WOLF CREEK
NUCLEAR OPERATING CORPORATION

Bart D. Withers
President and
Chief Executive Officer

May 7, 1992

WM 92-0087

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-137
Washington, D. C. 20555

Reference: Letter dated April 9, 1992 from A. B. Beach, NRC to B. D. Withers, WCNOC
Subject: Docket No. 50-482: Response to Violation 482/9202-02

Gentlemen:

Attached is Wolf Creek Nuclear Operating Corporation's (WCNOC) response to violation 482/9202-02 concerning three examples of failing to have appropriate procedures.

If you have any questions concerning this matter, please contact me or Mr. S. G. Wideman of my staff.

Very truly yours,

Bart D. Withers
President and
Chief Executive Officer

BDW/aem

Attachment

cc: A. T. Howell (NRC), w/a
R. D. Martin (NRC), w/a
G. A. Pick (NRC), w/a
W. D. Reckley (NRC), w/a

92-0693

REPLY TO A NOTICE OF VIOLATION

Violation 482/9202-02: Failure To Have Appropriate Procedures

Finding:

Technical Specification (TS) 6.8.1.a requires that written procedures be established, implemented, and maintained covering the applicable procedures recommended in Appendix A of Regulatory Guide (RG) 1.33, Revision 2, February 1978. 10 CFR Part 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. Three examples of violation this requirement are stated below:

1. RG 1.33, Appendix A, Item 8.b, requires specific procedures for surveillance tests required by the TS. This is accomplished, in part, by Surveillance Technical Specification Procedure STS BG-004, Revision 8, "RCS Inservice Valve Test."

   Contrary to the above, during the inspection period of January 26 through March 7, 1992, STS BG-004 was determined to be inappropriate to the circumstances because it did not provide precautions to indicate maximum system pressure while throttling the seal injection throttle valves. As a result, on January 10, 1992, the coolant charging positive displacement pump discharge piping was overpressurized during the performance of this test.

2. RG 1.33, Appendix A, Item 2.j, requires general operating procedures for going from Hot Standby to Cold Shutdown, Mode 3 to Mode 5, respectively. This is accomplished by GEN 00-006, Revision 17, "Hot Standby to Cold Shutdown".

   Contrary to the above, on February 23, 1992 with the plant in Mode 5, GEN 00-006 was determined to be inappropriate to the circumstances because it did not provide adequate guidance for closing the safety injection cold leg injection valve, EM HV-8835. As a result, approximately 12,000 gallons of water drained from the refueling water storage tank to the reactor coolant system before the condition was detected and corrected by an operator.

3. RG 1.33, Appendix A, Item 7.c.(1), requires procedures for the collection, storage, and discharge of gaseous waste. This is accomplished by Procedure SYS HA-200, Revision 8, "Waste Gas System Startup and Shutdown."

   Contrary to the above, on March 3, 1992, SYS HA-200 was determined to be inappropriate to the circumstances because it did not provide adequate guidance for placing a gas decay tank on line. As a result, an inadvertent release of gaseous waste occurred in the radwaste building.

Reason For The Violation:

1. On January 31, 1992, during a post-maintenance pressure test review by the responsible system engineer, it was identified that the charging header pressure had reached 2900 pounds per square inch (psi) on January 10, 1992. This value is 100 psi greater than the design pressure for this Class 2 piping, but less than the 110 percent hydrostatic test pressure. It was determined that this event had occurred shortly before leakage was identified on a weld of Positive Displacement Pump (PDP) Relief Valve BG 8116.

Operations personnel reviewed activities that occurred on January 10, 1992 which could have created an overpressure condition. It was concluded that the event had occurred during the performance of surveillance procedure STS BG-004, Revision 1, "CVCS Seal Injection and Return Flow Balance". The purpose of surveillance procedure STS BG-004 is to adjust the seal injection throttle valves to limit total seal injection flow to approximately 80 gallons per minute (gpm) during safety injection with one centrifugal charging pump operating at runout flow. During the January 10, 1992 performance of surveillance procedure STS BG-004, Operations personnel determined that too much flow was present through the reactor coolant pump (RCP) seals and began adjusting the seal injection throttle valves. The seal injection throttle valves were adjusted to establish approximately 8 gpm to each RCP seal. As this was the only charging path that existed and because the PDP speed was in manual flow control at 49 gpm, charging system pressure quickly rose above the PDP relief valve setpoint. The remaining flow output of the PDP (approximately 17 gpm) was flowing through the PDP relief valve. This remaining flow output was not evident, as indicated charging flow and seal injection flow were matched. The Reactor Operator observed an increase in charging system pressure but did not realize that the relief pressure had been exceeded. When the charging pressure gauge began oscillating, the Reactor Operator directed station operators to open the seal injection throttle valves to the point that system parameters stabilized. At that time, the surveillance test was suspended. Seal injection flow was now at approximately 42 to 44 gpm, flow through the PDP relief valve was approximately 5 to 7 gpm and charging system pressure was approximately 2900 psi. The charging system remained in this condition for several hours until which time the Auxiliary Building Operator noted a weld leak on the PDP relief valve.

A review of surveillance procedure STS BG-004 revealed that information specified by vendor design documentation had not been properly incorporated into the procedure. The procedure's initial conditions specified that the charging and letdown flow be balanced during procedure performance while the vendor design documentation specified that the charging system be aligned with charging and letdown in its normal mode of operation. This is significant in that the procedure's initial conditions were being met. Also, the vendor design documentation specifies that the seal injection throttle valves should be adjusted with the RCS at normal operating pressure and normal operating temperature. Surveillance procedure STS BG-004 specified that the plant should be in Mode 1, Power Operation, Mode 2, Startup, or Mode 3, Hot Standby; however, while the plant is in Mode 3, it is not always at normal operating pressure and temperature.

Surveillance procedure STS BG-004 provides directions for adjusting seal injection flow to a given value for the measured differential pressure between the charging system and RCS; however, it did not provide directions to establish or maintain a differential pressure for the desired seal flow. Additionally, a contributing cause is the failure of the Operations personnel to realize that the indicated high pressures were beyond the setpoint of the PDP relief valve.

2. On February 23, 1992, during normal Control Room watchstation rounds, it was discovered that the Refueling Water Storage Tank (RWST) level was decreasing and that approximately 12,000 gallons had drained from the RWST to the RCS. At that time, the unit was in Mode 5, Cold Shutdown, with the RCS temperature at 122 degrees fahrenheit and pressure at 0 psi. Control Room Operators were draining the RCS to accommodate repairs on a leaking core exit thermocouple penetration conoseal. Procedure GEN 00-006, "Hot Standby to Cold Shutdown," had just been completed and procedure GEN 00-007, "RCS Drain Down," had been commenced.

Operations personnel determined that there were two possible flowpaths that would have allowed the inadvertent draining of the RWST. The two flowpaths were through the Spent Fuel Pool Cleanup to Recycle Holdup Tank Isolation Valve, EC V081, or through the Safety Injection Pumps. Safety Injection Cold Leg Isolation Valve EM HV8835 was discovered to be open and isolation valve EC V081 was verified as closed. RWST level stopped decreasing upon closure of isolation valve EM HV8835.

The root cause of this event was determined to be a failure of procedure GEN 00-007 to ensure that isolation valve EM HV8835 was closed during depressurization of the RCS prior to the RCS pressure decreasing below 100 psi.

3. On March 3, 1992, in preparation for sampling Waste Gas Decay Tank #2, the Radwaste Operator began switching waste gas decay tanks in accordance with system procedure SYS HA-200, "Waste Gas System Startup and Shutdown." The gas analyzer rack was subsequently placed in standby which lines the gas analyzer rack vent to the Radwaste Building Heating, Ventilation and Air Conditioning (HVAC) System. Because of pressure reductions through the hydrogen recombiner, the waste gas compressor cannot maintain high pressures in the low pressure line-up and therefore the system must be placed in high pressure line-up. However, when the Radwaste Operator switched to Waste Gas Decay Tank #2, the system was in the low pressure line-up and the tank was at a pressure which required a high pressure line-up. Waste Gas Compressor "A" was started and had operated for approximately 30 to 45 seconds before flow and pressure indications made the Radwaste Operator aware that the system should have been in the high pressure line-up. During compressor operation, system pressure had increased above the 50 pound setpoint of the system relief valve which caused it to lift and vent the waste gas to the Radwaste Building HVAC.

The root cause of this event was determined to be a failure of system procedure SYS HA-200 to state that prior to switching waste gas decay tanks, ensure the system is in the proper operational line-up for the pressures contained in the oncoming Waste Gas Decay Tank.

...ctive Steps That Have Been Taken And Results Achieved:

1. Upon identification of the leak, Control Room personnel started the 'A' centrifugal charging pump and secured the PDP. Charging system pressure was reduced and stabilized below the PDP relief valve setpoint at approximately 2620 psi. A corrective work request was initiated to determine the cause and to repair the leak. Repair and testing of the valve was completed on February 6, 1992.

Procedure STS BG-004 is being revised to provide initial plant conditions consistent with the vendor design documentation. The revisions to STS BG-004 will be completed by May 29, 1992. This event has been discussed in licensed operator initial training. Additionally, this event has been added to the lesson plan on plant and industry events for the current licensed and non-licensed operator requalification training cycle. This training will increase the operating crew's awareness of the potential to overpressurize the PDP discharge piping.

2. Procedure GEN 00-006 was revised to include a step that closes injection valve EM HV8835 to prevent RWST inventory from flowing to the RCS during RCS depressurization. Also, procedure GEN 00-007 was revised to include a step that ensures isolation valve EM HV8835 was closed prior to RCS pressure decreasing below 100 psi.

3. Because the waste gas decay tank had not been sampled prior to the event, the Control Room notified Chemistry personnel in accordance with the Offsite Dose Calculation Manual. Chemistry personnel sampled the contents of the tank. The estimated exposure to the whole body was 0.25 mrem with a limit of 500 mrem/yr and to the skin was 1.16 mrem with a limit of 3000 mrem/yr.

System procedure SYS HA-200 was revised to include a step to ensure the system is in the proper operational line-up for the pressures contained in the oncoming Waste Gas Decay Tank.

Corrective Steps That Will Be Taken To Avoid Further Violations:

The following discussion addresses measures to be taken to preclude the occurrence of events similar to the three examples cited in the violation.

Wolf Creek Nuclear Operating Corporation (WCNOC) is aggressively addressing improvements in procedural guidance through the efforts of the Management Action Plan (MAP), which was presented to the Nuclear Regulatory Commission on April 17, 1992. The Operations Department is developing a plan to perform a complete review of all Operations procedures. Encompassed by the plan is the development of a procedure review group. The group will be tasked with creating a guidance document for procedure format and content. Following completion of the guidance document, the group will commence a review of the procedures and coordinate necessary changes.

Operations Management is also addressing improvement in the proper use of procedures. Discussions have been held with the Shift Supervisors and operating crews. Operations Management has and continues to emphasize the importance of verbatim compliance with procedures and the importance of understanding what the procedure is to accomplish. Additionally, management stresses the necessity for reading and understanding the procedure prior to commencing its performance.

The discussed efforts are not related to the Operations Department alone, improvements in procedural guidance to enhance procedure usability and compliance are being implemented in other departments as well. WCNOC has identified a negative trend in the areas of personnel performance and procedural adequacy and have initiated efforts to reverse this trend. MAP Issue V addresses the improvements in procedural guidance and ensures that it receives continuing attention.

Date When Full Compliance Will Be Achieved:

Full compliance will be achieved on June 26, 1992, with the completion of the current licensed and non-licensed operator requalification training cycle which will cover the overpressurization of the PDP discharge piping event. Long term enhancements are being addressed by those actions being performed as part of the MAP.