UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

October 10, 2000

Richard Ferreira, Assistant General Manager
Energy Supply and Chief Engineer
Sacramento Municipal Utility District
6201 'S' Street
Sacramento, California 95852

SUBJECT: NRC INSPECTION REPORT 50-312/00-04;72-11/00-01 AND NOTICE OF VIOLATION

Dear Mr. Ferreira:

This refers to the inspection conducted on June 19-24, August 30 through September 6, and September 11-14, 2000, at your Rancho Seco nuclear reactor facility. The enclosed report presents the scope and results of this inspection. On October 4, 2000, a followup telephonic exit was held between NRC Region IV and your staff. During this discussion, additional information was provided concerning the basis for the violation identified in this report.

Areas reviewed as part of this inspection included safety reviews, spent fuel pool compliance with technical specifications, maintenance, operator training, solid radwaste and radwaste transportation.

Based on the results of this inspection, the NRC has determined that a violation of NRC requirements occurred. The violation was evaluated in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600. The current Enforcement Policy is included on the NRC's website at www.nrc.gov/OE. The violation is cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding it are described in detail in the subject inspection report. The violation is being cited in the Notice because it represents a failure of your program to adequately modify compensatory security controls for access to the fuel storage building after facility changes were made during decommissioning and dismantlement activities.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/NRC/ADAMS/index.html (the Public Electronic Reading Room).

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

/RA Linda L. Howell for/

Dwight D. Chamberlain, Director
Division of Nuclear Materials Safety

Docket Nos.: 50-312; 72-11
License Nos.: DPR-54; SNM-2510

Enclosures:
1. Notice of Violation
2. NRC Inspection Report
   50-312/00-04;72-11/00-01

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E-mail report to D. Diec (DTD)
E-mail report to T. McMurtray (ACM2)

bcc w/enclosures to DCD (1E01 and 1E08))

bcc w/enclosures (via ADAMS distrib):
EWMerschoff
PWHarris, NRR\DND (11B20)
JRHall, NMSS\SFPO (13C6)
VLTharpe (13D4)
DDChamberlain
LLHowell
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JVEverett
DWSchaefer
MIS System
FCDB File
RIV Files-4th floor file room (50-312 Docket)
RIV Files-5th floor file room (72-11 Docket)

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RIV:DNMS:FCDB	NRR:DLPM:LPD4	RIV:DRS:PSB
JVEverett	PWHarris	DWSchaefer
/RA/	***/JVEverett for via E/***	***/RA/***
10/04/00	09/29/00	10/04/00
C:FCDB	D:DNMS	
DBSpitzberg	DDChamberlain	
/RA/	***/LLHowell for/***	
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ENCLOSURE 1

NOTICE OF VIOLATION

Sacramento Municipal Utility District
Sacramento, California

Docket Nos. 50-312; 72-11
License Nos. DPR-54; SNM-2510

During an NRC inspection conducted on September 11-14, 2000, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violation is listed below:

> The Rancho Seco Physical Security Plan for Long-Term Defueled Condition, Amendment 6, dated January 15, 1993, Section 4.1.2 states, “The protected area consists of the area inside the fuel storage building.” Section 5.4.2.3 states “Entrance into the protected area shall be controlled by a security officer.”
>
> Contrary to the above, on September 14, 2000, an NRC Inspector observed that entrance into the protected area fuel storage building was not controlled by a security officer. Specifically, a security officer posted at an open roll-up door to provide compensatory measures for control of access to the protected area was positioned in such a manner that he failed to observe and maintain control of personnel approaching the open roll-up door to the protected area boundary from the tank farm area.
>
> This is a Severity Level IV violation (Supplement III).

Pursuant to the provisions of 10 CFR 2.201, Sacramento Municipal Utility District is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555, with a copy to the Regional Administrator, Region 4, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Because your response will be made available to the Public, to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you <u>must</u>

specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated this 10th day of October 2000

ENCLOSURE 2

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket Nos.:	50-312; 72-11
License Nos.:	DPR-54; SNM-2510
Report No.:	50-312/00-04;72-11/00-01
Licensee:	Sacramento Municipal Utility District
Facility:	Rancho Seco Nuclear Generating Station
Location:	14440 Twin Cities Road Herald, California
Dates:	June 19-24, August 30 through September 6 and September 11-14, 2000
Inspectors:	J. Vincent Everett, Senior Health Physics Inspector Paul W. Harris, Project Manager, NRR
Approved By:	D. Blair Spitzberg, Ph. D., Chief Fuel Cycle and Decommissioning Branch
Attachment:	Supplemental Information
ADAMS Entry :	IR 05000312-00-04;072000011-00-01; on 09/11/00-09/14/00; Sacramento Municipal Utility District; Rancho Seco Nuclear Generating Station. Decommissioning Report; Security.

EXECUTIVE SUMMARY

Rancho Seco Nuclear Generating Station
NRC Inspection Report 50-312/00-04;72-11/00-01

Decommissioning activities continued at the Rancho Seco site with significant work completed in the lower levels of the auxiliary building since the last inspection. Work was being performed safely and in compliance with NRC requirements. Adequate controls were being implemented concerning both radiological safety and industrial safety. Workers interviewed and observed during this inspection period demonstrated a positive attitude toward compliance with site safety requirements.

Activities observed during this inspection included the loading of two trucks with radwaste boxes for shipment, surveying of empty containers received onsite, a tour of the fuel storage building and spent fuel pool area including work areas designated for dry cask loading activities, tour of the containment and auxiliary building where dismantlement work was underway, observation of quality assurance's receipt inspection of the dry fuel storage canister #1, and observation of the heavy load movement of the transfer cask into the turbine building for additional preparations for fuel loading. In addition, the inspectors attended daily meetings as well as the weekly decommissioning planning meeting and the weekly fuel meeting.

Organization, Management and Cost Controls

- Work activities underway at the site were consistent with the post-shutdown decommissioning activities report (PSDAR). Staffing levels and radiological support were appropriate for the dismantlement work being performed. No changes to key positions or management responsibilities had been made over the past year (Section 1).

- The latest cost estimates provided in the 1999 annual decommissioning funding status report estimated $458 million for decommissioning the Rancho Seco site (Section 1).

- The licensee's audit of the fire protection program found no deficiencies in the program (Section 1).

- Training for operations crews and fuel teams was being conducted in accordance with licensee procedures and regulatory requirements (Section 1).

Safety Reviews, Design Changes and Modifications

- The design change packages reviewed during this inspection met licensee procedural requirements for planning, review, prerequisites, precautions, work instructions, and safety considerations. The level of detail was commensurate with safety and was considered appropriate. Appropriate safety considerations and assumptions had been made. No changes to technical specifications were required (Section 2).

Spent Fuel Pool Safety

- Spent fuel pool water level, temperature and water chemistry was being maintained within technical specification limits. Water clarity was excellent (Section 3).

Maintenance and Surveillance

- No changes to the maintenance rule program over the past 2 years were identified. No systems were currently classified as requiring enhanced monitoring (Section 4).

Decommissioning Performance and Status Review

- Significant work activities had been completed in the auxiliary building and containment since the last inspection. Tanks, pipes and valves in several rooms in the auxiliary building had been completely removed. Work in containment focused on removal of equipment and systems attached to the containment dome. Radiological postings, fire loading, housekeeping and safety practices were acceptable (Section 5).

- The radioactive inventory of certain tanks listed in the technical specifications was verified to be in compliance with the 10 curies limit (Section 5).

- One violation of NRC requirements was identified in the area of security for access control to the fuel storage building (Section 5).

Solid Radwaste and Transportation

- The elements of the process control program and selected procedures associated with the program were found to adequately implement the requirements of the technical specifications related to radwaste characterization (Section 6).

- Two radwaste shipments were completed during this inspection. Data used to characterize the radioactive isotopes were representative of the radioactive material shipped. Shipping documents were complete and accurate (Section 6).

Report Details

Summary of Facility Status

The licensee was actively conducting dismantlement work in containment and the auxiliary building. Numerous tanks, valves and pipes had been removed. A hot spot reduction program had been implemented to focus on removal of hot spots that contributed to personnel exposure. For the activities inspected, the licensee had effective implemented the concept of “as low as reasonably achievable” (ALARA). Radiological controls were properly placed and personnel were observed following the requirements of the radiation work permits.

Preparation continued for the dry cask storage dry run which is scheduled to be conducted prior to loading fuel in the Independent Spent Fuel Storage Installation (ISFSI). On September 13, 2000, the first storage canister arrived onsite. The receipt inspection process was completed the following day. An independent review team was scheduled to conduct a readiness review during the later half of September in preparation for the NRC team inspection planned for late November or early December. Actual loading of the first cask is planned for early 2001.

1 Organization, Management and Cost Controls (36801)

1.1 Inspection Scope

The licensee’s decommissioning activities were reviewed to verify activities were consistent with the description provided in the post-shutdown decommissioning activities report (PSDAR). The decommissioning fund report submitted to the NRC by the licensee was reviewed and compared to the PSDAR. Staffing, operator crew and fuel team training and activities related to coordinating decommissioning work were reviewed.

1.2 Observations and Findings

The PSDAR described the Rancho Seco facility as being in active decommissioning with a completion date of approximately 2008 for license termination. Initiation of dry cask storage activities was planned for 2000. Based on the work underway at the site, the description of activities presented in the PSDAR was accurate. The PSDAR cost estimate of $433 million to complete decommissioning was within reason to the new cost estimate of $458 million provided in the 1999 annual decommissioning funding status report.

The licensee demonstrated a structured and well organized process for conducting decommissioning activities at the site. During this inspection, the NRC inspectors attended a number of the planning meetings conducted by the licensee, including the morning planning meeting, the weekly decommissioning meeting and the weekly spent fuel meeting. All meetings were informative. Good exchanges of information were facilitated through the meeting process being implemented by the licensee.

The licensee's organization and staffing of key management positions was reviewed. The licensee had made no changes to key positions or management responsibilities over the past year. Staffing levels at the site were 227 employees and contractors. This included 38 radiation protection personnel.

Audits of key program areas were being conducted on a 2-year cycle. A recent audit of the fire protection program conducted on July 20, 2000, was reviewed. An independent fire protection engineer was included on the audit team. Areas reviewed during the audit included corrective actions for previous audit findings, changes to procedures related to the fire protection program, completed surveillance tests, fire prevention and fire protection training, fire drills, hot work permits and a walkdown of the auxiliary building, fuel storage building and control building. No deficiencies were found with the fire protection program.

To support the upcoming activities for dry cask storage of the spent fuel, the licensee had developed a fuel handling matrix identifying all individuals assigned and responsible for performing spent fuel handling and transportation activities. An operations crew had been designated to conduct fuel handling activities at the spent fuel pool. A separate fuel team had been assigned responsibility to transport the loaded spent fuel casks from the spent fuel pool to the ISFSI and to load the casks into the horizontal storage modules.

The operations crew consisted of five crews of plant staff personnel who normally performed control room duties. Most of the operations crew members had been in the operations department when Rancho Seco was operating and had held reactor operator or senior reactor operator licenses. A review of their current training found the operations crew to be trained in accordance with the NRC-approved certified fuel handler training program including on-the-job training, classroom training, read-and-sign training, and participation in briefings concerning recent plant or procedural changes related to decommissioning activities underway. The training was conducted in accordance with the instructions provided in plant Procedure RSAP-1204, "Training Programs." Instructions for spent fuel handling were detailed in plant Procedure A.13, "Fuel and Component Handling."

The fuel team consisted of three crews. Each crew included a fuel team leader, assistant fuel team leader, welders, mechanics, radiation protection technicians, a quality control inspector and a radioactive waste facility operator. These individuals were trained in accordance with plant Procedure RSAP-1205, "Dry Fuel Storage Equipment Operator Training and Certification Program," DFC-001, "ISFSI Loading" and RSAP-0113, "Fuel Team Organization and Turnover."

The procedures reviewed during this inspection, in particular, Procedures DFC-001 and A.13, contained an adequate level of detail for performing required tasks. Precautions, prerequisites, and detailed instructions were included. Procedures included duties and responsibilities assigned to team members, pre-job briefing requirements, technical specification limitations, and considerations for both Part 50 reactor plant technical specifications and Part 72 ISFSI technical specifications.

Procedure DFC-001 also included provisions for verification and validation and quality control hold points.

Although the NRC inspectors identified several specific areas in the procedures (i.e., weather assessment, time-to-boil time documentation requirements, cleanliness and foreign material exclusion (FME) control, and administrative latitude in the conduct of step-by-step instructions) which could be clarified, these issues did not detract from the overall quality of the licensee's instructions. The licensee staff acknowledged the inspectors' observations and indicated their intent to review the sections in question to determine if additional clarification was needed.

The training program for the fuel teams and operations crews was reviewed. The teams were trained together to promote team communication, coordination and familiarity. Cross training in certain technical disciplines was provided to the team members in the areas of welding, ram hydraulics and crane operations. This additional training gave the team members a better understanding of the different facets of the overall operation. All teams received training in industrial safety, dry fuel casking procedures, fuel handling, casualty procedures, NRC regulatory requirements and the Rancho Seco emergency plan. The fuel teams were augmented with specialists in welding, crane operation, and rigging. In addition, the fuel teams were supplemented by senior operators from another west coast nuclear power plant to provide a level of independence, differing perspectives, and safety insights. Both the fuel team and the operations crew reported to the operations department manager.

The training program focused on the implementation of the ISFSI and spent fuel pool operating procedures. Training included industry events and operational experience feedback such as recent industry events with hydrogen gas generation and welding problems. Training lesson plans, on-the-job training and tests were reviewed. Selected training records were reviewed for team members to confirm completion of training. No deficiencies were identified. The licensee had also established individual team member health records to establish compliance with the medical requirements specified in 10 CFR 72.194. The licensee was in the final steps of completing and publishing casualty and off-normal procedures for a wide range of emergency conditions.

1.3 Conclusion

Work activities underway at the site were consistent with the PSDAR. Staffing levels and radiological support were appropriate for the dismantlement work being performed. No changes to key positions or management responsibilities had been made over the past year.

The latest cost estimates provided in the 1999 annual decommissioning funding status report estimated $458 million for decommissioning the Rancho Seco site.

The licensee's audit of the fire protection program found no deficiencies in the program.

Training for operations crews and fuel teams was being conducted in accordance with licensee procedures and regulatory requirements.

2 Safety Reviews, Design Changes and Modifications (37801)

2.1 Inspection Scope

The licensee's program for implementing design changes to plant systems during decommissioning was reviewed including selected safety screenings and safety evaluations to verify the licensee was properly implementing the requirements of 10 CFR 50.59.

2.2 Observations and Findings

Rancho Seco Procedure RSAP-0303, "Plant Modifications," and RSAP-0901, "Safety Review of Proposed Changes, Tests, and Experiments," provided instructions to methodically evaluate modifications to facility systems, structures and components. This procedure contained appropriate requirements and guidance for conducting the necessary engineering and administrative activities to assure that the modification would not result in a change to technical specification requirements, an unreviewed safety question (10 CFR 50.59), or an environmental impact (10 CFR 50.82).

Procedure RSAP-0303 stated that design change packages (DCP) consisted of specifications, reports, notices, checklists and other forms that were used to describe, control, document, and authorize a facility modification. It assigned responsibilities and established a process which detailed the steps necessary to go from conceptual design, planning, development, and walkdowns to implementation and post-installation testing. Procedural elements were also provided to assure coordination and communication with the operations staff, facility management and offsite organizations, as necessary.

Procedure RSAP-0303 applied to 10 CFR 50.59, 50.82, and 72.48 determinations for changes made to systems, structures and components at the facility, with §50.59 and §50.82 applicable to systems, structures and components associated with the power reactor facility and §72.48 applying to the licensee's ISFSI located on the property. In addition, Procedure RSAP-0901 was applicable to 10 CFR Part 71 for the packaging and transportation of radioactive material, as well as to changes made to licensee technical specification requirements and internal programs, such as changes to: quality assurance requirements, fire protection, security, emergency preparedness, certified fuel handler training, radiation protection, radiological monitoring, process controls, instrument set points, etc. Based on the review of the licensee's procedures, requirements for conducting safety reviews at the Rancho Seco facility were consistent for all types of changes, test, or experiments conducted at the facility.

The following engineering design change packages were reviewed. The licensee had performed an adequate safety evaluation and/or safety screening in accordance with 10 CFR 50.59 for each of the design change packages.

- DCP R98-0011, Spent Fuel Pool Island
- DCP R99-0016, Deenergization/Disconnection of Fire Protection System
- DCP R99-0017, Relocate Fire Pump P-440

2.3 Conclusion

The design change packages reviewed during this inspection met licensee procedural requirements for planning, review, prerequisites, precautions, work instructions, and safety considerations. The level of detail was commensurate with safety and was considered appropriate. Appropriate safety considerations and assumptions had been made. No changes to technical specifications were required.

3 Spent Fuel Pool Safety (60801)

3.1 Inspection Scope

A tour of the spent fuel pool area was conducted to observe the condition of the spent fuel pool and water clarity. Compliance with technical specifications for temperature, water level, and water chemistry were confirmed.

3.2 Observations and Findings

A tour of the fuel storage building was conducted to observe the condition of the facility. Water clarity in the spent fuel pool was excellent. Tours of the outside of the building found no structural problems due to ongoing dismantlement work. The modular spent fuel pool cooling system was operating. No leaks were observed. Cleanliness around the pool area was acceptable. Designated areas had been established in the fuel storage building to support future work activities related to dry cask storage.

Technical Specification D 3.1 requires the spent fuel pool water level to be maintained at 23 feet 3 inches or greater when fuel handling operations are not in progress. The pool is to be maintained at 37 feet or greater when fuel handling is being conducted. During a tour of the control room on September 12, 2000, the water level was confirmed, via a camera reading of the pool level indicator, to be 38 feet, 4 inches. Review of selected daily records required by Procedure SP.2 “Daily Instrument Checks and Systems Verifications,” Revision 22 for July, August and September and discussions with the licensee confirmed compliance with this technical specification.

Technical Specification D 3.2 requires water temperature to be maintained below 140°F. Water temperature was 70.7°F on September 12, 2000. Review of selected daily records for July, August and September as required by procedure SP.2 “Daily Instrument Checks and Systems Verifications,” Revision 22 and discussions with the licensee confirmed compliance with this technical specification.

Technical Specification D 3.5 requires the licensee to maintain the spent fuel pool water chemistry ≤0.15 parts per million (ppm) chlorides and ≤0.15 ppm fluorides. A review of the monthly chemistry tests for the past 12 months found chlorides and fluorides to be less than 0.01 ppm.

3.3 Conclusion

Spent fuel pool water level, temperature and water chemistry was being maintained within technical specification limits. Water clarity was excellent.

4 Maintenance and Surveillance (62801)

4.1 Inspection Scope

The licensee's program for compliance with the new maintenance rule was reviewed to determine if any significant changes had been made to the program over the past year or if any systems had been identified as requiring special attention in accordance with 10 CFR 50.65.a(1).

4.2 Observations and Findings

Procedure RSAP-1610, "Maintenance Rule Implementation," Revision 0 dated August 17, 1998, had not been revised since the last NRC inspection. There had been no changes to the program in the past 2 years. No systems, structures or components were currently classified as requiring enhanced monitoring per 10 CFR 50.65.a(1).

4.3 Conclusion

No changes to the maintenance rule program over the past 2 years were identified. No systems were currently classified as requiring enhanced monitoring.

5 Decommissioning Performance and Status Review (71801)

5.1 Inspection Scope

The licensee's dismantlement activities were reviewed. A tour of the site was conducted to observe work activities underway including observation of housekeeping, safety practices, fire loading, and radiological controls.

5.2 Observations and Findings

Tours of containment and the auxiliary building were conducted. Radiological postings, fire loading, housekeeping and safety practices were found to be acceptable. Work activities included pipe removal, cleaning the reactor coolant drain tank, removal of the air handling equipment from the containment dome, plasma cutting of the miscellaneous waste evaporator and implementation of a "hot-spot" reduction project. Work in the auxiliary building had been completed in several rooms where tanks, valves, pumps and

other equipment had been removed. Work was underway in containment to remove the spray ring headers attached to the containment dome. Removal of the mirror insulation from the reactor building systems and the majority of work related to lead and asbestos removal were complete.

The hot-spot reduction project targeted the removal of hot spots in the facility to reduce unnecessary personnel exposures during other work. At the time of this inspection, 32 hot spot areas with radiation levels of up to several hundred mR/hr on contact had been identified. Of these, 17 had been removed.

A significant activity being planned for next month was the reactor building washdown project. This will use a high pressure water spray to wash the walls of containment to remove contaminated dirt and particles. The hot spot program and the planned washdown of containment represented good examples of the licensee's ongoing ALARA program to reduce unnecessary exposures to workers.

The licensee was required by Technical Specification D 3.6 to limit the radioactive content in certain tanks onsite to less than 10 curies per tank, excluding tritium and dissolved or entrained noble gases. Tank curie content was verified by the licensee on a weekly basis using Procedure SP-950, "Weekly Liquid Hold-up Tank 10 curies Limit Surveillance," Revision 2. The tanks listed in the technical specification and their current status were:

- Demineralizer Reactor Coolant Storage Tank - This tank had approximately 130,000 gallons of water that had been drained from various other systems being dismantled. The water in the tank contained tritium and small amounts of cesium-137. Total activity, excluding tritium and noble gases, was approximately 4.0×10^{-6} μCi/ml. This equated to 0.002 curies.

- A and B Regenerant Hold-up Tanks - The "A" tank was not in use. The "B" tank contained approximately 5500 gallons of diluted water from the demineralizer reactor coolant storage tank (listed above) that had been processed to remove the cesium-137. Total activity was less than 0.001 curies.

- Miscellaneous Water Hold-up Tank - This tank has been removed.

- Borated Water Storage Tank - This tank was empty.

- Outside Temporary Tanks - These tanks have been removed.

A tour of the tank farm located adjacent to the reactor building and fuel storage building, was conducted to observe the condition of the tanks and postings for radiological controls. The concrete wall around the tank farm had been removed as part of the decommissioning effort. This gave access to the tank farm from the industrial area. During the tour of the tank farm, an NRC inspector was able to gain access to a stairway that led to an area adjacent to the roll-up door of the fuel storage building. The fuel storage building contains the spent fuel from the reactor and was designated in the physical security plan for long-term defueled condition as the security protected area.

The roll-up door was open while training for dry cask storage activities was underway. A security officer was posted on the turbine building roof to control access through the roll-up doorway. The security officer was alert and attentive; however, he was positioned such that he did not observe the presence of the NRC inspector and would not have observed entry by the NRC inspector into the fuel storage building from the walkway. The licensee promptly corrected the condition and conducted an assessment of the security access controls for the fuel storage building. The licensee also determined that additional access was available to the roof of the fuel storage building from the tank farm area that allowed undetected access to the protected area through the roll-up doorway. Further, the licensee determined that during movement of the cask into the fuel storage building, the security officer's view of the walkway would be temporarily obscured, allowing opportunity for unauthorized access into the fuel storage building. The licensee initiated Incident/Complaint Report ICR No. 00-45 to document the problem.

Dismantlement activities resulting in the removal of the barrier (i.e., tank farm wall) to the walkway leading to the roll-up doorway and the cask movement activities had not been recognized by the licensee as affecting security access controls to the protected area. This resulted in the security officer positioning himself in a location that limited visual observation to the walkway and the roof.

The Rancho Seco Physical Security Plan for Long Term Defueled Condition, Amendment 6, requires entrance into the protected area (i.e. fuel storage building) to be controlled by a security officer. Failure to adequately control entrance into the fuel storage building, a protected area, was identified as a violation (50-312/0004-01).

5.3 Conclusion

Significant work activities had been completed in the auxiliary building and containment since the last inspection. Tanks, pipes and valves in several rooms in the auxiliary building had been completely removed. Work in containment focused on removal of equipment and systems attached to the containment dome. Radiological postings, fire loading, housekeeping and safety practices were acceptable.

The radioactive inventory of certain tanks listed in the technical specifications was verified to be in compliance with the 10 curies limit.

One violation of NRC requirements was identified in the area of security for access control to the protected area.

6 Solid Radwaste and Transportation (86750)

6.1 Inspection Scope

Radwaste shipping activities and the licensee's process control program were reviewed including observation of the loading of two radwaste shipments for transport offsite for burial.

6.2 Observation and Findings

Between May 1999 and May 2000, the licensee sent 335 tons of radioactive scrap to Envirocare of Utah, Inc. (Envirocare), for burial, 57 tons of radioactive scrap metal to an offsite processor for decontamination and disposal and released 1,420 tons as non-radioactive metal.

The licensee's Process Control Program Manual, Revision 2 dated January 20, 2000, established program requirements for compliance with Technical Specifications 1.6 and 6.13 to characterize, classify, process, package and manifest waste sent offsite for disposal. The program identified the requirements and methodologies for processing waste shipments. The program was implemented through procedures in the radwaste control manual and in surveillance procedures. Several procedures used to implement portions of the process control program were reviewed.

Procedure SP.1111, "Annual Waste Stream Evaluation," Revision 2 provided instructions for determining radionuclides in the various waste streams that were appropriate for Rancho Seco. Procedure RP 309.I.03, "Radioactive Waste Classification and Waste Form," Revision 6 provided guidance for determining the correct waste form requirements and determining waste classification. Procedure RP 309.I.05, "Curie Content Calculation Using Dose to Curie Constants and Scaling Factors," Revision 3 provided methods for calculating curie content of waste containers based on contact dose rates and relative isotopic abundance within the container. The process control program and the selected procedures reviewed were found to adequately implement the requirements of the technical specification.

Radwaste shipments were processed in accordance with Procedure RP.309.I.01, "Radioactive Material and Waste Shipments," Revision 4. This procedure included directions for making shipments to Envirocare and to waste processors. The procedure had not been revised or changed in the past 2 years.

Two radwaste shipments were completed during the week of this inspection. Shipment 00-035 consisted of six boxes of radioactive metal being shipped to Envirocare. The boxes were labeled surface contaminated objects (SCO) Class A waste. The shipment consisted of a total of 621 ft^3 with a radioactive inventory of 0.14 curies. This was an exclusive use shipment. A review of the documentation package for the shipment was performed. All required manifests and documents were provided including emergency instructions for the driver. A vehicle inspection of the truck was documented. The NRC inspector talked briefly with the truck driver concerning safety aspects of transporting radioactive material and hazards associated with radiation. The driver was knowledgeable of the topics discussed and felt comfortable working with radioactive material shipments.

Radiological surveys of Shipment 00-35 were performed and documented by the licensee. The highest contact reading for any of the boxes was 22 mR/hr. Highest radiation levels were 2 mR/hr along the side of the truck and 5 mR/hr under the truck.

The second shipment was 00-036. This shipment consisted of contaminated dirt swept from work areas, metal, debris, and charcoal from the ventilation units. Seven boxes labeled as Class A waste were included in this exclusive use shipment. Shipping papers were complete. Radiation levels were lower than for Shipment 00-35 with the highest contact reading with the boxes of 0.2 mR/hr. The shipment consisted of 648 ft^3 and 0.002 curies.

Data used for characterizing the radioactive content of the two radwaste shipments were reviewed. A waste stream evaluation dated February 22, 2000, was used to determine the isotopic content for the boxes. The evaluation was performed for nine categories of waste including metals, resins, filters, and dry active waste. The primary gamma emitters were cobalt-60 and cesium-137. Scaling factors were provided for difficult to measure isotopes including tritium, plutonium, strontium-90, carbon-14 and nickel-61.

Audits of the radwaste program were required on a 24-month schedule. The last audit was conducted 2 years ago. An audit was scheduled for this year.

6.2 Conclusions

The elements of the process control program and selected procedures associated with the program were found to adequately implement the requirements of the technical specification related to radwaste characterization.

Two radwaste shipments were completed during this inspection. Data used to characterize the radioactive isotopes were representative of the radioactive material shipped. Shipping documents were complete and accurate.

7 Open Items (92701)

7.1 (Discussed) IFI 0001-02: Difference Between Dose Estimates and Dose Records: The licensee had conducted a number of tests to determine the reason for the difference between the personnel dosimeter readings and the higher readings recorded on the PD-1 alarming dosimeters. The difference appeared to be related to the increased sensitivity of the OSL dosimeters and the storage of the dosimeters in the security building. Radwaste shipments going past the security building and shine from the tank farm may have contributed to the problem. Test dosimeters were placed at various locations on site to determine background levels. The lowest background levels were found at the entrance to the radiologically controlled area. This was due to the shielding walls in the area. The licensee will begin storing the dosimeters on a badge rack at the entrance to the radiologically controlled area during the 4th quarter 2000. A background dosimeter will be located at the badge rack. At the end of the 4th quarter, results will be reviewed to determine if this resolved the discrepancy between the two types of dosimeters.

8 Exit Meeting

The inspectors presented the inspection results to members of licensee management at exit meetings on September 6 and September 14, 2000. A telephonic exit was also conducted on October 4, 2000 concerning the security violation. The licensee acknowledged the findings presented. The licensee did not identify as proprietary any information provided to, or reviewed by, the inspectors.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

E. Brandt, Security
J. Delezenski, Nuclear Quality & Compliance Superintendent
J. Eilering, Engineering
D. Gardiner, Decommissioning Manager
B. Neubauer, Quality Assurance
J. Newey, Decommissioning
S. Porterfield, Radioactive Waste Supervisor
S. Redeker, Plant Manager
D. Tipton, Operations
T. Tucker, Operations Superintendent
W. Wilson, Radiation Protection Manager
N. Zimmerman, Engineer
A. Zwierzynski, Control Room Operator

INSPECTION PROCEDURES USED

36801	Organization, Management and Cost Controls
37801	Safety Reviews, Design Changes and Modifications
60801	Spent Fuel Pool Safety at Permanently Shutdown Reactors
62801	Maintenance and Surveillance at Permanently Shutdown Reactors
71801	Decommissioning Performance and Status Review
86750	Solid Radwaste and Transportation
92701	Followup on Open Items

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-312/0004-01	VIO	Failure to Control Access to the Fuel Storage Building

Closed

None

Discussed

50-312/0001-03	IFI	Difference Between Quarterly Daily Estimated Dose and Respective Dose of Record

LIST OF ACRONYMS

ALARA	As Low As Reasonably Achievable
CFR	Code of Federal Regulations
Ci	Curie
DCP	Design Change Packages
DSAR	Defueled Safety Analysis Report
IFI	Inspection Followup Item
ISFSI	Independent Spent Fuel Storage Installation
mR	milliRoentgen
NRC	Nuclear Regulatory Commission
OSL	Optically Stimulated Luminescence
ppm	Parts per Million
PSDAR	Post Shutdown Decommissioning Activities Report
RSAP	Rancho Seco Administrative Procedure