

EDO Principal Correspondence Control

FROM: DUE: 05/20/09

EDO CONTROL: G20090256

DOC DT: 04/30/09

FINAL REPLY:

Representative Edward J. Markey  
Representative John J. Hall

TO:

Chairman Klein

FOR SIGNATURE OF :

\*\* PRI \*\*

CRC NO: 09-0187

Chairman Klein

DESC:

ROUTING:

Leak in Buried Pipe Associated with the Auxiliary  
Feed Water System at Indian Point  
(EDATS: SECY-2009-0218)

Borchardt  
Virgilio  
Mallett  
Ash  
Ordaz  
Cyr/Burns  
Collins, RI  
Cyr, OGC  
Schmidt, OCA  
Shoop, OEDO

DATE: 05/01/09

ASSIGNED TO:

CONTACT:

NRR

Leeds

SPECIAL INSTRUCTIONS OR REMARKS:

Coordinate with Region I. Please prepare response  
in accordance with OEDO Notice 2009-0441-01  
(ML090490315). Contact Undine Shoop, OEDO for  
insight and any guidance on tone and content of the  
response.

Template: SECY-017

ERIDS: SECY-01

# EDATS

Electronic Document and Action Tracking System

**EDATS Number:** SECY-2009-0218

**Source:** SECY

## General Information

**Assigned To:** NRR

**OEDO Due Date:** 5/20/2009 5:00 PM

**Other Assignees:**

**SECY Due Date:** 5/22/2009 5:00 PM

**Subject:** Leak in Buried Pipe Associated with the Auxiliary Feed Water System at Indian Point

**Description:**

**CC Routing:** Region I; OGC; OCA

**ADAMS Accession Numbers - Incoming:** NONE

**Response/Package:** NONE

## Other Information

**Cross Reference Number:** G20090256, LTR-09-0187

**Staff Initiated:** NO

**Related Task:**

**Recurring Item:** NO

**File Routing:** EDATS

**Agency Lesson Learned:** NO

**Roadmap Item:** NO

## Process Information

**Action Type:** Letter

**Priority:** Medium

**Signature Level:** Chairman Klein

**Sensitivity:** None

**Urgency:** NO

**OEDO Concurrence:** YES

**OCM Concurrence:** NO

**OCA Concurrence:** NO

**Special Instructions:** Coordinate with Region I. Please prepare response in accordance with OEDO Notice 2009-0441-01 (ML090490315). Contact Undine Shoop, OEDO for insight and any guidance on tone and content of the response.

## Document Information

**Originator Name:** Rep. Edward J. Markey & Rep. John J. Hall

**Date of Incoming:** 4/30/2009

**Originating Organization:** Congress

**Document Received by SECY Date:** 5/1/2009

**Addressee:** Chairman Klein

**Date Response Requested by Originator:** NONE

**Incoming Task Received:** Letter

OFFICE OF THE SECRETARY  
CORRESPONDENCE CONTROL TICKET

Date Printed: May 01, 2009 11:08

---

**PAPER NUMBER:** LTR-09-0187 **LOGGING DATE:** 05/01/2009  
**ACTION OFFICE:** EDO  
  
**AUTHOR:** REP Edward Markey  
**AFFILIATION:** CONG  
**ADDRESSEE:** Dale Klein  
**SUBJECT:** Concerns leak in a buried pipe associated with the Auxiliary Feed Water (AFW) system at the Indian Point nuclear power reactor  
  
**ACTION:** Signature of Chairman  
**DISTRIBUTION:** RF, OCA to Ack  
SEW PMS  
**LETTER DATE:** 04/30/2009  
**ACKNOWLEDGED:** No  
**SPECIAL HANDLING:** Commission Correspondence  
**NOTES:**  
**FILE LOCATION:** ADAMS  
**DATE DUE:** 05/22/2009 **DATE SIGNED:**

EDO --G20090256

**Congress of the United States**  
**Washington, DC 20515**

April 30, 2009

The Honorable Dale E. Klein  
Chairman  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Dear Chairman Klein:

We write in regard to the recent discovery of a major leak in a buried pipe associated with the Auxiliary Feed Water (AFW) system at the Indian Point nuclear power reactor. Since water delivered to and from nuclear power reactors through buried pipes is expected to play a large role in avoiding a catastrophic meltdown in the event of a terrorist attack or accident, we are concerned that this leak may demonstrate a systemic failure of the licensee (Entergy), and the Commission, to inspect critical buried pipes in a manner sufficient to guarantee the public health and safety.

The AFW system plays a critical safety role in reactor operation. During periods of reactor shutdown, such as a reactor trip, during which the primary feedwater system is inoperable, the AFW system is responsible for reactor core cooling. Should the AFW system not function properly during such an event, the same municipal water system which runs through homeowners' pipes would become the last line of defense for reactor core cooling. However, municipal water systems are not designed or operated to meet critical public health and safety requirements, and should not be relied upon for such.

According to NRC documents recently obtained by our offices as well as discussions with individuals familiar with the event, on February 16, 2009, Entergy determined that a buried section of the Unit 2 condensate storage tank (CST) return line was leaking water at a rate of approximately 18 gallons per minute. Upon unearthing the affected pipe, it was discovered that a 1.5 inch diameter corrosion hole was the source of the leak. According to media reports, 100,000 gallons had leaked. Entergy then declared the CST inoperable. This declaration meant that the only source of dedicated safety-related cooling water was unavailable, and the Indian Point reactors were totally dependent on city water not designed to be used for core cooling in the event of an emergency.

Such a scenario is unfortunately not merely theoretical. On April 3, 2009, only weeks after the loss of the AFW system because of the corrosion leak, Indian Point Unit 2 shut down unexpectedly. Fortunately, the AFW system functioned correctly and cooling was maintained to the reactor. However, had the AFW inoperability and the unexpected reactor shutdown occurred simultaneously, or should have the AFW system suffered a new pipe failure during the reactor shutdown, only city water would have been left to cool the reactor. The AFW system is a critical safety component of the Indian Point reactors, as well as other nuclear reactors. City water is not a reliable substitute and must not be relied upon to prevent reactor core damage.

We are shocked that a 1.5 inch diameter hole, leaking at a rate of 18 gallons per minute, could develop without detection. We are concerned that the current inspection regime for vital buried pipes, which reportedly consists of physical inspections being conducted only in those rare instances when pipes are dug out for other purposes, is profoundly inadequate to ensure the public health and safety.

It is clear that physically inspecting buried piping systems poses unique challenges due to limited accessibility. However, the limited accessibility and associated costs of inspecting buried pipes and systems does not render them immune from corrosion or damage, nor does it obviate the need for a comprehensive inspection regime of such systems to ensure operability. We would note that many industries have successfully developed technologies and programs to monitor and inspect difficult-to-access piping.

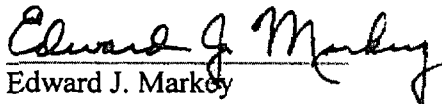
Please provide answers to the following questions regarding the recent major leak at Indian Point and buried pipe inspections:

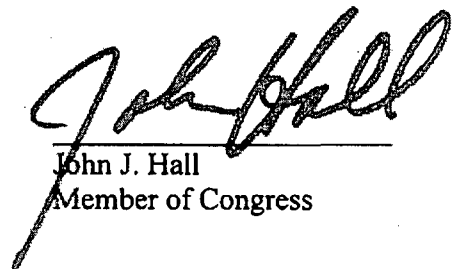
- What is the role of AFW as a safety system at Indian Point, or any other commercial pressurized water reactor? During what events is AFW intended to be relied upon? Other than AFW, what other dedicated safety-related systems exist to cool the core during an unexpected reactor shut-down?
- Has the Commission performed an analysis of the consequences of a total failure of the AFW system at Indian Point, or any other commercial power reactor, that includes an analysis of what might occur if the regular feedwater supply is also interrupted by a routine power outage, terrorist attack or accident? If so, what would be the consequences of such a failure? If not, why not?
- Indian Point Unit 2 shut down unexpectedly on April 3, 2009. During this unplanned shutdown, apparently caused by a failed pipe in the main feedwater control system, was AFW used at any time to cool the reactor? What would have been the consequences of a concurrent failure of the AFW system at the time of the April 3, 2009, shutdown?
- What was the root cause of the pipe corrosion at Indian Point? What other pipes are buried at Indian Point? Has the discovery of the 1.5 inch corrosion hole prompted the licensee to inspect other buried pipes for similar corrosion? If so, what has been found? If not, why not? Has the discovery of the 1.5 inch corrosion hole prompted the Commission to inspect other buried pipes at other reactor sites for similar corrosion? If so, what has been found? If not, why not?
- What are the Indian Point licensee's requirements under the current licensing basis to inspect buried pipe? What programs does the licensee have in place to assure the emergency cooling systems meet the design requirements of 10 CFR 50 Appendix A (GDC 44, 45, 46)? What programs does the licensee have in place to assure the operability of underground piping systems as required by 10 CFR 50 Appendix B (Criterion X, XI and XVI), 10 CFR 50.55(a) and ASME Section XI?

- When was the last licensee inspection of buried pipe at Indian Point, and what were the results of the inspections? If there has not been a recent inspection, how would the licensee not be in violation of 10 CFR 50 Appendix B (Criterion X, XI and XVI), and 10 CFR 50.55(a)?
- When was the last Commission inspection of buried pipes at Indian Point, and what were the results of the inspections?
- How can the general public be assured that all buried pipes will retain structural integrity in the event of an earthquake or other external event?
- Does the Commission require licensees to conduct inspections of buried pipe for cooling water generally? If so, are any licensees failing to conduct such inspections? If there have not been recent inspections, how would licensees not be in violation of 10 CFR 50 Appendix B (Criterion X, XI and XVI), and 10 CFR 50.55(a)?
- Please provide a list of licensee inspections of buried pipe in the last ten years, and their results, including the number, size and locations of detected leaks, failures, and incidents of corrosion. Please also provide a list of Commission inspections of buried pipes in the last ten years, and their results.
- Has the Commission ever considered requiring licensees to develop technologies and methods to inspect difficult-to-access buried pipes? If so, why are such requirements not in place? If not, why not?

Thank you for your prompt attention to this request. Should you have any questions, please contact Will Huntington of Rep. Markey's staff at 202-225-2836 or Jim Bradley of Rep. Hall's staff at 202-225-5441.

Sincerely,

  
 Edward J. Markey  
 Chairman  
 Subcommittee on Energy and  
 The Environment

  
 John J. Hall  
 Member of Congress