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**Dominion™**

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U.S. Nuclear Regulatory Commission  
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**DOMINION NUCLEAR CONNECTICUT, INC.**  
**MILLSTONE POWER STATION UNITS 1, 2 AND 3**  
**10 CFR 50.59 AND COMMITMENT CHANGE REPORT FOR 2005**

Pursuant to the provisions of 10 CFR 50.59(d)(2), the reports for changes made to the facility for Millstone Power Station Units 2 and 3 (MPS 2 and 3) are submitted via Attachments 1 and 2 respectively. Attachment 3 reports changes made common to all Millstone Power Station units. There were no changes made to the facility for Millstone Power Station Unit 1 (MPS 1).

Additionally, during 2005, there were no commitment changes for MPS 1, 2, or 3. This constitutes the annual Commitment Change Report consistent with the Millstone Power Station's Regulatory Commitment Management Program.

If you have any questions or require additional information, please contact Mr. David W. Dodson at (860) 447-1791, extension 2346.

Very truly yours,

  
J. Alan Price  
Site Vice President - Millstone

JE47

Attachments: 3

Commitments made in this letter: None.

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**Attachment 1**

**10 CFR 50.59 REPORT FOR 2005**

**Millstone Power Station Unit 2  
Dominion Nuclear Connecticut, Inc. (DNC)**

S2-EV-01-0023

Added Disconnect Switches to Appendix R MOVs 2-MS-65A, 2-MS-65B, and 2-MS-202

Affected Documents:

LBDCR 05-MP2-010

#### Description

Design Change Request (DCR) M2-00030 modified the Appendix R MOVs 2-MS-65A, 2-MS-65B, and 2-MS-202 to eliminate an Appendix R requirement to remove starter coils from their applicable Motor Control Center (MCC) circuit breakers, and installed new keyed disconnect switches instead. Condition Report (CR) CR-05-05500 identified that the Millstone Unit 2 (MP2) Technical Requirements Manual (TRM) operability requirement in Table 7.1.17-1 for valve 2-MS-65B did not reflect this modification.

#### Reason

Investigation into the CR identified that the physical work for 2-MS-65B was performed separately from valves 2-MS-65A and 2-MS-202. The associated TRM update was therefore split into two partial submittals. Upon completion of the DCR, the change to the TRM was issued, but a subsequent change inadvertently deleted the revised requirement. This License Basis Document Change Request (LBDCR) restored the correct wording.

#### Summary

Neither the original change, nor this administrative correction, adversely affect equipment design or operation, and no changes were made to Technical Specification required safety limits or safety system settings. The changes did not adversely affect any accident mitigation function and are unrelated to any evaluation methodology as described in the Final Safety Analysis Report (FSAR). The TRM change did not result in a design basis limit for a fission product barrier as described in the FSAR being exceeded or altered; does not increase the frequency of occurrence or the consequences of an accident previously evaluated in the FSAR; and does not increase the likelihood of occurrence of a malfunction to a system, structure or component important to safety.

S2-EV-05-0002

Reload Design for Millstone Unit 2 Cycle 17

FSARCR for Parent Document DCR No. M2-04004, Rev. 0

Affected Documents:

DCR No. M2-04004, Revision 0

FSARCR No. 05-MP2-009, Revision 0

### Description

This design change record (DCR) evaluates the Millstone Unit 2 (MP2) Cycle 17 core design characteristics in order to demonstrate that the Cycle 17 core design and operation are acceptable. The Cycle 17 core was fueled with 68 fresh MIB-8 fuel assemblies, 68 once-burned MIB-7 fuel assemblies, 80 twice-burned MIB-6 fuel assemblies, and 1 twice burned ANF-2 fuel assembly.

Two (2) minor fuel mechanical design changes were implemented for the first time in Cycle 17 with the installation of MIB-8 fuel: Upset Shape Welding of fuel rod upper and lower end caps changed the method used to weld the end caps to the cladding tube, and the hole in the center location of the Lower Tie Plate (LTP) was drilled approximately 0.6 inch deeper to minimize impact due to irradiation-related growth of the incore instrumentation (ICI) guide tubes.

The Final Safety Analysis Report Change Request (FSARCR) documents related changes to the FSAR that provide clarification, document editorial changes, and reflect Cycle 17 specific analyses.

### Reason

This change was necessary to allow Cycle 17 operation and the continued production of electricity by Millstone Unit 2.

### Summary

This evaluation was necessary due to the Cycle 17 specific analysis for pre-scrum main steam line break (MSLB) event with power available (FSAR Section 14.1.5.1.6.1). In all cases, the Cycle 17 specific events remain bounded by the analyses of record, however, the Cycle 17 specific result (i.e., fuel rod failures due to exceeding the Departure from Nucleate Boiling Ratio limit) is more limiting than that for Cycle 16, although still bounded by the Cycle 15 analysis of record. The Cycle 17 specific result for this event does not result in more than a minimal increase in consequences of the accidents evaluated in the FSAR. The other changes made by this DCR have no impact on these consequences.

The core design is essentially unchanged from the previous cycle with regard to analysis assumptions and the safety analyses of record. The components affected by the two (2) changes in fuel design do not relate to the initiation of FSAR Chapter 14 events. As such, the changes described in the DCR will not affect the frequency of occurrence of the FSAR events. This evaluation found no issues or events that

indicated the possibility of a new, unanalyzed event, nor created the possibility of an accident of a different type than those previously evaluated in the FSAR.

**Attachment 2**

**10 CFR 50.59 REPORT FOR 2005**

**Millstone Power Station Unit 3  
Dominion Nuclear Connecticut, Inc. (DNC)**

S3-EV-98-0201  
Implementation of Permanent Chemical Transfer System

Affected Documents:  
FSARCR 98-MP3-126

Description

Design Change Request M3-97018 made permanent the use of ethanolamine (ETA) as the pH agent at Millstone Unit 3 (MP3), and retired a portable storage tank and connections with a permanently installed chemical addition system. Final Safety Analysis Report (FSAR) Figure 10.3-03, Sheet 1A, illustrated the temporary modification.

Reason

FSAR Change Request 98-MP3-126 modified FSAR section 10 to reflect the deletion of Figure 10.3-03, Sheet 1A, and associated references to this drawing.

Summary

Deleting this Figure and its attendant references provides for conformity between design basis documents and the actual configuration of the chemical addition system. No new modifications were made as a result of correcting this historical inaccuracy in the FSAR.



S3-EV-02-0020

Correction to Text in a TRM Surveillance Requirement and its Bases for the TRM Containment Structural Integrity LCO

Affected Documents:

LBD CR 05-MP3-006

#### Description

Condition Report (CR) CR-04-07025 identified that Millstone Unit 3 (MP3) Technical Requirements Manual (TRM) Surveillance Requirement (SR) 4.6.1.6.3.c was mis-worded, and that the Bases inappropriately implied that entry into a Technical Specification Action Statement might be deferred by eight (8) hours.

The original LBD CR revised the MP3 TRM to include an optional, variable Allowed Outage Time (AOT) for the Engineered Safety Features (ESF) Building Porous Concrete Groundwater Sump Pump (3SRW-P5), based upon groundwater leakage rate. A new surveillance requirement was added to verify groundwater leakage rate every 8 hours when operating within the constraints of the variable AOT. SR 4.6.1.6.3.c amended the leakage flowrate requirement from less than 2209 gallons per day (gpd) to less than or equal to 2209 gpd for mathematical accuracy. The changes made by License Basis Document Change Request (LBD CR) 05-MP3-006 corrected the wording of the SR and aligned it with the original intended requirements for use of the variable AOT, as established in LBD CR 02-3-13.

#### Reason

This License Basis Document Change Request (LBD CR) provided correction to the text in the TRM Surveillance Requirement 4.6.1.6.3.c and its Bases. The intended requirements associated with the use of the variable AOT calculation in Action a.2, and the corresponding use of TRM SR 4.6.1.6.3.c to implement this calculation were both unaffected and entirely consistent with the previous approval for their use in the TRM.

#### Summary

Neither the original change, nor this administrative correction, adversely affect equipment design or operation, and no changes were made to Technical Specification required safety limits or safety system settings. The changes did not adversely affect any accident mitigation function and are unrelated to any evaluation methodology as described in the Final Safety Analysis Report (FSAR). The TRM change did not result in a design basis limit for a fission product barrier as described in the FSAR being exceeded or altered; does not increase the frequency of occurrence or the consequences of an accident previously evaluated in the FSAR; and does not increase the likelihood of occurrence of a malfunction to a system, structure or component important to safety.

S3-EV-05-0001

Reload Design for Millstone Unit 3 Cycle 11

Affected Documents:

DCR No. M3-05001, Revision A

LBDCR No. 05-MP3-008

FSARCR No. 05-MP3-019

### Description

Design Change Request (DCR) M3-05001, Revision A documents and evaluates the Millstone Unit 3 (MP3) Cycle 11 core for MODES 5 and 6 conditions. As per the Millstone Design Control Manual (DCM), Revision A is designated as an "Early Approval for Implementation" DCR. The approval of this DCR allows outage work such as core reload to progress, up to and including MODE 5 conditions, while other documentation related to the final (Revision 0) DCR is in preparation. The final (Revision 0) DCR subsequently supported all MODES of Cycle 11 operation.

The Cycle 11 core is fueled with 73 fresh Batch N RFA-2 fuel assemblies, 64 once burned Batch M RFA-2 fuel assemblies, 8 once burned Batch M NGF LTA fuel assemblies, and 48 twice burned Batch L RFA fuel assemblies. For Cycle 11, an increase in fuel cycle installed capacity resulted in a slight increase in boration requirements to the point where the stated minimum indicated Boric Acid Storage System volume was insufficient to satisfy MP3 Technical Requirements Manual (TRM) 3.1.2.6 requirements. The Cycle 11 boron design requirement analysis from the fuel vendor identified the need to increase the minimum BAT system volume from a value of 21,802 gallons (usable) to at least 22,095 gallons (usable). The revision made to TRM LCO 3.1.2.6.a (LBDCR No. 05-MP3-008), increased the minimum indicated borated water volume to 32,000 gallons, to bound future core designs. Changes made to the MP3 Final Safety Analysis Report (FSAR) included a related change to Table 9.3-4, Cycle 11 specific information in Chapters 4 and 15, and minor editorial changes in Chapters 4 and 15.

### Reason

This change was necessary to allow Cycle 11 operation and the continued production of electricity by Millstone Unit 3.

### Summary

This evaluation only addressed Revision A to DCR No. M3-05001, which was applicable to Cycle 11, MODES 5 and 6. However, the evaluation also addressed the related LBDCR and FSARCR for all MODES of Cycle 11 operation. The TRM that was revised was only applicable in MODES 1-4, however, the COLR revisions needed to be implemented before then to support Cycle 11 MODE 6.

The implementation of the MP3 Cycle 11 reload core design does not affect any accidents or malfunctions evaluated in the FSAR, nor does it create a new type of event not previously evaluated in the FSAR. There is no negative impact on any fission product barrier as described in the FSAR due to the implementation of the Cycle 11 reload core design. The reload core design criteria and licensing basis acceptance criteria evaluations do not result in

a departure from any evaluation methodology used in establishing the Millstone Unit 3 design basis or safety analysis.

S3-EV-05-0002  
Reload Design for Millstone Unit 3 Cycle 11  
Affected Documents:  
DCR No. M3-05001, Revision 0

#### Description

Design Change Request (DCR) No. M3-05001, Revision 0 was written to evaluate all modes (MODES 1 to 6) of Millstone Unit 3 (MP3) Cycle 11 core design and operation. The previously issued DCR, M3-05001, Revision A (Early Approval for Implementation), was evaluated in S3-EV-05-0001 and allowed Cycle 11 operation in MODES 5 and 6 only. This Revision 0 DCR (M3-05001) documents the loading of 73 new fuel assemblies for Cycle 11 in a low leakage loading pattern with 72 once-burned assemblies from Cycle 10 and 48 twice-burned assemblies used in the last two cycles. The feed assemblies are of the RFA-2 design.

#### Reason

This change was necessary in order to allow Cycle 11 operation and the continued production of electricity by Millstone Unit 3.

#### Summary

The Cycle 11 core design does not adversely affect any accidents or malfunctions evaluated in the Final Safety Analysis Report (FSAR), nor create a new type of event not previously evaluated in the FSAR. There is no negative impact on any fission product barrier. The methods used for designing the Cycle 11 core do not deviate from those used in establishing the MP3 design basis or safety analyses.

S3-EV-05-0003

Turbine Overspeed Protection Maintenance and Testing Program Manual

Affected Documents:

U3-24-TOP-PRG, Revision 001-01

### Description

A one-time change was made to the Turbine Overspeed Protection (TOP) program, allowing a relaxation of the requirement to perform a surface examination of at least one stop valve on an approximately 3.33 year frequency to an approximately 4.5 year frequency.

### Reason

U3-24-TOP-PRG required examinations ensured that at approximately 3.33 year intervals, at least one main steam stop valve, one main steam control valve, and one main reheat valve and one reheat intercept valve would be dismantled, and the valve seats, discs, and stems inspected visually, and by surface examination using magnetic particle examinations. During the last refueling outage (3R10), one stop valve, one control valve and a combined intercept valve were disassembled and inspected, however the surface examinations were not performed. (This deviation was documented in CR-05-11552.) The examinations performed in 3R09 did not include a main steam stop valve, therefore, without further examinations, the program inspection requirement for surface examinations of the main steam stop valves every 3.33 years will not be met. This deviation from the requirements of the program is deemed to have an adverse effect on meeting the design requirements of General Design Criteria 4. Therefore this evaluation addresses the change to the program requirements and evaluates allowing the main stop valve surface examination to be extended to the next refueling outage.

### Summary

The missed magnetic particle examinations of the three main turbine valve stems do not increase the chance of a valve failure and do not increase the probability of a turbine overspeed event. With the missed examinations, only one of the three valve types challenges the Final Safety Analysis Report (FSAR) stated frequency for required inspections. The current disassemblies and inspections of the valves, coupled with those performed in the past are consistent with or exceed the FSAR requirements for the main turbine valves. Past performance of the disassemblies and inspections of these particular valves, as well as the frequency of performance of the disassemblies of the remainder of the turbine valves continues to be consistent with the Turbine Overspeed Protection Program Manual. Valve operation and functionality are not challenged by the missed exam.

The change in frequency of surface examinations of the Main Steam Stop Valves from 3.33 years to approximately 4.5 years does not affect the probability of, or consequences of accidents described in the FSAR. It does not result in more than a minimal increase in the probability of malfunction of the turbine overspeed protection, nor does it affect the

consequences of malfunction of any SSC important to safety. The change does not affect any method of evaluation described in the FSAR, or create a new event or a malfunction with a different result. The change has no effect on any fission product boundaries.

**Attachment 3**

**10 CFR 50.59 REPORT FOR 2005**

**Millstone Power Station Units 1, 2, & 3  
Dominion Nuclear Connecticut, Inc. (DNC)**

SG-EV-05-0001

Design, Installation and Operation of an Independent Spent Fuel Storage Installation (ISFSI) for Millstone Station

Affected Documents:

DCR MG-04010

### Description

This evaluation was written to support the design, installation, and operation of an ISFSI for Millstone Station. Included in these activities was the selection of Millstone Unit 2 (MP2) spent fuel to be loaded in Dry Shielded Canisters (DSC) in the cask laydown area of the MP2 spent fuel pool (SFP), DSC transport in a shielded transfer cask between the MP2 SFP and the ISFSI site, and DSC placement into and removal from a Horizontal Storage Module (HSM). Millstone had selected the NUHOMS<sup>®</sup> spent fuel storage system under Transnuclear Corporation's general license, as authorized per 10 CFR 72, and approved by the U.S. Nuclear Regulatory Commission in Certificate of Compliance Number 1004.

### Reason

The ISFSI was designed to provide a "dry" option for spent fuel storage at the Millstone Power Station.

### Summary

The subject Design Change Record (DCR) was prepared based on the NUHOMS<sup>®</sup> Final Safety Analysis Report (FSAR) and Technical Specifications, and comprises the initial Millstone ISFSI licensing and design bases. Therefore, evaluation under 10 CFR 50.59 criterion is appropriate. Changes made to the ISFSI after its initial release to Operations will be evaluated using the 10 CFR 72.48 Screen/Evaluation process.

Since the initial fuel loading campaign for the ISFSI involved only MP2, this evaluation was limited to the 50.59 licensing and design basis requirements for dry fuel storage as they apply to MP2.

Handling of the spent fuel during DSC loading activities remains essentially unchanged from the normal MP2 fuel handling process. The spent fuel cooling function is not adversely affected by the fuel load activities. On February 15, 2005, Dominion Nuclear Connecticut, Inc. received approval for a limited exemption from the requirements of 10 CFR 50.68 for criticality control measures with fuel loaded in DSCs in the SFP. Commitments made in support of the exemption request ensured consistent boron concentration in the cask laydown area.

Operation of the Millstone ISFSI for storing MP2 fuel cannot involve a change that adversely affects a MP2 FSAR described design function; adversely affects how these design functions are performed or controlled; utilizes a revised or alternate evaluation methodology than that used in establishing design bases or used in the safety analysis; constitutes a test or experiment not described in the MP2 FSAR where a system, structure, or component is utilized or controlled in a manner that is outside the bounds of the design or is inconsistent with analyses or descriptions used in the MP2 FSAR.

Events postulated by the NUHOMS<sup>®</sup> FSAR were outside the scope of this 50.59 evaluation.