U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Enforcement Conference Report No.	93-29
Docket No.	50-333
License No.	DPR-59
Licensee:	New York Power Authority Post Office Box 41 Lycoming, New York 13093
Facility Name:	James A. FitzPatrick Nuclear Power Plant
Enforcement Conference At:	King of Prussia, Pennsylvania
Conference Conducted:	February 25, 1994

Prepared By: for _____ 3/10/94
James Noggle, Senior Radiation Specialist — Date
Facilities Radiation Protection Section

Approved By: _____ 3/14/94
Robert J. Bores, Chief — Date
Facilities Radiation Protection Section

Conference Summary: The enforcement conference was held to discuss the safety significance of events associated with a contaminated shipping container that originated from the FitzPatrick Nuclear Power Plant on December 8, 1993 and arrived at the Barnwell Low-Level Waste Disposal Site at Barnwell, South Carolina on December 10, 1993. During the conference the following areas were discussed: the licensee's evaluation of the event, causes, corrective actions, safety significance, and the licensee's perception of the appropriateness of the apparent violation relative to criteria outlined in the NRC Enforcement Policy. The conference was attended by licensee management and staff and by NRC management and staff.

DETAILS

1.0 Licensee and NRC Personnel in Attendance

Attachment 1 to this conference report identifies licensee and NRC personnel in attendance.

2.0 Purpose of Conference

The purpose of the conference was to discuss the safety significance of events associated with a contaminated shipping container that originated from the FitzPatrick Nuclear Power Plant on December 8, 1993 and arrived at the Barnwell Low-Level Waste Disposal Site at Barnwell, South Carolina on December 10, 1993. Details of these events are described in NRC Region I Inspection Report No. 50-333/93-29. Also discussed during the conference were the licensee's investigation and evaluation of the event, the licensee's immediate and long-term corrective actions, and the licensee's perception of the appropriateness of a violation relative to criteria outlined in the NRC's Enforcement Policy (10 CFR Part 2, Appendix C). The conference was open to the public for observation.

3.0 NRC Comments

NRC management opened the conference by identifying the purpose of the conference, describing the enforcement process, and presenting a summary of the event and the apparent violation.

4.0 Licensee Comments

Licensee representatives provided: a description of the event, immediate and long-term corrective actions, a review of activities and events preceding the December 8, 1993 shipment, and a summary of the internal evaluation of the events. Attachment 2 to this conference report is a copy of the licensee's presentation.

5.0 Summary

NRC management summarized the discussions and enforcement options before ending the meeting.

ATTACHMENT 1

Licensee Attendees:

R. Barrett	General Manager, Operations, JAF
P. Boren	Vice President, Nuclear Engineering, NYPA
J. Gray, Jr.	Director, Nuclear Licensing - BWR, NYPA
J. Kelly	(Acting) Vice President, Operations, NYPA
A. Levine	Senior Attorney, NYPA
M. Redding	Communications Specialist, NYPA
H. Salmon	Resident Manager, JAF
J. Sipp	Manager, Radiological Environmental Services, JAF
J. Solini	General Supervisor, Radiological Engineering, JAF
S. Wisla	Senior Radiation Protection Engineer, JAF

NRC Attendees:

R. Bores	Chief, Facilities Radiation Protection Section, Region I
R. Capra	Director, Project Division 1-1, NRR
W. Cook	Senior Resident Inspector, FitzPatrick
C. Cowgill	Chief, Projects Branch Number 1, Region I
J. Durr	(Acting) Deputy Director, Division of Reactor Projects, Region I
L. Eckert	Radiation Specialist, Region I
J. Furia	Senior Radiation Specialist, Region I
J. Joyner	Chief, Facilities Radiological Safety and Safeguards Branch, Region I
J. Noggle	Senior Radiation Specialist, Region I
R. Ragland	Radiation Specialist, Region I
D. Vito	Senior Allegation Coordinator, Region I
M. Weber	(Acting) Deputy Director, Division of Radiation Safety and Safeguards, Region I

JAF - James A. FitzPatrick Nuclear Power Plant
NYPA - New York Power Authority

FEBRUARY 25, 1994

NEW YORK POWER AUTHORITY
J. A. FITZPATRICK NUCLEAR POWER PLANT

ENFORCEMENT CONFERENCE

TRANSPORTATION CASK CONTAMINATION
NRC INSPECTION REPORT NUMBER 93-29

AGENDA

Harry Salmon to present:

1. INTRODUCTION
2. APPARENT VIOLATION

Joseph Sipp to present:

3. SEQUENCE OF EVENTS
4. CAUSES
5. CORRECTIVE ACTIONS
6. SAFETY SIGNIFICANCE
7. SUMMARY/BROADER IMPLICATIONS

Jack Gray to present:

8. MITIGATING FACTORS
9. ENFORCEMENT DISCRETION

NEW YORK POWER AUTHORITY

ATTENDEES:

ROBERT BARRETT - GENERAL MANAGER, OPERATIONS

PAUL BORER - VICE PRESIDENT ENGINEERING

MICHAEL COLOMB - GENERAL MANAGER, SUPPORT SERVICES

JACK GRAY - DIRECTOR, NUCLEAR LICENSING - BWR

JOHN KELLY - ACTING VICE PRESIDENT NUCLEAR OPERATIONS

AMY LEVINE - SENIOR ATTORNEY

MICHAEL REDDING - COMMUNICATIONS SPECIALIST

HARRY SALMON - RESIDENT MANAGER

JOSEPH SIPP - MANAGER, RADIOLOGICAL & ENVIRONMENTAL SERVICES

JOHN SOLINI - GENERAL SUPERVISOR, HEALTH PHYSICS

STANLEY WISLA - SENIOR RADIOLOGICAL ENGINEER

INTRODUCTION

The purpose of our presentation is to discuss the circumstances surrounding the apparent violation identified in NRC Inspection Report Number 93-29. The TN-RAM cask was shipped from the James A. FitzPatrick Nuclear Power Plant to the Barnwell facility and arrived with external non-fixed contamination in excess of 10 CFR 71 limits on December 10, 1993.

APPARENT VIOLATION

An apparent violation of 10 CFR 71 requirements as a result of the cask arriving at the Barnwell site with external non-fixed radioactive contamination in excess of allowable limits.

NYPA agrees with the NRC statement of facts.

TN-RAM CASK SHIPMENT EXPERIENCE

SHIPMENT 1

- 10/6/93 Received at JAF - No receipt problem discovered at that time*
- 10/30/93 Received at Barnwell - No receipt problem - within limits

SHIPMENT 2

- 11/3/93 Received at JAF - No receipt problem - within limits
- 11/11/93 Received at Barnwell - No receipt problem - within limits

Cask used by another utility

SHIPMENT 3

- 12/3/93 Received at JAF - Receipt problem - above limits due to weeping
- 12/10/93 Received at Barnwell - Receipt problem - above limits due to weeping

*During performance of a root cause evaluation for the shipment 3 event, it was discovered that the Shipment 1 cask was above receipt limits at the time it was surveyed.

Friday, December 3, 1993

TN-RAM cask received from Barnwell with non-fixed contamination levels up to 5000 dpm/cm^2

Notified NRC Resident Inspector

Notified Chem Nuclear at Barnwell

Notified NRC Region 1

Cask decontaminated to 300 dpm/cm^2

Saturday, December 4, 1993

Cask decontaminated to 50 dpm/cm^2

Cask brought into the Reactor Building then to the Refuel Floor

Sunday, December 5, 1993

Cask soaked with demineralized water*

Cask placed into the spent fuel pool and liner inserted

Time in pool minimized (1 hr 34 min)*

First decontamination performed before allowing cask to dry (300 dpm/cm^2)*

*These actions were proceduralized from NYPA evaluations of previous industry operating experience.

Monday, December 6, 1993

Second decontamination, general area 80-110 dpm/cm^2 (trunnion and part of top were 700 dpm/cm^2)

Trunnion and top decontaminated to a maximum of 70 dpm/cm^2

Third decontamination, general area 20-80 dpm/cm^2 (single swipe 180 dpm/cm^2)

Cask placed on ground floor of Reactor Building

Tuesday, December 7, 1993

Fourth decontamination to $\leq$57 dpm/cm^2

Cask transported to Interim Rad Waste Building

Fifth decontamination to $\leq$10 dpm/cm^2

Decision was made to hold the cask an extra day to assess weeping

Wednesday, December 8, 1993

Survey performed after approximately 16 hours with non-fixed contamination at 72 dpm/cm^2

Sixth decontamination to $<$10 dpm/cm^2

Cask shipped to Barnwell

Friday, December 10, 1993

FitzPatrick notified by Barnwell of non-fixed contamination on cask above limits (1500 dpm/cm^2)

Notified the NRC Resident Inspector

ROOT CAUSE

- The TN-RAM cask design and industry decontamination techniques are not always effective in controlling the weeping phenomenon.

CONTRIBUTING CAUSE

- NYPA corrective actions taken in response to past industry operating experience were not always effective for control of weeping phenomenon.

CORRECTIVE ACTIONS

1. RES Manager went to South Carolina

2. TN-RAM cask shipments "on-hold" until effective decontamination actions are taken by the owner

3. Incorporated weep rate determination into procedures

4. Incoming survey will be evaluated before the cask is accepted for use

5. Shared information with IP-3 and industry

6. Enhanced training provided to shipping personnel regarding regulatory limits and applying smear efficiencies

7. Procedures revised to lower shipping criteria from 22 dpm/cm^2 to 10 dpm/cm^2

8. Incorporated smear efficiency determination into procedures

(All the above actions have been completed)

MINOR SAFETY SIGNIFICANCE

1. Cask is housed under a raincover that prevents inadvertent contact.

2. A calculation, using accepted NRC and EPA methodology, estimated that the maximum inhalation dose to a hypothetical exposed individual would be less than 1 mrem.

SUMMARY/BROADER IMPLICATIONS

1. NYPA believed that an effective program was in place prior to the event

2. As a result of the event, changes to enhance the program have been made

3. Cask weeping is a generic issue and continued improvement is needed.

4. A study by Sandia Labs on the subject of cask weeping is ongoing and is expected to be completed in 1994

5. Additional efforts may result from a February 10, 1994 meeting between NRC/EEI/EPRI and the cask owners on the subject of cask weeping

6. The industry should improve decontamination and shipping techniques to control weeping

MITIGATING FACTORS

Identification

- Essentially a self-disclosing event
- Promptly reported to NRC
- Discovery of exceeding receipt limits for cask 1 was promptly reported when identified

Corrective Actions

- Effective initial actions
  - RES Manager to South Carolina
  - Shipments on hold until corrective actions implemented
  - Procedures revised to further address "weeping"
- Thorough root cause completed
- Comprehensive and timely longer term actions
  - Enhanced training for responsible personnel
  - Procedure changes in addition to those for "weeping"
  - IP-3 and industry notification

Past History

- No other known instance of "weeping" above limits concerning casks shipped from FitzPatrick
- South Carolina determined NYPA actions appropriate - no enforcement action

Opportunity to Identify

- Industry operating experience evaluated and implemented
- "Weeping" phenomenon known and considered

Multiple Occurrences

- Not applicable - single event

Duration

- Addressed immediately

Safety Significance

- Radiation levels below allowable limits for shipment
- Public never exposed to the contaminated cask surface
- Conservative estimate of dose < 1 mrem
- Health and safety of the public not effected
- Minor safety significance

ENFORCEMENT DISCRETION

- The "weeping" phenomenon is acknowledged in the regulations
- "Weeping" recognized as a "chronic problem"
- Cask is equipped with a cover which "provides a personnel barrier."
- Industry experience which had been implemented
- Responsible personnel aware of the potential for weeping
- Extensive decontamination efforts prior to shipment
- Shipment delayed for additional day to further assess weeping
- Difficulty with correcting the weeping problem with this cask
- Cask met regulatory requirements for shipping when released by NYPA
- Prompt reporting following identification
- Thorough root cause
- Comprehensive correction action
- No impact on the health and safety of the public.
- Minor safety significance
- Civil penalties and escalated enforcement action is not warranted
- NRC enforcement discretion is appropriate