U.S. NUCLEAR REGULATORY COMMISSION

REGION II

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License Nos:	NPF-2, NPF-8
Report No:	50-348/96-10, 364/96-10
Licensee:	Southern Nuclear Operating Company, Inc.
Facility:	Farley Nuclear Plant, Units 1 & 2
Location:	P. O. Box 470 Ashford, AL 35201
Dates:	August 12-16, and 26-30, 1996
Inspector:	George B. Kuzo, Senior Radiation Specialist
Approved by:	Albert F. Gibson, Director Division of Reactor Safety

Enclosure 2

EXECUTIVE SUMMARY

Farley Nuclear Plant, Units 1 & 2
NRC Inspection Report No 50-348/96-10, 364/96-10

This special inspection reviewed and evaluated Radiation Monitoring System (RMS), radioactive waste (radwaste) processing and storage, and operational radiation protection programs. Specifically, the adequacy and status of the RMS and radwaste facilities, equipment and approved procedures, and the proficiency of staff were reviewed. In addition, radiation protection program controls and personnel monitoring associated with radioactive effluent processing and release, and with radwaste storage activities were reviewed. Conclusions included the following:

- Review of RMS equipment, calibrations, and effluent release activities and solid radioactive waste and material controls identified five violations.
  - One example of a violation of 10 CFR 50, Appendix B, Criterion V, for failure to construct and maintain "as built" Unit 1 Post Accident Sampling System (PASS) containment airborne particulate detector (RE-67) sample line in accordance with approved configuration control procedures and drawings (Section R1.1).
  - One example of a violation of 10 CFR 50.54(h) for failure to follow a March 14, 1983 Order to implement and maintain special calibrations of the containment high range monitors in accordance with Three Mile Island (TMI) Action Item Table II.F.1-3 (Section R1.2).
  - One example of a violation of 10 CFR 20.1904(a) for failure to label casks of contaminated resins (Section R1.4).
  - Numerous examples of a violation of Technical Specification (TS) 6.11 for failure to follow procedures for use of personal dosimetry (Section R1.4).
  - One example of a violation of TS 6.8.1(i) for inadequate procedures to assure adequate preservation of liquid effluent composite samples (Section R7.1).
- Direct observations of an August 27, 1996 liquid effluent release identified several operational weaknesses including a System Operator's lack of understanding regarding procedural compliance, and identification of minor procedural deficiencies (Section R1.3).
- Housekeeping was acceptable within the resin dewatering facility and low-level radwaste storage facilities and low volumes of radwaste were maintain on site. However, numerous poor housekeeping practices were identified for RMS equipment and within the Auxiliary Buildings (Sections R1.1, R1.4).

Report Details

R1 Radiological Protection and Chemistry Controls

R1.1 Radiation Monitor System (RMS) Installation

a. Inspection Scope (84750)

The inspectors reviewed and evaluated general housekeeping and the adequacy of installed process and effluent Radiation Monitoring System (RMS) detectors, electronics, sampling lines and flow meters, as applicable, to meet Final Safety Analysis Report (FSAR) commitments and to implement Offsite Dose Calculation Manual (ODCM) and 10 CFR Part 20 requirements. The evaluation included, as applicable, RMS equipment walk-downs with comparisons against configuration control documents, production change notices (PCNs) and vendor design specifications. Further, the installed sample line bend radii and piping specifications were evaluated against recommendations specified in American National Standards Institute (ANSI) N13.1-1969, American National Standard Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities. General comparisons were made between radiation monitor local and remote readouts, where possible.

The following RMS samplers or detectors, i.e. radiation elements (REs), and associated equipment were included in the review: Unit 1 (U1) and Unit 2 (U2) Spent Fuel Pool area (RE-5); U1 & U2 Containment Atmosphere particulate (RE-11) and gas (RE-12); U1 Turbine Building ventilation exhaust normal (RE-15), mid (RE-15B) and high (RE-15C) range; U1 & U2 Liquid Waste effluent discharge (RE-18); U1 & U2 Steam Generator Blowdown (SGBD) effluent discharge (RE-23A&B); Containment Purge exhaust (RE-24A&B); Spent Fuel Pool ventilation exhaust (RE-25A&B); U1 & U2 Plant Vent gas (R-29B) and particulate (RE-29A); Main Control Room (MCR) air supply (RE-35A&B); and U1 & U2 Post Accident Sampling System (PASS) airborne particulate (RE-67).

b. Observations and Findings

During the week of August 12, 1996, the inspectors identified several examples of poor housekeeping practices associated with the RMS equipment skids or sample pump cabinets. The examples included several instances of tools, equipment and supplies, e.g. wrenches, flashlights and leak detection fluid, found unsecured within cabinets housing RMS sample pumps. In addition, excess filter papers and charcoal cartridges were found within the RMS cabinets or adjacent to sample collectors. In response to the identified poor housekeeping practices, the licensee initiated Incident Report (IR) 1-96-211 and completed corrective actions prior to the end of the inspection. No similar concerns for the RMS equipment were identified during the week of August 26, 1996.

No concerns were identified for comparisons of data supplied at local and remote RMS readouts. Vendor documentation was reviewed which verified the accuracy of the SGBD flow devices for monitoring effluent media at elevated temperatures. In addition, the inspectors noted that the sample flow rate of 10 standard cubic feet per

minute (SCFM) for selected tape drive monitors, e.g., RE-10, exceeded the original vendor specification of 8.5 scfm. Vendor documents were provided which indicated the issue was evaluted and allowed use of the higher flow rate.

However, the following issues regarding the currently installed RMS sample lines to meet 10 CFR Part 50, Appendix B, Criterion V, and the intent of ANSI N13.1 recommendations were identified.

- The sample line supplying the U1 PASS containment atmosphere particulate monitor (RE-67) was noted to have 90 degree elbows installed. The inspectors noted that Production Change Notice (PCN) No. B-79-553, Note 4, specified that no elbows were to be used between sample inlet nozzle and filter cartridge and tubing was to have a minimum bend radius of five nominal pipe diameters. Review of the Bill of Materials for the Work Order (WO) 10093 used to install the U1 RE-67 sample line indicated no elbows were included in the parts list. The licensee was unable to determine when the current sample line configuration was installed. Licensee stated that the installed equipment would be changed to meet the documented design requirements.

- Instrument Installation Drawing B-175976 Rev. 2, dated December 8, 1983, incorrectly labeled the inlet and exhaust lines associated with the MCR air supply monitor (RE-35B). A change to the subject drawing was submitted prior to the end of the onsite inspection.

- The supply sample line for the U1 stack airborne particulate detector (RE-29A) was noted to have 90 degree elbows installed. Review of configuration control drawings Q-2-D11-RE-29E, B-85-2-3074 for the process RMS did not provide specific details regarding use of elbows on the sample line supplying the particulate sampler and only specified that tubing bends be greater than five times the nominal pipe diameter. The inspectors noted that similar 90 degree elbows were not used for the RE-29A sample line installed on the U2 stack. Licensee representatives stated that the installed piping would be changed to meet the intent of ANSI N13.1, 1969.

On August 29, 1996, the inspectors verified that the appropriate changes to the installed inlet sample lines for the U1 RE-67 and the U1 RE-29A sample systems were completed.

c. Conclusions

Numerous examples of poor housekeeping practices were identified for RMS equipment. The installed sample lines supplying the U1 RE-67 and U1 RE-29A airborne particulate monitors did not meet the intent of ANSI N13.1-1969. Further, the inlet sample lines for the RE-67 monitor were not installed in accordance with the

applicable PCN. This was identified as violation (VIO) 50-348,-364/96-10-01: Failure to construct and maintain the "as built" U1 PASS containment airborne particulate detector (RE-67) sample line in accordance with approved configuration control procedures and drawings.

R1.2 Radiation Monitor System Calibrations

a. Inspection Scope (84750)

Approved guidance and resultant data for selected RMS detector calibrations were reviewed and discussed. For each detector reviewed, source and electronic calibration surveillance test procedure (STP) packages for the previous two surveillances conducted prior to the onsite inspection were reviewed, evaluated and discussed with licensee representatives. The following RMS detectors and associated electronics were included in the review: U1 Containment High Range Monitors (CHRMs) (RE-27A&B), U2 Fuel Storage Pool area (RE-5); U1 Containment Atmosphere particulate (RE-11) and gas (RE-12); U2 Plant Vent gas (RE-29B); and U2 Turbine Building Ventilation exhaust (RE-15).

Calibration activities were evaluated against applicable sections of the FSAR, and Technical Specification (TS) and ODCM requirements. In addition, calibration activities to meet a March 14, 1983 Order to implement and maintain licensing commitments associated with Three Mile Island (TMI) Action Item II.F.1 for the CHRMs were reviewed.

b. Observations and Findings

Excluding the CHRMS, no concerns or issues were identified for the RMS detector calibrations reviewed. No significant data trends were observed and all calibrations were conducted at the required frequencies.

From review of CHRMs loop calibration data completed in accordance with Farley Nuclear Plant (FNP)-1-STP-227.18A, Revs. 4 and 5, the inspectors noted that *in situ* calibrations were not conducted by electronic signal substitution for all range decades above 10 Roentgens per hour (R/hr). Specifically, the applicable STP conducted the *in situ* electronic signal calibration only for a value of approximately 10 E+3 R/hr at six different switch positions of the CHRMs readout module and not for each range decade from 10 R/hr through 10 E+7 R/hr. The inspectors noted that a September 22, 1980 licensee response to a September 10, 1980 NRC request for additional TMI-2 Action Plan information provided descriptions of the containment high range monitors including special calibration. Regarding special monitor calibration, the licensee's response documented, in part, that "in place calibration by electronic signal substitution is provided for all range decades above 10 Roentgens per hour (R/hr)." A subsequent January 14, 1981 licensee response regarding the CHRMs calibration documented that "calibration above 10 R/hr will be completed by utilizing an electronic signal." Licensee representatives noted that susequent to establishment of their calibration program, a 1983 vendor field procedure which used an electronic signal substitution calibration for each decade from 10 through 10E+7 R/hr for the

CHRMs was developed. However, the procedure was not received from the vendor and thus, was not incorporated into the licensee's current procedure. The inspectors noted that the initial vendor guidance and supplemental source calibrations verified general monitor operability but that the *in situ* electronic calibration was necessary to demonstrate proper response at the maximum exposure rate values required to be monitored by TMI Action Item II.F.1.

c. Conclusions

In general, RMS detector calibrations were technically adequate and conducted at specified frequencies to meet established requirements. The failure to conduct *in situ* CHRMs special calibrations by electronic signal for each range decade up to 10 E+7 R/hr as committed to the NRC was identified as violation (VIO) 50-348,-364/96-10-02: Failure to implement licensing commitments to meet TMI Action Item II.F.I-3 specifications in accordance with an Order issued March 14, 1983.

R1.3 Liquid Radwaste Analysis, Processing, and Release

a. Inspection Scope (84750)

During the onsite inspection, radioactive waste (Radwaste) processing activities were reviewed. Evaluated program areas included equipment operability, procedural adequacy and staff proficiency.

On August 27, 1996, the inspectors directly observed and evaluated a U1, No. 2 Waste Monitor Tank (WMT-2) liquid effluent processing activities. The review included pre-release sample collection and radiological analyses, determination of the U1 liquid effluent radiation monitor (RE-18) setpoints, and operations associated with subsequent release to the environment.

The following procedures were reviewed and evaluated during observation of the WMT processing and release:

- System Operating Procedure (SOP) FNP-1-SOP 50.1, Liquid Waste Processing System Liquid Waste Release from Waste Monitor Tank, Revision (Rev.) 37
- Chemistry-Radiochemistry Control Procedure (CCP) FNP-0-CCP 208, Chemistry Group Forms, Rev. 48
- FNP-CCP 212, Liquid Waste Release Program, Rev. 15
- FNP-1-CCP-212 Detailed Guidance for Unit 1 Waste Monitor Tank Release, Rev. 3

Personnel observed and interviewed regarding the liquid radwaste processing and release evolutions included MCR Operators, System Operators (SOs) and chemistry staff.

b. Observations and Findings

No significant issues were identified during review of U1 WMT-2 pre-release sampling and radionuclide analyses. However, several minor procedural deficiencies and operational weaknesses as discussed below were observed for monitor setpoint determinations, procedural compliance, and equipment operability.

From observations of the U1 RE-18 liquid effluent monitor background count rate immediately preceding the U1 WMT-2 release, the inspectors noted that the monitor background count rate, 2000 counts per minute (cpm), was less than the count rate, 4000 cpm, documented in the August 27, 1996 release permit No. 960838.012.390.L. From review of procedures and discussions with the Chemistry and Operations staff, the inspectors determined that, in general, the documented background count rate was obtained subsequent to flushing the U1 RE-18 monitor sample line during the previous release. The inspectors determined that the current procedures would not assure that the background count rate used was adequate to establish an accurate monitor setpoint prior to each release. Review of release permit data for effluent releases conducted between August 14-20, 1996, indicated that the chemistry staff identified significant changes in RE-18 monitor background count rates and selected the most appropriate values to establish the monitor setpoints. Licensee representatives immediately addressed the noted concern and initiated Temporary Change Notices (TCNs) to FNP-1-CCP-212 and FNP-2-CCP-212, which required use of current U1 and U2 RE-18 monitor background count rates to establish release setpoints.

A concern also was identified for a SO's understanding of procedural compliance. The SO initially involved with the U1 WMT-2 release, informed the inspectors that he may not adhere strictly to FNP-1-SOP-50.1, § 4.3.1 which required verification of discharge valve positions as locked, if he observed the valves in the correct position previously in the shift. The inspectors noted that the SO could not ensure that the valves remained locked, if for example, other valve operations or maintenance occurred between the time the valves were observed initially and when keys were secured by the SO. The inspectors noted that strict compliance with the procedure was expected. From review of records associated with U1 and U2 WMT releases conducted between August 11 through 21, 1996, the inspectors did not identify any specific examples of non-compliance by licensee staff. On August 29, 1996, Operations Management issued a night order reinforcing expectations for strict procedural compliance to all staff.

A concern regarding determination of the MCR RE-18 chart recorder operability was identified. From review of selected liquid release MCR RE-18 MCR chart recorder data, the inspectors identified several instances, e.g. three U2 WMT releases conducted on August 12, 1996, where the recorder was declared and signed-off as "in operation" but visible chart recorder responses to performance of source checks per SOP 50.1, Appendix 2, § 2.5.5.1 were not observed. Although MCR operators stated that performance of source checks for the RE-18 chart recorder did not always result in a visible chart recorder trace, demonstration of the RE-18 source checks on August 29, 1996, resulted in noticeable upscale deflections and noticeable marks on

both U1 and U2 RE-18 chart recorder papers. From subsequent discussions with MCR operators and review of SOP 50.1, the inspectors identified inconsistencies among MCR operators in defining when the chart recorder was "in operation." Although not used for effluent release activities, the inspectors noted that the RE-18 chart recorders could be used to verify and/or re-evaluate liquid effluent data. Licensee representatives issued TCNs to FNP-1-SOP50.1 and FNP-1-SOP50.1 to verify that the RE-18 recorders were in operation by direct observation of an upscale deflection by the RE-18 recorder chart when source checked.

c. Conclusions

Procedural and operation weaknesses for liquid effluent release activities were identified. The weaknesses included lack of assurance to establish accurate setpoints, a SO's misinterpretation of procedural compliance, and inconsistencies in identifying out of service MCR RE-18 chart recorders by MCR operators.

R1.4 Radiological Controls

a. Inspection Scope (84750, 86750)

Radiation protection program activities for routine U1 and U2 operations and radwaste and material storage activities were reviewed against TS and 10 CFR Part 20 requirements. In particular, the inspectors reviewed and evaluated the adequacy of general housekeeping, personal dosimetry use, and radioactive material or radioactive waste labels, and verified implementation of physical controls for locked high radiation and very high radiation areas.

The inspectors made frequent tours of the licensee's protected areas, radiologically controlled areas (RCAs), and reviewed and discussed procedural guidance and selected survey results with selected Health Physics staff.

In addition, radiation control performance indicators regarding radioactive effluents, solid radioactive waste storage and shipments were reviewed.

b. Observations and Findings

Housekeeping practices within the resin dewatering facility and the Low-Level Radioactive Waste (LLRW) storage warehouse were considered acceptable. However, the inspectors noted several housekeeping weakness within the U1 and U2 Auxiliary Buildings. In particular, the inspectors noted trash and swipes strewn on the floor of the radwaste drumming room. In addition, numerous gloves and paper were observed on the floors of the Auxiliary building. Also, a pair of tattered disposable plastic gloves were observed covering the U1 Containment Personnel Air Lock penetrations. All identified housekeeping issues were addressed in a timely manner by the licensee.

The inspectors verified that physical controls for locked high radiation areas and for established locked very high radiation areas met TS and 10 CFR Part 20 requirements.

The licensee continued to maintain low inventories of radioactive waste onsite. In 1994 approximately 62 radwaste or material shipments containing 500.1 curies were shipped to vendors for processing or to a burial facility. In 1995 approximatley 61 shipments containing 10.18 Ci of radioactive waste were shipped from the site. The licensee estimated the following waste quantities were on site:

- Five 55 gallon drums containing Dry Active Waste (DAW) - 37.5 cubic feet (ft^3)
- Metal Scrap - 91.6 ft^3
- Two SeaVan Containers of DAW - 2080 ft^3
- Four 60 gallon Overpacks of Spent Mechanical Filters 40.8 ft^3
- Resins (currently in use or awaiting shipment) - 320 ft^3
- Resin Charcoal Mix 134 ft^3
- Oil - 165 gallons

In addition, the inspectors noted and discussed selected radwaste reduction efforts implemented including improved communications to emphasize minimization of waste produced, labeling of floor drains, operational activities to segregate waste streams and enhance processing media efficiency, use of pressurized demineralizer systems to reduce resin volumes and increased use of reusable items.

Concerns were identified for labeling of stored Radwaste. The inspectors noted that 10 CFR 20.1904(a) requires, in part, that each container of licensed material bear a durable, clearly visible label bearing the radiation symbol and the words "CAUTION, RADIOACTIVE MATERIAL" or "DANGER, RADIOACTIVE MATERIAL." The label must provide sufficient information (such as nuclides present, estimates of quantities of radioactivities, radiation levels, kinds of materials) to permit individuals handling or using the containers, or working in the vicinity of the containers, to take precautions to avoid or minimize exposure. On August 26, 1996, the inspectors identified and discussed with licensee representatives the following concerns regarding labeling of radioactive material within the LLRW building, Dry Active Waste (DAW) storage area and for two SurPak casks containing contaminated resins. The casks were located outside of established RCAs.

- During tours of the LLRW storage facility, the inspectors noted that several containers with "Radioactive Material" labels affixed were used to store materials identified as clean. For example, box 96-19 had a Radioactive Materials label affixed but the contents were identified as "new coveralls." Licensee representatives did not resolve the radiological status of the coveralls and box prior to the end of the onsite inspection.

- Several Low Specific Activity (LSA) containers storing contaminated DAW located adjacent to the sorting facilities initially appeared to not be labeled. However, further review indicated that the containers were labeled but as a result of restaging and restacking the LSA boxes, the side of the boxes with the affixed label was moved out of the immediate line of sight. Licensee representatives corrected the identified issue prior to the end of the onsite inspection.

- During tours of the facilities outside protected areas, the inspectors noted approximately six SurPac casks staged along the east wall of Auxiliary building. A durable, clearly visible label bearing the radiation symbol and the words "CAUTION, RADIOACTIVE MATERIAL" was affixed to each and each label was marked with a "NA" in the upper left-hand corner. No information such as radiation levels nor kinds of materials present were listed. Upon questioning, a licensee representative stated that two of the casks contained contaminated resins. During subsequent discussions with licensee management, the inspectors were informed that for the two casks containing radioactive materials, documentation of liner numbers and "No radiation levels above background" were indicated elsewhere on the sides of the casks and that the top of each was posted using radiation rope, and a trifoil posting identifying a "Radiological Restricted Area." The inspectors subsequently toured the area and noted that the liner numbers and radiation levels were not on the label, nor obvious. Also, the similarity between labels on the empty and filled casks was identified as a poor radiation protection practice. The inspectors noted that containers of radioactive material exceeding the quantities listed in Appendices B and C to §§ 20.1001-20.2401, and which did not meet the exemptions specified in 10 CFR 20.1905, were required to be labeled appropriately to identify the hazards present.

The inspectors reviewed previous history regarding labeling issues at the licensee facility. The review identified three previous NRC Inspection Reports (IRs) 50-348,-364/92-01, IR 50-348,-364/93-16 and 50-348,-364/94-11 which documented violations associated with labeling of containers.

Concerns also were identified for personal dosimetry use. Licensee procedure FNP-O-M-001, Health Physics Manual, Rev. 12, effective July 14, 1996, Section (§) 5.4 requires dosimetry devices to be worn on the front of the body between the neck and waist inclusive with the Thermoluminescent Dosimeter (TLD) and Digital Alarming Dosimeter (DAD) to be worn near each other. During the week of August 26, 1996, the following examples of improper personal dosimetry use were identified to licensee Health Physics staff.

- Three maintenance workers within the LLRW storage area not wearing their TLD and DAD on the front of the body.

- A chemistry counting room technician was observed with the TLD and DAD on opposite sides of the body and below the waist.

- An operator conducting liquid waste release tasks was observed with his personal dosimetry placed in the pants pocket.

A subsequent licensee survey of personal dosimetry identified 14 of 50 individuals, i.e., 28 percent, wearing personal dosimetry improperly. The licensee issued Incident Report No. 1-96-235, and initiated immediate evaluation of training guidance and stationed HP staff at facility RCA entrances to assure proper use of personal dosimetry. Licensee actions were continuing at the end of the onsite inspection.

c. Conclusions

Low volumes of radwaste were maintained onsite. Weaknesses and violations were identified for licensee programs including inadequate labeling for containers of radioactive material and improper personal dosimetry use. These issues were identified as VIO 50-348,-364/96-10-03): Failure to label casks containing contaminated resins in accordance with 10 CFR 20 1904(a) requirements; and VIO 50-348,-364/96-10-04: Failure to follow procedures in accordance with TS 6.11 for use of personal dosimetry. In particular, the identification of current and three previous NRC-identified violations associated with container labeling indicated a continuing program weakness requiring heightened management attention.

R7 Quality Assurance in Radiation Protection and Chemistry Activities

R7.1 Radiological Measurement Quality Control

a. Inspection Scope (84750, 86750)

The inspectors reviewed implementation of the counting room quality control (QC) activities to meet the intent of Regulatory Guide (RG) 4.15 as specified by TS 6.8.1(i). Specifically, the adequacy of guidance for liquid waste effluent composite sample preservation and for implementation of cross-check counting room radiological analyses were reviewed and discussed in detail. In addition, results of program implementation was reviewed.

The onsite review included the following procedural guidance:

- FNP-0-CCP-47, Preparation of Composite Effluent Samples, Rev. 7

- FNP-0-CCP-220, Radiochemistry Cross Check Program, Rev. 6,

The following quantitative laboratory QC results were reviewed:

- July 1994 through August 1996 cross-check analysis results for tritium (H-3), strontium (Sr)-89, Sr-90, and iron (Fe)-55

- January 1 through August 26, 1996 Daily Gamma Spectroscopy System Performance Data.

b. Observations and Findings

No significant concerns nor negative trends were identified from review of the counting room gamma spectroscopy QC performance data. However, the following issues regarding liquid effluent composite sample preparation and completion of selected cross-check analyses were noted and discussed with cognizant licensee representatives.

From review and discussion of FNP-0-CCP-47, the inspectors noted a concern regarding the adequacy of liquid effluent composite sample preservation. The composite samples are collected for selected time periods, monthly or quarterly, and are analyzed subsequently to quantify difficult-to-measure nuclides, i.e., Fe-55, Sr-89 and Sr-90, within the normal liquid effluent streams. However, the procedure did not require use of standard chemical methods, e.g., acidification or carrier addition, to maintain the chemical sample stability through time by preventing plate-out of the radionuclides on the container sides. Further, the licensee had not conducted any studies to establish the extent of radionuclide plate-out for the containers used to store the composite samples. The inspectors noted that the current procedure was inadequate to assure proper sample stability required to assure a representative and accurate sample analysis for the difficult to measure radionuclides. During the onsite inspections, licensee representatives issued a TCN to FNP-0-CCP-47 to acidify the composite samples to maintain sample chemical integrity by preventing plate-out of radionuclides. Licensee representatives stated that additional studies to establish the amount of radionuclide plate-out without using acid would be conducted. The inspectors noted that these studies would determine the actual affect of the procedure deficiency on the accuracy of effluent measurements.

From review of cross-check results and procedural guidance, the inspectors noted that an intra-laboratory cross-check was being implemented using the laboratory's Fe-55 standard but inter-laboratory Fe-55 comparisons had not been conducted since September 1992. The licensee stated that analysis of the inter-laboratory Fe-55 cross check sample was based on receipt of NRC samples. The inspectors informed the licensee that use of NRC samples to implement part of their cross-check program was considered inappropriate and a program weakness. Further, the inspectors noted that the NRC had discontinued supplying cross-check samples on a routine basis. The inspectors noted the identified issues as a significant program weakness. In response, the licensee initiated changes to their effluent monitoring program analyses, in that the Sr-89, Sr-90 and Fe-55 analyses now would be conducted at a vendor laboratory. In addition, TCN 6.B was initiated to FNP-0-CCP-220 to eliminate Sr-89, Sr-90, and Fe-55 analysis from the cross-check program.

c. Conclusions

Gamma spectroscopy QC activities were implemented appropriately but a weakness regarding implementation of the laboratory QC cross-check program for Fe-55 analyses was identified. The procedure for preserving liquid composite samples used to estimate liquid effluent concentrations was determined to be inadequate. This was identified as VIO 50-348, -364/96-10-05: Failure to have adequate procedures for preserving liquid composite samples analyzed for quantification of effluent radionuclide concentrations.

R7.2 Licensee Self-Assessment Activities (84750, 86750)

a. Inspection Scope (84750, 86750)

During the inspection period, the following audit reports regarding Health Physics (HP), Chemistry, and Radwaste processing, packaging and transportation program activities required by TS 6.5.2.1 were reviewed and discussed with licensee representatives.

- Safety Audit and Engineering Review (SAER) Audit Report No: 95-ODCM/1-1, May 15-July 25, 1995, dated July 26, 1995
- SAER Composite Audit Report 93/21, of the On-site environmental monitoring program and Off-site Dose Calculation Manual, conducted October 18-27, 1993 and dated November 5, 1993.
- SAER Audit of the Farley Nuclear Plant (FNP) - Chemistry and Chem/HP/Environ/Radwaste STPs, 96-CHM/6-1 and 96-STPc/34-1
- SAER Audit of Chemistry, Health Physics, and Environmental Groups STPs, Report No. 95-STPc/34-1
- SAER Audit of Surveillance Testing - Health Physics and Radioactive Waste Management, Report No. 95-STPc/34-1
- SAER Spot Audit of the FNP Response to EPRI PWR Primary to Secondary Leak Guidelines, Report No. 95-SAER/21-8, dated October 20, 1995
- SAER Report of Radioactive Waste Management, Report No. 94-RWM/31, dated December 13, 1994.
- SAER Report of Radioactive Waste Management, Report No. 95-RWM/31-1, dated September 25, 1995

In addition, the experience of the individuals conducting reviews in the specific audit areas was discussed with management.

b. Observations and Findings

The audits met TS required frequencies and addressed ODCM, Effluent, HP Chemistry and Radwaste program areas. The majority of audit issues were compliance-based although several performance-based findings and comments were identified. For the eight audit reports reviewed, only three findings and nine comments were documented. Findings included RCA access control issues, waste processing vendor procedure review and inaccurate organizational structure documentation. No findings similar to the violations or weaknesses documented in this report were identified.

From discussions with licensee management, the inspectors determined that all the auditors had previous and extensive experience within at least one of the FNP site HP, Chemistry and Operations program areas. The audits did not involve individuals from other facilities within the Southern Nuclear Operating Company.

c. Conclusions

The audit program met TS required frequencies, although the lack of outside auditors was considered a program weakness. Based on the current NRC findings and limited issues identified by the licensee, the inspectors noted that methods to improve the effectiveness of audits of HP and effluent program areas should be addressed by site management.

Management Meetings and Other Areas

X.1 Exit Meeting Summary

The inspectors presented the inspection results to members of the licensee management at the conclusion of the inspection on August 30, 1996. In addition, the inspectors discussed the poor practices observed during evaluation of effluent release activities. The licensee acknowledged the findings presented. Exceptions were taken for the non-compliances identified for failure to meet CHRMs special calibration commitments and for inadequate labeling of the casks containing contaminated resins.

X.2 Followup Teleconferences

On September 11, 1996, a followup teleconference between Mr. R. Hill, Plant Manager, FNP, and Mr. K. P. Barr, Chief Plant Support Branch, Division of Reactor Safety, NRC RII was conducted to discuss specific findings. The licensee restated their position regarding their exceptions to the identified deviation and labeling violation.

The inspectors stated the licensee position would be reviewed and evaluated. Further, the inspectors noted that proprietary information was reviewed during the inspection, but that specific proprietary details would not be included in the report.

PARTIAL LIST OF PERSONS CONTACTED

W. Bayne, Chemistry Superintendent
S. Fulmer, Technical Manager
M. Mitchell, Health Physics Superintendent
C. Nesbitt, Assistant General Manager, Support
I. Stinson, Assistant General Manager, Operations
M. Mitchell, Health Physics Superintendent
G. Waymire, Manager SAER

INSPECTION PROCEDURES

IP 84750:	Radioactive Waste Treatment, and Effluent and Environmental Monitoring
IP 86750:	Solid Radioactive Waste Management and Transportation of Radioactive Materials

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-348, 364/96-10-01	VIO	Failure to contruct and maintain an "as built" sample line in accordance with configuration control procedures and drawings (Section R1.1).
50-348, 364/96-10-02	VIO	Failure to follow a March 14, 1983 Order to implement and maintain commitments for special calibration of CHRMs (Section R1.2).
50-348, 364/96-10-03	VIO	Failure to label casks of contaminated resins in accordance with 10 CFR 20.1904(a) requirements (Section R1.4).
50-348, 364/96-10-04	VIO	Failure to follow procedures for proper personal dosimetry use (Section R1.4).
50-348, 364/96-10-05	VIO	Failure to have adequate procedures for liquid effluent composite sample storage (Section R7.1).

LIST OF ACRONYMS USED

ANSI	American National Standards Institute
CHRM	Containment High Range Monitor
cpm	Counts per minute
DAW	Dry Active Waste
DEV	Deviation
FNP	Farley Nuclear Plant
FSAR	Final Safety Analysis Report
ft^3	Cubic Feet
LSA	Low Specific Activity
MCR	Main Control Room
NCV	Non-cited Violation
ODCM	Offsite Dose Calculation Manual
PASS	Post Accident Sampling System
PCN	Production Change Notice (PCN)
QC	Quality Control
Radwaste	Radioactive Waste
RCA	Radiologically Controlled Area
RE	Radiation Element
RG	Regulatory Guide
R/hr	Roentgens per hour
RMS	Radiation Monitoring System
SAER	Safety Audit and Engineering Review
scfm	Standard Cubic Feet per Minute
SGBD	Steam Generator Blowdown
SO	System Operator
STP	Surveillance Test Procedure
TCN	Temporary Change Notice
TMI	Three Mile Island
TS	Technical Specification
WO	Work Order
VIO	Violation