UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

October 26, 2007

R. T. Ridenoure
Vice President
Omaha Public Power District
Fort Calhoun Station FC-2-4 Adm.
P.O. Box 550
Fort Calhoun, NE 68023-0550

SUBJECT: FORT CALHOUN STATION - NRC PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT 05000285/2007010

Dear Mr. Ridenoure:

On September 14, 2007, the U.S. Nuclear Regulatory Commission (NRC) completed the onsite portion of a team inspection at your Fort Calhoun Station. The enclosed report documents the inspection findings, which were discussed on September 14, 2007, with Mr. T. Nellenbach, Plant Manager, and other members of your staff during the exit meeting.

This inspection reviewed activities conducted under your license as they relate to the identification and resolution of problems, compliance with the Commission's rules and regulations and the conditions of your operating license. Within these areas, the inspection involved examination of selected procedures and representative records, observations of activities, and interviews with personnel. The team reviewed approximately 155 condition reports, work orders, associated root and apparent cause evaluations, and other supporting documents. The team reviewed cross-cutting aspects of NRC findings and interviewed personnel regarding the condition of your safety conscious work environment at Fort Calhoun Station.

On the basis of the sample selected for review, the team concluded that your performance remained generally consistent with the last problem identification and resolution inspection. On most occasions, your staff adequately identified, evaluated and prioritized and implemented effective corrective actions for conditions adverse to quality. The team identified two green noncited violations for failure to follow procedure and an inadequate procedure associated with potential wind generated missiles. If you contest the violations or the significance of the violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U. S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001, with copies to the Regional Administrator, U. S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas, 76011; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at the Fort Calhoun Station.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be 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).

Sincerely,

/RA/

Linda J. Smith, Chief
Engineering Branch 2
Division of Reactor Safety

Docket: 50-285
License: DPR-40

Enclosure:
NRC Inspection Report 05000285/2007010
w/Attachment: Supplemental Information

cc w/enclosure:
Joe I. McManis, Manager - Licensing
Omaha Public Power District
Fort Calhoun Station FC-2-4 Adm.
P.O. Box 550
Fort Calhoun, NE 68023-0550

David J. Bannister
Site Director - Fort Calhoun Station
Omaha Public Power District
Fort Calhoun Station FC-1-1 Plant
P.O. Box 550
Fort Calhoun, NE 68023-0550

James R. Curtiss
Winston & Strawn
1700 K Street NW
Washington, DC 20006-3817

Chairman
Washington County Board of Supervisors
P.O. Box 466
Blair, NE 68008

Julia Schmitt, Manager
Radiation Control Program
Nebraska Health & Human Services
Dept. of Regulation & Licensing
Division of Public Health Assurance
301 Centennial Mall, South
P.O. Box 95007
Lincoln, NE 68509-5007

Melanie Rasmussen
Bureau of Radiological Health
Iowa Department of Public Health
Lucas State Office Building, 5th Floor
321 East 12th Street
Des Moines, IA 50319

Electronic distribution by RIV:
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D. Pelton, OEDO RIV Coordinator **(DLP)**
FCS Site Secretary **(BMM)**

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ENCLOSURE

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket:	50-285
License:	DPR-40
Report No.:	05000285/2007010
Licensee:	Omaha Public Power District
Facility:	Fort Calhoun Station
Location:	Fort Calhoun Station FC-2-4 Adm. P.O. Box 399, Highway 75 - North of Fort Calhoun Fort Calhoun, Nebraska
Dates:	August 27 through September 14, 2007
Team Leader:	T. Farnholtz, Senior Project Engineer, Projects Branch A
Inspectors:	T. McKernon, Senior Operations Engineer, Operations Branch L. Willoughby, Resident Inspector, Fort Calhoun Station
Accompanying Personnel:	G.Tutak, Reactor Inspector (NSPSP)
Approved By:	Linda Smith, Chief Engineering Branch 2 Division of Reactor Safety

SUMMARY OF ISSUES

IR 05000285/2007010; 08/27/2007 - 09/14/2007; Omaha Public Power District; Fort Calhoun Station; biennial inspection of the identification and resolution of problems; two noncited violations identified during this assessment.

The inspection was conducted by two senior reactor inspectors and one resident inspector. Two Green noncited violations were identified during this inspection. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 0609, "Significance Determination Process." Findings for which the Significance Determination Process does not apply may be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

Identification and Resolution of Problems

The team reviewed approximately 155 condition reports, work orders, engineering evaluations, associated root and apparent cause evaluations, and other supporting documentation to assess problem identification and resolution activities. On most occasions, the team determined that the licensee adequately identified, evaluated, prioritized, and implemented timely and effective corrective actions for conditions adverse to quality. However, the team concluded that the licensee had experienced some continuing challenges in all three areas based upon the number of issues identified during the last 24 months. Examples of inconsistent documentation of minor issues in the corrective action program, ineffective corrective actions, and incorrect closure of assigned action items were identified. In addition, licensee personnel sometimes correct seemingly minor plant deficiencies using the work management program and do not enter these issues into the corrective action program. This practice presents vulnerabilities for failure to perform operability determination, extent of condition, and extent of cause evaluations, as well as, affecting the ability to perform effective tracking and trending. Also, a general perception among some plant personnel was identified that lower tier issues entered into the corrective action program are not always resolved, and that there is a lack of feedback or responsiveness for these issues. A potential result of this perception would be an erosion of confidence in the corrective action program. The licensee had implemented actions to improve their ability to correctly identify and take appropriate actions in response to the Substantive Crosscutting Issue in Human Performance identified in 2007.

Overall, the licensee appropriately evaluated industry operating experience for relevance to the facility and had entered applicable items into the corrective action program. The licensee appropriately used industry operating experience when performing root cause and apparent cause evaluations but with some inconsistencies between departments. The licensee performed effective self-critical trending, quality assurance audits, and self-assessment audits, as demonstrated by self-identification of poor corrective action program performance and identification of ineffective corrective actions. The team concluded that the licensee maintains an appropriate safety conscious work environment. However, interviews indicated that, the complaints related to the perceived lack of effectiveness regarding the addressing of plant issues could, over time, erode confidence in these programs and might result in safety conscious work environment concerns.

A. NRC-Identified and Self-Identified Findings

Cornerstone: Initiating Events

- Green. A noncited violation was identified for failure of operators to follow a procedure as required by Technical Specification 5.8.1.a. This failure resulted in the station not identifying that loose material had the potential to become airborne during high winds and potentially cause a loss of off-site power. This finding has a crosscutting aspect in the area of problem identification and resolution, specifically the corrective action program attribute (P.1(a)) in that the licensee failed to identify potential missile hazards despite numerous opportunities to do so.

  This finding was determined to be greater than minor in that it affected the "Protection Against External Factors" attribute of the Initiating Events cornerstone. Further, this condition could also reasonably be viewed as a precursor to a significant event. The inspectors evaluated this finding using Manual Chapter 0609, Appendix A and determined that it was of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment would not be available. This condition has been entered into the licensee's corrective action program as Condition Reports 2007-3544 and 2007-3568. (Section 4OA2.e(2)(a)).

- Green. A self-revealing noncited violation of Technical Specification 5.8.1.a occurred for an inadequate procedure that narrowly defined the definition of a missile. This inadequacy resulted in the loss of 161 kilovolt power to the safety-related busses on August 20, 2007 during a high wind event when debris not meeting the definition of a missile struck a transformer relay cabinet. This finding has a crosscutting aspect in the area of human performance, specifically the resources attribute (H.2C) in that the licensee failed to conservatively describe in procedures what constitutes a missile hazard.

  This finding was determined to be greater than minor in that it affected the "Protection Against External Factors" attribute of the Initiating Events cornerstone. The inspectors evaluated this finding using Manual Chapter 0609, Appendix A. The initial screening determined a Phase 2 was required and since all safety-related equipment was operable and the safety-related busses remained energized, the Loss of Offsite Power Significance Determination Process worksheet was used to evaluate the risk. A "< 3 day" exposure results in an Initiating Event Likelihood of four for the Loss of Offsite Power Significance Determination Process worksheet. Evaluating all the sequences on the worksheet results in the lowest sequence being eight. This identifies that the significance of the finding was Green (very low safety significance) with respect to core damage frequency. This condition has been entered into the licensee's corrective action program as Condition Report 2007-3361. (Section 4OA2.e(2)(b)).

B. Licensee-Identified Violations

None.

REPORT DETAILS

4 OTHER ACTIVITIES (OA)

4OA2 Problem Identification and Resolution

The team based the following conclusions, in part, on all issues identified in the assessment period that ranged from October 2005 to September 2007. The issues are divided into two groups. The first group (current issues) included problems identified during the assessment period where at least one performance deficiency occurred during the assessment period. The second group (historical issues) included issues that were identified during the assessment period but had performance deficiencies that occurred outside the assessment period.

Background

During this assessment, the licensee had several significant activities ongoing that affected implementation of the corrective action program. Specifically, the licensee: (1) adopted a new computer based corrective action program system in May 2007 which presented a significant and ongoing challenge in change management; (2) recently completed the causal analysis to identify corrective actions to address a substantive cross-cutting issue received in March 2007 related to human performance with a crosscutting theme in the area of work practices; and (3) received an additional substantive cross-cutting theme in August 2007 in the area of Human Performance Resources.

a. Assessment of the Corrective Action Program Effectiveness

(1) Inspection Scope

The team reviewed items selected across the seven cornerstones to verify that the licensee: (1) identified problems at the proper threshold and entered them into the corrective action system, (2) adequately prioritized and evaluated issues, and (3) established effective and timely corrective actions. The team observed control room operations and performed field walkdowns of the raw water system and the auxiliary feedwater system to inspect for deficiencies that should have been entered into the corrective action program. Additionally, the team reviewed a sample of self assessments, trend reports and various other documents related to the corrective action program.

The team evaluated condition reports, work orders, and operability evaluations to assess the threshold for identifying problems, entering them into the corrective action program, and the ability to evaluate the importance of adverse conditions. Also, the team evaluated licensee efforts in establishing the scope of problems by reviewing selected self-assessments, audits, and system health reports. Team members

interviewed station personnel, interviewed corrective action program group personnel and attended condition review group meetings to understand the screening, and prioritization of problems, as well as the interfaces with the operability assessment and work control processes. The team performed a historical review of condition reports written over the last five years that addressed the raw water and the auxiliary feedwater systems.

The team reviewed a sample of condition reports, apparent cause evaluations, and root cause analyses to ascertain whether the licensee properly considered the full extent of causes and conditions, generic implications, common causes, and previous occurrences. The team assessed the timeliness and effectiveness of corrective actions, completed or planned, and looked for additional examples of similar problems. The team sampled specific technical issues to evaluate the adequacy of operability determinations.

Additionally, the team reviewed condition reports that addressed past NRC and licensee-identified violations to ensure that the corrective actions adequately addressed the issues as described in the inspection reports. The team reviewed a sample of corrective actions closed to other condition reports, work orders, or tracking programs to ensure that corrective actions were still appropriate and timely.

(2) Assessments

(a) Assessment - Effectiveness of Problem Identification

Usually, the licensee identified deficiencies as conditions adverse to quality and entered them into the corrective action program. However, several incidences occurred that indicate additional effort is needed. Specifically, the team concluded three of the identified issues resulted from inattention to detail (Examples 1, 5, and 8). The team identified that the licensee had established an appropriate threshold for identifying conditions adverse to quality; however, during this period, four instances occurred related to having too high of a threshold (Examples 2, 3, 4, and 9). The team determined that two examples reflected missed opportunities related to prompt identification of issues (Examples 6 and 7).

The team determined that documentation of minor issues in the corrective action program was inconsistent in that the expectations varied between departments. Standing Order SO-R-2, “Condition Reporting and Corrective Action,” Revision 37, states that department managers have the responsibility to establish clear expectations with department personnel regarding the use of lower tier systems or the condition report process for documenting minor issues that need to be tracked to completion. An example of a lower tier system would be the observation program. For instance, the team noted that individual coaching of plant workers is performed, such as for the proper use of personal protective equipment, but not consistently entered into the corrective action program for tracking and trending purposes. Instead the licensee may use the observation program to document these activities. The expectations on the use of these two systems is established at the department manager level and, therefore, varies across departments.

The team verified that the licensee processed assessment and audit results documenting adverse conditions in their corrective action program. In addition, recommendations contained in audits and self assessments were entered into the corrective action program for evaluation.

Current Issues

Example 1: The resident inspectors determined that licensee personnel failed to correctly translate the total dead weight of the replacement pressurizer into design calculations, as documented in Condition Report 200603413 (Noncited Violation 2006004-01).

Example 2: Station personnel failed to identify that loose material had the potential to become airborne during high winds and potentially cause a loss of off-site power, as documented in Condition Report 200602454 (Noncited Violation 2006003-01).

Example 3: The team determined that station personnel failed to identify that loose material had the potential to become airborne during high winds and potentially cause a loss of off-site power, as documented in Condition Reports 2007-3544 and 2007-3568 (Noncited Violation 2007010-01, refer to Section 4OA5.1).

Example 4: The licensee failed to promptly identify and correct a repetitively inoperable component cooling flow element. The failure to recognize and fix this condition led to the flow element repeatedly being out of service and unable to perform its function during a potential design basis accident, as documented in Condition Report 200605986 (Noncited Violation 2007002-02).

Example 5: The licensee failed to promptly identify and correct a degraded component cooling water pump. The failure to recognize and fix this condition led to the pump being more likely to fail upon a valid demand to start, as documented in Condition Report 200603835 (Noncited Violation 2006005-01).

Example 6: Station personnel failed to comply with Technical Specification 2.1.1.(3), which required two operable decay heat removal loops. This failure resulted in a condition where only one shutdown cooling train was operable. This condition existed for two days before being detected by operations personnel, as documented in Condition Report 200603965 (Noncited Violation 2006004-02).

Example 7: The licensee failed to identify and correct a condition adverse to quality on a reactor coolant pump seal when another pump was disassembled for maintenance. Specifically, the licensee did not recognize that a material nonconformance (inadequately sized O-rings) was applicable to components installed in the plant. Installation of the incorrect O-ring resulted in subsequent failure of the reactor coolant pump seal, as documented in Condition Report 200502675 (Noncited Violation 2005005-01).

Example 8: The licensee established an inadequate procedure that resulted in several water hammer events on the low pressure safety injection system and related damage to safety-related components. The procedure allowed reactor coolant to leak back into the low pressure safety injection system. The licensee failed to recognize that the back

leakage had established conditions that were conducive to water hammer, as documented in Condition Reports 200505030 and 200505084 (Noncited Violation 2005005-02).

Example 9: A licensed operator and radiation protection technician failed to promptly identify and correct personnel access lock inner door equalizing valve leakage, a condition adverse to quality that affected containment integrity and resulted in a Technical Specification violation, as documented in Condition Report 200601444 (Noncited Violation 2006003-03).

(b) Assessment - Effectiveness of Prioritization and Evaluation of Issues

Overall, the licensee appropriately prioritized and evaluated conditions adverse to quality. The team determined from attending condition review group meetings that management remained involved in assigning the appropriate priority and significance to identified deficiencies. However, one example of inappropriate prioritization was identified in that the licensee improperly classified a condition report describing a significant condition adverse to quality (Example 1). The team identified that two of the identified issues involved failures to perform adequate evaluations (Examples 4 and 5). In addition, three instances relating to engineering rigor were identified. Specifically, on some occasions engineers did not perform timely or effective evaluations (Examples 2, 3, and 6).

The team noted that the corrective action program was inconsistently applied to conditions involving plant deficiencies. Based on interviews that the team conducted during this inspection, the licensee considers the work management program to be part of the corrective action program for practical purposes. As a result, some plant personnel, upon discovering a deficiency in the plant, would correct the deficiency using the work management program without entering the issue into the corrective action program. These issues typically involved seemingly minor deficiencies that could be corrected relatively quickly using an existing work order.

The team concluded that this practice presented several vulnerabilities. By correcting plant deficiencies under the work management program, operations personnel do not get the opportunity to evaluate the issue for operability in a timely manner as they would if the issue was entered into the corrective action program. In addition, no cause evaluation, extent of condition evaluation, or extent of cause evaluation is performed in the work management program and tracking and trending, while possible in the work management program, is more difficult and not routinely performed, particularly for issues that may effect multiple systems.

The team provided a hypothetical situation to illustrate these vulnerabilities. A plant maintenance worker identifies a loose pipe hanger on a safety-related system. The maintenance technician corrects the condition under an existing work order and does not enter the issue into the corrective action program. The vulnerability would be that a loose pipe hanger could represent an operability issue under certain circumstances that the maintenance technician may not recognize. In addition, the cause of the loose pipe hanger would not be established which could also effect extent of condition and extent of cause determinations.

The team identified one condition report that described a condition that further illustrated this point. Condition Report 200504918 concerns Valve HCV-2500 (Reactor Coolant Loop 1 sampling flow control valve). Prior to the 2005 refueling outage, improper stud material was used when rebuilding this valve. This condition was identified during the 2005 refueling outage and the issue was corrected using the work management program. No condition report was generated. As a result, no operability determination was performed at the time of discovery. This issue was subsequently identified by the licensee during an audit.

Based on interviews with station personnel, shop personnel tend to correct these type of plant deficiencies on the spot under existing work management processes. System engineers tend to perform an informal evaluation to determine if the deficiency effects the function of the system. If function is not effected, the deficiency would be corrected under the work management program. The team determined that this practice fails to recognize that operations personnel are responsible for making the official operability determination at the station. An example of this was identified during a raw water system walkdown. The team identified that lagging was missing or damaged on the inlet piping to Heat Exchanger AC-1B. The system engineer did not generate a condition report for this deficiency based on a belief that the system remained operable. Upon prompting by the inspectors, Condition Report 2007-3770 was written to document this condition.

Current Issues

Example 1: The licensee incorrectly classified a condition report describing a condition involving a failure of an emergency diesel generator field flash circuit. Condition Report 200700725 was initially classified as a Level 3 by the condition review group which would require an apparent cause analysis be performed. The proper classification for this type of issue would be a Level A which requires a more detailed and formal root cause analysis. The condition report was subsequently reclassified as Level A. This was documented in Condition Report 2007-2712.

Example 2: The licensee incorrectly determined the operability of component cooling water (CCW) inlet and outlet valves that supply CCW to the containment air cooling and filtering units. On two occasions, the licensee initially determined that air or nitrogen leaks associated with CCW valves did not affect the operability of the valves. This incorrect operability determination was based on the valves failing-as-is and not being subject to flow-induced hydrodynamic operation, as documented in Condition Reports 200603765 and 200603808 (Noncited Violation 2006005-02).

Example 3: The licensee failed to effectuate timely corrective actions related to modifications, procedures, and/or preventive maintenance for security related work requests, as documented in Condition Report 200600171.

Example 4: The licensee identified seven condition reports that were classified as Level 3 reports requiring an apparent cause analysis that did not have all the required apparent cause analysis work sheets/reports on file with the corrective action group. The subject work sheets/reports are to be used to ensure that a consistent analytical approach is used for all apparent cause analysis. This finding was documented in Condition Report 200602349.

Example 5: Corrective actions from causal analysis for station events have not been sufficient to prevent recurrence of events with similar contributors. Several root cause investigations of events have not looked at broader contributors to the events. Contributing to this is a narrow multi disciplinary review process that hinders the ability to identify other needed corrective actions, as documented in Condition Report 2007-2162.

Example 6: The licensee failed to evaluate and correct a condition where safety-related electrical circuit breakers were periodically tripping open immediately after they were closed. The cause of this condition was determined to be that an incorrect part was utilized in these circuit breakers. Specifically, an incorrect direct trip actuator (DTA) device allowed the DTA to over travel causing the breaker to trip open. In 1998, Westinghouse notified the licensee of the need to use a DTA with a notch to prevent this condition. The licensee experienced similar problems with these breakers in 2004, 2005, and 2006 but failed to correctly evaluate and correct this issue. This condition is documented in Condition Report 200603835.

Historical Issues

Example 1: The team determined that the licensee failed to effectively evaluate an inadequate design control issue by not including a multi disciplinary review in their root cause analysis associated with Flow Transmitter FT-1368 not being supplied by a safety-related power source. Condition Report 200602855 was initiated, the system modified to provide a safety-related power supply, and Procedure PED-QP-3 revised to incorporate requirement for a multi disciplinary review. Licensee Event Report 2006-002.

Example 2: The team determined that the licensee failed to effectively evaluate in a timely manner long standing problems with the FW-10, steam driven auxiliary feedwater pump, pneumatic speed control loop. The pneumatic speed control loop has presented problems since 1989. Several instances occurred where components did not maintain settings or calibrations, or had failed. However, it was not until after the NRC Maintenance Rule (10 CFR 50.65) was implemented in 1997 that the unavailability was recorded and reported. In 2000, the licensee initiated a feasibility study to remove the pneumatic speed control loop but took 3 ½ years to complete the study. While the system is operating satisfactorily presently, the speed control loop is scheduled to be removed in Refueling Outage 2008. This condition is documented in Condition Report 200001308.

(c) Assessment - Effectiveness of Corrective Actions

Generally, the licensee implemented effective corrective actions to address conditions adverse to quality; however, the number of findings in this area demonstrated the licensee had continuing challenges. The team determined that two examples affected multiple groups and had an impact on effective implementation of work management (Examples 1 and 6). The team concluded that two examples of ineffective corrective action related to engineering (Examples 2 and 5). The team determined that two instances of ineffective corrective actions occurred during this assessment period related to issues such as management expectations not being met and/or organizational interface deficiencies (Examples 3 and 4).

The team noted several instances of closing assigned action items to vague statements, intended actions not yet completed, or open work orders with no additional action items to track the issue to completion (Examples 3, 4, and 5). Contributing to this were action statements that were not specific and precise in describing the expected actions.

The team conducted personnel interviews during this inspection. Based on these interviews, the team concluded that there is a general perception among some plant personnel that lower tier issues that are entered into the corrective action program are not always resolved and that there is a lack of feedback or responsiveness for these issues. A potential result of this perception would be an erosion in the confidence in the corrective action program.

Current Issues

Example 1: The licensee identified an adverse trend in condition reporting, corrective actions, identification, and closure and documentation, as documented in Condition Report 200601477.

Example 2: The licensee did not promptly identify and correct conditions adverse to quality related to the steam bypass warmup valves for the turbine driven auxiliary feedwater pump that had shown degraded conditions, as documented in Condition Report 2007-2489. During a postulated steam line break the deteriorating bypass warmup valves could pass more steam than designed potentially creating a harsh environment in Room 19 (Noncited Violation 2007007-04).

Example 3: The licensee identified that there was an air leak on the solenoid valve associated with HCV-824B-20 (Containment Access Area Vent Air Exhaust Fan VA-40A discharge valve solenoid). Condition Report 200602301 was written to document this condition. The action item to correct this condition stated: "Document the cause and work accomplished on Work Order 239839. WO 239839-01 was closed to WO 24687201." This action item was closed as follows: "Work Order 246872-01 is tied to Engineering Change 39912 which is a Priority 3 SRI which will not be done unless the priority is raised. EC has been in the register status since 12/6/06". The team considered this trail to be confusing and not definitive. The action was closed to a non action.

Example 4: The licensee wrote Condition Report 200602667 to document several issues identified during an NRC inspection reviewing the Emergency Preparedness program. An enhancement action item was specified to process a change to Standing Order R-2 Attachment 7.1 that provides examples of when condition reporting is required. The action item was closed on April 27, 2007 with a comment indicating that a procedure markup was submitted and that this change will be processed by June 30, 2007. The team noted that the action item was closed before the action was completed with the result of losing accountability and the ability to track this item to completion.

Example 5: The licensee generated Condition Report 200600085 to roll up apparent problems with reed switches on RC-10-41. A long term action item was assigned to summarize the results of the subject meeting with the crafts and generate additional actions items if applicable. This action item was closed to Work Request 89640. The team reviewed Work Request 89640 and noted that it was cancelled and closed with no actions taken. The team concluded that by closing the condition report action item in this manner, accountability and the ability to track this issue to completion was lost.

Example 6: Ineffective corrective actions for NRC identified Noncited Violation 2006003-01. The licensee failed to identify loose material that had the potential to become airborne during high winds and potentially cause a loss of off-site power. During this inspection, the team identified that the licensee had not corrected this condition.

Historical Issues

Example 1: The licensee "did not incorporate correct actions items to prevent recurrence of problems in accordance with SO-R-2" related to high chloride levels in the emergency feed water storage tank (EFWST) as reported in Condition Report 200401913. These findings were identified in a subsequent quality assurance audit, No. 49, Chemical Control. The actions items were subsequently incorporated and then cancelled when subsequent monitoring identified that chloride levels dropped significantly back into the acceptance range.

Example 2: The licensee failed to completely designated corrective actions related to Condition Report 200303986. The condition report was closed without completing the required actions for action item number 11 which called for enhancements to Procedure OI-FH-1. This item was subsequently identified by a quality assurance audit and documented in Condition Report 200401149.

Example 3: During Quality Assurance Audit No. 48, it was discovered that a condition report action item was closed without completing the required actions, as documented in Condition Report 200401149.

Example 4: Three examples of failure to take prompt corrective action to correct deficiencies adverse to fire protection was identified by NRC inspectors, as documented in Condition Reports 200000207, 200401063, and 200400348 (Noncited Violation 2005008-06).

b. Assessment of the Use of Operating Experience

(1) Inspection Scope

The team examined licensee programs for reviewing industry operating experience. The team selected a number of operating experience notification documents (NRC bulletins, information notices, generic letters, 10 CFR Part 21 reports, licensee event reports, vendor notifications, et cetera), which had been issued during the assessment period, to verify whether the licensee had appropriately evaluated each notification for relevance to the facility. The team then examined whether the licensee had entered those items deemed relevant into their corrective action program. Finally, the team reviewed a number of significant conditions adverse to quality and conditions adverse to quality to verify if the licensee had appropriately evaluated them for industry operating experience.

(2) Assessment

Overall, the team determined that the licensee had appropriately evaluated industry operating experience for relevance to the facility and had entered applicable items in the corrective action program. The licensee appropriately evaluated for internal and

external industry operating experience when performing root cause and apparent cause evaluations but with some inconsistencies between departments. Three instances of inappropriate use of operating experience contributed to issues identified during this assessment period (Examples 1, 2, and 4). One example of not fully utilizing operating experience was identified (Example 3). The licensee identified weaknesses in the use of operating experience in a self-assessment (Example 7). In addition, two examples of effective use of operating experience was identified (Examples 5 and 6).

Current Issues

Example 1: Condition Report 200603835 describes a condition where safety-related electrical circuit breakers were periodically tripping open immediately after they were closed. The cause of this condition was determined to be that an incorrect part was utilized in these circuit breakers. Specifically, an incorrect direct trip actuator (DTA) device allowed the DTA to over travel causing the breaker to trip open. The team noted that the licensee had received both internal and external operating experience regarding this issue. In 1998, Westinghouse notified the licensee of the need to use a DTA with a notch to prevent this condition. In addition, Condition Report 199800255 identified similar issues involving tripping problems occurring with a similar breaker. The licensee experienced similar problems with these breakers in 2004, 2005, and 2006 but failed to correctly evaluate and correct this issue, in part because of ineffective use of the available operating experience.

Example 2: Condition Report 200605352 describes an issue involving a root cause analysis performed for Valve HCV-345 being inoperable. It was identified the two similar operating experience events had been received within the last two years. Both of these events were evaluated as not applicable. An opportunity to discover a generic issue was missed when the initial screening process did not get a cross-functional review.

Example 3: The licensee received operating experience involving pulling a fuse which caused a high level trip of a feedwater heater at another plant. The operating experience was processed by the licensee and discussed with operation personnel during requalification training. However, the team noted that this information could also be of use to other organizations at the station such as maintenance work planners but was not provided. This was documented in Condition Report 200602412.

Example 4: The licensee incorrectly determined the operability of component cooling water (CCW) inlet and outlet valves that supply CCW to the containment air cooling and filtering units. On two occasions, the licensee initially determined that air or nitrogen leaks associated with CCW valves did not affect the operability of the valves. This incorrect operability determination was based on the valves failing-as-is and not being subject to flow-induced hydrodynamic operation, as documented in Condition Reports 200603765 and 200603808. The team noted that the licensee had both internal and external operating experience describing this flow-induced hydrodynamic operation but failed to incorporate this information into their design basis documents. This failure led to the incorrect operability determination (Noncited Violation 2006005-02).

Example 5: The team determined that operating experience related to security was routinely provided to security officers by e-mail. The team considered this wide distribution and emphasis of potentially useful information to be an effective use of operating experience.

Example 6: The licensee received some external operating experience regarding damage done to a emergency diesel generator due to failure to torque the left lash adjustment screw lock nut because of an inadequate level of verification at another facility. The licensee assessed this information as applicable to Fort Calhoun and took appropriate steps to revise the associated maintenance procedures. The team considered this action to be effective and potentially resulted in avoiding a similar situation at the station.

Example 7: The licensee performed a self-assessment, SA-07-07. Part of this effort was to review the use of operating experience at the station. A conclusion in this self-assessment states: "The station is missing an opportunity to fully learn from operating experience, both external and internal."

c. Assessment of Self-Assessments and Audits

(1) Inspection Scope

The team reviewed numerous audits, self-assessments, quality surveillances, and site performance indicators. The team reviewed program procedures and interviewed process managers related to the corrective action program, and the Quality Assurance department. The team evaluated the use of self-assessments, the role of Quality Assurance, and the role of the corrective action program administrators.

(2) Assessment

The team determined that the licensee implemented self-critical trending, quality assurance audit and surveillance, and self-assessment programs. The team determined that overall the licensee performed thorough critical self-assessments (Examples 1, 2, 3, and 4). These self assessments were generally critical audits and surveillances that provided detailed assessments of the reviewed organizations performance. For example, the licensee provided self-critical evaluations of their corrective action program that identified failures to provide clear statements of the nature of some root cause evaluations and failure to capture cause code assignments for human performance issues. The number of self-assessments performed and the variety of ways used to assess site performance and department performance provided a broad perspective. The team verified that the licensee had implemented performance indicators and trended data that allowed the managers to evaluate the progress of their actions to improve performance related to corrective action program deficiencies (Example 5). The trending program identified issues similar to the issues identified during this inspection by the team.

Current Issues

Example 1: The licensee's corrective action program self-assessment (SA-07-07) identified several areas for improvement and negative observations: (1) corrective action documentation was found to inadequately address the stated action; (2) the wording of some root causes does not present a clear, convincing statement as to the nature of the root cause; (3) corrective action program trending is not consistently performed on a site wide basis; and (4) human performance issues are not always captured in the cause code assignments for equipment related condition reports.

Example 2: The licensee's focused self assessment for radiation protection - 2006 as low as reasonably achievable (ALARA) package review (SA-07-09) identified that ALARA planning documentation lacks sufficient detail to determine work status.

Example 3: The licensee's human performance assist visit (SA-07-27) identified several areas for improvement and negative observations: (1) risk impact on the plant is considered within the work management process, however, risk impact on human error is not; (2) procedure quality does not consistently support proper task performance due to mismatch between guidance and worker experience; and (3) the work management process, even though followed per procedure, presents significant challenges to the station's ability to minimize human error.

Example 4: The licensee conducted a component design basis inspection self-assessment (SA-07-42). The team considered this effort to have been a useful and comprehensive effort. Recommendations contained in this self-assessment were verified to have been placed into the licensee's corrective action program.

Example 5: The team reviewed the licensee's trend data for the status of action items. This data tracked status such as action items written per month, in progress, extended, closed per month, and overdue per month by department.

d. Assessment of Safety Conscious Work Environment

(1) Inspection Scope

The team reviewed a 2006 Site Safety Culture Survey and the 2007 Safety Culture Assessment results, including the redacted comments. The team reviewed the redacted comments to identify concerns that were expressed by a few people for further followup. The team reviewed concerns involving: (1) small issues that get lost in the system instead of fixing them; (2) corrective actions that are sometimes ineffective or incomplete and not always timely or effective; and (3) the lack of feedback for identified issues. In addition, the team reviewed Nuclear Policy Manual NPM-2.04, "Establishing and Maintaining a Safety Conscious Working Environment," Revision 4 and Nuclear Operations Division NOD-QP-38, "Employee Concerns," Revision 6.

Also, the team interviewed an organizational cross-section of 40 site personnel including seven security officers to assess their willingness to raise safety issues, use the corrective action program and use the employee concerns program. These interviews assessed whether conditions existed that would challenge the establishment of a safety-conscience work environment. The team also met with the Employee Concerns coordinator.

(2) Assessment

The team concluded that the licensee maintained an appropriate safety conscious work environment. The team determined that the 2007 safety culture assessment response included a number of expressed concerns related to the effectiveness of the corrective action program. Several employees expressed concerns with lower level issues that were not corrected in a timely manner and that feedback was not always provided. The team identified similar issues during this assessment period.

Based on the interviews conducted during this inspection, the team determined: (1) personnel would not hesitate to use the corrective action program and raise concerns to management or bring a concern to the Employee Concerns program or the NRC; (2) some security department employees indicated that they do not generate condition reports themselves but instead inform the security shift supervisor of the identified deficiency who will then write the condition report; and (3) some plant personnel stated that they had not received training on the use of the computer based corrective action program system.

The team concluded from interviews that, although no safety conscious work environment concerns existed, the complaints related to the perceived lack of effectiveness regarding the addressing of plant issues could, over time, erode confidence in these programs and might result in safety conscious work environment concerns.

e. Specific Issues Identified During This Inspection

(1) Inspection Scope

The team reviewed the root cause analysis, including the identified corrective actions to prevent recurrence, reviewed supporting documents and interviewed personnel. During the reviews described in Sections 4OA2.a(2)(a), 4OA2.a(2)(b) and 4OA2.a(2)(c), the team identified the following findings.

(2) Findings and Observations

(a) Failure to Follow a Procedure That Would Identify Potential Missile Hazards

Introduction. The inspectors identified a Green noncited violation (NCV) for failure of operators to follow a procedure as required by Technical Specification 5.8.1.a. This failure resulted in the station not identifying that loose material had the potential to become airborne during high winds and potentially cause a loss of off-site power.

Description. On August 30 and 31, 2007, the inspectors performed a walk-down of the protected area and owner controlled area. The inspector used licensee Procedure FCSG-1, "Duty Assignments," Revision 6, Section 5.1.3, which specified the requirements for materials stored onsite that had the potential of becoming missiles. Specifically, the procedure stated, "The Shift Manager shall ensure materials stored onsite, having the potential of becoming missiles, are adequately stored daily. Site tours shall be made at the end of each working day or as conditions require." The procedure further stated, "Stored material shall be adequately anchored, stored in a suitable enclosure or moved to an area away from power lines and substation facilities. Specifically . . . Loose pieces of sheet metal or other lightweight conductive material of 10 gage weight (1/8 inch thickness) or less, and greater than 8 feet in length or diagonally across."

The inspectors identified two groups of objects that exceeded the licensee's requirements, thus requiring the items to be secured. Inside the protected area the items include metal two inch by four inch wall studs. Outside the protected area in the owner controlled area the items include metal scaffold material. The inspectors immediately informed the on-duty shift manager, and prompt action was taken to remove or secure the materials. The inspectors noted that material found was not

identified by the licensee during an extensive walk down of the site following the high wind event that occurred on August 20, 2007 and also found that the licensee was only walking down the protected area.

Analysis. The inspectors determined that the failure to adequately follow the equipment guidance was a performance deficiency. This finding was determined to be greater than minor in that it affected the "Protection Against External Factors" attribute of the Initiating Events cornerstone. Further, this condition could also reasonably be viewed as a precursor to a significant event. The inspectors evaluated this finding using Manual Chapter 0609, Appendix A, and determined that it was of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment would not be available since no severe weather had occurred since the high wind event that occurred on August 20, 2007. This finding has a crosscutting aspect in the area of problem identification and resolution, specifically the corrective action program attribute (P.1(a)) in that the licensee failed to identify potential missile hazards despite numerous opportunities to do so.

Enforcement. Technical Specification 5.8.1.a requires, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, 1978. Regulatory Guide 1.33, Appendix A, requires, in part, written procedures for Acts of Nature (e.g., tornado, flood, dam failure, earthquakes). Procedure FSG-01, "Duty Assignments," Revision 6, requires, in part, that "the shift manager shall ensure materials stored onsite, having the potential of becoming missiles, are adequately stored daily. Site tours shall be made at the end of each working day or as conditions require." Contrary to the above, on August 30 and 31, 2007, the licensee failed to identify material meeting the requirements of Procedure FSG-01 that required adequate anchoring or storage in a suitable enclosure. This violation of Technical Specification 5.8.1.a, is being treated as a noncited violation, consistent with Section VI.A of the Enforcement Policy (NCV 05000285/2007010-01, Failure to Follow a Procedure That Would Identify Potential Missile Hazards). This violation was entered into the licensee's corrective action program as Condition Reports 2007-3544 and 2007-3568.

(b) Inadequate Definition of a Missile Hazard Results in Loss of 161 KV Power

Introduction. A Green self-revealing noncited violation of Technical Specification 5.8.1.a occurred for an inadequate procedure that narrowly defined the definition of a missile. This inadequacy resulted in the loss of 161 kilovolt power to the safety-related busses on August 20, 2007 during a high wind event when debris not meeting the definition of a missile struck a transformer relay cabinet.

Description. A tornado watch was declared for the area at 3:53 p.m. on August 20, 2007. The licensee decided that a walk down of the site that is required per Abnormal Operating Procedure AOP-1, "Acts of Nature," Revision 22, directs the performance of a visual inspection of the protected area and switchyard for potential wind generated missiles. The licensee decided the walk down (discussed in the next paragraph) performed earlier in the day would satisfy the requirement. The tornado watch was upgraded to a tornado warning at 8:30 pm and expired at 9:00 p.m. At 9:03 p.m., high winds in excess of 60 miles per hour caused a wooden box lid to strike a relay cabinet associated with the House Service Transformer T1A-4. The 40 inch by 70 inch lid was constructed of ¾ inch plywood and located approximately 25 feet from the house

service transformer. The impact of the lid on the relay cabinet caused the inadvertent actuation of the sudden pressure interposing Relay 63FPXB/T1A-4. This resulted in the opening of Switchyard Breakers 1251-111 and 1251-110 that provides 161 kilovolt power to House Service Transformer T1A-3 and T1A-4. These transformers provide power to the 4160 volt safety-related busses. A fast transfer of 4160 volt power from 161 kilovolt power supply to 22 kilovolt power supply maintained the safety-related busses energized. The licensee maintained this lineup for approximately 3 hours.

Earlier in the day, The licensee performed a walk down of the protected area and did not identify the wooden lid as a possible missile hazard. Procedure FSG-01, “Duty Assignments,” Revision 6, paragraph 5.1.3 requires daily site tours to identify potential missile hazards and to have them adequately anchored, stored in a suitable enclosure or moved to an area away from power lines and substation facilities. The procedure also identifies what materials to be specifically aware of and specifies loose pieces of sheet metal or other lightweight conductive material of 10 gage weight or less, and greater than 8 feet in length or diagonally across. The procedure goes on and states how the material is to be stored. Licensee personnel interpreted the guidance as what defines a missile. Therefore the wooden lid that acted as a missile that caused the problem did not meet any of the criteria for a missile per the licensee’s procedure.

Analysis. In accordance with NRC Inspection Manual Chapter 0612, Appendix B, "Issue Screening," the inspectors determined that having inadequate guidance on what constitutes a missile hazards was a performance deficiency. This was a performance deficiency because the licensee has committed to having procedures for combating emergencies and other significant events for acts of nature. Having adequate instructions for weather related events was reasonably within the licensee’s ability to define.

This finding was determined to be greater than minor in that it affected the “Protection Against External Factors” attribute of the Initiating Events cornerstone. In accordance with NRC Inspection Manual Chapter 0609, Appendix A, “Determining the Significance of Reactor Inspection Findings for At-Power Situations,” dated March 23, 2007, the inspectors conducted a significance determination process (SDP) Phase 1 screening and determined that the finding affected the Initiating Events Cornerstone and Barriers Cornerstone because loss of 161 kilovolt power is considered a transient initiator contributor and affects containment barrier with the degradation of heat removal. Consequently, a Phase 2 Significant Determination Process risk significance estimation was required.

The inspectors and an NRC Region IV Senior Reactor Analyst performed a Phase 2 evaluation using the Risk-Informed Inspection Notebook for Fort Calhoun Power Station, Revision 2.01, (SDP Phase 2 Notebook). An exposure time of three hours was used based on the time the 161 kilovolt power was isolated from supplying the 4160 volt safety-related busses. A three hour exposure time is represented as a "< 3 day" exposure category in the SDP Phase 2 evaluation. Since all safety-related equipment was operable and the safety-related busses remained energized, the Loss of Offsite Power SDP worksheet was used to evaluate the risk. A “< 3 day” exposure results in an Initiating Event Likelihood of 4 for the Loss of Offsite Power SDP worksheet. Evaluating all the sequences on the worksheet results in the lowest sequence being eight, which identifies that the significance of the finding was Green (very low safety significance) with respect to core damage frequency.

This finding has a crosscutting aspect in the area of human performance, specifically the resources attribute (H.2C) in that the licensee failed to conservatively describe in procedures what constitutes a missile hazard.

Enforcement. Technical Specification 5.8.1.a requires, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, 1978. Regulatory Guide 1.33, Appendix A, requires, in part, written procedures for combating emergencies and other significant events such as Acts of Nature (e.g., tornado, flood, dam failure, earthquakes). Procedure FSG-01, "Duty Assignments," Revision 6, in part, defines a missile as "loose pieces of sheet metal or other lightweight conductive material of 10 gage weight (1/8" thickness) or less, and greater than 8 feet in length or diagonally across." Contrary to the above, on August 20, 2007, during a high wind event the inadequate definition of a missile was revealed when a ¾ inch plywood lid with a dimension of less than 8 feet across acted as a missile and struck the T1A-4 transformer relay cabinet causing a loss of 161 kilovolt power to the safety-related busses. This violation of Technical Specification 5.8.1.a, is being treated as a noncited violation, consistent with Section VI.A of the Enforcement Policy (NCV 05000285/2007010-02, Inadequate Definition of a Missile Hazard Results in Loss of 161 KV Power). This violation was entered into the licensee's corrective action program as Condition Reports 2007-3361.

f. Human Performance Crosscutting Issue Corrective Actions

(1) Inspection Scope

In the annual assessment letter dated March 2, 2007, the NRC concluded that a substantive cross-cutting issue in the area of human performance existed at the Fort Calhoun Station. This substantive cross-cutting issue was continued and expanded in the mid-cycle assessment letter dated August 31, 2007. As stated in the mid-cycle letter, "we identified a cross-cutting theme in the Work Practices Component involving instances of ineffective use of human error prevention techniques. Additionally, during this assessment period, we identified another theme with five findings with cross-cutting aspects in the Resources Component of the Human Performance area, involving instances of failing to provide adequate procedures or work instructions."

The team reviewed the corrective actions, assessments, common cause analysis and other documentation related to the Human Performance Crosscutting issue with the corrective action program staff.

(2) Assessment

The team determined that the licensee performed a thorough, detailed common cause analysis with qualified personnel representing appropriate disciplines. The 2-year period used to evaluate performance allowed for a representative sample across the entire organization. The licensee identified two common themes contributing to the increased occurrence of events. These were: (1) during outages, supervisory oversight of worker's assigned tasks (given their associated dimensions/circumstances) is not adequate to appropriately identify or respond to the hazards of task performance; and (2) procedural guidance often lacks sufficient detail to properly guide performance of infrequently performed tasks, especially outage-related activities. The common cause

analysis noted that these conclusions point toward weaknesses in organizational barriers and defenses rather than individual performance work practices. In addition, two performance gaps were identified that contributed to the common causes. The first was that a strategy for managing risks for human performance error has not been identified or implemented in a manner that ensures appropriate organizational or leadership barriers are in place to support the performance of infrequent activities. This results in placing too great a reliance upon individual error prevention tools (worker level tools) which are not always successful or capable of identifying potential error-likely situations or assuring correct performance of risk-important or critical task steps. The second concerns a failure to establish an organizational approach to monitoring and responding to trends related to significant event causes and/or causal factors limits management ability to identify the potential existence of a substantive cross-cutting issue not only in human performance safety culture but in other safety culture aspects related to the regulatory oversight process.

The team determined that the licensee initiated several short term corrective actions including communicating the substantive cross-cutting issue in human performance to the site and bench marking the industry for best practices related to assessing procedure content/quality and employing a defense-in-depth approach to managing risks associated with planned and unplanned work activities. Also, providing oversight for pre-job briefings and identification of error likely tasks was emphasized.

The team concluded that the licensee had established logical corrective actions to address the identified common causes. Licensee management personnel were engaged in this issue and corrective actions were being implemented. Results of these efforts were inconclusive. The team determined that additional time and continued attention to this issue would be required.

4OA6 Exit Meeting

On September 14, 2007, the team presented their inspection results to Mr. T. Nellenbach, Plant Manager, and other members of the licensee staff who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

Attachment: 1. Supplemental Information
2. Information Request

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

G. Cavanaugh, Supervisor, Regulatory compliance
A. Clark, Manager Security
R. Clemens, Division Manager, Nuclear Engineering
P. Cronin, Manager, Operations
M. Frans, Manager, System Engineering
S. Gebers, Manager, Emergency Preparedness and Health Physics
D. Guinn, Regulatory Compliance
R. Haug, Manager, Radiation Protection
D. Lakin, Manager Corrective Action Program
D. Matthews, Supervisor, Operations Control Center
J. McManis, Manager, Licensing
T. Nellenbach, Plant Manager
B. Pence, Operations Engineer, Corrective Action Group
J. Reinhart, Site Director
G. Riva, System Engineer
G. Seier, Supervisor, Procurement Engineering/Quality
D. Spires, Manager, Work Management
D. Trausch, Assistant Plant Manager
D. Weaver, Acting Manager, Training

NRC

J. Hanna ,Senior Resident Inspector, Project Branch E
L. Smith, Chief, Engineering Branch 2, Division of Reactor Safety

LIST OF ITEMS OPENED AND CLOSED

Opened and Closed

05000285/2007010-01	NCV	Failure to Follow a Procedure That Would Identify Potential Missile Hazards (Section 4OA2.e(2)(a))
05000285/2007010-02	NCV	Inadequate Definition of a Missile Hazard Results in Loss of 161 KV Power (Section 4OA2.e(2)(b))

LIST OF DOCUMENTS REVIEWED

Procedures

Nuclear Policy Manual NPM-2.04, “Establishing and Maintaining a Safety Conscious Working Environment,” Revision 4

Nuclear Operations Division NOD-QP-38, “Employee Concerns,” Revision 6

Employee Concerns Program Implementation Instructions ECPII-0, “Contents and Change Process,” Revision 1

Employee Concerns Program Implementation Instructions ECPII-1, “ECP Definitions and References,” Revision 0

Employee Concerns Program Implementation Instructions ECPII-2, “Employee Concerns Resolution Process Description,” Revision 0

Employee Concerns Program Implementation Instructions ECPII-3, “ECP Investigation Development,” Revision 0

Employee Concerns Program Implementation Instructions ECPII-4, “ECP Coordinator Routine Duties,” Revision 1

Employee Concerns Program Implementation Instructions ECPII-5, “Performance Evaluation,” Revision 0

Standing Order SO-R-2, “Condition Reporting and Corrective Action,” Revision 37

Nuclear Operations Division NOD-QP-19, “Cause Analysis Program,” Revision 29

OPD-4-17, “Control Room Deficiencies, Operator Burdens and Operator Work Arounds,” Revision 18

Standing Order SO-M-101, “Maintenance Work Control,” Revision 72

Standing Order SO-O-25, “Temporary Modification Control,” Revision 68

Standing Order SO-G-30, “Procedure Changes and Generation,” Revision 111

Nuclear Operations Division NOD-QP-21, “Operating Experience (OE) Program,” Revision 21

Nuclear Policy Manual NPM-1.00, “Nuclear Safety,” Revision 0

AOP-01, “Acts of Nature,” Revision 22

FCSG-1, “Duty Assignments,” Revision 6

FCSG-1, “Duty Assignments,” Revision 5

FCSG-1, “Duty Assignments,” Revision 4

FCSG-2, ”Observation - Quality Contact Hours Program,” Revision 14

FCSG-15-24, “Housekeeping,” Revision 3

NOD-QP-36, “Grid Operations and Control of Switchyard at FCS,” Revision 15

OP-3A, “Plant Shutdown,” Revision 67

PED-SEI-19, “System Health Report Preparation,” Revision 12

Engineering Requests

94-007, Analysis of Missile Hazards Related to Loss of Offsite Power, dated January 13, 1994

AR 28588 EC 34435

Work Orders

Work Order 00269268-01, “Inspection/Control of Materials In and Around SFM Fab Shop,” completed July 20, 2007

00112699 00089640 00225840 00237791

Audits, Self-Assessments and Surveillances

SA-05-09, “Chemistry Self Assessment,” September 19 - 23, 2005

SA-05-13, “Radiation Protection Program,” October 24 - 28, 2005

SA-05-18, “Problem Identification, Resolution,” August 26, 2005

SA-05-19, “FCS Operations Assist Visit,” September 19 - 23, 2005

SA-06-01, “Annual Training Assessment - Accredited Programs,” March 20 - 24, 2006

SA-06-02, “Radiation Protection Program,” May 15 - 19, 2006

SA-06-05, “FCS Predictive Maintenance (PdM) Program,” June 5 - 9, 2006

SA-06-06, “Engineering Programs - Component Testing,” April 3, 2006

SA-06-08, “Mid-Cycle Self Assessment,” February 27 - March 3, 2006

SA-06-09, “Gas Intrusion,” March 20 - April 21, 2006

SA-06-16, “Integrated Work Management,” January 30 - February 2, 2006

SA-06-21, “Operator Fundamentals,” May 15 - 19, 2006

SA-06-23, “10 CFR 50.59 Implementation,” May 1 - July 25, 2006

SA-06-24, “Dry Fuel Storage Readiness,” February 27 - March 3, 2006

SA-06-26, “Surveillance Test Program,” July 24 - 27, 2006

SA-06-28, “Quality Program,” May 15 - 26, 2006

SA-06-30, “Shutdown Safety Defense-in-Depth,” June 5 - 9, 2006

SA-06-32, “Welding Program Basis Document,” July 10, 2006

SA-06-33, “Fire Protection,” June 15, 2006

SA-06-34, “FCS Large Motor Program,” June 26 - 28, 2006

SA-06-35, “Emergency Preparedness,” June 26 - 30 and July 24 - September 1, 2006

SA-06-36, “Lack of Attention to Detail in Quality Department Documents,” August 18, 2006

SA-07-01, “FCS Observation Program,” January 12, 2007

SA-07-02, “FCS Chemistry Performance Indicators,” March 5 - 27, 2007

SA-07-03, “Waste Effluent Optimization,” May 7 - 11, 2007

SA-07-07, “Corrective Action Program,” February 12 - 16, 2007

SA-07-08, “Rad Material Outside the RCA,” January 27 - February 3, 2007

SA-07-09, “Radiation Protection - 2005 ALARA Package Review,” February 5 - 6, 2007

SA-07-11,”Radiation Protection - 2005 Area for Improvement Review,” February 12 - 15, 2007

SA-07-23, “Procurement Services,” July 3, 2007

SA-07-26, “Resolution of Work Management Area for Improvement,” January 22 - 29, 2007

SA-07-27, “Human Performance Assist Visit,” February 5 - 9, 2007

SA-07-42, “Component Design Basis Inspection,” March 12 - 30, 2007

SA-07-44, “On-Shift Staffing Required to Perform Emergency Response Functions,” March 26 - April 15, 2007

SA-07-45, “Dose Assessment,” May 30 - 31, 2007

System Heath Reports

Auxiliary Cooling System (ACS), 2nd Quarter 2007

Circulating Water System (CWS), 2nd Quarter 2007

RAW Water System Report Cards covering January 01, 2002 to December 31, 2004

Overall System Summary Health Reports and Detailed System Summary Health Reports covering 2nd Quarter 2005 to 2nd Quarter 2007

A listing of Condition Reports covering January 01, 2002 to August 28, 2007 for Circulating Water System and Traveling Screens

A listing of Work Requests covering January 01, 2002 to August 28, 2007 for RAW Water System and the Traveling Screens

A listing of open Priority 4 Work Request Backlog

Maintenance Rule Functional Scoping Data Sheets for RAW Water Strainers, Traveling Screens, and Screen Wash System

Condition Reports CR-

200401149	200600051	200601367	200602184	200604505	200701014
200401672	200600068	200601375	200602189	200604647	200701275
200504125	200600076	200601376	200602243	200604968	200701292
200504397	200600081	200601388	200602301	200604992	200701613
200504838	200600085	200601431	200602349	200605047	200701617
200504878	200600141	200601477	200602373	200605205	200701618
200504886	200600171	200601480	200602407	200605253	200701927
200504918	200600204	200601485	200602412	200605327	2007-2162
200504934	200600216	200601494	200602454	200605352	2007-2543
200504943	200600219	200601541	200602621	200605492	2007-2581
200504949	200600272	200601546	200602631	200605679	2007-2712
200505012	200600277	200601548	200602640	200605699	2007-3360
200505046	200600377	200601613	200602667	200605701	2007-3361
200505053	200600401	200601636	200602685	200605841	2007-3362
200505054	200600468	200601652	200602855	200605954	2007-3363
200505059	200600471	200601673	200602974	200606036	2007-3364
200505065	200600473	200601693	200603019	200606155	2007-3529
200505069	200600477	200601695	200603381	200700082	2007-3537
200505092	200600483	200601739	200603429	200700272	2007-3544
200505136	200600715	200601757	200603648	200700390	2007-3554
200505141	200600876	200601764	200603707	200700422	2007-3568
200505150	200600897	200601780	200603765	200700553	2007-3710
200505159	200600918	200602059	200603808	200700706	2007-3711
200505176	200601153	200602090	200603835	200700777	2007-3712
200505204	200601326	200602162	200604122	200700892	2007-3958
200505618	200601356	200602165	200604189	200700949	

Operating Experience

P21-2006-06	P21-2007-09	IN 2006-09	IN 2006-23	IN 2006-31	IN 2007-11
P21-2006-07	IN 2005-29	IN 2006-16	IN 2006-24	IN 2007-01	IN 2007-12
P21-2006-08	IN 2005-33	IN 2006-17	IN 2006-25	IN 2007-05	
P21-2006-19	IN 2006-03	IN 2006-18	IN 2006-28	IN 2007-06	
P21-2007-07	IN 2006-04	IN 2006-22	IN 2006-29	IN 2007-08	

Licensee Event Reports

2005-001	2006-003	2006-006	2007–001	2007-004
2006-001	2006-004	2006-007	2007-002	
2006-002	2006-005	2007-008	2007-003	

Drawings

Updated Safety Analysis Report Figure 8.2-3, “Transmission Line Routing,” Revision 9

Updated Safety Analysis Report Figure 8.2-1, “Electrical Network Interconnections,” Revision 5

Miscellaneous

Shift Managers Activity Planner, dated August 20, 2007

EA06-006, “Tornado Design/Licensing Basis,” Revision 1

E-mail from James E. Rongish to Randel E. Lewis on External Missiles, dated August 28, 2007

E-mail from James E. Rongish to David P. Spargo on Tornado Criteria, dated August 28, 2007

Information Request
July 16, 2007
Fort Calhoun Station Problem Identification and Resolution Inspection
(IP 71152B; Inspection Report 05000285/2007010)

The inspection will cover the period of October 1, 2005 through September 14, 2007. All requested information should be limited to this period unless otherwise specified. To the extent possible, please provide the information in electronic media in the form of e-mail attachment(s), or CDs. The agency's text editing software is Corel WordPerfect 10, Presentations, and Quattro Pro. However, we have document viewing capability for MS Word, Excel, Power Point, and Adobe Acrobat (.pdf) text files.

The team will get updated lists et cetera during the first day onsite (August 27, 2007).

Please provide the following by August 17, 2007, to Tom Farnholtz by e-mail or to:

U.S. Nuclear Regulatory Commission
Attn: Tom Farnholtz
Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

Note: For requested summary lists, please include a description of problem, significance level, status, initiation date, and owner organization.

1. Summary list of all Condition Reports (CRs) related to significant conditions adverse to quality that were opened or closed during the period

2. Summary list of all CRs that were generated since October 1, 2005

3. List of all CRs that subsume or "roll-up" one or more smaller issues for the period

4. Summary list of all CRs that were up-graded or down-graded during the period

5. List of root-cause analyses completed during the period

6. List of root-cause analyses planned, but not complete at end of the period

7. List of all apparent cause analysis completed during the period

8. List of plant safety issues raised or addressed by the employee concerns program during the period

9. List of action items generated or addressed by the plant safety review committees during the period

10. Copy of quality assurance audits and surveillances of corrective action activities completed during the period

11. Summary list of all quality assurance audits and surveillances scheduled for completion during the period but which were not completed

12. Copy of corrective action activity reports, functional area self-assessments, and non-NRC third party assessments completed during the period (Do not include INPO assessments)

13. Copy of corrective action performance trending/tracking information generated during the period and broken down by functional organization

14. Copy of current revisions of governing procedures/policies/guidelines for:

    a. Condition reporting
    b. Corrective Action Program
    c. Root Cause Evaluation/Determination
    d. Operator work arounds
    e. Work requests
    f. Temporary modifications
    g. Procedure change requests
    h. Deficiency reporting and resolution
    I. Operating experience evaluation
    j. Safety culture policy/procedures
    k. Employee Concerns Program

15. List of external events and operating experience (OE) evaluated for applicability at Fort Calhoun Station during the period

16. Copy of CRs or other actions generated for each of the items below during the period:

    a. Part 21 Reports
    b. NRC Information Notices and Bulletins
    c. LERs issued by Fort Calhoun Station (also include a copy of the LERs)
    d. NCVs and Violations issued to Fort Calhoun Station

17. Copy of security event logs during the period

18. Copy of radiation protection event logs during the period

19. Copy of current system health reports or similar information

20. Copy of current predictive maintenance summary reports or similar information

21. Copy of corrective action effectiveness review reports generated during the period

22. List of risk significant components and systems

23. List of corrective actions closed to other programs, such as maintenance action requests/work orders, engineering requests, etc.

24. List of degraded conditions and nonconformances under Generic Letter 91-18 which were not corrected in the last outage

25. Lists of operator work arounds, engineering review requests and/or operability evaluations, temporary modifications, and control room and safety system deficiencies opened or closed during the period

26. Copy of CRs associated with adverse trends in human performance, equipment, processes, procedures, or programs during the period