



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
612 EAST LAMAR BLVD, SUITE 400
ARLINGTON, TEXAS 76011-4125

November 29, 2010

EA-10-096

Mr. David W. Turner
Manager, Vallecitos Nuclear Center
GE-Hitachi Nuclear Energy Americas
6705 Vallecitos Road
Sunol, CA 94586

SUBJECT: PRE-DECISIONAL ENFORCEMENT CONFERENCE SUMMARY

Dear Mr. Turner:

On November 10, 2010, representatives of GE-Hitachi met with NRC personnel in the Region IV office located in Arlington, Texas, to discuss the apparent violations identified in NRC Inspection Report Number 070-00754/10-001 dated October 8, 2010 (ML102860111). The conference was held at the request of Region IV.

The NRC opened the conference with introductions and opening remarks, followed by an overview of the enforcement process. The NRC then presented the apparent violations and associated regulatory concerns. You presented a summary of the causes for the apparent violations and their corrective actions. Following a short caucus by NRC staff, both the NRC and GE-Hitachi presented their closing remarks. The attendance list, the NRC's presentation about the enforcement process, and your presentation are attached to this summary letter.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, 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 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.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Blair Spitzberg".

D. Blair Spitzberg, PhD, Chief
Repository and Spent Fuel Safety Branch
Division of Nuclear Materials Safety

Docket Number: 070-00754
License Number: SNM-960

Enclosures:

1. Pre-Decisional Enforcement Conference Attendance List
2. NRC's Enforcement Presentation
3. Licensee's Presentation

cc w/enclosures:

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GE-Hitachi Nuclear Energy Americas

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Pleasanton Public Library
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Pleasanton, CA 94566

PRE-DECISIONAL ENFORCEMENT CONFERENCE ATTENDANCE LIST

EA-10-096

Meeting Details

Licensee: GE-Hitachi Nuclear Energy Americas
Facility: Vallecitos Nuclear Center
License: SNM-960
Docket: 070-00754
Date: November 10, 2010
Location: Region IV Office, Arlington, Texas

Licensee Representatives (GE-Hitachi)

Chris Monetta, Senior Vice President, Advanced Fuel Programs
Chip Wheelock, Vice President & Chief Counsel, Global Nuclear Fuel
David Turner, Manager, Vallecitos Nuclear Center (Primary Speaker)
Don Krause, Manager, Vallecitos Regulatory Compliance and EHS
Scott Murray, Manager, Facility Licensing
Robert Lillge, Remediation Project Manager (via telephone)

NRC Participants

Charles Cain, Acting Director, Division of Nuclear Materials Safety (DNMS)
Karla Fuller, Regional Counsel
D. Blair Spitzberg, Chief, Repository and Spent Fuel Safety Branch, DNMS
Robert Evans, Senior Health Physicist, Repository and Spent Fuel Safety Branch, DNMS
Gerald Schlapper, Health Physicist, Repository and Spent Fuel Safety Branch, DNMS
Ray Kellar, Senior Enforcement Specialist, Allegation Coordination and Enforcement Staff
Peter Habighorst, Chief, Fuel Manufacturing Branch, Fuel Facility Licensing Directorate,
Division of Fuel Cycle Safety and Safeguards, Office of Nuclear Material Safety
and Safeguards
Christopher Ryder, Licensing Project Manager, Fuel Manufacturing Branch, Fuel Facility
Licensing Directorate, Division of Fuel Cycle Safety and Safeguards, Office of Nuclear
Material Safety and Safeguards
Carolyn Faria, Office of Enforcement, Enforcement Branch (via telephone)

NRC Observers

Lara Uselding, Public Affairs Officer, Region IV
Lee Brookhart, Health Physicist, Repository and Spent Fuel Safety Branch, DNMS

NRC Enforcement Program

Predecisional Enforcement Conference

GE Hitachi Vallecitos
November 10, 2010

NRC Enforcement Process

- Inspection and/or Investigation
- NRC Review of Issues
- EXIT MEETING with licensee
- Inspection Report w/apparent violations



PREDECISIONAL ENFORCEMENT
CONFERENCE (PEC)

Today's Conference

- **PEC is an opportunity to provide your perspective**
- **Whether violations occurred**
 - **Identification and corrective actions (immediate and long-term actions)**
 - **Whether you agree with our characterization of the violations in the inspection report.**
 - **Any other information you want us to consider**
- **Inspection Report provides NRC perspectives**
- **Final NRC enforcement decision following PEC**

Decisions to be Made

- **Whether violations occurred**
- **Significance of the violations**
- **Enforcement action, if any**

Possible Outcomes

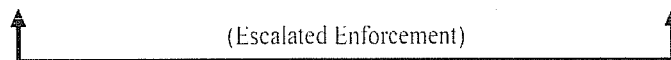
- **No Enforcement Action**
- **Notice of Violation (NOV)**
- **NOV with Civil Penalty**
- **Order**

Determine Significance = Severity Level

SEVERITY LEVEL – I
(most significant regulatory concern)

SEVERITY LEVEL – II
(very significant regulatory concern)

SEVERITY LEVEL – III
(significant regulatory concern)



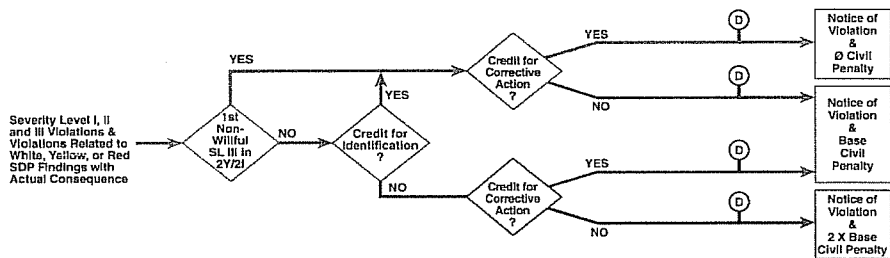
(Non-Escalated Enforcement)

SEVERITY LEVEL – IV
(less significant concern, but more than minor)

Four factors in assigning Severity Level

- Actual Safety Consequences
- Potential Safety Consequences
- Regulatory Process Impacted - Whether the NRC was prevented from carrying out its regulatory responsibilities
- Associated willfulness

Civil Penalty



Primary considerations:

1. How the violation was identified
2. The promptness and completeness of any corrective actions taken

If a licensee has not had escalated enforcement in the past 2 years or 2 inspections, the only factor in determining if a civil penalty is assessed is the licensee's corrective actions.

Civil Penalties

- Regardless of the outcome, the NRC can exercise discretion if the circumstances warrant it, and may either escalate or decrease the civil penalty.
- Civil Penalties are dependent on the type of license and the severity of the violation.
- For example the base penalty for a Power reactor is \$140,000 ; the base penalty for a test reactor is \$14,000, while the base penalty for a research reactor is \$7,000 .

Public Information

- If NRC takes enforcement action, it will be publicly available on NRC's web site.
- In the event that a civil penalty or an order is issued, normally, a press release will be issued as well.

Appeal Rights

- Any NRC action may be challenged
- Instructions for challenging an enforcement action will be described in the action

NRC Enforcement Process

Post PEC

- NRC Review of ALL Information
- Final Agency Decision on Whether ENFORCEMENT ACTION is warranted

NRC Enforcement Process

Questions?

Pre-Decisional Enforcement Conference

NRC Region IV
Arlington, TX

November 10, 2010



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Agenda

- I. **Introductions**
- II. **Event Description**
 - Immediate corrective actions
 - Reportability determinations
- III. **Response to Apparent Violations**
 - Causal factors
 - Actions to prevent recurrence
- IV. **Assessment of Event Significance**
- V. **Conclusion**



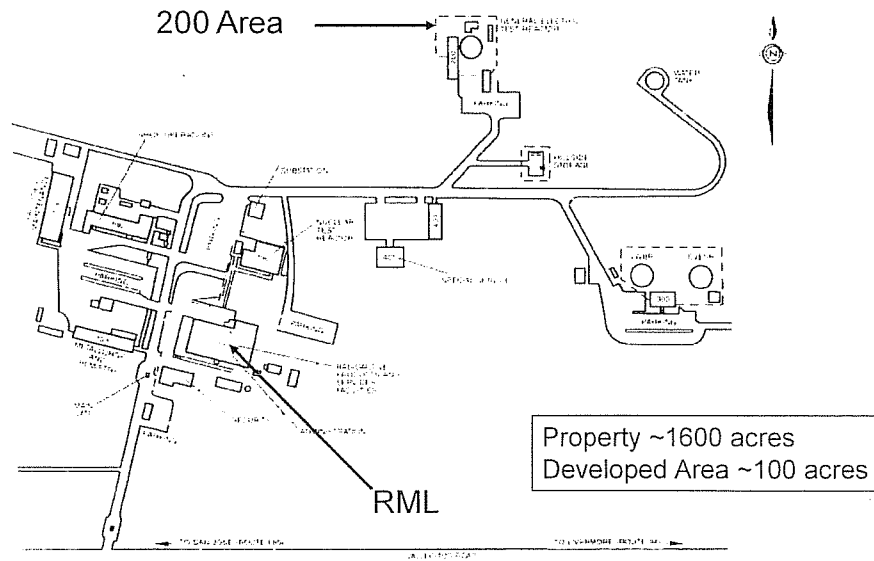
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Location and Setting



Location Details

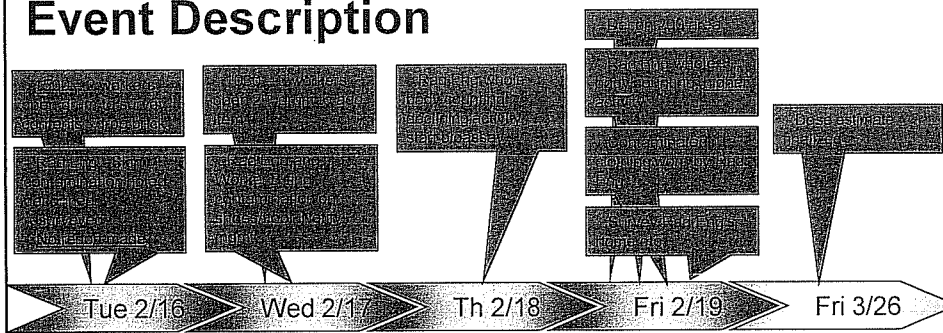


Location Details

[This site map has been retracted by the licensee by letter dated November 19, 2010, because it contained security-related sensitive information.]



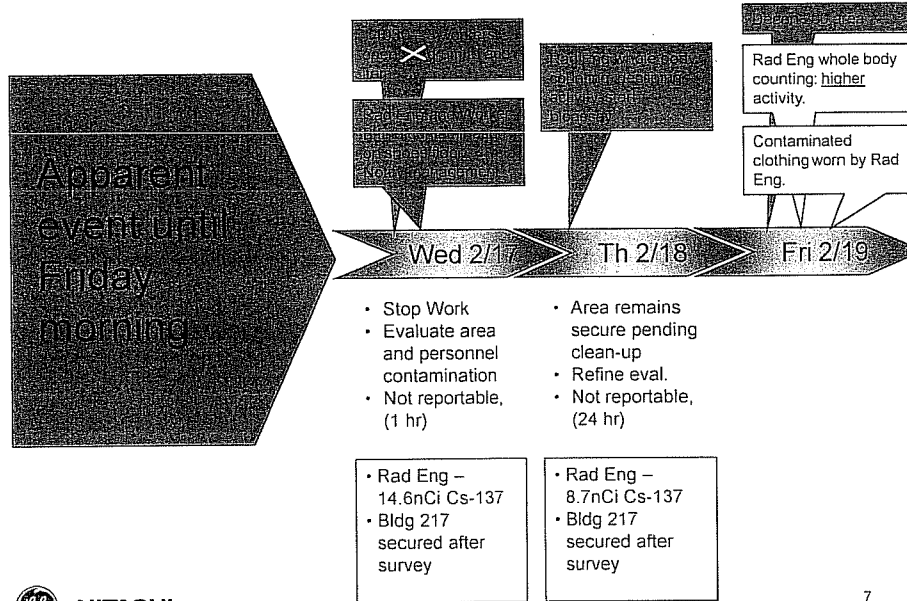
Event Description



<p>No action - GEH & contractor management unaware of event</p>	<ul style="list-style-type: none"> • Stop Work • Evaluate area and personnel contamination • Not reportable, (1 hr) 	<ul style="list-style-type: none"> • Area remains secure pending clean-up • Refine eval. • Not reportable, (24 hr) 	<p>Failed to evaluate rad material removal from site as reportable</p>	<ul style="list-style-type: none"> • Rad Eng - 2.4 rem • Worker A - 0.100 rem
	<ul style="list-style-type: none"> • Rad Eng - 14.6nCi Cs-137 • Others negative • Bldg 217 secured after survey 	<ul style="list-style-type: none"> • Rad Eng - 8.7nCi Cs-137 • Bldg 217 secured after survey 	<ul style="list-style-type: none"> • Rad Eng - 8.2nCi Cs-137 • Rad material recovered • 200 Area deconned 	



Event Description



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Immediate Corrective Actions

- Contractor supervision and GEH staff notified of contamination (Wednesday 2/17).
- All contractor remediation work activities suspended (Wednesday 2/17).
- Area 200 secured and contamination controlled. Extent of area contamination determined (Wednesday 2/17).
- Personnel dose assessments initiated immediately (Wednesday 2/17).
- Personal articles of clothing identified, located, and returned to site and properly disposed (Friday 2/19).

Prompt action taken upon notification of the event



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Reportability Determination (1-hour)

- TEDE equivalent of 25 rem or more (20.2202(a)(1)(i)), but:
 - Based on initial body count (14.6 nCi Cs137), and conservative 1:1 ratio of Cs:Am, initial Am intake estimated as no more than 2.5x ALI (12.5 rem).
 - 1:1 ratio conservative based on of pre-characterization of drum contents.
- Release of material...had an individual been present for 24 hrs, could have received intake > 5x ALI (20.2202 (a)(2)), but:
 - Area has no routine operations.
 - No ongoing work activities in drum storage area and the release stopped when drum closed - no ongoing airborne potential.
 - Initial Am intake was estimated to be no more than 2.5x ALI.

Based on use of conservative Cs:Am ratio of 1:1, we determined this event was not reportable within 1 hour



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Reportability Determination (24-hour)

- TEDE equivalent of 5 rem or more (20.2202(b)(1)(i)), but:
 - Follow-up body count (8.7 nCi Cs137), and conservative 3:1 ratio, initial Am intake estimate was revised to be no more than 0.5x ALI (2.5 rem).
 - 3:1 ratio of Cs:Am conservative based on area characterization surveys.
- Release of material...had an individual been present for 24 hours, could have received intake greater than 1 X ALI (20.2202 (a)(2)), but:
 - No ongoing work activities in drum storage area and release stopped when drum closed.
 - No ongoing airborne potential (air samples ~1e-11 $\mu\text{Ci/ml}$ - $\beta\gamma$, < MDA I).
 - Updated Am intake was estimated to be no more than 0.5x ALI (2.5 rem).

Based on use of conservative Cs:Am ratio of 3:1 (vs. mean of 7:1) and ICRP 30 model (vs. ICRP 68), we determined this event was not reportable within 24 hours



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Response to Apparent Violations

Apparent Violation 1

Failure to follow two site procedures:

- 1) Opening of the drum was contrary to procedure requirements.
- 2) Failure to log a personnel skin contamination event.

GEH Response:

Concur. Two site procedures were not followed.



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Response to Apparent Violations

Apparent Violation 2

Failure to make or cause to be made surveys to quantify contamination that was eventually removed from the site.

GEH Response

Concur. Effective surveys were not made as required.



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Response to Apparent Violations

Apparent Violation 3

Failure to submit a 30 day written report to NRC in a timely manner.

GEH Response

Concur. A report was not submitted within 30 days as required under 10CFR20.2203(a)(3)(ii).



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Violation Causal Factors

Apparent Violation 1

- Procedures - Not followed by responsible workers (Human Performance).
- Work Direction - Inadequate work control practices. Specifically, exposure potential not anticipated (inadequate radiological controls, improper monitoring, improper PPE).
- Training - indoctrination of workers on radiological controls (understanding of requirements) was less than adequate.

Apparent Violation 2

- Procedures - Not followed by responsible workers (Human Performance).
- Work Direction - Inadequate work control practices. Inadequate indoctrination of workers on radiological controls/monitoring.
- Training - indoctrination of workers on radiological controls (understanding of requirements) was less than adequate.

Apparent Violation 3

- Procedures (i.e., reporting requirements) followed incorrectly. Contamination from two separate events was not immediately understood.
- Management system/work direction less than adequate. Procedure for evaluating reportability did not include a peer check.



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Actions to Prevent Recurrence

- Implemented formal contractor conduct of operations:
 - Implemented operational practices (verbatim compliance, questioning attitude, communications and activity reviews).
 - Conduct daily pre-job briefs and augmented training.
- Implemented formal work controls package system (e.g., task-specific RWPs, management of change, procedure updates).
- Assessed and adjusted contractor staffing levels, personnel qualifications, and increased oversight.
- Enhanced event evaluation & reporting procedure revisions.

Short- and long-term corrective actions are complete



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Assessment of Event Significance

NRC Enforcement Policy* criteria for assessing significance of each apparent violation:

- Actual Safety Consequences,
- Potential Safety Consequences,
- Impact on the Ability of NRC to Perform Oversight,
- Willfulness.

*Sept 30, 2010



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Actual Safety Consequences

- Rad Engineer dose was 2.4 rem TEDE based on ICRP 30.
 - Final evaluation complete within 30 days, based on fecal results and conservative ICRP 30 models 2.34 rem CEDE was assigned (2.4 rem TEDE).
- Worker A body count did not indicate an uptake; bioassay conservatively indicated a TEDE of 0.100 rem.
- Contaminated articles of personal clothing taken off-site by Rad Engineer and Worker A were identified, retrieved and properly disposed.
- Contamination surveys off-site demonstrated no further contamination spread related to this event.

Although not used in the reportability determination, latest lung models ICRP 66 and 68 estimate dose was 0.6 rem



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Potential Safety Consequences

- Drums were located in a locked building, within a posted and controlled area (both events).
- No other work or workers present during either event.
- Limited work activities (surveying, adding items to a drum).
- Rad Engineer performed the handling of the material each time and was in closest proximity to the source of contamination.
- Worker A remained a short distance away and only handled the smears taken on the bricks (2/16).
- Each drum was open for about 15 minutes and sealed after the event.
- Both individuals stated they went straight home (2/16).
- Clothing remained in possession of Rad Engineer (no indication contamination spread).



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NRC Oversight Ability/Willfulness

Ability to Perform Oversight

- Although the event was not recognized as reportable, we informed the NRC at the opening meeting for the April 5th inspection, consistent with our past practice:
 - Written event report was due March 21, 2010
 - NRC routine inspection occurred April 5

Willfulness

- No indication of willfulness or deliberate misconduct.



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Assessment Summary

- Although not reported as required, NRC was notified of event during the next routine onsite inspection, consistent with past practice.
- Prompt and comprehensive corrective actions taken.
- The events were caused by isolated failure to follow procedures.
- The events were not caused by a lack of management oversight as evidenced by either a history of isolated willful violations or a lack of adequate audits or supervision.
- Significant remedial actions commensurate with the circumstances were taken that demonstrated the seriousness of the event to other employees and contractors, thereby creating a deterrent effect.



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Conclusion

- GEH responded appropriately and conservatively to information as it became known.
- GEH quickly stopped all similar contract work at multiple, NRC licensed sites in three states until the event was understood and corrective actions implemented.
- GEH implemented prompt, effective and appropriately comprehensive corrective actions.
- Event is considered non-programmatic and isolated.
- No escalated enforcement action during the past two years for GEH.
- Considering all relevant circumstances, and in the exercise of the NRC's discretion, a finding of Severity Level IV for all Apparent Violations could be appropriate.



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Backup: Severity Level Examples from NRC Enforcement Policy



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Severity Level IV Example (Health Physics 6.7(d)(6))

6. An isolated failure occurs to secure, or maintain surveillance over, licensed material in any aggregate quantity greater than 10 times the quantity specified in Appendix C to 10 CFR Part 20, provided that both of the following apply:

(a) The material is labeled as radioactive or located in an area posted as containing radioactive materials, and

(b) Such failure occurs despite a functional program to detect and deter security violations that includes training, staff awareness, detection (including auditing), and corrective action (including disciplinary action);

Contrast: Severity Level III Example (Health Physics 6.7(c)(10)) because quantities not met and potential for exposure or release not substantial



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Severity Level IV Example (Reports 6.9(d)(8))

8. A licensee fails to make the 30 day notification required by 10CFR 20.2201(a)(1)(ii) or 10CFR20.2203(a).



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Internal distribution w/enclosures:

- PMNS Resource
- OEMail Resource
- OEWEB Resource
- Michael Tschiltz DD:NMSS/FCSS
- Peter Habighorst C:NMSS/FCSS/FMB
- Christopher Ryder, NMSS/FCSS/FMB
- Chuck Cain, AD:DNMS
- Blair Spitzberg, C:DNMS/RSFS
- Rob Evans, RSFS
- Gerald Schlapper, RSFS
- Victor Dricks, PAO
- Lara Uselding, PAO
- William Maier, RSLO

DRAFT: S:\DNMS\NMSB-B\RJE\GE Hitachi PEC Summary Letter.docx
 FINAL: R:\ DNMS\2010\GE Hitachi PEC Summary Letter.docx

MLxxxxxxx

ADAMS	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> SUNSI Review Complete	Reviewer Initials: RJE
<input checked="" type="checkbox"/> Publicly Available	<input type="checkbox"/> Non-publicly Available	<input type="checkbox"/> Sensitive	<input checked="" type="checkbox"/> Non-sensitive	
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11/19/10	11/17/10	11/24/10		

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