

WOLF CREEK

NUCLEAR OPERATING CORPORATION

Bart D. Withers
President and
Chief Executive Officer

U.S. Nuclear Regulatory Commission
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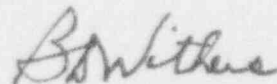
Reference: Letter dated March 9, 1993, from A. B. Beach, NRC to
B. D. Withers, WCNOG
Subject: Docket No. 50-482: Reply to Notices of Violation
482/9301-01 and 482/9301-03

Gentlemen:

Attached is Wolf Creek Nuclear Operating Corporation's (WCNOG) "Reply to Notices of Violation" 482/9301-01, and -03 which were documented in the Reference (NRC Inspection Report 50-482/93-01). Violation 482/9301-01 concerns two examples of failures to follow procedures in that the incorrect Protection Set comparator trip bistables were inadvertently placed in test and the failure to open the Fuel Building to Auxiliary Building dampers when the Fuel Building Exhaust Train was secured. Violation 482/9301-03 concerned an inadvertent reduction of the Refueling Water Storage Tank level as a result of inadequate procedures. The NRC identified both violations as Severity Level IV contrary to the requirements of Technical Specification 6.8.1.a.

If you have any questions concerning this matter, please contact me at (316) 364-8831 ext. 4000 or Mr. K. J. Moles of my staff at ext. 4565.

Very truly yours,



Bart D. Withers
President and
Chief Executive Officer

BDW/jan

Attachment

cc: W. D. Johnson (NRC), w/a
G. A. Pick (NRC), w/a
J. L. Milhoan (NRC), w/a
W. D. Reckley (NRC), w/a

9304130333 930407
PDR ADOCK 05000482
G PDR

P.O. Box 411 / Burlington, KS 66839 / Phone: (316) 364-8831

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Reply to Notices of Violation 482/9301-01 and 482/9301-03

Violation 482/9301-01: Failure to Follow Procedures: Incorrect Pressurizer Protection Set comparator trip bistables inadvertently placed in test and failure to open the Fuel Building to Auxiliary Building dampers when the Fuel Building Exhaust Train was secured.

Findings:

"Technical Specification 6.8.1.a states that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, dated February 1978. Two examples of violations of this requirement are stated below:

1. Regulatory Guide 1.33, Appendix A, Item 8.b. (1) (i), requires specific procedures for reactor protection system tests and calibrations. This is accomplished, in part, by Procedure STS IC-203A, "Analog Channel Operational Test of TAVG, dT and Pressurizer Pressure Protection Set III, " Revision 0.

Step 5.3.1.14 of Procedure STS IC-203A requires personnel to place Protection Set III comparator trip bistables in test.

Contrary to the above, on January 25, 1993, instrumentation and control technicians determined they had inadvertently placed Protection Set IV bistables in test instead of Protection Set III bistables.

2. Regulatory Guide 1.33, Appendix A, Item 3, requires procedures for startup, operation, and shutdown of safety-related systems. This is accomplished, in part, for the fuel building ventilation system by Procedure SYS GG-200, "Fuel Building Emergency Exhaust Operations," Revision 4.

Step 4.3.6 of Procedure SYS GG-200 requires personnel to open the fuel building to auxiliary building dampers, Dampers GG HZ-42 and GG HZ-62 (GL HZ-42), when securing a fuel building exhaust train.

Contrary to the above, on January 14, 1993, with the fuel building exhaust train secured, licensee personnel determined that Dampers GG HZ-62 and GG HZ-42 (GL HZ-42) were closed and Step 4.3.6 incorrectly marked "not applicable." This could have resulted in an unmonitored, unfiltered release of air."

Reason for Violation:

1. The reason for this violation was inattention to detail by two non-licensed licensee technicians during the performance of Technical Specification surveillance test procedure STS IC-203A, "Analog Channel Operational Test of TAVG, dT, and Pressurizer Pressure Protection Set III", Rev. 0, on January 25, 1993. Two Instrument and Control (I&C) Technicians signed on to the authorization cover sheet for STS IC-203A and returned to the area of the protection sets to begin the test. One technician was very familiar with the performance of the procedure, but

the other only had limited familiarity. Both technicians were qualified. One technician assumed the responsibility of reading the procedure steps aloud and performing the checkoffs, annotations, initialing, etc. On this particular day there was a piece of maintenance and test equipment (M&TE) i.e., strip chart recorder located on the floor in front of and connected to a circuit in Protection Set IV. An additional circumstance existed in that Annunciator B093, "PCS Cabinet Door Open," which alerts operators to the fact that a protection set door is open, was locked in alarm because the Protection Set IV doors were slightly ajar to allow test leads to enter from the M&TE strip chart recorder. Finally, given the fact that the plant was in a reduced power configuration and a Control Room annunciator power failure delayed performance of the procedure for about four hours, this could have contributed to a subconscious sense of urgency to complete the procedure. These factors in all likelihood contributed to the mental error involved.

It should also be noted that the access cabinets for the Pressurizer Pressure Protection Sets are color coded. Protection Set III is color "blue" and IV is color "yellow". This fact is also annotated in steps 5.2 and 5.3 of STS IC-203A. Had the technicians checked the color code on the Protection Set IV process instrument cabinet doors prior to performance of this procedure, they would have realized they were entering the wrong access cabinet.

The first technician moved the mobile test cabinet into position. Due to inattention to detail, the technician positioned the test cabinet in front of Protection Set III and opened the door to Protection Set IV. The second technician was preoccupied with an annotation to step 5.2.2 of the procedure, which was due to the alarm for the protection set door already locked in. When the second technician was ready to commence subsequent steps, the Protection Set IV door was already open and performance commenced with step 5.3.1, which is the switch "line-up" prerequisites section.

During the performance of this preliminary section, the performance of step 5.3.1.14 became impossible because there was no BS-2 Comparator Trip Switch in location 03-B42, since this is located in Protection Set III. At the same time Control Room Operators noticed that Channel IV bistable partial trip status lights illuminated instead of the Channel III lights on SB069 step 5.3.1.15 of the procedure. At this point the I&C Technicians, as well as a Control Room Operator on the scene, realized the error, stopped all activities and exited the procedure.

2. The reason for this violation was inadequate self-checking during performance of procedure SYS GG-200, "Fuel Building Emergency Exhaust Operations". During the performance of SYS GG-200, Operators closed the Fuel Building to Auxiliary Building dampers GG HZ-42 and GL HZ-62 per step 4.1.4. However, when the restoration section of SYS GG-200 was done, step 4.3.6 to open dampers GG HZ-42 and GL HZ-62 was incorrectly marked "N/A". The individual performing the procedure read the steps too quickly and believed step 4.3.5, which required closure of the supply dampers, pertained to Train "A" and step 4.3.6 pertained to Train "B".

Corrective Steps That Have Been Taken and Results Achieved:

1. Upon realization of the error, I&C Technicians restored all equipment to its normal operating configuration as established prior to procedure performance. Once the initial conditions were properly established, performance of the procedure was restarted and continued to completion. A Performance Improvement Request (PIR # TS 93-0051) was initiated to investigate the actions leading to the event and human factors which contributed to the inattention to detail during the performance of STS IC-203A. The I&C Technicians involved reviewed their actions and determined that PIR # TS 93-0051 should be discussed in detail for departmental review. The I&C Technicians involved were counseled and the I&C Manager reiterated to I&C personnel the importance of good communications and sound use of self-checking techniques.
2. Once the Control Room was notified of excess pressure in the Fuel Building, an Operator investigated and discovered dampers GG HZ-42 and GL HZ-62 were closed. The Operator opened the dampers per SYS GG-200 step 4.3.6 and the pressure returned to normal.

Corrective Steps That Will Be Taken to Avoid Further Violations:

1. PIR # TS 93-0051 has been routed as required reading to I&C personnel to reiterate the importance of attention to detail.
2. In February 1993, Operations Senior Management initiated the "STAR" (Stop, Think, Act, Review) Self-Checking Program to provide an environment that encourages personnel to carry out their work activities in a thoughtful, deliberate manner. The program uses self-verification techniques to prevent or minimize the potential for human error.

In response to this event, the individual involved in the event will make presentations to the Operating Crews and to WCNOC management emphasizing the STAR program and explain how self-checking techniques could have been used during this event. The presentation will stress that before a work practice is consciously and deliberately initiated by an individual, they should identify the correct unit, train, or component, review the intended action and expected response, verify the adequacy and configuration of test equipment, compare the actual response to the expected response and resolve any differences before proceeding. The presentation will also review the correct usage of "not applicable" (N/A).

Actual or Potential Consequences of this Violation

1. The potential for an inadvertent reactor trip to occur was very remote. The time that the equipment was in a configuration not allowed by the procedure was approximately two minutes. All equipment was promptly restored without adverse consequences to either the equipment or plant status. Procedure STS IC-203A is properly written as it exists. Thus, there was never any risk to public health and safety or plant safety.

2. The potential for an inadvertent release of radioactivity to the public was very remote, as all the required safety equipment was operable during the time the dampers were closed. Should there have been an event of radiological consequence, a Fuel Building Isolation Signal would have actuated. Thus, there was never any risk to public health and safety or plant safety.

Date When Full Compliance Will Be Achieved:

1. Full compliance was achieved on February 10, 1993, with the completion of PIR # TS 93-0051 actions.
2. Full compliance will be achieved by June 15, 1993 with the presentation.

Violation 482/9301-03: Inadequate Procedure: Inadvertent reduction of the Refueling Water Storage Tank level as a result of inadequate procedures.

Findings:

"Technical Specification 6.8.1.a states that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, dated February 1978. 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," requires, in part, that activities affecting quality shall be prescribed by procedures of a type appropriate to the circumstances. Regulatory Guide 1.33, Appendix A, Item 8.b. (1) (j), requires procedures for performing emergency core cooling system tests. This is accomplished, in part, by Procedure STS EJ-100A, "RHR System Inservice Pump A Test," Revision 10.

Contrary to the above, on February 4, 1993, licensee personnel determined that, while Step 5.1.16 of Procedure STS EJ-100A directs the operator to open or verify open Valve BN V004, safety injection test header to refueling water storage tank isolation, the procedure did not require closing Valve BN V004. This resulted in an inadvertent reduction of the refueling water storage tank level."

Reason for Violation:

The Refueling Water Storage Tank (RWST) was on cleanup recirculation via the Fuel Pool Cooling and Cleanup demineralizers, with RWST valve BN V004 closed and Safety Injection System valve EM V120 open due to Safety Injection discharge header problems. Turnover instructions were to depressurize the Safety Injection header at approximately 800 psig. The path for depressurization has been via EM HV8835, EM HV8871, EM V8964, EM V120 to the online Recycle hold-up Tank (RHUT). Valve BN V004 is a normally open valve, but had been closed to avoid diluting the RWST. Valve EM V120 was left open and the air-operated valves were operated from the Control Room as needed to depressurize the Safety Injection header.

On February 3, 1993, at 2300 CST Operations personnel made the lineup for procedure STS EJ-100A, "RHR System Inservice Pump A Test," Revision 10, which opens or verifies open valve BN V004. Since this had been a normal open valve, procedure STS EJ-100A does not restore the valve to the closed position. (STS EJ-100A was written from a normal lineup point of view, but the RWST was on recirculation through the demineralizers and the checklist procedure, CKL BN-120, "Refueling Water Storage System Lineup," Revision. 7, had been changed allowing valves BN V004 and EM V120 to be open or closed.)

At step 5.1.16 of STS EJ-100A, when the operator opened valve BN V004, a path was provided from the discharge of the Fuel Pool Cooling and Cleanup pumps via valve BN V002 through normal open valve BN V004 to valve EM V120 and then to the on-line RHUT to drain the RWST.

On February 4, 1993, at 1252 CST, the Control Room received alarm 47E, "RWST Level Hi/Lo," because of low level, less than 99% in the RWST. Residual Heat Removal (RHR) train B pressure indicated 340 psig.

Operators responded to the level decrease. As the RHR "A" relief valve has been known to lift early, the relief valve was investigated. The Operators commenced makeup to the RWST at 1615 CST, adding 2700 gallons of borated water to the RWST. However, the RWST level continued to decrease at about 240 gallons per hour. To monitor flow, a controlatron was placed on the RHR "A" discharge relief valve. It indicated a flow of 180-300 gallons per hour leading Operators to believe the problem was the RHR relief valve. Methods were pursued to keep the RWST level within Technical Specifications limits with frequent additions and sample recirculation times of 2-3 days.

The Reactor Operator questioned the relief valve problem, as the RHR header was high on "B" train and the trains are cross-connected. At 1930 CST on February 4, 1993, the previous day Auxiliary Building Watchstander remembered opening BN V004 and that the procedure never addressed re-closing it. At the same time the off-going Reactor Operator called from home and reported he remembered this happening some time in the past and to check BN V004. This reason for this violation is inadequate procedures which caused confusion as to whether BN V004 was to be open or closed.

Corrective Steps That Have Been Taken and Results Achieved:

Upon realization that BN V004 was open, Operators closed the valve at 1938 CST on February 4, 1993, and the RWST level stabilized. PIR # OP 93-0084 was initiated on February 5, 1993, to assure a proper evaluation of this event, a thorough root cause determination would be done, and appropriate corrective actions implemented.

STS EJ-100A and STS EJ-100B were revised on March 31, 1993, to include a check that BN V004 is closed and EM V120 is open. Other applicable procedures were evaluated and revised on March 31, 1993, including, STS EM-100A, "Safety Injection Pump A Inservice Pump Test" Rev. 9, STS EM-100B, "Safety Injection Pump B Inservice Pump Test," Rev. 5, and STS PE-19E, "RCS Isolation Check Valve Leak Test" Rev. 9.

To avoid any other similar problems, Operations proceduralized Residual Heat Removal Header (EJ) depressurization on March 23, 1993, and the Refueling Water Storage System Lineup Checklist, CKL BN-120, was revised on February 9, 1993, to identify a specific position for BN V004 instead of either open or closed. To avoid confusion, the Safety Injection System Lineup Checklist, CKL EM-120, was revised on February 12, 1993, to place EM V120 in a specific position instead of either open or closed, as this caused confusion.

Corrective Steps That Will Be Taken to Avoid Further Violation:

Operations will make Safety Injection header depressurization a permanent procedure requiring EMV120 to be checked and BN V004 to be checked closed.

A work request will be initiated by June 1, 1993, to evaluate changing the corresponding plant drawings to reflect BN V004 as normally closed and EM V120 as normally open.

Training will incorporate issues from this event into the Plant and Industry Events section of the licensed operator regualification cycle (93-3) scheduled to begin approximately April 1, 1993, and into the nuclear station operator regualification cycle (93-4) scheduled to begin June 1, 1993.

Actual or Potential Consequences of this Violation

Technical Specification 3.5.5 assures OPERABILITY of the RWST as part of the Emergency Core Cooling System (ECCS) so that a sufficient supply of borated water is available for ECCS injection in the event of a Loss of Coolant Accident (LOCA). The limits on RWST minimum volume ensures sufficient water is available in Containment to permit recirculation cooling to the reactor core, consistent with the LOCA Safety Analysis. The Technical Specification required minimum volume of 394,000 gallons was maintained throughout this event. Thus, there was never a condition not assuring public health and safety or plant safety.

Date When Full Compliance Will Be Achieved

Safety Injection header depressurization will be proceduralized by May 31, 1993.

Operations will initiate a work request to evaluate changing the corresponding plant drawings to reflect valves BN V004 as normally closed and EM 120 as normally open by June 1, 1993.

Training to incorporate new procedures and lessons learned from this event into licensed and non-licensed training by September 1, 1993.

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