

February 19, 1991
LIC-91-065R

Omaha Public Power District
444 South 16th Street Mall
Omaha, Nebraska 68102-2247
402/636-2000

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-137
Washington, DC 20555

References: 1. Docket No. 50-285
2. Letter from NRC (S. J. Collins) to OPPD (W. G. Gates) dated
January 17, 1991

Gentlemen:

SUBJECT: Response to Notice of Violation - Inspection Report 50-285/90-44

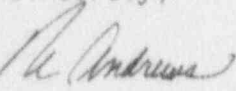
Omaha Public Power District (OPPD) received the subject inspection report which identified one violation. The violation involved the failure to correct deficiencies identified in the Technical Support Center (TSC) during prior emergency exercises. Please find as Attachment 1, OPPD's reply to the Notice of Violation in accordance with 10 CFR Part 2.201.

In addition, the subject inspection report identified four exercise weaknesses noted during the simulated emergency. OPPD is providing a description of corrective measures for these exercise weaknesses. The response to these weaknesses is contained in Attachment 2.

As an initial action in response to the verbal discussion with the NRC after the exercise, OPPD requested that the Institute of Nuclear Power Operations (INPO) conduct an assist visit to review the specific area of Emergency Preparedness. This visit was conducted during the week of January 14, 1991. OPPD is currently addressing recommendations made as a result of that visit.

If you should have any questions, please contact me.

Sincerely,

for 
W. G. Gates
Division Manager
Nuclear Operations

WGG/sel

Attachment

c: LeBoeuf, Lamb, Leiby & MacRae
R. D. Martin, NRC Regional Administrator, Region IV
W. C. Walker, NRC Project Manager
R. P. Mullikin, NRC Senior Resident Inspector

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ATTACHMENT I

REPLY TO NOTICE OF VIOLATION

During an NRC inspection conducted on November 27-30, 1990, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (1990), the violation is listed below:

10 CFR Part 50, Appendix E.IV.F.5 requires that all training, including exercises, shall provide for formal critiques in order to identify weak or deficient areas that need correction. In addition, it requires that any weaknesses or deficiencies identified be corrected.

Contrary to the requirements of 10 CFR Part 50, Appendix E.IV.F.5, a deficiency related to the poor performance of TSC staff observed during the emergency exercise of June 1988 was identified as a recurring weakness during the July 1989 and November 1990 emergency exercises. The NRC has determined on the basis of these findings that as of November 28, 1990, weaknesses and deficiencies identified during two consecutive emergency exercises in the performance of the TSC staff were not corrected as required.

This is a Severity Level IV violation (Supplement VIII) (285/9044-01).

OPPD RESPONSE

1. The Reason for the Violation

The violation identified related to the performance of the TSC resulted primarily due to a significant breakdown in communications between the TSC and Control Room (CR). Another significant contributor to this violation was insufficient training; whereas training and drills were primarily focused at Radiological Emergency Response Plan (RERP) and Emergency Plan Implementing Procedures (EIPs) revision validation. Also, failure to fully evaluate previous corrective actions taken for prior weaknesses contributed to this violation. Additional contributors have been identified as failure to properly define responsibilities of key members of the TSC, Operations Support Center (OSC) and CR; failure to establish well defined communications flow paths between the various facilities, and lack of a clear philosophy on setting and communicating team priorities.

The breakdown in communications in the CR occurred due to an inadequate turnover between the Shift Supervisor and the Control Room Coordinator (CRC). In that the CRC was the primary source of information for the Site Director and other TSC members, this problem was further complicated by the CRC being on the phone almost constantly. This impacted on the ability to keep abreast of plant developments.

The Corrective Steps That Have Been Taken and Results Achieved

Since the conclusion of the exercise, a separate critique with key players from the TSC was conducted to better define individual weaknesses. Additionally, two "lessons learned" sessions have been held, one involving only the Site Directors and TSC Directors, and the second involving key positions from the TSC, OSC and CR. The purpose of the first session was to obtain management concurrence on the roles to be played by each key position, and to establish guidelines for how to define and communicate priorities. The second lessons learned meeting focused on clarifying the roles and communications responsibilities of each key position.

In addition to clarifying specific roles, a causal investigation of the TSC performance issues was conducted by OPPD. This investigation was instrumental in providing guidance during the lessons learned sessions noted above.

The Corrective Steps That Will Be Taken to Avoid Further Violations

1. OPPD will establish a new position in the CR, the CR Operations Liaison, to interface with the Operations Liaisons in the EOF and TSC.
2. A "lessons learned" document, which includes discussions related to previous weaknesses/deficiencies, will be issued to applicable Emergency Response Organization (ERO) personnel. This document will address the importance of keeping adequate logs of emergency events; emphasize the establishment of complete and continuing communications; clearly define the ERO lines of authority, command and control, and communications; and review past experiences. This document will be completed and issued to personnel by May 1, 1991.
3. The procedure, Emergency Preparedness Test No. 35, "Perform Training Drill," will be revised to ensure that applicable exercise or drill weaknesses/deficiencies are assessed. This revision will be completed by March 1, 1991.

OPPD expects to fully demonstrate the effectiveness of these changes during the 1991 annual exercise.

The Date When Full Compliance Will Be Achieved

OPPD will be in full compliance by May 1, 1991.

Attachment 2

REPLY TO WEAKNESSES FINDINGS

During an NRC inspection conducted in November, 1990, four weaknesses in the response to a simulated emergency were determined to exist. This attachment restates each of these items as documented by the NRC and details OPPD's response.

Control Room (285/9044-02)

The inspectors observed problems in the Control Room (CR) with the transfer of critical plant status information to individuals and personnel located outside of the CR, and in maintaining adequate logs. Specific examples of the problems noted are the following:

- Communications of critical plant status information between the CR and other Emergency Response Organization (ERO) groups were sporadic and incomplete. The CR staff did not relay sufficient information to the TSC or EOF staffs to make them aware that loose parts monitors had alarmed, a RCP impeller had disintegrated, and fuel damage had occurred. Poor and incomplete information communicated by the CR to the other ERFs delayed the response to the fire by the fire brigade.
- Logkeeping in the CR degenerated over the course of the Exercise. No entries were made in the CR log from the time the EOF was manned at 9:35 P.M. until the fire brigade leader was dispatched to the plant at 10:37 P.M. During this time, notable events were occurring, and information was being communicated relative to the fire and explosion in the Auxiliary Building, recovery of component cooling water (CCW), and the status of the auxiliary building ventilation system.

Information flow from the control room was identified as an exercise weakness (285/9044-02).

OPPD RESPONSE:

A causal investigation was completed on how CR Information Flow/Command and Control was demonstrated during the 1990 emergency exercise. The investigation focused on the following areas; logkeeping, communications, and command and control. As a result of this investigation, OPPD has taken, or is taking, the following corrective actions:

1. As discussed in the response to Notice of Violation 9044-01, documentation and communications practices will be issued to CR staff personnel via a "lessons learned" document, which will include discussions related to previous weaknesses/deficiencies. Additionally this document will be issued to applicable ERO personnel. This document will address the importance of keeping adequate logs of emergency events; emphasize the establishment of complete and continuing communications; clearly define the ERO lines of authority, command and control, and communications; and review past experiences. As stated above, this activity will be completed by May 1, 1991.

2. In conjunction with Violation 9044-01 and Weakness 9044-04, a decision was made to enhance the flow of information out of the CR by adding an Operations Liaison (additional ERO position) in the Control Room to transfer operational data and information between the TSC Operations Liaison and the EOF Operations Liaison. This was previously expected from the CRC, but resulted in that position not being able to assist in overall command and control within the CR. This enhancement will be implemented by May 1, 1991.

Site Evacuation and Personnel Accountability (285/9044-03)

A problem was observed with access control to the site after the time that a site evacuation had been announced at 7:58 P.M. A security officer was observed in the primary access point at 8:24 P.M. handing out site access badges to personnel entering the site. Procedure SCP-7, "Accountability and Evacuation," requires that the personnel be checked against a site emergency personnel access list and that completed emergency personnel cards be placed in the slot where the badges were removed. The inspector noted that several personnel entered the site at this time without a confirmation check of their emergency access. This problem was subsequently corrected; however, the problem existed for a sufficient length of time to allow at least five individuals to enter the site without confirmation that they were essential emergency personnel.

Failure to maintain positive site access control of nonessential personnel following a site evacuation was identified as an exercise weakness (285/9044-03).

OPPD RESPONSE:

A causal investigation was completed on the site access control demonstrated during the 1990 emergency exercise. In conjunction with this investigation, a Root Cause Analysis was performed by the Security Department. Both investigations indicated that the situation was an isolated event caused by human error. As a result of these investigations, OPPD has taken, or is taking, the following corrective actions:

1. The individual involved in the situation was informed of the error. This individual was provided immediate guidance on the approved methods for emergency site access. This action was completed on November 28, 1990.
2. A Security Bulletin was issued to all FCS Security personnel on January 31, 1991, detailing the requirements of, and requesting suggested enhancements to Security Procedure, SCP-7, "Accountability and Evacuation".

Fire Brigade Response (285/9044-04)

The inspectors noted that the initial report of fire and explosion in the Auxiliary Building was received at 9:30 P.M. The CR staff verified the reports by finding fire alarms indicated on the fire alarm panel and indication of fire pumps running. After discussions among the CR staff concerning the validity of the fire alarms, a decision was made at 9:43 P.M. to dispatch an auxiliary operator and health physics technician to investigate. At 10:01 P.M. the CR received a report that the team was dispatched to the fire. The team entered the radiological controlled area (RCA) at 10:29 P.M. A status report was received from the team by the OSC at 10:45 P.M. The fire brigade was subsequently dispatched and was observed entering the Auxiliary Building at 11 P.M., over 1 1/2 hours following the initial indications of a fire. Untimely response to indications of a fire potentially threatening safety systems is considered an exercise weakness (285/9044-04).

OPPD RESPONSE:

A causal investigation was completed on the fire response demonstrated during the 1990 emergency exercise. The investigation checked several potential contributing factors, including controller actions, communications, command and control, and exercise artificialities. As a result of this investigation, OPPD is taking the following corrective actions:

1. It was determined that more specific command and control guidance is needed within FCS procedures governing fire response. A revision to Standing Order G-28 is underway to specify that the Shift Supervisor will always be the ultimate authority for fire responses, regardless of emergency status. This revision will be implemented by July 31, 1991.
2. The procedure, Emergency Preparedness Test No. 20, "Exercise Preparation and Control", is being revised to ensure that expected artificialities associated with emergency drills and exercises will be identified and considered in the time-line, and presented to the exercise controllers and evaluators. These artificialities include response delays from the simulator, ALARA documentation needed during non-emergencies, and other exercise logistics which add additional time to "normal" emergency response actions. This procedure revision will be implemented by March 22, 1991.

Scenario (285/9044-06)

The inspection team evaluated the Exercise Scenario both before the Exercise and during the course of the Exercise to determine whether it was sufficiently challenging, technically accurate, and well thought out. The inspection team attended a scenario briefing on November 27, 1990, given by the Scenario Development team and lead controllers. In part, because of questions raised by the inspection team, the scenario was rewritten to correct several technical inaccuracies. Examples of the inaccuracies noted by the inspection team in the original scenario are the following:

- * The original scenario assumed that operators would trip one RCP in the unaffected loop following shaft seizure and impeller degradation on the RC-3C RCP. The original data then assumed a forced cooldown for the remainder of the scenario with one RCP running in each loop. During the scenario briefing, inspectors questioned whether vendor guidance might require tripping the second pump in the affected loop. Following the briefing, scenario developers changed the entire scenario to a post-trip natural circulation cooldown.
- * The original scenario showed no safety injection actuation signal (SIAS) with a 300-400 gpm RCP seal leak and two charging pumps injecting about 80 gpm. During the scenario briefing, the inspectors questioned how the pressurizer would stay full in this situation with loss of coolant and thermal shrink far exceeding makeup. Following the briefing, the scenario developers rewrote the data to include SIAS.
- * The original scenario showed containment wide range sump level decreasing following 10:30 P.M. with no sump pumps operating and high pressure safety injection not in the containment sump recirculation mode. Following inspectors' questions on this data during the briefing, scenario developers rewrote the data to show continuously increasing containment sump level.
- * The original scenario showed feed flow and steam flow going to 0, and no auxiliary or main feed pumps in operation following the reactor trip, and throughout the cooldown (i.e., no obvious heat sink). Following the scenario briefing, the data was corrected to show auxiliary feedwater in operation for the cooldown.

Despite the scenario data being significantly rewritten only one day before the exercise, several scenario problems continued to exist and effect exercise realism as follows:

- * The emergency response facility computer system (ERFCS) data sheets showed all four reactor coolant pumps running for the duration of the Exercise while the scenario called for one to be tripped at 7:30 P.M., and the other three were assumed manually tripped by the operators at about 8:30 P.M.
- * The ERFCS data sheets showed containment normal range area, gaseous, and particulate monitors at 0 as containment radiation levels increased to over 10,000 Roentgen per hour (R/h).
- * The scenario data showed containment pressure and temperature continuing to decrease after failure of all CCW pumps (the cooling medium for the containment coolers).

The above examples of scenario-related problems constitute an exercise weakness (285/9044-06).

OPPD RESPONSE:

A causal investigation was completed on the scenario deficiencies identified with the 1990 emergency exercise. As a result of this investigation, OPPD is taking the following corrective actions:

The procedure, Emergency Preparedness Test No. 20, "Exercise Preparation and Control", is being revised to ensure that:

- 1) A thorough review of scenario packages will be completed by personnel with necessary knowledge and experience, in addition to running the applicable portion of the scenario on the plant's simulator with operators. These actions will assist in identifying additional scenario data deficiencies.
- 2) A review of plant temporary modifications will be conducted the week prior to an exercise or drill to identify any system changes which may impact the expected actions to the scenario.
- 3) A senior individual with operations experience will be available for the NRC Evaluation Team review of the annual exercise scenario. This will provide the NRC the opportunity to discuss expected data and response actions which pertain specifically to the Fort Calhoun Station, and may not be generic to similar sites.

The revisions noted above will be accomplished by March 22, 1991.