Official

MAR 0 2 1988

Docket Nos. 50-348, 50-364
License Nos. NPF-2 and NPF-8

Alabama Power Company
ATTN: Mr. R. P. McDonald
Senior Vice President
P. O. Box 2641
Birmingham, AL 35291-0400

Gentlemen:

SUBJECT: ENFORCEMENT CONFERENCE SUMMARY
(NRC INSPECTION REPORT NOS. 50-348/88-02 AND 50-364/88-02)

This letter refers to the Enforcement Conference held at our request on February 17, 1988. This meeting concerned activities authorized for your Farley facility. The issues discussed at this conference related to the potential for excessive personnel exposure as a result of the unauthorized entry into an exclusion area/high radiation area. A summary, a list of attendees, and a copy of your handout are enclosed.

It is our opinion that this meeting was beneficial and has provided a better understanding of the inspection findings, the enforcement issues, and the status of your corrective actions. We are continuing our review of these issues to determine the appropriate enforcement action.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and its enclosures will be placed in the NRC Public Document Room.

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

Sincerely,

J. Nelson Grace
Regional Administrator

Enclosures:
1. Enforcement Conference Summary
2. List of Attendees
3. Handout

cc w/encls: (See page 2)

IE01

cc w/encls:
W. O. Whitt, Executive Vice President
J. D. Woodard, General Manager -
Nuclear Plant
W. G. Hairston, III, Vice President -
Nuclear Support
J. W. McGowan, Manager-Safety Audit
and Engineering Review
S. Fulmer, Supervisor-Safety
Audit and Engineering Review

bcc w/encls:
NRC Resident Inspector
DRS Technical Assistant
E. Reeves, Project Manager, NRR
Document Control Desk
State of Alabama

Not Available

RII	RII	RII	RII	RII	RII	RII
TCollins	CHosey	DCollins	JPStohr	HDance	LReyes	GJenkins	MErnst
2/25/88	2/25/88	2/25/88	2/25/88	2/26/88	2/29/88	3/1/88	2/ /88

3/2

ENCL RE 1

Enforcemer Conference Summary

Licensee: Alabama Power ^ pany

Facility: Farley

Docket Nos.: 50-348 and 50-364

Subject: Potential for Excessive Exposure as a Result of Unauthorized Entry into an Exclusion Area/High Radiation Area

An Enforcement Conference was held at the Region II office on February 17, 1988, to discuss the potential for excessive radiation exposure as a result of an unauthorized entry into an Exclusion Area (areas with radiation levels in excess of 1,000 mrem per hour)/High Radiation Area.

Licensee representatives discussed the sequence of events surrounding the entry of a contract laborer into the spent fuel pool demineralizer room and, using a mock-up, demonstrated the radiological controls that were in place when the entry occurred. The licensee discussed the results of their investigation. During this discussion, the licensee indicated that they disagreed with two statements made in the NRC Inspection Report which discussed the event (Inspection Report 50-348/88-02 and 50-364/88-02). The licensee stated that the door at the access to Room 450 automatically locked when the door closed; therefore, the door could not have been left unlocked. The licensee also stated that they had not intended that anyone enter the exclusion area in Room 450/449; therefore, there was no need for a radiation survey to be performed in the exclusion area entered by the laborer.

The licensee stated that they believed that the root cause for the event was the failure of the laborer to heed the radiological warning signs and controls at the entrance to the exclusion area. In addition, the licensee discussed other contributing causes for the unauthorized entry. The licensee also discussed their temporary and permanent corrective actions to control access to exclusion areas.

NRC representatives discussed the seriousness of the event and emphasized the potential for excessive exposures and the need to take action as necessary to preclude such events. NRC representatives stated that the contributing causes of the event should include inadequate identification of Room 449 in that the laborer was unaware that when he entered the exclusion area he was actually in Room 449 rather than Room 450, the room he was assigned to decontaminate.

NRC representatives also stated that the use of the rope barrier and flashing light was inappropriate to secure access to the exclusion area. Farley Technical Specification 6.12.2 permits the licensee to rope off, conspicuously post, and use a flashing light as a warning device for securing access to

individual areas with radiation levels in excess of 1,000 mrem per hour that are located within large areas, such as PWR containment, where no enclosures exist for purposes of locking, and no enclosure can be reasonably constructed around the individual areas. NRC representatives stated it is the NRC position that a locked barrier could have reasonably been constructed at the entrance to the exclusion area.

ENCLOSURE 2

List of Attendees

Alabama Power Corporation

P. McDonald, Senior Vice President
G. Hairston, Vice President
J. Woodard, Plant Manager
J. McGowan, Manager, Safety Audit and Engineering Review
C. Nesbitt, Technical Manager
M. Mitchell, Health Physics and Radwaste Supervisor
M. Graves, Health Physics Sector Supervisor

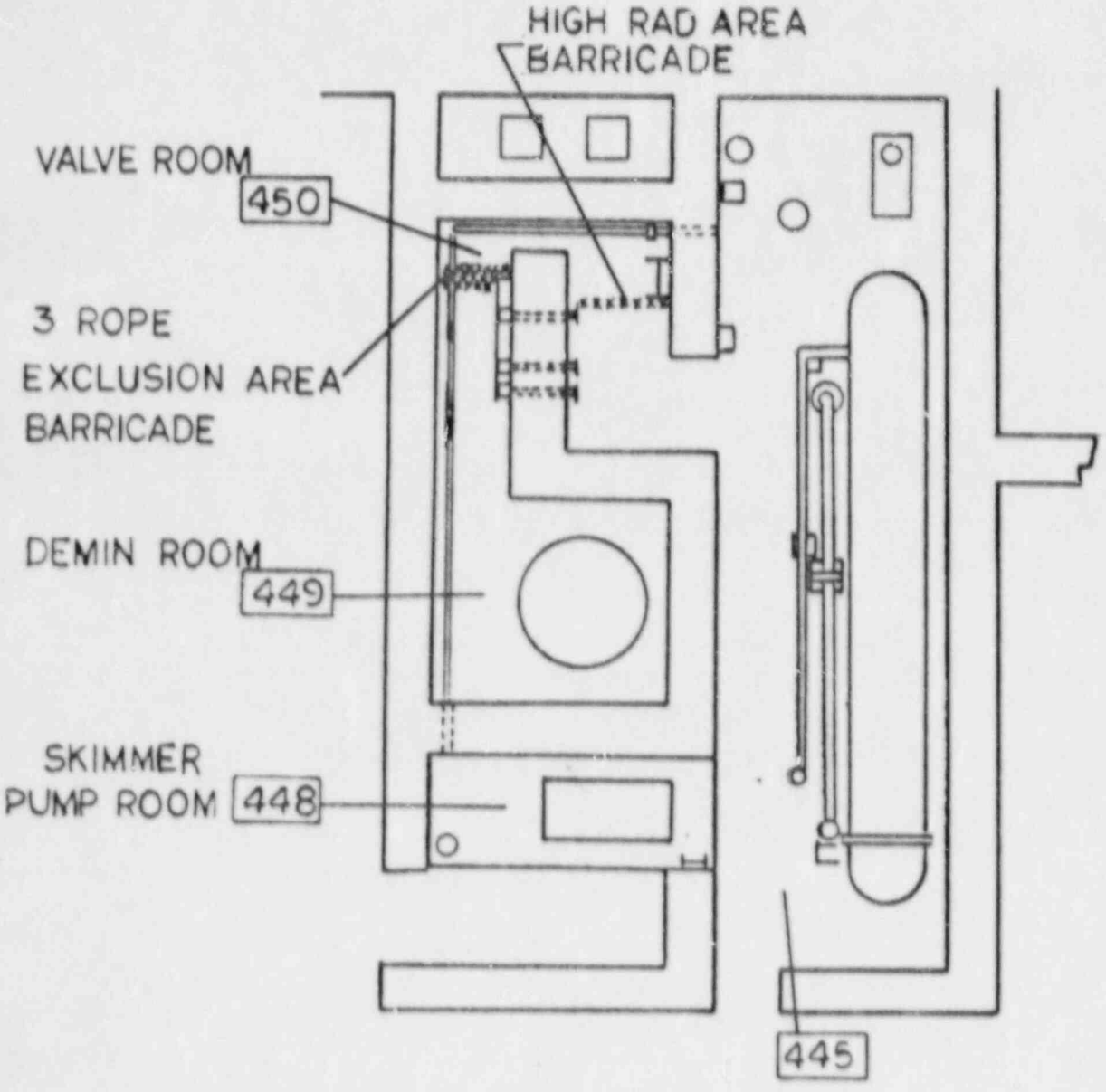
Nuclear Regulatory Commission

J. Nelson Grace, Regional Administrator
L. Reyes, Director, Division of Reactor Projects (DRP)
G. Jenkins, Director, Enforcement and Investigations Coordination Staff
D. Collins, Chief, Emergency Preparedness and Radiological Protection Branch (EPRP)
H. Dance, Chief, Project Section 1B, DRP
C. Hosey, Chief, Facilities Radiation Protection Section (FRP), EPRP
T. Collins, Radiation Specialist, FRP, EPRP
R. Shortridge, Radiation Specialist, FRP, EPRP
M. Lauer, Radiation Specialist, FRP, EPRP
L. Modenos, Project Engineer, DRP
L. Trocine, Enforcement Specialist

ENCLOSURE 3

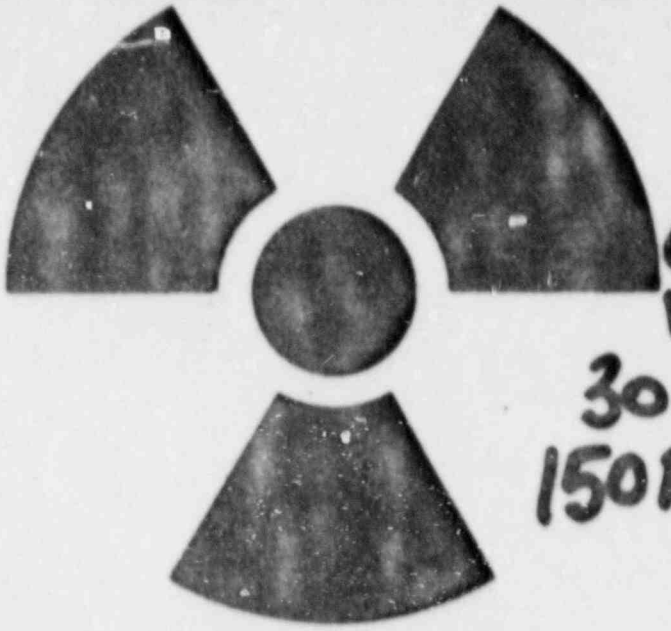
ALABAMA POWER COMPANY
NRC ENFORCEMENT CONFERENCE
POTENTIAL OVEREXPOSURE INCIDENT OF 12-28-87
AGENDA

I.	Opening Remarks	J. N. Grace
II.	Introductions	R. P. McDonald
III.	Event Description	J. D. Woodard
IV.	Analysis of Incident	J. D. Woodard
V.	Corrective Action	J. D. Woodard
VI.	NRC Inspection Report	J. D. Woodard
VII.	NRC Comments	J. P. Stohr T. R. Collins
VIII.	Conclusion and Summary	R. P. McDonald J. D. Woodard
IX.	Closing Comments	J. N. Grace



SPENT FUEL POOL IA HX ROOM

CAUTION

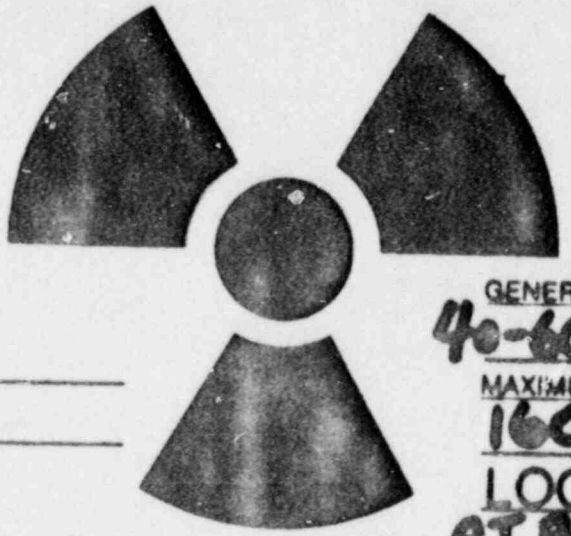


OVER WALL
30 R/hr G/A
150 R/hr MAX

HIGH RADIATION AREA

EXCLUSION AREA

CAUTION



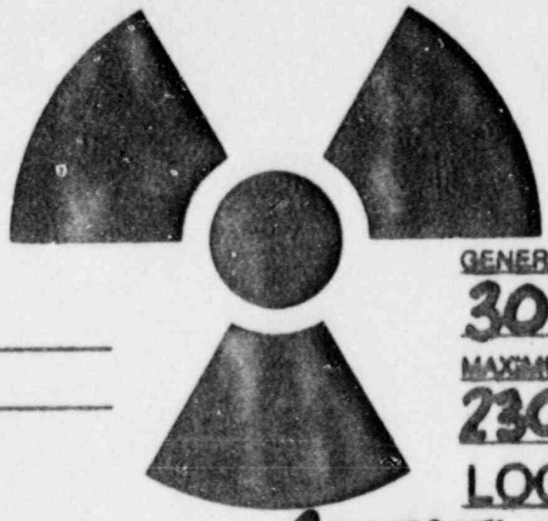
TECH _____
DATE _____

GENERAL AREA DOSE RATE
40-60 MR/HR
MAXIMUM DOSE RATE
100 MR/HR
LOCATED
AT BOUNDARY

HIGH RADIATION AREA

SEE RWP FOR ENTRY REQUIREMENTS

CAUTION



TECH _____

DATE _____

GENERAL AREA DOSE RATE

30 [illegible] R/HR

MAXIMUM DOSE RATE

230 [illegible] R/HR

LOCATED

CONTACT ON DEMIN

HIGH RADIATION AREA

EXCLUSION AREA

REQUIRES APPROVAL FROM THE ON CALL HEALTH PHYSICS MANAGER FOR ENTRY.

ADMINISTRATIVE CONTROLS FOR ENTRY IN ACCORDANCE WITH FNP-0-RCP-0.

(5)

PRINCIPAL CAUSE

Hollinger crossed the exclusion area barricade which consisted of three ropes (knee, waist and shoulder height), a flashing light and an exclusion area sign (stating: HP Manager Approval Required Prior to Entry, also stating dose rates). He made this entry without an RWP and in disregard of radiation postings.

CONTRIBUTING CAUSES

a. Davcon Laborers did not read and follow the RWP for Room 450. Davcon Foreman did not ensure that his crew complied with the RWP while he was in direct control of their actions.

b. Davcon laborers over-relied on health physics instructions rather than their own training and administrative controls.

c. Lack of accurate communications between workers and HP Technician concerning conditions at the job site and work requirements.

d. Inadequate knowledge and understanding of exclusion area and high radiation area work requirements by Davcon personnel.

e. Lack of specific training on exclusion areas.

TEMPORARY CORRECTIVE ACTION

1. Dosimetry for the Davcon Foreman and laborers was pulled.

2. Closed circuit TV cameras were set up to avoid the need to enter Room 450 and Room 2450 (comparable area on Unit 2) on a routine basis.

3. The doors to Room 450 and Room 2450 were established as exclusion area boundaries.

4. All other jobs at FNP in the proximity of exclusion area boundaries were reviewed for adequacy of radiation controls.

5. The doors to the Waste Gas Compressor Rooms and Waste Gas Decay Tank Rooms were established as exclusion area boundaries, eliminating similar situations in which exclusion area barricades were established inside high radiation areas.

PERMANENT CORRECTIVE ACTION

1. Steps will be taken to provide additional assurance that contractor personnel, at all levels understand the significance of following FNP radiological controls and feel free to question supervisory instructions that appear to be in conflict with those controls.

2. The Davcon personnel were retrained by APCo and then counseled by Davcon supervision.

3. Wherever possible, exclusion area bo. ries in the Auxiliary Building will be expanded such that access can be controlled by a locked door. Design changes will be considered for all instances in which exclusion area boundaries require frequent entries.

4. Keys to exclusion area doors were removed from all key rings except for the Emergency key ring in the sole custody of the Shift Supervisor.

5. The system for issuance of exclusion area keys was segregated from that of other keys.

6. Training was conducted for each FNP work group (both APCo personnel and contractors) in January, 1988. This training has been incorporated into the basic Radiation Worker Training and retraining course.

INPO ROOT CAUSE ANALYSIS

1. Inaccurate or incomplete radiation survey.

2. RWP inadequate for the work to be performed.

3. Radiological protection technicians not reacting to changing or unusual radiological conditions.

4. Workers not following procedures or exhibiting improper radiological work practices.

5. Need for more involvement by the supervisor or foreman of the workers.

CONCLUSION

A. Hollinger received an administrative overexposure because he followed what he thought were accurate verbal instructions from health physics rather than following radiological postings, procedures and training.

B. Hollinger did not receive a regulatory overexposure because he was conscious of the high radiation level, he worked quickly as instructed and checked his pocket ion chamber as instructed.

Identifier ☐☐☐☐☐ – ☐☐☐☐

RADIATION WORK PERMIT

☐ Special ☐ Routine ☐ Normal Entry Area ☐ Exclusion Area

RWP Number ☐ – ☐☐ – ☐☐☐☐

A Location	Est. Start Date	Est. Completion Date ☐ Until	Work Request No. ☐ N/A	Requested By ☐ MM ☐ EM ☐ I & C ☐ OPS ☐ PMD ☐ W & D ☐ SP ☐ Other

C Job Description

B

Exposure Category	Abbrev.
☐ Rx Oprns and Surveillance	(ROS)
☐ Routine Maintenance	(RPM)
☐ Inservice Inspection	(ISI)
☐ Special Maintenance	(SPM)
☐ Waste Processing	(WP)
☐ Refueling	(RF)

D Radiological Conditions

	Location	Radiation Levels: Contact mrem/hr				Work Area mrem/hr	Contamination: Type	Activity dpm/100cm²	Airborne: Activity	% MPC	Health Physics Survey: Survey Number
Expected Conditions		β	γ	Total β, γ							
Actual Conditions		β	γ	Total β, γ							
		β	γ	Total β, γ							

E Health Physics Requirements

Body & Hands	X	Feet	X	Head	X	Respiratory	(PF)	X	Dosimetry	X
Coveralls 1 pr. 2 pr.		Shoe Covers (canvas)		Surgeons Cap		Full Face	50		TLD (vendor)	
Lab Coat		☐ and ☐ or Plastic Booties		Canvas Hood		Air Fed Hood	2K		TLD (plant)	
Plastic Suit		☐ and ☐ or Rubber Shoes		Plastic Hood		Airline Full Face	2K		Dosimeter	
Paper Coveralls		Paper Shoe Covers		Face Shield ☐ Safety ☐ Beta Eye Prot		Self Contained	10K		Dosimeter (high)	
Cloth Liners		Tape Gloves & Booties to Coveralls		Beta Eye Protection (e.g. glasses, goggles)					Extremity TLD	
Rubber Gloves 1 pr. 2 pr.		No Personal Outer Clothing		Dust Mask					Neutron ☐ Monitoring Device ☐ Calculation	
Surgeons Gloves									Digital Alarming Dosimeter ☐ Per Individual ☐ Per Group	
									Multi-Badging ☐ Required for all personnel ☐ Required for certain personnel per H. P.	

WORKER RESPONSIBILITY

- ☐ Contact H. P. For Line Breaks
- ☐ Contact H. P. Prior to Work in New Areas
- ☐ Protect Cuts
- ☐ See Special Instructions
- ☐ Have Equipment Monitored at End of Job
- ☐ Undergarments Required (i.e., shorts, underwear, etc.)
- ☐ Clean Up Work Area During & After Job
- ☐ Frisk Upon Exiting a Contaminated Area

H. P. RESPONSIBILITY

- ☐ Whole Body Evaluation
- ☐ Skin Evaluation
- ☐ Extremity Evaluation
- ☐ Temporary Shielding (See RCP-15)
- ☐ Continuous H. P. Coverage
- ☐ Intermittent H. P. Coverage ☐ start of job ☐ periodically ☐ end of job

F SPECIAL INSTRUCTIONS

G ALARA Review Pre-Job

Exposure projected for job: _____ Rem

Is job expected to be ≥ 5 Rem and/or ≥ 1 Rem to any individual? ☐ Yes ☐ No

If yes, a pre-job checklist and pre-job briefing of the work crew by the work supervisor are required prior to beginning the job.

ALARA Review Post-Job

Exposure received during job: _____ Rem

Was there ≥ 5 Rem for job and/or ≥ 1 Rem to any individual? ☐ Yes ☐ No

If yes, a post-job review of j[illegible] is required.

Comments

H Approval

	Date/Time	
Health Physics Representative		/
Work Supervisor *		/
Shift Supervisor		/

I Termination

Date/Time

Health Physics Representative

Reason

5 926 Rev. 7/86 * If approval of work supervisor is given by phone, list supervisor's name and "BY PHONE" or similar wording.

WHITE/Work Location & Return to HP YELLOW/Posted at RCA Entrance PINK/Shift Supervisor

CHP Form 206 January, 1988

(17)