



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

September 2, 2005

Scott Bump, Manager
General Electric Company
Vallecitos Nuclear Center
6705 Vallecitos Road
Sunol, California 94586

SUBJECT: NRC INSPECTION REPORT 070-00754/05-002 AND NOTICE OF VIOLATION

Dear Mr. Bump:

An NRC inspection was conducted on June 1 through July 13, 2005, at your Vallecitos Nuclear Center site. 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. The inspection focused on your Cell 5 refurbishing, an activity with significant radiological personnel exposure potential. Subsequent to the site visits, the inspector interviewed licensee personnel and reviewed and evaluated licensee documents requested on July 13, 2005, and submitted on August 24, 2005 to the inspector. Consequently, the inspection activities were concluded on August 24, 2005. On August 25, 2005, a telephonic exit interview was conducted with you and members of your staff to discuss the inspection results.

Based on the results of this inspection, the NRC has determined that two Severity Level IV violations of NRC requirements occurred. The violations involved failure to follow procedures in your corrective action program and failure to properly label containers of licensed material. These violations were evaluated in accordance with the NRC Enforcement Policy. The current Enforcement Policy is included on the NRC's Web site at www.nrc.gov; select **What We Do, Enforcement**, then **Enforcement Policy**. The violations are cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding them are described in detail in the subject inspection report. The violations are being cited in the Notice because the violations were identified by the inspector and not by your staff.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. For your consideration and convenience, an excerpt from NRC Information Notice 96-28, "SUGGESTED GUIDANCE RELATING TO DEVELOPMENT AND IMPLEMENTATION OF CORRECTIVE ACTION," is enclosed. 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 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure(s), and your response 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 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.

General Electric Co.

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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

Enclosures:

NRC Inspection Report 070-00754/05-002

Notice of Violation

cc: w/enclosures:

Mr. David Turner, Manager
Regulatory Compliance and
Environmental Health and Safety
General Electric Company
Vallecitos Nuclear Center
6705 Vallecitos Road
Sunol, CA 94586

James D. Boyd, Commissioner
California Energy Commission
1516 Ninth Street (MS 34)
Sacramento, CA 95814

Ed Bailey, Radiation Control
Program Director
Radiologic Health Branch
P.O. Box 997414 (MS 7610)
Sacramento, CA 95899-7414

Helen Hubbard
P.O. Box 563
Sunol, CA 94586

Ms. Marylia Kelley
Executive Director, Tri-Valley CARES
2582 Old First St
Livermore, CA 94551

General Electric Co.

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Pleasanton Public Library
Attn: Ms. Karol Sparks
400 Old Bernal Ave
Pleasanton, CA 94566

Rene G. Steinhauer
5524 Oakmont Cir.
Livermore, CA 94550

bcc w/enclosure (via e-mail distribution):

LDWert

CLCain

DBSpitzberg

MTAdams, NMSS/FCSS/FCFB

EMGarcia

RJEvans

KEGardin

FCDB

RIV Materials Docket File - 5th Floor

SISP Review Completed: EMG

ADAMS: : Yes No Initials: EMG

: Publicly Available Non-Publicly Available Sensitive : Non-Sensitive

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RIV:DNMS:FCDB	C:FCDB
EMGarcia*	DBSpitzberg*
/RA/ D. B. Spitzberg for	/RA/
08/25/05	09/02/05

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T=Telephone

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*Previous Concurrence

NOTICE OF VIOLATION

General Electric Co.
Vallecitos Nuclear Center
Sunol, California

Docket No. 70-754
License No. SNM-960

During an NRC inspection conducted on June 1 through August 24, 2005, two violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

- A. 10 CFR 20.1904(a) requires the licensee to ensure that each container of licensed material bears a durable, clearly visible label bearing the radiation symbol and the words "CAUTION, RADIOACTIVE MATERIAL" or "DANGER, RADIOACTIVE MATERIAL." The label must also provide sufficient information (such as the radionuclide(s) present, an estimate of the quantity of radioactivity, the date for which the activity is estimated, radiation levels, kinds of materials, and mass enrichment) to permit individuals handling or using the containers, or working in the vicinity of the containers, to take precautions to avoid or minimize exposures.

Contrary to the above, on July 13, 2005, the labels on two containers of radioactive waste (licensed material) provided incorrect radiation levels. Both labels indicated that the radiation levels were 0.1 mR/hr at contact. The actual radiation levels were 5 mR/hr and 2500 mr/hr at contact, respectively.

This failure is a Severity Level IV violation of 10 CFR 20.1904(a) (Supplement IV).

- B. License condition S-9 states, in part, "the licensee shall establish, maintain, and follow written procedures for carrying out licensed activities." Section 5.6 of Revision 9 of Vallecitos Safety Standard 3.1, Investigation of Incidents, states in part, "the responsible manager and Affected Managers shall respond to the recommendations stated in the Investigation Committee's report. Within 30 days after issuance of the investigation, they should inform in writing the chairman of the investigation committee with a copy to the Manager, Regulatory Compliance, of the response that has been or will be taken."

Contrary to the above, an investigation committee report on the Category 1, Type II Incident Investigation 2005-02 - Compliance with NSP 4100, was issued on April 8, 2005, and as of July 13, 2005 (a period greater than 30 days), the responsible and affected managers had not informed in writing the chairman nor the Manager, Regulatory Compliance, of the response that had been or will be taken to the investigation committee report recommendations.

This failure is a Severity Level IV violation of License Condition S-9 (Supplement VI).

Pursuant to the provisions of 10 CFR 2.201, General Electric Co. 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 IV, 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 electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>, 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 must 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 2.390(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 2nd day of September 2005

ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.: 070-00754
License No.: SNM-960
Report No.: 070-00754/05-002
Licensee: General Electric Company
Facility: Vallecitos Nuclear Center (VNC)
Location: Sunol, California
Dates: June 1 through August 24, 2005
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

EXECUTIVE SUMMARY

Vallecitos Nuclear Center
NRC Inspection Report 070-00754/05-002

This routine announced inspection focused on the preparations for and conduct of the refurbishment of Cell No. 5. This evolution was used to evaluate the licensee's performance in the areas of operational safety, radiation protection, waste management environmental protection and transportation. The licensee performed the Cell No. 5 refurbishment in a safe manner however two violations were identified and are described below.

Operational Safety Review and Radiation Protection

- The licensee had developed procedures and evaluated work steps for the refurbishment of Cell No. 5 that maintained personnel exposures within regulatory limits and implemented as low as reasonably achievable (ALARA) principals (Section 1).

Environmental Protection

- The licensee had submitted their 2004 Annual Report for Effluent Monitoring and Environmental Surveillance Programs on a timely basis. All required samples had been collected, with no sample result exceeding any license or regulatory limit. No adverse trends or sample results were identified (Section 2).

Waste Management

- The labels on two containers of licensed material incorrectly stated the contact radiation levels. This was identified as a violation of 10 CFR 20.1904(a) (Section 3).

Transportation

- C The licensee had not shipped any NRC licensed material offsite since the previous inspection (Section 4).

Followup

- A violation related to the failure to follow procedures was identified. Specifically, responsible and affected managers had not responded to investigation committee report recommendations within the procedurally required 30-days period from the date the report was issued (Section 5).

Report Details

Summary of Plant Status

This inspection focused on the preparations for, and the conduct of the refurbishment of Hot Cell No. 5. As noted in the previous inspection, the licensee had declared the liquid waste evaporator in service. The evaporator was not in operation during this inspection.

1 **Operational Safety Review and Radiation Protection (IP 83822 IP 88020, IP 88055, and TI 2600/03)**

1.1 Inspection Scope

The inspector interviewed cognizant individuals planning the Cell No. 5 refurbishment and reviewed documents related to the planning, preparation and evaluation of the Cell No. 5 refurbishment.

1.2 Observations and Findings

On June 1, 2005, the inspector observed a planning meeting for the refurbishment of Cell No. 5. This meeting was conducted by the Principal Engineer and the Manager, Regulatory Compliance and Environmental Health and Safety (RC/EH&S). The meeting was to discuss the projected personnel exposures from this evolution and the specific steps involved in the refurbishment. The principal goal of the evolution was the replacement of a majority of the sample preparation equipment and facility hardware in Cell No. 5. An additional goal was the refurbishment of the cell's leaded glass windows. The work on the windows involved dismantling the window layers and polishing the surfaces.

Due to the contamination present in the cell walls and equipment, the change authorization documentation prepared for this evolution estimated a personnel exposure of 10 person-rem. The work plan included using management personnel to perform some of the high radiation exposure tasks.

Cell No. 5 had been used principally to prepare irradiated fuel samples for examinations. Sample preparations involved grinding and polishing the sample. The very small amounts of special nuclear material (SNM), called swarf, that were removed from the sample due to the grinding and polishing were not subtracted from the assigned sample SNM mass in the material control and accountability records. This practice was considered acceptable since for each sample, the amount removed was within the uncertainty of the sample's mass. However, over the fourteen years that Cell No. 5 had been used since its last refurbishment, the accumulated SNM from all the samples prepared over the years amounted to an estimated 1 liter of material. The licensee was sampling and assaying the collected swarf to determine the SNM present that could be assigned to their SNM inventory.

During the June 1, 2005, meeting, the Manager RC/EH&S learned that the accumulated swarf had been moved from Cell No. 5 without prior notification. Since the swarf

amounted to greater than one gram of SNM, there was the potential for exceeding criticality limits in the storage area. Because of this, the running inventory of SNM needed to be updated. The Manager (RC/EH&S) initiated an event report and an audit tracking item. No criticality limits were exceeded, but the tracking of the location of SNM needed updating. Corrective actions included amending applicable procedures to control accountability of SNM due to grinding and cutting.

After completing most of the work in the cell, the received exposure as measured with digital dosimeters was under 6 person-rem. This exposure was collected by 19 individuals. The highest exposures were well within regulatory limits. Work remaining to be performed involved the reconstitution of the waste packages. The Manager RC/EH&S projected that this remaining work may generate an additional 1 person-rem of exposure.

1.3 Conclusions

The licensee had developed procedures and evaluated work steps for the refurbishment of Cell No. 5 that maintained personnel exposures within regulatory limits and implemented as low as reasonably achievable (ALARA) principals.

2 Environmental Protection (88045)

2.1 Inspection Scope

The inspector reviewed the licensee's implementation of the environmental protection program to determine compliance with license and regulatory requirements.

2.2 Observations and Findings

The environmental monitoring program requirements are provided in Section 10 of Appendix A to the license application. The program consisted of gaseous effluent, liquid effluent, groundwater, stream bottom (sediment), and vegetation sampling. License Condition S-6 requires the licensee to provide a copy of the annual report to the NRC summarizing the effluent and environmental monitoring programs. The inspector reviewed the timely Annual Report 2004 for Effluent Monitoring and Environmental Surveillance Programs that was submitted on February 28, 2005.

The licensee conducted an analysis of the gaseous effluents using the COMPLY computer code. The results of the analysis reported that for calendar year 2004 the projected dose at the property line was 1.2 millirem per year from all emissions, and 0.16 millirem per year from iodine. The inspector compared these values to the actual COMPLY report and noted that the actual projected dose from iodine was 0.19 millirem per year. The licensee stated that they would correct this minor error and report it in next year's report. Regardless, these exposure were below those stipulated in 10 CFR 20.1101(d) of 10 millirem per year for total effective dose equivalent.

The inspector noted that all required samples had been collected, and no sample result exceeded any license or regulatory limit. No adverse trends or sample results were identified. The licensee concluded that based on the analytical results of radiological samples collected from locations on- and off-site during the reporting period, VNC was in compliance with all licenses issued by the U.S. Nuclear Regulatory Commission. The inspector agreed with this conclusion.

2.3 Conclusions

The licensee had submitted their 2004 Annual Report for Effluent Monitoring and Environmental Surveillance Programs on a timely basis. All required samples had been collected, with no sample result exceeding any license or regulatory limit. No adverse trends or sample results were identified.

3 **Waste Management (IP 84850, IP 84900, and IP 88035)**

3.1 Inspection Scope

The inspector reviewed the radwaste practices used during the refurbishment of Cell No. 5.

3.2 Observations and Findings

Change Authorization 05-13, under radwaste requirements noted that all the radioactive waste generated during the Cell # 5 refurbishment was considered transuranic (TRU) waste and subject to indefinite storage onsite.

On July 13, 2005, the inspector toured the licensee's facility and noted that generally the licensee had used good practices to temporarily store the waste generated during the Cell # 5 refurbishment. During the tour, the inspector noted two containers where radioactive waste generated from the Cell # 5 refurbishment was stored. These containers were the 1600 Cask and a waste box. Each container had radioactive materials labels. The labels on both containers indicated that the radiation levels were 0.1 mR/hr at contact. 10 CFR 20.1904(a) requires the licensee to ensure that each container of licensed material bears a durable, clearly visible label bearing the radiation symbol and the words "caution, radioactive material" or "danger, radioactive material." The label must also provide sufficient information to permit individuals handling or using the containers, or working in the vicinity of the containers, to take precautions to avoid or minimize exposures. The licensee had opted to provide this information by means of the radiation levels.

The inspector requested that the accompanying licensee personnel confirm the radiation levels on the containers. The licensee found that the actual radiation levels were 5 mR/hr at contact on the 1600 Cask and 2500 mr/hr at contact on the waste box. The licensee promptly revised the attached labels to note the correct contact dose rates. The containers were in a radiologically controlled and posted high radiation area. Other nearby signs indicated the general radiological conditions. The licensee did not identify any undue personnel exposures from the improperly labeled containers.

The inspector identified the failure to properly label the two containers as a Severity Level IV violation of 10 CFR 20.1904(a) (VIO 70-754/0502-01)

3.3 Conclusions

The labels on two containers of licensed material incorrectly stated the contact radiation levels. This failure to properly label the two containers was identified as a violation of 10 CFR 20.1904(a).

4 **Transportation (86740)**

4.1 Inspection Scope

The inspector interviewed the responsible senior engineer for transportation of radioactive materials.

4.2 Observations and Findings

The licensee had made no offsite shipments of NRC licensed material since this area was last inspected in August 2004, and no shipments under this license were projected. A shipment of radioactive material under their State of California license was planned for August 2005.

On May 5, 2005, the licensee had received one shipment of eight irradiated fuel rods. This was the only received shipment, for this license, since the previous inspection in this area. No discrepancies had been noted by the licensee during their receipt inspection of this shipment

4.3 Conclusions

The licensee had not shipped any NRC licensed material offsite since the previous inspection.

5 **Followup (92701)**

5.1 (Discussed) Inspection Followup Item (IFI 070-00754/0501-01): Review of licensee's corrective actions for a computer software set point error and timeliness of reporting sample results to radiation protection staff.

During a previous inspection, the inspector identified two problems related to the air sample analysis. First, the sample analysis software program was observed to have the wrong action level "flags." Action levels were required by Nuclear Safety Procedure 4100, Revision 3, "Determination of Airborne Concentrations of Radioactive Materials from Fixed Air Samplers." The action level set points were too high for the alpha samples and too low for beta samples. Second, the laboratory staff was sending the sample results to the radiation protection staff for review on a monthly basis, although the intent of the applicable implementing procedure was to submit the sample results to the radiation protection staff in a timely manner.

In response to the NRC's findings, the licensee elected to conduct an incident investigation, Incident Investigation 2005-02 - Compliance with NSP 4100. The investigation concluded that the software set point error and the delay in reporting sample results did not result in a significant safety consequence. The investigation also concluded that the wrong action levels for gross alpha and beta activities had been used since November 2001, but that all samples required to be recounted had been recounted. The investigation report was issued on April 8, 2005.

Corrective actions suggested by the investigator included a detailed review of the software, controlling the ability to make future changes to software, providing awareness training and updating the applicable procedure to specify a time interval for timely reporting.

During this inspection, the inspector noted that the sample analysis software had been updated to set the correct action levels and that the analyst was providing the results to the radiation protection in a timely basis. Section 5.6 of Revision 9 of Vallecitos Safety Standard 3.1, Investigation of Incidents, states in part, "the responsible manager and Affected Managers shall respond to the recommendations stated in the Investigation Committee's report. Within 30 days after issuance of the investigation, they should inform in writing the chairman of the investigation committee with a copy to the Manager, RC, of the response that has been or will be taken." However, as of July 13, 2005, the responsible and affected managers had not responded to the recommendations and the recommendations had not been added to the Audit Tracking System.

License condition S-9 requires the licensee to establish, maintain, and follow written procedures for carrying out licensed activities. The failure to follow the requirement of Section 5.6 of Revision 9 of Vallecitos Safety Standard 3.1 to respond within 30 days of the investigation committee report recommendations was identified as a violation of license condition S-9 (VIO 70-754/0502-02)

6 Exit Meeting Summary

The inspector presented the preliminary inspection results to members of licensee management on July 13, 2005. Subsequent to the site visits, on August 25, 2005, the inspector conducted a telephonic exit with the licensee management. During this telephonic exit the inspector described the findings related to the two violations. The licensee did not identify as proprietary any information provided to, or reviewed by, the inspector.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

J. Ayala, Radiation Monitoring Specialist
S. Bump, Manager, Vallecitos Nuclear Center
E. Hoshi, Principal Engineer
W. Mah, Metallurgical Technician
C. Martinez, Senior Engineer
D. Turner, Manager, Regulatory Compliance and Environmental Health and Safety

INSPECTION PROCEDURES USED

IP 83822, Radiation Protection
IP 84850, Radioactive Waste Management
IP 84900, Low Level Radioactive Waste Storage
IP 86740, Inspection of Transportation Activities
IP 88020, Regional Criticality Safety Inspection Program
IP 88035, Radioactive Waste Management
IP 88045, Environmental Protection
IP 88055, Fire Protection
IP 92701, Followup
TI 2600/03, Operational Safety Review

ITEMS OPENED, CLOSED OR DISCUSSED

Opened

70-754/0502-01	VIO	Incorrect contact dose rates indicated on container labels.
70-754/0502-02	VIO	Exceeding the 30 day limit for response to a report.

Closed

None.

Discussed

70-754/0501-01	IFI	Review of licensee's corrective actions for a computer software set point error and timeliness of reporting sample results to radiation protection staff.
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LIST OF ACRONYMS USED

ALARA	As Low As Reasonably Achievable
CFR	Code of Federal Regulations
IFI	Inspection Followup Item
IP	NRC Inspection Procedure
SNM	Special Nuclear Material
TI	Temporary Instruction