

U.S. NUCLEAR REGULATORY COMMISSION
Region I

Report No. 50-29/85-18
Docket No. 50-29
Licensee No. DPR-3
Licensee: Yankee Atomic Electric Company
1671 Worcester Road
Framingham, Massachusetts 01701
Facility Name: Yankee Nuclear Power Station
Inspection at: Rowe, Massachusetts
Inspection Conducted: September 26 - November 25, 1985

Inspector: *H. Eichenholz*
H. Eichenholz, Senior Resident Inspector

1/10/86
Date

Approved By: *T. C. Elsass*
T. Elsass, Section Chief, Reactor
Projects Section 3C

1/10/86
Date

Inspection Summary: Inspection on September 26 - November 25, 1985 (Report No. 50-29/85-18)

Areas Inspected: Routine onsite regular and backshift inspection by the resident inspector (156 hours). Areas inspected included: Review of licensee action on previous findings, operational safety verification reviews, review of radiological controls, reviews of events requiring telephone notification to the NRC, review of plant events, maintenance observations, surveillance observations, Plant Operations Review Committee activities and review of periodical and special reports.

Results: No violations were inspector identified; however, two inadequacies involving the existence of an inadequate fire barrier (Section 7), and adherence to housekeeping controls for steam generator secondary side inspection and maintenance (Section 9) were classified as licensee identified violations. Senior station management involvement in maintaining a strong licensee commitment to plant housekeeping conditions (Section 4) and preparations in advance of the arrival of hurricane Gloria (Section 7) were considered notable strengths. Several areas needing increased licensee attention were use of Special Orders, Physical Security controls and personnel performance, fire protection activities (all Section 4); personnel adherence to RWP requirements and communications needed to ensure proper radiological conditions will be maintained (Section 5); and improving procedural controls that ensure containment integrity will be maintained during refueling (Section 9).

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Details

1. Persons Contacted

Plant Operations

B. Drawbridge, Assistant Plant Superintendent
T. Henderson, Technical Director
N. St. Laurent, Plant Superintendent

The inspector also interviewed other licensee employees during the inspection, including members of the Operations, Radiation Protection, Chemistry, Instrument and Control, Maintenance, Reactor Engineering, Security, Training, Technical Services, and General Office Staffs.

2. Summary of Facility Activities

At the start of the inspection period on September 26, 1985, the plant was continuing normal coastdown operations from Cycle XVII. The restrictions for maintaining the reactor core in a rodged condition (i.e., control rod Group C inserted below 83 inches withdrawn) to maintain licensee compliance with 10 CFR 50.46 was removed on September 23, 1985 as a result of licensee analysis. On September 26, 1985, plant personnel initiated protective measures in response to hurricane Gloria. When Gloria passed through the plant area on September 27, 1985 there was no impact on the facility or continued plant operations.

In preparation for the upcoming Refueling Outage, 40 fresh fuel assemblies were received, inspected and placed in the new fuel vault by October 1, 1985. From approximately 66% power on October 19, 1985, a plant shutdown was initiated for the Cycle XVII-XVIII refueling outage. When the turbine generator was taken off the grid, the plant was in its 366th day of continuous operation, which represents a new operating record for the plant. Cold Shutdown (Mode 5) was achieved on October 20, 1985, and the plant was into the Refueling Mode (Mode 6) on October 23, 1985.

For the remainder of the inspection period, the plant continued with refueling related activities. The licensee has implemented plans to conduct the refueling outage in a six week time frame.

3. Licensee Action on Previous Inspection Findings

(Closed) Inspector Follow Item (81-06-04) Testing of lapsplice rebar. As indicated in Inspection Report 50-29/85-13, the magnetic particle test result of reactor column base modifications welded rebar was not available. The licensee has been unable to locate the data sheets of the magnetic particle inspection of the rebar. However, it was agreed that those personnel involved with the inspection should document the inspection results for subsequent NRC review and evaluation. Licensee Memorandums dated August 9, September 18 and September 26, 1985 were submitted to the inspector for review. These documents

were reviewed by the cognizant regional specialist inspector and determined to provide the assurance that adequate testing results were achieved. This item is closed.

(Closed) Inspector Follow Item (83-04-01) Review plant housekeeping. The SALP Report 50-29/85-99, issued on May 31, 1985, indicates housekeeping practices and conditions have shown an excellent improving trend. During the current refueling outage, good housekeeping conditions have been observed. Routine station management involvement in overseeing this area has been evident. Excellent housekeeping conditions and practices at the plant are currently considered by the inspector to be licensee strengths.

This item is closed.

(Closed) Unresolved Item (84-01-02) Resolve potentially incompatible Technical Specifications (TSs) for ECCS and LTOP. The inspector reviewed the Safety Evaluation for Amendment No. 59 of the operating license, and concluded that the licensee's actions while in the LTOP operating range are in conformance with the bases for the existing ECCS and LTOP Technical Specifications (TSs). In the LTOP area the licensee is monitoring the revision to Regulatory Guide 1.99, which should provide substantial benefits in its use for adjusting the Appendix G curve. Subsequently, the licensee will propose changes to the existing TSs to incorporate the methodology described in Regulatory Guide 1.99, which would include a complete evaluation of existing TSs to assure full compatibility exists between ECCS and LTOP constraints. The inspector verified that the development of new LTOP related TSs is included in the licensee's commitment tracking system. This item is closed.

(Closed) Inspector Follow Item (84-11-01) Licensee to perform an evaluation to determine if Containment Isolation Valves (CIVs) CC-TV-208 and HC-TV-413 should be redesigned or replaced. During the current refueling outage, the licensee has removed the subject valves and transported them to the vendor for modifications to the seating surface, guide surface, and actuator of each valve. This activity is being controlled by Plant Design Change Request (PDCR) 85-002 and one-time maintenance procedure OP-5000.187, Rev. 0. The inspector verified that the licensee's development of the PDCR has satisfied its commitment to provide the stipulated evaluation. This item is closed.

(Closed) Inspector Follow Item (84-20-09) Follow Dose Equivalent Iodine (DEI) levels due to apparent fuel cladding failure in core XVII. At the end of the operating cycle in October 19, 1985, the DEI levels were in the 5-6% range of the allowable TS limit. Fuel cladding failures were determined to exist in one fuel rod in two of the 36 fuel assemblies to be recycled. Chemical analysis conducted by the licensee strongly suggests that additional cladding failure had occurred in some of the fuel pins associated with the 40 fuel assemblies that will not be recycled as part of core XVIII. The licensee has no current plans to ascertain the nature or extent of the cladding failures within these assemblies. Further information on the fuel cladding failure, including licensee corrective actions, are contained in Section 7 of this report. This item is closed.

(Closed) Inspector Follow Item (85-11-01) Revise OP-4801 to prescribe actions required if unacceptable test results are obtained. The inspector reviewed Procedure OP-4801, Rev. 13, Functional Test and Alarm Settings of the Process Radiation Monitoring Systems, and determined that it specified appropriate actions to be implemented by Radiation Protection Department Personnel involved with the functional testing should the acceptance criteria not be met. This item is closed.

(Closed) Unresolved Item (85-11-02) Determine the acceptability of the licensee's practices and established administrative controls for the High Radiation Exclusion Area (HREA) keys. The inspector reviewed the licensee's practices and controls for the HREA keys with the cognizant, Region I specialist inspector, and determined that they were in conformance with TS Section 6.12.1 requirements. This item is closed.

4. Operational Safety Verification Reviews

a. Daily Inspection

During routine facility tours, the following were checked: manning, access control, adherence to procedures and LCO's, instrumentation, recorder traces, protective systems, control rod positions, Containment temperature and pressure, control room annunciator, radiation monitors, radiation monitoring, emergency power source operability, control room and shift supervisor logs, tagout logs, and operating orders.

- A review was conducted by the inspector on November 14, 1985 of outstanding Special Orders developed in accordance with Procedure AP-2006 and issued by the Operations Department. Special Order (S.O.) 85-99, issued on October 30, 1985, discussed refueling boron concentrations for the Core XVII-XVIII outage. One specific statement was of concern to the inspector and involved rinsing of components with Demineralized Water (DW) when they are withdrawn from the Shield Tank Cavity. According to the S.O. this action should not be considered dangerous, if large quantities of DW are avoided, and specified that 1000 gallons of demineralized water changes the concentration less than 15 ppm.

The inspector noted that in Procedure OP-1201, Rev. 13, Draining and Cleaning of the Shield Tank Cavity (STC), the licensee stipulates in the Precautions, Prerequisites and Procedure Sections that the STC walls will not be hosed down while cavity level is above the vessel flange. Technical Specifications (TS) 3.1.1.3, Boron Dilutions, specifies the Limiting Conditions For Operations and Surveillance Requirements associated with this type of an activity. The inspector determined that no rinsing of components with DW had occurred.

Inspector concerns associated with the licensee issuing a S.O. for the envisioned activity involve 1) the apparent need for a review to determine appropriateness of the activity in light of the TSs, 2) the lack of specifying appropriate controls to be supervised by a licensed reactor operator, and 3) that detailed written instructions were not available and were not PORC reviewed and approved. This matter was discussed with the plant's Technical Director on November 15, 1985, and directly following acknowledgment of the inspector's comments and concerns he arranged for the cancellation of the S.O.

Additional facts concerning this matter that the inspector was informed of were: 1) the licensee was responding to an NRC Specialist inspector's suggestion to consider the activity as a contamination control measure, 2) a licensed plant operator had taken issue with the S.O. instruction due to TSs concerns, and 3) the Operations Department reviewed the proposed activity with other senior members of the plant staff. Currently, the licensee envisions on a longer term basis the development of a Proposed Change to the TSs to provide improved specifications that will clarify and control in a more meaningful fashion activities associated with boron dilutions.

- At various times during the refueling outage, the plant operators have utilized an Emergency Diesel Generator (EDG) to supply power to the station's Electrical Power System to help alleviate high current loading on the Station Service Transformers supplying the 480 V busses. Whenever this condition occurred, another EDG was in the standby mode, which provided the required complement and conditions specified in TS 3.8.1.2 and 3.8.2.2. The inspector reviewed the licensee's practice in light of NRC:IE Information Notice No. 84-69, Operation of Emergency Diesel Generators. Based upon this review, the inspector identified no inadequacies in that the minimum of one EDG required by the TSs for Modes 5 and 6 was in a standby condition and the operating EDG was being loaded appropriately.

b. System Alignment Inspection

Operating confirmation was made of selected piping system trains. Accessible valve positions and status were examined. Power supply and breaker alignment were checked. Visual inspections of major components were performed. Operability of instruments essential to system performance was assessed. The following systems were checked:

- Charging System verified during control room board status review
- Shutdown Cooling System verified during control room panel status review

- Motor driven Emergency Feedwater Pump standby status verified during tour of the Primary Auxiliary Building and control room board status review
- Emergency Diesel Generator (EDG) unit standby verified during tours of the EDG rooms and control room board status review
- Low and High Pressure Injection Systems verified during tours of the Safety Injection Building and control room board status review

c. Biweekly and Other Inspections

1. During Plant tours, the inspector observed shift turnovers; compared boric acid tank samples and tank levels to the Technical Specification; and reviewed the use of radiation work permits and Health Physics procedures. Area radiation and air monitor use and operational status were reviewed. Verification of tagouts indicated the action was properly conducted.

On October 8, 1985, Yankee Nuclear Services Division Memorandum RP 85-286, Core XVII-XVIII Refueling Boron, was issued that specified the minimum refueling boron concentration for the refueling was 2,374 ppm. A subsequent Memorandum, RP 85-289, issued on October 11, 1985 stipulated that the above value was a recommendation and a value of 2,269 ppm actually satisfies the TS requirement for Mode 6 operations and is therefore the minimum value. At various times during the inspection period, with the plant in the refueling mode, the inspector reviewed the sampling program results and verified that reactor coolant boron concentrations were greater than the minimum required value.

No inadequacies were identified, except as noted in Section 5, Radiological Controls.

2. Observations of Physical Security

Selected aspects of plant security were reviewed during regular and backshift hours to verify that controls were in accordance with the security plan and approved procedures. This review included the following security measures: guard staffing; random observations of the alarm stations; verification of physical barrier integrity in the protected and vital areas; verification that isolation zones were maintained; and implementation of access controls, including identification, authorization, badging, escorting, personnel, and vehicle searches and compensatory measures when required. The inspector identified the following deficiencies:

- During the licensee's preparation for disassembly and inspection of the station's generator, the Security Supervisor (S.S.) issued a Memorandum on October 22, 1985 to the Westinghouse

Site Manager, which stipulated controls for badges and key cards that the contractor would implement to protect the disassembled generator from foreign objects.

Controls associated with identification badges (IDs) and access control key cards are specified in the licensee's Security Plan. The inspector discussed the appropriateness of the licensee's proposed actions with an NRC: Region I Security Specialist, and determined that their plans to use contractor personnel in lieu of security officers would be acceptable to NRC: Region I Security Managers as long as there was strict adherence to the prescribed controls. The inspector related the NRC:RI determination to senior station management, while cautioning them on the stipulated condition of approval.

Subsequently on October 24 and 25, 1985, repeated identification was made by site security officers of deficiencies in the Westinghouse implementation of the controls for the IDs and key cards. These events were documented in special security reports. The inspector became aware of the deficiencies on October 25, 1985. Following a discussion between the Plant Superintendent and the inspector, the licensee placed security officers in charge of maintaining controls for the personnel and the badges associated with the work being performed on the turbine operating floor.

- While reviewing access control provisions for NRC personnel, the inspector discovered that current NRC:Region I documentation concerning access of NRC personnel (i.e., letters of April 26, June 7, and September 5, 1985) were not being maintained at the main security entrance. In fact, an out of date letter from the Regional Administrator to the licensee dated October 24, 1984 was in the possession of the security officers at the main security entrance. This out of date letter reflected badge numbers that have been lost or deleted from use. The inspector requested, that the licensee's Security Supervisor update the access information at the main gate and implement controls that will ensure that appropriate updating takes place in a timely manner. The inspector had no further questions on this item at that time.
- On November 1, 1985 the inspector reviewed the security organization's implementation of compensatory measures due to the loss of a security feature associated with the protected area. The inspector observed that an assigned security officer was not performing his duty in an attentive manner. This condition was brought to the attention of the Security Shift Supervisor for resolution. The inspector verified that the licensee's security organization has taken immediate remedial action to preclude recurrence by the security officer involved in this matter.

Based upon routine observances of security personnel performance in implementing compensatory measures, the inspector concluded that this was an isolated incident and had no further questions of the licensee pertaining to this matter.

- The inspector reviewed the status of security equipment on October 22, 1985, and noted what appeared to be an excessive backlog of equipment deficiencies. All items were covered by outstanding Maintenance Requests. As a result of prior NRC concerns pertaining to inadequate licensee prioritization for providing maintenance on security equipment and features, the inspector held a discussion of this inspection finding with the Security Supervisor and the Assistant Plant Superintendent (APS) on October 23, 1985.

The inspector was given assurances that the Security Supervisor will be providing timely reports of security equipment status to the APS, and proper management oversight will be available. The licensee's prioritization associated with providing timely maintenance on security systems and features will be reviewed by the inspector during future inspections when the opportunity is presented. A continued high level of management involvement in this area is warranted.

3. Fire Protection and Housekeeping

During the inspection period the plant entered a refueling outage phase that had a high level of activity that influenced this area due to extensive maintenance and modification efforts. In general, the inspector observed that the licensee continued to maintain a strong commitment for good housekeeping conditions. However, the inspector noted numerous deficiencies that were directly related to contractor personnel laxness in maintaining a strong adherence to established fire protection practices. Inspector comments pertaining to this area are detailed below, which suggest the need for the licensee to reassess its controls and oversight applied to contractors.

- At the inception of the refueling outage, the licensee initiated a fire protection tour at the end of each shift. This tour, which was designed to identify inadequacies in the control of combustibles, was performed by the Refueling Outage Coordinators or a Shift Supervisor. In addition, the inspector noted that there was an appropriate level of involvement by the Fire Protection Coordinator in the ongoing outage activities. However, oversight by cognizant plant supervisors in charge of the work activities involving contractor personnel could be strengthened.

- Inspector observations relating to smoking practices within the Radiation Control Area (RCA) necessitated that repeated discussions be held with the plant management on this subject. The Plant Superintendent strongly warned his staff that continuation of any improper practices would result in banning smoking at all allowed areas within the RCA.

Within the fire control areas of the plant, the inspector did not observe evidence of smoking materials lying about but, did observe on October 29, 1985 one contractor employee smoking in a no smoking area of the turbine building's pump room. Although this condition was contrary to posted signs and station procedures, it was the inspector's judgment that this was an isolated incident. Upon identifying the condition to the licensee, the inspector verified that appropriate corrective actions were implemented to address this issue.

- During the inspection period, the inspector had observed weaknesses in contractor employees maintaining adequate clearances between adjacent combustibles and ongoing hotwork. These conditions were brought to the attention of the licensee, who provided immediate remedial measures to correct conditions. The licensee's hot work permits always specify that the fire watch is to assure that the area is free of combustibles.

A discussion with the Technical Services Manager and the Fire Protection Coordinator, which included the inspector enumerating his comments and concerns on this matter, resulted in the licensee agreeing to revise their qualification program for the fire watch function to include dissemination of all applicable material in procedure AP-5005. The inspector believes that this licensee action will provide a major improvement in the ability of the assigned personnel to perform their fire watch function in a proficient manner. The performance of fire watch personnel will be reviewed by the inspector during routine inspections. However, a continued high level of management attention is warranted.

5. Radiological Controls

Radiological controls were observed on a routine basis during the reporting period. Standard industry radiological work practices, conformance to radiological control procedures and 10 CFR Part 20 requirements, were observed. Independent surveys of radiological boundaries and random surveys of non-radiological areas throughout the facility were taken by the inspector.

Inspector observations and reviews of events relating to radiological controls are contained below:

- On October 22, 1985 the inspector noted that personnel were failing to sign in on Radiation Work Permits (RWP). Since identification of a programmatic weakness regarding the RWP procedural recordkeeping requirements was contained in the last SALP Report (50-29/85-99), the inspector held a discussion with the Radiation Protection Manager (RPM) and the Technical Director (TD) relative to this item.

The RPM and TD acknowledged the inspector's comments and concerns, and indicated that effective measures would be established to correct the identified deficiency. At the end of the inspection period, the inspector noted that licensee action was effective in that no further occurrences were noted. This appears to be due to increased sensitivity by both the Radiation Protection Department (RPD) and the other plant departments supervisor's requiring their personnel to implement required radiation protection practices. The inspector had no further question on this item.

- The inspector was notified by the licensee that on October 22, 1985 two contractor personnel removing the primary side manway on the No. 2 Steam Generator received an intake from airborne contamination. It was conservatively estimated that the individuals each received a 43 MPC-hrs intake with this condition not being an overexposure incident since it did not exceed the 10 CFR 20.103 (a)(1) limit of 520 MPC-hrs. The RPD specifically established process controls for this activity to preclude the use of respiratory protective equipment as a method of increasing worker efficiency and reducing overall exposure. However, inadvertent pressurization of the drained steam generator had lifted the installed protective membrane on the manway resulting in the unplanned intake. The RWP controlling the work activity specifically stated that the manway membrane was not to be removed as a condition of removing the cover. Corrective measures as a result of this event included conducting appropriate evaluations of the intake by the involved individuals, and revision to the procedure that controlled the work activity. The inspector verified that Advanced Change Notice No. 1 to Procedure 5220, Rev. 4, Opening of the Steam Generator Manways, provided appropriate changes that should prevent recurrence of this radiological incident. The licensee is in the process of documenting and further reviewing this event as a result of the determination by station management that the event will be the subject of a Plant Information Report. Since this event involves intake by an individual in excess of the 40-hour control measure specified by 10 CFR 20.105(b)(2), the licensee is required to make an evaluation and take such actions as are necessary to assure against recurrence. The inspector verified that the actions taken to date, as well as those planned, are appropriate and provide compliance with the stipulated requirements. The inspector had no further questions of the licensee on this matter.

- A airborne contamination incident occurred at the plant on November 3, 1985, which resulted in gross contamination to two individuals. Only one individual was determined to have an intake with an attributed exposure of 28 MPC-hrs. The work activity involved the inspection and measurement

of failed in-core flux tubes. Respiratory protective equipment was not specified or used by the individuals performing the work. According to the licensee, the ALARA preplanning that was conducted at the site some time prior to the event, and which specified appropriate controls, was not made available to the shift RP personnel authorizing and following the work. Additionally, insufficient details relative to the work activity may not have been communicated between the workers performing the inspection and the RPD personnel on shift. This event demonstrated the need for improvements 1) communications between personnel to ensure that necessary RP practices are implemented, and 2) an ALARA review system that implements actions without dependency on availability of key RP personnel. The inspector has noted during the refueling outage initiation by the RPD of an RWP Request Form. This document when correctly completed by licensee personnel performing work requiring an RWP will allow RP personnel to be cognizant of the scope of work that is to occur and make efficient use of radiological controls. Routine use of this form should help to improve communications between the cognizant personnel. The inspector had no further questions relating to the described event.

- During a review of licensee activities within the Vapor Container on November 21, 1985, the inspector observed two individuals not wearing appropriate head coverings given the radiological conditions within the containment. One individual, who was issued RWP 85-5812, was operating the polar crane on the charging floor and was a contractor. The other individual, who was issued RWP 85-5821, was a YAE Nuclear Services Engineer and was inspecting small bore pipe supports in the main coolant loop compartments. This latter individual was also observed to be chewing gum within the radiological controlled area. The inspector verified that the observed lack of employing proper head coverings was contrary to the protective clothing requirements stipulated in the enumerated RWPs.

The inspector brought the conditions to the attention of the cognizant licensee RPD technician in the Vapor Container. Immediate corrective actions were taken by the licensee. The inspector reviewed the Radiological Deficiency Reports issued to document the events and describe the short and long term corrective actions for the individuals involved, and determined that they were appropriate to the circumstances. Based upon all observations throughout this inspection period, the inspector did not note the existence of a programmatic weakness associated with failure to follow prescribed RWP protective clothing requirements. However, at a meeting held by the inspector with the plant's Technical Director, the inspector informed the licensee that further recurrence of the identified deficiency could result in enforcement action. The inspector observations demonstrate the need for station management to maintain a strong involvement in the radiological controls area to ensure 1) that the licensee's personnel, and not the inspector, identify deficiencies, and 2) that the various plant department managers mandate that the personnel follow prescribed radiological protection practices in support of the efforts of the RPD.

6. Review of Events Requiring Telephone Notification to the NRC

The circumstances surrounding the following events requiring NRC notification via the dedicated ENS-line were reviewed. A summary of the inspector's review findings follows:

- At 8:45 a.m. on October 28, 1985, the NRC was notified in accordance with 50.72 (b)(1)(v) that a major loss of communications capability (including the ENS) would shortly occur as a result of the deactivation of the Non-Emergency UPS. The licensee's action was taken to facilitate conduit and cable relocation in the new security gatehouse. The activity was controlled by plant procedure OP-5000.179. Conditions were returned to normal by 9:10 a.m. on this date. This process was repeated on October 29, 1985, with the condition occurring between 8:55 a.m. and 9:14 a.m. The inspector noted that the Plant Operations Manager issued Special Order No. 85-94 to the Operations Department on October 22, 1985 that incorporated a memo from a member of the plant staff describing the effects of implementing OP-5000.179. He also reminded the plant operators to utilize OP-Memo 2A-1 for alternate methods of performing NRC notification during the loss of communications ability.
- At 8:04 a.m. on November 5, 1985, the NRC was notified of a condition involving fuel degradation in accordance with 50.72 (b)(2)(i). Since the primary coolant chemistry data for the prior operating cycle indicated the presence of failed fuel, the Operations Department issued Special Order No. 85-101 on October 31, 1985, that directed operating personnel to place a 4 hr. ENS call when a damaged fuel assy is discovered. The licensee informed the NRC that this was the first of several fuel bundles that they envisioned would be found in a degraded condition but, did not intend to provide further ENS notifications. The licensee's plan called for including all relevant information pertaining to fuel degradation that resulted from Core XVII operation in a 30 day LER (50-29/85-03). This event is discussed in Section 7 of this report.
- At 11:30 a.m. on November 7, 1985, the NRC was notified that two electric driven fire pumps were removed from service at 11:30 a.m. on November 6, 1985. The pumps were restored to service at 2:55 p.m. on November 6, 1985. The licensee placed the telephone call in accordance with TS 3.7.10.1 Action Statement b.2.a. on the ENS. The licensee was informed that it would be acceptable in the future to inform the Resident Inspector in lieu of utilizing the ENS for this event since it is not a 50.72 reportable event. This event is discussed in Section 7 of this report.
- At 9:59 p.m. on November 20, 1985, the NRC was notified in accordance with 50.72 (b)(2)(i) that the Condensate Pump trip function that occurs on a coincident main steam line low pressure and containment high pressure condition was inoperable for all three pumps. This event is discussed in Section 7 of this report.

No inadequacies were identified.

7. Inspector Review Of Plant Events

A. Coastdown Operations

From September 26, 1985 until October 19, 1985, the plant operated continually in Mode 1 until the end of cycle coastdown. During this period, preparations were made by the licensee for Cycle XVII-XVIII refueling. Inspector observations are noted below:

- At approximately 4 p.m. on September 27, 1985, hurricane Gloria passed through the site area with average wind speeds of 20 mph and gusting to 40 mph. Precipitation was in the vicinity of 3 inches. There was no declaration of a plant emergency since the Emergency Action Level for an Unusual Event is sustained winds of 73 mph.

A review was conducted by the inspector of the actions taken by the licensee in preparation for the arrival of the hurricane. Preparations were initiated on September 26, 1985. Special Order No. 85-79 issued by the Operations Department detailed current and projected storm information, required operations personnel to review specified emergency procedures, described operating instructions for the screen wash system, and specified the nature and frequency of operational checks to be made during the storm. An updated Special Order, No. 85-80, was issued on September 28, 1985 describing current storm conditions and operator actions to be imposed subsequent to a plant trip if it were to occur. Non essential personnel were allowed to leave the plant at 12 noon on September 27, however the licensee maintained a skeleton crew of I & C, Maintenance, Chemistry, and Stores personnel to support plant operators. Frequent facility tours were conducted on September 26-27, 1985 by senior station managers to ensure that protection for equipment was in place and that loose objects were being secured. The extensive involvement by the senior station managers in preparing for the hurricane is viewed by the inspector as a licensee strength.

No inadequacies were identified by the inspector.

- On September 26, 1985 the Operations Department issued Special Order 85-78 which specified that the steam heating supply and condensate return for the Diesel Generator Building (DGB) was tagged out of service. This action was taken by the licensee in response to an NRC staff concern for the ability of the plant to safely shutdown in the event of a steam heating line break in the DGB. The NRC staff review was being conducted as part of its resolution of issues associated with environmental qualification of safety-related electrical equipment.

The NRC concerns involve a postulated scenario that envisions a steam line break in the DGB that causes a loss of emergency power and an automatic plant trip. The NRC staff assumes in its analysis that a loss of offside power occurs in conjunction with a single active failure, which in this case would be most limiting if it were the steam-driven auxiliary feedwater pump. The licensee stipulated in its letter FYR 85-99 to NRC:NRR on September 26, 1985 the short term corrective measure enumerated above, as well as a commitment to install excess flow check valves in the lines in lieu of isolating the lines. These check valves were installed during the current refueling outage.

The inspector determined that the licensee's actions were responsive and timely as a result of the NRC concern.

- On October 2, 1985, the licensee issued letter FYR 85-103 to NRC:NRR stipulating that the current Cycle 17 operation would result in a core burnup in excess of 15,000 MWD/MTU. This condition would occur on October 13, 1985 and by the refueling shutdown on October 19, 1985 the burnup would reach about 15,108 MDW/MTU. The licensee attributed the reason for this occurrence to be associated with the longest continuous run in the history of the plant.

According to the licensee's submittal, various TS figures show a maximum burnup at 15,000 MWD/MTU however, they have evaluated a cycle burnup of up to 15,200 MWD/MTU and concluded that there are no safety concerns with the projected operation.

The NRC:NRR issued a letter to the licensee in October 11, 1985 that evaluated the safety implications of the intended facility operation and concluded it to be acceptable.

B. Cycle XVII-XVIII Refueling Operations

At 7:12 a.m. on October 19, 1985, the reactor was subcritical and plant refueling operations commenced. The reactor remained in Modes 5 or 6 throughout the remainder of the inspection period that ended on November 25, 1985. Inspector observations are noted below:

- During the performance of ultrasonic inspection on recycled fuel in November 5, 1985, the licensee discovered that fuel assembly B-696I from core location C-9 was found to have sustained fretting damage on the spacer grids on the side adjacent to the core baffle wall. All fuel rods in the assembly had eddy current testing performed, with two rods determined to have fretting damage. Depth of wear was approximately ten mills. No through-wall wear was found. The damaged assembly was reconstituted in cage B-1002-R. The licensee assisted Exxon personnel with the repair, which was conducted in accordance with procedure XN-NE-865, dated November 1985. The damaged fuel rods were replaced with new inert rods.

Subsequently on November 6 and 7, 1985, fuel assemblies B-688 and A-679 respectively, were found by ultrasonic examination to each have one failed fuel rod. The rod from assembly B688 had a bulge approximately eight inches down from the top which precluded eddy current examination. Eddy current testing on the failed rod from assembly A-679 found a through-wall defect near the top of the rod. Both assemblies were reconstituted with inert rods replacing the damaged rods. The licensee was unable to attribute a cause for the defect found in these assemblies. The licensee believes that the fretting damage to the rod cladding and spacer grid of assembly B-696I is attributable to core baffle spacer flow jetting. Corrective action in this refueling outage for recurrent fuel assembly damage in core position C-9 consisted of installing two baffle spacer plugs to reduce the pressure behind the baffle spacer and thereby reduce any flow anomalies present in that core position. The design and installation of the core baffle spacer plugs were controlled by Engineering Design Change Request (EDCR) 84-324. Although the EDCR was to control the installation of up to twenty spacer plugs during this outage, only the first set of plugs in core location C-9 were installed. Significant difficulty in the installation of these plugs was experienced, which necessitated field modification of the core baffle plugs and was treated as a minor change to the EDCR by the cognizant YNSD and plant engineers. A minor ECN was developed to incorporate the change to the EDCR.

In response to recurrent fuel failure problems at the plant in the past, a Task Force was formed to investigate the situation during Cycle XVII operation and develop plans and programs necessary to eliminate future failures. The design and implementation of the baffle spacer plugs is one of the programs overseen by the Task Force. A second aspect of the program consisted of eight fresh Cycle XVIII fuel assemblies being modified to reduce the possibility of damage due to flow conditions. These assemblies have been loaded into core positions where flow-induced fretting has the potential to occur. The modifications include special vertical guide bars at vulnerable corner locations, inert rods in selected locations, and a fixed spacing device to provide extra rigidity for the inert rods inserted on the periphery of these assemblies.

The licensee intends to report the defected fuel degradation in the three affected assemblies in License Event Report 50-29/85-03.

- As a result of performing an inspection of the service water bay in the screenwell house in accordance with the licensee's commitment established in NUREG-0825, SEP Topic III-3C, two electric driven fire pumps were removed from service at 11:30 a.m. on November 6, 1985. By 2:55 p.m. the same day, the two pumps were returned to service. A redundant diesel driven fire pump was available through the period that the two motor operated high pressure pumps were out of service.

The licensee submitted a Special 24-hour Report on November 7, 1985 in accordance with TS Section 6.7.6.f. and 3.7.10.1 Action Statement b, in which the event was described and indicated that no compensatory measures were taken due to the fact that the redundant pump was equal in capacity to the combined capacity of the two pumps removed from service. The inspector noted that TS Section 3.7.10.1 Action Statement b. requires the establishment of a backup fire suppression water system within 24 hours for the inoperability involved in this event. Since the condition only existed for 3 hours and 25 minutes, the licensee's actions were in conformance with the subject TS.

- As a result of a Fire Hazard Analysis review conducted on November 15, 1985, the design of the northwest west corner of the Switchgear Room wall/fire barrier was determined to not provide fire protection consistent with the plant's Fire Protection Program for this area. The licensee declared the fire barrier inoperable and implemented the TS 3.7.11 action statement requirement to station a fire watch in the area.

The licensee developed and implemented Plant Design Change Request (PDCR) 85-013, Switchgear Room Fire Barrier-Northwest Corner to correct the deficiency. The 1/4" Steel plate that makes up the existing fire barrier was upgraded by the PDCR by installation of a 2 hour UL rated wall on the Switchgear Room side of the steel plate. Completion of the modification occurred on November 27, 1985. The licensee indicated that the fire barrier in question was not addressed as an area of concern during the Branch Technical Position 9.5.1 Appendix A inspection and subsequent Safety Evaluation Report. The licensee intends on submitting a Licensee Event Report (LER 50-29/85-05) for this event.

Based upon the licensee's self-identification of this condition, the responsive development of immediate and long term corrective measures, and the determination that the event is reportable will enable the inspector to treat this item as a licensee identified violation. In accordance with the provisions of 10 CFR 2, Appendix C, a notice of violation will not be issued.

- While in Mode 6 and performing procedure OP-4660, Rev. 1, Condensate Pump Trip Operational Test on November 20, 1985, the licensee discovered that the circuit which trips the Condensate Pumps upon coincident low main steam line pressure and high vapor container pressure conditions was inoperable. The inoperability was caused by an open circuit condition that was created by stripped threads on a shorting screw that is part of a terminal block. Corrective action consisted of replacing the shorting screw with a permanently installed jumper with the repair and retest activity documented by MR 85-1407. When this event was discovered, the licensee initiated a 4-hr ENS notification. Current licensee plans call for issuing a Licensee Event Report (LER 50-29/85-06) for this event.

The inspector noted that 1) this trip function is not a TS requirement, 2) the licensee performs the operability surveillance approximately every 18 months or when the plant is refueling outage, and 3) the licensee committed to install the trip function in its letter WYR 80-50 transmitted to the NRC:NRR on May 8, 1980 in its response to IE Bulletin No. 80-04. The installation of the trip function involves main steam line rupture analysis, with its resulting concerns for containment overpressurization and potential for return to power. The licensee, indicated that they installed the trip function as a prudent feature that would lessen the severity of a main steam line rupture. Additionally, emergency procedures were modified to provide additional assurance of feedwater termination to a damaged steam generator. The inspector verified that Procedure OP-3000, Rev. 24, Emergency Shutdown From Power, specifies as an immediate operator action the termination of feedwater flow to the steam generators.

The NRC staff specified in its letter of May 23, 1983 to the licensee on Systematic Evaluation Program (SEP) Topics VI-2.D and VI-3, that, the licensee's evaluation for Bulletin 80-04 did not address the effects of single active failures associated with the condensate pump trip circuit. However, due to conservations in the licensee's analyses, including operator actions and system evaluations performed under related SEP Topics, it was the staff's judgement that it is highly unlikely that either an overpressurization failure of the containment or a return-to-power event more severe than those previously analyzed would occur.

The inspector identified no deficiencies in licensee performance as a result of this event, and had no further question on this matter.

8. Monthly Maintenance

The inspector observed and reviewed maintenance and problem investigation activities to verify compliance with regulations, administrative and maintenance procedures, codes and standards, proper QA/QC involvement, safety tag use, equipment alignment, jumper use, personnel qualification, radiological controls for worker protection, fire protection, retest requirements, and reportability per Technical Specification. The following activities were included.

- Maintenance Request (MR) 85-1059 Electro Thermal Link for Damper Failed To Fire
- MR 85-1144 Replace PASS Cylinder With Larger Pressure Rated Unit
- MR 85-1208 EBF-FI-1 Does Not Respond To Flow
- MR 85-1303 Fuel Assembly B696I Damaged Grid Strap

- MR 85-1314 Fuel Assembly B688 Failed Fuel Rod
- MR 85-1317 Fuel Assembly A679 Failed Fuel Rod
- MR 85-1362 No. 2 Steam Generator Has Cracked Feeding
- MR 85-1363 No. 3 Steam Generator Has Cracked Feeding
- OP-6000.212, Rev. 0, Reactor Trip Breakers (RTBs) Bk-1 and Bk-2 Trip Timing
- OP-4525, Rev. 6, Surveillance Inspection of Rod Drive ACB's
- OP-2120, Rev. 6, System/Component Isolation, Pressure/Leak Test and Return to service of CHV-773 and SI-V-646.

As a result of the review conducted in this area, the inspector had the following comments:

- a. Regarding the performance of OP-6000.212, the licensee determined that RTB's BK-1 and BK-2 had response times of 35.42 milliseconds and 41.66 milliseconds, respectively. These response times reflect initiating the RTBs trip function from a main control room manual pushbutton, and occurred as the only trip of the breakers following 336 days of continuous operation. Following the initial trip, the breakers were re-tripped with response times of 38.8 milliseconds observed for both breakers.
- b. The inspector reviewed the licensee's preventive maintenance (PM) practices for the RTBs. Procedure OP-4525 is utilized to control this activity. Following the complete inspection and PM on the breakers, a response time check is usually performed. Currently, procedure OP-4525 stipulates that post maintenance response time testing is performed at the discretion of the Maintenance Supervisor. The licensee's Maintenance Supervisor informed the inspector that the procedure will be changed to require the test following maintenance. Additionally, the licensee has installed a sequence of events recorder that provides RTB response time information as part of the Reactor Protection System modernization implemented in the current refueling outage.

The inspector discovered one discrepancy with the licensee's PM on the RTBs, which involved the OP-4525 requirement to perform a 70 VDC half voltage trip actuation of the shunt trip coil. Maintenance personnel that were performing the RTB PM were questioned as to their intended method of developing the test voltage. They informed the inspector that a resistance box would be set at the value stated on the box cover, which was 27 ohms. Once the inspector questioned the basis for using this value of resistance, the licensee determined that the correct value would be 55 ohms based upon actual measurements utilizing the trip coil

in question. The licensee agreed with the inspector that the test methodology described in the procedure should be expanded to ensure the desired half voltage test on the trip coil is conducted properly.

The inspector will follow the licensee's efforts to revise procedure OP-4525 to clarify post maintenance response time and half voltage trip coil testing requirements (50-29/85-18-01).

- c. On November 21, 1985, the licensee was performing fill, vent, and flush operations as a result of performing maintenance on valves CH-V-773 and SI-V-646. The first valve is a manual isolation valve for the Safe Shutdown System's (SSS) injection line into the main coolant charging line and the second is the outlet check valve on the Safety Injection System's hot leg injection line. The licensee was controlling this activity via procedure OP-2120, System Component Isolation, Pressure/Leak Test and Return to Service. The fill, vent, and flush was a prerequisite to the post maintenance hydro which is also performed by procedure OP-2120.

At approximately 4:00 a.m. on November 21, 1985 a liquid spill occurred in the SSS Building because valve CH-V-773 was inadvertently left open and upstream instrumentation lines for a flow element in the line were disconnected from their differential pressure transmitter. A total of approximately 50 gallons of primary system water leaked onto the SSS Building floor with the majority contained within a floor sump. Due to the alert efforts of a control room operator, the purification pump was secured when it became apparent that excessive fluid loss in the Low Pressure Surge Tank was occurring. The operator's action is credited with preventing a major spill. Immediate corrective actions for the spill consisted of removing spill liquid for processing in waste disposal from the SSS Building, decontaminating the area as much as possible (4-20K dpm/100 cm squared), and establishing the back yard area as part of the Radiation Controlled Area. The inspector reviewed the radiological control activities of the licensee that were in response to the liquid spill, and identified no inadequacies in their performance. No radioactive material was released off-site as a result of this event.

The OP-2120 procedure is called by the licensee a "fill-in-the-blank" type procedure. All the general controls for plant and personnel safety are specified in the precautions and prerequisite sections of the procedure; however, plant operators have to fill out attachments to the procedure for 1) depicting the pressure test boundaries on a drawing which is to include blanks and pressure test taps, 2) list valves in sequential order that must be operated to isolate the system, 3) list valves or equipment that must be operated to vent, drain and/or purge the system or components, 4) list in sequential order the valves or equipment that must be operated to flush, fill and vent the system or component, 5) provide all relevant pressure/leak testing data, and 6) provide a system lineup for return to service.

The inspector noted that the CH-V-773 valve was not listed on the appropriate procedural attachment. Additional boundary valves VD-V-855, CH-V-613, and CH-V-929 were also not listed; however, these valves were in the closed position and would not have impacted on the fill or hydro operations.

The inspector identified concerns with the OP-2120 procedure that centered on the issue of procedure review and approval prior to implementation. The procedure in use on November 21, 1985 was not reviewed and approved by the PORC or Plant Superintendent (PS). This is due to the procedure review criteria specified in OP-2120 that imposes only a second Operations Department person review for inspection, maintenance, or changes to Non-Nuclear Systems, and/or inspections, repairs to Safety Classified Systems. For changes to Safety Classified Systems (such as Plant Design Change Requests, etc.), a review by the PORC is required. The review and approval criteria established by the licensee may, in the inspector's judgement, not always be in consistent with the TS Section 6.8 requirements associated with establishing and reviewing procedures required for selected activities.

The inspector was informed by a licensee representative that due to the occurrence of the spill, and long standing concerns for the use of "fill-in-the-blank" type procedures that do not receive the full procedural review process, the PS directed that the PORC will review prior to implementation the prepared OP-2120 procedures. As a result of inspector observations related to the review and approval criteria established by the licensee in Procedure OP-2120, the licensee was requested to review the appropriateness of this criteria and provide an evaluation as to how TSs and QA Program requirements are being met. This item remains unresolved pending further inspector review (50-29/85-18-02).

9. Monthly Surveillance Observation

The inspector observed tests and parts of tests to assess performance in accordance with approved procedures and LCOs, test results (if completed), removal and restoration of equipment, and deficiency review and resolution. The following tests were reviewed:

- OP-4274, Rev. 0, Inservice Inspection Flow Test of the Low Pressure Safety Injection System Check Valves
- OP-4235, Rev. 0, Inservice Inspection Leak Test of Low Pressure Safety Injection Check Valve CS-V-621
- OP-5404, Rev. 5, Inspection of the Steam Generator-Secondary Side
- OP-4219, Rev. 8, Pressurizer Spray System Operational Check
- OP-4666, Rev. 2, Functional Test of the Fire Suppression and Detection Systems.

- OP-4239, Rev. 7, Setting VC Integrity and Operability Check of the VC
- OP-7203, Rev. 7, Eddy Current Examination and/or Repair of Steam Generators Nos. 1 and 2.
- OP-4660, Rev. 1, Condensate Pump Trip Operational Test

With the exception of the items identified below, no further deficiencies were identified:

- On September 28, 1985, the inspector discussed with the I & C Foreman the licensee's practice of calculating their surveillance intervals. This came up as a result of reviewing the licensee's testing of the fire suppression and detection System per OP-4666. It was determined that the procedure was not considered complete since the licensee was waiting to complete testing on a fire detection zone that was not a TS requirement. Inspector concerns involved the potential for the licensee to calculate the subsequent required test date on TS fire detection equipment based upon the final completion date of fire zone equipment waiting to be tested. This was resolved by the licensee's decision to separate in the procedure the TS and non-TS fire detection zones.

The inspector verified that the licensee uses the dates that the individual fire detection zone surveillances are completed. Further refinements in the computer tracking of I & C surveillances have resulted in using the actual day of test and not the day that supervisory personnel have reviewed the surveillance results. No deficiencies were identified as a result of the inspector reviewing this item.

- During the inspection period, the licensee contracted for Steam Generators (SG) inservice inspection (ISI) services. Eddy current testing of SGs 1 and 2 were scheduled, and were to consist of examination of the hot and cold leg tubes. The inspector periodically reviewed the operations conducted per OP-7203 to verify the results for TS 4.4.10 compliance.

As noted in Inspection Report 50-29/84-07, Section 8, the licensee would perform the ISI on at least one SG during this refueling outage. Initial licensee attempts to inspect SG No. 2 tubes on October 23, 1985 resulted in an inability to obtain test data due to interference caused by magnetite buildup on the first 2-3 feet of the hot leg tubes. The licensee then performed on October 25, 1985 a significant inspection of both the hot leg and cold leg tubes of the No. 1 SG. Based upon inspection of 1500 tubes inspected out of 1620 tubes in the SG (due to 16 tubes temporarily plugged for the template, 52 tubes inaccessible, and 52 tubes previously plugged), tube L-23 was determined to be 47% degraded. The licensee classified this condition as a defect, which put their testing program into a C-2 category. The licensee last inspected SG No. 1 during a 100% hot leg and cold leg baseline in 1981. The defective tube was

plugged on November 1, 1985 utilizing a mechanical plug installed by Westinghouse personnel. The NRC has reviewed in previous inspections the licensee's use of mechanical plugging techniques.

The inspector noted that the licensee submitted to the NRC: Region I Office in November 14, 1985 the results of their SG Inspection Program, as required by TS 4.4.10.5.a. The inspector was requested by a regional NRC specialist inspector to request the licensee to submit to the NRC prior to the next SG ISI inspection their plans and schedules for that inspection. The requirement to submit this information is contained in ASME Section XI, IWR 1400, and will enable the NRC to prioritize and assign inspections accordingly. This inspection report documents the NRC's request on this matter. The inspector will follow the licensee's plans to resolve the issue of SG No. 2 magnetite interference and testability of the hot leg tubes in this SG (50-29/85-18-03).

- During the performance of secondary side inspections of the four SGs on November 12, 1985, the licensee identified weld cracks on the SG Nos. 2 and 3 feed rings. Additionally, the licensee determined that three feed ring mounting brackets were missing on SG No. 3. These conditions were determined to exist as a result of the licensee performing the inspections per procedure OP-5404. An NRC: Region I specialist inspector was assigned to review the circumstances of the surveillance findings and the licensee's corrective actions. The following represents the combined inspection findings of the resident and specialist inspector:

Licensee inspection of the inside of the upper shell portion of SG Nos. 2 and 3 showed circumferential cracks in the non-ASME Code welds in the "T" to the feed ring joint (one cracked weld in each SG).

The weld crack in SG No. 2 was two inches in length and the weld crack in SG No. 3 was 360 degrees. The "T" which splits the feedwater inlet flow to the two semi-circular feed rings originally had a welded deflector plate at the top of the "T" (making the "T" a cross with a weld flange top). This plate apparently failed (presumably by flow induced fatigue) and was subsequently replaced by a flat plate flange held in place by "U" bolts on either side of the "T" adjacent to the "T"/feed ring welds. These highly torqued "U" bolts produce a restraint on the feed ring at the weld area. In the process of weld repair of the cracked welds it was noted that the "T"/feed ring welds did not have complete fusion to the root of the weld.

Repair of the welds are complete. The licensee stated that its engineering organization has found the design to be acceptable with the repaired welds. No other type of fix is planned. A final engineering evaluation will be prepared but will not be issued prior to startup. Evaluation of the weld cracking by the licensee's welding metallurgical personnel indicated the mechanism to be most probably caused by cyclic loading initiated at the site of lack of root fusion in the weld.

During the visual inspection conducted during this outage it was also noted that three of the six original "Z" feed ring support brackets in SG No. 3 were missing. A design change implemented in 1965 replaced the 24 "Z" supports in the four SG's with 1 1/8" diameter rod hangers. However, the "Z" brackets were not removed at that time. The licensee conducted visual and TV optics inspections of the open peripheral area at the bottom of the downcomer annulus adjacent to the tube bundle and reported that no foreign objects (from the missing "Z" supports) were present in this area. Although there are no quality records to verify that the three missing "Z" supports were removed from SG No.3, it is presumed by the licensee that they were removed. The licensee reported that there was no obvious indications of oxy-fuel burned off stub sections of the three "Z" brackets nor areas where base metal was "pulled out" of the shell wall.

Eddy current tests by ZETEC conducted on all SG No. 3 tubes in 1984 and all of the hot leg tubes in 1978 did not show any tube fretting degradation signals in the peripheral tubes; therefore the presence of foreign objects in this area was not indicated.

The licensee conducted "proof load" tests and determined that the remaining "Z" brackets are firmly attached to the SG. The licensee also determined that the "Z" brackets are not in contact with the feed ring.

In summary, the licensee concluded that the repairs made to the feed ring welds were acceptable, that the remaining 21 original "Z" brackets were adequately attached to the SG shell ID surfaces, and that there was no evidence of foreign objects in the SG No. 3 tube bundle periphery caused by the three missing "Z" brackets. The inspector concurs with this evaluation.

The licensee informed the inspector on November 25, 1985 that they had assembled a team that was being directed by the Technical Manager, to conduct extensive visual inspections of the secondary sides of SG Nos. 2 and 3. This inspection was conducted subsequently to the completion of repair activity in the SGs, and was in response to significant station management concern that developed due to reports of possible loose parts existing in the two SGs from the maintenance activity. The inspections consisted of TV camera inspections of the downcomer annulus area while the SGs were filled, as well as dry SG inspections through the lower inspection manways. In SG No. 2 the licensee found: one plastic tie wrap, six full length unused weld rods, one half length used weld rod, and a welding brush. In SG No. 3 the licensee retrieved: one threaded shackle bolt, one half length used welding rod, and two plastic tie wraps. The inspector was told that it was the report of the possible loss of a welding brush in SG No. 2 that initiated the managements concern and corrective actions.

Although the licensee's corrective measures for the reported loose parts detection was appropriate, the inspector was concerned that the loose parts controls required by procedure OP-5404 was inadequately implemented. Specifically, the licensee was to establish a housekeeping log and maintain Zone III accountability for personnel and equipment. A caution note in the procedure states..."Extreme caution and access control shall be maintained while the steam generator manway is open to ensure foreign material or improperly dressed personnel do not enter the steam generator manway. The material found in SG Nos. 2 and 3 were not identified as being missing in the housekeeping logs.

The inspector held a discussion with the licensee's senior station managers pertaining to the apparent laxness by the plant staff to effectively utilize the required housekeeping controls during the inspection and maintenance activities that occurred with the SGs. The Plant Superintendent acknowledge the inspector's comments and concerns, and indicated that they had a significant level of concern and would implement corrective measures to preclude implemented housekeeping controls while performing SG secondary side inspection from being inadequate. This item is being treated by the inspector as a licensee identified violation in accordance with the NRC guidance contained in 10 CFR 2, Appendix C.

As part of the review of the licensee's activity in this area, the inspector conducted an examination on the licensee's controls and performance in maintaining containment integrity while the SG secondary side inspection manways were open and core alterations were in progress. Although no inadequacies in licensee performance were observed, the inspector noted that during this condition there are a considerable number of pathways that potentially could provide uncontrolled release paths following a refueling accident if not appropriately controlled. These pathways are associated with plant secondary side components/piping being open simultaneously to Vapor Container (VC) and outside atmospheres.

The inspector has determined that the licensee's procedures generally reflect a regard for TS 3.9.4. requirements associated with containment integrity however, they are not prescriptive in nature. Based upon this conclusion, the inspector held a discussion with the licensee's Technical Director on November 14, 1985 and requested that the licensee take the following actions:

1. Procedure OP-3117, Rev. 10, Refueling Accidents should be revised to include immediate operator actions to secure the V.C. Purge System vent valves, and specify that the Low Pressure Vent Header be isolated by an isolation valve or device.
2. Procedures OP-5403, OP-5404, and OP-5454 should be reviewed to determine the need to include additional controls and considerations for maintaining containment integrity while secondary side systems are open for maintenance. Listing of valves and use of tagging that will ensure isolation of appropriate lines is encouraged.

3. Procedure OP-4239, Rev. 7, Setting VC Integrity and Operability check of the VC and SFP Ventilation Systems, should be revised to include a check of all those controls implemented that prevent the creation of openings directly to atmosphere from the VC.

Following the inspector's discussion with the licensee on their current practices, the licensee reviewed the status of all applicable boundary valves and, where appropriate, initiated Tagging Orders to ensure that adequate controls were in-place to maintain containment integrity.

The inspector will follow the licensee's efforts to strengthen procedural controls associated with maintenance, surveillance and operations activities that are used to ensure that containment integrity is being maintained when required (50-29/85-18-04).

10. Onsite Review Committee

On October 19 and 30 and November 1, 8, and 15, 1985 the inspector observed the meetings of the Yankee NPS onsite review committee (PORC) to ascertain that the provisions of TS 6.5.1. were met.

Except for the following item, the inspector had no further comments as a result of reviewing the licensee's activities associated with the onsite review committee:

- During the meeting on October 19, 1985, the inspector observed the committee review of Procedure OP-8020, Rev. 2, Implementation and Documentation of ALARA Job Reviews. Subsequent to the meeting the inspector held a discussion with the Technical Service Manager and Radiation Protection Manager relative to the licensee's established controls for temporary application of shielding to safety-related system components. The licensee's Procedure AP-0060, Rev. 1, Temporary Shielding on Safety-Related Piping was established to control the application of shielding.

The proposed revision to OP-8020 did not specify the shielding accountability and controls associated with procedure AP-0060 as part of the preplanning or implementation of ALARA controls. Based upon the inspector's concerns and recommendations on this item, the licensee agreed to include appropriate instructions in OP-8020 at the time the procedure is released. The inspector had no further questions on this item.

11. Review of Periodic and Special Reports

Periodic and special reports submitted to the NRC pursuant to Technical Specification 6.9 were reviewed. The review ascertained: Inclusion of information required by the NRC; test results and/or supporting information; consistency with design predictions and performance specifications; adequacy of planned corrective action for resolution of problems; determination whether any information should be classified as an abnormal occurrence; and validity of reported information. The following periodic reports were reviewed.

- April, 1985 Monthly Statistical Report submitted per TS 6.9.3, FYR 85-51, dated May 6, 1985.
- May, 1985 Monthly Statistical Report submitted per TS 6.9.3, FYR 85-65, dated June 5, 1985.
- June, 1985 Monthly Statistical Report submitted per TS 6.9.3, FYR 85-73, dated July 8, 1985.
- July, 1985 Monthly Statistical Report submitted per TS 6.9.3, FYR 85-81, dated August 2, 1985.
- Special Report per TSs 4.4.10.5 and 6.9.6 containing the results of the steam generator tube inservice inspection (ISI) completed May 10, 1984, FYR 85-61, dated May 22, 1985.

The inspector noted that the licensee requested and received a two-week extension from NRC:RI for submittal of the special report for the steam generator tube ISI.

No violations were identified.

12. Management Meetings

During the inspection period, the following management meetings were conducted or attended by the inspector as noted below:

- The inspector attended an exit meeting held on October 25, 1985 by a region based specialist at the conclusion of Inspection 50-29/85-20, Review of the Licensee's Maintenance Program, onsite inspection.
- The inspector attended an exit meeting on November 1, 1985 by region based specialists at the conclusion of Inspection 50-29/85-23, Radiation Protection Program Review-Refueling, onsite inspection.
- The inspector attended an exit meeting on November 7, 1985 by a region based specialist at the conclusion of Inspection 50-29/85-21, Review of the Non-Radiological Chemistry Program, onsite inspection.
- At periodic intervals during the course of the inspection period, meetings were held with senior facility management to discuss the inspection scope and preliminary findings of the resident inspector.