

Report 7

Hughey, John

From: Johnny Hughey, *John*
Sent: Tuesday, April 29, 2008 9:55 AM
To: Harold Chernoff
Subject: FW: DRAFT millstone report
Attachments: Millstone IR0802_rev2.doc

FYI

From: Raymond Powell, *RP*
Sent: Tuesday, April 29, 2008 8:56 AM
To: Johnny Hughey
Subject: DRAFT millstone report

I've got many edits, but the OD finding is pretty close.

providing for your awareness, but any comments are always welcome.

BB-2

Mr. David Christian
Sr. Vice President and Chief Nuclear Officer
Dominion Resources
5000 Dominion Boulevard
Glenn Allen, VA 23060-6711

SUBJECT: MILLSTONE POWER STATION - NRC INTEGRATED INSPECTION REPORT
05000336/2008002 AND 05000423/2008002

Dear Mr. Christian:

On March 31, 2008, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Millstone Power Station Unit 2 and Unit 3. The enclosed inspection report documents the inspection results, which were discussed on April 8, 2008, with Mr. Alan Price and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations, and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents three NRC-identified findings of very low safety significance (Green). All of these findings were determined to involve violations of NRC requirements. However, because of the very low safety significance and because they are entered into your corrective action program, the NRC is treating these findings as non-cited violations (NCVs) consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest any NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at Millstone.

In accordance with Title 10 of the Code of Federal Regulations Part 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 document system (ADAMS).

D. Christian

2

ADAMS is accessible from the NRC Web Site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

Raymond J. Powell, Chief
Reactor Projects Branch 5
Division of Reactor Projects

Docket No. 50-336, 50-423
License Nos. DPR-65, NPF-49

Enclosure: Inspection Report No. 05000336/2008002 and 05000423/2008002
w/ Attachment: Supplemental Information

cc w/encl:

J. A. Price, Site Vice President, Millstone Station
C. L. Funderburk, Director, Nuclear Licensing and Operations Support
W. Bartron, Supervisor, Station Licensing
J. Spence, Manager Nuclear Training
L. M. Cuoco, Senior Counsel
C. Brinkman, Manager, Washington Nuclear Operations
J. Roy, Director of Operations, Massachusetts Municipal Wholesale Electric Company
First Selectmen, Town of Waterford
B. Sheehan, Co-Chair, NEAC
E. Woollacott, Co-Chair, NEAC
E. Wilds, Jr., Ph.D, Director, State of Connecticut SLO Designee
J. Buckingham, Department of Public Utility Control
C. Meek-Gallagher, Commissioner, Suffolk County, Department of Environment and Energy
V. Minei, P.E., Director, Suffolk County Health Department, Division of Environmental Quality
R. Shadis, New England Coalition Staff
S. Comley, We The People
D. Katz, Citizens Awareness Network (CAN)
R. Bassilakis, CAN

D..Christian

3

cc w/encl:

J. M. Block, Attorney, CAN

P. Eddy, Electric Division, Department of Public Service, State of New York

P. Tonko, President and CEO, New York State Energy Research and Development Authority

J. Spath, SLO Designee, New York State Energy Research and Development Authority

N. Burton, esq.

D. Christian

cc w/encl:

J. M. Block, Attorney, CAN
P. Eddy, Electric Division, Department of Public Service, State of New York
P. Tonko, President and CEO, New York State Energy Research and Development Authority
J. Spath, SLO Designee, New York State Energy Research and Development Authority
N. Burton, esq.

Distribution w/encl:

S. Collins, RA
M. Dapas, DRA
S. Williams, RI OEDO (Acting)
J. Lubinski, NRR
J. Hughey NRR, PM
J. Lamb, NRR, PM
S. Shaffer, SRI
J. Benjamin, RI
J. Krafty, RI
C. Sanders, DRP
R. Powell, DRP
B. Norris, DRP
N. Sieller, DRP
Region I Docket Room (with concurrences)
ROPreports@nrc.gov

SUNSI Review Complete: _____ **(Reviewer's Initials)**

DOCUMENT NAME: T:\DRP\BRANCH5\Reports\Drafts\Millstone IR0802_rev0.doc

After declaring this document "An Official Agency Record" it **will** be released to the Public.

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure
"N" = No copy

OFFICE	RI/DRP	RI/DRP	RI/DRP
NAME	SShaffer/	BNorris/	RPowell/
DATE	04/ /08	04/ /08	04/ /08

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.: 50-336, 50-423

License No.: DPR-65, NPF-49

Report No.: 05000336/2008002 and 05000423/2008002

Licensee: Dominion Nuclear Connecticut, Inc.

Facility: Millstone Power Station, Units 2 and 3

Location: P. O Box 128
Waterford, CT 06385

Dates: January 1, 2008 through March 31, 2008

Inspectors: S. Shaffer, Senior Resident Inspector, Division of Reactor Projects (DRP)
J. Benjamin, Resident Inspector, DRP
J. Krafty, Resident Inspector, DRP
B. Haagensen, Reactor Inspector, Division of Reactor Safety (DRS)
C. Sanders, Project Manager, Division of Operating Reactor Licensing
L. Scholl, Senior Reactor Inspector, DRS
J. Ayala, Project Engineer, DRP

Approved by: Raymond J. Powell, Chief
Projects Branch 5
Division of Reactor Projects

Enclosure

TABLE OF CONTENTS

SUMMARY OF FINDINGS.....	3
REPORT DETAILS.....	6
1. REACTOR SAFETY.....	6
1R01 Adverse Weather Protection	6
1R04 Equipment Alignment	7
1R05 Fire Protection	8
1R06 Flood Protection Measures.....	9
1R07 Heat Sink Performance	10
1R11 Licensed Operator Requalification Program.....	10
1R12 Maintenance Effectiveness	10
1R13 Maintenance Risk Assessments and Emergent Work Control	11
1R15 Operability Evaluations.....	12
1R18 Plant Modifications	15
1R19 Post-Maintenance Testing	16
1R22 Surveillance Testing	16
1EP6 Drill Evaluation	21
1EP7 Force-On-Force Exercise Evaluation	22
2. RADIATION SAFETY.....	22
2OS1 Access to Radiological Significant Areas	22
4. OTHER ACTIVITIES [OA].....	25
4OA1 Performance Indicator (PI) Verification	26
4OA2 Identification and Resolution of Problems.....	26
4OA6 Meetings, including Exit	28
ATTACHMENT: SUPPLEMENTAL INFORMATION	28
KEY POINTS OF CONTACT	A-1
LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED.....	A-2
LIST OF DOCUMENTS REVIEWED	A-2
LIST OF ACRONYMS.....	A-7

SUMMARY OF FINDINGS

IR 05000336/2008-002, 05000423/2008-002; 01/01/2008 – 03/31/2008; Millstone Power Station Unit 2 and Unit 3; Operability Determinations and Surveillance Testing.

The report covered a three-month period of inspection by resident and region-based inspectors. Three green findings were identified, two of which were non-cited violations (NCVs). 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 (SDP) does not apply may be Green or 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 4, dated December 2006.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

- Green. The inspectors identified a finding for Dominion's failure to evaluate a non-conforming plant condition against the current licensing basis (CLB) as required by Dominion procedure OP-AA-102-1101, Revision 0, "Development of Technical Basis to Support Operability Determinations." Specifically, Dominion, in multiple instances, failed to evaluate the impact that a potential common mode charging system failure would have on the Updated Final Safety Analysis Report chapter 14.6.1, "Inadvertent Opening of Power Operated Relief Valves (PORVs)," event which credited both charging and safety injection availability. Corrective actions for this issue included the initiation of an operations standing order and crew briefings to ensure all crews understood the CLB related to Unit 2 charging and the need to implement the compensatory action for this chapter 14.6.1 event, and a subsequent operability determination (OD) revision to ensure charging was properly evaluated and documented within the OD.

This finding is more than minor because if left uncorrected would become a more significant safety concern. Specifically, degraded and non-conforming plant conditions must be evaluated against their credited functions in the CLB to ensure the adverse condition is properly evaluated for operability. This finding was determined to be of very low safety significance (Green) because it did not result in a loss of charging system operability or functionality. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program component, because Dominion did not thoroughly evaluate a Unit 2 charging system non-conforming condition against the CLB [P.1(c)]. (Section 1R15)

- Green. The inspectors identified a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion XI, "Test Control," for Dominion's failure to adequately evaluate surveillance test results to ensure test acceptance criteria had been met on June 20, 2007. Specifically, the inspectors identified that the "A" charging pump pulsation dampener surveillance test had incorrect data (i.e., testing duration time) and had been accepted

Enclosure

as satisfactorily complete, although the test data was outside the surveillance acceptance criteria. The test, in part, demonstrated that nitrogen gas from a failed charging pump discharge dampener would not migrate into the common suction line prior to the credited operator action to shut the pump's suction valve. A subsequent review determined the surveillance test data was incorrect and the "A" charging pump was operable. Dominion's corrective actions for this issue included briefings to provide additional coaching and heighten awareness to the Unit 2 operations shift crews, a review of actual surveillance computer data and review of subsequent surveillances to ensure system operability, and the creation of a trend condition report including other related human performance errors (CR-08-03220).

This finding was more than minor because it was associated with the human performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the failure to identify out of specification data could result in the failure to identify inoperable equipment. The inspectors also concluded that if the failure to properly evaluate charging pump discharge dampener test data was not corrected, a more significant concern could exist (i.e. common mode failure of charging). The finding was determined to be of very low significance (Green), because it was a deficiency confirmed not to result in loss of safety function. The performance deficiency had a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program component, because Dominion did not identify out of specification test data. [P.1(a)]. (Section 1R22).

- Green. The inspectors identified a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's failure to identify a condition adverse to quality after the "B" service water (SW) pump failed a Technical Specification in-service test (IST). Specifically, on March 9, 2008, Dominion declared the "B" SW pump operable, despite a failed IST flow surveillance. Dominion based this declaration on the incorrect assumption that the failed pump differential pressure (dp) was indicative of faulty test equipment vice an actual equipment issue. On March 10, 2008, Dominion determined that the unacceptable "B" SW dp was caused by back pressure from the running "C" SW pump through the shut "B" swing pump cross connect valve (2-SW-79B). The inspectors identified that Dominion did not have a reasonable basis to consider the IST invalid based on the information available at the time. Corrective actions for this issue included implementing an alternate plant configuration to ensure train separation, performing an assessment to evaluate past operability and to establish a bounding service water temperature at which the "B" service water pump would be considered inoperable, and incorporating the 2-SW-97B leakage repair in the upcoming 2R18 refueling outage.

This finding was more than minor because it was associated with the equipment performance attribute of the Mitigating System Cornerstone, and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, Dominion concluded that the "B" SW pump IST containing unacceptable dp data was invalid based, in part, on an inability to justify the results (i.e.

Enclosure

high dp and nominal flow). Consequently, the "B" SW pump was inappropriately declared operable and the actual degraded condition was not promptly identified and corrected. This finding is of very low safety significance (Green) because it did not result in a confirmed loss of service water train operability. This finding has a cross-cutting aspect in the area Human Performance, Decision Making Component, because Dominion did not use conservative assumptions in restoring "B" SW pump operability following a failed IST surveillance. [H.1(b)]. (Section 1R22)

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

Units 2 & 3 operated at or near 100 percent through out the inspection period with the following exceptions. Unit 3 reduced power to 88% on January 18, 2008, and 90% on February 6, 2008, to perform turbine control valve testing.

1. REACTOR SAFETY**Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity**1R01 Adverse Weather Protection (71111.01).1 Seasonal Site Inspectiona. Inspection Scope (1 Sample)

The inspectors reviewed Unit 3's readiness for seasonal site winter conditions, specifically extreme cold weather. The inspector reviewed procedures and operator logs, interviewed the work control supervisor, and walked down the heat tracing for the high head safety injection pumps recirculation line and the component cooling water make-up pumps to determine if the actions required by Dominion's procedures were completed. Documents reviewed during the inspection are listed in the attachment.

b. Findings

No findings of significance were identified.

.2 Impending Adverse Weather Conditions Inspectiona. Inspection Scope (1 Sample)

The inspectors reviewed Unit 2's readiness for impending adverse weather conditions, specifically high winds and rain potentially accompanied by external flooding. The inspector walked down flood protection barriers in the intake structure (circulating water pumps and service water (SW) pumps), the emergency diesel generators (EDGs), and the related sumps and drains for the ground water system, reviewed Dominion procedures for coping with external flooding, and interviewed the shift manager to determine if the flooding mitigation plans and equipment are consistent with the licensee's design requirements and the risk analysis assumptions. Documents reviewed during the inspection are listed in the attachment.

b. Findings

Enclosure

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

.1 Partial System Walkdowns (4 Samples)

a. Inspection Scope

The inspectors performed four partial system walkdowns during this inspection period. The inspectors reviewed the documents listed in the Attachment to determine the correct system alignment. The inspectors conducted a walkdown of each system to determine if the critical portions of selected systems were correctly aligned, in accordance with applicable procedures, and to identify any discrepancies that may have had an effect on operability. The walkdowns included selected switch and valve position checks, and verification of electrical power to critical components. Finally, the inspectors evaluated other elements, such as material condition, housekeeping, and component labeling. Documents reviewed during the inspection are listed in the Attachment. The following systems were reviewed based on their risk significance for the given plant configuration:

Unit 2

- "A" & "B" trains of high pressure safety injection (HPSI) while the "C" HPSI pump was inoperable for maintenance; and
- "A" & "B" trains of charging with the "B" charging pump out of service.

Unit 3

- "C" charging while aligned to the "A" train due to "A" charging pump rotating element replacement; and
- "B" residual heat removal (RHR) system while the "A" RHR system was out of service for testing.

b. Findings

No findings of significance were identified,

.2 Complete System Walkdown (71111.04S)

a. Inspection Scope (1 Sample)

The inspectors completed a detailed review of the alignment and condition of the Unit 3 "B" EDG. The inspectors conducted a walkdown of the system to determine whether critical portions, such as valve positions, switches, and breakers, were correctly aligned in accordance with procedures to identify any discrepancies that may have had an effect on operability.

The inspectors also conducted a review of outstanding maintenance work orders to verify that the deficiencies did not significantly affect the "B" EDG system functions. In addition, the inspectors discussed system health with the system engineer and reviewed the condition report (CR) database to determine whether equipment alignment problems were being identified and appropriately resolved. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05Q)

a. Inspection Scope (14 Samples)

The inspectors performed walkdowns of fourteen fire protection areas during the inspection period. The inspectors reviewed Dominion's fire protection program to determine the required fire protection design features, fire area boundaries, and combustible loading requirements for the selected areas. The inspectors walked down these areas to assess Dominion's control of transient combustible material and ignition sources. In addition, the inspectors evaluated the material condition and operational status of fire detection and suppression capabilities, fire barriers, and any related compensatory measures. The inspectors then compared the existing conditions of the areas to the fire protection program requirements to determine if all program requirements were being met. Documents reviewed during the inspection are listed in the Attachment. The fire protection areas reviewed included:

Unit 2

- Auxiliary Building Boric Acid Batch Tank / Chemical Addition Tank (Fire Area A-12);
- Auxiliary Building 480 Volt MCC B61 and B41A (Fire Area A-13);
- Auxiliary Building Spent Fuel Pool and Cask Laydown Area (Fire Area A-14);
- EDG "A" Cubicle (Fire Area A-15);
- EDG "B" Cubicle (Fire Area A-16); and
- Intake Structure Pump Room (Fire Area I-1 Zone A).

Unit 3

- Main Steam Valve Enclosure, Elevation 24' 6" (Fire Area MSV-1);
- Main Steam Valve Enclosure, Elevation 49' (Fire Area MSV-1);
- Main Steam Valve Enclosure, Elevation 58' (Fire Area MSV-1);
- Main Steam Valve Enclosure, Elevation 71' (Fire Area MSV-1);
- Circulating & Service Water Pumphouse, North Floor Area, Elevation 14' 6" (Fire Area CWS-1);
- Circulating & Service Water Pumphouse, South Floor Area, Elevation 14' 6" (Fire Area CWS-2);

- Control Room, Elevation 47'-6", (Fire Area CB-9); and
- Cable Spreading Room, Elevation 24'-6" (Fire Area CB-8).

b. Findings

No findings of significance were identified.

.2 Annual Fire Drill Observation (71111.05A)

a. Inspection Scope (1 Sample)

Unit 2

The inspectors observed personnel performance during a fire brigade drill on January 22, 2008, to evaluate the readiness of station personnel to fight fires. The drill simulated a fire in the Unit 2 Drumming/Maintenance Room. The inspectors observed the fire brigade members using protective clothing, turnout gear, and self-contained breathing apparatus and entering the fire area. The inspectors also observed the fire fighting equipment brought to the fire scene to evaluate whether sufficient equipment was available to effectively control and extinguish the simulated fire. The inspectors evaluated whether the permanent plant fire hose lines were capable of reaching the fire area and whether hose usage was adequately simulated. The inspectors observed the fire fighting directions and communications between fire brigade members. The inspectors also evaluated whether the pre-planned drill scenario was followed and observed the post drill critique to evaluate if the drill objectives were satisfied and that any drill weaknesses were discussed.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

.1 Internal Flooding Inspection

a. Inspection Scope (1 Sample)

The inspectors reviewed the internal flood protection measures for Unit 3's auxiliary feedwater pump cubicles. This review was conducted to evaluate Dominion's protection of the enclosed safety-related systems from internal flooding conditions. The inspectors performed a walkdown of the area, reviewed the Updated Final Safety Analysis Report (UFSAR), the internal flooding evaluation, and related documents. The inspectors examined the as-found equipment and conditions to ensure that they remained consistent with those indicated in the design basis documentation, flooding mitigation documents, and risk analysis assumptions. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.7A)

Inspection Scope (1 Sample)

The inspectors reviewed one sample associated with the Unit 3 HVQ ACUS1B heat exchanger. The inspectors observed the as-found condition of the heat exchanger once it was opened to verify that any adverse fouling concerns were appropriately addressed. The inspectors reviewed the results of the inspections performed in accordance with Dominion procedures including Proto-Power Calculation 03-100 revision A. The inspectors reviewed the inspection results against the acceptance criteria contained within the procedure to determine whether all acceptance criteria had been satisfied. The inspectors also reviewed the UFSAR to ensure that heat exchanger inspection results were consistent with the design basis. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

Resident Inspector Quarterly Review (71111.11Q)

a. Inspection Scope (2 Samples)

The inspectors observed simulator-based licensed operator requalification training for Unit 2 on January 29, 2008, and the Unit 3 Operational Exam 22, revision 1, on January 29, 2008. The inspectors evaluated crew performance in the areas of clarity and formality of communications; ability to take timely actions; prioritization, interpretation, and verification of alarms; procedure use; control board manipulations; oversight and direction from supervisors; and command and control. Crew performance in these areas was compared to Dominion management expectations and guidelines as presented in OP-MP-100-1000, "Millstone Operations Guidance and Reference Document." The inspectors compared simulator configurations with actual control board configurations. The inspectors also observed Millstone evaluators discuss identified weaknesses with the crew and/or individual crew members, as appropriate. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12Q)

Enclosure

a. Inspection Scope (4 Samples)

The inspectors reviewed four samples of Dominion's evaluation of degraded conditions, involving safety-related structures, systems and/or components for maintenance effectiveness during this inspection period. The inspectors reviewed licensee implementation of the Maintenance Rule. The inspectors reviewed Millstone's ability to identify and address common cause failures, the applicable maintenance rule scoping document for each system, the current classification of these systems in accordance with 10 CFR 50.65 (a)(1) or (a)(2), and the adequacy of the performance criteria and goals established for each system, as appropriate. The inspectors also reviewed recent system health reports, CR's, apparent cause determinations, function failure determinations, operating logs and discussed system performance with the responsible system engineer. Documents reviewed are listed in the attachment. The specific systems/components reviewed were:

Unit 2

- charging pumps and associated instrumentation; and
- EDG room sumps, drains, and backflow preventers.

Unit 3

- SW strainers; and
- auxiliary feedwater system.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope (6 Samples)

The inspectors evaluated online risk management for emergent and planned activities. The inspectors reviewed maintenance risk evaluations, work schedules, and control room logs to determine if concurrent planned and emergent maintenance or surveillance activities adversely affected the plant risk already incurred with out-of-service components. The inspectors evaluated whether Dominion took the necessary steps to control work activities, minimize the probability of initiating events, and maintain the functional capability of mitigating systems. The inspectors assessed Dominion's risk management actions during plant walkdowns. Documents reviewed during the inspection are listed in the Attachment. The inspectors reviewed the conduct and adequacy of scheduled and emergent maintenance risk assessments for the following maintenance and testing activities:

Unit 2

- Planned work activities associated with “B” EDG unavailability due to equipment issues and “A” EDG unavailability following a fast start run on January 11, 2008;
- Planned work activities associated with “D” circulating water pump (reactor trip risk) and Facility 1 reserve station service transformer (RSST) testing on January 22, 2008; and
- Planned work activities associated with “B” charging pump check valve leakage repairs on February 22, 2008.

Unit 3

- Dominion’s operational decision making implementation action plan regarding resolving “C” accumulator leakage on January 18, 2008;
- Dominion’s troubleshooting efforts into the electro hydraulic control system’s (EHC) over response to grid frequency changes in Load Set on January 18, 2008. Inspectors observed the troubleshooting efforts and reviewed the complex troubleshooting plan; and
- Planned work activities associated with “A” charging pump replacement, “B” Safety Injection High (SIH) pump operational test, and “A” SIH pump run on February 13, 2008.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope (7 Samples)

The inspectors evaluated seven operability determinations (ODs) against the guidance contained in NRC Regulatory Issue Summary 2005-20, Revision to Guidance Formerly Contained in NRC Generic Letter 91-18, “Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and on Operability.” The inspectors also discussed the conditions with operators and system and design engineers, as necessary. Documents reviewed during the inspection are listed in the Attachment. The inspectors reviewed the adequacy of the following evaluations of degraded or non-conforming conditions:

Unit 2

- OD MP2-024-07, “D” Channel of TMLP is Fluctuating between 2010 and 2060 PSIA;”
- OD MP2-004-08 and CR-08-00639 “The “B” Charging Pump Relay was noted to be Cycling/Chattering;”
- OD MP2-005-08 and CR-08-01810 “Impact from PZR Blockhouse Modification Needs to be Quantified and Addressed for Future Unit 2 Pressurizer Safety Valve Setpoint Testing;”

Enclosure

- OD MP-008-08 and CR-08-02403, "2-SW-97B ("B" SW Header Cross-tie Valve) has Significant Seat Leakage;" and
- OD MP2-008-06 "Unit 2 Charging System Common Mode Failure."

Unit 3

- OD MP3-006-06 and CR 08-00894, "STR1C Strainer Boroscope Inspection Results Indicate Separated Welds;"
 - CR-07-11784, "Samples of Water Obtained from the Unit 3 ESF Outdoor Sump Indicated Tritium Levels".
- } IN SOP T

b. Findings

Introduction. The inspectors identified a finding for Dominion's failure to evaluate a non-conforming plant condition against the current licensing basis (CLB) as required by Dominion procedure OP-AA-102-1101, Revision 0, "Development of Technical Basis to Support Operability Determinations". Specifically, Dominion, in multiple instances, failed to evaluate the impact that a potential common mode charging system failure would have on the Updated Final Safety Analysis Report chapter 14.6.1, "Inadvertent Opening of Power Operated Relief Valves (PORVs)," event which credited both charging and safety injection availability.

Description. On January 9, 2006, a charging system common mode failure occurred at Unit 2. After a charging pump was secured, nitrogen from a failed discharge dampener bladder migrated backwards through the charging pump's internal check valves and into the common suction line. This resulted in the remaining standby charging pumps becoming gas bound shortly after they were started. Dominion initiated OD MP2-008-06 to ensure that the common mode failure would not be reintroduced until a final corrective action could be implemented to ensure long term success. The OD assumed that upon a bladder failure and its associated charging pump being secured, it would take at least two hours for nitrogen gas migration to bind the common suction header. The OD determined that the charging system remained operable since it instituted a compensatory measure that required a charging pump's suction valve to be shut within the two hour period thus preventing the nitrogen gas from reaching the common suction line. The OD, and subsequent charging related ODs, concluded that the charging pumps were not credited in any UFSAR chapter 14 accident analysis event.

On August 7, 2007, Dominion initiated CR-07-08295 which identified that UFSAR section 14.6.1, "Inadvertent Opening of the Pressurizer Power Operated Relief Valves (PORVs)," stated that "The charging and SIS's [safety injection systems] have been shown to have sufficient capacity to easily compensate for the loss of primary coolant mass through the inadvertent opening of the pressurizer relief valves. Therefore, the core is not expected to uncover during this event." Dominion identified that Areva had performed the analysis in the first cycle for which they provided fuel (cycle 10) and had remarked in the UFSAR markup that the rate of coolant loss of the inadvertent opening of the PORVs was compensated by the actions of the safety injection and charging pumps. Furthermore, the modeling of the Emergency Core Cooling System (ECCS) that accompanied cycle 10

included the automatic actuation of the charging pumps. This CR was assigned a level N significance (lowest significance and identified as a condition not adverse to quality) and did not contain an operation's assessment to determine if the CR adversely impacted plant operations (i.e., impact of operability not evaluated). The CR created a corrective action to perform an engineering technical evaluation to evaluate the effects that removing charging system flow would have on the UFSAR chapter 14.6.1 event (M2-EV-08-004). This evaluation was completed on February 15, 2008, and concluded that HPSI, by itself, was adequate to prevent uncovering the core following inadvertent opening of the PORVs.

On March 14, 2008, the inspectors identified to operations that OD MP2-008-06 did not evaluate the impact that the non-conforming condition had on the UFSAR 14.6.1 event. Dominion determined that the charging system remained operable since the Unit 2 charging system was not credited in the chapter 14.6.1 event. Dominion engineering concluded that the UFSAR chapter 14.6.1 statements were administrative and not reflective of the CLB.

From March 14, 2006 through March 25, 2008, the inspectors engaged Dominion's operations and engineering staff and management on the inadequate OD and therefore inadequate basis to support charging system operability. Dominion initiated CR-08-02880, and concluded that the charging pumps remained operable based on the outcome of the previously performed technical evaluation (M2-EV-08-004). On March 25, 2008, the inspectors reviewed the CR and determined that operations did not adequately evaluate the non-conforming condition against the CLB since technical evaluation (M2-EV-08-004) had not been processed through the 10 CFR 50.59 process. The inspectors concluded and communicated to Dominion that technical evaluation M2-EV-08-004 did not change the CLB.

On March 26, 2008, Dominion initiated CR-08-02919, and concluded that CR-08-02880 did not have an adequate basis to support charging system operability based on its reference to technical evaluation M2-EV-08-004. The CR concluded that the previously established OD compensatory actions must apply to the chapter 14.6.1 event.

Analysis. The performance deficiency associated with this finding was that Dominion failed to evaluate a Unit 2 non-conforming charging system condition against its CLB, as required by Dominion procedure OP-AA-102-1101. This finding is more than minor because if left uncorrected would become a more significant safety concern. Specifically, degraded and non-conforming plant conditions must be evaluated against their credited functions in the CLB to ensure the adverse condition is properly evaluated for operability. This finding was evaluated in accordance with IMC 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings" and determined to be of very low safety significance (Green) since it did not result in a loss of charging system operability or functionality.

This finding has a cross-cutting aspect in the area of Problem Identification and Resolution (PI&R), Corrective Action Program component, because Dominion did not thoroughly evaluate a Unit 2 charging system non-conforming condition against the CLB

Enclosure

[P.1(c)].

Enforcement. Enforcement does not apply because the performance deficiency, not evaluating a non-conforming condition against the CLB as required by Dominion procedure OP-AA-102-1101, Revision 0, "Development of Technical Basis to Support Operability Determinations", did not involve a TS required procedure. Dominion entered this issue into their corrective action program (CR-08-02919). Corrective actions for this issue included the initiation of an operations standing order and crew briefings to ensure all crews understood the CLB related to Unit 2 charging and need to implement the compensatory action for this chapter 14.6.1 event, and a subsequent OD revision to ensure charging was properly evaluated and documented within the OD. Because this finding does not involve a violation of regulatory requirements and is of very low safety significance (Green), it is identified as **FIN 05000336/2008002-01, Failure to Evaluate a Unit 2 Charging System Non-conforming Condition against the Current Licensing Bases.**

1R18 Plant Modifications (IP 71111.18)

.1 Permanent Modification

a. Inspection Scope (1 Sample)

The inspectors reviewed a Unit 3 modification that installed a hydrostatic pump to refill the safety injection accumulators due to system leakage. The modification was reviewed to verify that the design bases, licensing bases, and performance capability of risk significant structures, systems, and components had not been degraded through the plant modification and that the configuration change did not place the plant in an unsafe condition. To assess the adequacy of the modifications, the inspectors performed a system walkdown, interviewed plant staff, and reviewed applicable documents, including procedures, modification packages, drawings, corrective action program documents, the 10 CFR 50.59 screening, post maintenance test, the UFSAR and Technical Specifications (TS). Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

.2 Temporary Modification

a. Inspection Scope (1 Sample)

The inspectors reviewed a Unit 3 temporary modification which installed a manual isolation valve in the "C" safety injection accumulator test header (DCN DM3-00-0013-08). The modification was reviewed to evaluate if the temporary modifications adversely affected the function of the associated safety systems. The inspectors reviewed the temporary modifications and their associated 10 CFR 50.59 screening against the UFSAR

Enclosure

and TS to determine whether the modifications affected system operability or availability. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope (5 Samples)

The inspectors reviewed five post-maintenance tests (PMT) activities to determine whether the PMT adequately demonstrated that the safety-related function of the equipment was satisfied, given the scope of the work specified, and that operability of the system was restored. In addition, the inspectors evaluated the applicable test acceptance criteria to evaluate consistency with the associated design and licensing bases, as well as TS requirements. The inspectors also evaluated whether conditions adverse to quality were entered into the corrective action program for resolution. Documents reviewed during the inspection are listed in the Attachment. The following maintenance activities and their PMTs were evaluated:

Unit 2

- "B" EDG testing following troubleshooting activities on January 10, 2008.

Unit 3

- 3SIH-V822 testing following installation of the valve in the "C" safety injection accumulator test header on February 1, 2008;
- OP 3304C, "Primary Makeup and Chemical Addition," Revision 21, after replacement of a relay in the reactor coolant makeup controller on February 28, 2008;
- 3HVQ*ACU 2A following replacement of two freon pressure control valves and the hot gas bypass valve on March 19, 2008; and
- SPROC ENG08-3-001, "'A" Charging Pump Post Shaft Replacement Functional Test," Revision 1, following pump overhaul on March 15, 2008.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope (9 Samples)

The inspectors reviewed nine surveillance activities to determine whether the testing adequately demonstrated equipment operational readiness and the ability to perform the

intended safety-related function. The inspectors attended pre-job briefs, reviewed selected prerequisites and precautions to determine if they were met, and observed the tests to determine whether they were performed in accordance with the procedural steps. Additionally, the inspectors reviewed the applicable test acceptance criteria to evaluate consistency with associated design bases, licensing bases, and TS requirements and that the applicable acceptance criteria were satisfied. The inspectors also evaluated whether conditions adverse to quality were entered into the corrective action program for resolution. Documents reviewed during the inspection are listed in the Attachment. The following surveillance activities were evaluated:

Unit 2

- SP 2605G, "Containment Isolation System CIV Stroke and Timing IST, Facility 1," Revision 6, on January 23, 2008;
- SP 2602A, "Reactor Coolant Leakage," Revision 006-001, on January 16, 2008;
- SP 2612A, "'A and B" Service Water Pump and Facility 1 Discharge Check Valve IST," Revision 002-02, on March 8, 2008;
- SP 2264, "Charging Pump "A" Pulsation Dampener Test," Revision 001-02, on July 20, 2007; and
- SP 2664A, "'A" Charging Pump Pulsation Dampener Test," Rev. 000, on March 25, 2008.

Unit 3

- SP 3443C21, "Protection Set Cabinet III Operational Test Data Sheet," Revision 19, on January 14, 2008;
- SP 3601F.6, "Reactor Coolant System Water Inventory Measurement," Revision 005-05, on January 15, 2008;
- SP 3623.2, "Turbine Overspeed Protection System Test," Revision 009-02, on February 6, 2008; and
- SP 3610A.1, "Residual Heat Removal Pump 3RHS*P1A Operation Readiness Test," Revision 011-05, on March 19, 2008.

b. Findings

.1 Failure to Identify Unacceptable Unit 2 Charging Pump Surveillance Test Data

Introduction. The inspectors identified that Dominion did not adequately evaluate surveillance test results to ensure test acceptance criteria had been met on June 20, 2007. Specifically, the inspectors identified that the "A" charging pump pulsation dampener test had incorrect data and had been accepted as satisfactorily complete, even though the test data was outside of the surveillance acceptance criteria. This find was of very low safety significance (Green) and determined to be a NCV of 10 CFR 50, Appendix B, Criterion XI, "Test Control."

Description. On February 24, 2008, the inspectors reviewed surveillance form SP 2264,

Enclosure

"Charging Pump "A" Pulsation Dampener Test", performed on June 19, 2007 as part of a review to evaluate the effectiveness of the corrective actions from a previous NRC identified finding, (NCV 05000336/2007003-03, "Failure to Adequately Evaluate Surveillance Test Data)." The inspectors identified that the acceptance criteria for the time duration of the test had not been met. Specifically, the test data indicated the test had not been performed for a minimally acceptable period of one hour since the surveillance record listed 9:52 p.m. and 10:04 p.m. as the times that the initial pump pressure and final pump pressure were measured (12 minutes).

During the review of the surveillance results, and final approval of the surveillance, several personnel had accepted this data as being satisfactory. Following the observation, the inspectors notified system engineering and operations personnel of this discrepancy, and they agreed that the acceptance criteria had not been met. Based on a review of computer data related to the June 19th surveillance and subsequent surveillance test, Dominion concluded the "A" charging pump remained operable.

Analysis. The performance deficiency associated with this NRC identified finding involved an inadequate review of surveillance test results to ensure the Unit 2 charging system was not susceptible to a previously identified common mode failure. This finding was more than minor because it was associated with the human performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the failure to identify out of specification data could result in the failure to identify inoperable equipment. The inspectors also concluded that if the failure to properly evaluate charging pump discharge dampener test data was not corrected, a more significant concern could exist (i.e., common mode failure of charging).

The inspectors conducted a Phase 1 SDP Table 4a worksheet for Mitigating Systems and determined that the finding was of very low significance (Green), because it was a deficiency confirmed not to result in loss of safety function.

The performance deficiency had a cross-cutting aspect in the area of PI&R, Corrective Action Program component, because Dominion did not identify out of specification test data. [P.1(a)].

Enforcement. 10 CFR 50, Appendix B, Criterion XI, "Test Control," states, in part, that test results shall be documented and evaluated to assure the test requirements have been satisfied. Contrary to the above, on June 20, 2007, Dominion failed to identify that the Unit 2 "A" charging pump pressure decay test had documented an unacceptable test time frame of 12 minutes when compared to the minimum one hour time required per the surveillance acceptance criteria. This surveillance was originally approved as satisfactory until identified by the inspectors. Corrective actions for this issue included briefings to provide additional coaching and heighten awareness to the Unit 2 crews, a review of actual surveillance computer data and review of subsequent surveillances to ensure system operability, and the creation of a trend CR including other related human performance errors such as NRC identified finding NCV 05000336/2007003-03. Since

Enclosure

this finding is of very low safety significance (Green) and had been entered into the licensee's corrective action program (CR-08-0817), this violation is being treated as a NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy. **(NCV 05000336/2008002-02, Failure to Identify Unacceptable Unit 2 Charging Pump Surveillance Test Data).**

.2 Failure to Identify a Service Water Bypass Flow Path following a Failed IST

Introduction. The inspectors identified a NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's failure to identify a condition adverse to quality after the "B" SW pump failed a TS in-service test (IST). Specifically, on March 9, 2008, Dominion declared the "B" SW pump operable despite a failed IST flow surveillance. Dominion based this declaration on the incorrect assumption that the failed pump differential pressure (dp) was indicative of faulty test equipment vice an actual equipment issue.

Description. On March 8, 2008, at 9:28 p.m., operations entered TS 3.7.4.1, "Service Water System," and commenced a scheduled IST for the "B" SW pump in accordance with SP 2612F, "B" Service Water Pump IST, Facility 1, Revision 002-01. On March 9, 2008, at 12:30 a.m., the IST for the "B" SW pump, and "A" SW pump and discharge check valve was completed. Operations identified that the "B" SW pump dp of 47.8 psid had exceeded the established IST acceptance criteria of 45.7 psid. Operations appropriately identified in step 4.1.11c that these results were unsatisfactory and maintained the pump in an inoperable status. Operations noted in their logs that attempts were made to adjust facility one service water flow within the allowable band, however, the "B" SW pump dp remained greater than the maximum acceptable. In addition, the facility one SW flow instrument was noted by a condition based monitoring (CBM) technician to be providing valid data. The "A" SW pump and discharge check valve IST results were reviewed and accepted since the values were within the allowed acceptance criteria although the pump dp appeared higher than normal. Based on satisfactory "A" SW pump IST results, TS 3.7.4.1 was exited with the "A" SW pump operating and aligned to facility one and "C" SW pump operating and aligned to facility two at 5:40 a.m. on March 9, 2008.

Dominion initiated CR-08-02281 to document that the "B" SW pump failed its quarterly IST surveillance with pump dp 2.08 psid above the acceptable range. The CR documented that CBM verified that the flow instrument was functioning properly. The CR was assigned a significance level N (lowest significance and identified as a condition not adverse to quality). The shift manager's comment section noted that this issue appeared to be an issue with the instrumentation used during the surveillance since it was difficult to understand pump dp exceeding the maximum value unless instrumentation was suspect. The CR noted that the "B" SW pump was considered inoperable based on the failed test results (submitted at 4:51 a.m., on March 9, 2008).

On March 9, 2008, at 8:30 p.m., Dominion conducted a management conference call and concluded that the "B" SW pump failed the IST due to faulty flow monitoring equipment. Although the CBM technician verified that the flow instrumentation was providing valid data, Dominion concluded that faulty flow monitoring equipment would have also

Enclosure

explained the higher than normal "A" SW dp results. Operations concluded that both ISTs were therefore invalid. Operations subsequently declared the "B" SW pump operable and started the "B" SW pump. Operations then secured and declared the "A" SW pump inoperable since the IST performed on the "A" SW pump had been used as a post maintenance test following its previous overhaul.

On March 10, 2008, at 6:21 p.m., Dominion determined that the high facility one "B" SW dp was caused by back pressure from the running facility two "C" SW pump through the shut "B" swing pump cross connect valve (2-SW-97B). As a result of this valve leaking by, approximately 500 gallon per minute of facility two service water flow was being bypassed into the facility one train. Dominion subsequently shut 2-SW-97A to ensure SW facility train separation was maintained and entered TS 3.7.4.1 since both the "A" and "B" SW pumps were considered inoperable. On March 11, 2008, at 11:27 a.m., Dominion exited TS 3.7.4.1 following a successful "A" SW IST.

On March 11, 2008, the inspectors determined that Dominion did not have an adequate basis to declare the "B" SW pump IST invalid after the unsatisfactory test results on March 9, 2008, following the management conference call. The inspectors determined that while the "B" SW pump was initially declared inoperable following the failed IST, operations improperly subsequently concluded that the data was not correct based on past instrumentation performance. The inspectors concluded that since the CBM technician had actually verified the flow instrumentation was working properly, Dominion had specific information which directly conflicted with their conclusion; therefore, the station did not act in a conservative manner. The inspectors identified that it was reasonable for Dominion to identify the cause of the high "B" SW pump dp prior to declaring the system operable. The inspectors determined that with the "B" SW pump inservice for facility one, a SW bypass flow path existed from facility two (through the shut 2-SW-79B valve and through the open 2-SW-79A valve into facility one). The inspectors identified that upon a loss of facility one, a significant portion of the "C" SW pump's flow would be have been diverted to the facility one header reducing flow to the redundant facility two train.

Analysis. This finding was more than minor because it was associated with the equipment performance attribute of the Mitigating System Cornerstone, and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, Dominion concluded that a "B" SW pump IST containing unacceptable dp data was invalid based, in part, on an inability to interpret the results (i.e. high d/p and nominal flow). Consequently, the "B" SW pump was inappropriately declared operable and the actual degraded condition was not promptly identified and corrected. This finding is of very low safety significance (Green) because it did not result in a confirmed loss of SW train operability.

This finding has a cross-cutting aspect in the area Human Performance, Decision Making Component, because Dominion did not use conservative assumptions in restoring "B" SW pump operability following a failed IST surveillance. [H.1(b)].

Enforcement. 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," states, in part, that measures shall be established to assure that conditions adverse to quality are promptly identified and corrected. Contrary to the above, on March 9, 2008, following a failed "B" IST SW surveillance, Dominion did not identify, evaluate or correct the cause prior to restoring the system to operable status. Dominion concluded that the test was invalid based on the belief the data was invalid due to flow instrumentation monitoring issues and not an actual SW equipment issue despite conflicting information. As a result, a safety-related SW system was restored to operable status and degraded service water by-pass flow condition reintroduced. Corrective actions for this issue included implementing an alternate plant configuration to ensure train separation, performing an OD to evaluate past operability and to establish a bounding SW temperature at which the "B" SW pump would be considered inoperable, and incorporating the 2-SW-97B leakage repair in the upcoming 2R18 refueling outage. Because this finding is of very low safety significance (Green) and was entered into the licensee's corrective action program (CR-08-02383), this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy. **(NCV 05000336/2008002-03, Failure to Identify a Service Water Bypass Flow Path following a Failed IST).**

EMERGENCY PREPAREDNESS

1EP6 Drill Evaluation (71114.06 - 2 Samples)

.1 Classification and Notification During Requalification Training

a. Inspection Scope

The inspectors reviewed the operators' emergency classification and notification completed during requalification Unit 3 training on January 29, 2008. The inspectors verified the classification, notification and protective action recommendations were accurate and timely and in accordance with Nuclear Energy Institute (NEI) 99-02.

b. Findings

No findings of significance were identified.

.2 Combined Functional Drill

a. Inspection Scope

The inspectors observed the conduct of a Unit 3 licensed operator training emergency planning drill on March 18, 2008. The inspectors observed the operating crew performance at the simulator and the emergency response organization performance at the technical support center and emergency operations facility. The inspectors evaluated the classification, notification, and protective action recommendations for accuracy and timeliness. Additionally the inspectors assessed the ability of Dominion's evaluators to adequately address operator performance deficiencies identified during the exercise.

b. Findings

No findings of significance were identified.

1EP7 Force-On-Force Exercise Evaluation (71114.07)a. Inspection Scope (1 Sample)

The inspectors observed licensee performance in the Technical Support Center during one site emergency preparedness drill conducted in conjunction with a Force-On-Force exercise, documented in inspection report 05000336/2008201 and 05000423/2008201. The inspectors observed communications, event classification and notification activities by the simulated shift personnel for Units 2 & 3 during the drill on March 25, 2008. The inspectors verified the classification, notification and protective action recommendations were accurate and timely and in accordance with NEI 99-02. The inspectors also observed portions of the post drill critique to determine whether any deficiencies were also identified by Dominion evaluators.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY**Cornerstone: Public Radiation Safety**2OS1 Access to Radiological Significant Areas (71121.01)a. Inspection Scope (11 Samples)

During the period February 11-15, 2008, the inspectors conducted the following activities to determine whether the licensee was properly implementing physical, administrative, and engineering controls for access to locked high radiation areas, and other radiological controlled areas (RCA) during normal power operations, and that workers were adhering to these controls when working in these areas. Implementation of these controls was reviewed against the criteria contained in 10 CFR 20, TS, and Dominion procedures.

This activity represents the completion of 11 samples relative to this inspection area partially completing the annual inspection requirement of 21.

Plant Walk down and Radiation Work Permit (RWP) Reviews

- (1) The inspectors toured accessible RCAs in Unit 2 and Unit 3 and, with the assistance of a radiation protection technician, performed independent radiation surveys of selected areas and components, to confirm the accuracy of survey data, and the adequacy of postings. Surveys were conducted in the Auxiliary Buildings, Waste Buildings, and Fuel Storage Buildings.

- (2) The inspectors identified plant areas where radiologically significant work activities were being performed. These activities included obtaining a Unit 3 spent resin sample, performing maintenance on a Unit 3 charging pump, and performing radiography on Unit 3 SW piping. The inspectors reviewed the applicable RWPs for these activities to determine if the radiological controls were acceptable, attended pre-job briefings, and reviewed the electronic dosimeter dose/dose rate alarm set points to determine if the set points were consistent with plant policy.
- (3) The inspectors determined that there were no current RWPs for airborne radioactivity areas with the potential for individual worker internal exposures to exceed 50 mrem.
- (4) During 2007, there were no internal dose assessments for any actual internal exposures that reached the reporting threshold of greater than 10 mrem Committed Effective Dose Equivalent (CEDE). The inspectors also reviewed data for the five highest exposed individuals for 2007, and the dose/dose rate alarm reports and determined that no exposure exceeded site administrative, regulatory, or performance indicator criteria. Additionally, the inspectors confirmed that no declared pregnant workers were employed during 2007.

Problem Identification and Resolution

- (5) A review of assessment reports and field observation reports was conducted to determine if problems related to implementing radiological controls were entered into the corrective action program for resolution.
- (6) Nine CRs, associated with radiation protection control access, initiated between October, 2007 and January, 2008, were reviewed and discussed with the licensee staff to determine if the followup activities were being conducted in an effective and timely manner, commensurate with their safety significance.

High Radiation Area (HRA) and Very High Radiation (VHRA) Area Controls

- (7) Procedures for controlling access to HRAs and VHRAs were reviewed to determine if the administrative and physical controls were adequate. The inspectors determined that a recently implemented corporate procedure (RP-AA-201, "Access Controls for High and Very High Radiation Areas"), provided additional controls over the replaced site procedure RPM 5.1.3, that was previously implemented.
- (8) Keys to locked high radiation areas (LHRA) stored at the control points and in the Unit 3 Control Room were inventoried and accessible LHRA's were verified to be properly secured and posted during plant tours.
- (9) The inspectors reviewed corporate procedure RP-AA-260, "Control of Radiography," and attended the pre-job briefing for performing radiography on Unit

3 SW piping. The inspectors determined that access controls, including postings, technician coverage, and site notifications, were appropriate for the transient HRAs that would occur during radiography.

Radiation Worker and Radiation Protection Technician Performance

- (10) Several radiological related CRs were reviewed to evaluate if the incidents resulted from repetitive worker errors to determine if an observable pattern traceable to a similar cause was evident.
- (11) Radiation Protection Technicians and radworkers were questioned regarding their knowledge of plant radiological conditions and associated controls.

b. Findings

No findings of significance were identified.

2OS2 ALARA Planning and Controls (71121.02)

a. Inspection Scope (8 Samples)

During the period February 11-15, 2008, the inspectors conducted the following activities to determine whether the licensee was properly implementing operational, engineering, and administrative controls to maintain personnel exposure as low as is reasonably achievable (ALARA) for past activities performed during the 2007. Also reviewed were the dose controls for current activities and the preparations being made for the spring (2R18) 2008 refueling outage. Implementation of these controls was reviewed against the criteria contained in 10 CFR 20, applicable industry standards, and Dominion procedures.

Radiological Work Planning

- (1) The inspectors reviewed pertinent information regarding cumulative exposure history, current exposure trends, and ongoing activities to assess past (2007) performance and dose challenges for 2008, including the spring refueling outage (2R18).
- (2) The inspectors reviewed the exposure data for tasks performed during 2007 and compared actual exposure with forecasted estimates. Included in this review were the tasks performed during the Unit 3 (3R11) outage, on-line tasks performed for both operating units, and dry cask loading/storage operations.
- (3) The inspectors evaluated the departmental interfaces between radiation protection, operations, maintenance, and engineering to identify missing ALARA program elements and interface problems. The evaluation was accomplished by reviewing recent ALARA Council meeting and outage challenge board minutes, ALARA evaluations, departmental dose summaries, attending a 2R18 pre-outage challenge board for steam generator eddy current testing, and interviewing the

Enclosure

ALARA coordinator. The inspectors also reviewed the Radiation Protection Department continuous improvement initiatives and the 5-year ALARA Plan (2007-2011) that identifies areas for further improving radiological controls.

Verification of Dose Estimates

- (4) The inspectors reviewed the assumptions and basis for the annual (2007) site collective exposure projections for routine power operations and maintenance activities and compared the estimated dose with the actual dose received by workers. The inspectors also reviewed the dose projections for the upcoming 2R18 refueling outage to determine if there were significant deviations from the actual exposures received for various tasks in past outages.
- (5) The inspectors reviewed Dominion procedures associated with monitoring and re-evaluating dose estimates when the forecasted cumulative exposure for tasks differed from the actual dose received. The inspectors reviewed the dose/dose rate alarm reports and exposure data for selected individuals receiving the highest TEDE exposures for 2007 to confirm that no individual exposure exceeded the regulatory limit, or met the performance indicator reporting guideline.

Jobs-In-Progress

- (6) The inspectors reviewed the radiation work permits, attended the pre-job briefings, and observed various aspects of jobs-in-progress performed at Unit 3, including obtaining a spent resin sample (RWP3-08-17), charging pump repair (RWP 3-08-30), and radiography on SW piping (RWP 3-08-25). The inspectors also reviewed the documentation and discussed preparation for transferring spent resin into a shipping cask at Unit 2.
- (7) The inspectors reviewed recent ALARA evaluations developed for controlling low dose tasks. These evaluations addressed Unit 3 charging pump maintenance and Unit 3 containment entries at power for venting the safety injection system.

Problem Identification and Resolution

- (8) The inspectors reviewed elements of the licensee's corrective action program related to implementing the ALARA program to determine if problems were being entered into the program for timely resolution. Eight CRs related to controlling individual personnel exposure and programmatic ALARA challenges were reviewed.

b. Findings

No findings of significance were identified.

4. **OTHER ACTIVITIES [OA]**

4OA1 Performance Indicator (PI) Verification (71151).1 Cornerstone: Barrier Integritya. Inspection Scope (4 Samples)

The inspectors reviewed Dominion submittals for the PI's listed below to verify the accuracy of the data reported during that period. The PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 5, were used to verify the basis for reporting each data element. The inspectors reviewed portions of the operations logs, monthly operating reports, Licensee Event Reports (LERs), surveillances, and discussed the methods for compiling and reporting the PI's with cognizant licensing and engineering personnel. Documents reviewed during this inspection are listed in the Attachment.

Unit 2

- "Reactor coolant system specific activity" between April 1, 2007 and December 31, 2007; and
- "Reactor coolant system leak rate" between April 1, 2007 and December 31, 2007.

Unit 3

- "Reactor coolant system specific activity" between January 1, 2007 and December 31, 2007; and
- "Reactor coolant system leak rate" between January 1, 2007 and December 31, 2007.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152 – 2 Annual Samples).1 Review of Items Entered into the Corrective Action Programa. Inspection Scope

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," and in order to help identify repetitive equipment failures or specific human performance issues for followup, the inspectors performed a daily screening of items entered into Dominion's corrective action program. This was accomplished by reviewing the description of each new CR and attending daily management review committee meetings. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

2. Annual Sample - Review of Gases in the Unit 2 "B" EDG Jacket Water Cooling System

a. Inspection Scope

The inspectors performed a focused review of the actions taken and planned in response to a number of "B" EDG jacket water cooling system expansion tank overflow events. The review included a recent event that occurred in February 2008. The inspectors reviewed the causal evaluations contained in the associated CRs, corrective actions that have been taken, ongoing troubleshooting efforts, and planned corrective actions. The inspectors also interviewed personnel and performed a plant walkdown of the Unit 2 EDGs.

b. Findings and Observations

No findings of significance were identified.

The inspectors found the expansion tank overflow issue has existed for several years as documented in a number of CRs between 2003 and February 2008. The licensee has determined that the most likely cause of the tank overflowing is the introduction of combustion gases into the jacket water system due to leakage past a copper gaskets where the fuel injector, air start valve and cylinder indicator adapters are threaded into the cylinder liners. The same issue has not been experienced with the "A" EDG and the problem has been intermittent with the "B" EDG in that it does not occur during every monthly surveillance run and there were no events identified in 2006. The inspectors noted that the condition does not appear to be as significant as that experienced at other plants where trips of EDGs occurred due to a resultant fluctuation in jacket cooling water pump discharge pressure.

The licensee has taken a number of actions that have not yet been successful in resolving the issue. Licensee actions have included replacement of all gaskets in 2005 and again in 2007 as well as the installation of sight glasses in the system to allow monitoring for the presence of gas bubbles. Additionally, the inspectors verified that surveillance and maintenance procedures have been updated to include relevant operating experience information involving aspects such as gasket installation instructions and monitoring of the EDG jacket water system parameters during operation.

The inspectors confirmed that the licensee was continuing to evaluate this issue in an effort to identify additional corrective actions that may be taken to confirm and correct the cause of the expansion tank overflows. Ongoing actions being considered are documented in CR 08-01137 and include:

- investigating the development and use of a lapping tool that could be used to improve the seating surface at the mechanical joint between the adapters and the cylinder liners;
- continuing the troubleshooting data collection for at least several more months;

Enclosure

- performance of an independent peer review to assess the issue;
- evaluating the potential need to replace the cylinder liners based on the results of the peer review and the results of seat lapping evaluation and/or performance; and
- obtaining additional information from the vendor to improve adapter installation techniques.

The inspectors found that although the issue has not had a significant impact on the ability of the EDG to perform its safety function, appropriate additional licensee actions to identify and correct the cause of the overflow events are continuing.

3. Annual Sample - Unit 3 Main Turbine Control Valve Testing and Loadset Operation

a. Inspection Scope

The inspectors performed a focused review of the actions taken in response to an overpower condition that occurred during turbine valve testing in November 2007. The inspectors interviewed personnel involved in the corrective actions and reviewed the causal evaluations contained in the associated CR, completed corrective actions, and the results of the subsequent test conducted in February 2008.

b. Findings and Observations

No findings of significance were identified.

The inspectors found that, during the investigations, Unit 3 consulted General Electric to better understand the electro-hydraulic system in the load set mode and Unit 2 to learn how they performed control valve testing. The inspectors reviewed Dominion's corrective actions resulting from the investigations which included: reducing reactor power to 90% for control valve testing to minimize turbine response and resulting reactor power fluctuations due to small changes in grid frequency, closely monitoring turbine first stage pressure and adjusting turbine load to maintain first stage pressure, and making changes to the test procedure to incorporate the learnings from the apparent cause investigations. The inspectors concluded that Dominion's corrective actions were adequate.

4OA6 Meetings, including Exit

On April 8, 2008, the resident inspectors presented the overall inspection results to Mr. Alan Price, and other members of his staff. The inspectors confirmed that no proprietary information was provided or examined during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

SUPPLEMENTAL INFORMATION**KEY POINTS OF CONTACT**Licensee personnel

G. Auria	Nuclear Chemistry Supervisor
B. Bartron	Supervisor, Licensing
J. Cambell	Manager, Security
C. Chapin	Supervisor, Nuclear Shift Operations Unit 2
A. Chyra	Nuclear Engineer, PRA
F. Cietek	Maintenance Management/Asset Strategy
T. Cleary	Licensing Engineer
G. Closius	Licensing Engineer
L. Crone	Supervisor, Nuclear Chemistry
C. Dempsey	Assistant Plant Manager
J. Dorosky	Health Physicist III
M. Finnegan	Supervisor, Health Physics, ISFSI
R. Griffin	Director, Nuclear Station Safety & Licensing
W. Gorman	Supervisor, Instrumentation & Control
J. Grogan	Assistant Plant Manager
C. Houska	I&C Technician
A. Jordan	Site Plant Manager
J. Kunze	Supervisor, Nuclear Operations Support
B. Krauth	Licensing, Nuclear Technology Specialist
J. Laine,	Manager, Radiation Protection/Chemistry
J. Langan	Manager, Nuclear Oversight
P. Luckey,	Manager, Emergency Preparedness
R. MacManus	Director, Engineering
H. McKenney	Supervisor, Nuclear Engineering
M. O'Connor	Manager, Engineering
D. Presuitti	Fire Analyst, Asset Production
A. Price	Site Vice President
M. Roche	Senior Nuclear Chemistry Technician
J. Semancik	Manager, Operations
S. Smith	Supervisor, Nuclear Shift Operations Unit 3
J. Spence	Manager, Training
S. Turowski	Supervisor, Health Physics Technical Services
C. Vournazos	IT Specialist, Meteorological Data

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSEDOpened

None

Opened and Closed

05000336/2008002-01	FIN	Failure to Evaluate a Unit 2 Charging System Non-conforming Condition against the Current Licensing Bases (Section 1R15)
05000336/2008002-02	NCV	Failure to Identify Unacceptable Unit 2 Charging Pump Surveillance Test Data (Section 1R22)
05000336/2008002-03	NCV	Failure to Identify a Service Water Bypass Flow Path following a Failed IST (Section 1R22)

LIST OF DOCUMENTS REVIEWED**Section 1R01: Adverse Weather Protection**

AOP-2560, Storms, Winds and High Tides
 OP-2336A, Station Drains and Sumps
 OP 3352, Heat Tracing, Rev. 013-02
 Primary Equipment Operator Outside Logs, 2/12/08
 CR-06-07697 CR-07-09182 CR-08-01021
 CR-06-07890 CR-07-09725 CR-08-01261
 CR-06-07878 CR-07-10069 CR-08-01300

Section 1R04: Equipment Alignment

OPS-OP-2308, Revision 012-01, High Pressure Safety Injection System
 OPS-OP-2340E11, Revision 000-03, "A" Charging Pump Maintenance
 OPS-OP-2340E51, Revision 000-05, "B" Charging Pump Maintenance
 OPS-OP-2340E21, Revision 000-04, "C" Charging Pump Maintenance
 OP3326-008, Emergency Diesel Generator B Service Water System Supply, Rev. 004
 OP3346A-002, EDG B-Cooling Water Valve Lineup, Rev. 007
 OP3346A-004, EDG B-Lube Oil Valve Lineup, Rev. 006
 OP3346A-006, EDG B-Starting Air Valve Lineup, Rev 009-01
 OP3346A-010, EDG B-Instrument Valve Lineup, Rev. 007-01
 OP3346B-2, Valve Lineup for "B" Diesel Fuel System, Rev. 4
 OP3346B-007, B Diesel Fuel Oil Electrical Alignment, Rev. 000
 Millstone Unit 3 Emergency Diesel Generator Health Report, 2nd & 3rd Quarter 2007.

A-1

CR-07-04159
CR-07-06912
CR-07-07679

Work Orders:

M3020337
M3030831
M3031424
M3050160
M3050814
M3051016

CR-07-09413
CR-07-10591
CR-07-10632

M3051051
M3051762
M3060379
M3060623
M3060944
M3060952

CR-07-10859
CR-07-10906
CR-07-12668

M3060968
M3070296
M3070626
M3070927
M3070942
M3070944

CR-08-00419

M3071440
M3071455
M3071508
M3071705
M3080037
M3980032

Section 1R05: Fire Protection

FHA Unit 2 "Fire Hazards Analysis" Fire Area A-12 Zone A
FHA Unit 2 "Fire Hazards Analysis" Fire Area A-13
FHA Unit 2 "Fire Hazards Analysis" Fire Area A-14
FHA Unit 2 "Fire Hazards Analysis" Fire Area A-15
FHA Unit 2 "Fire Hazards Analysis" Fire Area A-16
FHA Unit 2 "Fire Hazards Analysis" Fire Area I-1 Zone A
EN 31084, Operating Strategy for Service Water System at Millstone Unit 3, Rev. 007
M3-EV-02-0031, Technical Evaluation for Service Water Heat Exchanger Monitoring Millstone Unit 3, Rev. 2
Fire Protection Evaluation Report, Millstone Nuclear Power Station Unit 3

Section 1R06: Flood Protection Measures

ERC25212-ER-04-0035
Calculation PBD-10B-1
Calculation Number 12179-P(R)-1194
CR-04-03704

Section 1R07: Heat Sink Performance

SP 3626.13, Service Water Heat Exchanger Fouling Determination, Rev. 021-00, performed 2/2/08
SP 3626.13, Service Water Heat Exchanger Fouling Determination, Rev. 021-00, performed 2/10/08
EN 31084, Operating Strategy for Service Water System at Millstone Unit 3, Rev. 007
CR-07-02093
CR-07-04204
CR-07-04294
CR-07-04673
Work Orders:
M30610651, 3HVQ ACUS1B Heat Exchanger Inspection, Performed 6/20/07
M30701961, 3HVQ ACUS1B Eddy Current Testing During 3R, Performed 3/7/07

Section 1R11: Licensed Operator Requalification Program

Unit 2 Simulator Exam on January 29, 2008

Section 1R12: Maintenance Effectiveness

CR-08-00639
CR-08-00112
CR-07-12005
CR-07-11588
CR-07-11518
CR-07-09409
CR-07-07844
CR-07-07631
CR-07-07492
CR-07-07351
CR-07-06525

CR-07-00616
CR-07-04858
CR-07-07655
CR-07-08585
CR-07-09904
CR-08-01069
CR-07-11516
CR-07-10161
CR-07-08793
CR-07-08774
CR-07-08732
CR-07-08731
CR-07-08730
CR-07-08729
CR-07-05526
CR-07-05113
CR-07-04844
CR-07-04498
CR-06-10759
CR-06-09865
CR-06-08555
CR-06-07674
CR-06-07665
CR-06-04984
CR-06-04971
CR-07-11781

Auxiliary Feedwater System System Health Reports, 1st through 4th Quarters 2007
Millstone Unit 2 Maintenance Rule Scoping Table CVCS-Volume Control (11/14/2007)
Millstone Unit 3 Maintenance Rule (a)(1) Evaluation for the Auxiliary Feedwater System (3322),
Rev. 1
Millstone Unit 3 Maintenance Rule (a)(2) Disposition for the Auxiliary Feedwater Sysyem (3322),
Rev. 0
Maintenance Rule Scoping Table for Auxiliary Feedwater, 2/14/08
MP-24-MR-FAP730 "Maintenance Rule Goal Setting and Monitoring" (Rev 000-04)
MPS-2 UFASR Chapter 14 Section 14.6, Decreases in Reactor Coolant Inventory
RP-5, Operability Determinations (Rev 006-01)
Millstone Unit 3 Maintenance Rule (a)(1) Evaluation for the Service Water System (3326)
Service Water System Health Report Fourth Quarter 2007
Operability Determination MP3-007-08
Unit 2 Internal Flooding Evaluation
Work Order M30602421

Section 1R13 Maintenance Risk Assessments and Emergent Work Control

CR-08-0422
CR-07-08221
CR-07-09478
CR-08-00162
CR-08-00732

Unit 2 Operator Logs date 1/11/2008
MP-13-PRA-FAP01.1, Revision 002-4, "Performing (a)(4) Risk Reviews"
MP-13-PRA-FAP01.1, Performing (a)(4) Risk Reviews, Rev. 002-04
Millstone Power Station Operational Focus Report, 2/13/08
Plan of the Week (T-0) by FEG, Week 0807

Section 1R15: Operability Evaluations

Operability Determination MP2-024-07, "'D" Channel of TMLP is Fluctuating between 2010 and 2060 PSIA"
Operability Determination MP2-004-08, SSC Affected by the Degraded or Non-Conforming Condition – ("B" Charging Pump Cycling)
Operability Determination MP2-005-08, PZR Blockhouse Modification Affect on PZR Safety Valve Setpoints
Operability Determination MP2-005-08 PZR Blockhouse Modification Affect on PZR Safety Valve Setpoints
CR-08-01810
CR-08-00639

Section 1R18: Plant Modifications

DM3-00-0010-08, Temporary Accumulator Fill from RWST
M3 08-00271, Alternate Method for Filling Accumulators with Hydro Pump IAW DCN DM3-00-0010-08
OA 8, Housekeeping of Station Buildings, Facilities, Equipment, and Grounds, Rev. 007-03
OP 3310B, Accumulator Low Pressure Safety Injection, Rev. 014-14
25212-26913 Sheet 1, Piping & Instrumentation Diagram High Pressure Safety Injection, Rev. 27
50.59 Screening DM3-00-0010-08
CR-07-04711
CR-07-04723
CR-07-10127
CR-07-11511

Section 1R19: Post Maintenance Testing

AMO 11M203519, Priority 1 Maintenance associated with "B" EDG troubleshooting/repair.
Post Repair/Replacement Component Leakage Test for M3-07-00831 & M3 07 00833
SPROC ENG07-3-006, Functional Test of HVQ Units Pressure Control Valves, Rev. 000

Work Orders:

M30700831, 3HVQ*ACU 2A Freon Pressure Control Valve
M30700833, 3HVQ*ACU 2A Freon Pressure Control Valve
M30801809, Heat Exchanger Inlet Pressure Control Valve

Section 1R22: Surveillance Testing

SP 2602A, Reactor Coolant Leakage, Rev. 006-001, Performed 1/16/08
SP 3601F.6, Reactor Coolant System Water Inventory Measurement, Rev. 005-05, Performed 1/15/08
SP 3601F.6-001, RCS Inventory Balance, Rev. 002-03
SP 3610A.1, Residual Heat Removal Pump 3RHS*P1A Operational Readiness Test, Rev. 011-05
SP 2605G, Revision 006-02, Containment Isolation System (CIV) Stroke Timing IST, Facility 1

SP 2612A, Revision 002-02, "A" SW Pump and Facility 1 Discharge Check Valve IST
CR-08-00545
CR-08-00653
CR-08-00659
OP-AA-102, Revision 1, Operability Determination
DNAP-0509, Revision 8, Dominion Nuclear Procedure Adherence and Usage
M2-EV-98-0227, Revision 0, Technical Evaluation for Single Failure Vulnerability Review

Section 1EP6: Emergency Preparedness

Millstone Unit 3 Evaluated Exercise CFD 08-02, March 18, 2008
CR-08-02722

Section 2: Radiation Safety

RPM 1.3.8, Criteria for Dosimetry Issue, Rev. 8
RPM 1.3.13, Bioassay Sampling and Analysis, Rev. 8
RPM 1.3.14, Personnel Dose Calculations and Assessments, Rev. 7
RPM 1.4.1, ALARA Reviews and Reports, Rev. 7
RPM 1.4.2, ALARA Engineering Controls, Rev. 2
RPM 1.6.4, Siemens Electronic Dosimetry System, Rev. 4
RPM 2.1.1, Issuance and Control of RWPs, Rev. 7
RPM 2.1.2, ALARA Interface with the RWP Process, Rev. 2
RPM 2.1.3, Identification and Control of High Radiological Risk Work, Rev. 2
RPM 5.2.2, Basic Radiation Worker Responsibilities, Rev. 10
RPM 5.2.3, ALARA Program and Policy, Rev. 3
RPM-GDL-008, Electronic Dosimeter Alarm Set Points, Rev. 0
RP-AA-201, Access Controls for High and Very High Radiation Areas, Rev. 0
RP-AA-202, Radiological Posting, Rev. 0
RP-AA-220, Radiological Survey Scheduling, Rev. 0
RP-AA-221, Radiological Survey Records, Rev. 0
RP-AA-230, Personnel Contamination Monitoring and Decontamination, Rev. 0
RP-AA-260, Control of Radiography, Rev. 0
MP-SA-07-61, 2007 Health Physics Continuing Training
MP-SA-07-60, Radiation Worker Practices at RCA Exits
Field Observation Report Nos. 6351, 07-070, 07-014, 07-074, 07-077,
CR-07-06128
CR-07-06271
CR-07-06670
CR-07-07990
CR-07-08300
CR-07-08540
CR-07-08670
CR-07-10789
CR-07-11974
CR-07-05589
CR-07-06325
CR-07-06512
CR-07-06794

CR-07-06952
CR-07-07948
CR-07-10540
CR-07-11418

ALARA Evaluations: Nos. 3-08-04, 2-08-02, 3-08-05, 3-08-04, 3-08-06, 2-08-01, 3-08-01, 3-08-03, 3-08-02

ALARA Council Meeting Minutes: 01/31/2008, 12/14/2007, 07/09/2007

Challenge Board Meeting Handouts/Action Items for 2R18 Projects: Steam Generator Eddy Current Testing and I&C Tasks

Troubleshooting Plan for MP3 Foundation SRW Sump No. 3

Dose and Dose Rate Alarm Reports for October 2007 through January 2008

Section 40A1: Performance Indicator (PI) Verification

SP 2602A-001, Manual RCS Leak Rate Determination, Rev. 006-00

SP 2619A-001, Control Room Daily Surveillance, Modes 1&2, Rev. 045-03

SP 2830 Sampling Reactor Coolant for Dissolved Oxygen, Chloride and Fluoride Analysis, Rev. 007-02

SP 2832-001, Reactor Coolant Analysis for Iodines and DEI-131, Rev. 006-02

SP 3670.1-001, Mode 1-4 Daily and Shiftly Control Room Rounds, Rev. 025-01

SP 3680.1-003, Containment Leakage Trending, Rev. 002-01

SP 3802E, Reactor Coolant Gas Sampling and Analysis, Rev. 001-03

SP 3855, Reactor Coolant Analysis for Dose Equivalent I-131, Rev. 006-00

SP 3855-001, Reactor Coolant Analysis for Dose Equivalent I-131, Rev. 007-00

CR-08-00490

CR-08-00545

CR-08-01054

Section 40A2: Identification and Resolution of Problems

MP 2719J, Emergency Diesel Generator Jacket Coolant and Air Coolant System Maintenance, Rev. 002-02

OP 3353.MB4C, Tave Hi Alarm Response Procedure, rev. 005-12

OP-MP-100-1000, Millstone Operations Gard, Rev. 2

SP 3623.2, Turbine Overspeed Protection System Test, Rev. 009-02

CR-03-00479

CR-04-09492

CR-05-03122

CR-05-05281

CR-07-01673

CR-07-02244

CR-07-03190

CR-07-06193

CR-07-09710

CR-07-11322

CR-07-11454

CR-07-11659

CR-07-12231

CR-07-12538

CR-07-12566

CR-07-12703

CR-08-01137

CR-08-01732

Fairbanks Morse Owner's Group Draft Position – Exhaust Gas Leakage In the Jacket Water Cooling System of Opposed Piston Engines, dated July 24, 2006

NRC Information Notice 2004-15, Dual-Unit Scram at Peach Bottom Units 2 and 3, dated July 22, 2004

Operability Evaluation MP-2-002-08, dated February 9, 2008

Surveillance Form - Periodic DG Slow Start Operability Test, Facility 2 (Loaded Run), Rev, 003-03, performed March 5, 2008

Vendor Manual 25203-138-002, Installation, Operation and Maintenance of Emergency Diesel Engine, Rev. 2

Work Orders:

M20701994

M20709828

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
AOP	abnormal operating procedure
CBM	condition base monitoring
CCP	component cooling pump
CEDE	committed effective dose equivalent
CFR	Code of Federal Regulations
CLB	current licensing basis
CR	condition report
dp	differential pressure
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
ECCS	emergency core cooling system
EDG	emergency diesel generator
EHC	electro hydraulic control
EP	Emergency Preparedness
ESF	engineered safety features
HPSI	High Pressure Safety Injection
HRA	high radiation areas
I&C	Instrumentation and Control
IMC	inspection manual chapter
IST	in-service test
LER	licensee event reports
LHRA	Locked High Radiation Areas
NCV	non-cited violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
OA	Other Activities

OD	operability determination
PARS	Publicly Available Records System
PI	performance indicator
PI&R	problem identification and resolution
PMT	post maintenance testing
PORV	power operated relief valve
PSID	pounds square inch differential
RAI	request for additional information
RCA	Radiological Controlled Area
RHR	residual heat removal
RWP	radiological work permit
SDP	significance determination process
SIH	safety injection high
SIS	safety injection system
SIT	safety injection tank
SW	service water
TEDE	total effective dose equivalent
TS	technical specification
UFSAR	updated final safety analysis report
VHRA	Very High Radiation Areas
WO	work order