

# WOLF CREEK

NUCLEAR OPERATING CORPORATION

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Chief Administrative Officer

May 10, 1996

CO 96-0036

U. S. Nuclear Regulatory Commission  
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Washington, D. C. 20555

Reference: Letter dated April 11, 1996, from J. E. Dyer,  
NRC, to N. S. Carns, WCNOC  
Subject: Docket No. 50-482: Responses to Violations  
482/9604-01 and 482/9604-02

Gentlemen:

Attached is Wolf Creek Nuclear Operating Corporation's (WCNOC) reply to Notice of Violation 9604-01 and Notice of Violation 9604-02 which were documented in the referenced report by the Resident Inspectors. Violation 9604-01 concerned personnel failing to adequately follow posting requirements of procedure RPP 02-215, Revision 11, "Posting of Radiological Controlled Areas." Violation 9604-02 concerned personnel failing to adequately follow the requirements of Radiation Work Permit (RWP) 96-2050.

WCNOC's response to this violation is in the attachment to this letter. If you have any questions regarding this response, please contact me at (316) 364-8831, extension 4001, or Mr. T. S. Morrill at extension 8707.

Very truly yours,

  
Richard N. Johannes

RNJ/jad

Attachment

cc: L. J. Callan (NRC), w/a  
W. D. Johnson (NRC), w/a  
J. F. Ringwald (NRC), w/a  
J. C. Stone (NRC), w/a

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During an NRC inspection conducted on February 11 through March 23, 1996, two violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (60 FR 34381; June 30, 1995) the responses to violation 482/9604-01 and violation 482/9604-02 are listed below:

### Reply to Notice of Violation 482/9604-01

#### Violation 482/9604-01:

Technical Specification 6.11 requires that procedures for personnel radiation protection be prepared consistent with the requirements of 10 CFR Part 20 and adhered to for all operations involving personnel radiation exposure.

Radiation Protection Procedure RPP 02-215, "Posting of Radiological Controlled Areas," Revision 11, Step 9.1.2, required that posted areas be clearly and conspicuously marked at all accessible sides and entrances.

Contrary to the above, the following 3 examples of failure to follow Procedure RPP 02-215 were identified:

1. On February 28, 1996, the Resident Inspector found that the high radiation area/contaminated area posting at the door of the Residual Heat Removal Pump B room was not conspicuously visible.
2. On February 26, 1996, the Resident Inspector found that the Residual Heat Removal to Accumulator Injection Line Check Valve EP 8818B, a highly contaminated area, was not effectively posted as the valve could be approached and worked on without seeing the posting.
3. On February 26, 1996, the Resident Inspector found that one of the three duct openings on a ventilation riser which provides cooling for rod cluster control assembly operating mechanisms, a highly contaminated area, was not posted.

This is a Severity Level IV violation (Supplement IV) (482/9604-01).

#### Admission of Violation:

Wolf Creek Nuclear Operating Corporation (WCNOC) acknowledges and agrees that a violation of Wolf Creek Generating Station (WCGS) Technical Specification 6.11 and Radiation Protection Procedure RPP 02-215 occurred when posting requirements were not adequately implemented.

**Reason for Violation:**

On February 9, 1996, the "B" Residual Heat Removal (RHR) Pump Room was reduced in status from a Locked High Radiation Area to a High Radiation Area. At this time, the "B" RHR Pump Room was posted "Caution - High Radiation Area - Specific RWP Required" on the metal placard on the pump room door. Later, prior to February 27, 1996, the "B" RHR Pump Room was posted as a Contaminated Area, with the step off pad placed at the door.

On February 27, 1996, Electrical Maintenance workers performed work in this pump room. Prior to this work, Breach Authorization BR96-161 was established for the Containment (CTMT) Spray "B" Pump Room door # 11101 and Breach Authorization BR96-162 was established for the RHR "B" Pump Room door # 11091. The breach was necessary to run cables through the doors for testing.

Radiation Protection Procedure RPP 02-215, Revision 3, "Posting Of Radiological Controlled Areas," requires that a High Radiation Area be conspicuously posted and barricaded. However, because the posting for RHR "B" Pump Room remained on the door while the door was breached, the open door rendered the posting inadequate. (Later, during the root cause investigation, it was discovered that WCNOG Administrative Procedure AP 10-104, Revision 3, "Breach Authorization," did not require Health Physics(HP) to authorize the breach for either door # 11091 or door # 11101.)

On February 27, 1996, an Health Physics (HP) Supervisor discovered the inadequate posting for the entrance to the RHR "B" pump room. The HP Supervisor notified the HP Shift Technician, who dispatched a technician to correct the inadequate posting. The HP Technician moved the posting from the breached door and attached it to a radiation ribbon placed across the entrance with the aid of a stanchion. The incident was not documented on a Performance Improvement Request.

On February 28, 1996, work was resumed at 1240 CST. When workers finished and exited the "B" RHR Pump Room, they may have left the barrier and posting down, or it may have fallen down or been taken down at some later time. Radiation workers are trained to re-hang radiological postings that must be removed to exit areas. In this case, the four workers involved with the work were interviewed; however, no one person remembered leaving the High Radiation Area barrier down. One worker did state that he was reminded, by the HP Technician providing the initial job coverage, to remember to place the High Radiation Area barrier back in place when exiting the area. The workers also felt that the exit to the room was congested with the stanchion and protective clothing container.

The downed barrier and posting placard were subsequently found by the NRC Resident Inspector. This occurred shortly after the workers exited the High Radiation Area. The Inspector placed the posting back in place, and notified the HP Shift Technician. The Shift Technician dispatched an HP Technician who verified the High Radiation Area was posted properly.

On February 29, 1996, the HP Supervisor of Operations was notified of the occurrence, investigated and initiated Performance Improvement Request (PIR) 96-0654. The HP Supervisor also dispatched an HP Lead Technician to enhance room posting so that a worker did not have to take down the barrier to exit the room. The Lead Technician moved the step-off-pad further into Containment Spray Pump Room "B" to provide as much room as possible for the workers to remove their protective clothing and exit the area. He removed the stanchion holding the door to the "B" RHR Pump Room open, and shut the door. He also placed the High Radiation Area posting to provide an adequate barrier without the need for removal when entering or exiting the room. Although the door was found open, the Breach Authorization was no longer posted for the door. A Performance Improvement Request was issued for not restoring the breached door when Breach Authorization BR96-0162 was terminated.

Root cause investigation revealed this event occurred in two separate instances:

- Door #11091 was correctly posted for normal conditions, but when the door was breached, without HP knowledge, to run testing leads, the posting was rendered inadequate. The root cause of this event was insufficient administrative control by procedure AP 10-104.
- It could not be definitively established how the High Radiation Area barrier and attached posting were rendered ineffective. If the barrier was left down by workers, fell down, or was removed inadvertently after they exited the area, the action was in violation of personnel training, Radiation Protection Program requirements, and the instructions of the HP Technician who did the initial job briefing.

When the HP Technician erected the barrier in such a fashion as to cause workers to remove the barrier to enter or exit the area, he contributed to the potential for the event to occur. Root cause of this event was human engineering. If the barrier was removed and not replaced, failure to follow procedures was a contributing factor.

Two other examples of less than adequate postings were also noted by the NRC. Both were in containment and involved postings that were incomplete, such that an individual could get into the posted area without observing the sign or rope. Both were corrected on the spot by an HP Technician.

- On the 2000 foot level of containment, workers built a scaffold to allow work on the Residual Heat Removal To Accumulator Injection Line Valve EP 8818B. This valve was a Highly Contaminated Area, as defined by Revision 11 of Radiation Protection Procedure RPP 02-215, "Posting of Radiological Controlled Areas." Posting was hung on one side of the scaffold, rather than on the valve. There was no other posting on the scaffold or the valve, and, because of the incorrect position of the posting, the scaffold could be accessed without workers seeing the posting. This incorrect posting was identified by the NRC Resident Inspector on February 26, 1996, and was discussed

with an HP Technician. The technician informed the Resident Inspector that the posting should have been placed on the valve and would be moved. The technician immediately re-located the posting. The improperly positioned posting did not conform to RPP 02-215 requirements that posted areas be clearly and conspicuously marked at all accessible sides and entrances.

- On February 26, 1996, the NRC Resident Inspector found that one of the three duct openings on a ventilation riser, a Highly Contaminated Area, was not posted. The Highly Contaminated Area posting had fallen off the herculite covering a duct opening in the ventilation riser that provides cooling for rod cluster control assembly operating mechanisms on the 2068 foot level of containment. The Resident Inspector informed the HP Technician at the control point and the technicians replaced the sign.

There were no radiological consequences to the inadequate posting concerns identified above.

Corrective Steps That Have Been Taken and the Results Achieved:

- The "B" RHR Pump Room posting was immediately corrected, with rope hangers installed for the breached door.
- The posting for valve EP 8818B was immediately removed from the scaffolding and relocated to the valve.
- The posting for the duct opening on the ventilation riser was replaced immediately.
- The Superintendent Radiation Protection's expectations regarding posting and generation of Performance Improvement Requests were discussed with HP Supervision on March 21, 1996.
- In a memorandum issued to Health Physics personnel on March 28, 1996, HP Supervision clearly defined the expectations for area postings. Health Physics Technicians have been directed to post High Radiation Area doors in a manner that permits workers to enter and leave the area without having to remove the posting.
- High Radiation Area doors are now being posted in such a manner that workers do not have to remove the posting to enter or leave the area.
- Radiation Protection Form RPF 20-205-1 (N), Revision 5, "Daily Radiological Survey Checklist- Outage Periods," was revised to require HP Technicians to check radiological postings in the Radiological Control Area (RCA) once each shift. During the remainder of the Refueling Outage VIII, Health Physics personnel verified that correct postings were in place for High Radiation Areas. This verification occurred one or more times each shift.

Corrective Steps That Will Be Taken and the Date When Full Compliance Will Be Achieved:

- HP Supervision is reviewing procedure AP 10-104, Revision 3, "Breach Authorization." The procedure will be revised to include a new listing of doors that require HP authorization to breach. Corrective actions will be completed by May 31, 1996.

The corrective steps described above are considered appropriate and sufficient to avoid further violations of this nature. Inspection Report 96-04 documented improvement in the quality of postings.



Reply to Notice of Violation 482/9604-02

Violation 482/9604-02

Technical Specification 6.11 requires that procedures for personnel radiation protection be prepared consistent with the requirements of 10 CFR Part 20 and adhered to for all operations involving personnel radiation exposure.

Administrative Procedure AP 25B-300, "RWP Program," Revision 4, Step 6.2.2, required that all workers read, understand, and follow the provisions set forth on their radiation work permit.

Radiation Work Permit 96-2050, Revision 1, required that a health physics, full-face shield be worn in highly contaminated areas.

Contrary to the above, the following examples of failure to follow the requirements of Radiation Work Permit 96-2050 were identified:

1. On March 18, 1996, a Health Physics Technician signed onto Radiation Work Permit 96-2050 entered each of the containment sumps without a face shield. The containment sumps were both posted as highly contaminated areas.
2. On March 18, 1996, two workers signed onto Radiation Work Permit 96-2050 entered the Train B containment sump without face shields. The containment sumps were posted as highly contaminated areas.

This is a Severity Level IV violation (Supplement IV) (482/9604-02).

Admission of Violation:

Wolf Creek Nuclear Operating Corporation (WCNOC) acknowledges and agrees that two examples of a violation of Wolf Creek Generating Station (WCGS) Technical Specification 6.11 and Administrative Procedure AP 25B-300, Revision 4, "RWP Program" occurred. These examples occurred when personnel failed to follow the requirements of Radiation Work Permit 96-2050 for wearing a face shield.

Reason for Violation:

On March 18, 1996, at 1715 Central Standard Time (CST), an HP Technician failed to wear a face shield as required by Radiation Work Permit 96-2050. The technician was providing coverage for an inspection of the Train "A" Containment Sump Recirculation Pump at the time of the violation. This inspection involved entry into a Highly Contaminated Area. Participating in the inspection were an operator, a NRC Resident Inspector, and the HP Technician providing coverage.

A pre-job briefing had been performed prior to the job. During the briefing, Radiation Work Permit requirements and access to the sump area were discussed. The Radiation Work Permit requirements included a full set of protective clothing, a breathable suit, extra gloves, extra shoe coverings, and a face shield. Correct methods of access and egress were also reviewed when radiological conditions were discussed. Although the step-off pad and posting were located at the entrance to the upper sump areas, the area of high contamination was located in the lower sumps.

The inspection activity was to include entry into both Recirculation Sumps "A" and "B". Rather than remove the entire set of outer protective clothing after exiting the first sump (Recirculation Sump "A"), the work plan was to remove all outer garments except the breathable suit, prior to entering the second sump (Recirculation Sump "B"). This was done as a conscious effort to reduce radwaste. Although this methodology is not a standard practice, it was acceptable with continuous Health Physics coverage.

It was during the entry into Recirculation Sump "A" that the NRC Resident Inspector noted that the HP Technician was not wearing a face shield. RWP # 96-2050 requires a face shield upon entering a Highly Contaminated Area. The Inspector asked the technician if he was required to wear a face shield. The technician's response was that it was required, but he forgot to put one on. At this point, the technician hung up his air sampler, exited the sump area, donned a face shield, and returned to the work area.

Once the Sump "A" inspection was complete, the individuals exited the sump area and proceeded to the step-off pad. The HP Technician assisted the other individuals in the removal of their outer gloves, outer shoe coverings, hoods, and face shields. The individuals were then provided replacement garments for the entry into the second sump. The technician was on the "clean" side of the step-off pad at this time. When this was complete, the technician donned extra gloves and shoe coverings, entered the upper sump area to retrieve the air sampler. When he re-entered the upper sump to retrieve the air sampler, he again was not wearing a face shield. This was identified by the NRC Resident Inspector.

Later on March 18, 1996, two Mechanical Support iron workers entered the upper sump area without the required face shield protection. One worker was not wearing his face shield and one worker was wearing a face shield, but had not lowered it into place. The HP Technician covering the job noted the lack of proper equipment and reminded the two workers to enter the restricted area with face shields in place.

Investigation and interviews determined the root cause of these events was human engineering. The HP Technician was providing complex HP coverage and was being asked to control contamination using a different technique than normally employed. He was also very concerned about providing good coverage for the operator and the NRC Resident Inspector, neither of whom had ever been in this particular dress (breathable plastic, face shield) before. This, combined with the fact that he had relatively little outage



HP experience, resulted in the technician not providing sufficient attention to his own face shield requirement.

The Maintenance Support iron workers were not consciously failing to comply with the Radiation Work Permit (RWP) requirements, but the knowledge that they were in the upper work area, and the area of high contamination was actually located in the lower work area (lower sump), caused them to be less attentive to the radiation worker requirements of the RWP.

There were no radiological consequences to this incident. No personnel were contaminated.

Corrective Steps That Have Been Taken and the Results Achieved:

- The HP Technician involved was re-evaluated for Health Physics job coverage through qualification card HS6115719, Revision 2. The qualification card was completed on April 2, 1996. Included in this process were discussions pertaining to taking the appropriate time necessary to perform all work safely and per procedures. The technician was re-evaluated performing the following work: Emergency Recirculation Sump "A" pre-job survey; Containment Trench decontamination; and transferring highly radioactive filter media from the containment to radwaste storage.
- The requirements for adhering to Radiation Work Permit requirements were discussed with the two Maintenance workers who failed to wear face shields when entering the Train "B" Recirculation Sump.

Corrective Steps That Will Be Taken and the Date When Full Compliance Will Be Achieved:

- Corrective action has been fully implemented.

The corrective steps described above are considered appropriate and sufficient to avoid further violations of this nature.