UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

November 20, 2007

Mr. David Turner, Plant Manager
General Electric Company
Vallecitos Nuclear Center
6705 Vallecitos Road
Sunol, California 94586

SUBJECT: NRC INSPECTION REPORT 070-00754/07-003

Dear Mr. Turner:

An NRC inspection was conducted on September 24-28, 2007, at your Vallecitos Nuclear Center site. The inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspection included an examination of selected procedures and representative records, observations of activities, and interviews with personnel. Subsequent to the site visit and after reviewing additional information provided by your staff, an exit briefing was conducted with you by telephone on November 8, 2007. The enclosed report presents the results of that inspection.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and Enclosure 1 will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Enclosure 2, transmitted under a separate letter, contains sensitive, unclassified security information, and is therefore deemed Official Use Only and will not be placed in the Public Document Room nor the Publicly Available Records component of the NRC's Agencywide Documents Access and Management System (ADAMS) document system.

Should you have any questions concerning this inspection, please contact the undersigned at (817) 860-8191 or Emilio M. Garcia, Health Physicist, at (530) 756-3910.

Sincerely,

/RA/

D. Blair Spitzberg, Ph.D., Chief
Fuel Cycle & Decommissioning Branch

Docket No.: 070-00754
License No.: SNM-960

Enclosure:
NRC Inspection Report 070-00754/07-003

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U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.:	070-00754
License No.:	SNM-960
Report No.:	070-00754/07-003
Licensee:	General Electric Company
Facility:	Vallecitos Nuclear Center (VNC)
Location:	Sunol, California
Dates:	September 24 through November 8, 2007
Inspector:	Emilio M. Garcia, Health Physicist Fuel Cycle & Decommissioning Branch
Approved By:	D. Blair Spitzberg, Ph.D., Chief Fuel Cycle & Decommissioning Branch
Attachment:	Supplemental Inspection Information

Enclosure

EXECUTIVE SUMMARY

Vallecitos Nuclear Center
NRC Inspection Report 070-00754/07-003

This routine announced inspection included a review of the radioactive waste management program, transportation activities, plant operations, maintenance and surveillance testing, and emergency preparedness.

Radioactive Waste Management

- The licensee maintained a program to properly characterize and classify radioactive waste as required by 10 CFR 61.55 and 61.56 (Section 1).

Transportation Activities

- The licensee had implemented and maintained a transportation program for radioactive materials and radioactive waste in accordance with NRC and U.S. Department of Transportation regulations (Section 2).

Nuclear Criticality Safety

- Radiological controls, housekeeping and fire protection practices were being implemented in accordance with license requirements. (Section 3 additional information contained in Enclosure 2).

Maintenance and Surveillance Testing

- Calibration and testing of the criticality alarm system was performed in accordance with license requirements. The licensee had conducted calibrations and functional response checks of portable radiation instruments in accordance with the license (Section 4).

Emergency Preparedness

- The licensee continued to maintain their emergency preparedness program as required by the license (Section 5).

Report Details

Summary of Plant Status

During the inspection, activities in progress included research of unirradiated and irradiated uranium reactor fuel and irradiated hardware.

1 Waste Management (IP 84850, IP 84900, and IP 88035)

1.1 Inspection Scope

The inspector reviewed the licensee's practices for radioactive waste classification and storage.

1.2 Observations and Findings

Records maintained by the licensee indicated that during the period of September 2006, through September 2007, the licensee had made 37 shipments of radioactive material wastes to two disposal sites. The inspector selected five shipment records for review. The records included copies of the Uniform Low-Level Radioactive Waste Manifest, shipping papers and container and waste description, NRC Form 540 and 541. These manifest included the required information. These records also included the calculations made to determine the waste classification. The values used for class limits were as specified in 10 CFR 61.55. These records also indicated that the licensee had received prior approval from the disposal site operator for shipments of the waste and had provided a copy of the waste manifests prior to shipment. The licensee had tracked the shipments from departure from the licensee site to receipt and eventual disposal.

Records maintained indicated that annual radioactive waste handling training had been last provided in September 2006. The training included a twelve question written quiz.

During late February 2004, the licensee replaced the main hot cell filters of Building 102. Due to the radiological condition of the spent filters, their removal occurred in areas that were classified as both high radiation and airborne radiation areas. In order to prevent additional radiation exposure in the future, the licensee staff collected samples of the spent filters at the time they were packaged. The samples were to be analyzed to evaluate the content of the filters and to classify the radioactive waste. During the inspection of September 2006, the individual responsible for the waste classification stated that the material removed during the filter changes that occurred in February 2004 was considered radioactive material but had not been classified as radioactive waste and was not likely to be classified as radioactive waste for the foreseeable future. This individual did not know if the filter samples had been analyzed and what had happened to the results of those analyses. Additional personnel exposure would result if the filter containers needed to be opened to collect additional samples. During this inspection the licensee informed the inspector that the samples had not been located, and that at the time of preparation for disposal new samples would need to be collected to classify the waste.

On September 25, 2007, the inspector toured the licensee's hillside waste storage facility and noted that the radioactive material containers had durable, and clearly visible labels and markings.

1.3 Conclusions

The licensee maintained a program to properly characterize and classify radioactive waste as required by 10 CFR 61.55 and 61.56.

2 Transportation (86740)

2.1 Inspection Scope

The inspectors interviewed cognizant personnel and reviewed shipping records to determine if radioactive waste shipments were in compliance with applicable NRC and U.S. Department of Transportation regulations.

2.2 Observations and Findings

The inspector reviewed records maintained by the licensee of radioactive material shipments that had been made since this area was last inspected in September 2006. The Principal Engineer (Radioactive Waste) stated that all shipments made from the site had been performed under the licensee's State of California license, since they involved mostly material possessed under that license. The inspector reviewed five selected records of waste shipments as noted on Section 1 above. The records reviewed included copies of the shipping papers which indicated that the shipments had been properly classified, marked and labeled. The shipping papers included emergency response guidance to the vehicle operators as well as a 24-hour staffed telephone number. The licensee had electronic access to the recipient's licenses to receive the radioactive waste material. The licensee also maintained copies of the applicable NRC and U.S. Department of Transportation regulations. The licensee's representatives stated that they had not received any citations from the States nor from the U.S. Department of Transportation.

The licensee maintained records indicating that individuals involved with hazardous material transport had received training and retraining every 2 years. This training was in part to meet the 3-year training requirements of the U.S. Department of Transportation 49 CFR 172.700 regulations. The most recent function specific training had occurred on October 2006. This day long training had been presented by a recognized radioactive materials consultant. The training included a thirty question written test.

The licensee had the required permits from the States to which the waste was transferred, and had received prior approval for the transfer and disposal from the States.

2.3 Conclusions

The licensee had implemented and maintained a transportation program for radioactive materials and radioactive waste in accordance with NRC and U.S. Department of Transportation regulations.

3 Regional Nuclear Criticality Safety Inspection (88020)

3.1 Scope of Inspection

The inspector conducted tours of the site to review activities in progress and to determine whether risk-significant fissile material operations were being conducted safely and in accordance with regulatory requirements.

3.2 Observations and Findings

The inspector conducted tours of the gallery hot cells, the hillside storage and Building 103.

The inspector conducted independent radiological surveys using a Ludlum Model 2401-EC survey meter (NRC No. 21175G, calibration due date July 10, 2008). Radiological controls, including postings and barriers, were in place. Good housekeeping and fire protection practices were noted in all areas toured.

The inspector reviewed records of training provided to personnel on September 2006. This training included the use of the computerized system used to track the location, description and quantitative data for fuel and hardware materials. This system is referred as the record locator or EMS (Engineering and Materials Services) Locator. Additional training was provided on the nuclear material control and accountability program. Each of these training sessions included a written quiz.

During a tour of the cell gallery the inspector observed a demonstration of the use EMS Locator being updated.

The inspector audited a training session on nuclear criticality safety and nuclear material control and accountability presented on September 26, 2007. This training was intended to fulfill the commitment to conduct annual training for all fissile material handlers, their supervisors and managers, support function engineers and managers, and the nuclear criticality safety staff. An open book written quiz on each of these topics was given at the end of training.

The inspector reviewed other topics in this area that contained sensitive unclassified security-related information, and is therefore deemed Official Use Only, and is described in Enclosure 2.

3.3 Conclusions

Radiological controls, housekeeping and fire protection practices were being implemented in accordance with license requirements.

4 Maintenance and Surveillance Testing (88025)

4.1 Inspection Scope

The inspector reviewed the maintenance and surveillances of the criticality alarm system and the radiation survey meters.

4.2 Observations and Findings

a. Criticality Alarm System

A criticality accident monitoring system is required by 10 CFR 70.24(a)(1). This regulation states that the monitoring system shall be capable of detecting a criticality that produces an absorbed dose in soft tissue of 20 rads of combined neutron and gamma radiation at an unshielded distance of 2 meters from the reacting material within 1-minute. Criticality monitoring is also required by Section 5.9 of Appendix A to the license application. Details of the detection system are provided in Section 3.8.1 of Appendix B to the license application.

Two sets of three gamma radiation detectors are used by the licensee. The inspector observed the two areas that were being continuously monitored by criticality alarms. The inspector confirmed that the monitors were installed in the locations specified in the NRC-approved license application.

The licensee conducted monthly tests of the criticality alarms to verify operability. The monitors were documented as being fully functional at that time. Records reviewed by the inspector indicated that the criticality monitors had been tested monthly. Records maintained by the licensee documented that annual calibrations had been performed on each of the two systems. The licensee's Instrument Maintenance Procedure 3.5.3, Criticality Detector Calibration, was used to perform the criticality alarms calibrations.

b. Survey Meter Operability Checks and Calibrations

Section 8.7 of Appendix A to the license application states that field check sources shall be available for use in functional response checks of portable radiation measuring instrumentation. The inspector observed the licensee conducting survey instrument operability checks. The licensee had radioactive check sources available for use with the different types of survey meters being used at the site, including gamma exposure, alpha particle, and beta particle detectors.

Records of portable radiation measuring instruments reviewed by the inspector indicated that the instrument calibrations had been conducted at the required annual frequency. The licensee indicated that daily functional response checks using a check source

provided assurance that the instruments were responding within an acceptable range. The inspector observed personnel perform functional response checks prior to using portable radiation measuring instruments. The licensee's calibration practice included recording the "as found" as well as the "as left" response of instruments.

4.3 Conclusions

Calibration and testing of the criticality alarm system was performed in accordance with license requirements. The licensee had conducted calibrations and functional response checks of portable radiation instruments in accordance with the license.

5 Emergency Preparedness (88050)

5.1 Inspection Scope

The objectives of this portion of the inspection was to ascertain whether the licensee's emergency preparedness program was being maintained in a state of operational readiness.

5.2 Observations and Findings

Although the licensee is not required by 10 CFR 70.22(l) to maintain a radiological emergency plan for SNM activities, the licensee committed in Section 4.5 of Appendix A to License SNM-960 to establish and maintain site emergency procedures. The inspector reviewed the licensee's emergency preparedness program to ensure that the program was being maintained in a state of operational readiness.

a. Program Changes

The licensee had made no changes to their emergency preparedness program since this area was last inspected in September 2006 other than revise two of the fourteen emergency procedures and one of the four emergency preparedness instructions. The procedures revised were: C-5, Fire Protection Procedure and L-5, Procedure for External Release of Emergency Information. The revised emergency preparedness instruction was EPI-2, Tests, Drills and Exercises. These changes did not decreased the overall effectiveness of the emergency preparedness program.

b. Implementing Procedures

Emergency procedures and emergency implementing instructions were prepared by a Radiological Engineer or Radiation Monitoring Specialist and approved by the Manager, Regulatory Compliance and Environmental Health and Safety. Control copies were maintained in the licensee's intranet online but paper copies were available at the Radiation Monitoring Technician, Facilities Protection (Monitor 4), security office and the management suite. These paper copies were not controlled and at the time of the inspection two of these copies were not up to date with the latest procedures revisions. The licensee promptly updated these papers copies. The Manager, Regulatory Compliance and Environmental Health and Safety stated that they would develop a

means to update these paper copies. The initial responder to back shift emergencies would be the Monitor 4, a position that is staffed continuously. The Monitor 4 on shift demonstrated that he could access the emergency procedures and instructions online.

The emergency procedures and instructions provided the guidance for the detection and proper classification of accidents, mitigation of the consequences of accidents, assessment of releases, personnel accountability, notification and coordination, and authority for initiating evacuation alarms.

c. Training and Staffing

The licensee provides an annual General Emergency Response training for all personnel that have unescorted access to the Vallecitos Nuclear Center. The purpose of this training was to provide guidance and instruction for the protection of people, the environment, plant and production in the event of an emergency situation or civil disorder. This training was provided during a safety meeting conducted on March 28, 2007. A ten question written quiz was given after the training. Those that did not attend the safety meeting were provided copies of the written material and were given the quiz. Records maintained by the licensee indicated that as of September 24, 2007, 99 percent of the personnel with unescorted access had successfully completed this training.

During the above discussed safety meeting, training was also provided to the building emergency team (BET) members for buildings 102, the waste evaporator plant (WEP) and the hillside storage facility (HSF). Subsequent to the training a ten question written quiz was given. Those that did not attend the safety meeting were provided copies of the written material and were given the quiz. Training was also provided throughout the year for other building teams. Thirty individuals successfully completed the BET training, with four more pending completion by the end of September.

Annual fire team training was provided on June 26, 2007. All ten designated fire team members participated in the training. The training included driving the mobile equipment platform (MEP) and donning the self contained breathing apparatus (SCBA), use of fire hoses to attack simulated grass and building fires, and reviewing the contents of the MEP. All team members participated in the training with the exception of one individual that did not don the SCBA because he had not completed the fit test.

d. Offsite Support Agencies

Written agreements have been made with Alameda County Sheriff's Department and the Valleycare Medical Center, agencies specified in the emergency procedures or instructions. These agreements have been renewed in 2007. The Alameda County Sheriff's Department would be used for contacting the California Department of Forestry, for response to fires and the California Highway Patrol for highway control if needed.

The licensee maintained a number of telephone lists of contacts as Attachment B to Site Emergency Procedure A-5, Emergency Control Procedure - General. These lists of telephone numbers were in a spreadsheet with tabs for each list. Tab 2 is the Off-Site Agencies Call list.

e. Drills and Exercises

The inspector reviewed records of four emergency drills conducted in 2007. Three of the drills were planned and one was a response to a false fire alarm. The licensee took credit for the fire evacuation during this false alarm. The other three drill packages included a scenario description, drill objectives, data sheets, drill auditor's time log, and drill critiques. All drill objectives included evacuations from at least one building, emergency response organization response, personnel accountability, testing of the onsite notification system and other onsite communications. Lessons learned from these drills were identified in action items and were being addressed. On July 10, 2007, the licensee revised emergency preparedness instruction EPI-2, Tests, Drills and Exercises, to require that recommendations and observations from drill critiques be entered into the Audit Tracking System (ATS). Recommendations and observations from the September 17, 2007, drill had been entered into the ATS.

5.3 Conclusions

The licensee continued to maintain their emergency preparedness program as required by the license.

6 Followup (92701)

(Closed) Violation 070-00754/0604-02: Failure to analyze a representative sample prior to transferring 1,350 gallons of liquid radioactive waste to the waste evaporator plant. The inspector verified that the corrective actions and actions taken to prevent recurrence listed in the licensee's letter of June 16, 2006, subject Reply to Notice of Violation 070-00754/0601-02, and clarified in the letter of June 1, 2007, subject Clarification of Reply to Notice of Violation 070-00754/06-004-2 Docket No. 70-754, had been implemented. This item is closed.

7 Exit Meeting Summary

The inspector presented the inspection results to the Manager, Vallecitos Nuclear Center, on September 28, 2007. Subsequent to the site visit additional information was reviewed at the office and a telephonic exit interview was conducted on November 8, 2007.

PARTIAL LIST OF PERSONS CONTACTED

J. Ayala, Radiation Monitoring Specialist
C. Bassett, Manager, Facilities Maintenance and Quality Assurance
D. Boorn, Process Instrument Technician
N. Clark, Compliance Leader and Ombudsman
J. Cook, Irradiation Technician
G. Dumlao, Instrument Technician
C. Hill, Supervisor, Materials Laboratory Operation
N. Holmes, General Nuclear Manufacturing
W. Mah, Irradiation Technician
L. Mahlahla, Manager, Regulatory Compliance and Environmental Health and Safety
R. Martyn, MC&A Manager GE W
C. Martinez, Principal Engineer (Radioactive Waste)
C. Monetta, GENE Environmental Health and Safety Manager
M. Schrag, Manager, Engineering Material Services Operations
H. Stuart, Radiological Engineer
D. Turner, Manager, Vallecitos Nuclear Center

INSPECTION PROCEDURES USED

IP 84850, Radioactive Waste Management - Inspection of Waste Generator Requirements of 10 CFR Part 20 and 10 CFR Part 61
IP 84900, Low-level Radioactive Waste Storage
IP 86740, Inspection of Transportation Activities
IP 88020, Regional Nuclear Criticality Safety Inspection
IP 88025, Maintenance and Surveillance Testing
IP 88035, Radioactive Waste Management
IP 88050, Emergency Preparedness
IP 92701, Followup

ITEMS OPENED, CLOSED OR DISCUSSED

Opened

None

Closed

70-754/0604-02	VIO	Failure to analyze a representative sample prior to transferring 1,350 gallons of liquid radioactive waste to the waste evaporator plant.

Discussed

70-754/0601-01	IFI	Tracks revision of facility criticality analyses to meet current industry standards for clarity and reproducibility.
70-754/0601-03	IFI	Tracks development and implementation of a uniform format for posting criticality safety limits.

LIST OF ACRONYMS USED

ATS	Audit Tracking System
BET	Building Emergency Team
HSF	Hillside Storage Facility
IP	Inspection Procedure
MEP	Mobile Equipment Platform
NOTICE	Notice of Violation
SNM	Special Nuclear Material
URI	Un-Resolved Item
VIO	Violation
VNC	Vallecitos Nuclear Center

PARTIAL LIST OF DOCUMENTS REVIEWED

Procedures

VNC Site Emergency Procedures Index, dated September 6, 2007.

VNC Site Emergency Procedure No. C-5, Fire Protection Procedure, Revision 4, approved August 31, 2007.

VNC Site Emergency Procedure No. D-5, Criticality Emergency Procedure, Revision 2, approved December 12, 2005.

VNC Site Emergency Procedure No. E-5, Radiation Emergency Procedure, Revision 2, approved December 12, 2005.

VNC Site Emergency Procedure No. L-5, Procedure for External Release of Emergency Information, Revision 2, approved January 11, 2007.

VNC Site Emergencies Instruction No. EPI-2, Tests, Drills and Exercises, Revision 3, approved July 10, 2007.

VNC Facilities Maintenance, Instrument Maintenance Procedure 3.5.3, Criticality Detector Calibration, Revision 2, approved August 16, 2007.

Memorandums of Understanding

Between Alameda County Sheriff's Department and General Electric, Vallecitos Nuclear Center, Signed by Alameda County Sheriff's Office on July 11, 2007.

Between ValleyCare Medical Center, Pleasanton and General Electric, Vallecitos Nuclear Center, Signed by Chief Operating Officer ValleyCare Health System on September 17, 2007.

Data Sheets

EHS Training Report - Nuclear Energy, General Emergency Response Training 2007 Completion Report, dated September 24, 2007.

General Emergency Response and BET Response Meeting Attendance Record, March 28, 2007.

April 19, 2007, drill package.

May 22, 2007, drill package.

June 14, 2007, false fire alarm response evaluation.

September 17, 2007, drill package

VNC Shipment Records for Shipment ID 06-50-08

VNC Shipment Records for Shipment ID 07-25-01

VNC Shipment Records for Shipment ID 07-26-01

VNC Shipment Records for Shipment Manifest 507C-04-0079

VNC Shipment Records for Shipment Manifest 0507C-04-0088

Criticality Alarm System Service Log 7/26/06 through 9/5/07.

Criticality Detector Calibration Hillside Storage Facility, approved August 8, 2007.

Criticality Detector Calibration Building 102, approved September 1, 2007.

Criticality System Function Test record October 4, 2006.

Criticality System Function Test record November 1, 2006.

Criticality System Function Test record December 6, 2006.

Criticality System Function Test record January 3, 2007.

Criticality System Function Test record February 7, 2007.

Criticality System Function Test record February 8, 2007.

Criticality System Function Test record March 7, 2007.

Criticality System Function Test record April 4, 2007.

Criticality System Function Test record May 2, 2007.

Criticality System Function Test record June 6, 2007.

Criticality System Function Test record July 11, 2007.

Criticality System Function Test record August 1, 2007.

Criticality System Function Test record August 8, 2007.

Criticality System Function Test record August 22, 2007.

Criticality System Function Test record September 5, 2007.

Training Handouts

General Emergency Response

Building 102 Emergency Team Training

Criticality/Radiation Emergency-Hillside Storage Facility (HSF)

Fire-Hillside Storage Facility (HSF) or Waste Evaporator Plant (WEP)

Safety Meeting Quiz March 2007, Building 102 Areas, WEP, and HSF Emergency Team Response
General Emergency Response March 2007 Safety Meeting Quiz

Fire Team Training Meeting Attendance Test Scores, June 26, 2007.

Memorandums

Compliance Calendar Record Fire Team Training, Completed June 26, 2007.