

FEB 03 1994

Docket No. 70-1113
License No. SNM-1097
EA 94-013

General Electric Company
ATTN: Mr. C. P. Kipp, General Manager
GE Nuclear Energy Production
P. O. Box 780
Wilmington, NC 28402

Gentlemen:

SUBJECT: ENFORCEMENT CONFERENCE SUMMARY
(NRC INSPECTION REPORT NO. 70-1113/93-12)

This letter refers to the enforcement conference held at our request on January 26, 1994, in the Region II office. This enforcement conference was open for public observation in accordance with the Commission's trial program for conducting open enforcement conferences as discussed in the *Federal Register*, 57 FR 30762, July 10, 1992. This meeting concerned activities authorized for your Wilmington facility. The issues discussed at this conference related to initiating changed activities associated with the 4B rotary press without conducting an adequate preoperational inspection of the press to verify that the installation was in accordance with the nuclear safety analysis, and the adequacy of corrective actions following a 1989 nuclear criticality safety audit. As we stated during the enforcement conference, the NRC re-review of the issues prior to the enforcement conference revealed that the second apparent violation discussed in the referenced inspection report was more properly subsumed in the first violation and that a separate second violation was not appropriate.

A list of attendees and a copy of your handout are enclosed. Also enclosed are a summary of additional information which you presented and a copy of the "draft" Notice of Violation which we used as a viewgraph during the conference. Although the Notice of Violation was identified as a draft it should have been identified as an "apparent" violation. In addition, we have forwarded a copy of the audio tape recording of the enforcement conference to the Public Document Room. We are continuing our review of these issues to determine the appropriate enforcement actions.

In accordance with Section 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be placed in the NRC Public Document Room.

Should you have any questions concerning this matter, please contact us.

Sincerely,

J. Philip Stohr, Director
Division of Radiation Safety
and Safeguards

Enclosures: (See page 2)

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Enclosures:

- 1. List of Attendees
- 2. GE Enforcement Conference Handout
- 3. Summary of Additional Information Presented by the Licensee
- 4. NRC Viewgraph of Draft Violation
- 5. Audio Tape Recording of Enforcement Conference

cc w/encls 1-4:

T. Preston Winslow, Manager
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 N. C. Department of Environment,
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bcc w/encls 1-5:

Document Control Desk

bcc w/encls 1-4:

- C. Bassett
- E. Flack, NMSS
- J. Lieberman, OE
- C. Smith, NMSS
- G. Troup
- B. Uryc

bcc w/o encls:

License Fee Management Branch

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CBassett	EMcAlpine	DCollins	BMallett	BUryc
01/22/94	01/22/94	01/22/94	01/27/94	01/23/94

Enclosure 1

List of Attendees

NRC Attendees:

- L. A. Reyes, Deputy Regional Administrator, Region II
- J. P. Stohr, Director, Division of Radiation Safety and Safeguards
- D. M. Collins, Chief, Nuclear Materials Safety and Safeguards Branch, Division of Radiation Safety and Safeguards
- C. F. Evans, Regional Counsel
- B. Uryc, Acting Director, Enforcement and Investigation Coordination Staff
- E. J. McAlpine, Chief, Radiation Safety Projects Section, NMSS Branch
- N. Mamish, Office of Enforcement
- E. D. Flack, Office of Nuclear Material Safety and Safeguards
- W. M. Troskoski, Office of Nuclear Material Safety and Safeguards
- L. J. Watson, Enforcement Specialist, EICS
- H. O. Christensen, Division of Reactor Projects
- K. M. Clark, Public Affairs Officer
- J. R. Johnson, Deputy Director, Division of Reactor Projects

Licensee Attendees:

- C. P. Kipp, General Manager, GE Nuclear Energy Production
- T. Hauser, Manager, Environmental, Health and Safety and Nuclear Quality Assurance
- B. J. Kaiser, Manager, Fuel Fabrication Product Line
- C. M. Vaughan, Manager, Regulatory & Environmental, Health & Safety
- A. G. Massey, Process Engineer
- L. R. Wallis, Manager, Media and Environmental Information Programs

NUCLEAR ENERGY PRODUCTION

NRC - GE

ENFORCEMENT CONFERENCE

JANUARY 26, 1994

Enclosure 2

NUCLEAR ENERGY PRODUCTION

AGENDA

INTRODUCTIONS

CP KIPP

APPARENT VIOLATIONS
CORRECTIVE ACTION OVERVIEW

BJ KAISER

ENFORCEMENT FACTORS

CM VAUGHAN

CORPORATE COMMITMENT

TM HAUSER

SUMMARY

CP KIPP

NUCLEAR ENERGY PRODUCTION

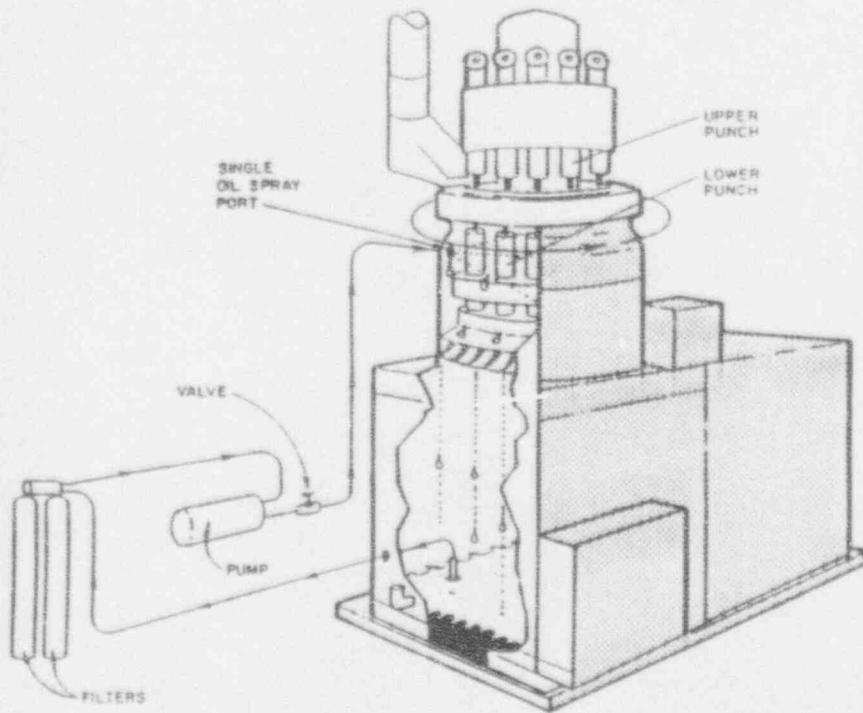
ROTARY PRESSES

- PRESS OPERATION
- PRESS 4B VS 3B/7B DESIGN DIFFERENCES
- KEY EVENTS TIMELINE
- APPARENT VIOLATIONS

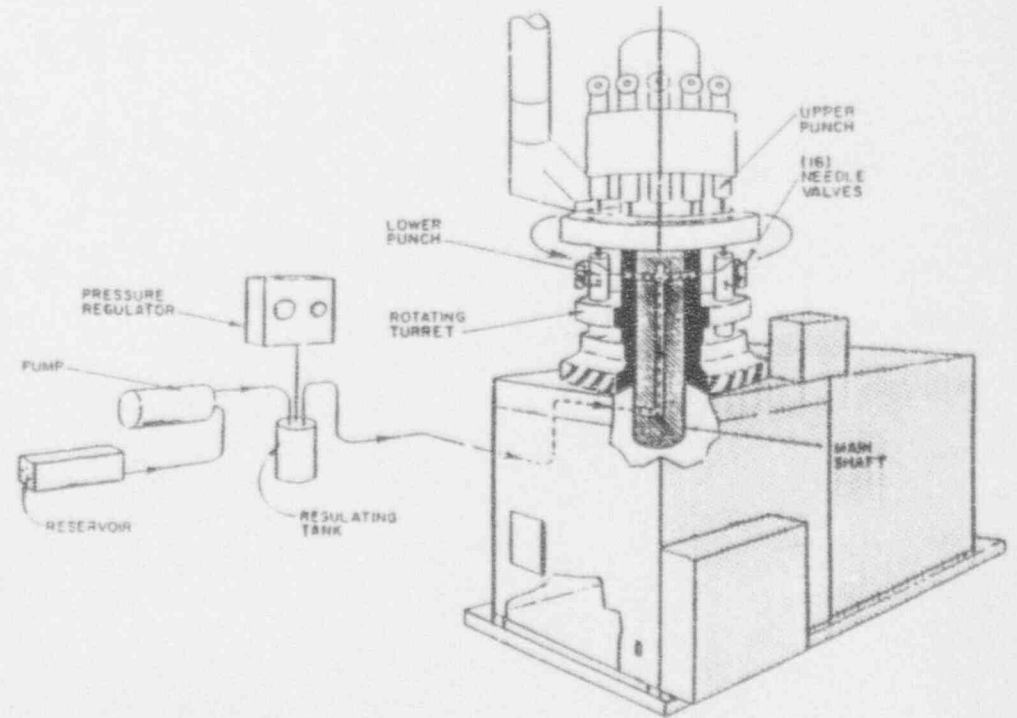
NUCLEAR ENERGY PRODUCTION

PRESS CUTAWAYS

SPRAY DIE-LUBE SYSTEM (4B)



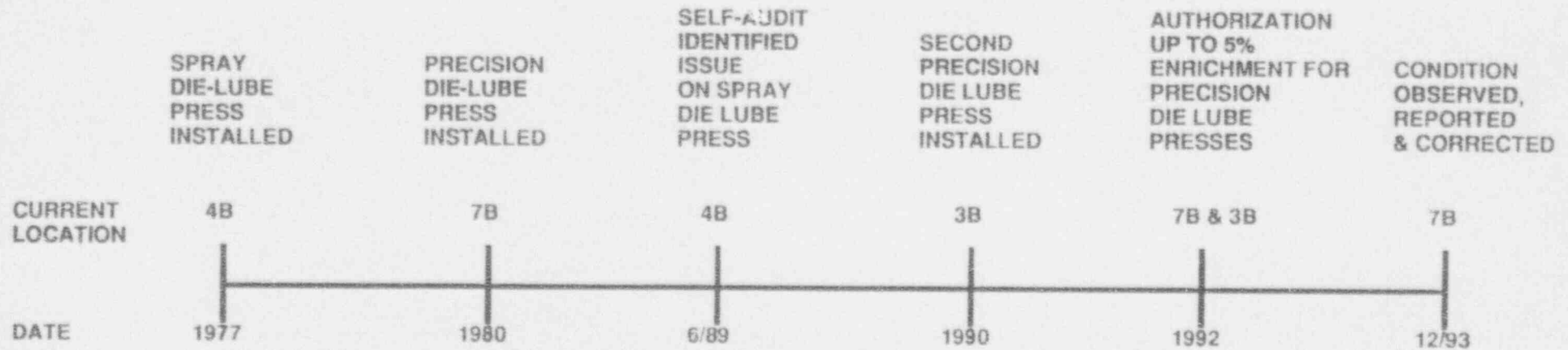
PRECISION DIE-LUBE SYSTEM (7B, 3B)



**SIGNIFICANT DIFFERENCES
IN ROTARY PRESS
DESIGN & OPERATION**

NUCLEAR ENERGY PRODUCTION

ROTARY PRESS EVOLUTION TIMELINE



NUCLEAR ENERGY PRODUCTION

APPARENT VIOLATION 1

APPARENT VIOLATION

FAILURE TO IMPLEMENT ADEQUATE NUCLEAR SAFETY CONTROLS FOR THE ROTARY PELLET PRESSES

GE POSITION

- GE CONCURS WITH NRC'S FINDINGS IN THE INSPECTION REPORT

SAFETY AND REGULATORY SIGNIFICANCE

- THE ACCUMULATION REPRESENTED AN UNACCEPTABLE SITUATION TAKEN SERIOUSLY AND AGGRESSIVELY CORRECTED
- THE AS-FOUND CONDITION DID NOT CONSTITUTE AN IMMEDIATE RISK

NUCLEAR ENERGY PRODUCTION

APPARENT VIOLATION 1

APPARENT VIOLATION - CONTINUED

CORRECTIVE ACTIONS

- IMMEDIATE
 - SHUTDOWN AND REVIEW OF ALL ROTARY PRESSES
 - PROMPTLY NOTIFIED NRC
 - CONDUCTED "ROOT CAUSE" INVESTIGATION

- PRIOR TO RESTART
 - PHYSICAL CHANGES - MODIFIED ALL ROTARY PRESSES TO LIMIT ACCUMULATIONS
 - PROCEDURE CHANGES - INSTITUTED PERIODIC INSPECTIONS AND CLEANOUTS
 - RE-VALIDATED SAFETY CONTROLS NECESSARY TO ENSURE SAFETY BASIS
 - OPERATOR AND MAINTENANCE PERSONNEL TRAINED TO NEW PROCEDURES

NUCLEAR ENERGY PRODUCTION

APPARENT VIOLATION 1

APPARENT VIOLATION - CONTINUED

CORRECTIVE ACTIONS - CONTINUED

- RESULTING ADDITIONAL ACTIONS IN PROGRESS
 - INSPECTING ALL URANIUM HANDLING EQUIPMENT AND AREAS FOR POTENTIAL ACCUMULATIONS AND ASSESSING AND CORRECTING ANY AREAS OF CONCERN
 - INSTITUTE DOCUMENTED PERIODIC VERIFICATIONS FOR ACCUMULATIONS

NUCLEAR ENERGY PRODUCTION

APPARENT VIOLATION 2

APPARENT VIOLATION

FAILURE TO TAKE ADEQUATE CORRECTIVE ACTIONS ON PRESS 4B FOLLOWING THE JUNE 1989 AUDIT

GE POSITION

- GE CONCURS WITH NRC'S FINDINGS IN THE INSPECTION REPORT

SAFETY AND REGULATORY SIGNIFICANCE

- AS-FOUND CONDITION DID NOT REPRESENT AN IMMEDIATE RISK
- THE NEED TO STRENGTHEN AND BROADEN RESPONSES TO AUDITS

NUCLEAR ENERGY PRODUCTION

APPARENT VIOLATION 2

APPARENT VIOLATION - CONTINUED

CORRECTIVE ACTIONS TAKEN SINCE 1989 TO STRENGTHEN AND BROADEN OUR RESPONSES TO AUDITS

- TRAINED PERSONNEL AND APPLIED ROOT CAUSE TECHNIQUES

- STRENGTHENED AND EXPANDED AUDITS AND CONTROLS
 - RESTRUCTURED NUCLEAR SAFETY AUDITS
 - ESTABLISHED INDEPENDENT COMPLIANCE AUDIT FUNCTION
 - CONDUCTING QUARTERLY SELF AUDITS

NUCLEAR ENERGY PRODUCTION

ADDITIONAL ACTIONS

- RE-VALIDATE SAFETY IN CERAMIC AREA
 - VOLUME AND FORM OF MATERIAL PROCESSED
 - COMPLEXITY OF CONTROLS
 - MACHINE/WORK STATION DESIGN
 - INPUT FROM THE INSPECTION EFFORT AND AUDIT FINDINGS

- COMPLETE THE RE-VALIDATION EFFORT OVER THE NEXT 8 TO 12 MONTHS

NUCLEAR ENERGY PRODUCTION

ENFORCEMENT FACTORS

- GE DOES NOT TAKE ISSUE WITH APPARENT VIOLATIONS; HOWEVER, VIOLATIONS SHOULD BE LEVEL IV NON-CITED
- ESCALATION IN SEVERITY IS NOT APPROPRIATE
- POSITIVE MANAGEMENT AND ORGANIZATIONAL BEHAVIOR SHOULD BE REINFORCED BY NRC
- GE IS COMMITTED TO COMPREHENSIVE AND LASTING CORRECTIVE ACTION

NUCLEAR ENERGY PRODUCTION

SUMMARY

- GE MANAGEMENT ACCEPTS FULL RESPONSIBILITY
- SAFETY IS THE PRIORITY: PERSONALLY CONGRATULATED OPERATOR
- WE WILL CONTINUE WITH EFFECTIVE CORRECTIVE ACTIONS
- WE ARE COMMITTED TO CONTINUOUS IMPROVEMENT AND SUSTAINED EXCELLENT PERFORMANCE

Enclosure 3

Summary of Additional Information Presented by the Licensee

During the enforcement conference, licensee personnel presented the following information which is not contained in Enclosure 2:

1. Two individuals remembered that the length of the stand pipe on the 4B rotary press had been reduced to four inches as corrective action to the June 19, 1989 audit finding. The licensee did not have information to explain the circumstances which resulted in the stand pipe modified to the five and one-half inch length which was found on December 21, 1993.
2. The average enrichment processed through the pellet presses is about 2.95% for the BWR 9 design and about 3.4% for the BWR 11 design. As a result, significant accumulations of 5% enriched uranium dioxide in press sumps would be very highly unlikely.
3. The volume of the 4B rotary press sump was insufficient to contain enough uranium dioxide of 2.95% enrichment to produce a criticality.

Enclosure 4

APPARENT DRAFT NOTICE OF VIOLATION
(General Electric)

- A. Condition S-1 of Special Nuclear Materials License No. SNM-1097 authorizes use in accordance with the statements, representations and conditions of Part I of the license application dated October 23, 1987 and the supplements thereto.

Part I, Chapter 2, Section 2.7.3 of the license application requires that changed activities not be initiated until the nuclear safety analysis demonstrating safety of the activity has been completed, a preoperational inspection has been conducted to verify that the installation is in accordance with the nuclear safety analysis, and appropriate procedures and/or instructions are in place.

The nuclear criticality safety analysis contained in Facility Change Request No. 1138, dated February 7, 1977, indicated that a safe geometry or volume of less than 29 liters must be maintained. One of the preoperational audit requirements specified in the analysis required that the sumps and collection vessels be safe volumes. An annotation on an attachment to the Facility Change Request indicated that the sump would be maintained as a safe volume (19.7 liters) for the 4B press by drilling a one-inch hole through the cover plate of the sump at a point approximately 4 inches above the bottom of the sump.

Contrary to the above, changed activities related to the use of rotary pellet press 4B were initiated without an adequate preoperational inspection being conducted to verify that installation was in accordance with the nuclear criticality safety analysis in that there was no one-inch hole drilled in the sump so that a safe volume would be maintained. Also, appropriate procedures and/or instructions were not in place in that there were no procedures and/or instructions to require that the sump be checked to ensure that this control was maintained. In addition, activities were again changed with the installation of pellet presses 7B and 3B using the nuclear criticality safety analysis performed for the 4B press as a basis for their safe installation. Again, adequate preoperational inspections were not conducted to verify that installation was in accordance with the nuclear criticality safety analysis so that safe volumes were maintained for the sumps in these presses in that no holes were drilled in the sumps. Also, appropriate procedures and/or instructions were not in place in that there were not procedures and/or instructions generated to ensure this control was maintained. The time periods during which operation occurred without these controls and procedures and/or instructions being in place were 1977 through 1989 for press 4B, 1980 through December 21, 1993 for press 7B, and 1990 through December 21, 1993 for press 3B.