

U. S. NUCLEAR REGULATORY COMMISSION  
REGION I

Report No. 50-423/84-03  
Docket No. 50-423  
License No. CPPR-113 Priority -- Category A  
Licensee: Northeast Nuclear Energy Company  
P. O. Box 270  
Hartford, Connecticut 06101

Facility Name: Millstone Nuclear Power Station, Unit 3  
Inspection at: Waterford, Connecticut  
Inspection Conducted: March 4, 1984 to April 14, 1984

Inspectors: *T. A. Rebelowski* May 18, 1984  
T. A. Rebelowski, Senior Resident Inspector date signed  
*Lee H. Betts for* May 21, 1984  
H. Nicholas, Lead Reactor Engineer, EPB date signed  
*Lee H. Betts for* May 21, 1984  
H. Van Kessel, Reactor Engineer, DETP date signed  
Approved by: *T. C. Grusec* May 22, 1984  
T. C. Grusec, Chief, Reactor Projects date signed  
Section 1B, DPRP

Inspection Summary: Inspection on March 4 to April 14, 1984. (NRC Report No. 50-423/84-03)

Areas Inspected: Licensee action on previous inspection findings; HVAC inspection; preoperational test program; potential significant deficiencies review; third party inspection; flushing program review; turnover system work control; spent fuel rack assemblies; communications of employee concerns; optical tooling; Licensee Qualification Branch on site review; construction design dispositions; control of core boring operations and plant tours. The inspection involved 61 hours by the regional inspectors and 144 hours by the Senior Resident Inspector.

Results: Of the fourteen areas inspected, no violations were identified. The Licensee is engaged in system turnovers to support testing. Due to turnover deficiencies, the testing schedule is approximately ten weeks late. One area of concern that addressed management's failure to control the implementation of the system to identify, evaluate and record the concrete core cutting process is discussed in Paragraph 14.

## DETAILS

### 1. Persons Contacted

#### Northeast Utilities Service Company (NUSCO)

J. O. Crockett, Superintendent - Unit 3  
K. W. Gray, Jr., Staff Assistant - CQA  
J. S. Harris, Startup Supervisor - Unit 3  
R. E. Lefebvre, Project Staff Engineer  
D. O. Miller, Jr., Systems Staff - Unit 3  
S. Orefice, Project Engineer  
S. Toth, Superintendent - New Site Construction

#### Stone & Webster Corporation (S&W)

A. A. Dasenbrock, Resident Manager  
P. O. Nelson, Engineer, Engineering Assurance  
C. B. Sprouse, Superintendent of Construction  
G. G. Turner, Superintendent, Field Quality Assurance  
W. H. Vos, Senior Engineer, Field Quality Control

The above members of the licensee staff and operating personnel attended the exit interview. Other members of the licensee staff were contacted during the course of the inspection.

### 2. Licensee Action On Previous Inspection Findings

- a. (Closed) Unresolved Item (423/83-10-04) Acceptance of a minimum ISI non-destructive examination requirement less than 4T+2". The licensee has revised HEAM 41 to require the actual wall thickness to be used for the determination of code minimum access requirements for volumetric examination for fittings. This item is closed.
- b. (Closed) Unresolved Item (423/83-15-01) Battery Room cleanliness. The inspector toured all battery rooms and reviewed the licensee's test and maintenance program for the Gould battery systems. No dirt, corrosion or unconfined water were evident. Air filter cleanness was satisfactory. Weekly and quarterly inspections of battery rooms were performed by the licensee in accordance with licensee procedure MP 3780AA containing requirements for housekeeping and air filter replacement. The housekeeping in all the battery rooms was acceptable. This item is closed.
- c. (Closed) Unresolved Item (423/82-14-02) The inspector reviewed the licensee's evaluation and corrective action on a cracked pipe support (3MSS-1-PSSP-453). S&W Inspection Report #P2000859 was issued to remove the failed piece and scrap it. The licensee's evaluation

and investigation concluded that the failure is an isolated case of lamellar tearing attributed to a combination of factors including a highly restrained weld configuration, a zero root gap and possible local moisture pickup. To preclude recurrence in reworking this support, the plate gussets were redesigned to eliminate the high degree of restraint created by the weld configuration. No other failures have been reported in similar joints. This item is closed.

- d. (Closed) Unresolved Item (423/82-14-01) The inspector toured the yard storage areas to verify that piping and component storage was in accordance with S&W Procedure CMP 1.3-3.79, Material/Equipment Storage Requirement. The problem of missing or cracked pipe caps is subject to ongoing surveillance. It was evident that the licensee inspects these areas frequently to assure that the deficiencies are corrected in a timely manner. This item is closed.
- e. (Closed) Inspector Follow Item (423/83-06-01) The inspector verified the boundaries of the disturbed beach area to be as noted in the FSAR and documented it in Inspection Report No. 83-07. Restoration is now complete. This item is closed.
- f. (Closed) Unresolved Item (423/82-05-01) Pertaining to 480 and 4160 Volt Cable Conduits routed through the cable spreading room, reference S&W Dwg. No. 12179. The Preliminary Safety Analysis Report (PSAR) states that no power cables will run through the cable spreading area. The licensee's drawing that indicated a wall was to be built around the conduit installation providing a 3 hour fire barrier was deleted.

The NRC's Safety Evaluation Report (SER) of February 24, 1984, Paragraph 8.3.3.3.3 concurs with the licensee in that ... "Fires resulting from fault current if possible would be contained in the rigid steel conduit. The NRC agrees with the applicant and concludes that rigid steel conduit provides an acceptable level of assurance that other circuits located in the cable spreading area will not be affected by failure of the traversing power circuits." This item is closed.

- g. (Open) Deviation(423/83-18-02) Pertaining to the splicing of safety-related cables in raceways, the Final Safety Analysis Report (FSAR) states that cable splices in raceways are prohibited. The licensee, in their response of February 9, 1984, stated that they will submit an FSAR change by May 15, 1984. In the interim, all cable splices will be justified by analysis on a case-by-case basis.

To control the use of cable splicing at the site, the licensee is establishing a formalized program with control to track safety-related cable splices. The program which is to control, track and provide inspection criteria for all future cable splices and high voltage terminations is expected to be completed by April 16, 1984. In the interim, E&DCR FE-28619 issued February 18, 1984, provides temporary control, tracking and inspection requirements. The licensee is following the program as outlined in E&DCR FE-28619. In reviewing the present licensee controls in this area, the inspector verified that E&DCR's that discuss cable splicing are being

reviewed and dispositioned as defined in the interim E&DCR. This item remains open.

## 2. Heating Ventilation And Air Conditioning (HVAC) System Inspections

The licensee has experienced a high rejection rate during inspection of HVAC ductwork. The reportable conditions were unacceptable support structures to duct gap dimensions and indenting of the ductwork attributed to trade handling practices and/or welding processes. An inspection in this area was performed with the following results:

### a. HVAC Ductwork Gap Criteria - Scope Of Inspection

1. To determine what the latest acceptance criteria are for gaps between sheet metal and support frames.
2. To determine what the acceptance criteria are for dents and warpage of the sheet metal.
3. To determine how the criteria of (1) and (2) above were developed and whether their validity for safety-related seismic Category I ductwork was verified.
4. Review proposed licensee corrective actions for completed work which may not meet the new criteria.
5. Inspect a sampling of items in the field which were reworked to meet the new criteria.

### b. Inspection Findings

1. New acceptance criteria are being formulated for duct metal warpage (permanent deformation of the sheet metal skin). Via VIR-3418, NEVCO is requesting guidance from engineering on their warpage problems experienced as a result of the heat generated by welding companion angles to the sheet metal (variation in metal thickness). The proposed acceptance criteria consist of a maximum gap of 1/4" as measured between a straight edge, placed across the duct face, and the duct skin. The inspector was told that this criterion has not been accepted to date by engineering (S&W). The inspector requested these calculations but they were unavailable at the conclusion of this report period. This is an unresolved item (423/84-03-01).
2. Relief from the gap criteria of M-565, for rivets connecting duct sheet metal to support frames, has been requested by construction in E&DCR P-J-6434. The inspector was informed that stress calculations have been made to support the validity of the criteria. The inspector requested that these calculations be made available at the earliest opportunity. The S&W calculation was identified as No. 12179-NP(B)-300-DZ. This is an unresolved item (423/84-03-02).

3. Review of Specification M-565 (No.2170.430-565) Rev. 6, dated October 11, 1983, showed that the acceptance criteria for dents in ductwork are unchanged (by Rev. 6) and are shown in Section 2 on Page 2-56.
4. The relaxed criteria of (2) above have been approved and are being applied in construction. The inspector was informed by S&W engineers on March 3, 1984, that a backfit program is being organized to bring the safety-related HVAC ductwork, as installed prior to the date of the revised acceptance criteria, in line with these criteria.
5. The inspector inspected two duct rejections ((3) and (4) as identified in N&D 4147.) Both duct sections had excessive gaps with their wall support frames. The duct pieces are being reworked to bring the gap within the acceptable limit. The grinding work to remove the old frame fasteners had been completed on both duct sections. The second section (4) had been removed from its support. These 2 cases are evidence that the backfit program has been started.
6. A list of potential rework items is being prepared by S&W for the HVAC safety-related backfit program. The inspector requested this list when formulated (IFI 423/84-03-03).

c. Conclusions

Acceptance criteria for dents in ductwork, warpage of the sheet metal skin, and for gap dimensions between the sheet metal and support frames are available to guide the quality control of ductwork installations. Where these criteria have been, or are being, revised, stress calculations will be made to support the validity of the new criteria with respect to the HVAC system integrity under postulated loading conditions.

A backfit program is being organized by S&W to assure that new and old acceptance criteria are being used to inspect ductwork installed prior to the dates of criteria revisions.

The issues requiring further follow up will be closed after verification of:

- The existence of viable calculations for the support of revised acceptance criteria (423/84-03-01, 02).
- The existence of a viable backfit program to make sure that the ductwork as installed, will meet old and new acceptance criteria (423/84-03-03).

#### 4. Preoperational Test Program

The lead reactor engineer (region based), met with the Millstone Unit 3 management staff to discuss the Unit 3 preoperation test program. Areas addressed were all segments of the preoperation testing and operational preparedness phase of the light water reactor inspection program. Test program requirements, implementation, mandatory test, primal tests and Category I, II and III tests, procedure review and verification, test witnessing and test result evaluations were discussed.

The inspector requested the licensee's material pertinent to the preoperational program. The inspector addressed the need for early receipt of preoperational and acceptance test procedures in order to determine the technical adequacy of the procedures.

The areas discussed will be the subject of a subsequent inspection. The inspector had no further comments or concerns at this time.

#### 5. Licensee Report Of Potential Significant Deficiencies (10 CFR 50.55 (e))

##### a. Items Where Licensee Actions Remain Outstanding

1. The licensee reported a potential significant deficiency on March 16, 1984, regarding a hardware interference with ITT Grinnell Struts which was documented on Nonconformance and Disposition Report No. 4741. The deficiency involves interference with sway strut hardware manufactured by ITT Grinnell Corporation. The five degree cone of action required between the strut and the rear bracket is not available due to an interference which allows only a swing of two degrees from the normal.

The licensee will determine the scope of the deficiency and apply corrective actions (SD-54). This item remains open. (423/84-00-05)

2. The licensee reported a potential significant deficiency on March 30, 1984, regarding G.E. AK-50 and AKR-30 electro-mechanical trip mechanisms that may have been improperly manufactured. The licensee and architect/engineer had not been notified by G.E. However, the breakers have been returned to G.E. prior to the date of identification of the problem. The licensee will address the question as to why they were not informed by General Electric of the problem and also if the corrective action was performed prior to the

return of the breakers to the site (SD-55). The initial notification of the problem to the licensee was through the vendor inspection program and the senior resident inspector. This item remains open (423/84-00-06).

#### 6. Third Party Inspections

The licensee's Architect/Engineer (A/E) QA/QC functions are described in the Stone and Webster Company Quality Assurance and Control Manual. The Hartford Steam Boiler Inspection and Insurance Company is engaged in monitoring the A/E compliance to his program. The monitoring reports have been reviewed as to detail and scope of the attributes. The reports are sampling audits and we have found only minor deficiencies in the described program. One monitoring report reviewed, on a sampling basis, the training in Section IV, Rev. H dated 8/30/82 of the QC/QA Manual. The findings were satisfactory. Discussions with Hartford Boiler personnel indicated that revised attribute sheets may be used to monitor the A/E program. The inspector has no further questions at this time on the present monitoring program.

#### 7. Flushing Program And Procedure Review

A review of the licensee's actions to resolve the concerns raised in the unresolved item 423/83-20-03 was conducted. The results are indicated below for all concerns:

Item 1: The flushing rates were noted as "approximately x gpm". A definitive flow rate based on the pipe sizing shall be established.

##### Licensee Reponse:

The Flushing Reference Manual, in 5.1.1.2, states that flow should be at least equal to the normal system flow rate and should normally be the maximum attainable without damaging components. This is routinely accomplished by using installed pumps where possible and isolating branches sequentially to maximize the flushing flow rate.

##### Inspector Review:

Acceptable response whenever the documentation indicates the normal system flow rates and procedures do address isolation of the branch line to maximize the flushing flow rates.

Item 2: A period of 5 seconds for the flushing of drains and vents is documented. No presentation of the justification for the basis of assumption of this time span is given or when the period begins.

Licensee Response:

The boiler plate (PUI-QA-5.01) and the Flushing Reference Manual will be modified to indicate that the five second period is with the valve fully open. The general Stone and Webster design for vents and drains gives six inches as the maximum dimension from the process piping to the vent or drain valve. Five seconds was felt to be a conservative estimate of the time required to flush a volume equivalent to that length of piping.

Inspector Review:

Acceptable response. The Flushing Manual has been revised to incorporate the above response.

- Item 3: When a storage tank is used to provide a static head for a flush, no minimum levels or flow rates are required to ensure proper flow rates at the flush exit points.

Licensee Response:

Those procedures that use a static head of water to flush piping will be modified to specify a minimum level.

Inspector Review:

Acceptable response.

- Item 4: Chemistry requirements are not documented in all procedures.

Licensee Response:

Those procedures that require Chemistry Control have a restoration step to establish chemistry using Chemistry Department procedures. If the system is to be drained, there is a restoration step giving guidelines.

Inspector Review:

Acceptable response.

- Item 5: The test procedures provide individual annotation of the flush strainer placement but do not provide for individual annotation for strainer removal.

Licensee Response:

The Flushing Reference Manual has been modified to include a temporary strainer log to be maintained in the Control Room. This log lists all of the temporary strainers in the plant, their location, and a place for a signature and date of removal. Each procedure which requires temporary strainers has an initial condition annotating each by number. The restoration step in presently issued procedures documents removal but does not necessarily annotate each (i.e., remove strainers installed in step...). All procedures presently not issued will be modified to individually annotate each in the restoration section. In addition, those strainers left installed until subsequent test-



ing is completed will be caution tagged to indicate an "out-of-normal" condition.

Inspector Review:  
Acceptable response.

- Item 6: At completion of the flush, one of the test procedures states that the flush strainers are to remain in the system until the completion of the tie-in system flushes. This item must be documented in the reference of the continuing flush procedures.

Licensee Response:  
Procedures reviewed are being combined so that the statements relating to temporary equipment remaining until completion of the subsequent procedure no longer applies.

Inspector Review:  
Acceptable response when applied to all flushing procedures.

- Item 7: Upon completion of the flushes, the systems are returned to the Shift Supervisor. The condition of the system may include items that would not normally be part of an operable system. Examples of these items are the flush strainers in the system, flushing jumpers or flushing flange breaks not removed or closed, capped terminal pieces, test gauges, etc. The method of documentation of the system disturbances to the shift supervisor could not be verified.

Licensee Response:  
All modifications, not normally part of a system, left installed as a result of a flush procedure will be identified using a caution tag to indicate an "out-of-normal" condition.

Inspector Review:  
Acceptable response.

- Item 8: Precautions on the maximum flush strainer differential pressure was not included in one of the reviewed procedures.

Licensee Response:  
The procedure has been modified to include the appropriate precaution.

Inspector Review:  
Acceptable response.

- Item 9: A definitive standard for "essentially oil free air or nitrogen" and how to determine this criteria is not documented.

Licensee Response:

The Flushing Reference Manual has been modified to address both the black light method and chemistry analysis to determine when air/nitrogen is oil free.

Inspector Review:

Acceptable response.

- Item 10: Particle sizes of acceptable flush cloths have been documented. Standards that could be viewed by the inspection personnel to aid in their verification of the cleanness acceptance criteria are not available.

Licensee Response:

Pocket optical comparitors (4) have been purchased to be utilized by the flushing engineers when determining the acceptability of particle sizes.

Inspector Review:

Acceptable response. The inspector will verify during the flushing program the use of proper parameters. (IFI 423/84-03-04)

The licensee has responded in a timely manner by revising the Northeast Nuclear Energy Company Millstone Unit 3 Flushing Reference Manual to incorporate the resolved items. This unresolved item, 423/83-20-03 is closed.

## 8. Turnover System Work Control

The licensee has accepted approximately 64 system turnovers representing substantially completed construction packages. The system turnovers undergo Phase I testing to verify generic attributes.

Additional deficiencies have been identified by the Architect/Engineer in regard to systems that are now the responsibility of the licensee. The licensee can return the systems to A/E for modification or choose to retain the system and complete the required modifications with NNECO inhouse personnel.

One such system involves the need to modify the Isolation Cabinets. These cabinets are identified on the Engineering and Design Coordination Report (E&DCR) No. TC-00582. The Isolation Cabinets listed below were found unacceptable as a result of an inspection performed by the licensee in accordance with E&DCR TC-00529, 00498 and 00450.

3 CES PNL BS 1P  
 3 CES PNL BR 1P  
 3 CES PNL BR 3Ø  
 3 CES PNL BR 5Ø  
 3 CES PNL BR 1Ø

The inspector reviewed the required Quality Control attributes required to verify satisfactory verification by NNECO vs. A/E Field Quality Control Program to verify the 420 relugged terminations and replacement resistors. Differences in the Q.C. Programs were not identified although one concern was identified in the licensee's method of verification of the relugged terminals. The concern involves the renewal of leads found short after relugging. Inspection of both terminations would be required similar to a jumper renewal inspection.

The licensee resolved this concern by the issuance of Crimp Inspection Form IC 151 which requires the inspection of both terminations. This item is closed.

The Generic Procedure GPIC 54.01 Isolation Cabinet - Initial Test, addresses the preliminary checkouts of the Isolation Cabinets. Figures 9.5, 9.6 and 9.7 and three additional sketches are not documented listings of Section 9, Figure/Tables. The licensee has acknowledged this item and changes will be made to the procedures. Verification and review of test performances will be addressed in a subsequent inspection. (IFI 423/84-03-05)

#### 9. Spent Fuel Rack Assemblies

NRC Report No. 423/83-22 described anomalies in the licensee's fabrication of spent fuel rack assemblies. During this report period, inspection of the fuel assemblies was performed and the findings are listed below.

##### a. Verification Of Cell Placement In The Assembly Of The Fuel Racks

Fuel Rack S/N 88140 was inspected in the field for conformance with NC Pensacola Quality Inspection Procedure for proper orientation of cell location and cell assembly grouping. The group and item numbers were in agreement with the location of boraflex materials. No deficiencies were identified. The unresolved item 423/83-22-02 is closed.

##### b. Neutron Absorber Verification

The inspector reviewed the licensee's documentation of Bisco Boroflex material which is used as the neutron attenuator in the spent fuel rack assemblies. Items reviewed for Lot Number 040782-1 were:

- 1 - Bisco Receiving Inspection Checklist
- 2 - Vendor certificate of analysis
- 3 - Bisco certificate of compliance
- 4 - Lab chemical analysis by Isotopic Analysis
- 5 - Particle size analysis of Particle Data Laboratories

The Boron is received as a Boron Carbide powder and processed to sheets that are formed in each individual cell. In addition, Boraflex documentation index brings continued QA/QC controls in the form of the following checks:

- 1 - Production Batch Sheet Reports.
- 2 - Calculation Sheet.
- 3 - Quality Control Boraflex Minimum Specific Gravity Determination Sheet.
- 4 - Boraflex Data Sheet.
- 5 - Typical Distribution Pattern.
- 6 - Tensile Strength Test Results.

Observation of three fuel racks verified that Boraflex Sheets were in place and appear to extend thru the fuel effective zones of future spent fuel cells.

Bisco Report No. 748-10-1 addressed long term exposure to the radiation levels and the extensive testing that the Boraflex material has undergone.

Based on a review of documentation and observations of spent fuel racks in storage on site, unresolved items 423/83-22-03 and 423/84-02-03 are closed.

#### 10. Communications Of Employee Concerns

The licensee's Nuclear Engineering and Operation Procedure NED 2.15, Employee Complaints and Grievances per Title 10 CFR 19 establishes the methods to be used to register nuclear safety-related complaints or grievances.

Discussions were held with the licensee and the architect/engineer in the area of communications between tradesmen/engineer and the licensee pertaining to potential safety concerns. The following is a summary of the systems presently in effect.

- a. Undocumented communication paths have been discussed with site management. Their communication commitments are based on a person-to-person contact that is achieved by the construction site superintendent's long tenure on site and his familiarity with the craftsmen.
- b. The architect/engineer has issued a letter to Personnel each year giving them a number to call in Boston to register grievances. The inspector found this number disconnected. Further review by A/E of this area of communication with craftsmen is in progress. This item is unresolved. (423/84-03-06)
- c. Northeast Utilities employs a team of consultants, titled the Nuclear Review Team. The team's headquarters is located in Idaho Falls, Idaho, and lists a telephone number that requires charges, thus requiring a cost to the calling party. When this item was discussed, it was stated that anyone could call on the licensee's lines at no cost; but in turn, the caller can be identified by the telephone billing. The inspector's discussion with a member of the review team determined that only one call had been received over a four-year period, although when the

review team was at the corporate offices, a number of requests were received from personnel to discuss their concerns. Based on the above discussion, the inspector requested a meeting with the review team to determine if an effective policy of communication of employees' concerns is in force. (IFI 423/84-03-07)

#### 11. Optical Tooling

Minor mislocations of the embedment plates have been the subject of Nonconformance and Disposition Reports (N&D's). The inspector reviewed the Field Construction Procedure No. 103, titled Field Testing Of Theodolites and Precision Optical Levels, Revision 3, dated 2/13/84 as a root cause of the N&D's. The inspector identified no deficiencies in the present revision of the procedure which now addresses test attributes and defines the minimum tolerances. A review of the ongoing field testing of optical tools will be addressed in a subsequent inspection.

#### 12. NRC Review Of Management And Technical Support Organization

The Licensee Qualification Branch (LQB) of the NRC visited the corporate and site locations from April 10 - 13, 1984. The purpose of the LQB visit was to verify the Final Safety Analysis Report, Chapter 13 commitments regarding experience and educational background of key management staffs supporting the nuclear operation.

As part of the review, interviews were held with management personnel at both the corporate and site locations. The Senior Resident Inspector participated as a member of the LQB during the interviews. The results of this visit will be documented in NRC inputs to the Final Safety Evaluation Report.

#### 13. Review Of Construction Design Dispositions

During the inspection period, a sampling of 122 Engineering and Design Coordination Reports (E&DCR's) and 515 Nonconformance and Disposition Reports (N&D's) were reviewed. The N&D's continue to reflect the results of field quality assurance turnover inspections and pipe support erection inspections. The number of outstanding items identified are the result of modifications and incomplete design changes that appear to be impacting the testing program schedule.

The licensee has reorganized various NUSCO and S&W turnover groups to enhance and expedite the system turnovers by the tracking of outstanding work items which could result in earlier system testing. A further review of the testing program will be performed during the preoperation test inspection program.

#### 14. Control Of Core Boring Operations

During the course of construction, a number of concrete placements must be bored to allow for clearance for rebar, cable entries and piping systems. Procedure FCP-268 "Control Procedure For Diamond Tipped Bits And Core Cutters", establishes a program to control the use of core boring equipment, preventing the cutting of embedded reinforcing steel without prior approval and the prevention of cutting into areas of electrical conduits.

The craftsperson must request permission from the Structural Engineer(SE) to core bore into the concrete. On completion of the SE review, a Core Bore Cut Card is issued which allows the drawing out of the core boring equipment and cutting drills.

A routine review of the Core Bore Cut Card Log on March 12, 1984, indicated that more than fifty cut cards dating back to 1982 were not documented as complete. Further review indicated that a number of core bores that were completed had not been presented to Field Quality Control inspection. Additional inspection at the core boring tool control point noted that core cutting drills were drawn from stores and not returned for periods greater than a year. The Core Bore Cut Card No. 82-105, issued 11-26-82 and Core Bore Cut Card No. 83-09, issued 3-1-83, drills had not been returned upon completion of core boring. Approximately twenty core drills are unaccounted for in the records at the tool control point. Based on the above finding, the following items are to be addressed by the licensee:

- (a) The Specification C999 for Placing Concrete and Reinforcing Steel should be revised to address concrete core boring.
- (b) The Field Control Procedure No. 268 requires revisions to address the responsibilities of structural engineering, control of core bits, and responsibilities of management to insure completion of work task in a reasonable time frame.

The above items (a) and (b) are an unresolved item. (423/84-03-08)

The licensee's immediate action included identification of a number of the missing core drills, institution of additional training for personnel in FCP-268 procedure details, and a survey of the tool room for additional controls.

#### 15. Plant Tours

The inspector observed work activities in progress, completed work and the construction status in several areas of the plant. The inspector examined work in progress for any obvious defects or violations of regulatory requirements of the Final Safety Analysis Report.

- Plant Housekeeping Controls: Plant housekeeping controls were observed including the control and storage of flammable materials and the control of potential safety hazards. Additional cleaners were observed in the auxiliary building, emergency diesel rooms and the engineered safeguard facility. The containment area continues to need additional attention.
- Welding Operations: Discussions with welders in the area of supports for HVAC ductwork indicated a knowledge of fitup principles and require-

ments of weld procedures as performed.

- Tours of the fence line for maintenance of obstruction-free distances between the operating units were made on a weekly basis.

Specific observations during plant tours of specific areas included the following:

- Control Room manning by licensee operating personnel was observed and discussions with the Shift Supervisor indicated that the methods of identifying the systems under test were acceptable. System Tagouts for Phase I testing were also verified.
- The presence of quality control inspectors was verified. Samples of quality control inspection records, material identification and non-conforming material identifications were examined as part of the total activity review. The inspector noted a satisfactory effort by the licensee to correct the identified items of concern.
- Main Steam Valve Building: The inspector identified improper fixed protective covers of the main feed line open pipe and that increased protection to the feed valve steam line was needed to prevent construction damage. The area supervisor took immediate action to resolve the above concerns.

No violations were identified during these inspection tours.

#### 16. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. The unresolved items disclosed during the inspection are discussed in Paragraphs 3, 10 and 14.

#### 17. Management Meetings

At periodic intervals during the course of this inspection, meetings were held with senior plant management to discuss the scope and findings of this inspection.