



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 EAST LAMAR BLVD
ARLINGTON, TEXAS 76011-4511

March 29, 2012

Mr. Anthony McFadden, Manager
Vallecitos Nuclear Center
GE-Hitachi Nuclear Energy Americas LLC
6705 Vallecitos Road
Sunol, CA 94586

SUBJECT: NRC INSPECTION REPORT 070-00754/12-001

Dear Mr. McFadden:

This refers to the inspection conducted on March 20-22, 2012, at the Vallecitos Nuclear Center located in Sunol, California. This 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. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel. The inspection results were presented to your staff at the conclusion of the onsite inspection. The enclosed report presents the results of this inspection. No violations were identified during the inspection, and no response to this letter is required.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC's Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Should you have any questions concerning this inspection, please contact Robert Evans, Senior Health Physicist, at 817-200-1234 or the undersigned at 817-200-1191.

Sincerely,

/RA/

D. Blair Spitzberg, PhD, Chief
Repository and Spent Fuel Safety Branch

Docket: 070-00754
License: SNM-960

Enclosure:
NRC Inspection Report 070-00754/12-001

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U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket: 070-00754
License: SNM-960
Report: 070-00754/12-001
Licensee: GE-Hitachi Nuclear Energy Americas LLC
Facility: Vallecitos Nuclear Center
Location: Sunol, California
Dates: March 20-22, 2012
Inspector: Robert Evans, CHP, PE, Senior Health Physicist
Repository and Spent Fuel Safety Branch
Approved By: D. Blair Spitzberg, PhD, Chief
Repository and Spent Fuel Safety Branch
Attachment: Supplemental Inspection Information

Enclosure

EXECUTIVE SUMMARY

GE-Hitachi Nuclear Energy Americas LLC
NRC Inspection Report 070-00754/12-001

This inspection was a routine, announced inspection of licensed activities being conducted at the Vallecitos Nuclear Center. In summary, the licensee was conducting site activities in accordance with license and regulatory requirements.

Management Organization and Controls

- The licensee was providing oversight and control of site activities in accordance with license and regulatory requirements (Section 1).

Radiation Protection/Radioactive Waste Management

- The licensee implemented its radiation protection program in accordance with license and regulatory requirements (Section 2).
- The licensee monitored workers for occupational exposures during 2011, and no individual exceeded the occupational dose limits during the period examined (Section 2).

Operator Training/Retraining

- The licensee and its contractor established and implemented a training program that met the requirements of the license (Section 3).

Fire Protection

- The licensee was implementing its fire protection program as required by site procedures (Section 4).

REPORT DETAILS

Summary of Plant Status

At the time of the inspection, the licensee continued to possess and store special nuclear material (SNM) at the facility. Licensed operations included SNM fuel examinations within various hot cells. Other work in progress in the hot cells included manufacturing of sealed sources under the licensee's State of California license.

During 2011, the licensee and its contractor conducted cleanup and remediation of Areas 200 and 300, two areas where legacy wastes were previously stored. The contractor collected, segregated, repackaged, and shipped radioactive wastes for processing and/or disposal. The licensee halted this work at the end of August 2011. At the time of the inspection, no legacy waste work was in progress, but the work may continue during 2012.

The licensee subdivided the various areas containing SNM into criticality limit areas to limit the amount of SNM that is permitted in a given area. Compliance with these area limits eliminates the potential for a criticality accident. During the inspection, the inspector confirmed that the amount of SNM in each area was less than the procedural limits. The NRC will review the licensee's updated criticality calculations during a future inspection.

On April 8, 2011, GE-Hitachi Nuclear Energy Americas LLC resubmitted its application pursuant to 10 CFR 70.33 to renew License SNM-760 for a term of 10 years. The NRC staff is currently reviewing the submittal. The current license expired June 30, 2010, but the license is under timely renewal as provided in 10 CFR 2.109(a).

1 Management Organization and Controls (88005)

1.1 Inspection Scope

The inspector reviewed the licensee's control and oversight of licensed activities.

1.2 Observations and Findings

The inspector reviewed the licensee's organizational structure and discussed the structure with licensee management. All management positions continued to be filled with qualified individuals. Since the last inspection, the licensee created the position of regulatory compliance program manager. At the time of the inspection, two positions remained open—the two positions that provided oversight of contractor work activities. The licensee planned to refill these two positions with qualified individuals prior to the contractor starting work at the facility.

Section 4.4 of Appendix A to the license describes the requirements for the Vallecitos Technological Safety Council (VTSC). The VTSC is required to meet quarterly. The VTSC is also required to annually review the site safety and compliance program requirements. The inspector reviewed the licensee's VTSC records for 2011-2012. The VTSC met as required by the license and discussed relevant issues.

The As Low As Reasonably Achievable (ALARA) program continues to receive management focus during 2011. The collective dose was 23 person-rem (0.23 sievert), with an ALARA goal of 19.75 person-rem (0.1975 person-sievert). As noted above, no

individual exceeded the regulatory limit for occupational exposures. In response to this exceedance of the ALARA goal, the licensee plans to provide closer oversight of high dose work activities and provide more job planning for future work.

The inspector reviewed the licensee's work controls, including the change authorization program. The change authorization program is described in the licensee's Safety Standard 2.0, "Change Authorization," Revision 14. The purpose of the change authorization program is to provide standardized documentation of independent review and management approval for significant changes to procedures, equipment, and the facility. The inspector discussed the change authorization process with the responsible licensee representative.

Overall, the licensee was implementing the change authorization process in accordance with procedure requirements. However, the inspector noted that some of the safety analyses of older change authorizations discussed industrial safety rather than nuclear safety. The licensee previously identified this weakness and implemented a program change. The licensee added a safety analysis checklist during 2010 to strengthen the safety analyses. The inspector noted that recently issued change authorizations approved by the licensee provided sufficient documentation of the safety analyses. In addition, the inspector did not identify any change authorization that should have been approved by the NRC prior to implementation.

1.3 Conclusions

The licensee was providing oversight and control of site activities in accordance with license and regulatory requirements.

2 Radiation Protection/Radioactive Waste Management (88030/88035)

2.1 Inspection Scope

The inspector reviewed the radiation protection and radioactive waste programs to verify compliance with 10 CFR Part 20 and the license.

2.2 Observations and Findings

The inspector reviewed the licensee's occupational exposure records for 2011. During 2011, the licensee monitored 347 individuals for exposures to radiation, down slightly from 2010. The highest total effective dose equivalent exposure was 1.960 rem (0.0196 sievert) with a regulatory limit of 5 rem (0.05 sievert). All doses were external doses. No individual received an internal dose during 2011.

The inspector conducted limited site tours during the inspection. The inspector also observed the licensee's handling and storage of radioactive waste. The inspector measured ambient gamma exposure rates using a Ludlum Model 2401-EC2 survey meter (NRC No. 20779G, calibration due date of 01/09/13). The inspector did not identify any area with an exposure rate that was inconsistent with the area postings.

2.3 Conclusions

The licensee implemented its radiation protection program in accordance with license and regulatory requirements. The licensee monitored workers for occupational exposures during 2011, and no individual exceeded the occupational dose limits during the period examined.

3 **Operator Training/Retraining (88010)**

3.1 Inspection Scope

The inspector reviewed the licensee's training program for its employees and its contractors.

3.2 Observations and Findings

License Appendix A, Section 7.3, provides the requirements for radiation safety training. The license requires the licensee to conduct indoctrination training prior to starting work, followed by additional training commensurate with the work environment. All radiation workers shall complete formal training in radiation safety prior to working independently with licensed material. Further, personnel shall receive refresher training at least annually.

In accordance with the licensee's Safety Standard 8.2, "Radiation Training for Visitors," Revision 6, contractors are considered as visitors under the licensee's training program. This procedure states that extended visitors permitted to work in posted radiation areas shall receive the same training as employees. Further, the training record system for these visitors shall be the same as for employees.

In accordance with both the contractor's Health and Safety Plan and the licensee's Contractor Safety Program Manual, the contractor is required to establish a training record for its employees and subcontractors. The contractor provided this information to the licensee as a matrix and presented the licensee with hard-copy records of training. The contractor's matrix listed the contract workers and training completion date. This training included both licensee-required training and contractor-required training. The hard-copy records included signed attendance sheets.

In accordance with the licensee's Contractor Safety Program Manual, the contractor's representative certified that its employees had received all applicable training for the job tasks to be performed and were trained in accordance with all applicable regulations. In the last 2 years, the contractor certified the training of its workers and subcontractors by letters dated October 7, 2010, and August 2, 2011. Before the contractor can commence work during 2012, a new certification will have to be submitted to the licensee for the workers who are brought onsite.

The inspector reviewed the contractor's training matrix, hard-copy records, and annual certifications. The inspector also reviewed the training file for one representative contractor employee. In summary, the records showed that the contractor was providing training to its workers in accordance with license requirements. The licensee could not

enter this information into its computerized training tracking system for various administrative reasons; therefore, the contract employees' training records were maintained as hard-copy files.

During 2011, the licensee held 41 training classes. A total of 1648 individuals attended these 41 training classes. The classes included radiation protection refresher, respiratory protection, respirator fit testing, and Department of Transportation function specific training. These records were maintained in the licensee's online training file.

3.3 Conclusions

The licensee and its contractor established and implemented a training program that met the requirements of the license.

4 **Fire Protection (88055)**

4.1 Inspection Scope

The inspector reviewed the licensee's fire protection program to evaluate the operational status and material condition of the fire protection systems.

4.2 Observations and Findings

The licensee established a fire protection procedure to identify the actions to be taken in case of a fire. The fire protection program includes a fire prevention program and a fire protection equipment program. The inspector reviewed the licensee's hot work permit program, equipment testing requirements, and fire team training.

The inspector reviewed the licensee's welding and burning permit program. These permits are issued for work that involves the potential to create flames or sparks. The licensee maintained a log of welding and burn permits. During 2011, the licensee issued permits for various work activities such as ventilation work. The licensee also issued several permits to support the legacy waste program. The hot work permits usually included a requirement for a fire watch, an individual who provided direct oversight of work to ensure that sparks and flames did not create a fire hazard.

The fire protection equipment included a fire water delivery system. The delivery system included piping, valves, hoses, and connections. The licensee established procedures for inspecting and testing the equipment. Based on a records review and interviews, the inspector concluded that the licensee was conducting the routine inspections and equipment tests as required by site procedures. The licensee also provided fire team training as required by a site procedure.

The licensee's fire prevention procedure required fire watch personnel to be properly trained. During 2011, the licensee's contractor offered fire watch training as necessary. The training consisted of both self-study and classroom training. However, the contractor subsequently left the site. The licensee did not have a fire watch training program that was as comprehensive as the contractor's training program. During the inspection, the licensee's representative stated that it would establish a fire watch training program commensurate with the contractor's program. The licensee's program

would be used to qualify future individuals who have to assume the duties of a fire watch and not rely on the contractor's training program.

4.3 Conclusions

The licensee was implementing its fire protection program as required by site procedures.

5 Exit Meeting Summary

The inspector presented the inspection results to the licensee's representatives at the conclusion of the onsite inspection. The licensee did not identify as proprietary any information provided to or reviewed by the inspector.

SUPPLEMENTAL INSPECTION INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

J. Ayala, Specialist, Industrial Safety
C. Hill, Project Manager, Facilities Maintenance
D. Krause, Manager, Regulatory Compliance Program
A. McFadden, Vallecitos Nuclear Center Manager
M. Schrag, Manager, Facilities Maintenance

INSPECTION PROCEDURES USED

IP 88005	Management Organization and Controls
IP 88010	Operator Training/Retraining
IP 88030	Radiation Protection
IP 88035	Radioactive Waste Management
IP 88055	Fire Protection

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

LIST OF ACRONYMS

ALARA	as low as is reasonably achievable
CFR	<i>Code of Federal Regulations</i>
IP	inspection procedure
NRC	Nuclear Regulatory Commission
SNM	special nuclear material
VTSC	Vallecitos Technological Safety Council