U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-219/86-06

Docket No. 50-219

License No. DPR-16 Priority -- Category C

Licensee: GPU Nuclear Corporation

100 Interpace Parkway

Parsippany, New Jersey

Facility Name: Oyster Creek Nuclear Generating Station

Inspection At: Forked River and Parsippany, New Jersey

Inspection Conducted: March 3 - April 13, 1986

Participating Inspectors: W. H. Bateman, Senior Resident Inspector
J. F. Wechselberger, Resident Inspector
W. H. Baunack, Project Engineer

Approved by:

W. Baunack for 5/8/86
A. R. Blough, Chief Date
Reactor Projects Section 1A

Inspection Summary:

Routine inspections were conducted by the resident inspectors and a Region based inspector (373 hours) of activities in progress including plant operations, physical security, radiation control, housekeeping, fire protection, emergency preparedness, and outage preparations. The inspectors also reviewed licensee action on previous inspection findings, made routine tours of the facility, participated as observers in the annual emergency drill, observed licensee action during an Unusual Event declared as the result of a bomb threat, and reviewed the most recent licensee QA environmental qualification audit. In addition, the inspectors visited the GPUN corporate offices and met with various members of Tech Functions management and also reviewed four modification packages scheduled to be implemented during the 11R outage. The inspectors also attended several briefings including the QA Annual Assessment, inservice inspection plans for the 11R outage, PSMS computer system, and the Maintenance, Construction, and Facilities' Work Management System.

Results:

Two violations were identified. One involved failure of Plant Engineering (PE) to maintain the station procedure governing their conduct as described in paragraph 1, as well as failure of PE to properly prioritize and address a licensee self-identified concern regarding failure to address NUREG 0612, movement of heavy loads, at the Intake Structure as described in paragraph 2, and the other involved failure of Tech Functions to follow procedures governing the design review process as discussed in Paragraph 9.

Plant response to the bomb threat was comprehensive. The annual emergency drill was termed acceptable. Plant operations were interrupted twice -- once due to an unexpected reactor trip and once due to an unplanned shutdown to replace reactor low water level scram sensors.

At the end of the report period, the plant was shutdown and the 11R outage had commenced.

Details

1. Licensee Action on Previous Inspection Findings

(Open) Inspector Follow Item (219/84-06-02): Closeout Documentation for Plant Material (PM) Department Plant Engineering Work Requests (PEWR) Not Always Available

During NRC Region I Inspection 84-06 it was noted that closeout documentation of PM PEWRs was only occasionally available, there was a lack of status of PEWRs, and a lack of understanding of the priorities for open requests. These factors were discussed with plant management who indicated that the matter would be reviewed and appropriate action taken.

During this inspection those actions taken by the licensee to resolve this item were reviewed.

The PM Department, by memorandum dated January 9, 1985, notified Plant Engineering (PE) of open PM PEWRs. Also, all outstanding PEWRs were reviewed and those considered no longer applicable were cancelled. The PM Department has setup a program establishing a central departmental contact for liaison between PE and PM.

All PEWRs are to be handled and tracked by this contact. PM, by memorandum dated June 19, 1985, also requested from PE all acknowledgements of acceptance of PEWRs, all completed PEWRs, and any correspondence with regard to PM PEWRs. Based on these actions the licensee's Licensing Action Item written to resolve this matter was closed.

To verify the effectiveness of the licensee's actions, the PM PEWR log was reviewed by the inspector. This log indicated 30 no longer applicable open PEWRs had been cancelled, 19 PEWRs have been closed, and 115 remain open. Of the open PEWRs, 36 were written in 1983, 32 in 1984, 43 in 1985, and 3 in 1986. Some open items indicated acknowledgements from PE, however, many are logged with no acknowledgements indicated.

The inspector selected 22 of the items identified in the log as still open for follow-up in the PE files. Five of the items were found to have been closed in PE files. Two of these five had documentation indicating PM had been informed of the closeout. Four of the items were closed by PE by Technical Functions Work Requests, the status of these items was not tracked by PE, and PM was not notified of this closeout. The status of these items was not tracked by PE. Eleven were indicated as open in PE files. Information relative to two items was not readily available and no follow up of these was conducted. Due to the fact that some errors still appear to exist in the PM documentation relative to PEWRs, this item 84-06-02 remains open.

Because of the discrepancies noted between PM and PE files, particularly after an effort had been made to improve tracking of PM PEWRs as a result of NRC Inspection 84-06, the inspector reviewed Station Procedure Number 125, Conduct of Plant Engineering , as it related to tracking of engineering tasks. This procedure was written to delineate the functions, responsibilities, authorities, and organizational interfaces of the PE organization. A review of this procedure indicated the procedure had become outdated in a number of areas. These areas include:

-- Organization: the procedure describes an organization different than the organization that currently exists. Consequently, the procedurally described responsibilities are for position titles which do not exist. How these responsibilities are performed within the existing organization is not clear.

-- Performance of engineering tasks: the current method of initial review of work requests and the issuance of Plant Engineering Task Assignments (PETA) differs from that described in the procedure. Copies of PETAs are not always forwarded to the requestor as required. Also, close-out of PETAs is not always as procedurally required in that Form 125-2 is not generally completed in closing-out PETAs. This form requires a close-out response be provided to the originator.

-- Records maintenance differs from that described in the procedure.

-- The prioritization of PETAs differs substantially from that described in the procedure. The PE procedure identifies only two priority classifications. The actual prioritization is done basically in accordance with a Technical Functions Division procedure which results in numerous priorities. PM personnel were unaware of the meaning of the priority numbers assigned to their items.

-- The PEWR form being used differs slightly from that attached to the procedure. In addition, there are no instructions in the procedure detailing how this form is to be used, particularly, the acknowledgement section.

The above are examples of the more significant deficiencies noted in the Conduct of Plant Engineering Procedure. These and other procedural problems were discussed in detail with the PE and PM Directors. The inspector noted the failure to maintain the Conduct of Plant Engineering Procedure current was considered to be a violation (219/86-06-01). The PE Director indicated a forthcoming reorganization and the change-over to a new computerized Action Item Tracking System were the reason the procedure was allowed to become outdated.

It should be noted only the portions of the Conduct of Plant Engineering Procedure dealing with performance of engineering tasks were reviewed. Other portions of the procedure may also be outdated.

(Closed) Inspector Follow Item (219/84-06-05): Licensee to revise diesel generator procedure to include certain checks.

The licensee has revised Station Procedure 636.4.003, Diesel Generator Load Test, to include verification of filter oil level, verification of DG battery strip heater energization, and acceptable level for DG fuel oil day tank.

(Closed) Inspector Follow Item (219/84-06-03): Plant Materiel mechanical section to provide equipment failure review to the Vice President and Director.

The Plant Materiel mechanical section has established a Plant Materiel Mechanical Equipment Trending Program. Part of this program is to provide a quarterly report to the Deputy Director. In addition, a year end summary is also provided the Deputy Director. The year end summary summarizes trends, failures, corrective, and preventive maintenance performed by system and by individual components. The report also describes problems and experiences and proposes corrective actions.

(Closed) Inspector Follow Item (219/83-25-01): Licensee audit finding identified inconsistencies in radiation protection procedures.

A subsequent Quality Assurance Audit S-OC-84-17 performed by the licensee from October 22, 1984 to January 2, 1985 of radiological controls determined, based upon a review of the 900 series procedures, all previous discrepancies have been corrected. In addition, a major rewrite of the radiation controls procedures was conducted in 1985. During this rewrite many outdated procedures were deleted.

(Closed) Unresolved Item (219/83-24-02): Inaccurate response to IE Bulletin 80-16.

Inspection 83-24 identified the installation in the plant of certain transmitters which the licensees response to IE Bulletin 80-16 indicated were not used at Oyster Creek. The licensee committed to certain corrective actions. These included (1) a review of the response to IE Bulletin 80-16 and the submittal of corrections to the Bulletin response dated July 24, 1980. This was accomplished by licensee letter Fiedler to Murley, dated November 9, 1982; (2) an audit of IE Bulletins and GE Service Information Letters (SILs) to assure licensee actions and statements reflect the conditions at the plant. Licensee Action Item files 83023.02 and 80062.3 contain memoranda which show that these audits have been performed; and (3) a system will be developed to inform all potential users of the impact of IE Bulletins and GE SILs to avoid further use of defective components. The licensee has in place Corporate Procedure 1000-ADM-1216.03, Regulatory Correspondence Control, which defines and establishes the GPUN system for

the management of incoming and outgoing regulatory correspondence and the assignment of tasks associated with that correspondence.

(Closed) Unresolved Item (219/80-25-03): Review drain time difference of scram discharge volume (SDV) following two successive scrams.

During Inspection 80-25 a significant difference was noted in the time for the SDV to drain following an automatic scram and a manual scram (161 sec. vs. 84 sec.). During the last outage, major modifications were made to the SDV system. The existing SDV which had experienced the drain time difference has been removed and replaced with two separate SDVs. During startup testing following the modification, SDV drain times were recorded and no abnormal drain times were noted.

(Closed) Unresolved Item (219/80-09-01): This item deals with the sealing of electrical connections to limitorque valve operators within the drywell.

During NRC Region I Inspection 80-09, several concerns were noted. One concern dealt with a flexible electrical conduit pulled from its packing gland on the solenoid actuator for reactor water sample isolation valve V-24-29, and the other with the sealing of motor operated valve operator cable where it exits rigid conduit.

Quality Control Inspection Report 11085 verified that the flexible electrical conduit associated with V-24-29 had been repaired. Also, the licensee performed an evaluation of motor operated valves which might experience infiltration of steam under accident conditions through cable exiting rigid conduit. Two valves were identified V-14-36 and 37 for which sealing at the conduit leading to the valve was recommended. These conduits were sealed per Job Order 0450V.

(Closed) Licensee Identified Items (219/81-LO-3E, 81-LO-4E, 81-LO-5E, 81-LO-6E, and 81-LO-7E).

These items deal with Nonroutine Environmental Operating Reports which were submitted by the licensee. The first four deal with less than the required number of dilution pumps operating and the last deals with exceeding the allowable temperature difference between circulating water intake and discharge due to grass clogging of the intakes.

By Amendment No. 66 to the Oyster Creek Operating Licensee issued on May 24, 1983 the non-radiological water quality-related requirements were deleted from the Environmental Technical Specifications. Consequently, this type of event is no longer required to be reported to the NRC.

As a followup to these reports, the inspector verified that certain improvements have been made to the dilution pumps. These improvements include changes to the pump seal water and lubricating oil cooling water, upgrading of piping to more corrosive-resistant material, extensive pump maintenance, and the stocking of spare parts. Additional modifications to improve dilution pump performance are planned for the 1986 refueling outage. Also, limits associated with the main condenser circulating water system and the thermal dilution pumps are contained in Station Procedure 323, Main Condenser Circulating Water System, and Procedure 324, Thermal Dilution Pumps, respectively.

(Closed) IE Circular No. 80-10 (219/80-CI-10): Failure to maintain environmental qualification of equipment.

This Circular described several instances in which environmental qualification of equipment was not maintained due to the use of the wrong class of equipment during maintenance. The Circular recommended licensees review maintenance procedures and administrative policies to ensure: (1) adequate administrative controls exist to ensure that equipment which is environmentally qualified is identified prior to maintenance; (2) maintenance procedures provide necessary instructions and precautions to ensure that the environmental qualification of equipment is not degraded when maintenance is completed; and (3) maintenance personnel are adequately trained on environmental qualification requirements and the potential for equipment degradation from improper maintenance.

The licensee has in effect Station Procedure No. 105.3, Maintenance of Oyster Creek Environmental Qualified (EQ) equipment. This procedure has been prepared to provide administrative control and practices related to all maintenance performed on EQ equipment and to assure that procurement of replacement components is in accordance with EQ requirements. The procedure specifies training of maintenance planning personnel on requirements to maintain EQ and incorporates appropriate requirements in tasks on EQ equipment. Also, the procedure requires that maintenance personnel be trained on requirements to maintain EQ. The inspector verified planners received the required training on September 18, 1985, and the maintenance personnel on September 9, 1985.

2. Control of Movement of Heavy Loads at the Intake Structure

A review of outstanding Plant Engineering Work Requests (PEWRs) disclosed a situation wherein a safety concern was identified and submitted to Plant Engineering (PE) for action that PE had failed to address. In particular, a PEWR initiated by Plant Materiel dated 8/19/85 explained that heavy loads were being moved at the Intake Structure using a mobile crane in the vicinity of safe shutdown equipment (four Emergency Service Water pumps) without procedural controls. The PEWR requested that the movement of heavy loads at the Intake be analyzed to ensure NUREG-0612 (Control of Heavy Loads) guidelines are met. The NRC inspector determined that the licensee's response to the NUREG-0612 guidelines for the Intake stated that since the gantry crane at the Intake had been removed from

service the Intake was excluded from NUREG-0612 applicability. The response also said, "If at some time in the future this crane is placed back into service, an evaluation will be performed to ensure that NUREG-0612 criteria are satisfied." The response did not recognize nor address the use of a mobile crane to move heavy loads at the Intake. The Plant Materiel group who identified the issue exhibited a good awareness of regulatory commitments and onsite conditions.

PE received this PEWR on 8/20/85, assigned it PE Task #512200850635, and gave it a priority 2 rating. Paragraph 6.4 of Station Procedure 125, Conduct of Plant Engineering, Rev. 2, discusses management of PE tasks and requires, in part, that tasks which, left undone, would cause a NRC commitment deadline to be missed, should be given priority 1 rating. Although procedure 125 does not explain the significance of a priority 1 rating, it is implied that priority 1 demands immediate attention. The anticipated completion date for this task was listed as 1/1/99, which by PE definition meant it was unscheduled. The failure of PE to assign the appropriate priority rating to this PEWR resulted in a nuclear safety issue not being promptly addressed. This is a violation. (219/86-06-02)

Subsequent to identification of this matter by the NRC inspector, the licensee committed to cease movements of heavy loads at the Intake until the appropriate evaluations and training are completed.

3. Surveillance Testing

In Inspection Report 86-04, a summary of events relating to the erratic performance of Static-O-Ring (SOR) differential pressure sensors was presented. During this report period, the erratic performance continued and a licensee decision was made to shutdown the plant and replace the reactor low level scram sensors with a slightly different model that had been performing satisfactorily as the reactor low low level sensors. SOR model number 103 AS-B212-NX-JJTTX6 was replaced with SOR model number 103 AS-BB212-NX-JJTTX6 and some minor modifications were made to the sensor's inlet piping. The sensor replacement and piping changes were classified as a modification and received a safety evaluation.

Weekly surveillance of the new sensors was implemented following plant startup. Problems with setpoint drift of these sensors was also experienced and one sensor was undergoing daily surveillance the week prior to plant shutdown for the 11R outage. Neither the licensee nor SOR have an explanation for the setpoint drift. At one point it was suspected a valving sequence to verify reactor vessel communication (referred to as "bang test") was the cause. However, subsequent evidence has eliminated this possibility. The licensee's present plans are to replace the low level scram sensors with an analog type system during the 11R outage and to delay replacement of other plant sensors that were scheduled to be replaced with SOR units.

other site locations including the site boundary with negative results. Operations corrected the problem by reestablishing a negative differential pressure in the turbine building.

During routine surveillance by radcon of trash in dumpsters outside the RCA, a slightly contaminated piece of an old LPRM box was identified. A spot the size of a silver dollar was found to read 200 cpm above background. The LPRM box was being cut up for disposal and the radiologically clean pieces were disposed of as clean trash. Radcon management discussed the inadequate survey with the technician involved and counseled the individual as to the importance of a thorough survey.

The licensee discussed their man rem exposure goals for 1986 with the NRC inspectors. The estimates include outage related exposure. The man rem estimate for 1986 without decon of the recirc piping is approximately 1700. The licensee plans, however, to decon the recirc piping thereby reducing the estimate to 1000. A goal of 800 has been set. It is noteworthy that the chemical decon of the recirc piping will reduce personnel exposure by approximately 40 man rem per week. The investment by the licensee to reduce personnel exposure is noteworthy.

6. Operational Safety Verification

6.1 Control Room Safety Verification

Routinely throughout the inspection period, the inspector independently verified plant parameters and engineered safeguard equipment availability. The following items were observed:

-- Proper Control Room manning and access control;

-- Adherence to approved procedures for ongoing activities;

-- Proper safety systems and emergency power sources valve and breaker alignment; and

-- Shift turnover.

6.2 Review of Logs and Operating Records

The inspector reviewed, on a sampling basis, the following logs and instructions for the period March 3 to April 13, 1986:

-- Control Room and Group Shift Supervisor's Logs;

-- Control Room and Shift Supervisor's Turnover Check Lists;

-- Reactor and Turbine Building Tour Sheets;

The inspectors considered the licensee's efforts to address the problem of setpoint drift of the reactor low level scram sensors to be sound in engineering judgement and conservative regarding safe plant operation.

4. Review of QA Audit of Environmental Qualification

The licensee's QA group performed an audit of the environmental qualification of electrical equipment at Oyster Creek. The audit number was 0-OC-85-08 and was performed November 11-26, 1985. Because of concerns raised during discussions with QA management regarding changes to the audit after initial issue, the inspectors decided to review the audit to ensure the changes made did not impact the audit findings. A comparison of the initial issue of the audit with the final issue indicated that two subjective statements had been deleted but that the audit recommendations were unchanged. The NRC inspector did not feel the deletion of the GPUN QA auditor's opinions from the audit detracted from the effectiveness of the audit, especially in light of the fact that the audit's final conclusions remained unchanged. The NRC inspector did, however, request that he be informed when Tech Function's Engineering Assurance responds to the audit recommendations. The inspector will review the responses during a subsequent inspection. (219/86-06-03)

5. Radiation Protection

During entry to and exit from the RCA, the inspectors verified that proper warning signs were posted, personnel entering were wearing proper dosimetry, personnel and materials leaving were properly monitored for radioactive contamination, and monitoring instruments were functional and in calibration. Posted extended Radiation Work Permits (RWPs) and survey status boards were reviewed to verify that they were current and accurate. The inspector observed activities in the RCA to verify that personnel complied with the requirements of applicable RWPs and that workers were aware of the radiological conditions in the area.

As a result of the reactor trip on March 6, 1986, 8 people working in the turbine building became slightly contaminated with short-lived radioisotopes (cesium 138 and rubidium 88). The turbine building became slightly airborne when sealing steam was lost to the turbine gland seals. The contamination was not an unexpected event. The maximum level was 1500 cpm on a worker's hard hat. Radcon response to the contamination problem was prompt and thorough.

On March 21, 1986 water vapor was observed escaping from around the roof plugs on the turbine building heater bay roof. Because the heater bay contained airborne contamination from valve and equipment leakage, radcon was promptly notified whereupon they sampled the space above the heater bay roof. Results of one sample indicated a minor unmonitored release was in progress. Immediate action was taken by Operations to correct the problem. Additional samples were taken above the heater bay roof and at

-- Equipment Control Logs;

-- Standing Orders; and

-- Operational Memos and Directives.

The logs and instructions were reviewed to:

-- Obtain information on plant problems and operations;

-- Detect changes and trends in performance;

-- Detect possible conflicts with Technical Specifications or regulatory requirements;

-- Assess the effectiveness of the communications provided by the logs and instructions; and

-- Determine that the reporting requirements of Technical Specifications were met.

The reviews indicated the logs and operating records were generally complete. No inspector concerns were identified.

6.3 Review of Key Events

A. Reactor Scram

On March 6, 1986 the facility experienced a reactor trip due to a spurious turbine stop valve closure signal that occurred during routine turbine stop valve surveillance testing. Approximately one minute after the trip, the MSIVs isolated due to reactor pressure decreasing to less than 850 psig with the Mode switch still in RUN. At nearly the same time, the Reactor Water Clean-up (RWCU) System isolated. Electromatic relief valves were manually actuated to control pressure until reactor water level was brought back into the indicating range at which time the isolation condensers were used to control pressure. Several minor airborne contamination problems resulted in the turbine building and minor flooding occurred in the steam jet air ejector room due to an already leaking gland seal exhauster condenser. The exact cause of the scram was subsequently determined to be a malfunctioning of the position switch on the No. 1 turbine stop valve (TSV). Specifically, the contacts on the open position switch were not making continuously. Similar switches on the other TSVs were checked and verified to be functional. The No. 1 TSV position switch was replaced.

The plant equipment response was as expected with the only significant exception that a RWCU system containment isolation valve, V-16-14, failed to open during one of several cycles. Follow-up testing of V-16-14 to identify the problem did not indicate a cause. The NRC inspector further pursued this matter subsequent to plant restart and was informed by PE that it has been known for some time that the valve motor is slightly undersized for the valve opening operation. (Note: The valve closing function is safety-related, but opening is not.) Previous problems with operability of this valve resulted in making a Limitorque gearing change in an attempt to correct the problem. The licensee has stated the problem with V-16-14 will be corrected prior to restart from the 11R outage.

Operator response to the trip indicated that past problems with reactor water level control during trips has become a major operator concern. As a result, during this trip recovery, the control room operator gave his primary attention to control of water level and neglected to place the Mode Selector switch to SHUTDOWN. Within one minute of the trip, plant pressure had decreased to less than 850 psig and, with the Mode switch still in RUN, a MSIV closure occurred. The closure of the MSIVs added additional complications to the scram recovery in that the EMRVs and the Isolation Condenser system had to be used for heat sink purposes. A review of Station Procedure 2000-ABN-3200.01, Rev. 0, Reactor Scram, indicated the first two steps an operator should perform after an automatic trip are to depress both manual scram pushbuttons and place the Mode switch to SHUTDOWN. However, this procedure is prefaced by the statement, "If while executing this procedure, any entry condition for any Emergency Operating Procedure (EOP) occurs, Then immediately exit this procedure and enter the appropriate EOP." One of the peculiarities of Oyster Creek is that a low level scram signal is received each time a scram occurs. This is a genuine signal and demands immediate entry into the level control EOP. This EOP does not address the initial steps required by the reactor scram procedure. During past trips operators have properly positioned the Mode Selector switch but this time it was overlooked due to concerns for water level control. The inspector reviewed the licensee's Post Trip Review of this event and noted that the failure of the operator to reposition the Mode Selector switch was a major concern. The licensee committed in their Post Trip Review to evaluate operator priorities following reactor trips and to make any necessary procedural changes. The inspectors will follow up licensee actions in a subsequent inspection. (219/86-06-04)

B. Some problems occurred during the subsequent restart from the 3/6/86 reactor trip. Instrumentation associated with th 'C' EMRV indicated seat leakage. The licensee operated the lve several times in an attempt to reseat it. The attempts were

not successful and the plant continued to operate until shutdown for the 11R outage with minor seat leakage past the 'C' EMRV. Instrumentation associated with the 'D' and 'E' EMRV indicated they were also experiencing minor seat leakage throughout the remainder of the operating cycle. The EMRVs are scheduled for overhaul during the outage.

During one of the attempts to reseat the 'C' EMRV, the plant nearly experienced a reactor low level scram. Prior to lifting an EMRV the reactor water level control system is placed in manual to preclude the system response that would occur if control was in automatic. If left in automatic the swell caused by lifting the EMRV would signal the control system to throttle down feedwater flow. This action, combined with a greater feed flow/steam flow mismatch, would result in a rapid decrease in reactor water level. What apparently occurred during this attempt was a malfunction of the level control switch such that, although the switch was in the manual position, the contacts remained in automatic. The result was a rapid decrease in reactor water level and a half scram signal caused by low reactor water level. This switch problem and other problems with the Mode Selector and IRM Range switches caused the inspector to express a concern regarding operator confidence in operation of these switches. Plant management plans are to replace the Water Level Control switch and modify the IRM Range switch prior to restart from the 11R outage. Actions are also underway to purchase a new Mode switch, although it is uncertain whether it will be installed prior to restart.

C. Throughout the latter portion of the operating cycle, leakage of condensate from the gland seal exhauster condenser caused problems. Each time plant load was reduced, condensate header pressure increased making the leakage worse, thereby, causing erratic operation of the gland seal exhaust fans. Plans are to repair the condenser during the outage.

D. During performance of augmented surveillance of the reactor low level sensors, an ECCS initiation occurred. The initiation signal was generated when one of the sensors was being valved back into service following surveillance. The licensee determined that a slight flow surge and pressure drop in the variable leg occurred when a test gauge, used to confirm sensor communication with the reactor vessel, was valved in. This variable leg also serves the reactor low low water level sensors. The filling of the empty tubing between the isolation valve and the gauge caused the transient. This transient was sensed by the reactor low low level sensor which in turn initiated the ECCS signal. Two Core Spray main and booster pumps started, both emergency diesel generators started, and one half an ATWS trip

signal occurred. All systems responded normally and the operators recovered from the event without incident. No actual ECCS injection to the vessel occurred. The surveillance procedure was subsequently modified to require filling the tubing between the isolation valve and the gauge prior to opening the isolation valve.

F. As mentioned in paragraph 5 above, an unmonitored release of radioactivity occurred from the turbine building heater bay roof. This resulted because of gradual degradation of turbine building exhaust fan 1-7 and subsequent positive pressurization of the turbine building. Operator response to correct the problem was prompt. However, follow-up as to why the gradual change in turbine building to atmosphere differential pressure (d/p) from negative to positive was not detected, disclosed that the control room instrumentation for this d/p was out of service and the local instrumentation in the turbine building was not logged and reviewed. The inspector suggested to the licensee that when control room instrumentation is taken out of service that compensatory action be taken to log and review readings from local instrumentation. The licensee agreed.

7. Scram Reduction Task Force

Based, in part, on the above average number of plant scrams in 1985, the licensee formed a scram reduction task force to investigate causes of trips and make recommendations for reducing plant trips. The task force issued a document entitled "Oyster Creek Scram Experience" (TDR 724). The inspectors reviewed this document to ensure the conclusions reached encompassed their concern for balance of plant impact on the primary side.

The document analyzed all plant trips from January 1976 to December 1985. There were a total of 35 scrams during this period. The 6 trips experienced in 1985 were only exceeded by the 7 trips in 1979. Of the 6 trips in 1985, 4 were attributed to equipment failure and 2 were considered human related. This is in contrast to 1979 when only one was considered equipment failure and 6 human related. An analysis of all 35 trips indicated 40% of all scrams were due to human related causes while starting up or shutting down. Twenty-six percent were due to human related causes while performing testing or maintenance activities, and the remaining 34% were due to equipment failure, mostly in balance of plant systems. The nuclear industry has set a goal of no more than 3 unplanned trips per plant year for plants with greater than 3 years operating experience. The average for BWRs in 1984 was 3.6. Oyster Creek was shutdown for all but 2 months of 1984 and experienced 2 trips during the 2 months of operation.

The report was generally well done. Recommendations were made that could help in reducing the number of reactor trips. The statement was made that it was too early to determine if a trend existed regarding balance of plant equipment failures. Only one scram occurred during the first 3

months of 1986 and it resulted from a balance of plant equipment failure. The inspectors had anticipated the report would have recommended more intensive investigation of the potential impact of balance of plant components on plant operation. For example, there was no recommendation to investigate periodic replacement of equipment that interfaces with the reactor protection system. This was discussed with plant management who stated that, even though this was not a specific recommendation of the report, it was being reviewed by Plant Materiel as a separate job action. The inspectors will follow up the review by Plant Materiel in a subsequent inspection.

8. Review of Periodic and Special Reports

Upon receipt, periodic and special reports submitted by the licensee pursuant to Technical Specification requirements were reviewed by the inspectors. This review included the following considerations: the report includes the information required to be reported to the NRC; planned corrective actions are adequate for resolution of identified problems; and the reported information is valid.

The following reports were reviewed:

-- Monthly Operating Reports for January and February 1986

-- Annual Exposure Data Report for 1985

-- Second 1985 Semi-Annual Effluent Release Report.

The effluent release report stated there were no releases of radioactive liquids during the period.

No concerns were identified.

9. Technical Function Division Inspection

The inspectors made two separate visits to the GPUN Corporate Engineering offices in Parsippany, N.J. during this report period. The first visit involved meetings with various Tech Functions department managers to gain an understanding of the organization. The managers were all very helpful and appeared to have a comprehensive understanding of their department and interfaces with other departments. The spirit of cooperation experienced during this visit contributed to helping the inspectors gain a rudimentary understanding of the Tech Functions organization.

The second visit involved a review of the following four modification packages scheduled for work during the 11R outage:

-- BA 328145 Reactor Head Flange Thermocouples
-- BA 402207 Recirculation Valve Interlock
-- BA 402775 Diesel Generator Lubrication System
-- BA 402786 460V USS 1A2, 1B2 Transformer Cooling Fans

The following Tech Functions procedures were referred to during the package reviews:

-- EMP-002, Mini-Mods, Rev. 0-00
-- EMP-014, Project Reviews, Rev. 1-01
-- EP-008, Control, Evaluation and Resolution of Review Comments on Technical Documents, Rev. 1-00
-- EP-009, Design Verification, Rev. 1-00
-- EP-016, Nuclear Safety/Environmental Impact Evaluation, Rev. 1-00
-- LP-009, Independent Safety Reviews, Rev. 1-00

The review of the modification packages included the aspects of environmental qualification and fire hazards analysis considerations, proper design review implementation, proper safety reviews, specification completeness, establishment of functional criteria, quality assurance considerations, and adherence to governing procedures. A summary of the review follows:

9.A The 460V 1A2 and 1B2 Transformer Cooling Fans (BA 402786) modification was initiated as a result of an electrical load study performed at Oyster Creek. The study determined that the 460 volt 1A2 and 1B2 buses may be overloaded during a loss of coolant accident with offsite power available and a loss of either 1A2 or 1B2. A licensee evaluation determined that the transformers' capacity could be increased by adding cooling fans. This was reported by LER 85-009.

The following documents were reviewed:

-- Procurement Specification SP-1302-11-21R1
-- Purchase Order (Req. 5350-85-0158-001; P.O. No. PP-027569)
-- Statement of Justification
-- System Design Description I (OC-732A Rev. 0) (includes SDDII requirements)
-- GPU drawings
-- Nuclear Safety/Environmental Impact Evaluation (SE 402786-001)
-- Preliminary Engineering Design Review (PEDR) comments
-- Installation Specification (OCIS 402786-001)
-- Fire Hazards Analysis

The following concerns were identified as a result of the review:

-- A Memorandum of Concurrence was not submitted by the plant operations representative to communicate the plant's concurrence as required by Procedure EMP-014, Project Reviews. If receipt of the concurrence memo does not occur within four weeks from the completion of the PEDR, the project engineer is required to notify in writing the Plant Vice President and Vice President Technical Functions that further progress on the specific modification is terminated pending receipt of plant concurrence. This was not accomplished.

-- The PEDR chairman for the modification was the Electrical Power Manager, the responsible manager for this particular modification. Procedure EMP-014, Project Reviews, requires that the formal members of the PEDR board, as defined in EMP-14, not be involved in the engineering or managing the engineering of the design package being reviewed. The PEDR was conducted by mail as allowed by EMP-14, but no distinction is made regarding the PEDR chairman eligibility if the review is conducted by mail. EMP-14 was not adhered to regarding the PEDR chairman eligibility.

-- The Operability/Maintainability/Constructability Review (OMCR) was conducted on 1/15/86 in accordance with EMP-14. EMP-14 requires mandatory participation by Plant Operations, Plant Maintenance/Material, Maintenance and Construction (M&C), Startup and Test, Radiological Engineering, GPUNC Quality Assurance (QA), and the project and design engineers. In addition to the project and design engineers the following organizations were represented: Maintenance and Construction (contract employee), Startup and Test, and Plant Engineering. QA was not represented, but did provide written comments after the meeting. Plant Operations was not directly represented, although Plant Engineering was in attendance. Plant Maintenance/Material and Radiological Engineering were not present.

-- The PEDR meeting was conducted by issuing the preliminary design package for review and comment in accordance with EMP-14. The project engineer received comments from the following organizations: Plant Operations, Plant Engineering, and Startup and Test. The preliminary design package received much wider distribution and Startup and Test, QA Engineering, System Engineering, MC&F, Planning and Scheduling, Engineering Projects, BWR licensing, M&C Technical Support, M&C Workload and Control Support, Engineering and Design, Maintenance Engineering, Operations Engineering, M&C Planning, Mechanical Systems, and Quality Assurance and Engineering Configuration.

9.B The drywell thermocouple modification (BA 328145) was initiated to improve the drywell temperature sensing capabilities in the reactor head flange area. Previous thermocouples mounted in this area provided less than optimum indications as a result of their particular mounting device. This modification is intended to seismically mount two upgraded thermocouples that will provide accurate drywell temperature readings. The modification was conducted in accordance with the mini-mod procedure EMP-002 as authorized by a letter from the Director Engineering and Design dated November 25, 1985. Similar procurement and design documentation was reviewed for this modification as was accomplished for BA 402786.

The following concerns were identified as a result of this review:

-- An OMCR meeting was conducted on January 29, 1986 in accordance with procedure EMP-014. The following organizations were represented at the meeting: Plant Engineering, Maintenance and Construction, and the project and design engineers. Although not present at the meeting, Startup and Test did send a "no comments" memoranda to the project engineer. EMP-014 requires mandatory participation by the organizations delineated in EMP-014. Not all of the required organizations were represented.

-- The drywell thermocouple modification is being conducted as non-environmentally qualified (EQ). The licensee considers the thermocouples associated with the Gemac reactor vessel water level reference leg as the required instrumentation to measure drywell atmospheric temperature. The water level reference leg thermocouples' primary purpose is to provide indication of reference leg flashing and, therefore, an indication of correct reactor vessel water level readings. The licensee has conducted some analysis to indicate that these reference leg thermocouples could provide drywell atmosphere temperature indication. Regulatory Guide 1.97 requires drywell atmosphere temperature instrumentation to be qualified as category 1 under equipment qualification. The licensee document, TDR 528 requires drywell temperature to be qualified to category 1. The licensee is in the process of revising their commitment in TDR 528 by developing a new document that will require drywell atmosphere temperature to be qualified to category 2. TDR 528 (June 1984) was written in response to Generic Letter 82-33. An order confirming this commitment was issued in June 1984.

TDR 528 indicated that drywell temperature is a direct indication of approaching design temperature limits which could lead to violation of the safety function of preserving primary containment integrity. Also, drywell temperature is an entry condition to the Emergency Operating procedures and an action level to initiate containment spray and scram the reactor. The safety functions are reactor coolant integrity and containment integrity.

The licensee's revised document states that the reactor water level cold reference leg temperatures are indicative of drywell temperatures. Due to their locations and post accident drywell conditions, plant analysis indicates that these thermocouples are representative of drywell temperature. TDR 528 also indicated that drywell temperature was in compliance with EQ requirements and that the licensee planned to upgrade the system during 11R. In addition, the TDR indicated that a system for measuring drywell bulk temperature did not exist. The environmental qualification requirements for drywell atmosphere temperature elements will be clarified in further discussions with the licensee. This will remain an unresolved item. (219/86-06-05).

9.C The recirculation valve interlock modification (BA 402207) resulted from corrective action to address a low low low reactor water level condition that occurred in May 1979. On 5/2/79 an inadvertent reactor high pressure scram occurred during surveillance of the isolation condenser high pressure initiation switches. The high pressure signal inadvertently induced during the surveillance also caused all 5 recirc pumps to trip. Operator action resulted in isolation of the five recirc loops which broke the continuity between the core region and annulus region. Because reactor water level instrumentation sensors connect to the annulus region, there was no indication of actual water level in the core until the triple low level alarm occurred. (Triple low alarm signal is generated from different instrument lines that sense water level in the core region.) A licensee investigation determined it is necessary to maintain a minimum of two recirc loops open to preclude this type of scenario. This was consistent with Tech Spec requirements which also requires a minimum of two loop operation. The decision was made to install an interlock scheme to prevent isolating more than 3 loops. Subsequent to the licensee's investigation, the NRC issued NUREG-0660 and 0626 that also required this type of an interlock to be installed.

Over 6 years later, corrective action will be implemented during the 11R outage when an alarm will be installed to alert the operators when the fourth recirc loop is isolated. The replacement of an interlock scheme to prevent less than 3 loop operation to an alarm that activates when the fourth loop is isolated represents a substantial scope change. The inspector questioned the licensee about the scope change, alarm logic, and the lengthy delay in implementation of the corrective action. The licensee referred to NRC Licensing correspondence that tracked the changes and delays.

The following documents, in addition to others, were reviewed:

-- Design Criteria 391-80-3 dated 9/12/80
-- Engineering Evaluation 391-80-1 dated 7/29/80
-- Installation Specification 391-80-4 dated 3/20/81
-- Modification Proposal 391-80-2 dated 8/18/81
-- Installation Specification 391-80-5 dated 12/10/81
-- Request for Project Approval dated 2/14/86
-- OMCR Meeting Conference Notes No. 59 dated 10/16/85
-- TOR 528, Rev. 1, Oyster Creek Reg Guide 1.97 Implementation
-- Construction Release Checklist dated 11/4/85
-- Installation Specification OCIS-402207-001 dated 11/4/85
-- GPUN Drawing E0447, Rev. 2, Elementary Diagram Recirculating Loop Annunciator Logic
-- Fire Hazards Analysis Input and Status, FPE No. OC-402207-001, Rev.0, dated 11/5/85
-- Procurement Release Checklists - various
-- Purchase Orders - miscellaneous
-- Burns and Roe Work Order 3731-46
-- GPUN Tech Spec for A/E Engineering and Design Services, SP-1302-56-082 dated 5/9/85
-- System Design Description (SDD) Div. 1 for Recirc Valve Interlock Modification, SDD OC-627B dated 8/30/85
-- SDD OC-627B, Rev. 2, Div. II dated 9/9/85
-- Nuclear Safety/Environmental Impact Evaluation Summary Sheet for Recirc Valve Interlock Modification, SE No. 402207-001, dated 9/18/85
-- Work Authorization 415A-30207
-- PEDR Review conducted 8/8/85

The documentation file on this modification was quite lengthy based on the long history. Various correspondence documented licensee commitments to the NRC to implement an interlock scheme. It was not until just before the start of the 11R outage that the licensee received relief from NRC Licensing to change the scope of the modification. The engineering for the alarm modification was performed by Burns and Roe.

The following concerns were identified as a result of this review:

-- The inspector questioned the alarm logic in that it would seem more appropriate to alarm when 3 loops are isolated. This could prevent isolating a fourth loop. This would appear to be more consistent with the requirements in the Tech Specs and the intent of the original requirement for an interlock that would prevent isolating a fourth and fifth loop. The NRC inspector pursued this concern with NRC Licensing who stated they reviewed the licensee's logic and found it acceptable.

-- Paragraph 6.1 of the System Design Description (SDD) stated a Class 1E surveillance and ISI program for the new relays should be implemented and should be consistent with the existing program for similar Class 1E relays in the Control Room. The inspector requested a specific procedure be referenced, if there is one, or the statement be deleted. The licensee stated they intended to delete the statement.

-- The inspector requested clarification of a jumper that appears on drawing E0501 in that it was not clear from either the drawing or the related documentation whether the jumper was existing or new. The licensee agreed to state in the SDD that a jumper must be added as part of the circuit to supply 125VDC control power to the alarm reflash unit.

-- Similarly, as discussed in paragraphs A and B above, not all participants required by EMP-014 were in attendance at the OMCR.

-- Based on certain memos in the file, it became apparent that Plant Operations was not responsive to the PEDR process in that they did not attend the PEDR nor did they comment within 4 weeks as required by EMP-014. The inspectors asked Tech Functions management if this was a chronic problem and were informed it had been a problem in the past but had recently improved.

-- The inspectors were concerned about the time delay in implementing the corrective action to the 5/2/79 event.

-- Other potential concerns were raised during the review and were satisfactorily addressed by the licensee.

9.D The Emergency Diesel Generator (EDG) lube oil modification (BA 402775) resulted from a recommendation by both the NRC in Circular 79-12 and the manufacturer, GM-EMD, to accomplish improved lubrication capacity to the turbo charger and main engine components. The recommended modifications are intended to:

-- Eliminate engine bearing potential failure
-- Reduce maintenance by continual oil replenishment of the oil cooler and filters to full level regardless of oil temperature and viscosity
-- Remove restart restrictions imposed on unit surveillance and test schedules
-- Provide consistent oil circulation through the engine crankshaft bearings
-- Provide consistent circulation through the turbo charger bearings
-- Vent trapped air which may impede oil flow through the system.

Oyster Creek is one of the last owners of turbo charged EMD MP45 diesel generators to accomplish this modification. GPUN considers the modification an improvement and, therefore, not urgent and, therefore, the time delay in implementation. The decision to implement the modification at this time is most likely due to recent problems experienced with the #10 bearing on the #1 EDG. The modification adds an AC and DC lube oil pump, increases some pipe sizes, adds vents, and adds an improved design lube oil cooler core. The bulk of the design and installation work has been contracted to Power Systems with some electrical work contracted to Burns and Roe. Power Systems will provide technical direction of installation including supervision of crafts and labor.

The following documents, in addition to others, were reviewed:

-- Tech Functions Work Request (TFWR) A00642 to evaluate and implement modifications as recommended by GM-EMD

-- Croneberger Memo dated 11/19/85, E&D/OC-2426, invoking mini-mod process for this modification

-- Oyster Creek Installation Specification 402775-001, Rev. 1, Oyster Creek EDG Lube Oil Modification

-- Request for Project Approval

-- Engineering Services Project Cost Estimate

-- Project Scope Checklist

-- Short Form Specification, SP 1302-12-217, Rev. 1, Lube Oil System Modification Equipment for GM-EMD MP 45 Diesel Generator Units

-- PEDR/OMCR scheduling memo date 2/14/86 that scheduled combined PEDR/OMCR for 2/21/86

-- Memo MC-86-3603 issued 2/24/86 documenting OMCR meeting on 2/21/86

-- Memo 5511-86-034 issued 3/19/86 documenting PEDR meeting on 2/21/86

-- Safety Evaluation No. 402775-001, Rev. 1, dated 1/30/86. Subsequently updated on 2/26/86 and 3/17/86.

-- Power Systems Proposal No. 83751

-- Fire Hazards Analysis FPE No. OC-402775-001

-- Verification General Checklist V-1302-86-001 signed 2/4/86

The following concerns were identified as a result of this review:

-- The Memo dated 11/19/85 stated that in accordance with paragraph 4.3.7 of EMP-002, the simplified documentation requirements of EMP-002 would be invoked for this project since it satisfies the technical requirements outlined in paragraph 4.1.1 of EMP-002. What this memo basically did was invoke the "mini-mod" procedure which streamlines the method of modification review and approval by eliminating certain documents and reviews. The inspector reviewed the EDG Lube Oil Modification and the mini-mod requirements discussed in EMP-002 paragraph 4.1.1 and determined that this modification does not satisfy the stated technical requirements. In discussions with GPUN Tech Functions management regarding this discrepancy, it was concluded the Director-Engineering and Design does not need to meet 4.1.1 requirements to invoke the mini-mod process. The licensee committed to revise the standard memo used to invoke the mini-mod process to eliminate confusion in the future.

-- The Project Scope Checklist stated no FSAR revision was required. A review of the modification package made it quite clear, as well as did the Safety Evaluation, that a FSAR change is required. Subsequent to inspector identification of this discrepancy, the Project Scope Checklist was corrected.

-- Review of Fire Hazards Analysis FPE No. OC-402775-001 disclosed that it did not evaluate the impact of the addition of the two new motors. Subsequent to inspector identification of this discrepancy, the licensee committed to amend the analysis to include the two additional motors.

-- EMP-014 requires a Memorandum of Concurrence as a vehicle for communicating the plant's concurrence with operability and maintainability of modification. A review of the documentation files indicated no Memorandum of Concurrence (M of C) was written. When the inspector pointed this out to the licensee, he stated he believed that a M of C did exist and it would be made available to the inspector for review. Subsequent to this statement, the licensee stated a M of C was not required and, therefore, was not written because the mini-mod process had been invoked. A review of licensee procedures did not appear to preclude the need for a M of C, especially in light of the fact that a PEDR was conducted.

-- EP-008 discusses requirements for Comment Resolution Forms. These forms are to be used by each organization to transmit their comments in the PEDR and OMCR review processes. Although the Comment Resolution Forms do not become part of the permanent

plant records (except if PEDR is by mail), a review of the permanent and non-permanent records indicated most organizations involved in the PEDR and OMCR review processes had no comments as evidenced by a lack of Comment Resolution Forms. The inspectors asked the licensee if it was the intent that if a reviewing organization had no comments they should so indicate on the Comment Resolution Form and return it. The licensee stated this was not a requirement and was not generally done. Based on this methodology for soliciting comments as part of the PEDR and OMCR processes, the inspectors could not conclude that participating organizations are actively taking part in the review process.

-- The controlling procedures for the Tech Functions review processes do not specify what constitutes a quorum. The procedures do require that specific organizations be invited to a PEDR and mandatory attendance at the OMCR. Reviews of the attendance sheet for the combined PEDR/OMCR indicated that participation was less than required by EMP-014. The inspectors asked the licensee what constituted a quorum as not all required or invited participants attend the OMCR and PEDR meetings. The licensee stated that there was no quorum and that the chairman of the meeting was responsible for cancelling the meeting if insufficiently attended. The inspectors asked if a PEDR or OMCR meeting had ever been cancelled due to insufficient attendance. The licensee stated they could not recall this ever happening.

   The lack of enforcement of procedural requirements per EMP-014 for mandatory attendance and the lack of a definition for a quorum, led the inspectors to conclude that the PEDR and OMCR review processes may not be as comprehensive as intended.

-- The inspector asked the licensee if, after completion of the EDG Lube Oil Modification, the lube oil system would be flushed. The licensee stated they do not intend to flush the system but will rely on permanent system filters to remove particulate left from the construction activity.

-- Procedures LP-009 and EP-016 direct that the Responsible Technical Review (RTR) be completed before the Safety Evaluation (SE) is performed. In the case of the EDG Lube Oil Mod, it appears there were two RTRs -- one before and one after the SE. The reason for sequencing the SE after the RTR is to provide a total picture to the individual doing the SE. The procedures do not address updating the SE if a RTR held afterwards results in comments. Procedure LP-009 states that revisions to SEs are not appropriate. It is not clear what constitutes a revision, but it would seem appropriate that if a RTR held after the SE resulted in comments, that the individual who performed the SE would be informed to determine if there was any impact on his SE. This was not accomplished for this mod in that the first RTR and the SE were dated nearly three weeks before the second RTR (PEDR) and there was no evidence of a subsequent SE by the reviewer.

The above concerns contain examples of failure of the licensee to follow procedures. In summary the licensee failed to:

(1) Follow the requirements of EMP-014 by not issuing a M of C in two of the four packages reviewed.

(2) Assign a PEDR chairman who was independent of the engineering or managing of the design package as required by EMP-014 for the transformer fan cooling modification.

(3) Enforce the mandatory attendance requirements for the OMCR as required by EMP-014.

(4) Properly schedule the RTR prior to the SE as required by LP-009 and EP-016 for the EDG Lube Oil Modification.

These four examples of failure to follow procedures are contrary to the requirements of Criterion V of 10 CFR 50 Appendix B and represent a single violation. (219/86-06-06)

The inspectors were also concerned with the substantial time delay between identification of the need for a modification and final implementation. Although the licensee appears convinced that the delays are unavoidable, the fact remains that six years would appear excessive.

The synergistic effects of a group review of modifications is obviously appreciated and intended as demonstrated by the procedural requirements governing the process. However, the lack of total participation would seem to detract from the licensee's goal.

10. Management Meeting

A management meeting was held to discuss the present status of work associated with IE Bulletin 79-02 and 79-14 on April 1, 1986 in the NRC Regional office. GPUN Technical Functions Division presented information providing the status of 79-02 and 79-14, schedule and plans for future work to be conducted, and analysis regarding current system operability. The licensee stated they had deleted the requirement from their inspection program to determine as found torque on concrete expansion anchor bolts. The licensee is going to submit meeting minutes to the regional office for concurrence.

11. Observation of Physical Security

During daily tours, the inspectors verified access controls were in accordance with the Security Plan, security posts were properly manned, protected area gates were locked or guarded, and isolation zones were free of obstructions. The inspectors examined vital area access points to verify that they were properly locked or guarded and that access control was in accordance with the Security Plan.

A portion of the security system was taken out of service because of an equipment malfunction. Although compensatory measures were taken, they were not in accordance with Security Plan requirements. The discrepancy was self-identified by the licensee a short time later and corrected. After identification of the problem, a search of various areas of the plant was conducted to ensure no security breeches occurred. The inspectors reviewed licensee response to the event and corrective action to preclude recurrence. No concerns were identified.

During this report period, the licensee implemented a drug and alcohol control program. It is based on a random sampling technique for most employees and a 100% check on certain critical employees.

12. Unusual Event: Bomb Threat

At 4:35pm on March 24, 1986 the plant telephone operator reported receiving a bomb threat on an outside line. The licensee declared an Unusual Event at 4:54pm and responded appropriately in accordance with their procedures. A search of the site and plant spaces was completed prior to ending the Unusual Event.

13. Briefings

During this inspection period, the resident inspectors attended briefings on the following topics:

-- Powershape Monitoring system
-- Quality Assurance Annual Review
-- Inservice Inspection schedule for cycle 11 refueling outage
-- Work Management System

The inspectors found the briefings to be informative.

14. Exit Interview

A summary of the results of the inspection activities performed during this report period were made at meetings with senior licensee management at the end of the inspection. The licensee stated that, of the subjects discussed at the exit interview, no proprietary information was included.

During the telephone exit with Technical Functions, the licensee indicated that he might be able to provide additional information or documentation to alleviate some of the concerns in Detail 9. Upon receiving no additional documentation or pertinent information after ten days, the inspector reconfirmed to the licensee the disposition of the findings.