2.206 Draft

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406

DATE: 5/17/04

MESSAGE TO: D. Collins

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MESSAGE FROM: Dan Holody
U.S.N.R.C. Region I, King of Prussia, ~~PA~~

TRANSMITTED BY:

DATE & TIME:

VERIFIED BY:

2

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facsimile transmittal

To:	.Ron Nimitz	Fax:	.(610)
From:	.Karen Tuccillo	Date:	.May 14, 2004
Re:	.Unplug Salem letter	Pages:	.6 (with cover letter)
CC:			

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

This is a draft received from the State

COMMENTS:

cys to Blough
Holian
Farrar.
D. Collins
NRR
fax #

Ron:

Attached is letter we received that we've prepared a response to.

Karen Tuccillo

Bureau of Nuclear Engineering

(609) 984-7443

2102

Fax 301 - 415 ~~[illegible]~~

to Dan Collins.

The Bureau of Nuclear Engineering provides radiation protection for individuals in New Jersey through establishing, implementing and enforcing radiation protection measures and standards as applicable to the nuclear power industry. Kate Tesch, Manager

UNPLUG Salem
321 Barr Avenue
Linwood, NJ 08221

May dd, 2004

Luis Reyes, Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: Salem Nuclear Generating Station, Units 1 and 2 – Petition Pursuant to 10 CFR 2.206 – Enforcement Action for Unreported Radiological Releases

Dear Mr. Reyes:

Pursuant to §2.206 of Title 10 of the Code of Federal Regulations, the UNPLUG Salem Campaign (UNPLUG Salem) petitions the Nuclear Regulatory Commission (NRC) to take enforcement action against PSEG Nuclear LLC (PSEG), the licensee for the Salem Nuclear Generating Station, Units 1 and 2 (Salem), related to the discovery that tritium-laden water leaked in an uncontrolled and unmonitored . Specifically, UNPLUG SALEM seeks enforcement action in the form of a Demand for Information (DFI) that would require PSEG to provide the NRC with information about past spills, leaks, and unplanned releases of radiologically contaminated materials at Salem and their potential impact on the upcoming decommissioning of the facility. The DFI seeks PSEG's docketed responses to the following questions:

1. According to the final report by the NRC's special inspection team, PSEG's *"focused self-assessment identified nine apparent historical spills for review as possible contributors of the tritium contamination."*[1]

    a. What are the dates, locations, causes, and extent of remedial activities for these nine spills?

    b. What is PSEG's basis for believing these nine events are the only spills, leaks, and unplanned releases at Salem?

    c. Has PSEG taken any steps to verify that radiologically contaminated materials were not shipped to land-fills, dumps, or other sites not licensed to receive radioactive wastes?

2. According to a report by an NRC inspection team at the Haddam Neck nuclear plant in Connecticut,[2]

    > In addition to the concrete blocks mentioned above, recent findings indicate that some soil and debris, containing low level or trace concentrations of licensed material, were inappropriately released for unrestricted use. The NRC team determined that the circumstances in these cases generally involved either: (1) the licensee's improper

[1] Letter dated October 15, 2003, from Wayne D. Lanning, Director – Division of Reactor Safety, Nuclear Regulatory Commission Region I, to Roy A. Anderson, Chief Nuclear Officer and President – PSEG Nuclear LLC, "Salem Nuclear Station – NRC Special Inspection Report No. 05000272/2003006; 05000311/2003006."
[2] Letter dated March 26, 1998, from A. Randolph Blough, Director – Division of Nuclear Materials Safety, Nuclear Regulatory Commission, to Russell A. Mellor, Vice President – Operations and Decommissioning, Connecticut Yankee Atomic Power Company, "NRC Historical Review Team Report – Radiological Control and Area Contamination Issues at Haddam Neck."

application of the limits specified in 10 CFR 30, Schedule A and B (Exempt concentrations and quantities), and 10 CFR 20, Appendix B (Effluent concentrations), as unrestricted use release criteria, or (2) the licensee's failure to maintain effective oversight and control of contaminated materials (e.g., concrete blocks) that were known or suspected of being contaminated. These apparent performance deficiencies were not identified until site characterization efforts were initiated in 1997 during preparation for decommissioning.

a. Has PSEG adjusted its decommissioning funding for Salem to account for recent decommissioning experience, such as that from Haddam Neck, that past radiological spills and leaks affect the scope and cost of the efforts?

b. Given that the NRC special inspection team "*identified that PSEG did not maintain records, in accordance with the requirements of 10 CFR 50.75(g), of spills or other unusual occurrences involving the spread of contamination around the facility, equipment, or site,*" what is PSEG's basis for determining the scope and cost of decommissioning?

Background

The special inspection team dispatched by NRC to examine the circumstances around the leakage of tritium-laden water from the spent fuel pool into the ground surrounding the Salem facility reported: [3]

> On September 18, 2002, PSEG found evidence of contaminated water leakage through a wall and onto the floor of the 78' elevation Unit 1, Auxiliary Building (AB) Mechanical Penetration Room, a Radiologically Controlled Area (RCA). ... Subsequent reviews by PSEG identified other locations where contaminated water was leaking through walls or penetrations into both the Unit 1 auxiliary building and the Unit 1 fuel handling building. Areas with through wall or penetration leakage were: 1) through wall leakage at 78' elevation Unit 1 AB mechanical penetration area; 2) penetration leakage at 92' elevation Unit 1 service water bay; and 3) through wall leakage at 84' elevation of the Unit 1 FHB [Fuel Handling Building]. PSEG concluded the source of the contaminated water was likely the Unit 1 SFP [spent fuel pool] or an associated system and initiated actions to identify specific leak locations, repair and mitigate the leak, and assess potential environment and health and safety impacts. PSEG also identified apparent wall leakage at the 64' elevation Unit 1 AB switch gear room.
>
> The ground water sampling, via test boring and sample analysis, subsequently identified, on February 6, 2003, tritium (H-3) contamination in close proximity to the Unit 1 FHB. ... PSEG did not detect contamination, associated with this matter, outside the confines of its fenced and controlled Restricted Area. ... In addition to the Unit 1 FHB, PSEG had identified several historical spills which may have contributed to the tritium contamination. PSEG was reviewing underground piping for leaks. At the conclusion of the inspection, PSEG continued to evaluate and assess the condition and the potential causes.
>
> The team identified that PSEG did not maintain records, in accordance with the requirements of 10 CFR 50.75(g), of spills or other unusual occurrences involving the spread of contamination around the facility, equipment, or site. PSEG's focused self-assessment identified nine apparent historical spills for review as possible contributors of the tritium contamination. As of August 6, 2003, the team could not identify complete records for five of the spills and the licensee was not able to provide the records or any reference to them indicating the significance of the spills, known information on identification of involved radionuclides, quantities, forms, concentrations,

[3] Letter dated October 15, 2003, from Wayne D. Lanning, Director – Division of Reactor Safety, Nuclear Regulatory Commission Region I, to Roy A. Anderson, Chief Nuclear Officer and President – PSEG Nuclear LLC, "Salem Nuclear Station – NRC Special Inspection Report No. 05000272/2003006; 05000311/2003006."

or locations of possible inaccessible contamination. PSEG was also not able to provide a formal program to provide for documentation of required information consistent with 10 CFR 50.75(g).

Thus, the spent fuel pool leak is merely the most recent in a series of radiological spills at Salem. PSEG failed to follow federal regulations for the documentation of the prior spills and was apparently unable to recreate the paper trail for many of the spills.

The consequences arising from incomplete tracking and knowledge of past radiological spills was demonstrated by the experience at the Haddam Neck nuclear plant. Another NRC inspection team visited the Haddam Neck site in 1998 after the unexpected announcement by the owner that the plant was being permanently shut down prior to its 40-year operating license expiring. As this site transitioned from operation to decommissioning, several unpleasant "surprises" happened. For example, radiologically contaminated concrete blocks had been released from Haddam Neck and used in the buildings and grounds of several local homeowners. The NRC inspection team at Haddam Neck reported: [4]

> The objectives of this review were to: (1) gain better understanding and appreciation of the scope and extent of previous radiological occurrences in order for the NRC to better assess the acceptability of the licensee's future site radiological characterization efforts and subsequent remediation of affected areas, on-site and in the environment; and (2) identify whether licensee activities that resulted in contamination of the site, uncontrolled or unmonitored effluent releases, or insufficient control of licensed materials were considered for (or subject to) action relative to existing NRC regulatory requirements, including enforcement.
>
> Operation of the Haddam Neck facility resulted in various spills, leaks, and unplanned effluent release of radioactive materials. There is no evidence that plant operations resulted in the licensee exceeding any public exposure regulatory requirement as specified in 10 CFR 20.
>
> Most spills and leaks of radioactive materials appeared to have been confined to the Radiological Controlled Area (RCA). The licensee subsequently performed limited remediation to prevent or limit the spread of contamination. ... In addition to the concrete blocks mentioned above, recent findings indicate that some soil and debris, containing low level or trace concentrations of licensed material, were inappropriately released for unrestricted use. The NRC team determined that the circumstances in these cases generally involved either: (1) the licensee's improper application of the limits specified in 10 CFR 30, Schedule A and B (Exempt concentrations and quantities), and 10 CFR 20, Appendix B (Effluent concentrations), as unrestricted use release criteria, or (2) the licensee's failure to maintain effective oversight and control of contaminated materials (e.g., concrete blocks) that were known or suspected of being contaminated. These apparent performance deficiencies were not identified until site characterization efforts were initiated in 1997 during preparation for decommissioning.
>
> Tritium from routine and from mid-1970's leaks in the underground liquid waste test tank lines resulted in onsite groundwater contamination and measurable concentrations in the Connecticut River.
>
> The contamination outside the RCA from these [1979 operation with fuel clad defects] events was not discovered by the licensee for several months. Isolated spots were found in the protected area and at the parking lot within the owner controlled areas. ... Although remediation of identified areas was completed in 1980, recent scooping surveys of the hillside have identified some small spots with transuranic and other fission product activity.

[4] Letter dated March 26, 1998, from A. Randolph Blough, Director – Division of Nuclear Materials Safety, Nuclear Regulatory Commission, to Russell A. Mellor, Vice President – Operations and Decommissioning, Connecticut Yankee Atomic Power Company, "NRC Historical Review Team Report – Radiological Control and Area Contamination Issues at Haddam Neck."

> The licensee identified about 12 offsite areas that were believed, with reasonable assurance, to have received fill/rubble from the site. ... The licensee initiated a walkdown of the subject properties to identify the areas potentially affected by plant-related materials. The results of the site walkdown were used to develop a specific survey and soil sampling plan of the suspect areas at each location.

Thus, like Salem, Haddam Neck had a long history of radiological spills that were improperly tracked and documented. These spills resulted in onsite and offsite contamination that was not fully identified and remediated until after the plant's permanent shutdown. The radiological surveillances conducted by the plant's owner and the inspections conducted by the NRC while the reactor operated failed to identify these contaminated areas.

Because the location and timing of all past leaks and spills could not be established, Haddam Neck's owners dispatched survey teams to offsite areas known or strongly suspected to have received fill or rubble from the site. These survey teams looked for signs that radiologically contaminated materials inadvertently made their way to these areas.

Basis for Requests

UNPLUG Salem petitions the NRC to issue a Demand for Information to PSEG seeking information. The reasons this information should be provided to the NRC on the docket are:

Question	Reason Information Request is Warranted
What are the dates, locations, causes, and extent of remedial activities for these nine spills?	As reported by the NRC special inspection team, PSEG failed its obligation under 10 CFR 50.75(g) to document radiological spills. Neither the NRC nor the public therefore had proper access to information on these spills. It's time to remedy that information deprivation.
What is PSEG's basis for believing these nine events are the only spills, leaks, and unplanned releases at Salem?	By some process, PSEG established nine apparent radiological spills in the past. The failure to properly document these spills means that the identification of spills is via informal processes (i.e., personal recollections). This information is necessary to define how the list of spills was developed.
Has PSEG taken any steps to verify that radiologically contaminated materials were not shipped to land-fills, dumps, or other sites not licensed to receive radioactive wastes?	Haddam Neck's owner encountered similar problems with failing to properly document radiological spills. Haddam Neck's owner sent survey teams to areas receiving "non-radioactive" trash from the site. This information is necessary to ascertain whether PSEG has undertaken comparable verification measures.
Has PSEG adjusted its decommissioning funding for Salem to account for recent decommissioning experience, such as that from Haddam Neck, that past radiological spills and leaks affect the scope and cost of the efforts?	When originally licensed, Salem was owned by Public Service Electric & Gas, a regulated utility company that could pass along prudent costs to ratepayers. Salem is now owned by PSEG Nuclear LLC, a limited liability company without the assured financial backing of a regulated utility company should the Salem decommissioning fund be insufficient. This information is needed to assess the adequate of the decommissioning funding arrangements for Salem.

Given that the NRC special inspection team "*identified that PSEG did not maintain records, in accordance with the requirements of 10 CFR 50.75(g), of spills or other unusual occurrences involving the spread of contamination around the facility, equipment, or site,*" what is PSEG's basis for determining the scope and cost of decommissioning?	Same as above.

UNPLUG Salem petitions the NRC to demand that PSEG provide this information about radiological spills at Salem. PSEG should provide this information on the docket to (a) remedy past failures to document spills in accordance with 10 CFR 50.75(g) and (b) provide insights as to the adequacy of decommissioning funding.

Sincerely,

Norm Cohen
Executive Director
UNPLUG Salem