



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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September 12, 2006

Paul D. Hinnenkamp
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SUBJECT: ERRATA FOR RIVER BEND STATION - NRC INTEGRATED INSPECTION
REPORT 05000458/2006003

Dear Mr. Hinnenkamp:

Please remove pages 22 to 27 from NRC Integrated Inspection Report 05000458/2006003 and replace with the pages enclosed with this letter. The purpose of the change is to correct an error made in the analysis section of Section 1R22.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made 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/reading-rm/adams.html> (the Public Electronic Reading Room).

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

/RA/ Russell L. Bywater acting for

Kriss M. Kennedy, Chief
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Docket: 50-458
License: NPF-47

Enclosure:
Replacement pages to NRC Inspection
Report 05000458/2006003

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SUNSI Review Completed: __wcw__ ADAMS: : Yes ☐ No Initials: __wcw__
 : Publicly Available ☐ Non-Publicly Available ☐ Sensitive : Non-Sensitive

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RIV:SPE:DRP/C	C:DRP/C			
WCWalker;df	KMKennedy			
/RA/	RLBywater for			
8/16/06	9/12/06			

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NNS-ACB23 is one of the circuit breakers between preferred station service Transformer RTX-XSR1C and the Division III 4.16 kV ESF bus.

Analysis: The performance deficiency associated with this finding involved the licensee's failure to provide operators with an adequate STP to meet the requirements of TS SR 3.8.1.1 to verify correct breaker alignment and indicated power availability to the Division III ESF bus for each required offsite circuit. A review of previous revisions of STP-000-0102 showed that the procedure has never verified the required offsite power circuits for the Division III 4.16 kV ESF bus in Modes 1, 2, and 3. Although this performance deficiency caused the failure to verify the offsite power circuit for an extended period of time, the risk impact was limited to the 10 days from May 12-22, 2006. Therefore, the risk characterization of this finding is the same as that described in Section 1R15 of this inspection report.

Enforcement: TS 5.4.1.a requires that written procedures be established, implemented, and maintained covering the activities specified in Appendix A, "Typical Procedures for Pressurized Water Reactors and Boiling Water Reactors," of Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)," dated February 1978. Regulatory Guide 1.33, Appendix A, Section 8.a, requires procedures for all TS SRs. Procedure STP-000-0102 states that it verified the correct breaker alignment and power availability for each required offsite circuit in accordance with TS SR 3.8.1.1 in Modes 1, 2, and 3. Contrary to this, Procedure STP-000-0102, Revision 4, did not require verification of the correct breaker alignment for the offsite power circuits to the Division III 4.16 kV ESF bus in Modes 1, 2, and 3. The root cause involved the incorrect interpretation of the Division III 4.16 kV bus SRs as they apply to the unique River Bend Station ESF electrical distribution system. The corrective actions to restore compliance included as an interim measure entering in the control room logs the breaker alignment for and the bus voltage available to the Division III 4.16 kV ESF bus, until STP-000-0102 could be revised. Because the finding was of very low safety significance and has been entered into the licensee's CAP as CR-RBS-2006-02675 and -02402, this violation is being treated as an NCV consistent with Section VI.A of the Enforcement Policy: NCV 05000458/2006003-03, "Inadequate procedure to verify required offsite power breaker alignment."

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the USAR, plant drawings, procedure requirements, and TS to ensure that Temporary Alteration 2006-0011, Off Gas Pretreatment Radiation Monitor Sample Chamber Drain Line Modification, was properly implemented. The inspectors: (1) verified that the modification did not have an affect on system operability/availability; (2) verified that the installation was consistent with modification documents; (3) ensured that the postinstallation test results were satisfactory and that the impact of the temporary modification on the operation of the pretreatment radiation monitor were supported by the test; (4) verified that the modification was identified on control room drawings and that appropriate identification tags were placed on the affected drawings;

and (5) verified that appropriate safety evaluations were completed. The inspectors verified that the licensee identified and implemented any needed corrective actions associated with temporary modifications.

The inspectors completed one inspection sample.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

On June 20, 2006, the inspectors observed the full scope exercise dress rehearsal, which was used to contribute to "Drill/Exercise Performance" and "Emergency Response Organization Drill Performance" PI. The inspectors: (1) observed the training evolution to identify any weaknesses and deficiencies in classification, notification, and protective action requirements development activities; (2) compared the identified weaknesses and deficiencies against licensee identified findings to determine whether the licensee was properly identifying failures; and (3) determined whether licensee performance was in accordance with the guidance of the NEI 99-02, "Voluntary Submission of Performance Indicator Data," Revision 2, acceptance criteria. The scenario used was RDRL-EP-0602, Tornado/Loss of Offsite Power/Main Steam Line Break, dated June 16, 2006.

Emergency [plan] implementing procedures reviewed by the inspectors included:

- EIP-2-001, "Classification of Emergencies," Revision 13
- EIP-2-006, "Notifications," Revision 32
- EIP-2-007, "Protective Action Guidelines Recommendations," Revision 21

The inspectors completed one inspection sample.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control to Radiologically Significant Areas

a. Inspection Scope

This area was inspected to assess the licensee's performance in implementing physical and administrative controls for airborne radioactivity areas, radiation areas, high radiation areas, and worker adherence to these controls. The inspector used the requirements in 10 CFR Part 20, TS, and the licensee's procedures required by TS as criteria for determining compliance. During the inspection, the inspector interviewed the radiation protection manager, radiation protection supervisors, and radiation workers. The inspector performed independent radiation dose rate measurements and reviewed the following items:

- PI events and associated documentation packages reported by the licensee in the occupational radiation safety cornerstone
- Controls (surveys, posting, and barricades) of three radiation, high radiation, or airborne radioactivity areas
- Radiation work permits, procedures, engineering controls, and air sampler locations
- Conformation of electronic personal dosimeter alarm setpoints with survey indications and plant policy; workers' knowledge of required actions when their electronic personnel dosimeter noticeably malfunctions or alarms
- Barrier integrity and performance of engineering controls in airborne radioactivity areas
- Adequacy of the licensee's internal dose assessment for any actual internal exposure greater than 50 millirem committed effective dose equivalent
- Physical and programmatic controls for highly activated or contaminated materials (nonfuel) stored within spent fuel and other storage pools.
- Self-assessments, audits, licensee event reports (LER), and special reports related to the access control program since the last inspection
- Corrective action documents related to access controls
- Licensee actions in cases of repetitive deficiencies or significant individual deficiencies
- Radiation work permit briefings and worker instructions

- Adequacy of radiological controls, such as required surveys, radiation protection job coverage, and contamination controls during job performance
- Dosimetry placement in high radiation work areas with significant dose rate gradients
- Changes in licensee procedural controls of high dose rate - high radiation areas and very high radiation areas
- Controls for special areas that have the potential to become very high radiation areas during certain plant operations
- Posting and locking of entrances to all accessible high dose rate - high radiation areas and very high radiation areas
- Radiation worker and radiation protection technician performance with respect to radiation protection work requirements

The inspector completed 21 of the required 21 samples.

b. Findings

1. Unguarded High Radiation Area Boundary

Introduction: The inspector reviewed a self-revealing NCV of TS 5.7.1, resulting from the licensee's failure to control access to a high radiation area. The finding had very low safety significance.

Description: On April 6, 2006, the licensee transferred reverse osmosis system filters from one elevation of the radwaste building to another. Because dose rates on the filter barrels were as high as 600 millirem per hour, the licensee assigned personnel to guard the elevator entrances to prevent workers from entering high radiation areas. On this occasion, the guards were not using radios, as was a common practice. Because of the lack of good communication, a guard prematurely left his post in front of the 123-foot elevation elevator door. Coincidentally, two workers attempted to board the elevator on the 123-foot elevation after the guard had left. The elevator carrying the barrels of radioactive filters stopped at the 123-foot elevation, the doors opened, and the electronic dosimeters of the workers alarmed because of the high dose rates. The guard returned and evacuated the workers before they accrued additional radiation dose. The highest dose rate recorded by an electronic alarming dosimeter was 164 millirem per hour. Planned corrective action was still being evaluated by the licensee at the conclusion of the inspection.

Analysis: The failure to control access to a high radiation area was a performance deficiency. The significance of the finding was greater than minor because it was associated with the occupational radiation safety attribute of exposure control and affected the cornerstone objective, in that not controlling access to a high radiation area

could increase personal exposure. Using the Occupational Radiation Safety Significance Determination Process, the inspector determined that the finding was of very low safety significance because it did not involve: (1) an as low as is reasonably achievable (ALARA) finding, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. Additionally, this finding had crosscutting aspects associated with human performance in that the failure of the individual to guard the elevator door directly contributed to the violation.

Enforcement: TS 5.7.1 requires each high radiation area, as defined in 10 CFR Part 20, in which the intensity of radiation is greater than 100 millirems per hour but less than 1000 millirems per hour, be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a radiation work permit. The licensee violated TS 5.7.1 when it failed to barricade and conspicuously post the elevator housing the radioactive filter barrels or maintain a guard to ensure workers did not enter a high radiation area. Because this failure to control a high radiation area was of very low safety significance and has been entered into the licensee's CAP as CR-RBS-2006-01294, this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000458/2006003-04, "Failure to control access to a high radiation area."

2. Unanalyzed Airborne Radioactivity Survey

Introduction: The inspector identified an NCV of 10 CFR 20.1501(a) because the licensee failed to survey airborne radioactivity. The finding had very low significance.

Description: On May 2, 2006, during the removal of local power range monitors, the licensee started collecting an air sample of the work area. The air sample spanned two shifts. A health physics technician on the second shift discarded the sample because the first shift had not documented a start time. Therefore, the sample was never analyzed. However, all workers successfully passed through the portal monitors at the exit of the controlled access area without alarm, confirming that no worker experienced an uptake of radioactive material. Planned corrective action is still being evaluated.

Analysis: The failure to survey airborne radioactivity was a performance deficiency. This finding was greater than minor because it was associated with the occupational radiation safety program attribute of exposure control and affected the cornerstone objective in that the lack of knowledge of radiological conditions could increase personnel dose. Using the Occupational Radiation Safety Significance Determination Process, the inspector determined that the finding was of very low safety significance because it did not involve: (1) an ALARA finding, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. Additionally, this finding had crosscutting aspects associated with human performance in that the failure to maintain the sample for analysis directly contributed to the violation.

Enforcement: 10 CFR 20.1501(a) requires that each licensee make or cause to be made surveys that may be necessary for the licensee to comply with the regulations in 10 CFR Part 20 and that are reasonable under the circumstances to evaluate the extent of radiation levels, concentrations or quantities of radioactive materials, and the potential

radiological hazards that could be present. Pursuant to 10 CFR 20.1003, a “survey” means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of radioactive material or other sources of radiation. In part, 10 CFR 20.1201(a) states that the licensee shall control the occupational dose to individual adults. The licensee violated 10 CFR 20.1501(a) when it failed to perform an evaluation of airborne radioactivity to ensure compliance with 10 CFR 20.1201(a). Because this failure to perform a radiological survey was of very low safety significance and has been entered into the licensee’s CAP as CR-RBS-2006-01994, this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000458/2006003-05, “Failure to perform airborne radiation survey.”

2OS2 ALARA Planning and Controls

a. Inspection Scope

The inspector assessed licensee performance with respect to maintaining individual and collective radiation exposures ALARA. The inspector used the requirements in 10 CFR Part 20 and the licensee’s procedures required by TS as criteria for determining compliance. The inspector interviewed licensee personnel and reviewed:

- Current 3-year rolling average collective exposure
- Three outage or on-line maintenance work activities scheduled during the inspection period and associated work activity exposure estimates which were likely to result in the highest personnel collective exposures
- ALARA work activity evaluations, exposure estimates, and exposure mitigation requirements
- Intended versus actual work activity doses and the reasons for any inconsistencies
- Shielding requests and dose/benefit analyses
- Dose rate reduction activities in work planning
- Use of engineering controls to achieve dose reductions and dose reduction benefits afforded by shielding
- Workers use of the low dose waiting areas
- First-line job supervisors’ contribution to ensuring work activities are conducted in a dose efficient manner