December 3, 2004

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

SUBJECT: MILLSTONE POWER STATION UNIT 2 AND UNIT 3 - LICENSE RENEWAL APPLICATION INSPECTION REPORT NOS. 05000336/2004009, 05000423/2004009

Dear Mr. Christian:

On July 30, 2004 the NRC completed the first inspection of your application for license renewal for the Millstone Power Station Units 2 and 3. The enclosed report documents the inspection findings, which were discussed on October 20, 2004, with members of your staff at an exit meeting that was open for public observation at the Waterford Town Hall.

The purpose of this inspection was to examine the plant activities and documents that supported the application for a renewed license of the Millstone Power Station Units 2 and 3. The inspection consisted of an examination of selected procedures, representative records, walkdowns of available areas, and interviews with plant personnel regarding the scoping and screening process used by Dominion staff to select systems, structures, and components subject to an aging management review. For a sample of plant systems, inspectors performed visual examinations of accessible portions of the systems to directly observe system boundaries described in the application for a renewed license.

The inspection team determined that the scoping and screening portion of the license renewal activities were conducted as described in the License Renewal Application and also that the supporting documentation was in an auditable and retrievable form. The inspection results supported a conclusion that the scoping and screening process identified systems, structures, and components that require consideration for aging management with reasonable assurance.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Raymond K. Lorson, Chief
Materials and Structural Engineering Branch
Division of Reactor Safety

Docket Nos: 50-336, 50-423
License Nos: DPR-65, NPF-49

Enclosure: Inspection Report Nos. 05000336/2004009 and 05000423/2004009
w/Attachment: Supplemental Information

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REGION I

Docket Nos:	50-336, 50-423
License Nos:	DPR-65, NPF-49
Report No:	05000336/2004009 and 05000423/2004009
Licensee:	Dominion Nuclear Connecticut, Inc.
Facility:	Millstone Power Station, Unit 2 and Unit 3
Location:	P. O. Box 128 Waterford, CT 06385
Dates:	July 26, 2004 to July 30, 2004
Inspectors:	Michael C. Modes, Senior Reactor Inspector (Team Leader) Paul D. Kaufman, Senior Reactor Inspector Suresh K. Chaudhary, Senior Reactor Inspector Thomas F. Burns, Reactor Inspector Thomas P. Sicola, Reactor Inspector
Approved by:	Raymond K. Lorson, Chief Materials & Structural Engineering Branch Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000336/2004-009, 05000423/2004-009; 07/26/2004-07/30/2004, Millstone Power Station, Unit 2 and Unit 3; Inspection of the scoping and screening methodology used for the Millstone Units 2 and 3 application for a renewed license.

This inspection of License Renewal activities was performed by four regional office engineering inspectors. The inspection program followed was NRC Manual Chapter 2516 and NRC Inspection Procedure 71002. This inspection did not identify any “findings” as defined in NRC Manual Chapter 0612. The inspection results supported a conclusion that the scoping and screening process identified systems, structures, and components that require consideration for aging management with reasonable assurance.

Report Details

4. OTHER ACTIVITIES (OA)

4OA2 Other

a. License Renewal

(1) Inspection Scope

This inspection was conducted by NRC Region I inspectors in order to verify that documentation, procedures, guidance, and personnel, appropriately supported the license renewal application. This inspection reviewed the results of the applicant's process for determining whether plant systems, structures, and components were within the scope of license renewal. The inspection reviewed the results of the applicant's process for screening of systems, structures, and components to identify the systems, structures and components which required evaluation for aging management. The inspection team (Team) selected a sample of plant systems, structures, and components from the license renewal application scoping results to verify the adequacy of the applicant's scoping and screening documentation and implementation activities. For the selected in-scope systems, structures, and components, the associated boundary drawings, and the active or passive and short or long lived determinations of the selected systems, structures, and components were reviewed to confirm the accuracy of the applicant's results. In addition to the in-scope systems and structures, some systems that the applicant had determined not to be in scope for license renewal were selected for inspection. The inspectors reviewed supporting documentation and interviewed applicant personnel to confirm the accuracy of the license renewal application conclusions. For a sample of plant systems and structures, inspectors performed visual examination of accessible portions of the systems to observe the boundaries described in the application.

(2) Findings

Evaluation of Scoping and Screening of Mechanical Systems

Unit 2 Auxiliary Feedwater (AFW) System

The Team reviewed and evaluated the Millstone Units 2 and 3 license renewal application to determine whether the Unit 2 auxiliary feedwater (AFW) system met the requirements for inclusion in the scope of license renewal reflected in the criteria in 10 CFR 54.4 (a)(1), (2), and (3). The Team examined the results of the applicant's screening of the AFW system component designations within the scope of the license renewal application, and whether they were passive, long-lived, and appropriately designated for an aging management review (AMR). Additionally, the Team reviewed system drawings, the Updated Final Safety Analysis Report, and the classification and characterization of components listed for screening to determine whether the requirements of 10 CFR 54.4 were met.

The AFW system is designed to provide a supply of feedwater to the secondary side of the steam generators for reactor coolant system heat removal when the normal feedwater system is unavailable. The AFW system is comprised of two redundant, independent subsystems, each capable of performing safety functional requirements. The AFW system is designed to supply feedwater to the steam generators in order to remove decay heat from the reactor coolant system using secondary heat removal capability during postulated events. The AFW system is also credited for use in safe shutdown following station black-out (SBO) events. The Team reviewed the AFW system functions relative to the scoping criteria of 10 CFR 54.4(a)(1), 10 CFR 54.4(a)(2), and 10 CFR 54.4(a)(3).

The principal components of the AFW system include pumps (two motor-driven and one turbine-driven), support components, and essential piping and valves. The two motor-driven pumps comprise one subsystem are powered from separate emergency buses and each pump has a capacity of 300 gpm to support the decay heat removal function. The turbine driven AFW pump can provide approximately 600 gpm of flow to either or both steam generators for decay heat removal.

On the basis of the review, the Team determined that the AFW system components selected by the applicant were appropriately designated for inclusion within the scope of the license renewal application.

Unit 3 Emergency Diesel Generator (EDG) System

The Team reviewed and evaluated the Millstone Units 2 and 3 license renewal application to determine whether the Unit 3 emergency diesel generator system met the requirements for inclusion in the scope of license renewal reflected in the criteria in 10 CFR 54.4 (a)(1), (2), and (3). The Team examined the results of the applicant's screening of the Unit 3 EDG system component designations within the scope of the license renewal application, and whether they were passive, long-lived, and appropriately designated for AMR. The Team reviewed system drawings, the Updated Final Safety Analysis Report, and the classification and characterization of components listed for screening to determine whether the requirements of 10 CFR 54.4 were met.

The purpose of the Unit 3 EDG system is to provide a dependable on-site alternating current (AC) power source capable of automatically starting and supplying the loads necessary to safely shutdown the plant and maintain it in a safe shutdown condition following a postulated loss of offsite power event. The EDG system is comprised of two identical emergency diesel generators. Each EDG supplies 4160 Vac power to its respective emergency bus. The EDG system includes the starting air subsystem consisting of two separate air starting subsystems, lubricating oil subsystem, cooling water subsystem, and the combustion air intake and exhaust subsystem.

On the basis of the review, the Team determined that the Unit 3 EDG system components selected by the applicant were appropriately designated for inclusion within the scope of the license renewal application.

Unit 3 Safety Injection (SI) System

The Team reviewed and evaluated the Millstone Units 2 and 3 license renewal application to determine whether the Unit 3 safety injection system met the requirements for inclusion in the scope of license renewal reflected in the criteria in 10 CFR 54.4 (a)(1), (2), and (3). The Team examined the results of the applicant's screening of the Unit 3 SI system component designations within the scope of the license renewal application, and whether they were passive, long-lived, and appropriately designated for AMR. Additionally, the Team reviewed system drawings, the Updated Final Safety Analysis Report, and the classification and characterization of components listed for screening to determine whether the requirements of 10 CFR 54.4 were met.

The intended function of the Unit 3 SI system is to provide a source of borated water to the reactor coolant system (RCS) to assist in maintaining the reactor shutdown and to provide a source of inventory in the event of postulated design basis events. This satisfied 10 CFR 54.4 (a)(1) criteria as a safety-related system relied on to remain functional during and following design basis events to ensure the capability to shut down the reactor and maintain it in a safe shutdown condition. Additionally, the system is designed to control reactor core boron precipitation during long term reactor coolant system (RCS) recovery. The SI system also met 10 CFR 54.4 (a)(2) criteria because it contains non safety-related components that are spatially oriented such that their failure could prevent the satisfactory accomplishment of a safety-related function associated with a safety-related system, structure, or component. The SI system also met the 10 CFR 54.4 (a)(3) criteria since it contained environmentally qualified components.

The Unit 3 SI system is comprised of two independent trains and the principle components of the SI system are four accumulator tanks, two safety injection pumps, and essential piping and valves. Core cooling following a postulated loss-of-coolant accident (LOCA) or main steam line break is provided by the SI system by injecting water from the reactor water storage tank (RWST) into the reactor coolant system. The nitrogen pre-charged safety injection accumulators are passive devices that discharge through check valves into the reactor coolant system during large break LOCA events. When the RWST empties, the safety injection pump suction is transferred to the containment recirculation pump discharge to provide RCS inventory during the re-circulation phase of the accident.

The Team determined that the Unit 3 SI system components selected by the applicant were appropriately designated for inclusion within the scope of the license renewal application.

Main Steam (MS) System

The Team reviewed and evaluated the Millstone Units 2 and 3 license renewal application to determine whether the Main Steam (MS) system met the requirements for inclusion in the scope of license renewal reflected in the criteria in 10 CFR 50.4 (a) (1), (2), and (3). The Team examined the results of the applicant's screening on the MS system component designations within the scope of the license renewal application, and

whether they were passive, long-lived, and appropriately designated for aging management review. The Team reviewed system drawings, the Updated Final Safety Analysis Report, and the classification and characterization of components to determine whether the requirements of 10 CFR 54.4 were met.

The MS system is designed to transport steam from the steam generators to the turbine-generator. The system also provides a means of controlled heat release from the nuclear steam supply system during periods of station electrical load rejection or when the condenser is not available. The MS system provides a supply of steam to the steam-driven auxiliary feedwater pump turbine under design-basis accident conditions. The MS system also prevents uncontrolled blow-down of more than one steam generator following a main steam line break, limits the maximum steam flow rate from a faulted steam generator, and provides steam generator insolation.

The principle components of the MS system include essential piping, valves and support components. The MS system is comprised of two independent trains. The MS system provides a steam flow path to remove heat from the RCS, over-pressure protection for the steam generators, steam to the steam generator auxiliary feedwater pump turbine, isolation at system interfaces, containment pressure boundary integrity, and contains Regulatory Guide 1.97 instrumentation.

The Team determined that the MS system components selected by the applicant were appropriately designated for inclusion within the scope of the license renewal application.

Chemical and Volume Control System

The Team reviewed and evaluated the Millstone Units 2 and 3 license renewal application to determine whether the Chemical and Volume Control (CVCS) system met the requirements for inclusion in the scope of license renewal reflected in the criteria in 10 CFR 50.4 (a) (1), (2), and (3). The Team examined the results of the applicant's screening of the CVCS system component designations within the scope of the license renewal application, and whether they were passive, long-lived, and appropriately designated for AMR. The Team reviewed system drawings, the Updated Final Safety Analysis Report, and the classification and characterization of components to determine whether the requirements of 10 CFR 54.4 were met.

The CVCS system is designed to provide a method for controlling the inventory and chemistry of the reactor coolant system. The system also provides the capability to adjust reactor coolant soluble boron concentration levels in order to effect reactivity changes within the reactor core. During emergency conditions, the CVCS system provides a high-pressure source of borated water injection to the reactor coolant system. During accident and post-accident conditions, the CVCS system provides a borated water flow-path to the reactor coolant system for reactivity control and inventory make-up. The system also provides a reactor coolant system pressure boundary at system interfaces; Regulatory Guide 1.97 indications; and containment penetration pressure boundary integrity. The CVCS system contains nonsafety-related components

credited for mitigating the effects of a high-energy line break and nonsafety-related components spatially oriented such that a failure could prevent the satisfactory accomplishment of a safety-related function of a safety-related Systems, structures, and components.

The principle components of the CVCS system include pumps, support components, and essential piping and valves. The CVCS system incorporates component redundancy as well as operational redundancy. On safety injection actuation signal, the charging pumps function to inject concentrated boric acid into the RCS.

On the basis of the Team's review, the CVCS system components selected by the applicant were appropriately designated for inclusion within the scope of the license renewal application.

Feedwater System

The Team reviewed and evaluated the Millstone Units 2 and 3 license renewal application to determine whether the feedwater (FW) system met the requirements for inclusion in the scope of license renewal reflected in the criteria in 10 CFR 54.4 (a)(1), (2), and (3). The Team examined the results of the applicant's screening of the FW system designations within the scope of the license renewal application, and whether they were passive, long-lived, and appropriately designated for aging management review. The Team reviewed system drawings, the Updated Final Safety Analysis Report, and the classification and characterization of components to determine whether the requirements of 10 CFR 54.4 were met.

The FW system is designed to supply condensate-quality water to the secondary-side of the steam generators to support heat removal from the reactor coolant system. A portion of the system provides the flowpath for auxiliary feedwater flow to the steam generators. The FW system also provides containment pressure boundary integrity, and Regulatory Guide 1.97 instrumentation. The FW provides isolation of feed flow in the response to a main steam line break and the system contains non safety-related components that are spatially oriented such that their failure could prevent the satisfactory accomplishment of a safety-related function associated with a safety-related systems, structures, and components. The system also contains nonsafety-related components credited with mitigating the effects of a high-energy line break.

The principle components of the FW system include pumps, support components, and essential piping and valves in the flowpath to the steam generators. The FW system is comprised of two independent trains. The condensate and feedwater systems are designed to provide feedwater to the steam generators during steady-state operation at maximum turbine load. During accident conditions, the feedwater system is isolated from the steam generators.

On the basis of the Team's review, the FW system components selected by the applicant were appropriately designated for inclusion within the scope of the license renewal application.

Residual Heat Removal (RHR)

The Team reviewed and evaluated the Millstone Units 2 and 3 license renewal application to determine whether the Residual Heat Removal (RHR) system met the requirements for inclusion in the scope of license renewal reflected in the criteria in 10 CFR 50.4 (a)(1), (2), and (3). The Team examined the results of the applicant's screening of the RHR component designations within the scope of the license renewal application, and whether they were passive, long-lived, and appropriately designated for aging management review. The Team reviewed system drawings, the Updated Final Safety Analysis Report, and the classification and characterization of components to determine whether the requirements of 10 CFR 54.4 were met.

The RHR system is designed to transfer heat from the reactor coolant system to the component cooling system to reduce and maintain the temperature of the RCS during shutdown conditions. Portions of the RHR system also provide an emergency core cooling system function during the injection phase of a loss of coolant accident. The principle components of the RHR system include pumps, support components, and essential piping and valves. The RHR system is comprised of two independent trains. .

On the basis of the Team's review, the RHR system components selected by the applicant were appropriately designated for inclusion within the scope of the license renewal application.

Evaluation of Scoping and Screening of Electrical Systems

4160-Volt System

The Team reviewed and evaluated the Millstone Units 2 and 3 license renewal application to determine whether the 4160-Volt system met the requirements for inclusion in the scope of license renewal reflected in the criteria in 10 CFR 54.4 (a)(1), (2), and (3). The Team examined the results of the applicant's screening of the 4160-Volt system component designations within the scope of the license renewal application, and whether they were passive, long-lived, and appropriately designated for aging management review. The Team reviewed system drawings, the Updated Final Safety Analysis Report, and the classification and characterization of components to determine whether the requirements of 10 CFR 54.4 were met.

The 4160-Volt system is designed to distribute power to the 480-Volt AC systems, auxiliary loads less than 6.9 kV, and motors greater than 250 hp. During accident and post-accident conditions, the 4160-Volt system can be supplied via normal offsite power, emergency diesel generators, or the alternate unit via a reserve transformer. The principal components of the 4160 Volt system include cables, transformers, switchgear assemblies, load distribution centers, and cable ways. The 4160-Volt switchgear for buses 24A (A1) through 24E (A5) and Unit 3 buses 34A and 34B consist of indoor, freestanding, metal clad units containing vertical lift air circuit breakers and necessary auxiliaries; all located within a Class I structure. Bus section 24G (A7) is similar, except it is installed for outdoor service. Overcurrent and motor overload protection is provided by an overcurrent relay with instantaneous attachment, and a ground fault sensor relay on each feeder breaker.

On the basis of the Team's review, the 4160-Volt system components selected by the applicant were appropriately designated for inclusion within the scope of the license renewal application.

480V Alternating Current (AC) Motor Control Centers

The Team reviewed and evaluated the Millstone Units 2 and 3 license renewal application to determine whether the 480V AC motor control centers met the requirements for inclusion in the scope of license renewal reflected in the criteria in 10 CFR 54.4 (a)(1), (2), and (3). The Team examined the results of the applicant's screening of the 480 Volt motor control center system component designations within the scope of the license renewal application, and whether they were passive, long-lived, and appropriately designated for aging management review. The Team reviewed system drawings, the Updated Final Safety Analysis Report, and the classification and characterization of components to determine whether the requirements of 10 CFR 54.4 were met.

The 480 AC volt system provides power for unit auxiliary loads below 250 horsepower. Those auxiliaries required for a safe shutdown of the unit or for maintaining it in hot standby condition are served by emergency load centers and emergency motor control centers. These emergency 480V AC sources feed battery chargers for the DC system and regulating transformers for 120-volt AC instrumentation.

The motor control centers are free standing structures with drip proof indoor enclosures containing combination starters, molded case circuit breakers, individual starter control transformers, and associated relays and fuses. Two emergency control centers are encapsulated in environmentally controlled enclosures due to their location in areas which could be subject to a steam environment resulting from a high-energy line break.

On the basis of the Team's review, the 480V AC motor control centers selected by the applicant were appropriately designated for inclusion within the scope of the license renewal application.

120V AC System

The Team reviewed and evaluated the Millstone Units 2 and 3 license renewal application to determine whether the 120V AC system met the requirements for inclusion in the scope of license renewal reflected in the criteria in 10 CFR 54.4 (a)(1), (2), and (3). The Team examined the results of the applicant's screening of the 120-Volt AC system component designations within the scope of the license renewal application, and whether they were passive, long-lived, and appropriately designated for aging management review. The Team reviewed system drawings, the Updated Final Safety Analysis Report, and the classification and characterization of components to determine whether the requirements of 10 CFR 54.4 were met.

The 120V AC supplies instrument power for reactor protection, engineered safety features and vital instrumentation by way of four physically isolated and electrically

independent vital instrument panels. This special 120V AC power supply consists of two separate and redundant systems composed of four essential buses for vital instrumentation and control, and two regulated buses for non-vital instrumentation and control. Each vital instrument panel is powered by one of four physically isolated inverters. The four vital AC buses are normally supplied from DC/AC static inverters. Two inverters are powered by each of the two redundant batteries. The 120V regulated AC instrument panel boards supply the non-vital instrumentation requirements.

On the basis of the Team's review, the 120-Volt AC system components selected by the applicant were appropriately designated for inclusion within the scope of the license renewal application.

Plant Process Computer

The Team reviewed and evaluated the Millstone Units 2 and 3 license renewal application to determine whether the Plant Process Computer system met the requirements for inclusion in the scope of license renewal reflected in the criteria in 10 CFR 54.4 (a)(1), (2), and (3). The Team reviewed the Updated Final Safety Analysis Report, and the classification and characterization of components to determine whether the requirements of 10 CFR 54.4 were met.

The plant process computer system is designed to take plant parameters and alarm inputs and display these inputs both on computer monitors for operator observation and on printed records. The system neither controls nor affects any safety or safety-related functions but rather serves as a record keeping device and operator aid.

On the basis of the Team's review, the plant process computer system was appropriately designated as not in the scope of the license renewal application. The Team examined the results of the applicant's screening of the system as outside the scope of the license renewal application, and appropriately not designated for aging management review.

Solid State Relays

The Team reviewed and evaluated the Millstone Units 2 and 3 license renewal application to determine whether the solid state relays met the requirements for inclusion in the scope of license renewal reflected in the criteria in 10 CFR 54.4 (a)(1), (2), and (3). The Team examined the results of the applicant's screening of the SSR system component designations within the scope of the license renewal application, and whether they were passive, long-lived, and appropriately designated for AMR. The Team reviewed system drawings, the Updated Final Safety Analysis Report, and the classification and characterization of components to determine whether the requirements of 10 CFR 54.4 were met.

The solid state relays provide for very high speed on/off switching times to control the operation of electrical components. The input control voltage is magnetically coupled to the output switch to provide maximum isolation. Additionally, the relay has no moving parts, thereby eliminating the bounce and burning of contacts normally associated with mechanical relays.

The principal components of the solid state relays system include the relays and cabinets. The solid state relays provide complete isolation between the input and output terminals. The input can be driven by an AC or DC voltage and the drive current required is extremely small, making the solid state relay an ideal control module for low power devices. A typical application would be an AC or DC load which requires a microprocessor to control the on and off states.

On the basis of the Team's review, the solid state relays selected by the applicant were appropriately designated for inclusion within the scope of the license renewal application.

Evaluation of Scoping and Screening of Structures

Unit 2 Station Black-Out (SBO) Diesel Generator and Fuel Oil Tank Vault System

The Team reviewed and evaluated the Millstone Units 2 and 3 license renewal application to determine whether the SBO EDG enclosure and fuel oil tank vault system met the requirements for inclusion in the scope of license renewal reflected in the criteria in 10 CFR 54,4 (a)(1), (2), and (3). The Team examined the results of the applicant's screening of the system component designations within the scope of the license renewal application, and whether they were passive, long-lived, and appropriately designated for aging management review. The Team reviewed system drawings, the Updated Final Safety Analysis Report, and the classification and characterization of components to determine whether the requirements of 10 CFR 54.4 were met.

The SBO EDG enclosure and the fuel oil tank vault is a shared structure that provides intended functions for both Millstone Unit 2 and Millstone Unit 3. The SBO EDG enclosure includes the SBO diesel generator switchgear enclosure, the concrete pad that supports the SBO diesel generator exhaust, and a separate building that provides support and shelter for the SBO diesel. The SBO diesel generator is located in a structure constructed of aluminum siding supported on aluminum framing, with an aluminum ceiling. The floor has steel framing and plating that rests on a concrete mat foundation. The associated SBO diesel generator switchgear enclosure has a concrete mat slab with a floor constructed of steel framing and plating, resting on the concrete mat foundation. The switchgear enclosure's siding and ceiling are constructed of aluminum siding, supported on aluminum framing.

The fuel oil tank vault is constructed of reinforced concrete floor and walls and has a metal ceiling. The principal components of the SBO diesel generator system include pumps, support structures, components, and essential piping and valves.

On the basis of the Team's review, the SBO diesel generator and Fuel Oil vault system structures selected by the applicant were appropriately designated for inclusion within the scope of the license renewal application.

Unit 2 Containment Structures

The Team reviewed and evaluated the Millstone Units 2 and 3 license renewal application to determine whether the containment system met the requirements for inclusion in the scope of license renewal reflected in the criteria in 10 CFR 54.4 (a)(1), (2), and (3). The Team examined the results of the applicant's screening of the containment system component designations within the scope of the license renewal application, and whether they were passive, long-lived, and appropriately designated for aging management review. The Team reviewed system drawings, the Updated Final Safety Analysis Report, and the classification and characterization of components to determine whether the requirements of 10 CFR 54.4 were met.

The containment system is designed to maintain and isolate radiation and maintain a secondary pressure boundary in case of an analyzed accident. The evaluation boundary of the containment consisted of the containment structure, including the liner and internal structural members, and containment penetrations (equipment access and personnel lock openings, piping penetrations, electrical penetrations, and the fuel transfer tube assembly). The neutron shield tank, refueling cavity liner and reactor cavity seal ring were also included in the containment evaluation boundary.

Steel liners are attached to the inside of the containment cylindrical wall, dome, and to the top of the foundation mat. The liner attachments to the concrete are Nelson anchors, cast in the containment concrete as the concrete was poured against the liner. Individual liner plates are connected by full penetration welds to form a leak-tight barrier. With the exception of the containment spray piping supports, steel insert plates are provided to transmit the load through the liner at each location where loads are transferred to the walls, slabs, or dome of the containment, so that the containment liner plate sees negligible stress due to the applied load. The liner of the mat foundation is covered with a reinforced concrete slab to protect the liner from potential interior missiles. A moisture barrier is provided around the interface between the containment cylindrical wall liner and the top of the concrete slab.

A maintenance truss is provided in the containment for use in the maintenance of containment spray piping and ease of inspection of the interior of the dome liner plate. The truss rests on the polar crane runway rail.

On the basis of the Team's review, the containment system components selected by the applicant were appropriately designated for inclusion within the scope of the license renewal application.

Unit 2 Refueling Water Storage Tank (RWST) Foundation

The Team reviewed and evaluated the Millstone Units 2 and 3 license renewal application to determine whether the RWST foundation system met the requirements for inclusion in the scope of license renewal reflected in the criteria in 10 CFR 54.4 (a)(1), (2), and (3). The Team examined the results of the applicant's screening of the RWST foundation system component designations within the scope of the license renewal application, and whether they were passive, long-lived, and appropriately designated for aging management review. The Team reviewed system drawings, the Updated Final

Safety Analysis Report, and the classification and characterization of components to determine whether the requirements of 10 CFR 54.4 were met.

The Unit 2 refueling water storage tank is a 450,000 gallon tank supported on a reinforced concrete mat foundation that is resting on compacted structural backfill. The Unit 2 RWST foundation is in the scope of license renewal and meets 10CFR54.4(a)(1) because it is a Class I structure. The foundation for the tank is designed to support the RWST during operations, accident, and post-accident conditions. The principal components of the RWST system include the tank, support structure (mat), and essential piping and valves.

On the basis of the Team's review, the RWST system structures selected by the applicant were appropriately designated for inclusion within the scope of the license renewal application.

Unit 3 Sea Wall

The Team reviewed and evaluated the Millstone Units 2 and 3 license renewal application to determine whether the sea wall system met the requirements for inclusion in the scope of license renewal reflected in the criteria in 10 CFR 54,4 (a)(1), (2), and (3). The Team examined the results of the applicant's screening of the seawall system component designations within the scope of the license renewal application, and whether they were passive, long-lived, and appropriately designated for an aging management review. The Team reviewed system drawings, the Updated Final Safety Analysis Report, and the classification and characterization of components to determine whether the requirements of 10 CFR 54.4 were met.

The sea wall system is designed to protect the structures, and maintain the integrity of the Unit 2 circulating water and service water pump house during operations, accident, and post-accident conditions. The Unit 3 circulating and service water pump house is protected from wave action by a reinforced concrete sea wall. The principal components of the sea wall system include reinforced concrete walls with post-tensioned rock anchors consisting of steel tendons. The wall is supported by a reinforced concrete footing, which is founded upon concrete fill and rock. The top of the wall is approximately 14 ft. above mean sea level.

On the basis of the Team's review, the sea wall system components selected by the applicant were appropriately designated for inclusion within the scope of the license renewal application.

Unit 3 Circulating Water System, Quarry Discharge Area

The Team reviewed and evaluated the Millstone Unit 3 license renewal application to determine whether the quarry discharge system met the requirements for inclusion in the scope of license renewal reflected in the criteria in 10 CFR 54,4 (a)(1), (2), and (3). The Team examined the results of the applicant's screening of the system component designations within the scope of the license renewal application, and whether they were passive, long-lived, and appropriately designated for aging management review. The Team reviewed system drawings, the Updated Final Safety Analysis Report, and the

classification and characterization of components to determine whether the requirements of 10 CFR 54.4 were met.

The system is designed to maintain flow through the main condenser of the turbine during plant operations, accident, and post-accident conditions. The principal components of the system include six motor-driven, mixed flow, vertical, wet pit circulating water pumps each with a design flow of 152,000 gpm and a total dynamic head of 27 feet. The circulating water flows from the pumps to the condenser through six independent inlet pipe lines. The circulating water discharges from the condenser though six independent outlet pipe lines into a common concrete circulating water discharge tunnel which runs to a seal pit at the quarry. From the quarry, the water passes through a channel into Long Island Sound.

On the basis of the Team's review, the quarry discharge area of the circulating water system selected by the applicant was appropriately designated for non-inclusion within the scope of the license renewal application.

Unit 2 and 3 Primary Grade Water Pump House

The Team reviewed and evaluated the Millstone Units 2 and 3 license renewal application to determine whether the primary grade water pump house met the requirements for inclusion in the scope of license renewal reflected in the criteria in 10 CFR 54.4 (a)(1), (2), and (3). The Team examined the results of the applicant's screening of the system component designations within the scope of the license renewal application, and whether they were passive, long-lived, and appropriately designated for AMR. The Team reviewed system drawings, the Updated Final Safety Analysis Report, and the classification and characterization of components to determine whether the requirements of 10 CFR 54.4 were met.

The primary grade water pump house system is designed to maintain the integrity of the system components such as pumps, valves, and associated piping during accident and post-accident conditions.

On the basis of the Team's review, the primary water pump house system components selected by the applicant were appropriately designated for non-inclusion within the scope of the license renewal application.

(3) Conclusions

The inspection results supported a conclusion that the scoping and screening process identified systems, structures, and components that require consideration for aging management with reasonable assurance.

4OA6 Meetings, including Exit

The Team presented the inspection results to Mr. J. Alan Price and other members of licensee management on October 20, 2004. Licensee management stated that none of the information reviewed by the inspectors was considered proprietary.

ATTACHMENT

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

Stephen E. Scace	Director of Nuclear Safety & Licensing, Millstone
Arnold (Skip) J. Jordan, Jr.	Director of Engineering, Millstone
William R. Watson, Jr.	Millstone Site License Renewal Supervisor
Paul C. Aitken	Dominion IPA License Renewal Supervisor

NRC Personnel

Wayne D. Lanning	Director, Division of Reactor Safety, Region I
Diane P. Screnci	Senior Public Affairs Officer, Region I
Johnny H. Eads	Project Manager, License Renewal and Environmental Impacts

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened/Closed

None

LIST OF ACRONYMS USED

AC	alternating current
AFW	Auxiliary Feedwater
AMR	Aging Management Review
CVCS	Chemical and Volume Control
DC	direct current
EDG	Emergency Diesel Generator
FW	Feedwater
LOCA	loss-of-coolant accident
MS	Main Steam
MSLB	main steam line break
RCS	reactor coolant system
RHS	Residual Heat Removal
RWST	reactor water storage tank
SBO	Station Black-Out
SI	Safety Injection