

August 2, 2000

Mr. L. W. Myers
Senior Vice President
FirstEnergy Nuclear Operating Company
Beaver Valley Power Station
Post Office Box 4
Shippingport, Pennsylvania 15077

SUBJECT: BEAVER VALLEY UNITS 1 AND 2 INSPECTION REPORT NOS.
05000334/2000-007 AND 05000412/2000-007

Dear Mr. Myers:

On June 29, 2000, the NRC completed a team inspection of the Beaver Valley Units 1 and 2 Power Station full participation emergency exercise. The enclosed report presents the results of that inspection. The results were discussed with you and other members of your staff on June 29, 2000.

This inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of an examination of selected procedures and representative records, observations of activities, and interviews with personnel.

Overall your staff demonstrated the ability to implement the emergency plan. One finding was identified and evaluated using the Emergency Planning Significance Determination Process. The finding was determined to be very low safety significance (Green).

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Should you have any questions regarding this report, please contact Mr. Richard J. Conte at (610) 337-5183.

Sincerely,

/RA/

Wayne D. Lanning, Director
Division of Reactor Safety

Docket Nos. 05000334, 05000412
DPR-66, NPF-73

Mr. L. W. Myers

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Enclosure: Inspection Report No. 05000334/2000-007 and 05000412/2000-007

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R. Fast, Director, Plant Maintenance

F. von Ahn, Director, Plant Engineering

R. Donnellon, Director, Projects and Scheduling

M. Pearson, Director, Plant Services

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T. Cosgrove, Manager, Licensing

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Mr. L. W. Myers

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U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos: 05000334, 05000412

License Nos: DPR-66, NPF-73

Report No: 05000334/2000-007, 05000412/2000-007

Licensee: FirstEnergy Nuclear Operating Company

Facility: Beaver Valley Power Station

Dates: June 26 - 29, 2000

Inspectors: D. Silk, Senior Emergency Preparedness Inspector, DRS (Lead)
N. McNamara, Emergency Preparedness Inspector, DRS
G. Wertz, Resident Inspector, Beaver Valley, DRP
S. Pindale, Reactor Engineer, DRS
T. Fish, Operations Engineer, DRS
F. Salaam, Summer Intern, DRS
L. Mitchell, Summer Intern, DRS

Approved by: Richard J. Conte, Chief
Operational Safety Branch
Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000334-00-007 and 05000412-00-007; on 06/26-29/2000; FirstEnergy Nuclear Operating Company; Units 1 and 2; Drill, Exercise and Actual Events.

The inspection was conducted by region based inspectors and the resident inspector. The inspection identified one green finding. The significance of issues is indicated by their color (green, white, yellow, red) and was determined by the Significance Determination Process (SDP).

Cornerstone: Emergency Preparedness

- Green. During the June 27, 2000, exercise, the emergency response organization did not successfully implement risk significant planning standard 10 CFR 50.47(b)(9) for radiological assessment. That resulted in delaying the protective action recommendation upgrade when the simulated radiological release began. Specifically, dose assessment personnel were using data from an incorrect radiation monitor channel and incorrect units of measurement. A controller had to provide the dose assessment staff with the correct data. Dose assessment staff incorrectly used that data also and controllers had to provide the correct dose projections in order to preserve the scenario timeline. With the correct projections, the correct PAR upgrade was made. The licensee identified and addressed this issue during the June 29, 2000, critique and entered it into their corrective action program. This failure to implement a planning standard was during an exercise, not an actual event, and, therefore, it is not a violation of NRC requirements. Also, this issue was evaluated by the NRC using the Emergency Planning SDP. It was determined to be a safety issue of very low significance because the licensee identified the failure during an exercise (Green). (Section 1EP1)

Report Details

1. REACTOR SAFETY

Cornerstone: Emergency Preparedness (EP)

1EP1 Drill, Exercise, and Actual Events

a. Inspection Scope

The inspectors, using the guidance of Inspection Procedure 7111401, reviewed:

- Exercise objectives and scenario to determine if the exercise would test major elements of the licensee's emergency plan.
- The licensee's biennial full-participation exercise performance by focusing on risk-significant activities in the control room drill center, the technical support center, the operations support center, the emergency operations facility and the joint public information center.
- The emergency response organization's (ERO) recognition of abnormal plant conditions, classification of emergency conditions, notification of offsite agencies, development of protective action recommendations (PAR), command and control, communications, utilization of repair and field monitoring teams, and the overall implementation of the emergency plan.
- The post-exercise critique to evaluate the licensee's self-assessment of the exercise.

b. Issues and Findings

Licensee players were not able to perform dose projection calculations in a timely or accurate manner to determine when a PAR upgrade was needed. The licensee issued an initial PAR when a general emergency (GE) was declared. At that time no radiological release was in progress. Later in the scenario when the release began, the environmental assessment/dose projection (EA/DP) staff made a series of errors, such as, using data from an incorrect radiation monitor channel and using incorrect units (i.e., uCi/second instead of uCi/cc). This resulted in incorrect dose projections. After 15 minutes, the licensee controllers interjected and provided the correct data to be used for the dose projection calculation. EA/DP personnel erroneously calculated the data such that the controllers interjected again to provide the expected dose projection. This projection was utilized to determine that an upgraded PAR was required. Had this occurred during an actual event, it may have precluded the licensee from successfully implementing its emergency plan, therefore, this was considered an exercise weakness. Since this occurred during an exercise, the failure is not a violation of NRC requirements.

Because radiological assessment is associated with a risk significant planning standard (10 CFR 50.47(b)(9)), this finding was processed through the NRC's Significance Determination Process and determined to be a safety issue of very low significance (Green). The licensee had also identified and addressed this problem during their critique. This issue was entered into the licensee's corrective action process as Condition Report (CR) 00-2201. The licensee attributed part of the cause to be a lack of adequate supervision of the EA/DP staff and will address this issue in CR 00-2224. Accordingly, this failure was not a failure to meet NRC requirements (a program problem).

Also, as a result of the PAR upgrade issue, the inspectors reviewed the PAR procedure, Offsite Protective Actions EPP/IP 4.1. Upon closer review of this procedure, the inspectors were uncertain how the licensee players arrived at the initial PAR. Based upon the dose projection calculations available at the time of the GE declaration, the flow path in Attachment 1 to EP 4.1 would appear to lead to a PAR to evacuate 0 to 2 miles 360 degrees and shelter the remainder of the emergency planning zone (EPZ). Instead, players took a different path on the flow path to arrive at a PAR to evacuate 0 to 5 miles 360 degrees and shelter the remainder of the EPZ. However, the players arrived at the PAR expected by the scenario writers. During subsequent discussions with the licensee's EP staff, the inspectors were informed that the players were acting in accordance with the training that they had received. The players arrived at their decision based upon degrading core conditions and thus evacuating the 5 mile radius was prudent. The PAR made by the players was more conservative than a literal following of the flow path would have indicated. The decision blocks in the PAR flow path that involve judgement for when a release may occur and the significance of available dose projections (when no release is presently occurring) are the critical items in using the flow path. The clarity problem involves a potential unnecessary evacuation of portions of the EPZ by using the flow path as written with the assumptions utilized by the players. The licensee agreed to review the PAR procedure and flow path for adequacy and include it in CR 00-2201.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

a. Inspection Scope

The inspectors reviewed the licensee's process for identifying the data that is utilized to determine the values for the three EP performance indicators (PI):

- Drill and Exercise Performance (DEP)
- ERO Drill Participation, and
- Alert and Notification System Reliability.

The review also included:

- Current and historical records for each PI for the last two quarters in 1999 and the first two quarters in 2000.
- Drill/exercise records and siren testing records for 2000..

b. Issues and Findings

While reviewing the source of data for the DEP and ERO participation PI, it was determined that ERO drill scenarios and licensed operator simulator training scenarios are repeated with other ERO teams and operating crews without any precautions to ensure that scenario content remains confidential since the scenarios are reused in subsequent drills. Aside from the first ERO team and licensed operator crew, the NRC questioned whether PI data collected from repeat usage of the scenarios is an accurate reflection of licensee performance since there are no controls to ensure that the scenario content remains confidential. Reusing scenarios was a past practice of the licensee prior to the collection of data for PIs and there were no administrative guidance or restrictions addressing EP related drills and the reuse of scenarios. The licensee is reviewing its current practice of collecting PI data and the reuse of scenarios. The licensee recorded this issue in CR 00-2400.

40A2 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed licensee findings (audits and critiques) pertaining to the recent drills, and the last licensee biennial exercise critique to determine if performance trends exist and to determine the effectiveness of licensee corrective actions based upon ERO performance during the exercise.

b. Issues and Findings

No significant findings were identified.

40A6 Exit Meeting

The inspectors presented the inspection results to Mr. L. Meyers and other members of licensee management on the contact list at the conclusion of the inspection on June 29, 2000. The licensee acknowledged the findings presented. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

C. Contraras, Emergency Preparedness Specialist
L. Myers, Senior Vice President
J. Sasala, Senior Emergency Planning Specialist
B. Sepelak, Senior Licensing Supervisor
H. Szklinski, Supervisor, Emergency Preparedness
R. Vento, Manager, Health Physics
S. Vicinie, Manager, Emergency Preparedness

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

LIST OF ACRONYMS USED

cc	Cubic Centimeter
CR	Condition Report
DEP	Drill and Exercise Performance
EA/DP	Environmental Assessment / Dose Projection
EP	Emergency Preparedness
EPZ	Emergency Planning Zone
ERO	Emergency Response Organization
GE	General Emergency
PAR	Protective Action Recommendation
PI	Performance Indicator
uCi	Micro-Curie