U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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Report No:	50-373/99011(DRS); 50-374/99011(DRS)
Licensee:	Commonwealth Edison Company (ComEd)
Facility:	LaSalle Nuclear Generating Station, Units 1 and 2
Location:	2605 N. 21st Road Marseilles, IL. 51341-9756
Dates:	June 14 - 18, 1999
Inspectors:	W. Slawinski, Senior Radiation Specialist A. Kock, Radiation Specialist
Approved by:	Gary L. Shear, Chief, Plant Support Branch Division of Reactor Safety

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EXECUTIVE SUMMARY

LaSalle Nuclear Generating Station, Units 1 and 2
NRC Inspection Report 50-373/99011(DRS); 50-374/99011(DRS)

This routine, announced inspection assessed the effectiveness of the licensee's solid radioactive waste (radwaste) management and transportation programs. Specifically, the inspectors evaluated the implementation of the licensee's process control program (PCP) for processing waste streams into forms acceptable for disposal at a burial site and reviewed waste characterization methods, waste shipment manifesting, package preparation, and the training of staff involved in shipment activities. In addition, the inspectors reviewed recent audits of the radwaste processing and transportation programs, the radiological planning in support of the pending hydrogen water chemistry addition program, and the status of facilities and equipment associated with the radwaste program. Within these areas, the following conclusions were made:

Plant Support

- Experienced vendor staff and appropriate licensee oversight of waste processing activities ensured effective implementation of the radwaste management program. Wet solid wastes were processed in accordance with both vendor and licensee PCPs and implementing procedures, and dewatered and solidified waste streams were sampled and/or tested to ensure regulatory limits for free standing liquid were met (Section R1.1).

- A radiation protection technician that provided job coverage for a resin sluice operation was not familiar with the radiological requirements for the job specified in the radiation work permit, which did not satisfy radiation protection management expectations. Also, the Updated Final Safety Analysis Report was not fully consistent with the current waste processing program because it described systems and processes no longer used at the station (Section R1.1).

- The licensee established and maintained an effective program for the classification of radioactive waste, which included a sophisticated procedure for scaling factor derivation, trending, and analysis (Section R1.2).

- The radwaste packaging and transportation program was effectively implemented. Radwaste shipments were appropriately classified and controlled, vehicle and package surveys were performed as required, and shipment manifests were completed in accordance with regulatory requirements (Section R1.3).

- Deficiencies were noted with the staff's level of knowledge of the computer software program used to calculate shipment radioactivity content, and some radwaste shipments lacked complete documentation to demonstrate that all Department of Transportation requirements were met (Section R1.3).

- Radiological plans and preparations to support initiation of the hydrogen water chemistry addition program were adequate (Section R1.4).

- The training provided to the staff involved in packaging, preparation, and shipment of radioactive materials and radwaste satisfied Department of Transportation regulations and imparted an adequate level of knowledge to ensure effective program implementation. The licensee's training program also included non-required elements that enhanced staff knowledge, such as a qualification itinerary for radiation protection personnel and review of supplemental information during training sessions (Section R5.1).

- The licensee established and implemented an effective and comprehensive audit program to assess the radioactive materials shipping and radwaste processing programs. Internal reviews were of sufficient scope and depth and identified problems were adequately resolved (Section R7.1).

Report Details

IV. Plant Support

R.1 Radiological Protection and Chemistry (RP&C) Controls

R1.1 Radioactive Waste (Radwaste) Processing

a. Inspection Scope (86750)

The inspectors reviewed the licensee's solid radwaste management program including the licensee's process control program (PCP), the vendor's PCP and associated vendor implementing procedures for the processing of radwaste streams, and the licensee's involvement and oversight of waste processing activities.

b. Observations and Findings

The licensee's solid radwaste streams consisted of depleted ion exchange resins from the condensate and radwaste processing systems, waste sludge from filter and ultrasonic resin cleaner backwashes and from radwaste tank bottoms, phase separator sludge from the reactor water cleanup system filter and demineralizer backwashes, irradiated metals, various types of contaminated dry wastes (dry active waste (DAW)), and occasionally cartridge filters.

Station approved contractor equipment, processes, and procedures were used for onsite processing of resin and sludge waste streams to meet waste characteristic requirements of 10 CFR 61. Specifically, condensate and radwaste system resins were sluiced into high integrity containers (HICs) and dewatered to satisfy the stability and free standing liquid requirements of 10 CFR 61.56, and then either transferred to a licensed low level waste burial site or to another vendor for further processing. Waste sludge was solidified onsite by a vendor to meet 10 CFR 61 free standing liquid requirements, packaged in HICs for stability and shipped to a burial site. Station laborers collected DAW from various areas within the plant, and packaged and shipped the wastes to a vendor for sorting, compaction and disposal. Offsite contractor services were also used for processing and disposal of contaminated waste oils, and to decontaminate metals or to process metals by other means incident to disposal or free release.

The licensee maintained a PCP to establish the parameters and test criteria to ensure that radioactive waste was processed in a manner consistent with 10 CFR 61 and with the low level disposal site license requirements. The inspectors reviewed the licensee's PCP and concluded that it adequately addressed the radwaste processes used at the station including vendor processes for dewatering and solidification. Although the PCP did not specifically address how compliance with 10 CFR 61.56 requirements for certain

chemical reactions and for pyrophoric materials were satisfied, the chemistry staff indicated that the station's chemical control program and vendor processing methods ensured compliance with these requirements. A recently developed corporate PCP intended for use at all ComEd nuclear stations was reviewed by the inspectors and found to adequately address all 10 CFR 61 requirements and vendor processing alternatives. The licensee anticipated that the corporate PCP would replace the existing station PCP once station onsite review of the document was completed.

The inspectors reviewed the latest revision to the Updated Final Safety Analysis Report (UFSAR) and identified inconsistencies between current radwaste processing systems and station practices. Specifically, the UFSAR described use of a radwaste evaporator system, waste compactor, and a station waste solidification system, none of which have been used for several years. Also, a vendor supplied and operated portable advanced liquid processing system (ALPS), used in place of the station's evaporator system since 1997, was not described in the UFSAR because the licensee considered it a temporary system while other advanced filtration processes were being evaluated for potential station use. The radwaste evaporator system was undergoing an engineering review to determine if this system and other dormant equipment would be abandoned. The licensee planned to revise the UFSAR to reflect current radwaste systems and equipment after the abandonment review process was completed and a decision was reached regarding the use of advanced filtration systems.

The vendor's topical report for the cement solidification process used at the station was approved by the NRC in 1983, and met the acceptance criteria in the NRC's Waste Form Branch Technical Position (BTP) published at that time. The BTP was revised by the NRC in 1991 to provide additional guidance to address industry problems with use of cement to stabilize waste; however, the topical report was not reevaluated to assess the potential need for changes in the solidification processes. As a result, the vendor notified the licensee and its other clients that the cement solidification process could not be used to meet 10 CFR 61 stability criteria. Nevertheless, according to the licensee, the solidification process effectively eliminated free standing liquid in the processed waste and addressed biological growth problems previously experienced by the licensee with it's waste sludge. Consequently, the licensee continued to solidify waste sludge using the methodology contained in the vendor's topical report and procedures, but placed the processed waste into HICs to meet stability requirements. The inspectors reviewed the vendor's PCP and implementing procedures for both cement solidification and resin dewatering, and concluded that the documents were consistent with 10 CFR 61.56 waste characteristic requirements. The inspectors verified that the documents included test sample verification of the processed waste streams in accordance with parameters contained in the licensee's PCP and in the BTP guidance, to demonstrate the effectiveness of the solidification and dewatering processes.

The licensee reviewed and approved the vendor's PCP and implementing procedures, and licensee personnel provided effective oversight of vendor waste processing activities. In addition, licensee staff independently verified that free standing water requirements and certain solidification criteria were satisfied for each batch of waste processed by the vendor. The inspectors reviewed radwaste processing work sheets for several radioactive waste shipments and confirmed that the waste was processed pursuant to vendor procedures and that test sample verification was completed by the licensee.

The inspectors observed the licensee conduct a resin sluice from the spent resin storage tank, and noted that the operation was completed in accordance with clearly written procedures. Vendor and radwaste operations staff involved in the operation were well versed in the respective operating procedures and contingency actions should problems occur during the evolution. However, a radiation protection technician (RPT) responsible for coverage of the sluice operation was not familiar with the requirements of the radiation work permit (RWP) controlling the vendor's activities, and the RPT relied on vendor personnel for radiological information. While no radiological problems occurred during the job and vendor staff were well aware of expected radiological conditions, the RPTs unfamiliarity with the RWP and reliance on the vendor did not meet radiation protection (RP) management expectations.

c. Conclusions

Experienced vendor staff and good licensee oversight of waste processing activities ensured effective implementation of the radwaste management program. Wet solid wastes were processed in accordance with both vendor and licensee PCPs and implementing procedures, and dewatered and solidified waste streams were sampled and/or tested to ensure regulatory limits for free standing liquid were met. However, an RPT that provided radiological oversight for a resin sluice operation was not familiar with the radiological requirements for the job specified in the RWP. Also, the UFSAR was not fully consistent with the current waste processing program.

R1.2 Classification of Radwaste Shipments

a. Inspection Scope (86750)

The inspectors reviewed the licensee's methods for determining the classification of radioactive waste shipments, and evaluated the scaling factor program for waste stream sampling and analysis. Members of the RP staff were interviewed by the inspectors about the classification program, sample analysis and scaling factor data and procedures were reviewed, and calculations were independently made to verify program implementation.

b. Observations and Findings

The licensee established a scaling factor program for the analysis of difficult to measure (DTM) radionuclides, in accordance with the NRC's branch technical positions on waste classification and form. Licensee personnel sampled and analyzed representative waste streams which included bead resin from the spent resin tank and advanced liquid processing system, powdered resin and sludge from phase separator and sludge tanks, and DAW. Waste streams typically classified as class A were sampled biennially and those typically classified as class B or C were sampled annually, unless reactor coolant chemistry data indicated a potential shift in waste classification. Sample analyses were contracted to a vendor laboratory, and scaling factors were generated by the laboratory to correlate the concentration of DTM radionuclides to more easily measured gamma emitters. Results were then averaged with historical data to establish waste stream specific scaling factors, which were used to calculate the radioactivity content of waste shipments pursuant to 10 CFR 61. Waste classification for each shipment was determined using a vendor supplied software program, which the licensee improved through incorporating adjusted scaling factors based on refined waste stream analysis computations.

The licensee's scaling factor program was technically sound and included a comprehensive procedure which provided guidance on waste stream sample preparation, scaling factor derivation, and specific instructions for trending reactor water chemistry data that could affect waste stream classification. Difficult to measure nuclides were scaled to appropriate gamma emitters in accordance with industry standards and Electric Power Research Institute recommendations. Concentrations of technetium-99 and iodine-129, nuclides not normally identified in the licensee's waste streams, were assumed to be present at vendor laboratory lower limits of detection (LLDs), which yielded more conservative scaling factors than if industry averages were used. Waste shipment tritium concentrations were calculated annually based on conservative assumptions of waste stream moisture content and measured reactor coolant system tritium results. Vendor generated scaling factors were examined for statistical outliers to ensure scaling factor validity. The staff also ensured that representative waste stream samples were obtained, that area smears for DAW were collected in appropriate plant locations, and that the vendor laboratory took reasonable steps to ensure that the sample's moisture content was equivalent to the processed waste stream.

The inspectors reviewed licensee records for 1998 and 1999 to date, and determined that the scaling factor program was implemented in a sound and consistent manner. The inspectors verified that reactor coolant chemistry data was trended in accordance with procedure, and that a Unit 1 fuel leak identified in March 1999 did not significantly affect the scaling factors. The inspectors also confirmed through record review and discussions with plant staff that representative waste stream samples were collected

and that sample analyses were completed and results evaluated for outliers as required by procedure. The inspectors also selectively verified that the licensee's computer data base contained appropriate waste stream analysis and scaling factor data and independently confirmed that the activity computation for a particular waste shipment was accurate.

c. Conclusions

The licensee established and maintained an effective program for the classification of radioactive waste, which included a sophisticated procedure for scaling factor derivation, trending, and analysis.

R1.3 Radwaste Packaging and Transportation

a. Inspection Scope (86750)

The inspectors reviewed the licensee's radwaste packaging and transportation program for compliance with NRC, Department of Transportation (DOT), and waste burial site license requirements. This review included interviews with plant staff and inspection of records of past shipments and applicable plant procedures.

b. Observations and Findings

The inspectors determined that the radiation protection staff were knowledgeable of radwaste packaging and transportation requirements and that the staff maintained good oversight of shipment activities. In accordance with Information Notice 79-19, the station designated three individuals who were responsible for the safe packaging and transport of radioactive waste. These individuals verified that packages were properly marked and labeled, that waste destined for burial site disposal was properly characterized, and that all NRC and DOT requirements were met before certifying the shipment and authorizing its release.

The licensee used a vendor software program to compute the activity of each package of radioactive waste offered for transport based on waste stream sample analysis, direct package radiation measurements and scaling factor data. In the case of dewatered resins, filters and waste sludge, the program adjusted established scaling factors based on the station's gamma isotopic analysis at the time of shipment. The concentration of gamma emitters for all waste forms was calculated based on a dose-to-curie-calculation, which related the package radiation levels to the isotope activities. In completing this calculation, the software accounted for the isotopic abundances in each waste stream. The inspectors independently verified that the software's activity calculations were accurate for several radioactive waste shipments made during 1998 and 1999. Also, the licensee's corporate health physics staff periodically verified the software calculations and last confirmed the accuracy of the computations in April 1999.

The inspectors found that the health physicist who principally used the vendor software program to generate manifests was not well versed in the calculations completed by the computer to determine the radioactivity content of a shipment. Rather, station staff relied on a member of the licensee's corporate staff to provide detailed information regarding the software methodology. The inspectors' review of shipping manifests determined that this deficiency did not result in any inappropriately classified or packaged shipments. Also, the potential safety significance of this issue was minimized because the licensee did not manually calculate shipment activities and postponed shipments in the event the computer program was unavailable. Although the station staff was not required to maintain detailed knowledge of the software computations, RP management agreed that such an understanding was necessary to recognize errors in the results and planned to address this deficiency.

The inspectors reviewed the licensee's procedure governing the transportation of radioactive materials and determined that it was consistent with the station's current practices and DOT regulations. The inspectors also found that this procedure was generally thorough, in that it provided sufficient guidance to ensure that all DOT requirements were met. The licensee planned to address minor procedure deficiencies that the inspectors noted related to an inactive exemption and the level of detail provided to determine DOT Type A or Type B classification.

The station sent 77 shipments for burial in 1998, including 33 that were made from vendor facilities after additional processing. In 1999 to the date of the inspection, the licensee made five radwaste shipments directly to the burial site and 40 shipments to waste processors prior to subsequent transfer to a burial site for disposal. The inspectors independently verified that 5 shipments of various waste types were correctly classified according to 10 CFR 61 and DOT regulations, that scaling factors were properly applied, that package labeling and marking was satisfactory, and that the results of package and transport vehicle surveys satisfied DOT requirements. The inspectors also verified that shipment manifests were completed consistent with the regulations and included emergency response information, and that the shipments were tracked as required by 10 CFR 20.

However, the inspectors noted that in some instances, the station did not maintain documentation to demonstrate that all DOT requirements were met. For example, the station did not routinely maintain records of surveys completed to demonstrate that low-specific-activity (LSA) waste met DOT external dose rate criteria. In addition, when the station contracted a vendor to determine package activities for shipments of activated hardware in 1998, the radiation protection staff did not maintain documentation of the vendor's activity determination. Although maintenance of documentation to demonstrate compliance with all DOT criteria was not required, the licensee acknowledged this deficiency and planned to correct it.

The inspectors observed one outgoing shipment of DAW that the station shipped to a vendor for processing. The inspectors verified that the packages were properly marked, labeled, and blocked and braced according to DOT regulations, and that the station staff provided the vehicle driver with appropriate instructions. In addition, the inspectors confirmed that the required radiological surveys were completed, and independently verified that the package and vehicle radiation levels were consistent with the licensee's measured results and met DOT limits.

c. Conclusions

The radwaste packaging and transportation program was effectively implemented. Radwaste shipments were appropriately classified and controlled, vehicle and package surveys were performed as required, and shipment manifests were completed in accordance with requirements. However, deficiencies were noted with the staff's level of knowledge of the software program used to calculate shipment radioactivity content and some shipments lacked documentation to demonstrate that all DOT requirements were met.

R1.4 Radiological Preparations For The Hydrogen Water Chemistry Addition Program

The inspectors reviewed the licensee's radiological preparations and plans to support a hydrogen water chemistry (HWC) addition program, scheduled to be initiated for Unit 1 beginning in July 1999. The program was originally planned to be implemented in 1996 but was postponed because both units were shutdown for extended periods to address performance issues.

In preparation for the program several years ago, a contractor assessed the potential radiological effects of the proposed HWC program at the station, and generated computer modeled dose rate information which predicted the radiological consequences of hydrogen addition. The study concluded that no major additional turbine building shielding was required to maintain acceptable radiation levels, and that only minor changes in operating and maintenance procedures may be warranted. The conclusion was based on a combination of favorable station conditions including existing equipment arrangements, structural shielding and a large owner controlled area. Also, noble metal (platinum and rhodium) injection to further inhibit corrosive material buildup in coolant piping is planned for later in 1999, which will allow hydrogen injection rates to be reduced and cause a resultant decrease in dose rates from volatile nitrogen-16.

Based on the results of the contractor study, the RP staff identified key locations in a variety of areas both inside and outside the radiologically protected area (RPA) and in controlled areas outside plant buildings, which are expected to have increased dose rates. The RP staff intends to closely monitor these areas during pre-operational system testing, when hydrogen will be injected at a slowly increasing rate. The staff also identified process and area radiation monitors and whole body contamination monitors which may be affected, and developed a surveillance program to monitor the radiological conditions in these key areas during the testing phase.

The licensee recognized the negative effects of cycling HWC on and off, and proposed to temporarily reduce hydrogen injection rates during specified work windows to complete scheduled work in higher dose field areas of the plant. The ALARA group plans to assess emergent work and determine if injection rates should be reduced or the injection system isolated based on dose savings. Although pre-operational test procedures were not yet completed at the time of this inspection, adequate radiological preparations appear to have been taken to allow the HWC addition program to commence.

R.2 Status of RP&C Facilities and Equipment

R2.1 Walkdowns of Radwaste Facilities

An inspector conducted walkdowns of radwaste storage and processing areas in the radwaste building and in the interim radwaste storage facility and evaluated area and equipment material condition and radiological housekeeping and posting. Areas were posted and controlled in accordance with 10 CFR 20.1902, and containers housing DAW and other solid wastes were labeled pursuant to 10 CFR 20.1904 and 20.1905. While the overall material condition and radiological housekeeping in the radwaste building was adequate, the licensee recognized that area conditions were not equivalent to the higher standards maintained in the turbine and reactor buildings and plans to improve area conditions were being considered. For example, implementation of a plan to reduce the backlog of higher activity DAW stored in the radwaste building was being tracked by the licensee's corrective action program. Also, as discussed in section R2.2, a radwaste tank cleanup project was scheduled to commence in 1999. Plans were also being developed to consolidate and better control flexible hoses and electrical cords from vendor waste processing equipment.

R2.2 Radwaste Tank Cleanup Project

The inspectors reviewed the station's plans to remove the sludge from 24 radwaste storage tanks located on the 663' elevation of the turbine building. Due to carryover from the evaporator, sludge tank decant, and floor drain sumps, solids built up in various radwaste storage tanks used for liquid radwaste streams since initial plant start up. During 1998, the station developed a three year plan to remove these solids from the tanks. To accomplish the cleanup project, the station planned to pump the stored sludge to a process cask, dewater the waste, and subsequently transfer the material to a burial site. The project also included plans to decontaminate residual radioactivity remaining on the floors of several radwaste tank rooms once used for the storage of contaminated water. These proactive efforts are being implemented to: (1) ensure optimal efficiency of a new radwaste processing system that the station plans to install, and (2) decrease the source term in the tank rooms and in areas of the plant that interfaced with the radwaste system to permit regular material condition inspections in these areas.

Thus far, the station completed benchmarking to evaluate the effects of the proposed clean up project, the radiation protection department completed dose profiles in the tank rooms involved, and station personnel established the order in which the tanks would be cleaned. In addition, the station contracted a vendor to complete sluicing and dewatering of the sludge and designated a member of the staff as the project manager. The station planned to initiate tank cleaning in August 1999.

R.5 Staff Training and Qualifications in RP&C

R.5.1 Training of Staff Involved in Transportation of Radioactive Materials and Radwaste

a. Inspection Scope (86750)

The inspectors reviewed the training provided to station staff involved in radioactive material transportation activities (i.e., hazardous material (hazmat) employees). The inspectors discussed the training program with station staff; reviewed training certificates, test results, and lessons plans; and evaluated qualification criteria for RP staff involved in radioactive material transport.

b. Observations and Findings

The licensee established hazmat training programs that were tailored for each group of workers involved in radioactive material transportation activities. Radiation protection personnel who provided direct oversight of shipping activities attended a several day radioactive material shipping course at the licensee's production training center. Radiation protection technicians, whose primary responsibility during shipments was to complete radiological surveys, attended a one day course sponsored by the station training center which emphasized survey techniques and requirements. Laborers and fuel handlers involved in initial receipt, loading, and moving packages attended a one day course sponsored by the station's training department which emphasized the hazards represented by package labeling and marking, proper packaging, and emergency response information.

The inspectors reviewed the lesson plans, training certificates, and test results for training provided to selected individuals involved in the shipping and receipt of radioactive material packages. The inspectors' review determined that the course material provided to these hazmat employees satisfied 49 CFR 172.704 requirements, that the information provided was accurate, that recurrent training was provided at the required interval, and that appropriate personnel received hazmat training. In addition to providing the required information, the training curricula included supplemental information on industry lessons learned and good health physics practices. The licensee tested the workers on the information provided, as required, and maintained documentation to demonstrate that workers successfully completed the courses. Interviews of shipping qualified personnel revealed that they were very knowledgeable of pertinent transportation requirements.

Although not a regulatory requirement, the radiation protection department also developed qualification programs for each job position within the department that required involvement in radioactive material shipping activities. The inspectors reviewed the qualification curriculum for the position of radioactive material shipper and noted that it included elements that would effectively assess worker knowledge and covered relevant transportation requirements and industry events. To ensure that trainers effectively presented the information, the qualification program also included guidance for the instructors.

c. Conclusions

The training provided to staff involved in packaging, preparation, and shipment of radioactive materials and radwaste satisfied DOT regulations and imparted an adequate level of knowledge to ensure effective program implementation. The licensee's training program also included non-required elements that enhanced the training program, such as a qualification itinerary for radiation protection personnel and review of supplemental information during training sessions.

R.7 Quality Assurance in RP&C Activities

a. Inspection Scope (86750)

The inspectors reviewed the quality assurance (QA) program to assess the station's ability to identify and correct problems related to radwaste processing and transportation of radioactive materials. Specifically, the inspectors interviewed nuclear oversight and RP personnel and reviewed audits completed during 1998 and 1999.

b. Observations and Findings

The inspectors determined that the Nuclear Oversight Department's (NODs) audit program was comprehensive and included aspects essential for effective problem identification and resolution. For example, the audit program required assessment of fundamental program elements at frequencies defined by the safety impact of the area. The NOD used NRC and Institute for Nuclear Power Operations guidelines to develop the specific areas for inspection and used previous assessment results to properly focus the scope of each audit. To ensure that each area was sufficiently evaluated, lead auditors developed a checklist of issues to address during each audit. Timely resolution of audit findings was accomplished through tracking of issues in the station's corrective action system. In addition, the NOD reviewed the RP department's responses to audit findings to ensure adequate follow up actions. An appropriate level of independence and expertise among the audit team members was accomplished by including individuals with specialized experience and auditors from other stations.

The station implemented the audit program in a manner that ensured problem identification and resolution. Audits were conducted at the frequency required by the master audit plan and included performance-based assessment of activities such as system walkdowns and observations of radioactive material shipments. The scope of

each review was sufficient to assess pertinent aspects of the radioactive waste processing and transportation programs. The inspectors determined that audit findings added value to the radioactive waste program because the audits were thorough and probing. The inspectors verified that the RP department adequately addressed audit findings. In particular, the station's tracking system was recently revised to require a written response to all audit observations, in contrast to previous practices when formal responses were only generated for the most significant issues.

c. Conclusions

The licensee established and implemented an effective and comprehensive audit program to assess the radioactive materials shipping and radwaste processing programs. Internal reviews were of sufficient scope and depth and identified problems were adequately resolved.

V. Management Meetings

X1 Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management and staff at the conclusion of the inspection on June 18, 1999. The licensee acknowledged the findings presented and identified no proprietary information.

PARTIAL LIST OF PERSONS CONTACTED

T. Antrobus, Chemistry Radwaste Specialist
C. Berry, Chief of Staff
J. Burns, Chemistry Manager
D. Enricht, Shift Operations Supervisor
M. Hayworth, Radwaste Planner
D. Hieggelke, Lead Assessor
C. Howland, Radiation Protection Manager
S. Kovall, Health Physicist, Shipping Specialist
J. Meister, Station Manager
P. Quealy, Technical Support Supervisor
B. Riffer, Nuclear Oversight Manager
F. Spangenberg, Regulatory Assurance Manager

INSPECTION PROCEDURES USED

IP 83750:	Occupational Radiation Exposure
IP 86750:	Solid Radioactive Waste Management and Transportation of Radioactive Materials

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

LIST OF ACRONYMS USED

ALPS	Advanced Liquid Processing System
CFR	Code of Federal Regulations
COC	Certificate of Compliance
DAW	Dry Active Waste
DOT	Department of Transportation
DTM	Difficult to Measure
Hazmet	Hazardous Materials
HIC	High Integrity Container
LSA	Low Specific Activity
NOD	Nuclear Oversight Department
PCP	Process Control Program
QA	Quality Assurance
Radwaste	Radioactive Waste
RP	Radiation Protection
RP&C	Radiological Protection and Chemistry Controls
RPT	Radiation Protection Technician
RWP	Radiation Work Permit
UFSAR	Updated Final Safety Analysis Report

PARTIAL LIST OF DOCUMENTS REVIEWED

Station Procedures

LAP-200-6, (Rev 9), LaSalle County Station Process Control Program

RW-AA-10 (Draft), (Rev 0), NGG Process Control Program

LRP-5600-13, (Rev 1), Trending For Shifts in Scaling Factors and Waste Stream Sampling

LRP-5610-6, (Rev 2), Surveying Radioactive Material Shipments

LRP-5600-7, (Rev 8), Shipment of Radioactive Materials

LRP-5600-4, (Rev 4), Completion of Radioactive Material Shipping Record

LOP-WX-10, (Rev 11), Establishing a Spent Resin Transfer Loop

Audits and Assessments

Nuclear Oversight Assessments:

- QVS-01-98-094, Radwaste Operations/PCP
- NOA-01-99-031, Radwaste Shipping, Effluent Monitoring
- QVS-01-98-079, LaSalle County Station Dry Active Waste Minimization Program, Radwaste FSAR Compliance, The Offsite Dose Calculation Manual and Radiological Environmental Monitoring Programs
- QVS-01-98-074, Radioactive Shipping Program Assessment

Other Documents

RWP # 990133, (Rev 3), Processing Radwaste Liners, Valve Lineups and Applicable Work

Station Memorandum dated August 22, 1996, Evaluation of the Effects of Hydrogen Addition to the Reactor Coolant System on the Station's Process Radiation Monitors and Area Radiation Monitors

Station Memorandum dated August 15, 1996, Potential Consequences Resulting From Implementation of Hydrogen Water Chemistry on the Whole Body Contamination Monitors

LaSalle Updated Final Safety Analysis Report, (Rev 12), Chapter 11, Solid Waste Management System

1998 and 1999 Waste Stream Characteristic Summary Data

Topical Report Chem-Nuclear Systems, Inc., (Rev 2), Mobile Cement Solidification System

Chem-Nuclear Systems, Inc. Document No. SD-OP-098-41314, (Rev 1), PCP and Procedure for Waste Solidification in Chem-Nuclear Systems, Inc. Polyethylene High Integrity Container at LaSalle Station

Chem-Nuclear Systems, Inc. Document No. FO-OP-023, (Rev 14), Bead Resin/Activated Carbon Dewatering Procedure For CNSI 14-215 or Smaller Liners

Lesson Plan, Level II Radioactive Materials Shipping Training, (Rev 2)

Lesson Plan, Radiation Protection Technician Continuing Training, (Rev 3)

Lesson Plan, Radioactive Material Shipping, (Rev 3)