

# ACCELERATED DOCUMENT DISTRIBUTION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

D  
 ACCESSION NBR: 9406140034      DOC. DATE: 94/06/09      NOTARIZED: NO      DOCKET #  
 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylv      05000387  
 AUTH. NAME      AUTHOR AFFILIATION  
 BYRAM, R.G.      Pennsylvania Power & Light Co.  
 RECIPIENT NAME      RECIPIENT AFFILIATION  
 MARTIN, T.T.      Region 1 (Post 820201)

SUBJECT: Responds to NRC 940510 ltr re violations noted in AIT insp  
 rept 50-387/93-80 on 931221. Corrective actions: revised  
 operating procedure & issued off-normal procedure.

DISTRIBUTION CODE: IE10D      COPIES RECEIVED: LTR 1 ENCL 1      SIZE: 7  
 TITLE: 50 Dkt Augmented Inspection Team (AIT) Reports/Correspondence

NOTES:

	RECIPIENT		COPIES		RECIPIENT		COPIES	
	ID	CODE/NAME	LTR	ENCL	ID	CODE/NAME	LTR	ENCL
	PD1-2	PD	1	1				
INTERNAL:	AEOD/DEIIB		2	2	AEOD/DO		1	1
	AEOD/DSP/ROAB		1	1	AEOD/DSP/TPAB		1	1
	DEDRO		1	1	NRR/ADAR		1	1
	NRR/DORS/DIR		1	1	NRR/DORS/OEAB		2	2
	NRR/DRCH/HHFB		1	1	NRR/DRIL/RPEB		1	1
	NRR/DRPW		1	1	NRR/DRSS/PEPB		1	1
	NRR/DSSA/DIR		1	1	NRR/PMAS/ILPB		1	1
	NUDOCS-ABSTRACT		1	1	OE/DIR		1	1
	OGC/HDS2		1	1	<del>REG-ELLE</del> 02		1	1
	RES/DSR/HFB		1	1	RGN1 FILE 01		1	1
EXTERNAL:	INPO RECORD CTR		1	1	NRC PDR		1	1
	NSIC		1	1				

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK,  
 ROOM P1-37 (EXT. 504-2065) TO ELIMINATE YOUR NAME FROM DISTRIBUTION  
 LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTR 26 ENCL 26



**Pennsylvania Power & Light Company**

Two North Ninth Street • Allentown, PA 18101-1179 • 610/774-5151

Robert G. Byram  
Senior Vice President—Nuclear  
610/774-7502  
Fax: 610/774-5019

JUN 09 1994

Mr. Thomas T. Martin, Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406

**SUSQUEHANNA STEAM ELECTRIC STATION  
REPLY TO NOTICE OF VIOLATION (EA 94-022)  
NRC AIT INSPECTION REPORT (387/93-80)  
PLA-4148 FILE R41-2**

Docket Nos. 50-387  
50-388

Dear Mr. Martin:

This letter provides Pennsylvania Power & Light Company's response to the Notice of Violation (EA 94-022) dated May 10, 1994, for NRC AIT Inspection Report 50-387/93-80 dated December 21, 1993.

The notice required submittal of a written reply within thirty (30) days of the date of the letter transmitting the Notice of Violation. We trust that the commission will find the attached response acceptable.

Very truly yours,



R. G. Byram

Attachment

cc: NRC Document Control Desk (original)  
Mr. G. S. Barber, NRC Sr. Resident Inspector  
Mr. C. Poslusny, Jr., NRC Project Manager

9406140034 940609  
PDR ADOCK 05000387  
Q PDR

JE10 / 1

REPLY TO A NOTICE OF VIOLATION

A. Violation (EA 94-022/01013)  
(387/93-80-01)

Technical Specification 6.8.1.a requires that written procedures be established, implemented, and maintained covering the activities referenced in Regulatory Guide 1.33. Regulatory Guide 1.33 requires that refueling procedures, and procedures for maintenance and surveillances, be implemented. In addition, Technical Specification 6.8.1.b requires that written procedures be established, implemented, and maintained covering the activities referenced in refueling operations.

Violation A.1

Precaution 6.2.1 of Susquehanna Nuclear Department Procedure OP-AD-107, Rev. 1, "Removal of 1 or More Control Rod Drive Mechanism for Maintenance During Operational Condition 5", provides that with any control blade in the core fully withdrawn for maintenance, fuel movement is restricted to offload only, and only fuel movements from the core to fuel pool are permitted.

Contrary to the above, procedures were not adhered to during refueling operations, as evidenced by the following:

On October 6, 1993, fuel bundle 31-56 was incorrectly removed from the core and subsequently replaced in its core location. Thus, this movement was contrary to OP-AD-107, Rev. 1, because it was not a movement from the core to the fuel pool.

Response

1. Reason for the Violation

Fuel bundle 31-56 was incorrectly removed from the core and subsequently replaced in its core location on October 6, 1993, for the following reasons:

1. The reactor operator who performed the fuel bundle manipulation relied solely on the bridge encoder and the senior reactor operator did not properly perform bundle verification prior to its removal from the core. Since fuel bundle 31-56 is a peripheral bundle, visual observation of it can be obscured, and

2. Procedural controls and communications were less than optimum. This resulted in the operators returning bundle 31-56 to its core location instead of the fuel pool.

2. Corrective Steps Which Have Been Taken and the Results Achieved

- a. Immediate training was given to refueling bridge operators identifying the importance of assuring that procedurally identified fuel movements are performed.
- b. The operating procedure was revised to require that two individuals confirm the grapple alignment prior to bundle movement, and to require that the refueling bridge senior reactor operator and reactor operator concur on the location and orientation of the grapple prior to movement.
- c. An off-normal procedure has been issued to require that if any fuel bundle has been lifted clear of the vessel top guide, it must be moved to a safe location in the spent fuel pool.

3. Corrective Steps Which Will Be Taken to Avoid Further Violations

No further actions are required.

4. Date of Full Compliance

Based on (2) above, PP&L is in full compliance.

Violation A.2

Section 6.13 of Susquehanna Nuclear Department Procedure NDAP-QA-0754, Rev. 0, "Nonconforming Reports - Control and Processing," provides approved means to prevent inadvertent use of nonconforming items.

Contrary to the above, procedures were not adhered to during refueling operations, as evidenced by the following:

On October 5, 1993, the Unit 1 grapple was replaced with a spare grapple that was procured as "non-Q" and had not been dedicated prior to use. Nonconformance Report NCR 93-112 had been previously written to document this condition. However this grapple was placed into use without dispositioning of NCR 93-112 which was contrary to Section 6.13 of NDAP-QA-0754.

Response

1. Reason for the Violation

The reason the "non-Q" grapple was used on the refueling floor on October 5, 1993, prior to the NCR being dispositioned, was due to the loss of segregation control. To prevent the possibility of foreign material entering the reactor cavity or other open fuel pools on the refueling floor, loose material taken to the refuel floor is kept to a minimum. This policy resulted in the NCR tag being removed from the "non-Q" grapple. When the tag was removed, a loss of segregation control occurred, and as a consequence, the grapple was installed on the refueling platform.

2. Corrective Steps Which Have Been Taken and the Results Achieved

- a. An Engineering evaluation was performed to determine acceptability of the grapple. The evaluation concluded that the grapple was acceptable for use, as received and as installed.
- b. The NCR administrative procedure, NDAP-QA-0754, was enhanced to require alternate methods of segregation control (such as roped-off area with placard) when tagging is not appropriate.
- c. A review of historical control of "Q" components at Susquehanna was conducted. This review concluded that Susquehanna maintains good control of "Q" components and this incident was not indicative of a programmatic problem in this area.

3. Corrective Steps Which Will Be Taken to Avoid Further Violations

PP&L believes completion of corrective step (2.b) above will prevent recurrence of this type event.

4. Date of Full Compliance

Based on (2) above, PP&L is in full compliance.

B. Violation (EA 94-022/01023)  
(387/93-80-02)

10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," requires, in part, that in cases of significant conditions adverse to quality, measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition.

Violation B.1

Contrary to the above, on September 20, 1986; September 27, 1987; April 15, 1988; April 13, 1989; September 19, 1989; April 17, 1991; and March 20, 1992, fuel bundles or blade guides were either improperly removed or found to be in an incorrect location, which were significant conditions adverse to quality. However, the corrective actions for these events, primarily training and counseling, did not preclude repetition, in that on October 6, 1993, fuel bundle 31-56 was removed incorrectly from the core.

Response

1. Reason for the Violation

The cause of each previously identified event had unique features. In addition to training and counseling, corrective actions such as procedural revisions, addressing of human factors concerns, and implementation of minor modifications were taken to address these events. Although the corrective actions to each specific event were adequate, we did not fully recognize the significance and commonality of these types of recurring events. Therefore, the previous corrective actions did not prevent the occurrence of the fuel bundle 31-56 movement event on October 6, 1993, since they only addressed the specific cause of each event. See the response to violation A.1 for the reason for the fuel bundle (31-56) movement event on October 6, 1993.

2. Corrective Steps Which Have Been Taken and the Results Achieved

See the response to violation A.1 for the corrective steps which have been taken for the fuel bundle (31-56) movement event on October 6, 1993. Also, revisions to the Significant Operating Occurrence Report (SOOR) program have been made that strengthens the ability to recognize and appropriately address recurring events. Additionally, Nuclear Department personnel have been sensitized to the significance of any event that occurs at the station.

3. Corrective Steps Which Will Be Taken To Avoid Further Violations

PP&L has convened a Continuous Performance Improvement Team, headed by a functional unit manager, to evaluate and recommend upgrades to the various corrective action programs that exist in the Nuclear Department. This team is scheduled to complete its evaluation and recommendations by December 31, 1994.

4. Date of Full Compliance

Based on the actions taken in violation response A.1 section (2), PP&L is in full compliance.

Violation B.2

Contrary to the above, between March 1984 and October 1992, on at least thirteen occasions, the refueling mast was bent or damaged by impact or operation (a significant condition adverse to quality), due to operator performance. Corrective actions taken by the licensee, primarily training and counseling, were insufficient to prevent recurrence on October 26, 1993, when the mast again was damaged on impact with the reactor vessel flange due to operator performance.

Response

1. Reason for the Violation

PP&L's evaluation of the refueling mast impact damage for the October 26, 1993 event, that was conducted following recognition of the significance of this type event, concluded that:

1. The root cause investigations for previous occurrences attributed to human error did not probe into the causes for human error.
2. The mast operating practices, when coupled with the mast design limitations were marginally adequate.
3. Failure to proceduralize controls that recognized mast design limitations affected mast operations.

2. Corrective Steps Which Have Been Taken and the Results Achieved

- a. Operating procedures have been revised and training completed to prohibit simultaneous horizontal and vertical movement. The revised procedures only allow full speed movement in the horizontal direction with the mast in the "full up" position, and require the mast to be in the "normal up" position for movement through the transfer canal.

- b. Operating procedures have been revised to dictate when maintenance testing on the refuel platform mast is required (i.e., prior to core off-load, prior to core reload, once every 24 hours during off-load and reload operations, and following any event potentially causing mast damage). Maintenance procedures have been revised to specify what testing is required in each instance.
- c. Procedures for performing root cause evaluations were enhanced to probe further into why human errors occurred (e.g., verbal and written communications, environmental conditions, work schedule, management changes).
- d. The procedure for performing root cause analysis for station events was enhanced to require a review of the effectiveness of corrective actions to prevent similar events, and why they did not prevent recurrence.

3. Corrective Steps Which Will Be Taken to Avoid Further Violations

A major project has been created to evaluate concerns associated with the refueling platform, fuel handling equipment and component handling equipment. The objectives of the project is to reduce the source or impacts of human error by enhancing the man-machine interface, minimizing unplanned fuel or component handling equipment downtime, improving efficiency, and to reduce the likelihood of events. Short term actions identified by the team have been completed. Long term actions identified by the refuel platform project will be completed prior to the Unit 1 ninth refueling and inspection outage currently scheduled to begin in September 1996.

4. Date of Full Compliance

Based on (2) above, PP&L is in full compliance.