U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos. 50-206/85-29, 50-361/85-28 and 50-362/85-27

Docket Nos. 50-206, 50-361 and 50-362

License Nos. DPR-13, NPF-10 and NPF-15

Licensee: Southern California Edison Company
2244 Walnut Grove Avenue
Rosemead, California 91770

Facility Name: San Onofre Nuclear Generating Station - Units 1, 2 and 3

Inspection at: San Onofre Nuclear Generating Station

Inspection conducted: October 7-11 and October 28 - November 1, 1985

Inspectors: GP Yuhas for
H. S. North, Senior Radiation Specialist — 11/29/85 Date Signed

GP Yuhas for
J. F. Moore, Radiation Specialist — 11/29/85 Date Signed

Approved By: GP Yuhas
G. P. Yuhas, Chief — 11/29/85 Date Signed
Facilities Radiation Protection Section

Summary:

Inspection on October 7-11 and October 28 - November 1, 1985
(Report Nos. 50-206/85-29, 50-361/85-28 and 50-362/85-27)

Areas Inspected: Routine, unannounced inspection of solid waste handling, transportation, facilities and equipment, outage exposure, licensee reports, followup on noncompliance and open items in the areas of training, liquids and liquid waste, gases and gaseous waste and a possible 17 rem exposure, IE Information Notices, Generic Letter and facility tours. Inspection procedures addressed included 65051, 84722, 86721, 83727, 83729, 83723, 84723 and 84724.

The inspection involved 121 hours onsite by two inspectors.

Results: Of the areas inspected, no violations or deviations were identified.

DETAILS

1. Persons Contacted

*M. Wharton, Deputy Station Manager
*+D. Schone, Site QA Manager
J. Albers, Health Physics Supervisor, Units 2/3
+E. Bennett, Operations QA Engineer
L. Bray, Health Physics Engineer
*S. Brooks, Radioactive Materials Control (RMC) General Foreman
S. Chick, Chemistry
R. Dickey, Acting Supervisor Dosimetry
D. Duran, Health Physics Engineer
K. Helm, Effluent Engineer
D. Herbst, Independent Safety Engineering Group (ISEG) Supervisor
*+R. Jervey, Operations QA Engineer
*+J. Kelly, RMC Supervisor
*+C. Kergis, Lead Compliance Engineer
*+P. King, Operations QA Supervisor
*+P. Knapp, Manager, Health Physics
*+T. Mackey, Compliance Supervisor
*D. Peacor, Manager, Emergency Preparedness
+R. Santasuosso, I&C Maintenance
*+R. Warnock, Health Physics Engineering Supervisor
R. Wood, RMC General Foreman
*J. Wray, Corporate Health Physics

*Denotes those present at the exit interview on October 11, 1985.

+Denotes those present at the exit interview on November 1, 1985.

In addition to the individuals identified above, the inspector met and held discussions with other members of the licensee's and contractor's staff.

2. Corrections - Inspection Report Nos. 50-206/85-22, 50-361/85-21 and 50-362/85-20

Section 3, page 5 of the identified report should be corrected as follows:

(50-361/85-12-02 and 50/362/85-12-01) should read (50-361/362/84-12-02).

3. Licensee Action on Previous Inspection Findings

(Closed) Enforcement (50-206/82-36-03) A Notice of Violation was issued for failure to calibrate the stack gas and particulate monitors at a minimum frequency of once every six months pursuant to Technical Specification 4.6E and Chemical Procedure S01-III-5.1.0, "Calibration Schedule and Requirements for the ORMS." The licensee responded by letter dated January 28, 1983, which noted that a number of monitors had been calibrated by January 5, 1983. Two monitors R-1214 and R-1211 could not be calibrated until certain repairs were performed. The licensee committed to calibrate the monitors prior to the Unit 1 return to

service. The inspector verified that the monitors were recalibrated on June 3, 1983, and that the responsibility for calibration was transferred to I&C. The recalibration occurred before the Unit 1 return to service in November 1984.

(Closed) Followup (50-206/82-36-01) Inspector identified item concerning failure to provide the effluent training described by S0123-III-5.5 to I&C technicians and operations personnel. Training equivalent to that provided to chemistry technicians concerning release permit procedures was provided. Operations personnel were instructed to inform the effluent engineering staff of any unusual release. A memorandum Kirby to Speer dated March 28, 1984 documented the completion of training. The training was completed prior to Unit 1 return to service.

(Closed) Followup (50-206/82-36-02) Inspector identified item related to the failure to implement procedures S01-III-5.3.1, Semiannual Report and S01-III-5.4.0, Inspection and Surveillance. The licensee's letter dated January 28, 1983, Papay to Engelken, noted that procedure S01-III-5.3.1 had been renumbered and was in the final review process and that the elements of procedure S01-III-5.4.0 had been incorporated in other procedures. The inspector verified that action on this matter was complete.

(Closed) Followup (50-206/82-36-06) The licensee committed to upgrade monitor R-1218 to improve maintainability in a letter dated October 27, 1981. Inspection Report 50-206/85-03 noted in Section 2, the licensee's schedule for installation and testing was contained in the licensee's letter Ray to Martin dated October 9, 1984. The licensee's Work Package 84-020 addressed this task. Work Package 84-020 was completed and accepted by the station.

(Closed) Followup (50-206/82-36-07) Licensee identified item documented in Corrective Action Request (CAR) S01-P-581 issued September 16, 1982, related to failure to collect a charcoal sample and excessive test gas concentration. Response to the CAR was delayed and as of December 3, 1982, a response had not been submitted to Quality Assurance. The licensee's response to the CAR noted that the charcoal was replaced obviating the need for the test of a charcoal sample, the licensee's procedure; however, did not provide the option of replacement or sampling. The licensee's review of Technical Specification (TS) 4.11B(2)/ANSI N510-1975, including discussion with NRC, established that replacement of the charcoal in lieu of testing satisfies the intent of the TS. With respect to the test gas, procedure S01-I-2.43 was revised to reflect actual test conditions. The subject CAR was closed by memorandum Schone to Medford dated October 31, 1984.

(Closed) Followup (50-206, 50-361 and 50-362/85-10-22) Inspector identified item related to changes in tritium analysis procedure discussed in Inspection Report 50-206/85-22, 50-361/85-21 and 50-362/85-20 Section 7c. The procedural changes resulted from health physics evaluation of personnel tritium exposures in Unit 1 containment. The inspector determined that chemistry had reevaluated the airborne tritium sampling and analysis procedure. Prior to the startup of Units 2/3, Unit 1 airborne tritium samples were obtained from the

condensate from the Unit 1 containment coolers. With Units 2/3 startup a common sampling/analysis procedure was implemented using silica gel as the sampling medium. With the identification of the sampling errors at Unit 1, chemistry revised the airborne tritium sampling/analysis procedure to incorporate the use of an impinger sampling method. The errors in the silica gel sampling method were identified concurrently with the Unit 1 restart. The licensee stated that no significant errors in airborne tritium release evaluations resulted prior to the implementation of the revised sampling technique.

(Closed) Followup (50-206, 50-361 and 50-362/85-10-23) Inspector identified item related to multichannel analyzer calibration and energy/channel verifications. The inspector discussed current practice with chemistry personnel and verified that isotopic calibrations are performed infrequently, approximately yearly. Daily energy/channel verifications, using a Eu-152 source, are performed to assure that energy peaks fall in specified channels. This process on occasion requires repeated runs to correct and adjust for minor system drift.

(Closed) Followup (50-206, 50-361 and 50-362/85-10-24) Inspector identified item related to effluent monitor setpoint setting. The inspector discussed the selection of setpoints to verify the current practice. Waste release permits include both a calculated expected monitor response setpoint for the specific release being planned and the ODCM maximum setpoint, both applicable to a specific monitor. The actual monitor setpoint used is usually from 3 to 10 times the calculated expected monitor setpoint, but below the ODCM maximum setpoint to accommodate minor monitor fluctuations and to avoid frequent and unnecessary release terminations. Analytical results and not monitor responses are used to quantify releases.

(Closed) Unresolved Item - Indicated 17 rem Beta Exposure (50-361/85-02-02) This matter was previously addressed in Inspection Reports 50-361/85-02 and 50-361/85-21. As noted in the second report, the licensee stated in a telephone conversation on July 18, 1985, that it had been concluded that Individual "B" had not received the exposure indicated by the TLD. This matter was discussed and additional documents were reviewed during the inspection.

In a memorandum dated July 12, 1985, Bray to Warnock, the licensee reviewed the investigative efforts to identify the cause of the badge exposure. The document summarized the investigation scope as follows ((Individual "B"), substituted for the named individual):

- Radiation survey records for the areas and times during which (Individual "B") worked.
- Calibration of the NVLAP certified TLD reader used to process (Individual "B"s) TLD.
- Calibration and performance of (Individual "B"s) TLD.

- Response of TLDs to surface or clothing contamination using contamination obtained from the piping systems in the rooms in which (Individual "B") worked.

- Possible mechanisms for inducing the extraordinarily high (140:1) beta:gamma exposure ratio observed on (Individual "B"s) TLD.

- Recollections by (Individual "B"s) foreman of (Individual "B"s) work assignments.

- (Individual "B"s) recollection of the work he performed on December 2 and 3, 1984.

- Recollections by HP Technicians of work performed by (Individual "B").

- Examination of HP Logs for the job (DCP-29N) to which (Individual "B") was assigned.

- Red Badge Zone entry and exit logs for (Individual "B") (SRC computer access control system).

- Effects on TLDs of chemicals which might have been used during (Individual "B"s) work.

- Effects of non-ionizing radiation (sunlight, electric arc, microwave) on TLDs.

- Subjective evaluation and direct questioning of (Individual "B") relative to the possibility of "horse play", a prank by co-workers, or deliberate tampering with his TLD".

The licensee's investigation was, in spite of its exhaustive nature (a Health Physics Engineer was assigned to the task for 7 months), unable to identify an Individual "B" work place source of exposure which could have resulted in a dose of the magnitude or beta to gamma ratio (140:1) observed on the TLD. Prior to the commencement of the investigation, licensee management had specifically excluded the evaluation of deliberate acts from the scope of inquiry. Following the initial phase of the licensee's investigation, this exclusion was removed and the investigation addressed: 1) possible partial disassembly of the TLD and subsequent exposure of the TLD to light from a Heliarc welding machine with one element fully exposed and the second element partially exposed, 2) combined exposure to a 300 uCi Sr-90 button source and either a 260 Ci Cs-137 gamma calibration device or a 250 mr/hr piping hot spot located near the area in which Individual "B" had work in early December 1985. Using these techniques the licensee was able to produce the effect of a high beta to gamma ratio in the dose region of interest.

The licensee established that in early December 1985 sources including a 300 uCi Sr-90 button source were accessible to an individual(s) knowing the location of the source locker key. In addition, Individual "B"s TLD badge packet was located in the special dosimetry/respirator issue area which was near the source locker. Access to this area was not rigorously

controlled. The licensee has subsequently greatly improved both source locker and dosimetry/respirator issue area access controls.

In early December 1985 labor unrest was in evidence as a result of licensee announced pay and staffing changes.

The inspectors discussions with licensee personnel and examination of the results of the licensee's investigation established that:

- The TLD used by Individual "B" and the system used by the licensee in the evaluation of the TLD were capable of properly measuring exposure to radiation.
- The equipment in plant areas on which Individual "B" worked on December 2-3, 1985, contained no sources of radiation capable of producing either the level or type (beta to gamma ratio) of exposure observed.
- The TLD was uncontrolled for a period of nine days in an area where radioactive sources capable of producing the observed exposure were available.

Based on these facts the inspector concluded that it was not reasonably likely that Individual "B" had received the measured exposure. It was both technically feasible and reasonably likely that the TLD badge alone received the exposure observed by the licensee. The licensees assignment of a whole body and skin dose of 122 mrem for the period appeared reasonable. This matter is considered resolved and closed.

No violations or deviations were identified.

4. Review of Licensee Reports

The licensees timely Annual Personnel Monitoring Report - 1984, dated February 26, 1985, submitted pursuant to 10 CFR 20.407 and the TS was reviewed.

The licensees timely Semiannual Radioactive Effluent Release Report for the period January 1 - June 30, 1985, submitted by letter dated August 28, 1985, was reviewed (50-206, 50-362/85-01-01, closed). No errors or anomalous data were identified.

The licensees Annual Facility Change Report and Environmental Surveillance Program for Calendar Year 1984, for Units 1, 2 and 3 dated May 10, 1985, was reviewed.

No violations or deviations were identified.

5. Solid Wastes

Audits and Appraisals

The following documents were reviewed:

Field Surveillance Report (FSR) HP-1237-84, November 5-6, 1984 Spent Resin Transfer;

FSR HP-133-85, March 11, 1985, Release of Items from the Restricted Area;

FSR HP-201-85, May 6, 1985, Health Physics (VII) Series Procedures S0123-VII-8.0, Rev. 2, "Solid Waste Program";

FSR HP-424-85, August 23, 1985, Receipt of Radioactive Material Procedure S0123-VII-8.2.10;

FSR HP-425-85, September 20, 1985, Control of Radioactive Material Procedure S0123-VII-8.16;

Audit Report No. SCES-053-85, August 6 - September 24, 1985, verification by observation, surveillance and records review that the Radwaste Program complies with the Technical Specifications, 10 CFR 71 and the Topical Quality Assurance Manual.

No deficiencies were identified in the identified documents with the exception of one Corrective Action Request associated with FSR HP-1237-84. Licensee QA in an after the fact review identified the failure to verify that the level and Hi-Hi level alarms had been tested prior to filling a solidification cask with spent resin, in addition, the available TV system was not used to visually verify level. The cask filling operation had resulted in overfilling the solidification cask. The licensee subsequently began disposing of spent resins by dewatering. The inspector observed during a spent resin Hi Integrity Container (HIC) dewatering procedure (Inspection Report Nos. 50-206/85-22, 50-361/85-21 and 50-362/85-20) that operating personnel paid close attention to fill level relying on the TV system.

Changes

Disposal of spent resin was changed from solidification to the NUPAC resin dewatering system using a HIC. Approval of the change was granted by a letter Knighton (NRC) to Baskin (SCE) dated June 11, 1985, Subject: Interim Approval of Dewatering of Spent Resin.

A Multi Purpose Handling Facility for interim storage of low level waste which is under construction is discussed in report section 7.

The licensee had implemented an aggressive waste minimization program. The program consisted of four parts:

a. Compaction - Average drum weight of 430 lbs. was reportedly the highest in the industry. The 1986 goal was an average drum weight of 450 lbs.

b. Radioactive Equipment and Materials Storage (REMS) - 20-30,000 cubic feet of contaminated equipment was stored and recycled into major outages avoiding the necessity for disposal and reacquisition.

c. Recovery of Non-Compactable Waste - Through the use of freon degreasers and a grit blaster a 4:1 volume reduction in non-compactable waste had been achieved.

d. Dry Active Waste (DAW) Segregation - Recovery of reusable tools and protective clothing from material disposed as radioactive waste. In 1985 it appeared that San Onofre's waste volume will be 28% under the industry PWR average. In 1986 a goal of 40% under the industry average had been established.

Processing and Storage

Requirements for a Process Control Program (PCP) are contained in Technical Specification, Unit 1, section 6.16 and Units 2/3, section 6.13. The responsibility for review of changes to the PCP had been assigned to the Manager, Health Physics. The PCP for Units 1, 2 and 3 is documented in procedure S0123-VII-8.5.1 Process Control Program for San Onofre Units 1, 2 and 3, which was reviewed and approved by the Manager Health Physics. The procedure incorporates by reference procedures related to ALARA, waste packaging, labeling and shipping, and shipment of radioactive material and 10 CFR 61 waste sampling. An examination of records established that quantities and composition of the radioactive material content of waste was determined based on analysis of waste stream samples. No obvious mistakes, anomalous measurements, omissions or trends were noted in the examination of waste records.

Discussion with licensee personnel established that significant problems were encountered in the use of a vendor supplied mobile waste solidification system. The problems were attributed to chemistry problems, restrictive procedures developed for early models of the equipment used and subsequent equipment modifications and the required procedure revisions. Using the solidification system it required 8 months to dispose of 1050 cubic feet of resin. Using the recently approved resin dewatering process, 930 cubic feet of resin were disposed in 3 weeks.

The radwaste compactor ventilation system discharges through a HEPA filter to the room air. This results from design problems which prevent connection to the radwaste building ventilation systems without major modifications. The licensee's health physics organization documented the evaluation of the procedures, administrative controls, installation and use of the compactor in a memorandum, Warnock to Knapp, dated April 8, 1985, Subject: DAW Compactor Ventilation Evaluation.

The evaluation concluded that no modification of the compactor ventilation system was required. The licensee's procedures require the

use of respirators by personnel compacting waste. The licensee stated that this was not an avoidance of engineering controls but would be required under any circumstance. The waste compaction and segregation process requires opening plastic bagged waste in order to achieve the compaction densities being achieved. The respirators provide an additional measure of protection to compactor operators in the event that the compactor HEPA filter should fail.

The inspectors observation of the licensee's use of the NUPAC resin dewatering was previously identified in the Audits and Appraisals portion of this section. During that observation the inspector verified that control of leakage and limitation and evaluation of airborne radioactive materials had been incorporated in procedures and that the controls were being implemented.

Disposal of Low-Level Waste

The licensee had established procedures for classification of waste, procedure S0123-VII-8.1 Solid Waste Sampling and Classification. In addition, the program assures that wastes meet the characteristics specified in 10 CFR 61.56. An examination of copies of documents accompanying shipments of waste for burial established that manifests met the requirements of 10 CFR 20.311 and packages were marked with the class of waste pursuant to 10 CFR 20.311(d)(2). Since the last inspection in this area there have been no lost or unaccounted for shipments of waste.

NAC Cask Waste

Inspection Report No. 50-206/80-26 addressed problems associated with personnel contaminations resulting from handling NFS-4 NAC-IE cask on September 5, 1980. Decontamination efforts associated with the cask resulted in generation of 5 drums of radioactive waste. Based on samples, analyzed by a contractor, three of the drums contain Pu and TRU in excess of Class C quantities. The licensee had discussed the encapsulation of the drums, unopened, in Envirostone in a NUPAC 142C HIC with U.S. Ecology and the State of Washington. Two special HICs, with bolted top closures, would be required, one for qualification testing. The licensee is actively pursuing disposal of this material.

The total activity is the packages is 3.511E6 uCi including:

Pu-238	3.968E3 uCi
Pu-239/240	8.695E2 uCi
Pu-241	1.611E5 uCi
Am-241	9.699E2 uCi
Cm-242	2.136E2 uCi
Cm-243/244	6.087E3 uCi.

The licensee is committed to notifying the Region V office of NRC when this material is transferred or disposed. The licensee's activities with respect to this matter will be examined during subsequent inspections. (50-206/85-29-01)

No violations or deviations were identified.

6. Transportation

Audits and Appraisals

The following documents were reviewed:

Field Surveillance Report (FSR) HP-413-85, August 20, 1985, Loading of Radwaste Cask - Verification of implementation of procedure S0123-VII-8.2.6;

FSR - HP-434-85, September 24, 1985, Review of Radioactive Materials Shipping Manifests.

No discrepancies or necessary corrective actions were identified.

Procedures

The licensee had prepared, reviewed and approved detailed procedures addressing packaging, loading for transport and transportation of radioactive waste. Procedures related to the transportation of irradiated fuel were not examined since the licensee had not shipped and had no plans to ship such material. Procedures were reviewed and revised as necessary on a regular basis and in accordance with procedures related to a documented review and approval process. No procedural inadequacies were identified.

Procurement and Reuse of Packagings

The licensee both owns and leases casks for the transport of radioactive waste. For licensee owned casks the licensee performs the annual gasket replacement and leak tests and inspections prior to each use. Leased casks are required to be supplied with vendor documentation of required maintenance and confirmation of satisfaction of Certificate of Compliance requirements.

Implementation

Records of shipments of radioactive materials were maintained as a part of the corporate records systems. Duplicate records were maintained by the RMC group. The records for 1985 to the date of the inspection were maintained in five loose leaf binders. A total of 32 shipment of all types were documented. The records of shipment were examined. No discrepancies in the records of shipment were identified. In addition, no discrepancies of any type were identified on receipt inspection at the burial site.

Transportation Incidents

No transportation incidents occurred during 1985 to the date of the inspection.

No violations or deviations were identified.

7. Facilities and Equipment

The inspector examined chemistry laboratories and counting rooms, health physics facilities and instruments. Portable survey instruments available for use were examined and found to be in current calibration. The licensee's procedures for maintaining calibrated supplies of emergency instruments were discussed. The licensee had several new facilities related to health physics and waste management under construction at the time of the inspection. These facilities, most scheduled for completion near the first of 1986 were discussed and toured.

Unit 1 - Third Point Entry

The Third Point Entry at Unit 1, formerly consisting of a two story temporary structure, had been replaced with a two story fire resistant structure of 7400 sq. feet. This facility will provide the principle controlled area access for all but operators requiring prompt access. The Door 16 access will remain available for use by operators. The first floor of the new facility will provide for Radiation Exposure Permit signup, respirator and dosimetry issue, health physics access control point and access control monitoring, first-aid and personnel decontamination facilities concurrently usable by both sexes and health physics intrinsic Ge detector multichannel analyzer and counting room. The second floor will provide mens and womens locker rooms, showers and lavatory facilities and the Unit Health Physics staff offices and work area. This facility is scheduled for completion in early November 1985.

Radwaste Building

The first phase of the new Radwaste Building is scheduled for completion in mid December 1985. This two story fire resistant structure will replace the existing temporary structures presently in use. The first floor will provide for a health physics access control point to a fenced equipment storage and operating yard, decontamination equipment including freon degreasing of tools, equipment, cable and hose, a grit blaster, manual decon tent, frisker work bench and ultrasonic and electrosonic cleaning equipment. The second floor will house Materials Control (Radwaste) offices and a multichannel analyzer.

Second phase construction is scheduled to begin in mid December. The first floor will provide 1000 sq. feet for packaging special materials (oil, sand, etc) and 2000 sq. feet for storage of packaged contaminated reusable equipment. The second floor will provide space for empty container and material storage.

Units 2/3 Laundry/Support Facility

At Units 2/3 a facility was being constructed between the fuel handling buildings at elevation 70'/63.5'. This area will house the protective clothing laundry, laundry storage/issue, respirator cleaning, testing, repair and issue, main hot tool crib, and locker room facilities for men (300) and women (200) and monitoring stations. When completed and available for occupancy modifications of the 70 foot access control area

will begin to utilize the space vacated by occupancy of the new facility. These modifications are scheduled to be completed in May 1986.

Multi Purpose Handling Facility (MPHF)

The licensee was constructing a MPHF for the temporary storage of low level waste within the owner controlled area but outside the protected area. No processing of waste is planned at this location. Materials will be packaged for shipment before transfer to this facility. The facility, of reinforced concrete construction with two foot thick exterior walls, will provide adequately shielded storage space for unshielded liners and Hi Integrity Containers (HIC) and compacted waste in 55 gallon drums. The facility has been constructed with knock-out panels which would permit simplified expansion. The drums will be stacked 8 high on steel pallets. The liner/HIC storage area will be served by a remotely operated, computer controlled crane with labyrinth access. Both areas are served by a single truck bay and ramp. The facility is partially buried, 25 feet below grade, 20 feet above. The drum storage area will be accessible to personnel while the liner/HIC storage area will be accessible only with great difficulty (i.e. through the use of multiple ladders which must be brought in, no other means of access is provided). Limited direct observation of the liner/HIC storage area will be provided by a single lead glass window. The facility includes an office/support facility which will contain the liner/HIC area crane controls and TV viewing facility, personnel change facility and showers and personnel decon capability. Potentially contaminated water will be collected in a holdup tank. The licensee had estimated that the facility will provide four years of waste storage assuming no waste shipments. The facility, while outside the protected area, will included a security system and access controls. During the inspection the inspector was accompanied by a resident inspector (civil engineer) who observed the construction activities underway. The facility is due for completion about the first of 1986.

With respect to this facility the licensee had available and had considered both IE Circular No. 80-18: 10 CFR 50.59 Safety Evaluations for Changes to Radioactive Waste Treatment Systems and Generic Letter 81-38 Subject: Storage of Low-Level Radioactive Waste at Power Reactor Sites. Proposed Facility Change (PFC) CF 85-9027.0 PCP 9027.0SC, Rev. 0, Proposed Facility Change, Engineering/Safety Evaluation, Attachment to Form 26-294, New 5/85, was reviewed. The document included a Description, Engineering Evaluation, Safety Evaluation, Environmental Evaluation, Implementation Section, Quality and Seismic Classification, ALARA Review, Construction Safety Assessment, Attachments and Identification and Tracing Information. The Safety Evaluation concluded that, "The probability of an occurrence of an accident or malfunction of any equipment important to safety previously evaluated in the FSAR will not be increased as a result of this change." "The consequences of an accident or malfunction of any equipment important to safety previously evaluated in the FSAR will not be increased as a result of this change." "The modification will not create the possibility of an accident or malfunction of a different type than any previously evaluated in the FSAR". "The margin of safety as defined in the basis of any Technical Specification is not reduced." The

Environmental Evaluation concluded that, "...the proposed facility change does not involve an unreviewed environmental question." The ALARA Review stated that, "The MPHF has been designed such that the dose rate, when the facility is at its full capcity, will be less than 0.25 mr/hr exterior to the building, in the office area and in the control room. In addition, the MPHF has been designed such that the dose rate to the general public per 40 CFR 190 criteria will be less than 1 mr/year."

Units 2/3 Access Control

The licensee has begun implementation of a revised access control procedure. Formerly personnel entering the controlled area under a Radiation Exposure Permit (REP) were logged in and out by computer terminal operators who also issued pocket ionization chambers and read them on exit, recording the dose in the computer. The revised system permits individuals to enter data, personal identification and REP number, by means of a magnetically coded card, attached to the security badge, and a key pad. The terminal operators issue, read and log the pocket chamber measured exposure only. The process was in use for only a limited number of REPs at the time of the inspection. The other aspects of the REP program have remained unchanged. The licensee had incorporated training in this procedure in the "Red Badge", controlled area access, training and retraining programs.

No violations or deviations were identified.

8. Occupational Exposure During Extended Outages

The principal efforts in this area were directed at the observation of work activities documented in section 9. In addition, the October 9, 1985 memorandum, Knapp to Morgan, Subject: Unit 3 First Refueling Outage Exposure Totals, was examined. As of October 5, 1985, the Units 2/3 outage exposure was 78.1% under the outage goal of 377.9 person-rem. An October 10, 1985 memorandum, Knapp to Morgan, Subject: Station Exposure Totals reported that as of September 30, 1985, Unit 1 exposures were 80.9% under the 303.9 person-rem 1985 goal and Units 2/3 were 52.8% under the 765.0 person-rem goal for 1985.

No violations or deviations were identified.

9. Facility Tours

The inspectors toured the Unit 1 control building including the control room, chemistry laboratories and counting room, health physics instrument storage and issue and access control areas. The tour included the auxiliary building and backyard areas. Tours of Units 2/3 included the control room, auxiliary-radwaste building, radiochemistry laboratory, health physics-access control and condensate demineralizer area and Unit 3 fuel handling building and containment. During the Unit 3 tours, ultrasonic fuel examination, removal of a thimble from the upper core internals package and reactor coolant pump seal replacement activities were observed. The tours included the protected areas of all three plants. Independent measurements verifying postings and radiation levels of packaged materials and barricaded areas were performed using ion

chamber survey instruments NRC-015844, due for calibration on December 27, 1985 and NRC-009040, due for calibration September 4, 1986. Health physics and radwaste related facilities under construction were toured and are discussed in report section 7 Facilities and Equipment. The inspector observed personnel frisking practices and the adherence of workers to protective clothing requirements specified on Radiation Exposure Permits.

No violations or deviations were identified.

10. Followup on IE Information Notices

The inspector verified receipt, review for applicability and initiation or completion of action with respect to IE Information Notice Nos. 85-37, 85-43, 85-46, 85-48 and 85-60. The licensee had not received a copy of IE Information Notice 85-52. A copy was provided to the licensee by the inspector.

No violations or deviations were identified.

11. Followup on Generic Letter

Generic Letter 85-08, subject, "10 CFR 20.408 Termination Reports - Format", requested licensees to voluntarily submit termination reports on NRC Form 439. By letter dated August 7, 1985, Zintl to NRC, the licensee volunteered to report on the specified form. By letter dated August 20, 1985, Zintl to NRC, the licensee specified January 1, 1986 as the effective date for the reporting format change. Discussion with the personnel monitoring staff established that efforts were underway to implement the revised reporting.

No violations or deviations were identified.

12. Training

The inspectors completed "Red Badge", controlled area access, training and retraining. One completed the full course and one the refresher training using the PLATO computer based training and testing system. The "Red Badge" retraining PLATO system uses a series of challenge tests requiring passing scores on the topics addressed in the full training program. Failure in any one testing area results in prompt retraining and retesting using the computer training mode. Repeated failure or failure on multiple portions of the challenge tests requires completion of the "Red Badge" classroom training and successful completion of the required testing. The radiation protection portion of the challenge test are drawn from a large bank of INPO test question. Both the full training program and the challenge test programs incorporate a practical factors test. The practical factors section test requires donning and removing protective clothing, use of the automated REP entry system, discussed is report section 7, Facilities and Equipment, proper use of stepoff pads and frisking. The practical factors test was monitored and errors were promptly corrected. The PLATO based retraining was found to be efficient and effective.

No violations or deviations were identified.

13. Exit Interview

The scope and findings of the inspection were discussed with the licensee representatives denoted in section 1 on October 11 and November 1, 1985. The licensee was informed that no violations or deviations were identified.