

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-219/89-14
Docket No. 50-219
License No. DPR-16 Priority -- Category C
Licensee: GPU Nuclear Corporation
1 Upper Pond Road
Parsippany, New Jersey 07054

Facility Name: Oyster Creek Nuclear Generating Station

Inspection Conducted: June 4 - July 1, 1989

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Inspection Summary: Inspection June 4 - July 1, 1989 (Report No. 50-219/89-14)

Areas Inspected: The inspection consisted of 314 hours by resident and region-based inspectors. The areas inspected include core spray booster pump trips (paragraph 3.0), undervoltage relay failure (paragraph 4.0), monthly surveillance observations (paragraph 5.0), missed reactor coolant sample (paragraph 6.0), Oyster Creek drawings (paragraph 7.0), emergency service water pump operability (paragraph 8.0) and previously opened inspection findings (paragraphs 9.0 and 10.0).

Results: The licensee's efforts to troubleshoot a core spray booster pump and identify the root cause for its tripping on June 16th were reasonable and logical. However, the root cause was not identified. Troubleshooting efforts after another pump trip on June 19th identified a problem probably isolated to the breaker. The breaker was subsequently replaced. During the period between the pump trips, the #1 emergency diesel generator which supplies emergency power to the opposite pumps was inoperable for a 24-hour period. Inspector observations of maintenance and surveillance activities did not identify significant concerns. Failure to obtain a reactor coolant sample as required by technical specification is an isolated event and will not be cited as a violation. The licensee has made significant improvements in the method used to update control room drawings. Several long term programs were implemented which should significantly improve site drawings. Forty-nine previously opened inspection findings were closed. Twenty administratively opened inspector follow items addressing SALP 85-99 licensee commitments were reviewed. Several items identified in 1985 remain current issues. These issues include: site management response to QA audit findings and quality deficiency reports; the quality of technical support; and rework and recurring maintenance. No significant safety issues were identified.

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ATTACHMENT I - Management Meeting on Oyster Creek Drawings

DETAILS

1.0 List of People Contacted

- *E. Fitzpatrick, Vice President and Director of Oyster Creek
- *D. MacFarlane, Site Audit Manager
- *K. Barnes, Licensing Engineer
- *V. Foglia, Manager, Technical Functions Oyster Creek
- *R. Barrett, Plant Operations Director
- *G. Busch, Oyster Creek Licensing Manager
- *R. Markowski, Manager, QA Program Development/Audit
- *D. Ranft, Plant Engineering
 - J. DeBlasio, Manager, Plant Engineering
 - M. Lamberto, Plant Engineer
 - C. Schilling, Plant Engineer
 - P. Fischler, Electrical Supervisor
 - R. Brown, Manager, Plant Operations
 - J. Rogers, Licensing Engineer
 - R. Sullivan, Manager, Emergency Preparedness
 - T. Blount, Emergency Preparedness
 - A. Holly, Plant Engineer
 - T. Cervanka, Plant Engineer
 - P. Crosby, Plant Engineer
 - P. Czaya, Licensing Engineer
 - A. Hawley, Plant Engineering
 - R. Hurley, Radwaste Shipping
 - P. Scallon, Radwaste Operations Manager

*Denotes attendance at exit meeting.

2.0 Plant Operations Review (93702, 71707)

2.1 Isolation Condenser Steam Valve Inoperability

On June 14, 1989, during surveillance testing, Isolation Condenser Steam Valve tripped on thermal overload. On June 15 and 16, the licensee performed troubleshooting, which included conducting a full MOVATS test, but was unable to repeat the problem. To ensure valve operability and verify reliability, the licensee increased the frequency on the surveillance testing on the valve. The licensee tested the valve once per day for 3 days and then once per week for 3 weeks. Valve operator motor running current traces were taken during these tests. At the completion of this testing, the licensee reevaluated the performance of the valve.

Based on the results of the troubleshooting and the increased surveillance test frequency, the valve was declared operable on June 16 and the B isolation condenser was returned to service.

After the B isolation condenser was returned to service, the shell temperature started to increase. By June 21, the shell temperature reached 170 degrees. The licensee cycled the condensate return valve, V-14-35, in an attempt to more fully seat the valve. After this cycling, shell temperature decreased and steadied out at about 150 degrees. This shell temperature was about the same as that observed earlier in the operating cycle.

The inspector reviewed the events surrounding this valve failure and the licensee's corrective actions. No unacceptable conditions were identified.

2.2 Inoperable Control Rods

On June 15, control rod 34-35 was valved out of service in the fully inserted position. A special diagnostic procedure was performed to confirm that the scram outlet valve on hydraulic control unit 34-35 was leaking. Control rod 46-35 was previously declared inoperable and was valved out of service at position 02 (Inspection Report 50-219/89-12). Plant technical specifications indicate that inoperable control rods should be valved out of service, but do not indicate that control rods valved out of service which are fully inserted should be considered inoperable. There is no clear guidance on whether or not control rod 34-35 should be considered inoperable. Technical Specification section 4.2 requires daily control rod exercise tests if two or more control rods are inoperable. The licensee declared control rod 34-35 inoperable and initiated the daily exercise tests.

Oyster Creek Technical Specifications are weak in providing clear direction in what constitutes inoperable control rods. They do not specify accumulator pressure, accumulator operability, rod position indication and inoperable control rod spacing as found in Standard Technical Specifications. The licensee intends to implement procedure changes which specify the technical requirements for control rod operability. The licensee is also preparing a technical specification change request to clarify the requirements of Technical Specification Surveillance Section 4.2. It is clear that the intent of the daily exercise test is to address the concerns associated with collet housing cracking problems. The problems experienced with control rod 34-35 and 46-35 are associated with scram outlet valve leaking, and in both cases the control rods remained moveable with drive pressure.

The inspector reviewed licensee response to the inoperable control rod drive and verified that these two control rods were separated by two control cells. The inspector had no other questions regarding control rod operability.

2.3 Stator Cooling Water System

During this inspection period, stator cooling water system flow rate unexpectedly decreased. Through troubleshooting and analysis, the licensee concluded that the reduction in flow was caused by fouling on a system strainer. To clean or replace the strainer, the stator cooling water system had to be removed from service. Removal required a generator output current below 4,000 amps. At this generating level, the vendor technical requirements indicate that the stator cooling water system can be removed from service for up to two hours.

The licensee formulated a plan to reduce plant load, remove the stator cooling water system from service, clean and replace the strainer, and restore the stator cooling water system. On June 17, plant load was reduced to about 150 MWe (about 30% reactor power). The stator cooling water system was removed from service and the strainer cleaned. While the cooling water system was out of service, the licensee observed stator bar temperatures increasing and further reduced generator load to about 75 MWe. The system strainer was cleaned and the system returned to service in 1 hr. 37 min.

While the plant was at reduced load, the licensee took the opportunity to perform other work. This work included:

- "E" reactor recirculation pump motor exciter stoning.
- Main steam isolation valve full closure surveillance.
- Repair of "B" reactor feed pump leak.

The plant was returned to full load at approximately 10:00 p.m. on June 18. The inspectors reviewed the event and the licensee's response and concluded this evolution was well planned, controlled and executed. No unacceptable conditions were identified.

2.4 Acoustic Monitors

During surveillance testing performed on June 21, the licensee identified that the acoustic monitor on safety valve NR28H was not operable. As required by technical specifications, the licensee increased the gain on the acoustic monitor on the adjacent safety valve NR28J to compensate for the inoperable acoustic monitor. This increased gain in conjunction with background and steam noises caused the safety valve to periodically indicate open. The licensee reduced reactor power to approximately 98% to reduce steam noise. This action stopped the safety valve alarms. Power remained at about 98% until the plant tripped on June 25. The inspectors reviewed the licensee's actions and no unacceptable conditions were identified.

2.5 Plant Trip Due to Main Transformer Fault

On June 25, a main transformer fault (MIA) initiated a generator/turbine trip and reactor scram. The inspectors reviewed the plant response and the licensee's response to this event. The inspectors concluded that the plant safety systems functioned as designed during the event. Two minor problems were noted. First, intermediate range detector 15 failed to indicate fully inserted. This malfunction was repaired while the plant was shut down. The second problem was a control rod which was at position 02 versus position 00 after the scram. The rod was subsequently fully inserted. The licensee evaluated that this was not a safety concern based on the amount of reactivity inserted with the rod at position 02. The inspectors had no other questions in regard to plant response to the trip.

The inspectors noted the following major maintenance work completed during the unplanned outage:

- Temporary variations were installed for operations with one Main Transformer. The inspectors reviewed the overall safety evaluation and had no questions.
- Thickness measurements of the drywell shell were obtained.
- The acoustic monitor for safety valve NR28H was repaired.
- Intermediate range monitor, IRM 15, detector position was repaired.
- Post accident sampling system valves were repaired.

2.6 Reactor Startup

In preparation for reactor startup, a licensed operator conducted a closeout tour of the drywell. During this tour, the operator noted some oil in the vicinity of the main steam isolation valve (MSIV) NS03A. This observation, in conjunction with an observed decrease in valve closure time, prompted the licensee to investigate further. An oil leak was identified on the valve hydraulic dash pot. This dash pot acts to restrain valve motion to prevent the valve from closing too rapidly. The oil leak was repaired. Inspectors reviewed the licensee's response to this oil leak. No unacceptable conditions were identified.

A reactor startup and plant heatup was commenced on June 30. The plant reached normal operating pressure and temperature on July 1. Inspectors observed portions of the reactor heatup from the Control Room on July 1. No unacceptable conditions were identified.

2.7 General Review

Routine tours of the control room were conducted by the inspectors. During these tours, the following documents were reviewed:

- Control Room and Group Shift Supervisor's Logs.
- Technical Specification Log.
- Control Room and Shift Supervisor's Turnover Check Lists.
- Reactor Building and Turbine Building Tour Sheets.
- Equipment Control Logs.
- Standing Orders.
- Operational Memos and Directives.

Routine tours of the facility were conducted by the inspectors to make an assessment of the equipment conditions, safety, and adherence to operating procedures and regulatory requirements. The areas inspected included:

- Turbine Building.
- Vital Switchgear Rooms.
- Cable Spreading Room.
- Diesel Generator Building.
- Reactor Building.

The following additional items were observed or verified:

a. Fire Protection:

- Randomly selected fire extinguishers were accessible and inspected on schedule.
- Fire doors were unobstructed and in their proper position.
- Ignition sources and combustible materials were controlled in accordance with the licensee's approved procedures.
- Appropriate fire watches or fire patrols were stationed when equipment was out of service.

b. Equipment Control:

- Jumper and equipment mark-ups did not conflict with Technical Specification requirements.
- Conditions requiring the use of jumpers received prompt attention by the licensee.
- Administrative controls for the use of jumpers and equipment mark-ups were properly implemented.

c. Vital Instrumentation:

- Selected instruments appeared functional and demonstrated parameters within Technical Specification Limiting Conditions for Operation.

d. Housekeeping:

- Plant housekeeping and cleanliness were in accordance with approved licensee programs.

No unacceptable conditions were identified.

3.0 Core Spray Booster Pump (93702, 71707, 62703)

During surveillance testing on June 16, the core spray booster pump NZ03B breaker tripped during the automatic start sequence. The pump was declared inoperable and a 15-day technical specification action statement was initiated. The licensee's troubleshooting included inspections of the motor breaker, checks of the motor resistance, and visual inspections of the control circuitry wiring. Troubleshooting was difficult because the pump as-found conditions were disturbed by operators during pump resetting and manual starting. During the troubleshooting, the pump operated satisfactorily and was declared operable on June 18. Because the root cause of the trip was not identified, the licensee increased surveillance frequency from quarterly to weekly. In addition, chart recorders were to be installed to monitor system performance during this surveillance testing.

Two similar events in which this pump breaker tripped during surveillance testing occurred on January 16, 1989, and February 1, 1989. These troubleshooting efforts also did not identify the root cause for the trips (Inspection Report 50-219/89-04). The inspector reviewed the troubleshooting activities of June 16 through June 18, 1989. While the root cause was not identified, the licensee's effort was reasonable, and the troubleshooting approach logical.

During core spray booster pump testing on June 21, the motor breaker tripped again and the pump declared inoperable. Although the chart recorder to monitor system performance had not yet been installed, some additional information was obtained. The trip on June 21 occurred during a manual start, whereas the previous trip occurred during an automatic start. Additionally, the as-found conditions were not disturbed and the breaker close light was verified to have lit. The licensee's troubleshooting efforts after this trip consisted of:

- Inspection of the breaker cubicle by the vendor.
- Satisfactory operation of the pump several times.
- Satisfactory performance of a 2,500 volt meggar on the motor.
- Visual inspection of the motor terminal box.

Although the licensee was still unable to determine the root cause of the motor breaker trip, it was concluded that the problem was intermittent and isolated to the pump motor breaker. This breaker was replaced with another breaker from the Shutdown Cooling System. Additionally, the licensee increased surveillance testing schedule of the pump to once per shift for 12 shifts and then once daily. The licensee's intent is to establish a once-per-week test. The need for further analysis of the original breaker is under evaluation. The inspectors had no other questions regarding core spray booster pump operability.

During the period between the core spray booster pump trips, the #1 diesel generator (DG) was declared inoperable. On June 19, at 5:15 a.m. the DG failed to start during surveillance testing. The DG was declared inoperable, initiating a 7-day technical specification action statement. The diesel starter motor and starting solenoid were replaced. The diesel was tested satisfactorily and declared operable on June 20 at 7:10 a.m.

4.0 Voltage Relay Failure (93702, 71707)

On June 8, at 1:35 p.m., the phase "B" undervoltage (UV) relay on the 4160 volt 1D bus was determined inoperable during surveillance testing. Plant Technical Specification Table 3.1.1 requires this relay returned to operability or placed in a trip condition within 1 hour. Since the licensee was not able to install necessary electrical jumpers to place the relay in a trip condition within an hour, a plant shutdown was started at 2:35 p.m.

The inspector observed the conduct of this maintenance and verified the following:

- The requirements of Station Procedure 105, Conduct of Maintenance, were met.

- Current electrical drawings were used.
- The electrical drawings were used to determine correct installation of the jumpers.
- Technical specification requirements were satisfied.

Once the jumpers were installed, the plant shutdown was secured. Power had been reduced to approximately 97%. The licensee subsequently replaced the failed undervoltage relay and removed the jumpers. The undervoltage relay was declared operable. The inspector had no questions in regard to relay operability and electrical maintenance.

5.0 Monthly Surveillance Observations (61726)

On June 28, the inspector observed the licensee perform portions of Procedure 624.4.001, "Main Steam Valve (MSIV) Position Indication and IST Test," and Procedure 610.4.008, "Core Spray Testable Check Valve Operability Test." The inspector verified that the procedure acceptance criteria met the technical specification requirements, the test was performed by qualified operators, the operator obtained necessary administrative approval before performing the test and the test results met the acceptance criteria.

The closing time of MSIV NS03A was faster than experienced in the previous test. Upon further investigation the licensee identified an oil leak from the MSIV dashpot (see paragraph 2.6 of this report). This leak was repaired before plant startup. The licensee indicated that the other MSIVs were inspected and did not have a similar problem. The inspector had no further questions regarding MSIV operability.

6.0 Missed Reactor Coolant Chemistry Sample (93702)

On May 15, 1989, the licensee failed to take a reactor coolant sample for Iodine-131. Technical Specification Amendment 126, which became effective in September 1988, requires that with the reactor mode switch in the "RUN" position and a greater than 15% change in thermal power in a one-hour period, Iodine-131 must be sampled within two to six hours.

The licensee conducted a review of the event and submitted Licensing Event Report (LER) 89-014. The root cause of the event was determined to be personnel error. The licensee stated that the Group Shift Supervisor (GSS) had forgotten to notify the Chemistry Department to sample for Iodine-131. The GSS had knowledge of the requirement and identified the mistake the following day. The licensee identified two contributing factors to this event. The technical specification log sheet was incorrectly worded to specify increases of 15% thermal power in a one-hour period versus any change of 15% in a one hour period. The failure to sample occurred when power was decreased by greater than 15%. Reactor power is

logged every hour on the half hour. The minimum power attained occurred between logged readings resulting in a less than 15% transient as recorded by the logs.

The licensee initiated corrective actions to prevent recurrence. The technical specification log sheet and other station procedures have been revised to clarify the technical specification requirements. Review of the sampling requirements have been conducted with operations personnel.

The inspector reviewed documentation and interviewed the licensee's staff concerning this event. Although no "Licensing Action Item" was initiated after issuance of the technical specification amendment, procedural changes were implemented to reflect the new requirement. The inspector had no further questions.

Oyster Creek Technical Specifications require Iodine-131 sampled when thermal power is changed by more than 15% in a one-hour period. Contrary to this requirement, Iodine-131 was not sampled on 5/15/89 when reactor power was changed by more than 15% in a one-hour period. This failure to sample is a violation. The violation is not being cited because the criteria specified in Section V.A. of the Enforcement Policy were satisfied (NCV 89-14-01).

7.0 Oyster Creek Drawings (71707, 30703)

7.1 Control Room Drawing Improvements

The posting of field change notices (FCN) on control room drawings had previously resulted in multiple copies of the same drawing in the control room files. These multiple copies made it difficult for the control room operator to understand the current plant configuration. In response to this concern, the licensee implemented improvements in the method used to update control room drawings. This method was reviewed by inspectors with the licensee. The inspectors noted an improvement in that multiple copies of the same control room drawing did not exist. The inspectors had no other questions in regard to the updating of control room drawings.

7.2 Management Meeting Regarding Oyster Creek Drawings

On June 21, 1989, a management meeting was conducted at NRC Region I office to discuss Oyster Creek configuration management.

NRC Attendees

R. Conte, Chief, Operations Section, Division of Reactor Safety (DRS)
G. Napuda, Senior Reactor Engineer (DRS)
E. Collins, Senior Resident Inspector, Oyster Creek
D. Lew, Resident Inspector, Oyster Creek

Licensee Attendees

M. Radvansky, Manager, Design and Drafting
 E. Wallace, Engineering Services Director
 B. DeMerchant, Licensing Engineer
 J. Flynn, Engineering Procedures and Standards Manager

NRC Inspection Report 50-219/89-05 identified concerns regarding Oyster Creek drawings. The cover letter of this inspection report requested additional information from the licensee about their plans to update and improve Oyster Creek's drawings. In response to this letter, the licensee requested a meeting with NRC's management to discuss in depth their plans.

The licensee's efforts have included "as found" field change notices and drawing verification measures. These efforts have resulted in approximately 9,800 as built drawings at Oyster Creek. The licensee also presented their plans to continue to upgrade Oyster Creek drawings. These efforts include drawing consolidation plans using computer assisted designs (CAD) for approximately 900 plant drawings and drawing legibility improvement efforts for an additional 700 plant drawings. A copy of the handout summarizing the licensee's presentation is enclosed as Attachment I.

3.0 Emergency Service Water Pump Operability (93702, 71707)

In May 1989, emergency service water (ESW) pump 52C did not develop discharge pressure on a pump start. During an attempt to open the pump seal leakoff line, an operator broke the line. When this occurred the pump immediately developed discharge pressure and operated normally. Through troubleshooting and analysis, the licensee concluded that there is a tendency for air to build up inside the ESW pump when the seal leakoff line is closed. If a sufficient amount of air is allowed to build up, the pump becomes air bound. The licensee concluded that leaving the seal leakoff opened would vent this air from the pump and allow it to operate satisfactorily. To ensure pump operability, the licensee has taken steps to ensure these seal leakoff lines are open. The source of the air for the ESW pump has not been identified; however, the licensee's analysis in this area is continuing. The inspector reviewed the licensee's analysis and the results concerning the ESW pump operability and had no other questions.

9.0 Status of Previously Identified Items (92701, 92702)

A significant effort was expended to update and close previously identified items. Where necessary the applicable NRC technical specialists were consulted. The items related to equipment qualification were inspected directly by the technical specialists.

(Closed) I.E. Bulletin 86-04. This bulletin was addressed to all NRC licensees which were authorized to use cobalt 60 teletherapy units. Oyster Creek is not authorized to use these units; therefore, this bulletin is not applicable to Oyster Creek. This item is administratively closed.

(Closed) I.E. Bulletin 85-03. I.E. Bulletin 85-03, Motor-Operated Valve Common Mode Failures during Plant Transients due to Improper Switch Settings, was issued on November 15, 1985, with Supplement 1 to the bulletin issued on April 27, 1988. The licensee has made a number of responses to the bulletin and has been granted an extension to respond to a request for additional information. Generic Letter 89-10, dated June 28, 1989, however, supersedes the recommendations in Bulletin 85-03 and its supplement. Generic Letter 89-10 requires no further responses regarding Bulletin 85-03 or its supplement from the licensee. This item is closed.

(Closed) Unresolved Item 85-23-05. This item refers to the opening of a scram discharge volume drain valve as a result of reactor pressure under the seat. An inspector had questioned the configuration with reactor pressure acting from beneath the seat. The licensee's evaluation showed the valve was forced open because an improperly sized actuator closing spring had been installed. A properly sized spring was installed, and the valve performed satisfactorily during subsequent pressure testing. This item is closed.

(Closed) Inspector Follow Item 86-12-06. This item refers to the determination of the cause of leaking fuel assemblies identified while performing fuel sipping during the 11R outage. The licensee determined the fuel failures resulted from pellet/clad interaction which was caused by weaknesses in the power shape monitoring system and by improper operator guidance. The failures were reported in Licensee Event Report (LER) 86-16 and Revision 1 to LER 86-16. This item is closed.

(Closed) Inspector Follow Item 86-LC-02. This item refers to the licensee's commitment to verify operability of all fire dampers. Special Report 85-03 identified several fire dampers which were not in compliance with applicable codes/standards and vendor's installation requirements. To resolve this item, the licensee provided the inspector with the test results of Special Test Procedure (STP) 247/5, "Fire Damper Test," which verified all fire dampers performed their intended design function. The test was completed on November 28, 1986. This item is closed.

(Closed) Violation 85-30-01. This violation dealt with improperly maintained records associated with spent fuel movement. Based on information provided in the licensee's response and a subsequent telephone conversation, this violation was withdrawn. The inspector had no further questions regarding this matter.

(Closed) Unresolved Item 86-02-02. This item addresses discrepancies in the main steam isolation valve (MSIV) scram signal low pressure bypass setpoint. Technical Specification Table 3.1.1, Note B, specifies 800 psia while the technical specification bases discusses a setpoint of 600 psig. Table 3.1.1, Note B, was changed from 600 psig to 800 psia by technical specification change request, TSCR #96. This change request was supported by the reload analysis performed prior to cycle 10 operation. The change is significant because the basis for Oyster Creek safety limits was changed from General Electric test reactor (GETR) data to the General Electric thermal analysis basis (GETAB) data. The latter uses the General Electric critical quality (X)-boiling length (L), GEXL, correlation. The lower pressure bound on the GETR correlation was 600 psi as opposed to the GEXL correlation which is 800 psi. This TSCR inadvertently changed Table 3.1.1 setpoint from 600 to 800.

The licensee concluded that the 600 psig number is correct, and that there is no relation between this setpoint and the fuel integrity safety limit. While the technical specification limit would allow a bypass setpoint as high as 800 psia, the licensee has retained a setpoint of 600 psig. The licensee intends to submit another technical specification change request to indicate 600 psig as the correct MSIV closure scram low pressure bypass setpoint.

During the review of this item, the inspector noted that the MSIV low pressure isolation closure scram plays an important role in providing neutron flux scram protection for the fuel cladding integrity safety limit. Since this MSIV closure scram is bypassed below 600 psig, there is no automatic neutron flux scram protection for these plant conditions if the intermediate range detector range switches were placed in range 10. To assure protection, the licensee has established technical specification and plant requirements which administratively control manipulation of IRM range switches. These controls, in addition to a mechanical interlock to prevent the operator from inadvertently entering IRM range 10, provide protection for the fuel cladding integrity safety limit. Plant technical specification bases state the combination of main steam line low pressure isolation and isolation valve closure scram assures the availability of neutron flux scram protection over the entire range of applicability of the fuel cladding integrity safety limit. This statement implies neutron flux scram protection in all plant conditions. This is not accurate, since the licensee depends on administrative controls to prevent inadvertently entering IRM range 10. The licensee has stated its intention to submit clarification to the plant technical specification bases to indicate the actual provisions established to protect the fuel cladding safety limit. The inspector had no further questions in this area.

(Closed) Inspector Follow Item 86-17-05. The inspector had determined that certain operator actions associated with the operation of the isolation condenser high point vents and the loading of the turbine building ventilation fans onto the emergency diesel generators had not been proceduralized. The inspector verified isolation condenser vent valve opera-

tion including installation of jumpers has been included in Station Procedure 312.1, "Bypassing Isolation Interlocks and Automatic Scram During Emergency Conditions." Also, Station Procedure 341, "EDG Operation," was verified to have instructions for the manual addition of turbine building loads onto the diesel generators after the automatic loading sequence is completed. This item is closed.

(Closed) Inspector Follow Item 86-17-03. This item required verifying actions taken relative to failed MSIV springs are in accordance with a Information Notice. The licensee provided documentation showing the purchase of five sets of load tested and magnetic particle tested MSIV springs. Also, a work request for the installation of the new springs when the valves are disassembled was provided. These actions are acceptable as stated in Information Notice 86-81, Supplement 1. This item is closed.

(Closed) Violation 86-06-06. This violation outlined four examples of failure to follow procedures. In response to the violation, the licensee took several corrective actions. These actions, listed below, were verified by the inspector.

- Memorandums of concurrence were issued from Plant Engineering for both BA 402786 and BA 402775.
- A memorandum, dated August 28, 1986, re-emphasizing the requirements of Procedure EMP-014, "Project Reviews," was issued to the responsible technical reviewers in the Technical Functions Division.
- Technical Functions Procedure EMP-014, "Project Reviews," was revised to require inviting appropriate groups to review operability, maintainability, and constructability.
- Another independent safety review of safety evaluation 402775-001, Diesel Generator Lube Oil Mod was performed.

Inspector review concluded that the actions were adequate.

This item is closed.

(Closed) Unresolved Item 86-06-05. The environmental qualification requirements for drywell atmosphere temperature elements will be clarified. The licensee provided the inspector System Component Evaluation Worksheet (SCEW) sheets for the Yarway and GEMAC reference leg temperature elements (used to indicate drywell atmosphere temperature) which indicate these instruments are being maintained as environmentally qualified instruments.

(Closed) Unresolved Item 86-14-01. During an inspection of maintenance activities, the implementation of a Station Information Management System (SIMS) was discussed. SIMS was to be an automated maintenance management system. The implementation of the program was to be evaluated. During

this inspection, it was determined a generation maintenance system (GMS-2) has been implemented as a maintenance management system. The GMS-2 system is fully implemented, maintenance and construction facilities procedures revised to incorporate GMS-2, and user manuals distributed. This item is closed.

(Closed) Unresolved Item 86-14-02. This item refers to a review to be conducted of programs to correct the timeliness of maintenance responses to licensee audit findings and to evaluate escalating procedure effectiveness. Relative to this matter, the licensee has performed an audit which concluded that actions taken by maintenance to improve their responsiveness have not been effective. QA documented an intent to continue to review this matter. Responsiveness to identified QA deficiencies was also discussed as a problem in the licensee's SALP response. A review of this area is scheduled in the Site Unique Inspection Program. Since this matter is not considered an apparent violation at this time, and since this matter will continue to be followed by the inspectors, this item is closed. Based on the scheduled inspection of this area this item is closed.

(Closed) Inspector Follow Item 86-LC-01. This item refers to the licensee's commitment to investigate and correct frequent set point drift problems with snap action type switch sensors. The licensee has installed an analog trip system in some systems per the integrated schedule.

(Closed) Inspector Follow Item 86-LE-25. This item refers to grounding of 4160V electrical bus caused by personnel error. This item was closed in Inspection Report 50-219/88-04.

(Closed) Violation 85-35-08. This item refers to the failure to frisk hand held items when exiting the radiologically controlled area (RCA). In response to this violation, the licensee instituted a number of corrective actions. Several of these actions were one-time actions; e.g., department heads notified, article in weekly newspaper, and subject discussed at a monthly meeting. More permanent actions consisted of installing poster signs at friskers reminding personnel to frisk hand held items, and management and rad con technicians observing personnel frisking practices. A recent incident occurred in which contamination was spread outside the RCA because of the failure of a worker to frisk a hand held item. As a followup to this incident, a Radiological Investigation Report and a Human Performance Evaluation System Report were performed. Additional corrective actions were recommended. This violation along with the recent occurrence point out the need for continued efforts on the part of management to preclude a repetition of these events. The initiation of one-time corrective actions has minimal long term effort. Based on the corrective actions taken and the licensee's detailed evaluations of the recent event and recommended corrective actions, this item is closed.

(Closed) Violation 85-35-05. This item refers to a job supervisor who failed to sign off production hold points on a weld repair record. Records show corrective action was taken by changing Procedure 6150-QAP-7220.01, "Control of Welding and Brazing." The procedure was changed to clarify (1) dating requirements for production hold point releases, (2)

re-define term "hold point" to "production workmanship check", (3) production hold point release sequential requirements, and (4) re-define "authorized production supervisor." The inspector reviewed these changes and considered them appropriate. The inspector had no further questions on this matter.

(Closed) Violation 85-33-01. This violation dealt with radiation levels which were in excess of the allowable limits at the outer edges of a transport vehicle. The increased radiation levels resulted from a piece of control rod blade which became dislodged during transport from an underwater cutter shearer. The inspector verified the licensee's action to preclude recurrence which was to revise Oyster Creek Procedure 101.3, "Shipment of Radioactive Materials". The procedure was revised to include a requirement that the radwaste shipping supervisor conduct a review prior to packaging for shipment when the potential exists for small segments of irradiated hardware to be commingled with low specific activity material.

(Closed) Unresolved Item 86-09-06. This item resulted from a masonry wall inspection which identified cracks in two walls. The item requested an analysis of the probable cause of these cracks and a repair or demonstration of structural adequacy of the walls. The inspector verified the identified cracks had been repaired. An evaluation was performed to identify the cause of the cracks, none was determined. Consequently the repairs are being monitored. No additional cracking of the repair was noted.

(Closed) Inspector Follow Item 82-01-47. This item refers to the licensee's development of procedures to assess the possible effects of sea breeze circulations on the effluent plume transport. The inspector verified Emergency Plan Implementing Procedure 9473-IMP-1300.31, "Environmental Assessment Command Center," includes provisions for evaluating the potential for a sea breeze and the worksheet for sea breeze dose assessment. The inspector had no further questions on this matter.

(Closed) Inspector Follow Item 82-01-37. This item refers to the provision for a mobile laboratory to perform reactor coolant and other pertinent analysis during emergencies. This item was updated in Inspection Report 50-219/85-05 to note that the licensee had purchased equipment to perform radio-nuclide analysis of post accident samples but that it was not yet installed. The licensee has installed post accident sampling equipment. The following procedures which provide instructions for post accident sampling have been issued:

- Procedure 831.4, Post Accident Sampling and Operation: RAGEMS
- Procedure 831.7, Post Accident Sampling and Analysis: Preparation and Analysis
- Procedure 831.8, Post Accident Sampling and Analysis: Estimation of Percent Fuel Failure

- Procedure 831.9, Post Accident Sampling and Analysis: Pass Analytical Program
- Procedure 831.10, Operation of the G.E. Post Accident Sampling System
- Procedure 831.11, Post Accident Sampling and Analysis: Cask Transport offsite

The inspector had no further questions regarding this matter.

(Closed) Deviation 86-09-03. An assumption was made regarding mortar strength where records were not found to substantiate that high strength type M mortar was used in the initial masonry wall construction. The licensee had analysis performed on samples from three different safety related block walls by an independent testing laboratory. Test results were provided the inspector. These results showed that the test specimens conform to the 2500 psi type M mortar strength requirements. The inspector had no further questions.

(Closed) Unresolved Item 86-09-04. This item refers to the licensee's action to provide a schedule and procedures or instructions for the resurvey of masonry walls. The licensee provided the inspector with a Technical Data Report TDR 830, Reverification Walk Down Summary Report, which documented the findings of a masonry wall reverification walk down. In all, 268 walls were identified for the reverification. The TDR described how the walls were identified, walk down documentation requirements, inspector training provided, and the method in which problems were dealt with. The licensee concluded that with few exceptions the original work performed in 1980-81 was adequate. The inspector reviewed the licensee's actions and found them acceptable.

(Closed) Unresolved Item 80-07-02. This item refers to the additional documentation required to verify adequacy of fire protection modifications required by Amendment 18 to DPR-16. Following Inspection Report 84-21, this documentation had been provided to the NRC in a letter dated March 3, 1980. Based on a followup phone conversation with Region I and no additional correspondence, this item was considered closed. The information provided on March 3, 1980, has been re-reviewed and the fire protection provided the 4160 volt switchgear vault was found to be acceptable.

(Closed) Inspector Follow Item 81-CI-03. This item refers to inoperable seismic monitoring instrumentation. This circular is not applicable to Oyster Creek. Oyster Creek has no seismic monitoring system.

(Closed) Inspector Follow Item 80-CI-16. This IE circular 80-16, Operational Deficiencies in Rosemount Model 510DV Trip Units and Model 1152 Pressure Transmitters, was followed with IE Bulletin No. 80-16, Potential Misapplication of Rosemount Inc. Models 1151 and 1152 Pressure Transmitters with either "A" or "D" Output Codes. The licensee responded that Oyster Creek does not utilize transmitters of the type described in safety related systems. The bulletin was closed in Inspection Report 50-219/84-28.

(Closed) Inspector Follow Item 85-SB-02. This item resulted from a Part 21 report from Limatorque. The report described certain potential failures of the worm shaft gear in certain Limatorque actuators. Since Oyster Creek was one of the plants mentioned in the report, this issue was discussed with the licensee by the resident inspector. The licensee's actions in response to this matter was to remove the declutch tripper from eight susceptible valves. An 11R outage Job Closeout Report was reviewed by the inspector to verify the task had been performed. The inspector had no further questions.

(Closed) Unresolved Item 86-09-05. This item refers to the licensee's action to perform periodic surveillance of safety related masonry walls. The licensee has determined the frequency for masonry wall inspections to be 1/3 of the walls prior to the end of each operating cycle. The initial inspection of 1/3 of the walls was performed in accordance with Technical Functions Work Request AT 5062. The task was completed on 12/9/88. Future inspections are to be performed in accordance with Specification SP-1302-53-048. This document provides detailed inspection requirements and the method of documenting the verification walkdowns. The document is classified as "Regulatory Required."

(Closed) I.E. Bulletin 80-BU-11. Bulletin 80-11, Masonry Wall Design, was addressed in NRR Cycle 11R Outage Safety Evaluation. This safety evaluation noted 38 safety related walls which still required modification. Deferment of these modifications beyond the 11R outage was approved. Licensing Action Item 80043.10 was written to ensure that modifications to these walls and any other masonry walls for which modifications are required are implemented. This action item has been closed out indicating that "all block wall modifications have been completed." Additionally, Technical Data Report 830, Revision 1, Reverification Walkdown Summary Report, documents completion of all corrective actions to ensure compliance to the bulletin. The inspector reviewed these actions and found them acceptable.

(Closed), I.E. Bulletin 86-01 and 86-03. These bulletins asked the licensee to evaluate the emergency core cooling systems a for potential single failure vulnerability in the minimum flow line. The licensee responded, stating that a review of the Oyster Creek configuration determined that this vulnerability did not exist.

The inspector reviewed the licensee's response to these bulletins and the Oyster Creek core spray minimum flow line configuration logic. Oyster Creek core spray minimum flow valves are air operated and fail open on loss of air or loss of electrical power to the solenoid. The licensee's evaluation concluded that no single failure vulnerability exists that could cause the minimum flow valves to fail in the closed position and thus affect the operability of both core spray subsystems. The inspector had no further questions in this matter.

(Closed) Unresolved Item 86-08-01. This item refers to the apparent installation of several in-containment Limitorque valve motor operators without "T" drains and/or grease relief valves. The motor operators for valves V-16-1, V-5-166, V-17-19, V-14-36 and V-14-37 were qualified to the requirements of NUREG-0588, Category I, using Limitorque reports No. 600376A and B0058. These reports require that the operators be installed with "T" drains and grease relief valves to ensure qualification. Contrary to the above, the licensee's files contained no data relative to the actual installation of the subject valve operators. Pursuant to the inspector's findings, the licensee conducted a field walkdown to resolve the issue. The licensee's investigation revealed that all motor operators included grease relief valves and that some operators had been installed without "T" drains. Evaluation of current documentation indicates that the missing "T" drains were installed. This item is closed.

(Closed) Unresolved Item 86-08-02. This item refers to the licensee's similarity analysis to address qualification of the motor operators used in conjunction with several reactor building valves. In evaluating the analysis performed by the licensee, the inspector noted that it was not adequately supported by a vendor certification or field inspection to clearly identify internal wiring used. In addition, the analysis failed to address possible modifications to the motor operator wiring performed by the vendors or installers. The valves involved were: V-1-106, V-1-107, V-1-111, V-16-61, V-17-55, V-17-56, V-17-57, V-20-3, V-20-4, V-20-15, V-20-21, V-20-32, V-20-33, V-20-40, V-20-41, V-21-1, V-21-3, V-21-5, V-21-7, V-21-9, V-21-11, V-21-13, V-21-15, V-21-17 and V-21-18. In response to the inspector's observations, the licensee conducted a field survey of the valve operators involved and, in those cases where it could not readily identify the wiring, the licensee replaced it with qualified wiring. In addition, the inspector confirmed that the licensee updated the environmental qualification files involved. This item is closed.

(Closed) Unresolved Item 86-08-03. This item refers to the apparently unqualified Namco limit switches used in conjunction with valve V-23-18. Although located in the reactor building, these switches were installed without a moisture seal. In addition, the qualification files contained no evidence that a steam test had been performed to establish qualification in the installed conditions. Corrective action by the licensee included installation of conduit seals and updating of appropriate files to document the field modification performed. This item is closed.

(Closed) Open Item 86-08-06. This item refers to the documentation errors and deficiencies identified by the NRC inspection team in conjunction with EQ documentation files for States Company terminal blocks, Amp Inc. PIDG wire terminals and a Hy-Cal thermocouple.

With regard to the States Company terminal blocks, the inspector identified the following deficiencies:

- The licensee's qualification file did not conclusively establish similarity between the used ZWM terminal blocks and the tested NT type.
- Calculation used incorrect insulation resistance (IR) value.
- SCEW sheets used improper values for design temperature.
- EQ files did not establish whether ZWM 25012 terminal blocks were replaced with environmentally qualified type ZWM 25003, as per internal memorandum.
- Two calculations used two different values for activation energy of the same material.

In response to the above observations, the licensee revised all the documentation involved and provided adequate justification for not replacing terminal blocks type ZWM 25012 and type ZWM 25003.

For the amp wire terminals, the inspector noted that the qualification file did not contain adequate documentation files to support material traceability. Corrective action by the licensee involved updating of the EQ files to include manufacturers' Certificates of Compliance.

With respect to the Hy-Cal thermocouples, the inspector observed that the qualification files contained some discrepancies relative to the thermocouple gauge and upper temperature limit. The licensee corrected the documentation involved and provided appropriate justification for the discrepancies noted.

This item, incorrectly identified in the original report as 86-08-08, is closed.

(Closed) Open Item 86-08-07. This item refers to the environmental qualification of Thomas & Betts Model STA-CON wire terminal. Evaluation of the associated documentation file indicated some apparent discrepancies between the required and the qualified post accident operability times. Resolution of the discrepancy by the licensee included updating of the qualification file and performance of calculations to extend the post accident test period to the required operability period. The calculations performed demonstrate that ample margin exists. This item is closed.

(Closed) Open Item 86-08-08. This item refers to the apparent lack of maintenance requirements for cable terminations. Maintenance requirements are usually identified in supplemental SCEW sheets which are in turn used by the Technical Functions Group to establish schedules. Contrary to this practice and the requirements of Procedure 105.3, the supplemental SCEW sheets for Class 1E terminal blocks and cable terminals were left blank.

The licensee explained that the checking of cable terminations for surface corrosion identified in paragraph 7.2.2 of Procedure 105.3 is not an environmental qualification requirement. It is rather a requirement imposed by good inspection and preventive maintenance practices. This item is closed.

(Closed) Open Item 86-01-04. This item stated that routine maintenance and calibration of the particulate and radioiodine samplers should be implemented. Inspection Report 50-219/87-10 documented the review of this item and left it open pending the development and implementation of surveillance and maintenance procedures for the Radioactive Gaseous Effluent Monitoring system (RAGEMS). The inspector verified that these procedures for RAGEMS are in place. This item is closed.

(Closed) Inspector Follow Item 86-04-02. This item refers to the failure of seven emergency alert sirens due to cold weather. Inspection Report 50-219/87-05 reviewed this item and left the item open pending the licensee's installation and acceptance testing of the strip heaters. The licensee has installed the strip heaters, and the acceptance testing report has been reviewed. This item is closed.

(Closed) Inspector Follow Item 84-BU-03. This bulletin required licensees to evaluate the potential for and consequences of a refueling cavity water seal failure. The bulletin was previously reviewed in Inspection Reports 50-219/85-19 and 50-219/88-28 and remained open pending the licensee's review of the bulletin response to determine if additional information is warranted. The licensee has completed its review and has concluded that no further response is required. The basis for this conclusion was the design of the reactor cavity seal which consists of welded mechanical seals made of stainless steel. The licensee stated that the potential for gross seal failure is low and the concerns of the bulletin are not applicable to Oyster Creek.

Inspection Report 50-219/88-28 documented review of Temporary Instruction 2515/66, Inspection Requirement for I.E. Bulletin 84-03. The licensee had determined the integrity of the refuel cavity seal and documented the results of this effort in three reports. These reports documented helium and air test and showed that the seals were essentially leak tight.

Based upon the design of Oyster Creek reactor cavity seals which does not utilize pneumatic seals and the licensee's efforts in determination of the leak tightness of the seals, Bulletin 84-03 is closed and TI 2515/66 is completed.

(Closed) Violation 86-12-05. This item refers to a severity level IV violation which the licensee was cited for four inoperable safety related snubbers on the isolation condenser system. An NRC letter to GPUN dated November 17, 1986, documented an enforcement conference held on September 12, 1986, regarding this issue. The conclusion from the enforcement conference with regard to this violation was that the violation was corrected and that a reply from the licensee was not required. Based upon the review of this issue during the enforcement conference, this item is closed.

(Closed) Violation 86-12-07. This item refers to a severity level IV violation ineffective control of the quality of contractor work on four isolation condenser system snubbers. As a result of the licensee's ineffective control, snubbers were inoperable for an entire operating cycle. The licensee's corrective action taken in response to this violation included:

- Issuance of a procedure which will address the control of contractor work on site. The inspector verified the issuance of Maintenance, Construction and Facilities (MCF) Procedure #A000-ADM-7101.01, "Control of Contractors".
- Reemphasis to supervisors and managers of the appropriate methods of identifying and issuing contractor work scope. A GPUN memorandum dated March 25, 1987, addressed the appropriate methods. The inspector reviewed this memorandum.
- Incorporate a process of reviewing prospective contractors' QA/QC qualifications and certifications. The inspector reviewed the Personnel Qualification/Certification checklist which the licensee implemented.
- Review practices regarding overview of a contractor's QA program. The licensee concluded that GPUN must be given the opportunity to inspect any work classified as important to safety before the work is insulated, made inaccessible and/or otherwise made unavailable for inspection.
- Evaluate the QA review process for completed work packages and the upgrade of the process. The licensee required establishing a checklist for each job based on the scope of work and contractor's QA program requirement. The checklist is established by QA, Engineering and QC prior to completion of the work.

Based upon the completion of the above corrective actions, this item is closed.

(Closed) Violation 85-07-01. This item refers to a severity level IV violation which the licensee was cited for failing to survey a TN9-1 cask within three hours as specified in 10 CFR 20.205. The licensee's corrective action taken in response to the violation was to revise the cask handling procedure. The revisions include the three hour survey requirement and a note stating the sequence of work on an existing cask can be interrupted in order to comply with this time requirement. The inspector verified the changes were incorporated in the TN9-1 operating procedure, Procedure #A15045420. Additionally, the inspector verified that the procedure for FSV1 Type "B" cask, which like the TN9-1 cask is also a dipable cask, included the time requirements for surveys. Based upon the verification of completed corrective actions, this item is closed.

(Closed) Inspector Follow Item 85-07-02. This item identified differences between NRC and GPUN counting results on swipes taken on TN9-1 casks from West Valley. The counting results obtained by GPUN were as high as 1.5 times that obtained by the NRC. The inspector reviewed the counting result data and the instrumentation utilized to perform the survey. The NRC had used a gas flow proportion counter (Canberra); GPUN had used Geiger Mueller counter (NP260 LND). Although the differences were significant, the accuracy and tolerances associated in the use of the two detectors can account for the differences. Additionally, NRC and GPUN counting results on subsequent surveys on West Valley casks showed differences which were less than a factor of 1.2. The use of the HP260 LND detector by the licensee is acceptable for the counting of swipes. This item is closed.

(Closed) Violation 85-07-03. This item refers to a severity level IV violation which the licensee was cited for failing to maintain the removable contamination at or below the authorized limit on two locations on a cask during transportation from West Valley to Oyster Creek. The licensee committed to ensuring that surveys of the cask were completed within 24 hours of shipment and that receipt surveys were expedited to minimize leaching time. The inspector verified the incorporation of the licensee's commitments in their cask procedures. Additionally, the licensee has taken measures since this event to minimize leaching. Some components have been held for 24 hours after decontamination to check for leaching. The licensee has also utilized a skirt on the casks prior to dipping them in the fuel pool to minimize contamination of the casks. This item is closed.

(Closed) Violation 86-21-01. This violation resulted from the licensee's failure to perform necessary and reasonable surveys and identify changes in the uniformity of radiation exposure. During June and July 1986, individuals working under the reactor vessel performing CRD exchange were overexposed when their exposures were underestimated by a factor of two due to improper dosimetry placement. A similar incident happened during the same time period when worker's dose was underestimated during recirculation pump seal replacement due to inadequate survey and improper dosimetry placement.

In response to the notice of violation the licensee indicated that radiological control technicians (RCTs) were briefed on the importance of detailed surveys and dosimetry placement. The critique of the event was reviewed by the radiological engineers and the group radcon supervisors (GRCS), and a copy was placed in the ALARA review file for future control on similar jobs. The licensee indicated that they had reviewed all active radiation work permits and ALARA reviews and made appropriate revisions for proper dosimetry placement. In addition, the two events were incorporated in the GRCS and RCT cyclic training.

The inspector reviewed the licensee's ALARA review files which incorporated the two events and held discussions with the Rad Engineering manager. The GRCS/RCT cyclic training that the licensee committed to hold and discuss these problems was held during the 86-4 training cycle. During that training cycle, the following were performed:

-- Review of the incidents.

- Reading and discussion of the licensee's incident reports and reports to NRC.
- Discussion of the events and corrective measures.
- Review of the procedure for dosimetry placement.

Subsequent to the above incidents and corrective actions, a similar radiological event was identified during February and March 1988 when work was performed in areas of the drywell torus room where radiation field had not been properly surveyed. This improper survey resulted in radiation exposures to unmonitored parts of the workers' bodies that were higher than expected (see violation 88-11-01). The inspector questioned the effectiveness of licensee's corrective actions implemented as a result of violation 86-21-01. Due to the similarity of the two violations, open item 86-21-01 is closed and effectiveness of the licensee's radiation surveys and dosimetry placement will be further reviewed under violation 88-11-01.

(Closed) Unresolved Item 85-39-04. This item raised a question about the adequacy of the licensee's environmental qualification (EQ) audits and was left unresolved pending NRC review of GPUN EQ program. In this issue, the audit did not identify the presence of Stanwick electric terminal blocks. The licensee's methodology for establishing and maintaining EQ was reviewed in an inspection in March 1986, and the results of this review are documented in Inspection Report 50-219/86-08. In this report, no concerns regarding the methodology of EQ audits was raised.

The most recent EQ audit, 0-0C-85-08, was reviewed with resident inspectors, and the results of this review are documented in Inspection Report 50-219/86-06. The inspector verified the licensee's methodology for conducting an EQ audit would include field walkdowns of components. The inspector did note, however, that there is no requirement at Oyster Creek for periodic EQ audits. Based on the results of these reviews, and the verification of field walkdowns, this item is closed.

(Closed) Violation 86-11-02. This violation refers to the failure to implement fire protection and relating corrective action in a timely manner. In October 1984, a fire protection audit identified a five foot long crack in a fire barrier wall in the turbine building. As of April 1986, the deficiency had not been corrected and other interim compensatory measures were not established. The NRC issued a Notice of Violation in regard to this failure to correct a condition adverse to quality. In a letter dated June 26, 1986, the licensee responded that the condition of the crack in the wall did not represent plant safety or personnel hazard and as such the repair was assigned a low priority based on normal plant resources and work load. The licensee did not concur in the violation. This item was reviewed in Inspection Report 50-219/87-23 where the inspector verified that the crack in the turbine building wall had been repaired.

Inspector review of the item in Inspection Report 50-219/87-23 reestablished that the crack in this wall was a violation of fire protection standards and thus should have been repaired in a timely manner. The licensee maintained that the safety significance of this crack was minimal and that the 18 months to repair the crack was not excessive based on other higher priority work.

The resident inspector reviewed this item and concurred that the actual safety significance of this crack in the turbine building wall was minimal. Site management responsiveness to QA audit findings is an ongoing concern and is documented in SALP Report 87-99. The licensee has indicated to the NRC its plans to improve the responsiveness to site QA audit findings and quality deficiency reports. Based on current communication between the licensee and NRC on this topic, this violation is closed.

(Closed) Unresolved Item 86-05-01. This unresolved item discussed doors in the vital area barrier not being bullet resistant in accordance with 10 CFR 73.55 (c) (6) nor having intrusion alarms in accordance with 10 CFR 73.55 (e). Subsequently, the licensee replaced the doors in question with bullet resistant doors, and in a letter to NRC dated April 15, 1988, committed to install intrusion alarms on these doors. The schedule for implementation of the alarms is in accordance with the licensee's long range planning program.

The inspector performed a walkdown of these doors and questioned the licensee about the failure to install the intrusion alarms. Oyster Creek Integrated Schedule submitted to the NRC on December 2, 1988, did not include installation of alarms on these doors. The licensee verified this item has cleared the budgeting process and the upcoming revision of the integrated schedule would include this. The installation of the alarms is being scheduled to be completed within the current operating cycle. The inspector had no further questions regarding this matter.

(Closed) Inspector Followup Item 85-23-09. This item refers to the followup of the licensee's corrective action regarding two vital transformers (1A2 and 1B2) found to have degraded cooling due to reduced oil level. A special inspection conducted during September 23-27, 1985, reviewed the apparent cause of the event and licensee's proposed corrective action. Followup of the completion of the proposed corrective action was left open as an unresolved item 85-28-01. This was further reviewed in subsequent inspection report 89-04 and was closed out upon satisfactory verification. Based upon this the subject inspector followup item is administratively closed.

(Open) 86-BU-02. Bulletin 86-02, Static 'O' Ring (SOR) Differential Pressure Switches, discussed erratic behavior of model 102 and 103 switches experienced at LaSalle and Oyster Creek. The bulletin required the licensee to identify applications, train the operators on potential malfunctions and compensatory measures, test the switches, and provide an interim performance monitoring program and a long term corrective action.

In response to this bulletin the licensee identified the SOR model 102 and 103 switches in four applications. Two of the applications involved low and low-low reactor water level setpoints for initiating reactor scram and various ECCS and ESF system actuations. These switches were replaced with analog trip systems. The licensee initiated a monthly test program on the remaining SOR pressure switches. These switches are in the reactor building to torus vacuum breakers and in the core spray system. Based on a limited set of data (up to 5 months) the licensee determined that no long term corrective actions were necessary. In their response the licensee also provided a justification for excluding the reactor building to torus dp switches from the scope of the Bulletin and a commitment to revise licensed operator and senior operator training to include potential failure of these switches and compensatory measures.

NRC review of the response concluded that the licensee's interim corrective action was acceptable. However, it also stated that the licensee did not provide sufficient basis for excluding the reactor building to torus dp switches. The licensee was requested to submit within 90 days additional test results, long term corrective actions based on these test results, and a determination as to whether improvements in calibration testing methods or setpoint methodology could be achieved. By a telephone conference with the NRC on November 4, 1986, the licensee agreed to provide this information.

The inspector reviewed the licensee's training program and determined that the subject of the bulletin was included in the initial training program for equipment operators and radwaste operators. Training on switch failure and compensatory operator action was provided to the licensed operators in 1986. The licensee currently plans to incorporate this information into the initial and requalification training lectures for licensed operators.

The licensee has performed a statistical analysis of the monthly surveillance data obtained through July 1988. Based on this analysis the licensee concluded that the switches can be expected to perform their functions reliably.

The inspector reviewed the monthly surveillance data through June 1989. This data showed that during 1989 the as found reset point for the reactor building to torus dp switches was out of tolerance several times. Also the as found setpoint for the core spray pump failure switch RV-40D exceeded the acceptance criteria during September 1988. During January 1989, the switch failed to actuate and was replaced. The licensee indicated that they intend to submit the analysis with data up to July 1988 and did not think additional data would change the conclusion of the analysis. The inspector finds the licensee delinquent in submitting the information they committed to submit to NRC during the November 4, 1986, telephone conference. This item will remain open pending licensee's submittal of the requested information and implementation of the training requirement.

(Open) Bulletins 79-02 and 79-14. Pipe supports at Oyster Creek will remain an open issue pending licensee completion, submission and NRC acceptance of new floor seismic response methodology.

(Open) Bulletin 79-27: Loss of non-class 1E instrumentation. NRC review of the licensee response to this bulletin is documented in a letter dated June 1, 1982. In this letter the NRC indicated that the response was satisfactory and that the bulletin could be closed upon verification of successful installation of modifications which were indicated. In a letter dated May 28, 1986, the licensee indicated that one of two remaining modifications originally identified in a response to Bulletin 79-27 was cancelled and provided justification for this cancellation. The one remaining modification, to separate the power supplies to isolation condenser remote level indication and pressure indication, remained outstanding. The inspector requested documentation that these modifications had been completed. This documentation could not be provided before the end of the inspection period. This item remains open pending the verification of the performance of these modifications.

(Open) 85-23-06. Scram discharge volume (SDV) vent and drain valves. This unresolved item questioned why the SDV vent and drain valves were not included as part of the containment pressure boundary and, therefore tested in accordance with the requirements of 10 CFR 50 Appendix J.

The inspector reviewed a licensee evaluation which concluded that the subject valves should not be considered as containment isolation valves, hence requirements of Appendix J does not apply. The inspector was concerned that the licensee's analysis did not address operability of these valves during a DBA situation when the reactor scram signal may not be reset for a certain period of time, thus extending the reactor coolant pressure boundary up to these valves. The licensee indicated that testing of this category of valves will be addressed in an upcoming BWR owner's group (BWROG) meeting with the NRC in August. This item will remain open pending further licensee evaluation and the BWROG meeting.

10.0 Review of Licensee Commitments to SALP 50-219/85-99 (92701)

In an effort to review and track licensee commitments as stated in their response to SALP 50-219/85-99, 41 inspector follow items were administratively opened. Twenty one of these inspector follow items were previously reviewed and closed in Inspection Report 50-219/86-24. The following discussions indicate the current status of the remaining items. These items are considered administratively closed although many of these areas will continue to be followed in the inspection program.

(Closed) Inspector Follow Item 85-99-01. This item was opened to follow licensee commitments to improve Control Room professional atmosphere. Subsequently the licensee has taken positive steps to increase the professionalism in the Control Room, including the development of Control Room Operator Code of Ethics. SALP Report 87-99 noted improvements in the Control Room professional environment.

(Closed) Inspector Follow Item 85-99-02. This item was opened to track the licensee's commitment to establish an area to assemble the Control Room relief crews and equipment operators with the objective of lessening the impact of these activities on the Control Room. SALP Report 87-99 noted that the licensee has established an operation coordination office. This alleviates some of the administrative burden from the shift supervisor and also reduces the amount of traffic in the Control Room.

(Closed) Inspector Follow Item 85-99-08. This item tracked the licensee's implementation of modification to the Standby Gas Treatment System (SGTS) control logic. One item was the automatic shutdown of the lead system fan after low flow swap over operation to the standby system. The other item was the annunciation of the low flow alarm during manual operation of the Standby Gas Treatment System. While the SALP response indicates the commitment to correct and the engineering for the modifications is complete, they have not yet been implemented or scheduled.

(Closed) Inspector Follow Item 85-99-17. The licensee stated it will prepare and establish a program to identify and report rework and recurring maintenance. The licensee has developed Procedure A000-ADM-7000.01, "Control of Rework and Recurring Maintenance." Inspection Report 50-219/88-23 reviewed the licensee's implementation of this procedure and noted several deficiencies. These deficiencies were further emphasized in SALP 50-219/87-99. The recommendation by the SALP was for the licensee to provide NRC with a schedule for implementation of reliability centered maintenance control. Rework and recurring maintenance is a continuing issue addressed by the SALP process.

(Closed) Inspector Follow Item 85-99-20. The licensee stated the Station Information Management System (SIMS) was scheduled to be implemented by the third quarter of 1986. The inspector verified the implementation of SIMS. The licensee is presently using the system to generate corrective and preventive maintenance work packages.

(Closed) Inspector Follow Item 50-99-21. The licensee stated it will conduct an assessment of the maintenance area and establish a schedule to review results with Region I NRC personnel. This assessment was completed and presented to the resident inspectors. This presentation is documented in Inspection Report 50-219/87-04.

(Closed) Inspector Follow Item 85-99-28. The licensee stated it was addressing the number of vital area door alarms caused by differential pressure and canvassing the nuclear industry via NOMIS to determine how other utilities are addressing this issue. The licensee has compiled a list of actions taken by utilities on this issue. Although the number of alarms has decreased, Technical Functions and Security are still working to resolve the issue.

(Closed) Inspector Follow Item 85-99-29. The licensee stated the need for certain permanently posted guards would be eliminated during 1986. The licensee installed the Protected Area Intrusion Detection System in 1988, thereby eliminating the fixed posts.

(Closed) Inspector Follow Item 85-99-30. This item addressed what was considered to be a significant number of field change requests and field questions observed during the 1983 and 1984 outage. The licensee indicated that they believe corrective action is in place to reduce this number. The licensee anticipated a measurable reduction in this number after the 1986 refueling outage. Current discussions with the licensee indicate that the number of field change requests and field questions have dropped in recent years to about 200-250. The licensee has currently categorizing these field change notices to better identify the source of the requests.

(Closed) Inspector Follow Item 85-99-31. The licensee stated technical support groups have provided initiative and resources to upgrade the plant computer system. The licensee has made several improvements in the system including: implementing Generation Maintenance System-2, increasing the number of components in the data base and expanding the application of the system to other plant activities. The licensee is continuing to improve its plant computer system.

(Closed) Inspector Follow Item 85-99-32. The licensee stated it will reduce both late commitment responses and backlog of open items. A system is in place to identify NRC commitments and assign responsibility to individuals to insure the commitment is completed within the time frame requirements. Meetings have been conducted with technical support staff to emphasize the importance of completing Licensing Action Items in a timely fashion.

(Closed) Inspector Follow Item 85-99-33. The licensee stated it will establish a schedule to improve the facility technical specifications after the BWR Owner's Group (BWROG) has completed its schedule. The licensee has participated in the development of the BWROG improved standard technical specifications. The generic topical report was sent to the NRC in May 1989. GPUN upper management has recently met to review the topical report. The licensee expects to submit an improved technical specification for NRC approval in 1990.

(Closed) Inspector Follow Item 85-99-35. The licensee stated it will rebuild Emergency Service Water (ESW) pumps 52B and 52D and determine if additional actions to increase the positive differential pressure across the containment spray heat exchangers are warranted. ESW pump 52B was rebuilt during the 10R outage, and ESW pump 52D was replaced during the 11R outage. An increase in pump discharge pressure and in positive differential pressure was noted. The licensee evaluated that while the positive differential pressure across the containment spray heat exchanger improved, the differential pressure was still low. This low differential

pressure is caused by the operation of the pumps at runout. To increase the positive differential pressure the licensee throttled the ESW valve at the discharge of the heat exchanger.

(Closed) Inspector Follow Item 85-99-36. This item was opened to track the effectiveness of the licensee's corrective actions in the area of technical support. SALP 85-99 indicated inconsistency in the quality of support provided by Technical Functions. The licensee responded by indicating that corrective steps initiated in 1983 were not fully in place for the work which was accomplished during that SALP period. Subsequently the licensee has completed a Technical Support Self Assessment (TSSA) in 1988. In the response to the current SALP the licensee indicated its plans for improvements in areas of design basis documents, safety system functional inspections, drawing upgrades and working interface with the site.

(Closed) Inspector Follow Item 85-99-37. This item was initiated to track licensee performance in the area of safety reviews after implementation of a revised safety review procedure. Subsequent to this item being opened, the licensee's safety review process has been reviewed. SALP 87-99 indicated that the safety review process was generally good and that quality of reviews has been improved. It did note, however, that the licensee does not always appropriately document the basis for conclusions.

(Closed) Inspector Follow Items 85-99-23, 85-99-38, and 85-99-39. These items dealt with the responsiveness of site management to quality deficiency reports and the followup by QA management to ensure that adequate and timely corrective action is taken. SALP Report 87-99 indicated that followup to QA findings in most instances was found to be appropriate. Some instances of insufficient corrective action and slow response from management were noted. In the response to SALP 87-99 it was indicated that the Oyster Creek Plan for Excellence contains plans to improve responsiveness to QA findings. This includes greater use of the site director's weekly QA meetings as a vehicle to identify responsiveness problems and achieve resolutions.

(Closed) Inspector Follow Item 85-99-09. In its response the licensee stated that it plans to formalize radiological engineering in-house training. The licensee has developed the Radiological Engineer Professional Enhancement program. A designated radiological engineer training coordinator is assigned to oversee the program. The program includes the implementation of the Radiological Engineer Professional Guideline. The guideline specifies the competency skills and tasks which a radiological engineer is required to possess.

(Closed) Inspector Follow Item 85-99-15. In its response, the licensee stated that an administrative procedure which will specify post maintenance testing and assign responsibility will be developed. A two volume guideline, "PMT Matrices/Test Guidelines," has been developed. The Maintenance Construction and Facilities (MCF) Division is utilizing this guideline in the development of post maintenance testing procedures.

11.0 Annual Emergency Preparedness Exercise (71707)

On June 7, 1989, the resident inspectors observed portions of the annual emergency preparedness exercise. The inspectors had previously observed portions of the dress rehearsal on May 24, 1989. Because of the observed similarities between the two exercises, the dress rehearsal scenario was compared with the annual exercise scenario. The overall comparison showed several close similarities. Some events were the same. The annual exercise conclusions are documented in Inspection Report 50-219/89-11.

12.0 Exit Interview (30703)

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 this inspection. The licensee stated that, of the subjects discussed at the exit interview, no proprietary information was included.

ATTACHMENT I

AGENDA

- | | | |
|------|-----------------------------------|-----------------|
| I. | INTRODUCTION | E. G. WALLACE |
| II. | DRAWING PROGRAMS & PROJECTS | M. S. RADVANSKY |
| III. | CARIRS CONFIGURATION CONTROL LIST | J. C. FLYNN |
| IV. | SCHEDULE OF PROJECTS | J. C. FLYNN |
| V. | DISCUSSION | ALL |

WHY WE ARE HERE

- O IR89-05 DISCUSSION VERSUS IMPRESSION RECEIVED DURING THE INSPECTION AND EXIT.
- O THE EMPHASIS ON "DEGREE AND MAGNITUDE OF PROBLEM" IN NRC COVER LETTER.
- O PERCEIVED DIFFERENCES BETWEEN NRC's UNDERSTANDING OF THE GPUN DRAWING CONTROL PROCESS AND WHAT WE BELIEVE WE HAVE IN PLACE.
- O DRAWING CONTROL VERSUS DRAWING LEGIBILITY.
- O DESCRIBE CURRENT DRAWING PROGRAMS AND PROJECTS.
- O ATTEMPT TO UNDERSTAND BASIS OF NRC DEGREE OF CONCERN.
- O PROVIDE SCHEDULE INFORMATION REQUESTED.

INSPECTION REPORT 89-05

- O CONCERN ABOUT EXTENT OF PROBLEMS BASED ON THIS INSPECTION (AND GPUN STAFF REPORTS).
- O CONCERNED WITH MAGNITUDE OF CURRENT PROJECTS FOR DRAWING PROGRAM.
- O EXPECT CURRENT PROJECTS TO CORRECT PROBLEMS CITED.

HISTORY OF DRAWING CONTROL IMPROVEMENTS

O DRAWING PROGRAMS

AS-FOUND FIELD CHANGE NOTICE-INITIATED 1981. 250 TO 300/YEAR, OVER 2,200, HAVE BEEN RECORDED TO DATE.

DRAWING VERIFICATION (INITIATED 1982/COMPLETED 1988) WALKED DOWN 228 FLUID SYSTEMS/ELECTRICAL EQUIPMENT.

AS-BUILT DRAWING UPDATE (INITIATED 1981) 9800 DRAWINGS REVISED.

O OC DRAWING CONSOLIDATION PROGRAM

INITIATED 1989.

CAD REDRAW OF FLOW DIAGRAMS
ELECTRICAL SINGLE LINE DIAGRAMS
PANEL SCHEDULES
ELEMENTARY WIRING DIAGRAMS (SELECTIVE)

TOTAL NUMBER OF DRAWINGS APPROXIMATELY 900.

O OC DRAWING LEGIBILITY PROGRAM

INITIATED 1989.

TOTAL NUMBER OF DRAWINGS APPROXIMATELY 700.

ENHANCEMENT BY MOST COST EFFECTIVE PROCESS.

CARIRS CONFIGURATION CONTROL LIST

O CARIRS - CCL

IN 1981 INITIATED THE CONFIGURATION CONTROL LIST (CCL) EFFORT. APPROXIMATELY 100,000 RECORDS (ACTIVE & HISTORY) EACH WITH POTENTIAL FOR 38 FIELDS OF INFORMATION.

O USER FRIENDLINESS

WORKING GROUP
CONFIGURATION MANAGEMENT TASK

O EDB - CARIRS LINK

PROVIDE DIRECT USER ACCESS TO CARIRS FROM EDB.

SCHEDULE OF PROJECTS

Oyster Creek Drawing Consolidation

TASK INITIATION	12/01/88 (ACTUAL)
CONTRACT AWARD	04/04/89 (ACTUAL)
KICKOFF MEETING	04/25/89 (ACTUAL)
APPROX 100 FLOW DIAGRAMS SUBMITTED	07/89
PANEL SCHEDULES SUBMITTED	09/89
SINGLE-LINE DIAGRAMS SUBMITTED	11/89
ELEMENTARY DIAGRAMS SUBMITTED	12/90
COMPLETE TASK	12/90

Oyster Creek Drawing Legibility

TASK INITIATION	12/01/88 (ACTUAL)
CONTRACT AWARD	04/04/89 (ACTUAL)
KICKOFF MEETING	04/07/89 (ACTUAL)
FIRST 100 DRAWINGS TO VENDOR	04/07/89 (ACTUAL)
700+ DRAWINGS TO VENDOR	10/89
COMPLETE TASK	12/89

CARIRS/EDB Tag Number Interface

TASK INITIATION	01/25/89 (ACTUAL)
DATA PREPARATION	03/15/89 (ACTUAL)
IS DATA CORRECTION	10/89
TRAINING	11/89

CARIRS Front End/User Friendliness

TASK INITIATION	12/30/89 (ACTUAL)
ISSUE SPECIFICATION	07/89
DECISION - MODIFY OR BUY	07/89
INSTALLATION	10/89
TRAINING	11/89

SUMMARY

- O DRAWING CONTROL - AS CONTINUING EFFORT THAT, WHEN MEASURED OVER TIME, WE FEEL SHOWS CONTINUAL IMPROV
 - LEGIBILITY EFFORT WILL CONTINUE.
 - OPERATOR TRAINING ENHANCEMENT TO INCLUDE A SEGMENT ON DRAWINGS SYSTEM USE.
 - EXPANDED USE OF CAD DRAWINGS.
- O ADDITIONAL CONFIGURATION MANAGEMENT PROJECTS
 - PROVIDE BETTER DOCUMENTATION OF DESIGN BASIS.
- c DESIGN BASIS RECONSTRUCTION
 - INITIATED 1989 ON TWO SYSTEMS (ADS, CS).
- o SSFI's
 - PILOT INITIATED 1989 ON TWO SYSTEMS (ADS, EM ELEC PWR).
- o INTERRELATED DATA BASES
- O WE DON'T FEEL THAT THERE IS A MAJOR PROBLEM THAT IS NOT BEING ADDRESSED.
- O WE ARE WILLING TO DISCUSS CONCERNS YOU HAVE OR PROGRESS ON CURRENT ACTIVITIES AT ANY TIME. WILL PROVIDE ADDITION INFORMATION OR TRAINING IF DESIRED.

AQUARIUS - SEARCH MODE - BEGIN YOUR QUERY AFTER THE
STATEMENT NUMBER 00008 E0683

AQUARIUS - SEARCH MODE 00008 E0683

E0683	1 OCCURRENCE	1 DOCUMENT
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RESULT (EXTENDED)	1 OCCURRENCE	1 DOCUMENT
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RECID	AAB408801150021
DWGNO	BR E0683
DWGSHT	N/A
DWGREV	1
SIBPRDR	3431
STATUS	CON CONSTRUCTION
STADATE	880520 E880527
RECTYPE	020-02 AE DRAWING
TITLE	12R CONTROL ROOM RECORDER UPGRADE DRYWELL UNIDENTIFIED LEAKAGE LOOP DIAGRAM
DRF	057522
ASBUILT	GE 112C2299 SHT 4 SN 13432.44-EE-03 SHT 3
CHGEDOC1	C058710 88C701 E880708
CHGEDOC2	C
CHGEDOC3	C
CHGEDOC4	C
CHGEDOC5	C
CHGEDOC6	C
SOURCE	11375 BR B&R (BURNS & ROE INC)
COLOC	952000 OYSTER CREEK

AAB40880917C DOCUMENT = 1 OF 1 PAGE = 2 OF 2

SYSCODE 423 CONDENSATE DEMINERALIZER SYSTEM 611 MAIN
CONTROL ROOM PANELS

TAGNO	N/A
RECREP	IS 402870-001
QUALCLAS	N/A
BUDACT	402870
DOCCLASS	R2 42
REF	N/A
DWGSIZE	D
FILM	IC880520
FILE	N/A
RETN	PERM
VOID	C
VTMLOC	N/A

R0601 * END OF DOCUMENTS IN LIST - ENTER RETURN OR ANOTHER
COMMAND.

507S/18