



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

October 15, 2012

Mr. David A. Heacock
President and Chief Nuclear Officer
Virginia Electric and Power Company
Dominion Nuclear
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

**SUBJECT: NORTH ANNA NUCLEAR POWER STATION – NRC SUPPLEMENTAL
INSPECTION REPORT 05000338/2012011 & 05000339/2012011 AND
ASSESSMENT FOLLOW-UP LETTER**

Dear Mr. Heacock:

On September 13, 2012, the U. S. Nuclear Regulatory Commission (NRC) completed a supplemental inspection pursuant to Inspection Procedure 95001, "Inspection for One or Two White Inputs in a Strategic Performance Area," at your North Anna Power Station Units 1 and 2. The enclosed inspection report documents the inspection findings which were discussed at the exit meeting on September 13, 2012, with Mr. Michael Crist and other members of your staff. Additionally, implementation of corrective actions was discussed during a regulatory performance meeting with Mr. Crist and your staff on the same date.

In accordance with the NRC Reactor Oversight Process Action Matrix, this supplemental inspection was performed to follow up on a finding with low to moderate safety significance (White) in the Mitigating Systems Cornerstone which was identified in the 4th quarter of 2011. This issue was documented previously in NRC Inspection Report Nos. 05000338/2012010 and 05000339/2012010. The NRC was informed on July 26, 2012 of your staff's readiness for this inspection.

The objectives of this supplemental inspection were to provide assurance that: (1) the root and contributing causes were understood; (2) the extent of condition and extent of cause were identified; and (3) corrective actions were sufficient to address the root and contributing causes and to preclude repetition of the root and contributing causes. The inspection consisted of examination of activities conducted under your license as they related to safety, compliance with the commission's rules and regulations, and the conditions of your operating license.

Based on the results of this inspection, no findings of significance were identified. The inspectors determined that, in general: (1) the root and contributing causes were understood; (2) the extent of condition and extent of cause were identified; and (3) corrective actions were sufficient to address the root and contributing causes to preclude repetition. As a result, the NRC determined the performance of North Anna Power Station Units 1 and 2 to be in the Licensee Response Column of the Reactor Oversight Process Action Matrix in the 4th quarter of 2012.

In accordance with 10 CFR 2.390 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 Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Document 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/

Gerald J. McCoy, Chief
Reactor Projects Branch 5
Division of Reactor Projects

Docket Nos.: 50-338, 50-339
License Nos.: NPF-4, NPF-7

Enclosure: Inspection Report 05000338/2012011 & 05000339/2012011
w/ Attachment: Supplemental Information

cc w/ encl.: (See page 3)

D. Heacock

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Based on the results of this inspection, no findings of significance were identified. The inspectors determined that, in general: (1) the root and contributing causes were understood; (2) the extent of condition and extent of cause were identified; and (3) corrective actions were sufficient to address the root and contributing causes to preclude repetition. As a result, the NRC determined the performance of North Anna Power Station Units 1 and 2 to be in the Licensee Response Column of the Reactor Oversight Process Action Matrix in the 4th quarter of 2012.

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95001.doc

D. Heacock

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cc w/encl:
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D. Heacock

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Letter to David A. Heacock from Gerald J. McCoy dated October 15, 2012

SUBJECT: NORTH ANNA NUCLEAR POWER STATION – NRC SUPPLEMENTAL
INSPECTION REPORT 05000338/2012011 & 05000339/2012011 AND
ASSESSMENT FOLLOW-UP LETTER

Distribution w/ encl:

C. Evans, RII

L. Douglas, RII

OE Mail

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-338, 50-339

License Nos.: NPF-4, NPF-7

Report No: 05000338/2012011 & 05000339/2012011

Licensee: Virginia Electric and Power Company (VEPCO)

Facility: North Anna Power Station, Units 1 & 2

Location: 1022 Haley Drive
Mineral, Virginia 23117

Dates: September 10, 2012 through September 13, 2012

Inspectors: J. Heath, Resident Inspector, McGuire Nuclear Plant (Lead)
E. Coffman, Resident Inspector, V.C. Summer Nuclear Station

Approved by: Gerald J. McCoy, Chief
Reactor Projects Branch 5
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

Inspection Report (IR) 05000338/2012011 & 05000339/2012011; 9/10/2012 – 9/14/2012; North Anna Power Station, Units 1 & 2; Supplemental Inspection – Inspection Procedure (IP) 95001

This inspection was conducted by two resident inspectors. 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, dated December 2006.

Cornerstone: Mitigating Systems

The NRC staff performed this supplemental inspection in accordance with Inspection Procedure (IP) 95001, "Inspection for One or Two White Inputs in a Strategic Performance Area," to assess the licensee's evaluation associated with the Unit 2 'H' (2H) emergency diesel generator's (EDG) failure to perform its safety function on August 23, 2011. The NRC staff previously characterized this issue as having low to moderate safety significance (White), as documented in NRC IR 05000338/2012010 and 05000339/2012010.

During this supplemental inspection, the inspectors determined that the licensee performed a comprehensive evaluation of the excessive leak in the jacket coolant mechanical joint and subsequent EDG failure to run, which occurred during an automatic start following a loss of offsite power as a result of seismic event. The licensee identified the root cause of the issue to be insufficient procedural guidance in procedures 0-MCM-0701-27 and 0-MPM-0701-02. The two maintenance procedures failed to provide adequate detailed instructions on proper installation of the gasket between the exhaust belt and the coolant inlet bypass fitting. Specifically, the procedures lacked critical guidance on RTV cure time and details regarding how to tighten the adjusting fastener without impacting the gasket joint. In addition, the licensee identified three contributing causes. Corrective actions to address the root cause included updating EDG maintenance procedures to include guidance on proper bypass fitting gasket installation and appropriate RTV cure time, and updating maintenance procedures for making and verifying proper adjustments on the coolant inlet bypass fitting during installation.

Given the licensee's acceptable performance in addressing the inoperable EDG, 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 of IMC 0305, "Operating Reactor Assessment Program." As a result, the NRC determined the performance of North Anna Power Station Units 1 and 2 to be in the Licensee Response Column of the Reactor Oversight Process Action Matrix in the 4th quarter of 2012. The implementation and effectiveness of the licensee's corrective actions will be reviewed during future inspections.

Findings

No findings were identified.

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REPORT DETAILS

4. OTHER ACTIVITIES

4OA4 Supplemental Inspection (95001)

.1 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 mitigating systems cornerstone in the reactor safety strategic performance area. The inspection objectives were to:

- Provide assurance that the root and contributing causes were understood;
- Provide assurance that the extent of condition and extent of cause were identified; and
- Provide assurance that the licensee's corrective actions were sufficient to address the root and contributing causes and to preclude repetition.

The licensee entered the Regulatory Response Column of the NRC's Action Matrix in the fourth quarter of 2011 as a result of one inspection finding of low to moderate safety significance associated with the inoperability of the 2H EDG. On August 23, 2011, the station lost offsite power as a result of a seismic event. A dual unit trip occurred along with the automatic start of the four EDGs that loaded as designed. Approximately 50 minutes into the event, the 2H EDG was shut down due to an excessive coolant leak.

The finding was characterized as having White safety significance based on the results of a Phase 3 risk analysis performed by a region-based senior reactor analyst (SRA), as discussed in NRC IR 05000338/2012010 and 05000339/2012010. The failure of the 2H EDG was attributed to excessive leakage of a jacket water cooling inlet jumper gasket, which occurred as a result inadequate procedures for gasket installation.

The licensee staff informed the NRC staff on July 26, 2012, that they were ready for the supplemental inspection. In preparation for the inspection, the licensee prepared a root cause evaluation (RCE), RCE-1062, Revision 1, to determine the root cause and contributing causes of the 2H EDG coolant leak and to identify any organizational and programmatic issues or weaknesses in safety culture that contributed to the White finding.

The inspectors reviewed the licensee's RCE, in addition to other evaluations conducted in support, and as a result, of the RCE. The inspectors reviewed corrective actions that were taken or planned to address the identified causes. The inspectors 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 preclude repetition.

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.2 Evaluation of the Inspection Requirements

2.01 Problem Identification

- a. Determine that the evaluation identifies who (i.e. licensee, self revealing, or NRC), and under what conditions the issue was identified

The inspectors determined that the evaluation was sufficiently detailed to identify who and under what conditions the issue was identified.

The inoperability of the 2H EDG was a self-revealing event. On August 23, 2011, following a seismic event and subsequent loss of offsite power, operations manually tripped the 2H EDG due to excessive leakage from a jacket coolant mechanical joint. The inspectors verified that this information was documented in the licensee's RCE.

- b. Determine that the evaluation documents how long the issue existed, and prior opportunities for identification

The inspectors determined that the licensee's RCE was generally adequate with respect to identifying how long the issue existed and prior opportunities for identification.

In determining the length of time the gasket failure mode existed, the NRC previously determined that information presented from the RCE did not provide sufficient evidence to support the exposure period as determined using the licensee's assumptions. Due to uncertainty involved in the gasket failure, an NRC analysis determined a T/2 exposure time of 7.5 months, from the May 2010 gasket installation until the gasket failure in August 2011 (IR 05000338/2012010 & 05000339/2012010).

The RCE identified five prior opportunities to identify deficiencies that if identified, may have prevented the failure of 2H EDG coolant inlet bypass gasket failure on August 23, 2011. In an independent sampling of prior licensee work activities associated with EDG water bypass plate fasteners, the inspectors noted at least one missed opportunity that the RCE failed to identify, involving torque value settings for the EDG water bypass fitting. Specifically, the inspectors determined that a prior opportunity for correcting the torque values used in the maintenance procedures occurred in work order (WO) 00458225-01, dated October 7, 2001, where a pen and ink procedure change used the correct torque values as recommended by Fairbanks Morse vendor technical manual. This contradicts the RCE which stated that the first opportunity to correct the torque values was in 2009. The inspectors determined this to be only an observation as the RCE determined that the torque value alone would not have led to premature gasket failure.

In addition, inspectors identified five past WOs that had issues with installing the Garlock gaskets (WO 00458225-01, WO 00522560-01, WO 00723049-01, WO 00730136-01, and WO 59080512401), requiring reentry into the applicable steps of the maintenance procedure(s), and in some cases resulting in more than one reentry. The inspectors viewed these occurrences as opportunities to identify procedural issues with the Garlock gasket installation. However, because the installation issues were discovered during

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post-maintenance testing immediately following the gasket replacement, this represented only an observation. In each occurrence, the gasket leaks were repaired within the maintenance window prior to the EDG being returned to service.

- c. Determine that the evaluation documents the plant risk specific consequences (as applicable) and compliance concerns associated with the issue

The inspectors determined that the RCE adequately documented the risk consequences and compliance concerns. A probabilistic risk assessment analysis was completed by the licensee for both units to determine any increase in core damage frequency and to analyze the cumulative effect.

Further, the inspectors determined that the root cause report adequately addressed the condition of the other EDGs (1H, 1J and 2J) as walk-downs and testing were performed to assure that no common cause failure exists.

- d. Findings

No findings were identified.

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

- a. Determine that the problem was evaluated using a systematic method(s) to identify root cause(s) and contributing cause(s)

The inspectors concluded that the licensee's root cause evaluation was generally effective in evaluating the EDG coolant leak and gasket failure using a systematic methodology to identify root and contributing causes.

The licensee used the following systematic methods to complete RCE-1062:

- physical evidence collection and historical data review
- failure analysis
- barrier analysis
- organizational and programmatic deficiencies chart
- Why staircase

Regarding the root cause evaluation's use of the Why staircase, the inspectors noted that inadequate procedural guidance is typically a weak root cause and is indicative of a Why Staircase methodology that does not go deep enough to identify more important underlying factors. The root cause evaluation considered program-to-program interface as a potential root cause in the "Why?" causal analysis, however the licensee RCE team concluded that program interface was more appropriately a contributing factor. The inspectors concluded that the licensee provided adequate justification in their evaluation to support their case the root cause met the requirements of fleet procedure PI-AA-300-3001 and was sufficient in preventing reoccurrence of the problem.

- b. Determine that the root cause evaluation was conducted to a level of detail commensurate with the significance of the problem

The inspectors determined the RCE was conducted at a level commensurate with the significance of the problem and reached reasonable conclusions as to the root and contributing causes of the EDG coolant leak.

The licensee RCE determined that the 2H EDG gasket failure occurred independently of the August 23, 2011, seismic event; however, a previous NRC inspection (IR 05000338/2011012 & 05000339/2011012) identified that the original RCE contained limited justification to refute that the failure of the inlet bypass gasket was seismically-induced. Specifically, RCE Rev.0 was void of any analysis of information contained in Newport News Shipbuilding Lab Analysis Report ID 100085904 that determined that the gasket deformation could have occurred as a result of localized slippage or a blowout condition. The licensee revised the RCE (Rev. 1) to include information that determined the gasket failure was unrelated to the earthquake. The inspectors reviewed the RCE Rev.1 analysis of this information with no further concerns.

- b. Determine that the root cause evaluation included a consideration of prior occurrences of the problem and knowledge of prior operating experience

The licensee's RCE included an evaluation of internal and external operating experience. The RCE included a review of seven industry events relating to Fairbanks Morse gasket issues however the evaluation determined that none of these events were applicable. No OE was found on failures of Garlock BLUE-GARD gaskets in the Fairbanks Morse EDGs nor were any events identified that resulted in a direct failure of a Fairbanks Morse EDG due to a gasket issue.

- c. Determine that the root cause evaluation addressed the extent of condition and the extent of cause of the problem

The inspectors determined that the evaluations for the coolant leak adequately addressed extent of condition. The inspectors did note that the extent of cause evaluation was narrowly focused in that the evaluation was limited to the four Fairbanks Morse emergency diesel engines onsite however, the basis for the bounding condition did conform to the requirements in accordance with fleet procedure PI-AA-300-3001, Root Cause Evaluation.

- d. Determine that the root cause evaluation, extent of condition, and extent of cause appropriately considered the safety culture components as described in IMC 0305.

The inspectors concluded that the licensee's RCE was generally effective in considering the safety culture components, as described in Inspection Manual Chapter 0305. The licensee's RCE identified potential weaknesses in the area of human performance, resources, and continuous learning environment.

e. Findings

No findings were identified.

2.03 Corrective Actionsa. Determine that appropriate corrective actions are specified for each root/contributing cause or that there is an evaluation that no actions are necessary

In general, the inspectors determined that appropriate corrective actions were established to address the root cause and each of the contributing causes of the EDG coolant leak.

Following the August 23, 2011, event, the RCE indicated that the licensee took immediate and short-term corrective actions on the three remaining emergency diesel generators which included the following:

- Increased torque on bypass fitting gasket fasteners to meet vendor guidance specifications
- Boroscope visual inspection of the exhaust belt triangle gaskets
- Hydrostatic test

The inspectors noted that as part of the short-term and compensatory actions following the gasket failure, the RCE was mute on any immediate corrective actions that verified the bolt fastener adjustment nut on the other three EDGs. Because it was determined that the setting of the adjustment bolt on the inlet bypass fitting was critical to preventing the gasket from unloading and eventually failing, the inspectors considered that the RCE should have been explicit in specifying whether the adjustment nuts had been checked on the remaining EDGs post-event. The licensee later produced work orders to demonstrate that actions to verify the proper setting of the adjustment nut had been performed on the other three EDGs as part of the immediate corrective actions following the event. The inspectors determined that the licensee's immediate correct and short-term corrective actions were adequate.

The corrective actions for the root cause of insufficient procedural guidance for gasket installation included updating maintenance procedures 0-MCM-0701-27 and 0-MPM-0701-02 for exhaust belt and coolant inlet bypass fitting gasket installation. The procedure updates included specific guidance on RTV cure time and also details for setting the adjustment screw on the coolant inlet bypass fittings. The inspectors identified a concern with procedure clarity in procedures 0-MCM-701-27 attachment 15 and 0-MPM-0701-02 attachment 6 associated with the setting of the bolt fastener adjustment nut on the EDG inlet bypassing fitting. The licensee generated condition report CR487975 to address this concern. Inspectors determined the corrective actions for the root cause appear to be appropriate.

In addition to the root cause, the licensee identified three contributing causes (CC) as follows:

- (CC1): The design of the water bypass gasket joint provides a challenge to successfully completing what is considered an infrequently performed task
- (CC2): Several missed opportunities were missed by Station personnel that could have impacted the event
- (CC3): Gasket provided adequate but not optimal compression to ensure a proper seal.

To address the contributing causes, the licensee corrective actions included incorporating just-in-time training into gasket installation on future diesel maintenance, review of Fairbanks Morse vendor technical manual updates to ensure Station procedures are accurate and complete, and selection of a more suitable gasket application for future replacement applications. Inspectors determined the corrective actions for the contributing causes appear to be appropriate.

- b. Determine that the corrective actions have been prioritized with consideration of the risk significance and regulatory compliance

The inspectors determined that the corrective actions for the events were appropriately prioritized relative to their risk significance and regulatory compliance.

- c. Determine that a schedule has been established for implementing and completing the corrective actions

The inspectors determined that the licensee adequately established a schedule for implementing and completing the corrective actions. All corrective actions associated with the root and contributing causes were complete at the time of this inspection. As corrective action to address the gasket compression issue (CC3), the licensee identified a gasket design that utilizes Gore-Tex material as a suitable substitute for the Garlock 3000 material. This new gasket-type will serve as the replacement for the Garlock design in future gasket replacements associated with the EDG water bypass fittings.

- d. Determine that quantitative or qualitative measures of success have been developed for determining the effectiveness of the corrective actions to prevent recurrence

The inspectors determined that the effectiveness review had quantitative or qualitative criteria established to measure success. The licensee completed an effectiveness review (EFR000369) for the corrective action to prevent recurrence. The effectiveness review determined that that all corrective actions associated with the event were completed and effective.

The inspectors noted that the licensee is relying on absence of event occurrence as a major input to the evaluation of corrective actions to prevent reoccurrence. This could be perceived as a weakness; however, the inspectors determined that measures set for in the effectiveness review were implemented within the guidelines of fleet procedure PI-AA-200-2002, "Effectiveness Reviews."

- e. 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 Notice of Violation associated with the White finding that was the subject of the IP 95001 identified one violation of NRC requirements. Specifically, a violation of TS 5.4.1.a was incurred for the failure to establish and maintain EDG maintenance procedures from June 2, 2010, until August 23, 2011. The NRC concluded that the information regarding the reason for the violation, the corrective actions taken to correct the violation and prevent reoccurrence, and the date when full compliance was achieved, is adequately addressed during the April 20, 2011, regulatory conference, and on the docket in the North Anna Open Regulatory Meeting, dated April 24, 2012 (ML12115A082). The inspectors reviewed the referenced inspection report and determined there were no additional concerns with regard to addressing the Notice of Violation.

- f. Findings

No findings were identified.

4OA6 Meetings, Including Exit

.1 Exit Meeting Summary

On September 13, 2012, the inspectors presented the inspection results to Mr. M. Crist, Plant Manager, and other members of his staff, who acknowledged the results. The inspectors acknowledged possession of one document containing proprietary information which was returned to the licensee at the conclusion of the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel:

M. Crist, Plant General Manager
J. Daughtery, Manager - Maintenance
F. Errico Supervisor, Station Nuclear Safety
R. Garver, Acting Director - Safety & Licensing
P. Kemp, Supervisor – Licensing
S. Kotowski, Assistant Manager – Maintenance
J. Leberstien, Technical Consultant - Licensing
S. Morris, Supervisor –System Engineering (EDGs)
C. Silcox, Lead Evaluator – Root Cause Team
D. Taylor, Nuclear Oversight Specialist
M. Walker, Manager – System and Component Engineering

NRC personnel:

R. Clagg, Resident Inspector – North Anna Power Station
G. McCoy, Chief, Reactor Projects Branch 5, Division of Reactor Projects Region II

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

None.

Opened and Closed

None.

Closed

05000338,339/2011005-02	VIO	Failure to provide adequate guidance for installation of 2H EDG Jacket Water Cooling Inlet Jumper
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LIST OF DOCUMENTS REVIEWED

Procedures

0-MCM-0701-27, Replacement of Emergency Diesel Generator Cylinder Liners, Rev. 26
0-MPM-0701-02, 6-year Preventative Maintenance of Emergency Diesel Generators, Rev 17
PI-AA-200, Corrective Action, Rev. 20
PI-AA-300, Cause Evaluation, Rev 7
PI-AA-200-2002, Effectiveness Reviews, Rev. 5
PI-AA-300-3004, Cause Evaluation Methods, Rev. 2
PI-AA-300-3001, Root Cause Evaluation, Rev. 3

Self Assessments

Root Cause Evaluation RCE001062, 2H Diesel Failure During Loss of Offsite Power

Corrective Action Documents

CAPR000728, Revise 0-MCM-0701-27, completed as of 11/1/11
CACC000757, Initiate REA to identify a more suitable gasket, completed as of 5/16/12,
CACC000884, Procurement Eng. to complete an IEE for the use of Garlock Gore-Tex,
completed as of 5/16/12
CACC000914, Update model WOs for water bypass gasket 6-yr PM, completed as of 5/16/12
CACC000756, Review Fairbanks Morse VTM Updates, completed as 1/11/12
CACC000754, Conduct training needs assessment for JITT, completed as of 3/8/12
CACC000755, Present RCE to the Mechanical Maintenance TRB, completed as of 3/8/12
CACC000849, Revised 0-MPM-0701-02, completed as of 3/28/12
CACC000850, Revised 0-MCM-0701-17 and 0-MCM-0701-18, completed as of 4/6/12

Work Orders (WO)

WO59102341714, Remove Heat Shields for Inspection, dated 9/17/11
WO59102344717, Replace Water Inlet Pipe Gaskets (GS), dated 9/17/11
WO59102345583, Water Bypass Fittings Re-Torque (CS/OCS), dated 9/18/11
WO59102341715, Remove Heat Shields for Inspection, dated 8/29/11
WO59102345639, Water Bypass Fittings Re-Torque (CS/OCS), dated 9/6/11
WO59102341733, Repair Coolant leak – Post EPIP-3.03 Documentation, dated 8/26/11
WO59102342542, Replace Water Inlet Gasket on (CS), dated 9/1/11
WO 00458225-01, Replace water by-pass fitting gasket, completed 10/17/2001
WO 00522560-01, 6 Year Emergency Diesel Inspection, completed 6/10/2005
WO 00723049-01, Replace water by-pass gaskets, completed 10/16/2005
WO 00730136-01, Replace water by-pass gaskets #1-#6, completed 6/6/2006
WO 59080512401, Replace all 12 cylinder liners, completed 9/12/2009

Condition Reports (CR)

CR#s 439992, 439080, 439084, 440263, 439086, 440263, 439091, 085660, 084982,088566

Condition Reports for NRC-Identified Issues

CR487933, Dates listed in section 1.4.1 from RCE001062 are incorrect.
CR487975, Review 0-MCM-0701-27 attachment 15 and 0-MPM-0701-02 attachment 6 for enhancements.

Miscellaneous

Fairbanks Morse marketing information letter #84, issued 5/26/99

EFR000369, Perform an Effectiveness review 6 to 12 months after the last CAPR, dated

IEE 10000019273, "Evaluation of Emergency Diesel Coolant Water System Water Bypass

Connection Gaskets/NAPS/UNITS 1 & 2," Version 00, dated 2/21/2012

IEER NOM00047-000, "Emergency Diesel Generator Engine Water Bypass Fitting Gasket Part
Number/Material Change; P/N 16102122 to 16206490

Root Case Evaluation N-2005-0101, "Unit 1H Emergency Diesel Generator Coolant Leakage"