



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

January 10, 2014

EA-13-118

Mr. Joseph W. Shea
Vice President, Nuclear Licensing
Tennessee Valley Authority
1101 Market Street, LP 3D-C
Chattanooga, TN 37402-2801

SUBJECT: BROWNS FERRY NUCLEAR PLANT - NRC SUPPLEMENTAL INSPECTION
REPORT 05000260/2013015

Dear Mr. Shea:

On December 22, 2012, your staff failed to properly implement procedure 2-OI-99, Reactor Protection System (RPS), revision 27, in that an operator failed to re-energize the 2B RPS Bus and inappropriately de-energized the 2A RPS bus. This performance deficiency resulted in a Unit 2 reactor scram and main steam isolation valve (MSIV) closure.

On March 31, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Browns Ferry Nuclear Plant Unit 2. Based on the results of this inspection, documented in NRC Inspection Report Nos. 05000259/2013002, 05000260/2013002 and 05000296/2013002 on May 14, 2013, and the final significance determination documented in NRC Inspection Report 05000260/2013013 on August 23, 2013, the NRC assigned a white finding Action Matrix input to the Initiating Events cornerstone in the first quarter of 2013.

In response to this Action Matrix input, the NRC informed you that a supplemental inspection under Inspection Procedure 95001, "Supplemental Inspection for One or Two White Inputs in a Strategic Performance Area," would be required.

On November 6, 2013, you informed the NRC that Browns Ferry Nuclear Plant was ready for the supplemental inspection.

On December 12, 2013, the NRC completed the supplemental inspection and the NRC inspection team discussed the results of this inspection with Mr. Keith Polson and other members of your staff. The inspection team documented the results of this inspection in the enclosed inspection report.

The NRC performed this supplemental inspection to determine if: 1) the root and contributing causes for the significant issues were understood; 2) the extent of condition and extent of cause for the identified issues were understood; and 3) your completed or planned corrective actions were sufficient to address and prevent repetition of the root and contributing causes.

During this supplemental inspection, the inspector determined that the licensee performed a comprehensive evaluation of the self-revealing event. The licensee identified the primary root cause of the issue to be that operations standards for the use of Error Prevention Tools were not understood and properly applied by operations personnel during transient plant conditions. The licensee determined the extent of condition was not limited to the RPS and identified other components and systems which could lead to a reactor scram and MSIV closure. The extent of cause was also determined to have the potential to exist in other station departments besides Operations. To address this issue several actions have been or will be taken to reinforce those standards during plant observations and training, not only for the operations department but for other departments and as part of the site's leadership development training.

The NRC determined that the programs and processes at Browns Ferry Nuclear Plant generally met the Commission's rules and regulations. Additional regulatory actions are not required, beyond those inspections currently scheduled to occur, to stop declining performance at your facility and provide an adequate margin to safety. The NRC has determined that completed or planned corrective actions were sufficient to address the performance that led to the white finding. Therefore, the performance issue will not be considered as an Action Matrix input after the end of the fourth quarter of 2013.

The NRC inspector did not identify any findings or violations of more than minor significance.

In accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents Access and Management 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/

Jonathan H. Bartley, Chief
Reactor Projects Branch 6
Division of Reactor Projects

Docket No.: 50-260
License No.: DPR-52

Enclosure: NRC Inspection Report 05000260/2013015
w/Attachment - Supplementary Information

cc w/encl: Distribution via Listserv

During this supplemental inspection, the inspector determined that the licensee performed a comprehensive evaluation of the self-revealing event. The licensee identified the primary root cause of the issue to be that operations standards for the use of Error Prevention Tools were not understood and properly applied by operations personnel during transient plant conditions. The licensee determined the extent of condition was not limited to the RPS and identified other components and systems which could lead to a reactor scram and MSIV closure. The extent of cause was also determined to have the potential to exist in other station departments besides Operations. To address this issue several actions have been or will be taken to reinforce those standards during plant observations and training, not only for the operations department but for other departments and as part of the site's leadership development training.

The NRC determined that the programs and processes at Browns Ferry Nuclear Plant generally met the Commission's rules and regulations. Additional regulatory actions are not required, beyond those inspections currently scheduled to occur, to stop declining performance at your facility and provide an adequate margin to safety. The NRC has determined that completed or planned corrective actions were sufficient to address the performance that led to the white finding. Therefore, the performance issue will not be considered as an Action Matrix input after the end of the fourth quarter of 2013.

The NRC inspector did not identify any findings or violations of more than minor significance.

In accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents Access and Management 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/

Jonathan H. Bartley, Chief
 Reactor Projects Branch 6
 Division of Reactor Projects

Docket No.: 50-260
 License No.: DPR-52

Enclosure: NRC Inspection Report 05000260/2013015
 w/Attachment - Supplementary Information

cc w/encl: Distribution via Listserv

PUBLICLY AVAILABLE NON-PUBLICLY AVAILABLE SENSITIVE NON-SENSITIVE
 ADAMS: Yes ACCESSION NUMBER: _____ SUNSI REVIEW COMPLETE FORM 665 ATTACHED

OFFICE	TTC	RII:DRP	RII:DRP				
SIGNATURE	Via email	CRK /RA/	JHB /RA/				
NAME	KKorth	CKontz	JBartley				
DATE	01/09/2014	01/10/2014	01/10/2014				
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

J. Shea

3

Letter to Joseph W. Shea from Jonathan H. Bartley dated January 10, 2014

SUBJECT: BROWNS FERRY NUCLEAR PLANT - NRC SUPPLEMENTAL INSPECTION
REPORT 05000260/2013015

Distribution:

C. Evans, RII

L. Douglas, RII

OE Mail

RIDSNRRDIRS

PUBLIC

RidsNrrPMBrownsFerry Resource

**U.S. NUCLEAR REGULATORY COMMISSION
REGION II**

Docket No.: 50-260

License No.: NPF-52

Report No.: 05000260/2013015

Licensee: Tennessee Valley Authority (TVA)

Facility: Browns Ferry Nuclear Plant, Unit 2

Location: Corner of Shaw and Nuclear Plant Roads
Athens, AL 35611

Dates: December 9, 2013, through December 12, 2013

Inspector: K. Korth, Senior Reactor Technology Instructor

Approved by: Jonathan H. Bartley, Chief
Reactor Projects Branch 6
Division of Reactor Projects

Enclosure

SUMMARY

Inspection Report (IR) 05000260/2013015; 12/09/2013 – 12/12/2013; Browns Ferry Nuclear Plant, Unit 2; Supplemental Inspection - Inspection Procedure (IP) 95001

This supplemental inspection was conducted by a senior technical training instructor. No findings were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4.

Cornerstone: Initiating Events

The NRC staff performed this supplemental inspection in accordance with Inspection Procedure (IP) 95001, "Supplemental Inspection for One or Two White Inputs in a Strategic Performance Area," to assess the licensee's evaluation associated with a white inspection finding involving the failure to properly implement procedure 2-OI-99, Reactor Protection System (RPS), which resulted in a Unit 2 reactor scram and main steam isolation valve (MSIV) closure, in December 2012. The NRC staff previously characterized this issue as having low to moderate safety significance (white), as documented in NRC IR 05000260/2013013. During this supplemental inspection, the inspector determined that the licensee performed a comprehensive evaluation of the self-revealing event, which occurred following the de-energization of the 4kV shutdown board D during diesel testing. The licensee identified the primary root cause of the issue to be that operations standards for the use of Error Prevention Tools were not understood and properly applied by operations personnel during transient plant conditions.

Given the licensee's acceptable performance in addressing the event, the white finding associated with this issue will only be considered in assessing plant performance for a total of four quarters in accordance with the guidance in Inspection Manual Chapter (IMC) 0305, "Operating Reactor Assessment Program." Inspectors will review the licensee's implementation of corrective actions as part of baseline inspections.

A. NRC-Identified and Self-Revealing Findings

None.

B. Licensee-Identified Violations

None.

Enclosure

REPORT DETAILS

4. OTHER ACTIVITIES

4OA4 Supplemental Inspection (95001)

.01 Inspection Scope

The NRC staff performed this supplemental inspection in accordance with IP 95001 to assess the licensee's evaluation of a white finding, which affected the initiating event cornerstone in the reactor safety strategic performance area. The inspection objectives were to:

- provide assurance that the root and contributing causes of risk-significant performance issues were understood;
- provide assurance that the extent of condition and extent of cause of risk-significant performance issues were identified; and
- provide assurance that the licensee's corrective actions for risk-significant performance issues were or will be sufficient to address the root and contributing causes and to prevent recurrence.

On May 14, 2013, the NRC assessed the performance of Browns Ferry Nuclear Plant Unit 2 to be in the Degraded Cornerstone column of the Reactor Oversight Process Action Matrix beginning the fourth quarter of 2012 based on two White inputs into the Mitigating Systems Cornerstone (IR 05000259, 260, 296/2013002). Because this White finding is an input into the Initiating Events Cornerstone, the NRC has assessed the performance of Browns Ferry Nuclear Plant Unit 2 to remain in the Degraded Cornerstone column of the Reactor Oversight Process Action Matrix (IR 05000260/2013013).

The licensee staff informed the NRC staff on November 6, 2013, that they were ready for the supplemental inspection. In preparation for the inspection, the licensee revised the initial root cause (Problem Evaluation Report (PER) 660862) and issued a root cause analysis (RCA), PER 740259, Revision 3, to identify weaknesses that existed in various organizations, which allowed for the risk-significant finding, and to determine the organizational attributes that resulted in the finding.

The inspector reviewed the licensee's RCA in addition to other evaluations conducted in support, and as a result, of the RCA. The inspector reviewed corrective actions that were taken or planned to address the identified causes. The inspector also held discussions with licensee personnel to ensure that the root and contributing causes and the contribution of safety culture components were understood and corrective actions taken or planned were appropriate to address the causes and prevent recurrence.

Enclosure

.02 Evaluation of the Inspection Requirements

02.01 Problem Identification

- a. IP 95001 requires that the inspection staff determine that the evaluation documented who identified the issue (i.e., licensee-identified, self-revealing, or NRC-identified) and under what conditions the issue was identified.

The licensee's RCA described the event which led to a reactor scram as self-revealing. The inspector verified that this information was documented in the licensee's RCA.

- b. IP 95001 requires that the inspection staff determine that the evaluation documented how long the issue existed and prior opportunities for identification.

The licensee's RCA documented that this event was a repeat event. Two comprehensive action plans had been initiated at the site as part of the Browns Ferry (BFN) Unit 1 IP 95003 inspection preparations that have the same problem areas determined to be causal to this event. Specifically, BFN Fundamental Problem #1 regarding Management and Leadership Standards (PER 516437) and BFN Fundamental Problem #2 regarding Operational Focus – Decision Making (PER 516455). However, the corrective actions from these root cause evaluations had not yet been completed at the time of this event.

The inspector determined that the licensee's evaluation was adequate with respect to identifying how long the issue existed and prior opportunities for identification. The licensee's previous event analysis determined the safety culture issue which led to the reactor scram had existed for several years. Evaluations going back to 2006 provided indications of inadequate implementation of human performance tools. However, the inspector identified that the analysis of previous events did not always document the evaluation of why the corrective actions from those prior events were ineffective in preventing this event. The licensee generated Service Request (SR) 819988 to address this observation.

- c. IP 95001 requires that the inspection staff determine that the evaluation documented the plant-specific risk consequences, as applicable, and compliance concerns associated with the issue.

The NRC determined this issue was a white finding, as documented in NRC IR 05000260/2013013, and the licensee's RCA also documented that the finding associated with this issue had low to moderate (white) safety significance. In addition, PER 740259 documented the consequences of the issue, which included the following:

- the loss of the D 4kV shutdown board created the half-scram condition, which reduced the defense in depth to a plant scram and associated plant transient;
- the human performance error de-energized the second of two RPS buses thereby satisfying the logic for a full scram with MSIV closure; and
- the change in core damage frequency was $4.1E-6$ /year.

The inspector concluded that the licensee appropriately documented the risk consequences and compliance concerns associated with the issue.

d. Findings

No findings were identified.

02.02 Root Cause, Extent of Condition, and Extent of Cause Evaluation

- a. IP 95001 requires that the inspection staff determine that the problem was evaluated using a systematic methodology to identify the root and contributing causes.

The licensee used the following systematic methods to complete the RCA contained in PER 740259:

- events and causal factor (E&CF) determination;
- barrier analysis;
- safety consequences evaluation;
- safety culture evaluations; and
- internal and external operating experience evaluations.

The licensee used both the E&CF and barrier analysis to evaluate human performance issues. The inspector determined that the licensee evaluated the issue using a systematic methodology to identify root and contributing causes.

- b. IP 95001 requires that the inspection staff determine that the root cause evaluation was conducted to a level of detail commensurate with the significance of the problem.

The licensee's RCA included an extensive timeline of events and an E&CF chart as discussed in the previous section. The licensee's RCA documented the root cause of the issue as operations standards for the use of Error Prevention Tools were not understood and properly applied by operations personnel during transient plant conditions. The licensee determined that the contributing causes included: 1) weaknesses in operator fundamentals; 2) Operating Instruction 2-OI-99, Reactor Protection System (RPS), contained both divisions of RPS equipment within the same step; 3) failure to fully implement industry recommendations regarding the use of supervisors to perform component manipulations; 4) Abnormal Operating Instruction 2-AOI-99, Loss of Power to a Single RPS Bus, revision 27, did not contain steps for restoring the RPS buses; and 5) there was a lack of clear guidance for exiting Abnormal Operating Instructions (AOIs).

Based on the extensive work performed for this root cause evaluation, the inspector concluded that the root cause evaluation was conducted to a level of detail commensurate with the significance of the problem. However, the original root cause determined by the licensee and presented to the NRC at the Regulatory Conference held on July 24, 2013, was revised prior to this inspection. The inspector identified that the licensee had not conducted an evaluation as to why the original analysis failed to

determine the final root cause and had to be revised. The licensee generated SR 819779 to address this observation.

- c. IP 95001 requires that the inspection staff determine that the root cause evaluation included a consideration of prior occurrences of the problem and knowledge of prior operating experience (OE).

The licensee's RCA included an evaluation of internal and external OE. As a result of this review, the licensee determined that this event was a repeat event. As stated above in section 02.01.b, two comprehensive action plans had been initiated at the site as part of the Brown Ferry Unit 1 IP 95003 inspection preparations that have the same problem areas determined to be causal to this event. In addition, the licensee also determined that the contributing cause of using senior reactor operators to perform component manipulations was OE preventable. The RCA documented that both internal and external OE was available that showed that this practice could lead to significant human performance errors. However, the inspector identified that the RCA did not document why this practice continued despite the operating experience. The licensee generated SR 819988 to address this observation.

Based on the licensee's detailed evaluation and conclusions, the inspector determined that the licensee's RCA included a consideration of prior occurrences of the problem and knowledge of prior OE.

- d. IP 95001 requires that the inspection staff determine that the root cause evaluation addressed the extent of condition and the extent of cause of the problem.

The licensee's evaluation considered the extent of condition associated with improper restoration of a component that can lead to a reactor scram and main steam isolation valve closure. The licensee determined that the issue was not limited to the reactor protection system. There are many other components and systems that if operated improperly could lead to a reactor scram and/or MSIV closure. In addition, the RCA identified that extent of condition included restoration of components performed by other organizations beyond Operations, including the maintenance department. Furthermore, the RCA determined that the condition went beyond the restoration of components during a transient. Site organizations such as Operations, Maintenance, Work Control, Chemistry, Radiation Protection and Engineering all engaged in tasks where an undetected human error could have significant consequences on nuclear safety.

The licensee's evaluation also considered the extent of cause associated with the lack of clear understanding of, and proper application of, error prevention tools during plant transients. The licensee staff determined that the issue was not limited to Operations and had the potential to exist in other station departments. The station has identified a continuing trend in repetitive problems with worker practices, particularly procedure use and adherence and use of error prevention tools. These deficiencies have also contributed to significant events including unplanned plant trips.

The inspector concluded that the licensee's RCA addressed the extent of condition and the extent of cause of the issue.

Enclosure

- e. IP 95001 requires that the inspection staff determine that the root cause, extent of condition, and extent of cause evaluations appropriately considered the safety culture components as described in IMC 0305.

The licensee conducted a Safety Culture Evaluation to consider the applicability of each safety culture aspect to the root cause and contributing causes. The licensee found the root cause was associated with a weakness in the cross-cutting area of Human Performance, specifically in the component of Work Practices. The licensee found that human error prevention techniques were not used or were not effectively used during the performance of the restoration of the 2B RPS motor generator set. This weakness correlates to the [H.4(a)] cross-cutting aspect described in IMC 0310, dated October 28, 2011. In addition, the licensee found the root cause of the event demonstrated weaknesses in other safety culture components dealing with management reinforcement of safety standards [O.1(b)] and the workforce demonstrating a proper safety focus [O.1(c)].

The analysis also identified cross-cutting aspects associated with the contributing causes including Decision Making because the crew used a non-conservative approach in applying the requirements for the use of error-prevention tools when restoring power to RPS bus 2B [H.1(b)]; Complete and Accurate Procedures because Operating Instruction 2-OI-99, contained both the 2A and the 2B breaker numbers for the RPS motor generator set in the same step, Abnormal Operating Instruction 2-AOI-99, did not contain steps to restore power to the bus, and 2-AOI-99, did not contain clear guidance on when to exit the procedure [H.2(c)]; Supervisory Oversight because oversight of re-energizing the 2B RPS bus was not provided [H.4(c)]; and Use of Operating Experience because the licensee did not use existing operating experience and continued to allow station Senior Reactor Operators to perform field activities normally assigned to Unit Operators and Assistant Unit Operators [P.2(b)].

The inspector determined that the licensee's RCA included a proper consideration of whether a weakness in any safety culture component was a root cause or a significant contributing cause of the issue.

- f. Findings

No findings were identified.

02.03 Corrective Actions

- a. IP 95001 requires that the inspection staff determine that appropriate corrective actions are specified for each root and contributing cause or that the licensee has an adequate evaluation for why no corrective actions are necessary.

The licensee took immediate corrective actions to restore the RPS buses, re-open the MSIVs and stabilize the plant in Mode 3. Other interim actions included:

- Temporary removal of an individual from Senior Reactor Operator functions;
- Conducting a stand down on the event with Operations Shift personnel; and
- Distribution of a BFN Site Communication of the Prompt Investigation Key Points to all Site Personnel.

Corrective actions were developed for the root and contributing causes listed in PER 740259. To address the issue of understanding and applying standards for use of error prevention tools, several actions have been or will be taken to reinforce those standards during plant observations and training, not only for the Operations department but for other departments and as part of the site's leadership development training. Likewise, each identified contributing cause had appropriate corrective actions assigned. These included reinforcing operator fundamentals, procedure upgrades, and transitioning away from performance of component manipulations by Senior Reactor Operators.

The inspector determined that the corrective actions taken and proposed were appropriate and addressed each root and contributing cause.

- b. IP 95001 requires that the inspection staff determine that corrective actions have been prioritized with consideration of risk significance and regulatory compliance.

The licensee's immediate corrective actions restored the RPS buses and stabilized the plant. The lessons learned from the event were promptly communicated with the appropriate site personnel.

The licensee's corrective actions to address the root and contributing causes were prioritized through the assignment of graded corrective action types; Corrective Actions to Prevent Recurrence (CAPR), Corrective Action, and Enhancement, in accordance with the licensee's procedures. This prioritization considered licensing and regulatory performance and nuclear safety.

The inspector determined that the corrective actions were prioritized with consideration of the risk significance and regulatory compliance.

- c. IP 95001 requires that the inspection staff determine that a schedule has been established for implementing and completing the corrective actions.

The licensee established due dates for the corrective actions and they were documented in the RCA. The inspector concluded that an appropriate schedule had been established for implementing and completing the corrective actions.

- d. IP 95001 requires that the inspection staff determine that quantitative or qualitative measures of success have been developed for determining the effectiveness of the corrective actions to prevent recurrence.

As documented in PER 740259, the licensee established measures for determining the effectiveness of the corrective actions. These measures included the following:

- No Root Cause Analysis events (significant condition adverse to quality) with [H.4(a)] or [O.1(c)] identified in the Safety Culture Evaluation as a weakness associated with the root cause(s), specifically regarding use of pre-job briefs and communication of human error prevention techniques.
- No more than three Root Cause Analysis events with [H.4(a)] or [O.1(c)] identified as a weakness associated with the contributing cause(s), specifically regarding use of pre-job briefs and communication of human error prevention techniques.

The effectiveness review will be conducted six months after the last CAPR is completed. The inspector determined that quantitative and qualitative measures of success had been developed for determining the effectiveness of the CAPRs.

- e. IP 95001 requires that the inspection staff determine that the corrective actions planned or taken adequately address a Notice of Violation (NOV) that was the basis for the supplemental inspection, if applicable.

The NRC issued the NOV to the licensee on August 23, 2013, as described in NRC Inspection Report 05000260/2013013. The licensee provided the NRC with a cause evaluation and corrective action plan during the Regulatory Conference held on July 24, 2013, as documented in a Public Meeting Summary issued July 30, 2013 (ML13212A084). Although the root cause was revised prior to the inspection, the corrective action plan was not significantly changed and additional actions were added where appropriate. During this inspection, the inspector confirmed that the licensee's RCA and planned and taken corrective actions addressed the NOV.

- f. Findings

No findings were identified.

02.04 Evaluation of IMC 0305 Criteria for Treatment of Old Design Issues

The licensee did not request credit for self-identification of an old design issue; therefore, the risk-significant issue was not evaluated against the IMC 0305 criteria for treatment of an old design issue.

40A6 Exit Meeting

On December 12, 2013, the inspector presented the inspection results to Mr. Keith Polson and other members of his staff. The inspector asked the licensee if any of the material examined during the inspection should be considered proprietary. The licensee did not identify any proprietary information.

ATTACHMENT: SUPPLEMENTARY INFORMATION

Enclosure

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee

M. Acker, Licensing Engineer
J. Bashore, Licensing Contractor
J. Browder, Corrective Action Program Manager
D. Campbell, Operations Superintendent
D. Curths, System Engineer
P. Donahue, Assistant Director Site Engineering
G. Doyle, Director 95003 Response Team
D. Green, Licensing Contractor
G. Hall, Manager Human Performance
J. Holiday, Senior Reactor Operator
L. Hughes, Operations Manager
S. Hunnewell, Director Site Engineering
B. McNutt, Shift Manager
M. Oliver, Licensing Engineer
J. Paul, Site Licensing Manager
K. Polson, Site Vice President
M. Roy, Maintenance Rule Coordinator
C. Vaughn, Operations Training Manager
P. Wilson, Manager TVA Corporate Licensing

ITEMS OPENED, CLOSED AND DISCUSSED

Closed

05000260/2013002-02	VIO	Failure to Follow Operating Procedure Guidance Resulted in Unit 2 Reactor Scram
---------------------	-----	--

LIST OF DOCUMENTS REVIEWED

Procedures

NPG-SPP-01.2, Administration of Site Technical Procedures, Rev. 9
NPG-SPP-03.4, Maintenance Rule Performance Indicator Monitoring, Trending and Reporting –
10CFR50.65, Rev. 2
OPDP-01, Conduct of Operations, Rev. 30
PMTI-69532-STG008, 3D Emergency Diesel Generator Governor Control Upgrade, Rev. 3
0-TI-346, Maintenance Rule Performance Indicator Monitoring, Trending and Reporting –
10CFR50.65, Rev. 46
2-OI-99, Reactor Protection System, Rev. 79 and Rev. 80
2-AOI-30B-1, Reactor Building Ventilation Failure, Rev. 16
2-AOI-64-2D, Group 6 Ventilation System Isolation, Rev. 53
2-AOI-99-1, Loss of Power to a Single RPS Bus, Rev. 27 and Rev. 29

PERs

76599, U3 Reactor Scram due to Switching Error
 456197, Battery Board 2 Misalignment of Battery Charger
 516437, Management and Leadership Standards
 516455, Operational Focus/Decision Making
 531909, PERs not entered in Maximo
 532262, Learning Opportunity OPDP-1 Requirements for PER Generation
 532265, Deficiency Identified for SROs Performing Manipulations
 588255, MR Program Focused Self-Assessment Scope Determination
 610091, 3C Standby Emergency Diesel Generator Lost DC Control Power
 660235, 3D EDG Units in Parallel with D EDG Failed PMTI
 660862, U2 Scram while restarting 2B RPS using 2B RPS MG Set
 661328, Potential Inadequate Unit 1 and 2 Technical Specifications
 666592, Main Steam Vault Temperature Indication Differences
 673542, U2 Scram OE Preventable
 674764, Benchmarking Learning Opportunity
 735821, Self-Revealing Apparent Violation During Battery Board Restoration
 740259, RPS Scram, White Finding
 744053, Failure to Translate Expected Behaviors into Normal Work Habits
 757451, BFN Safety Culture Continuous Improvement Plan
 778250, Focus Team Recommendations
 811578, PDO and OS-184 are Excessively Restrictive
 811640, 95001/95002 – Main Steam Vault Temperature

Miscellaneous

Standing Order OS-184, Interim Action Due to Non-Conservative U1/U2 Technical Specifications Concerning the DG Paralleling Function between Units 1/2 and 3, approved 1/10/2013
 Standing Order OS-185, Guidance of AOI Usage, approved 3/28/2013
 Operations Section Instruction Letter OSIL-124, Procedure and Work Instruction Use and Adherence, dated 8/26/2011
 ILT Lesson Plan 171.074, Abnormal Operating Procedures
 Benchmarking Report BFN-OPS-I-13-BM02, AOI Procedure Guidance for Entry and Exit Criteria, approved 1/30/2013
 Self-Assessment BFN-OPS-S-12-015, Unit Supervisors as Performers, approved 4/15/2012
 Calculation ND-Q2999-970011, Reactor Building Environmental Analysis for HELBA – Power Uprate, Rev. 6
 Design Change DCN 50870, Relocate Temperature Elements in the Main Steam Vault, Rev. A
 CDE 1306, System 82, Functional Failure of D Standby Diesel during Parallel Testing
 CDE 1307, System 99, Functional Failure of RPS Bus