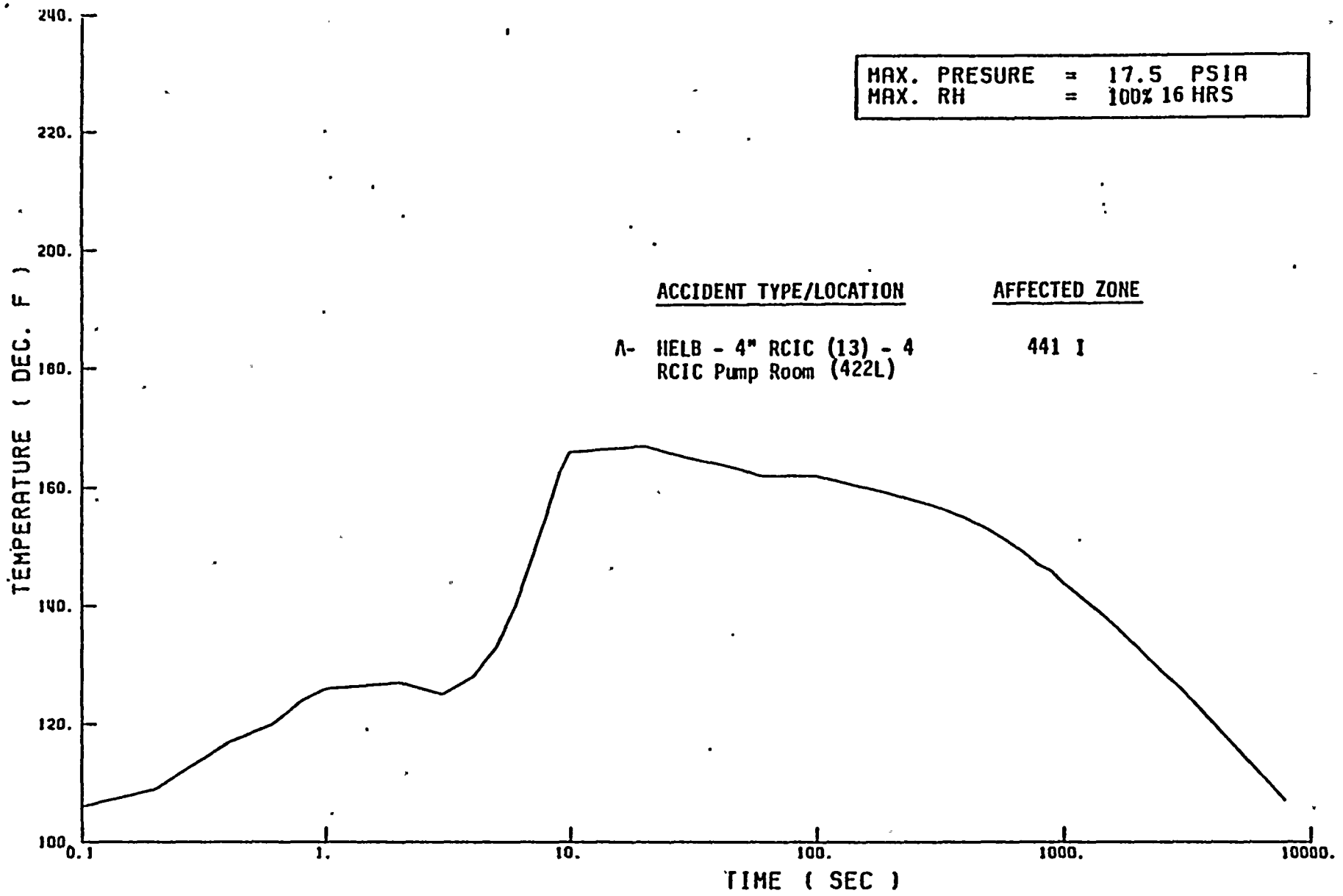


Profile 2X - 4" RCIC Line Break In Room Above RCIC (or RHR) Pump Room



Profile 3X - 4" RCIC Line Break in RCIC Pump Room

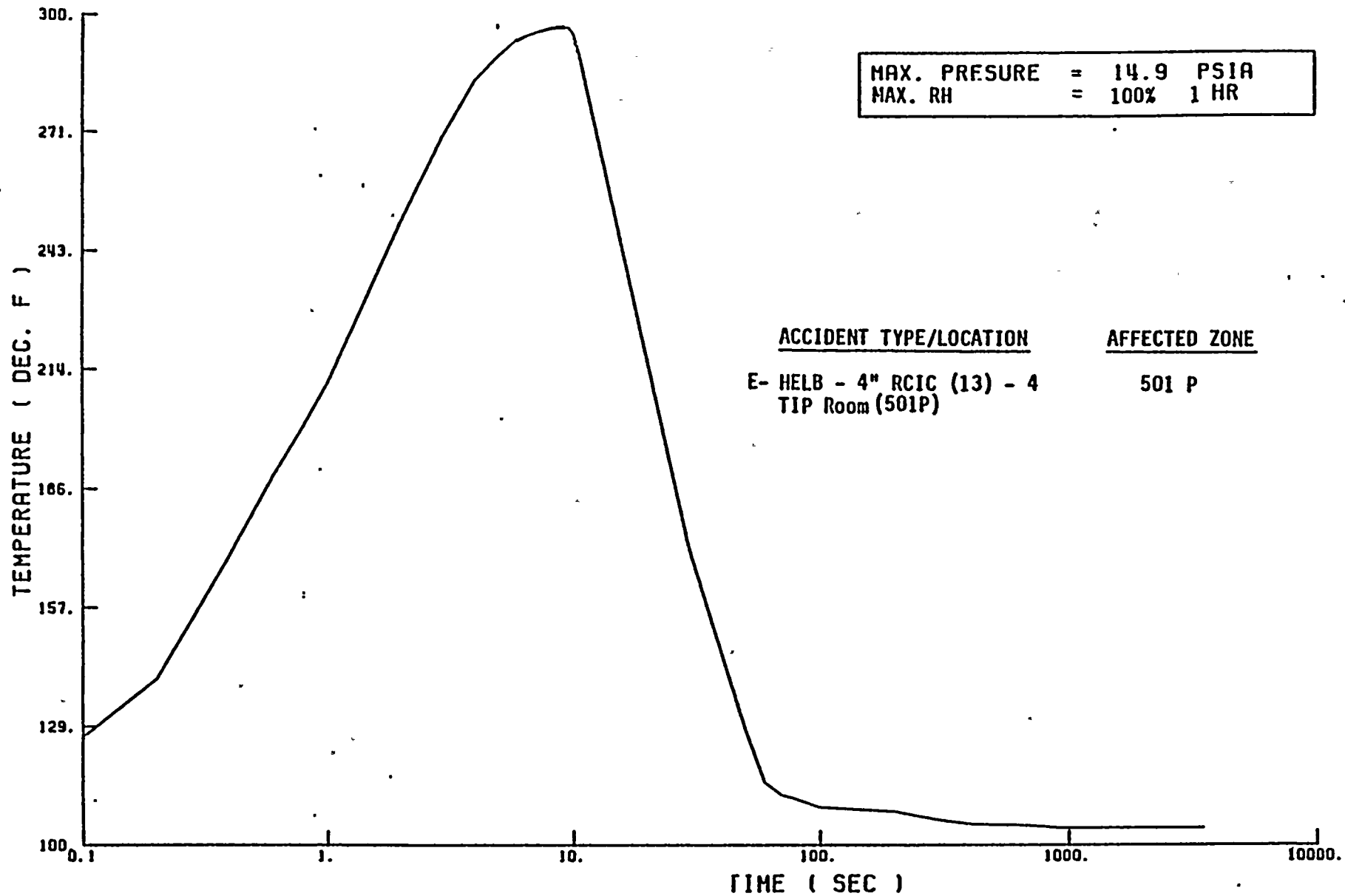
MAX. PRESURE = 17.5 PSIA
MAX. RH = 100% 16 HRS



<u>ACCIDENT TYPE/LOCATION</u>	<u>AFFECTED ZONE</u>
A- HELB - 4" RCIC (13) - 4 RCIC Pump Room (422L)	441 I

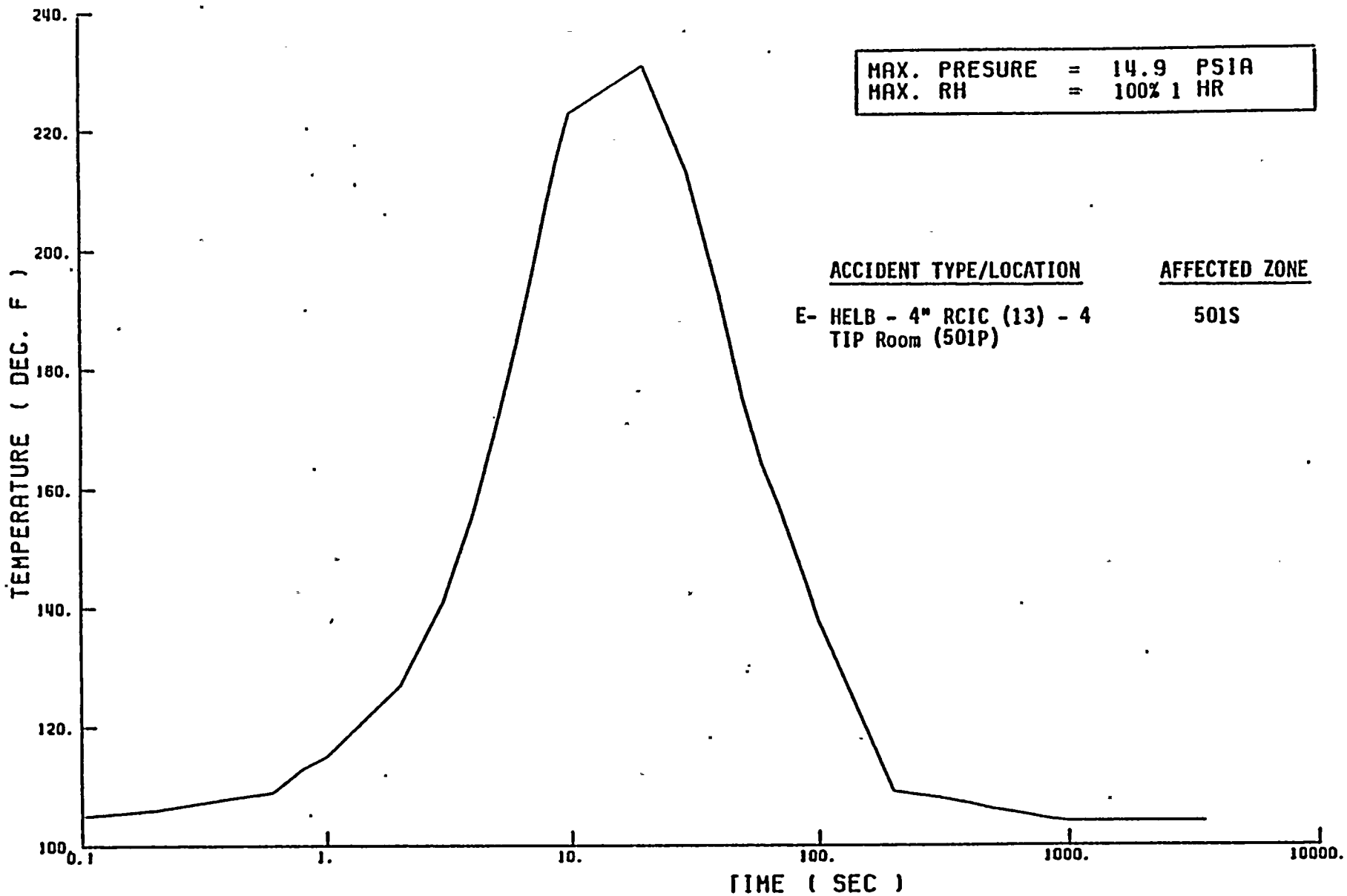
Profile 4X - 4" Line Break in RCIC Pump Room

MAX. PRESURE = 14.9 PSIA
MAX. RH = 100% 1 HR



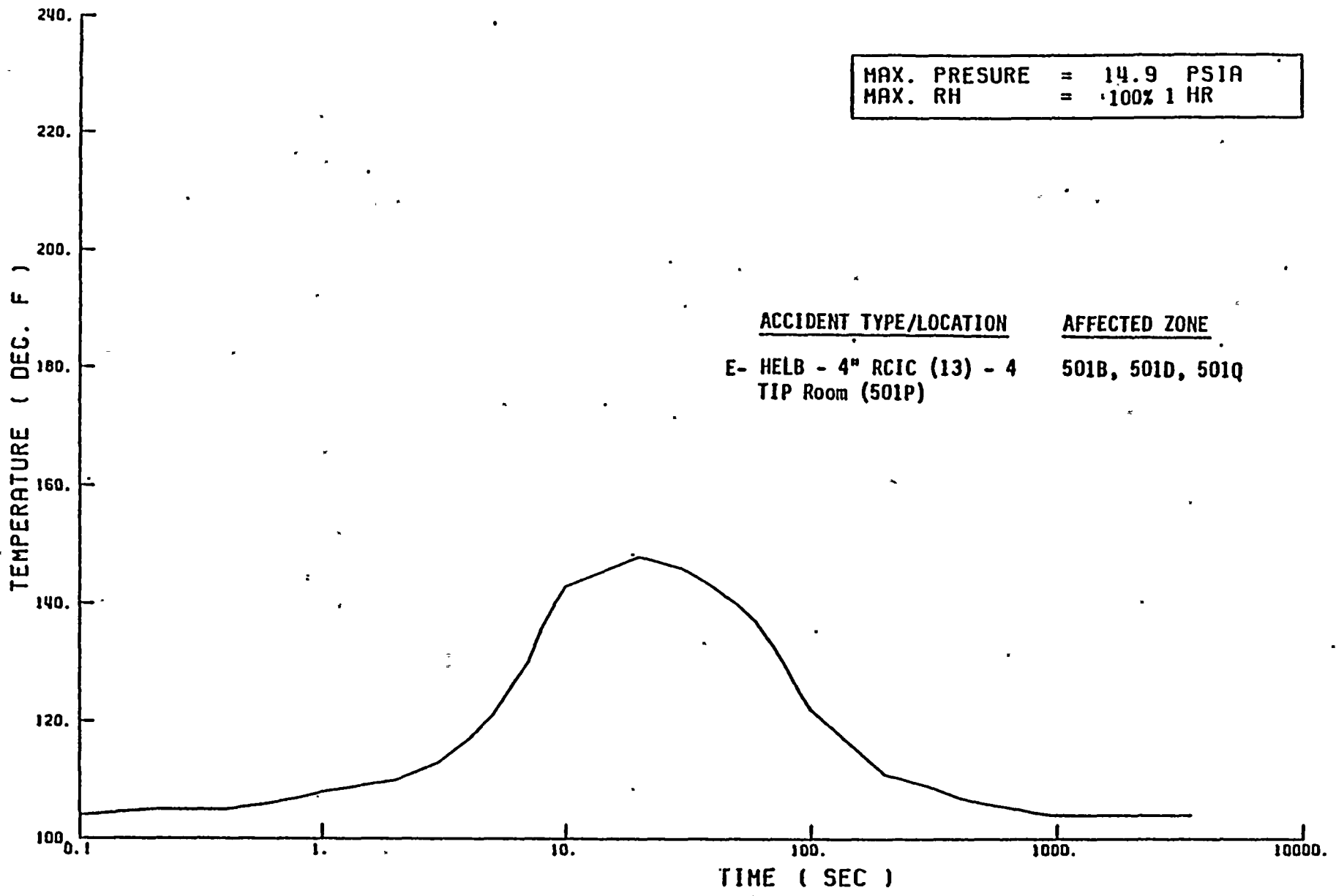
<u>ACCIDENT TYPE/LOCATION</u>	<u>AFFECTED ZONE</u>
E- HELB - 4" RCIC (13) - 4 TIP Room (501P)	501 P

Profile 5X - 4" RCIC Line Break in TIP Room

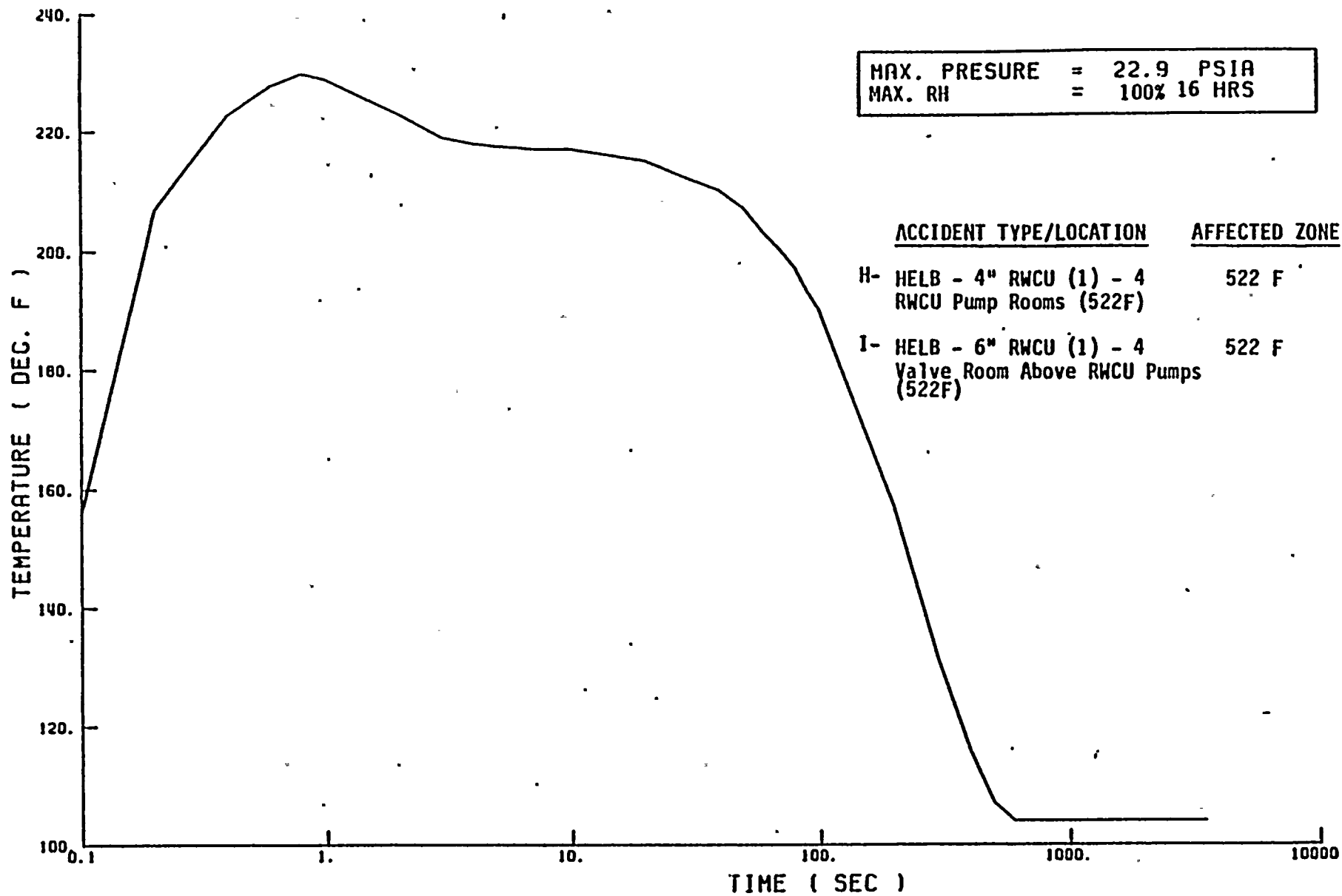


MAX. PRESURE = 14.9 PSIA
MAX. RH = 100% 1 HR

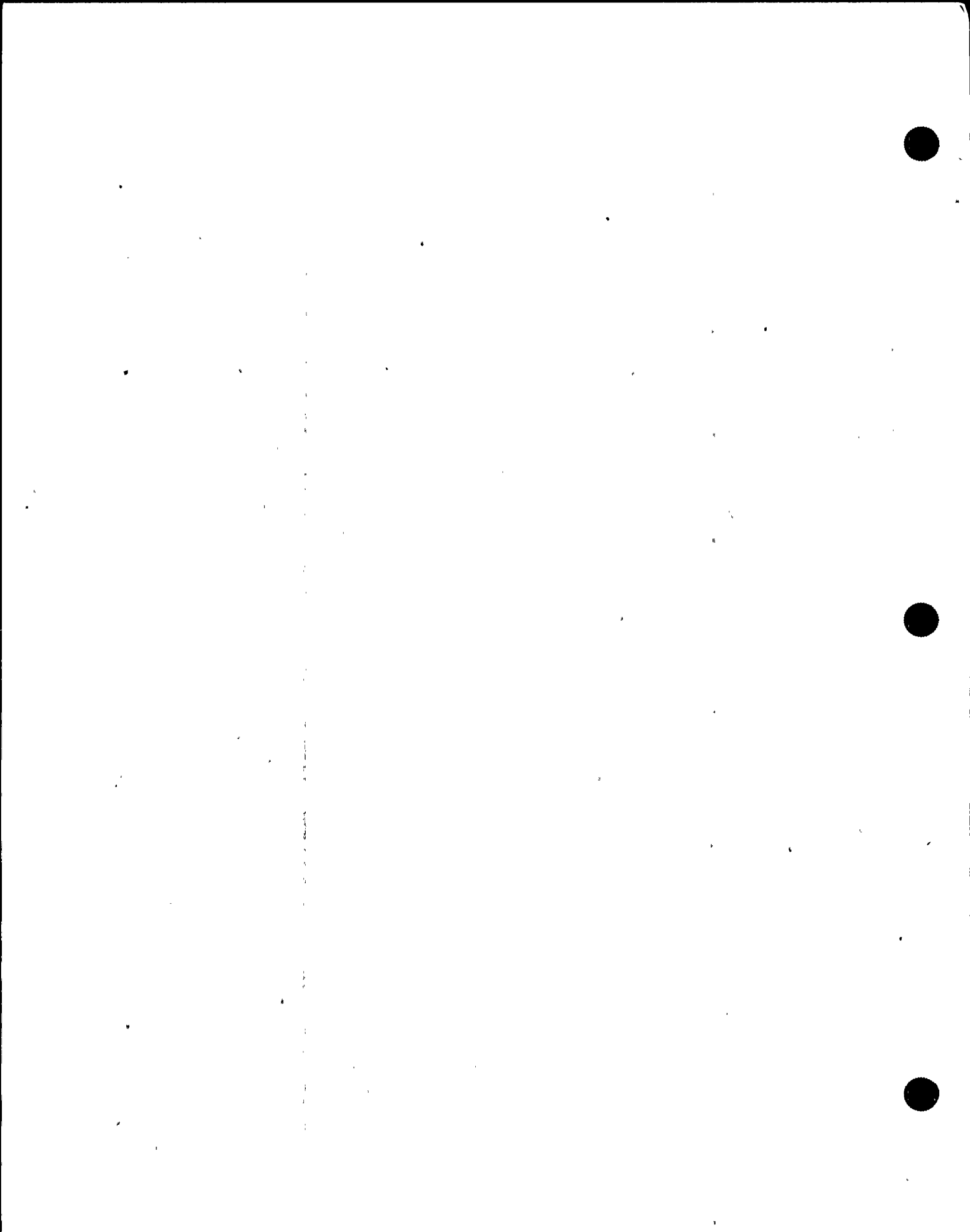
<u>ACCIDENT TYPE/LOCATION</u>	<u>AFFECTED ZONE</u>
E- HELB - 4" RCIC (13) - 4 TIP Room (501P)	501B, 501D, 501Q

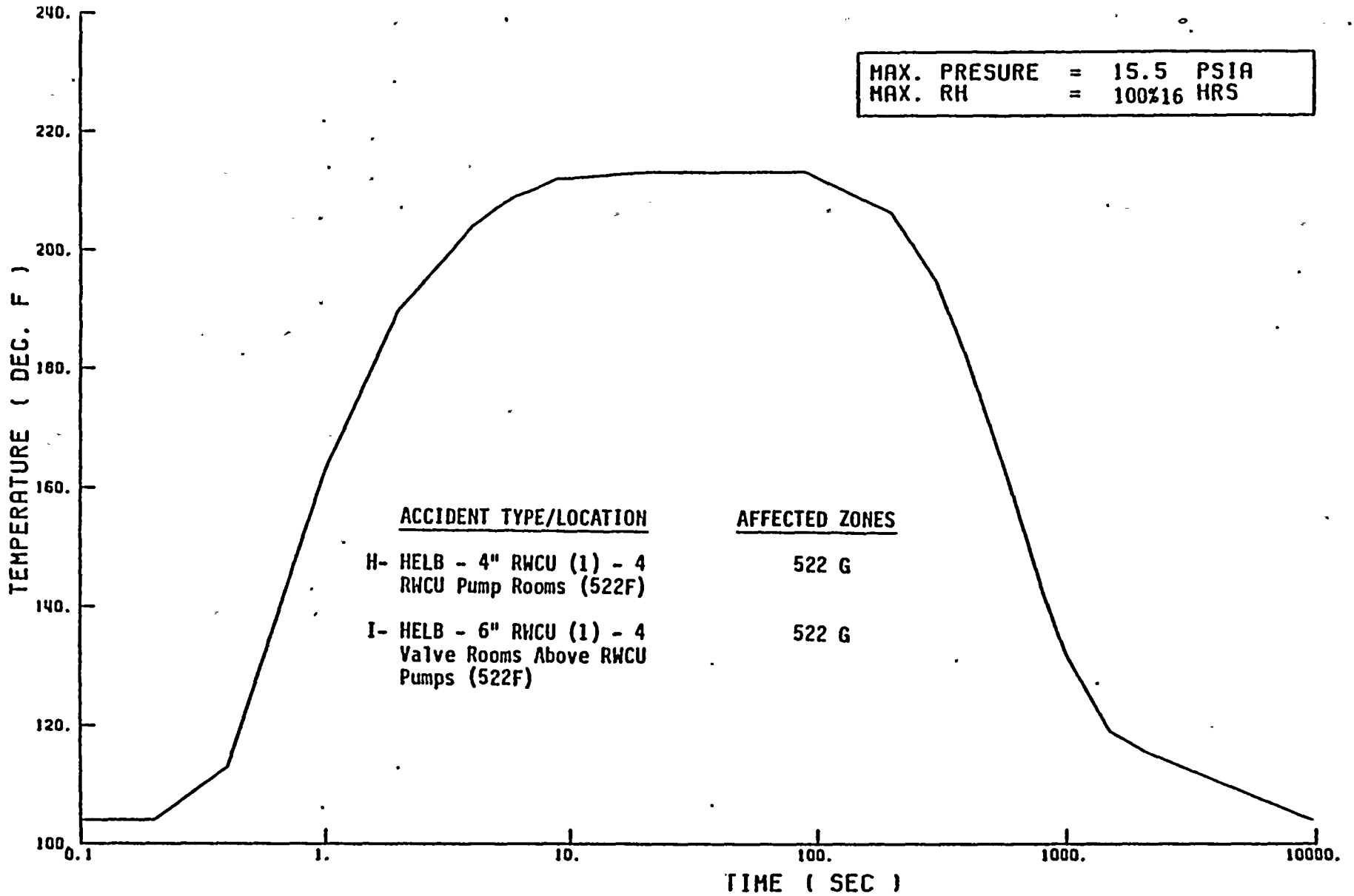


Profile 7X - 4" RCIC Line Break in TIP Room



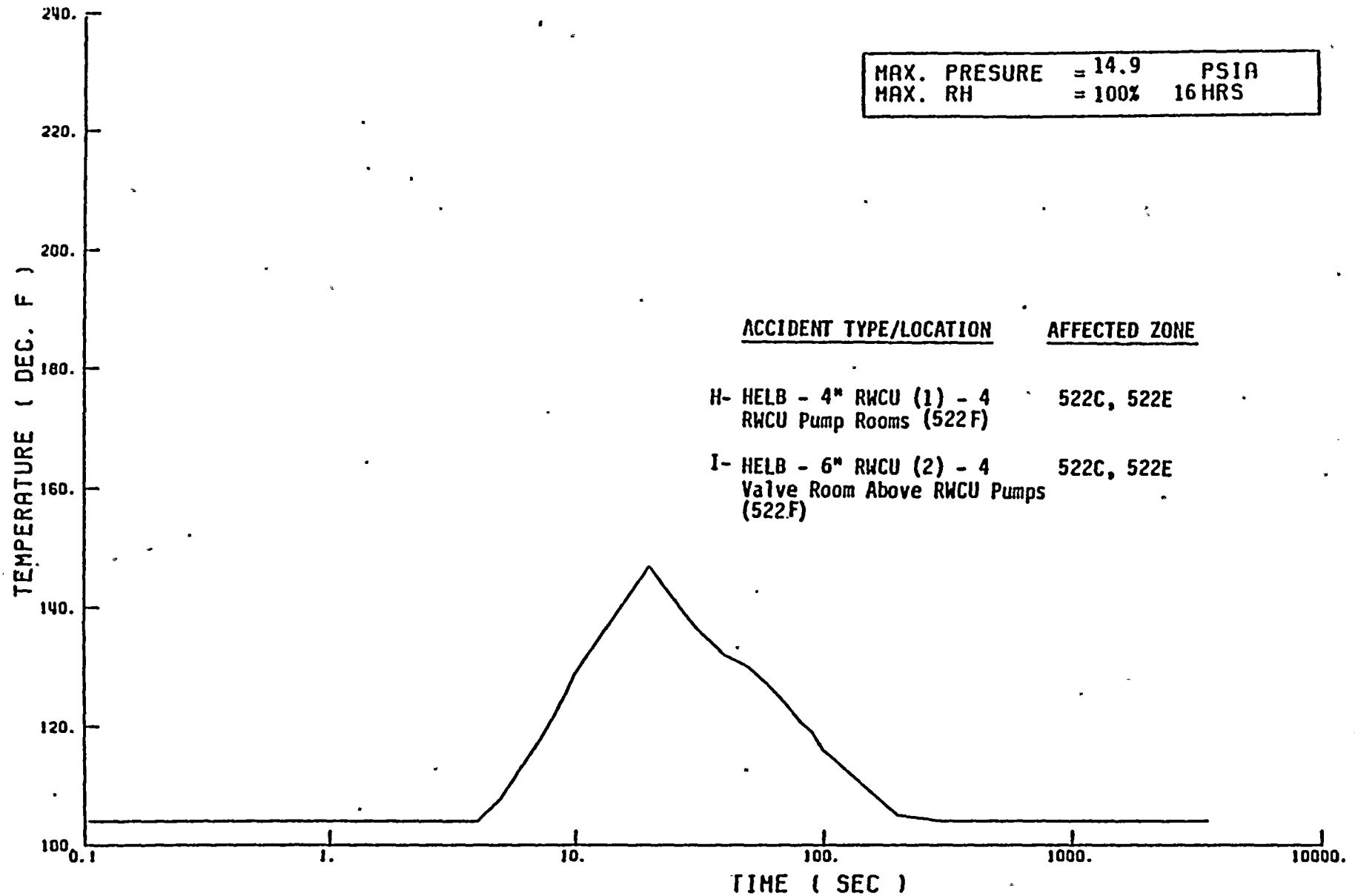
Profile 8X - RWCU Line Breaks in RWCU Pump Rooms or Valve Room Above RWCU Pump Rooms





Profile 9X - RWCU Line Breaks in RWCU Pump Rooms or Valve Room Above RWCU Pump Rooms

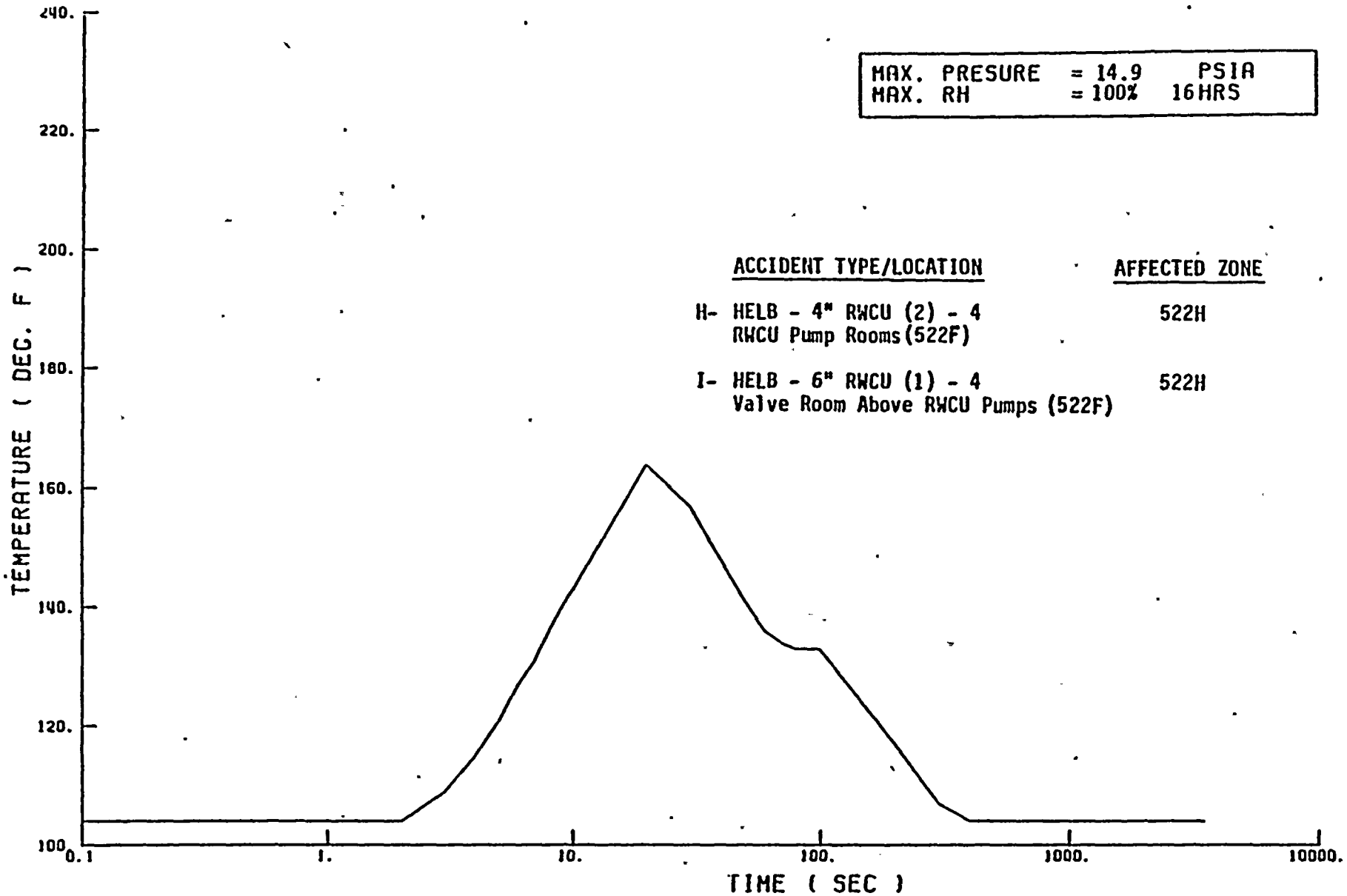
MAX. PRESURE	= 14.9	PSIA
MAX. RH	= 100%	16 HRS



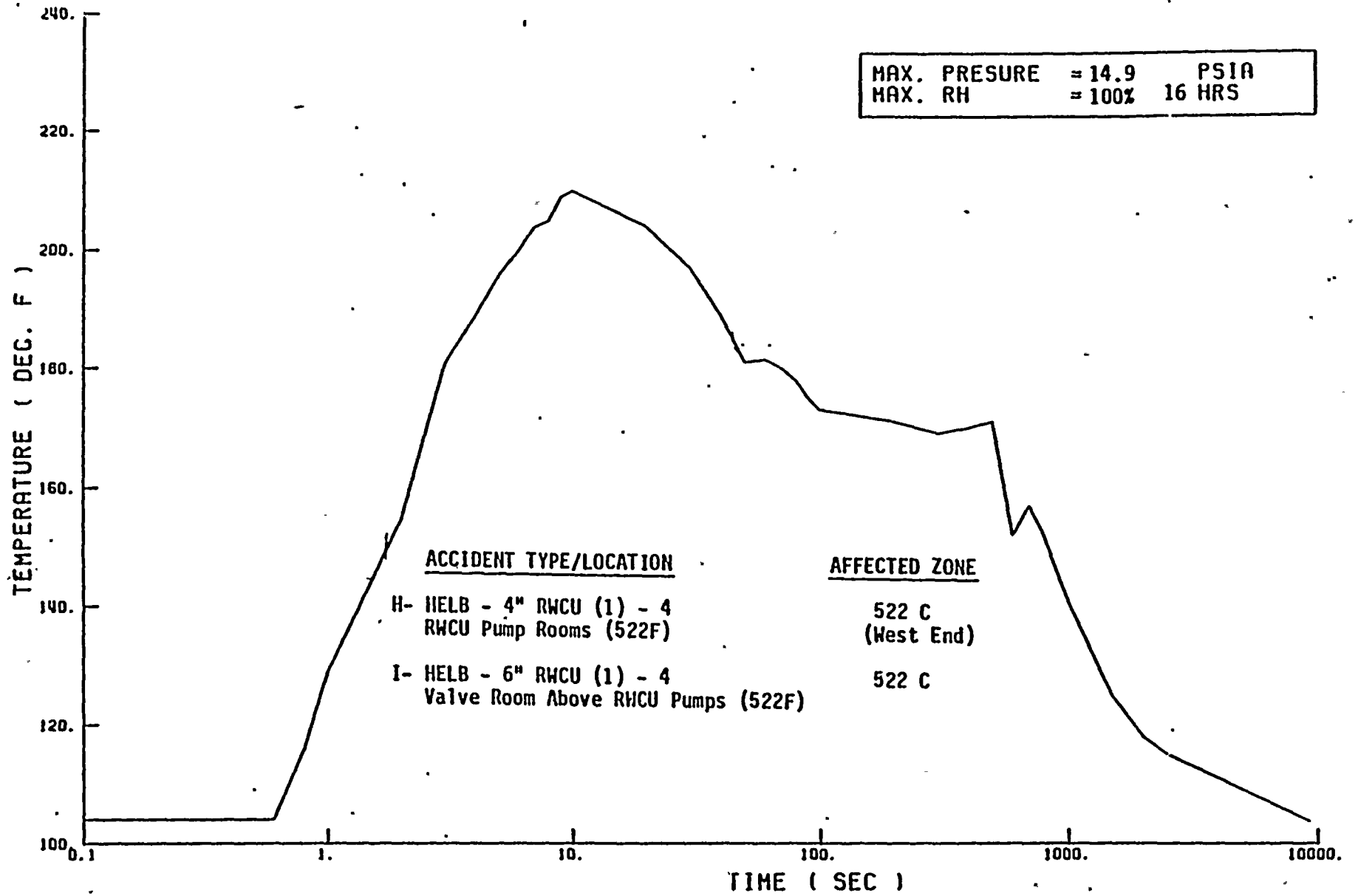
<u>ACCIDENT TYPE/LOCATION</u>	<u>AFFECTED ZONE</u>
-------------------------------	----------------------

- | | |
|--|------------|
| H- HELB - 4" RUCU (1) - 4
RUCU Pump Rooms (522F) | 522C, 522E |
| I- HELB - 6" RUCU (2) - 4
Valve Room Above RUCU Pumps
(522F) | 522C, 522E |

Profile 10X - RUCU Line Breaks in RUCU Pump Rooms or Valve Room Above RUCU Pump Rooms

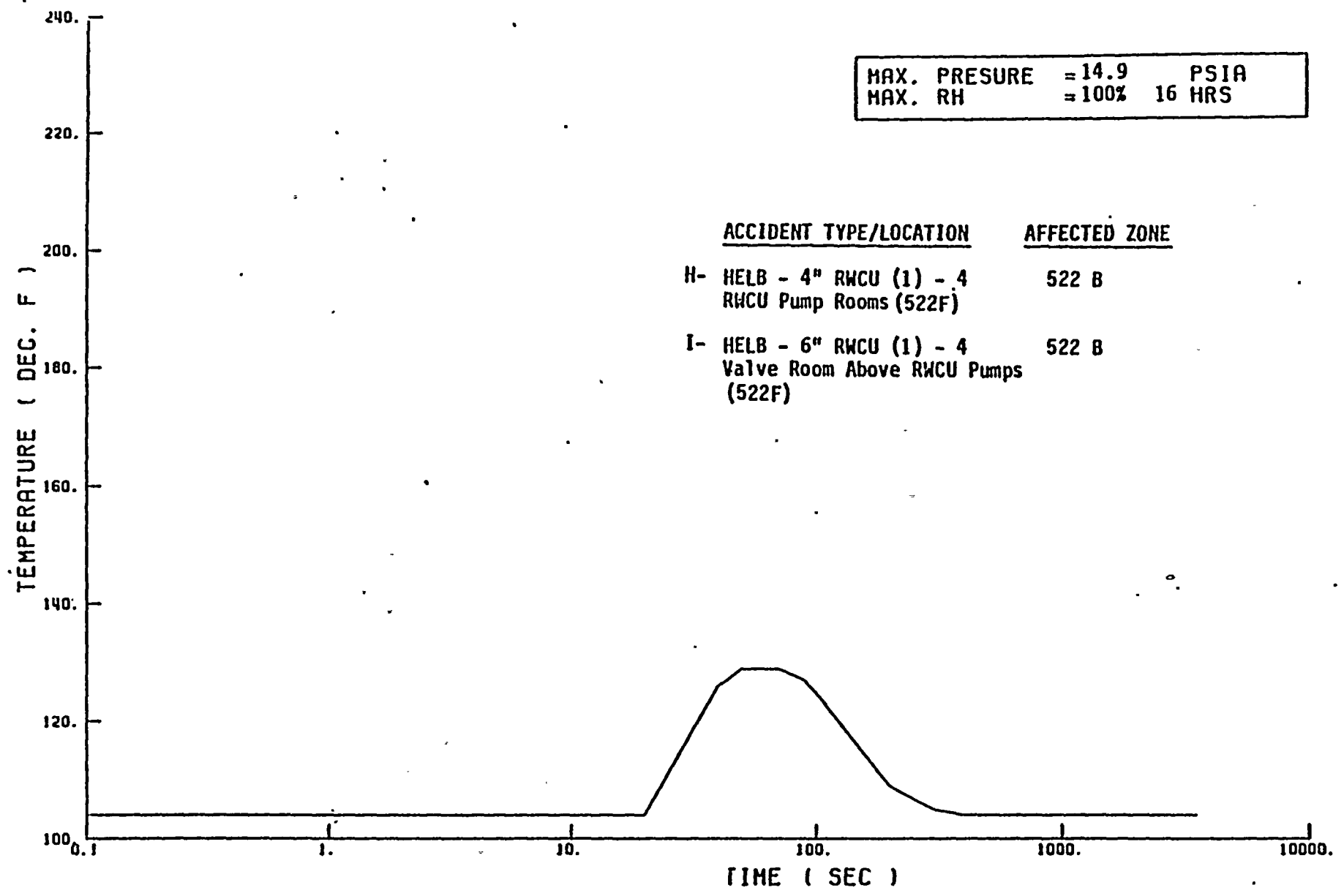


Profile 11X - RWCU Line Break in RWCU Pump Rooms or Valve Room Above RWCU Pump Rooms



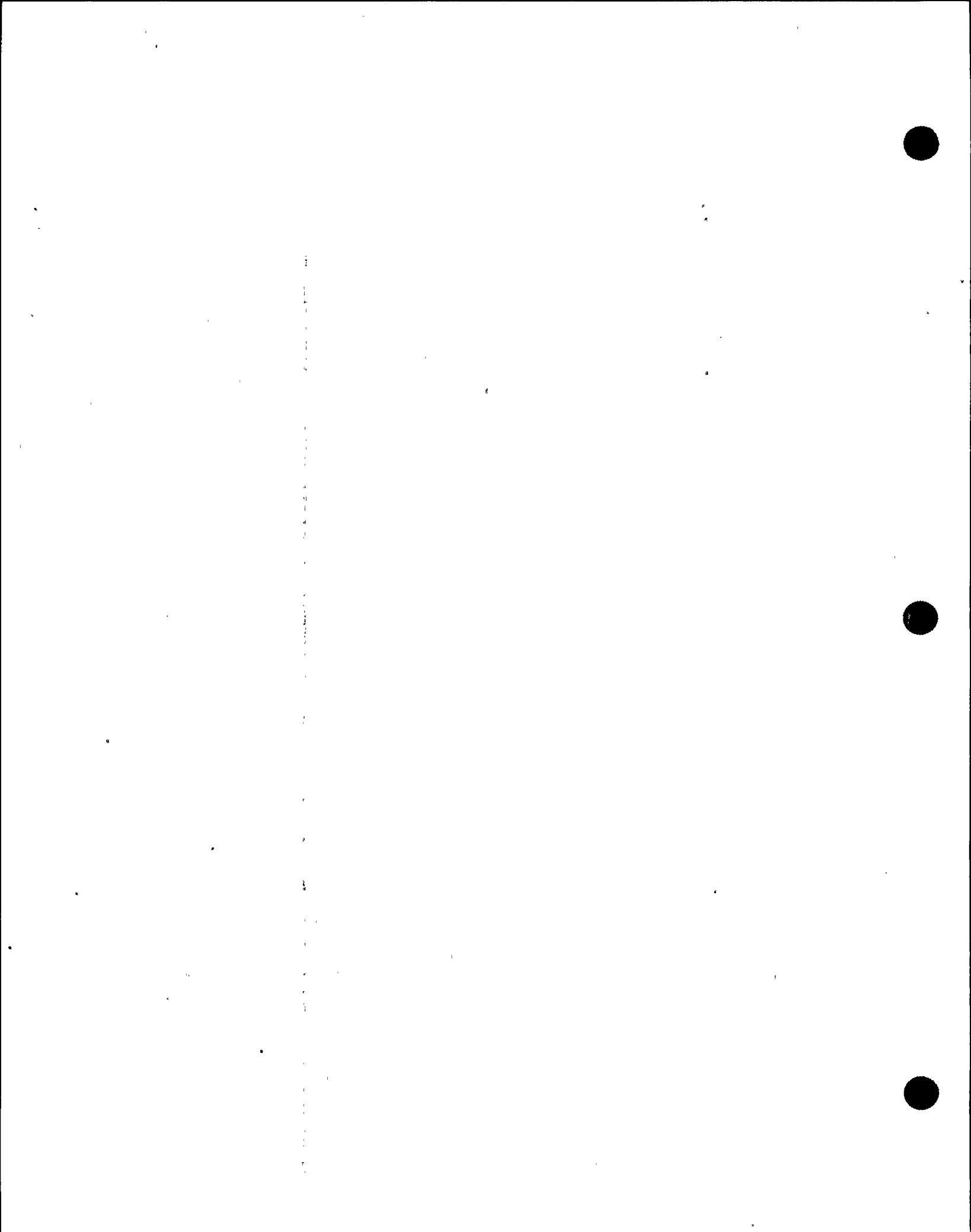
Profile 12X - RUCU Line Break in RUCU Pump Rooms or Valve Room Above RUCU Pump Rooms

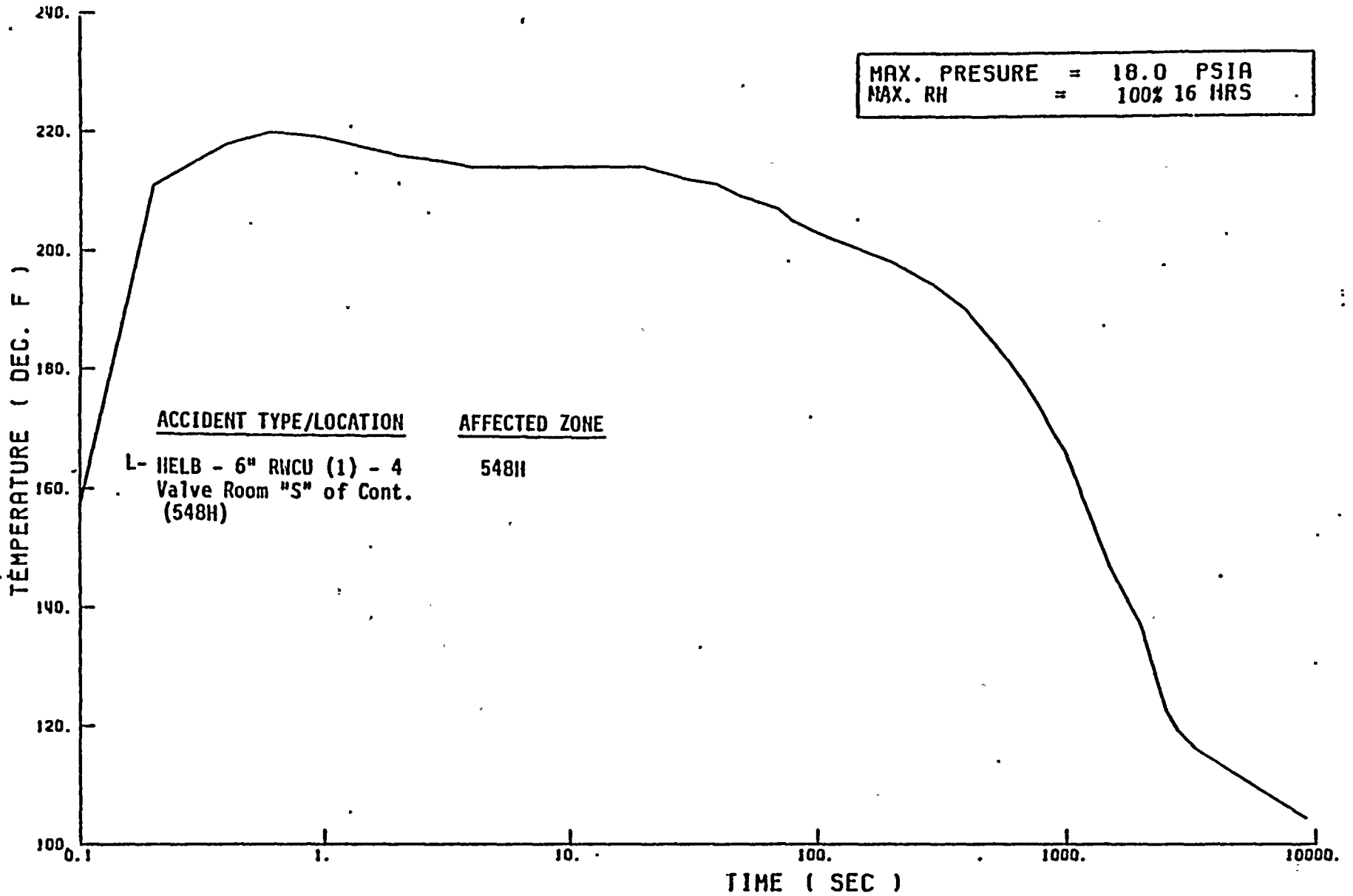
MAX. PRESURE	= 14.9	PSIA
MAX. RH	= 100%	16 HRS



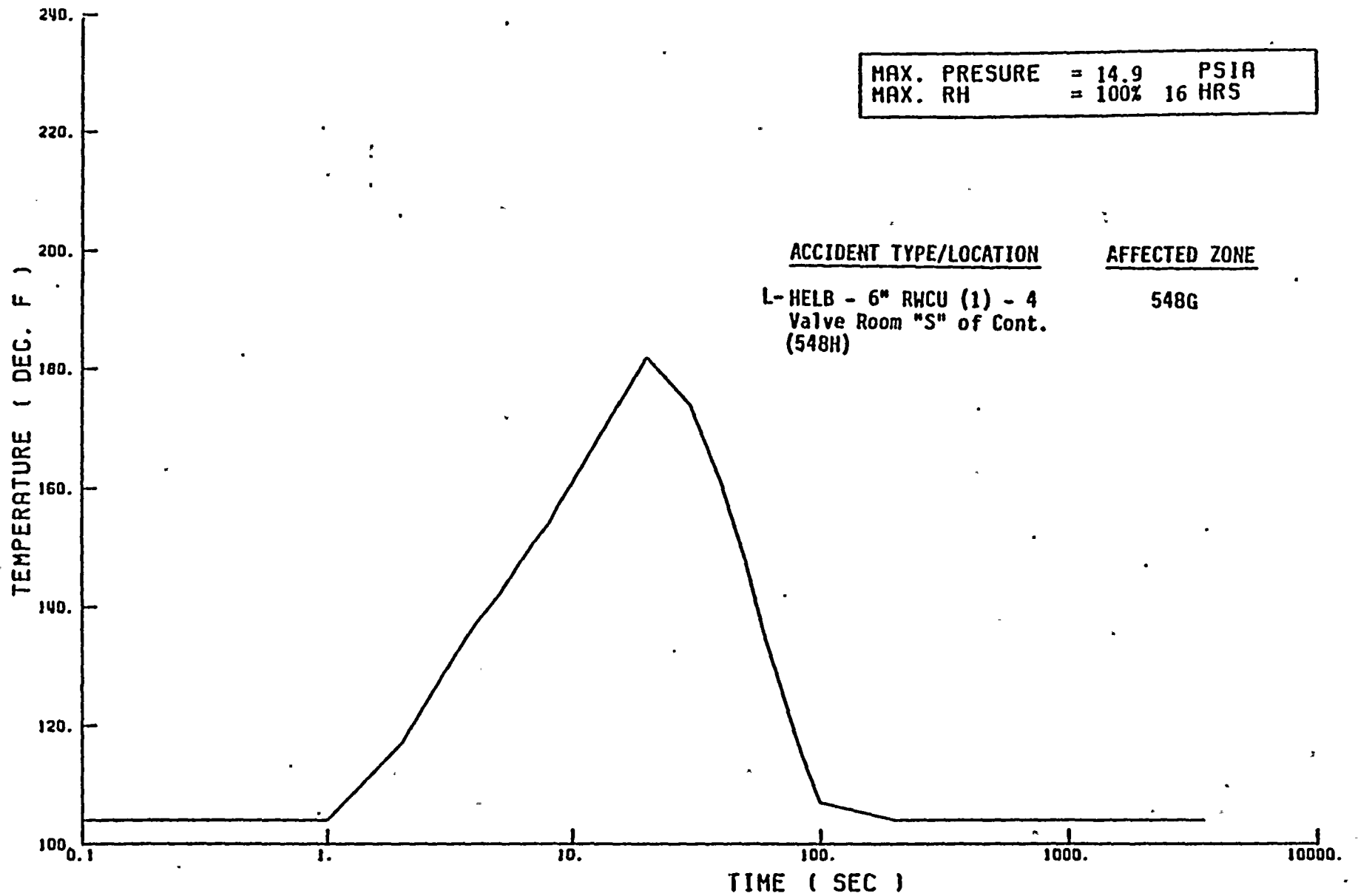
<u>ACCIDENT TYPE/LOCATION</u>	<u>AFFECTED ZONE</u>
H- HELB - 4" RWCU (1) - 4 RWCU Pump Rooms (522F)	522 B
I- HELB - 6" RWCU (1) - 4 Valve Room Above RWCU Pumps (522F)	522 B

Profile 13X - RWCU Line Breaks in RWCU Pump Rooms or Valve Room Above RWCU Pump Rooms





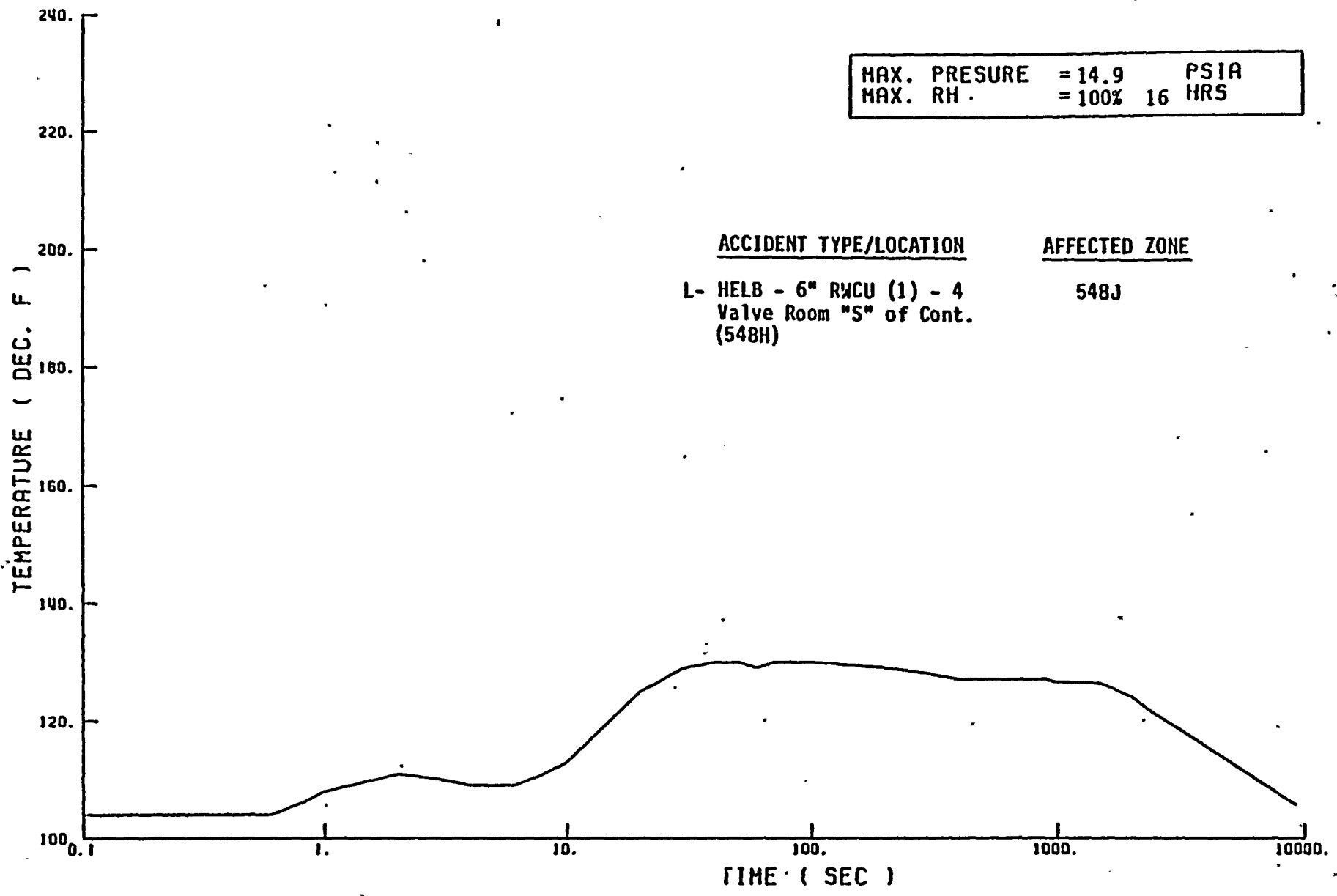
Profile 14X - 6" RWCU Line Break in Valve Room South of Containment



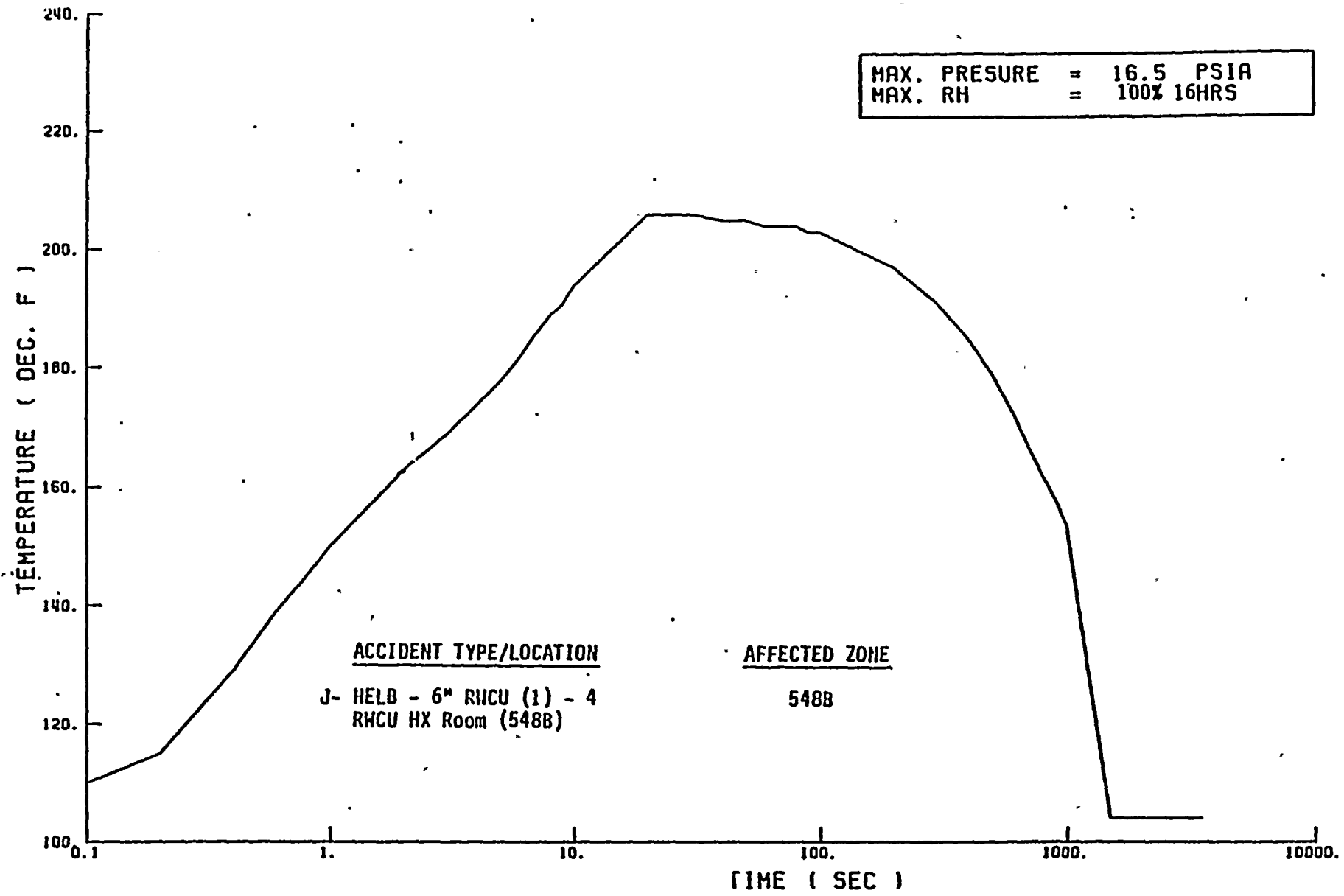
Profil 15X - 6" RWCU Line Break in Valve Room South of Containment

MAX. PRESURE = 14.9 PSIA
MAX. RH = 100% 16 HRS

<u>ACCIDENT TYPE/LOCATION</u>	<u>AFFECTED ZONE</u>
L- HELB - 6" RVCU (1) - 4 Valve Room "S" of Cont. (548H)	548J



Profile 16X - 6" RVCU Line Break in Valve Room South of Containment

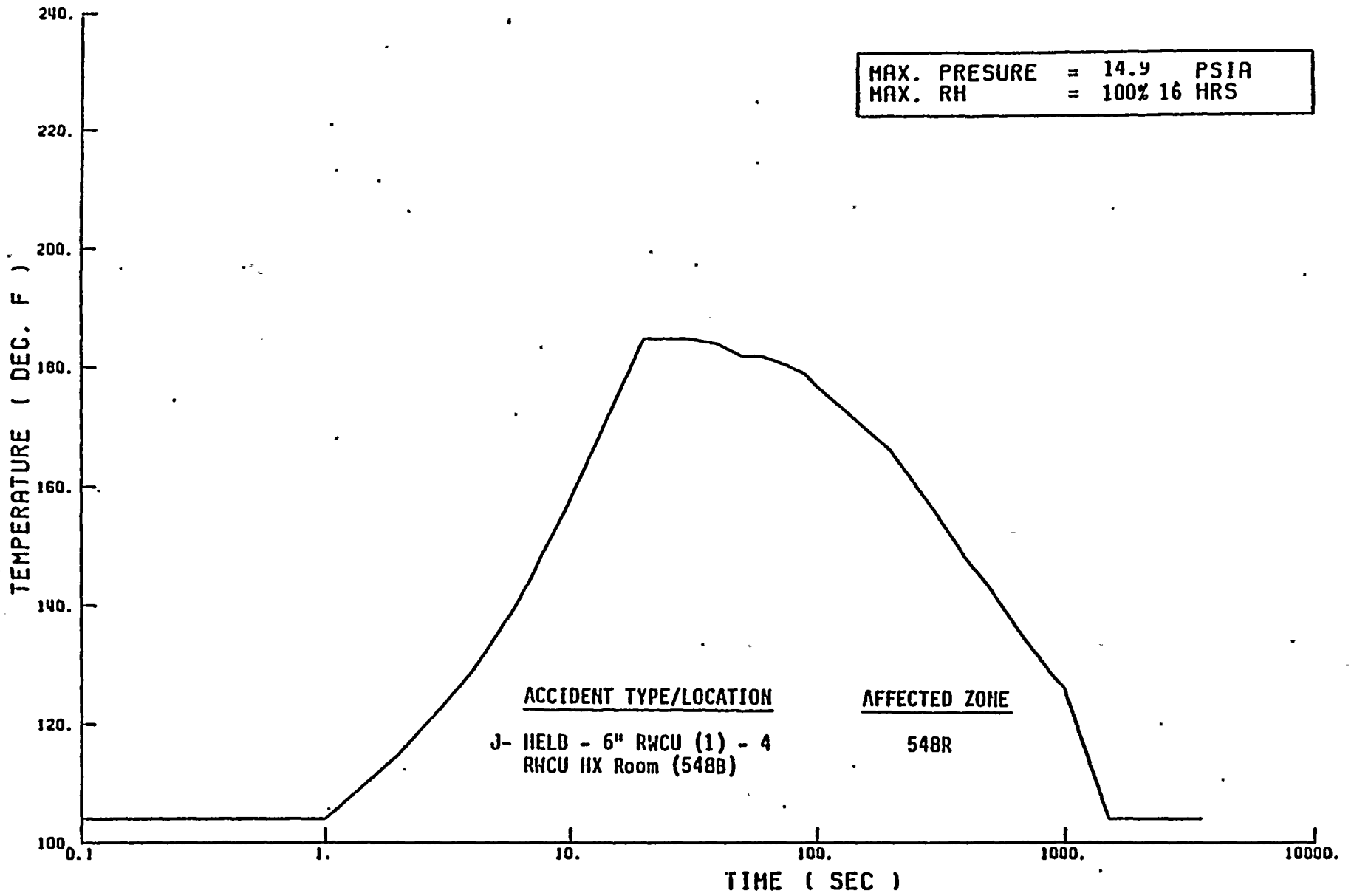


MAX. PRESURE = 16.5 PSIA
 MAX. RH = 100% 16HRS

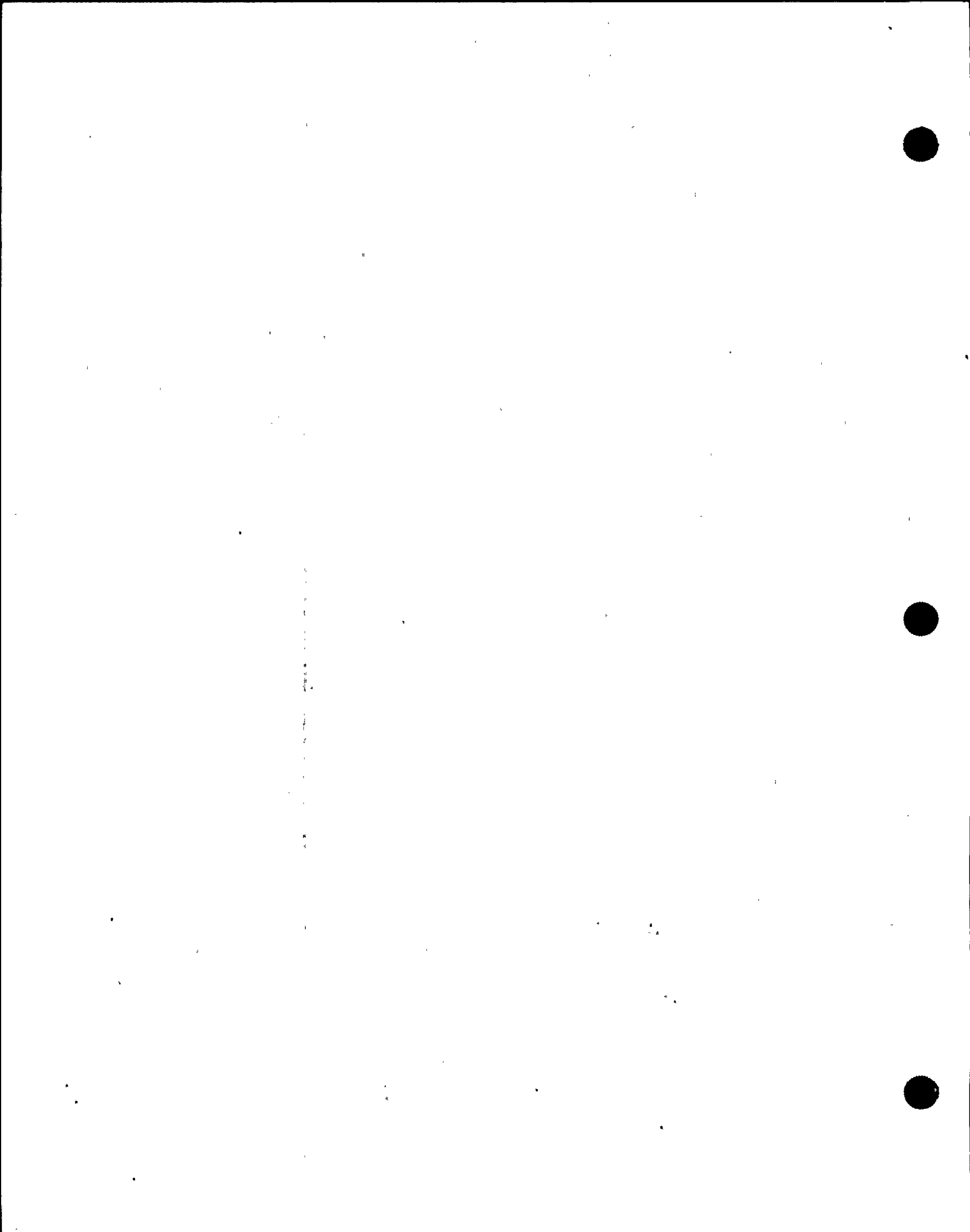
ACCIDENT TYPE/LOCATION
 J- HELB - 6" RVCU (1) - 4
 RVCU HX Room (548B)

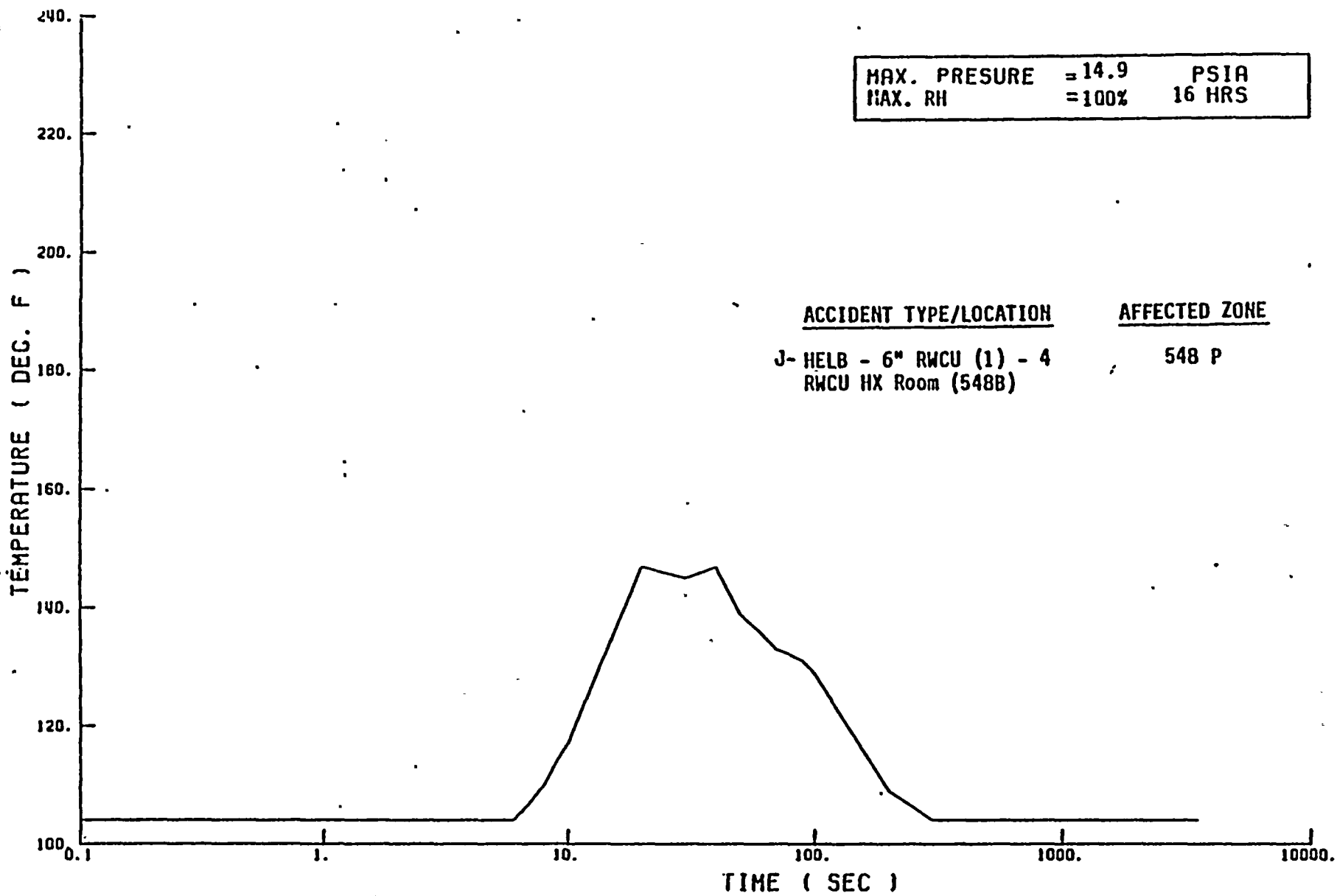
AFFECTED ZONE
 548B

Profile 17X - 6" RVCU Line Break in RVCU Heat Exchanger Room



Profile 18X - 6" RUCU Line Break in RUCU Heat Exchanger Room

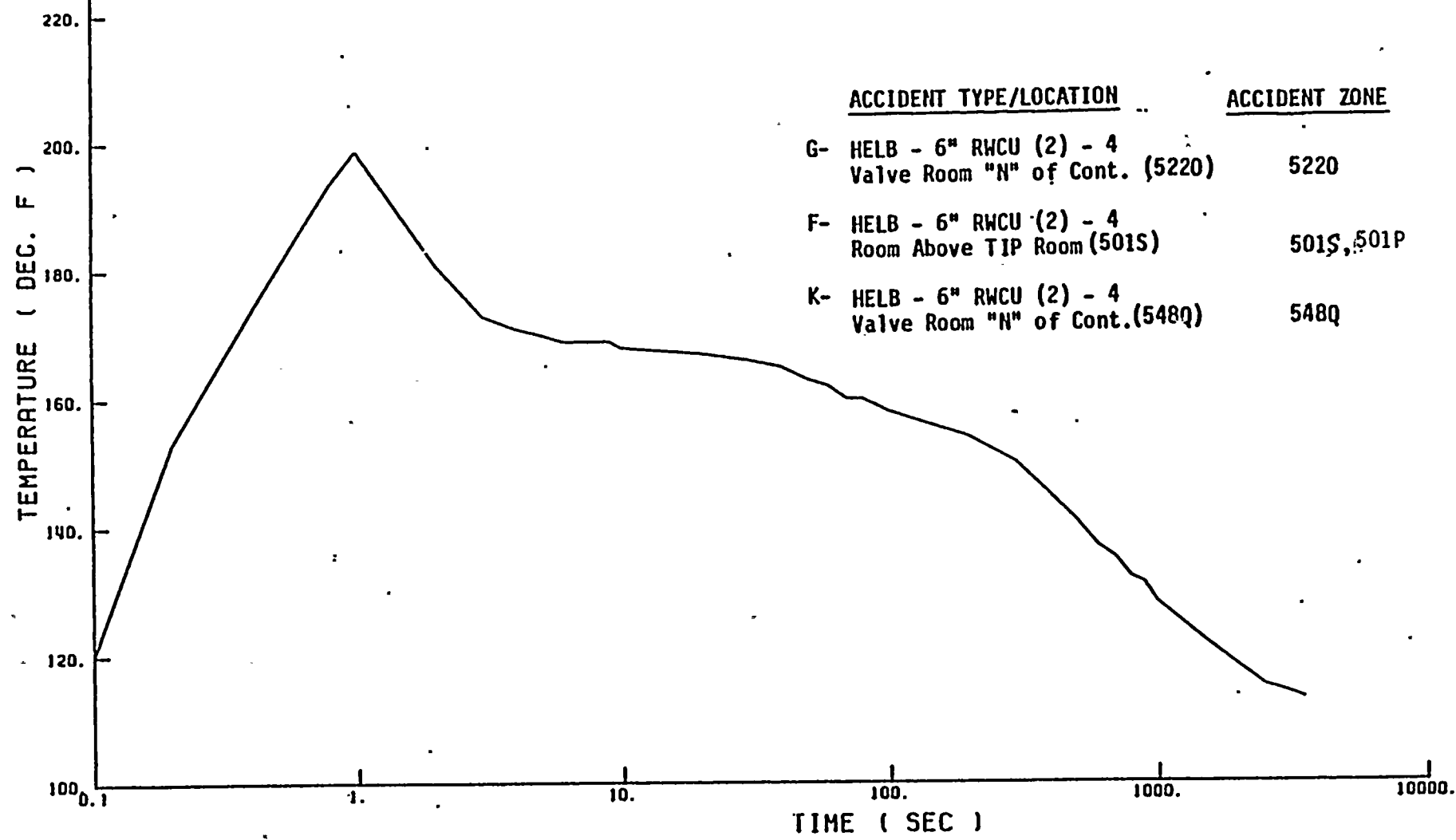




Profile 19X - 6" RWCU Line Break in RWCU Heat Exchanger Room

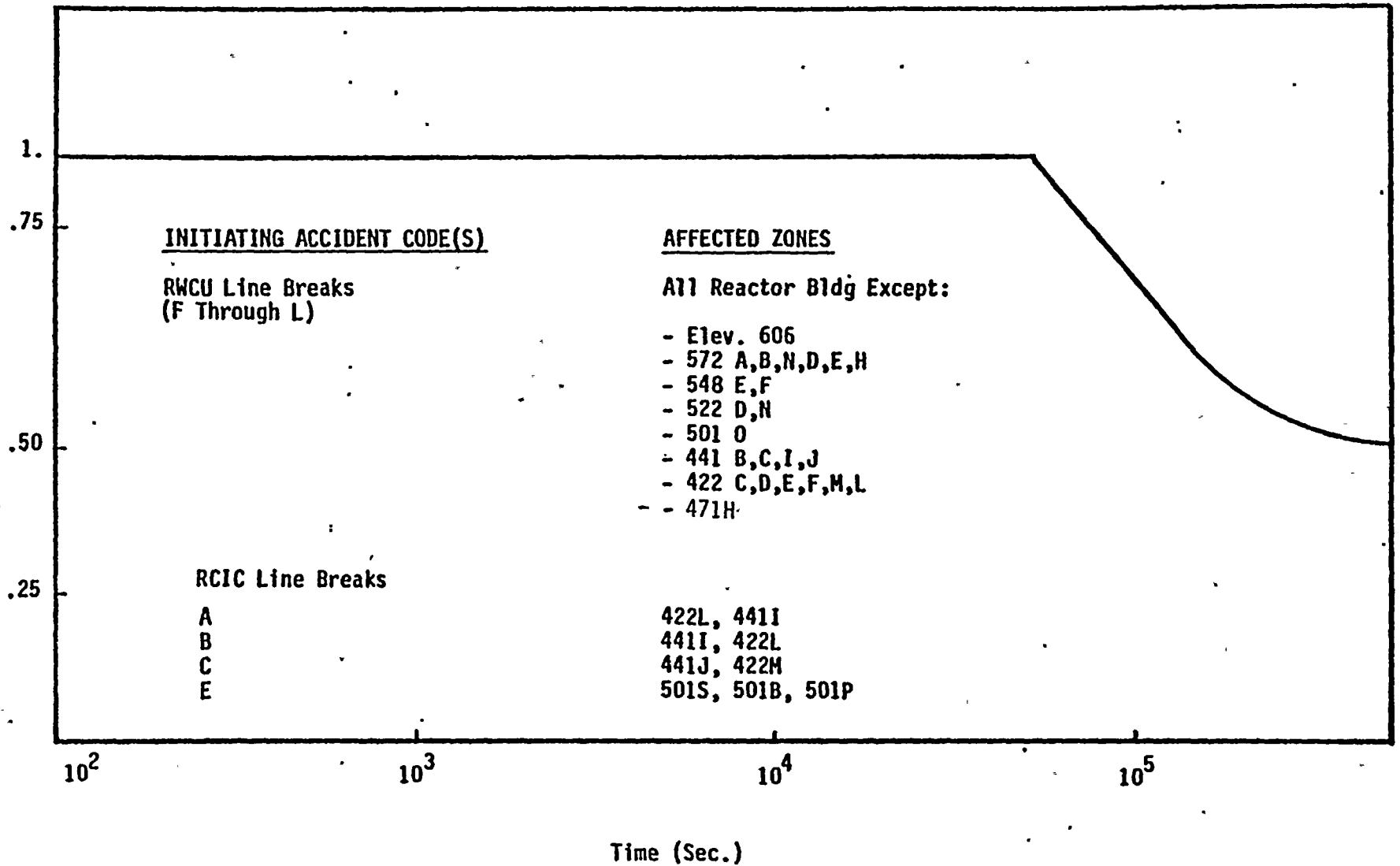


MAX. PRESURE	= 14.9	PSIA
MAX. RH.	= 100%	16 HRS

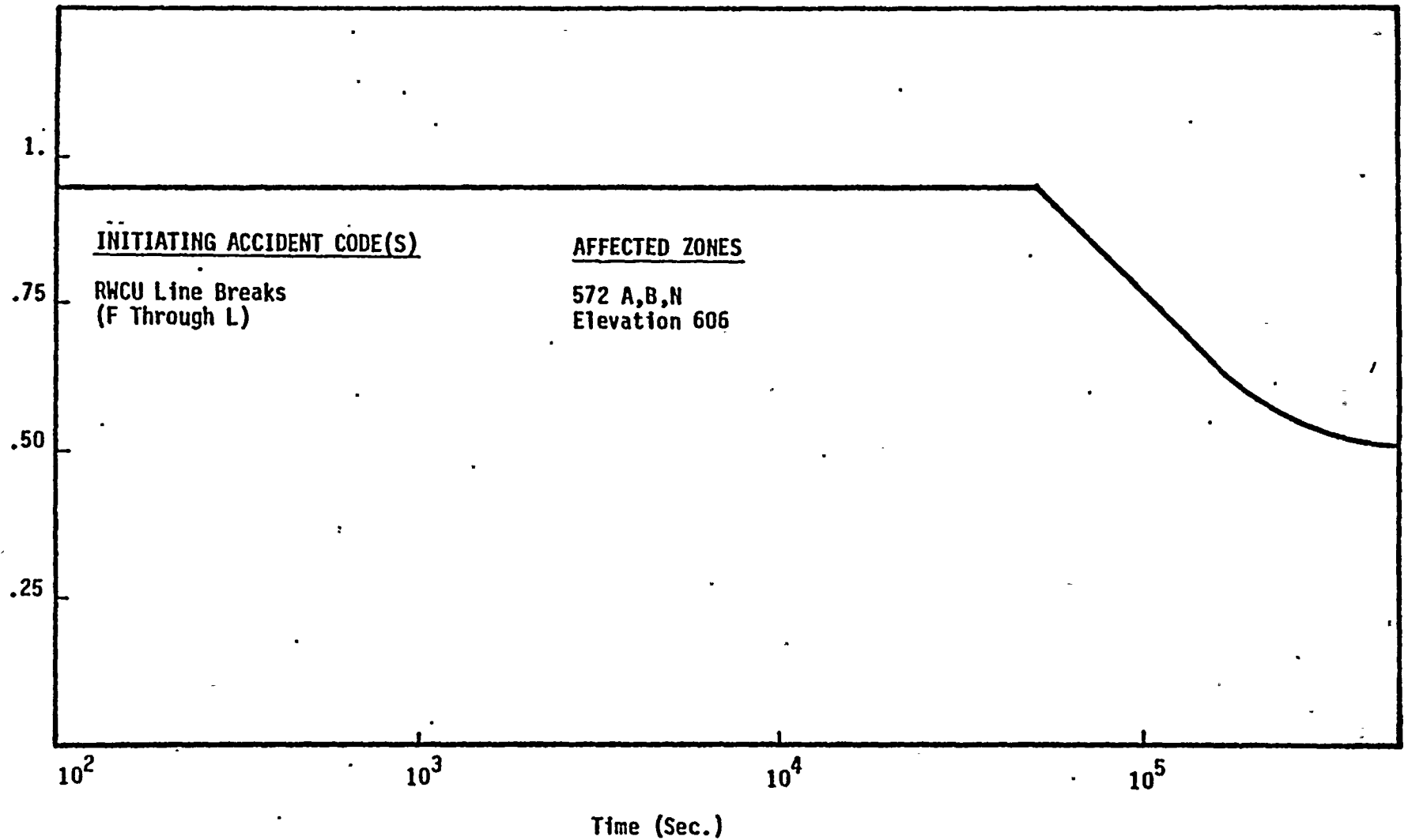


ACCIDENT TYPE/LOCATION	ACCIDENT ZONE
G- HELB - 6" RWCU (2) - 4 Valve Room "N" of Cont. (5220)	5220
F- HELB - 6" RWCU (2) - 4 Room Above TIP Room (501S)	501S, 501P
K- HELB - 6" RWCU (2) - 4 Valve Room "N" of Cont. (548Q)	548Q

Profile 20X - 6" RWCU Line Break in Valve Rooms North of Containment or in Room Above TIP Room



Profile 21X - Relative Humidity Profile for Zones which reach Saturated Conditions (Accident Code "X")



Profile 22X - Relative Humidity Profile for Zones which do not reach Saturated Conditions during RWCU Line Breaks (Accident Code "Y")

