UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

August 19, 2005

Docket No. 50-245 License No. DPR-21

Mr. J. Alan Price, Site Vice President-
Millstone
c/o Mr. D. W. Dobson, Supervisor-
Station Nuclear Licensing
Dominion Nuclear Connecticut, Inc.
Rope Ferry Road
Waterford, CT 06385

SUBJECT: INSPECTION 05000245/2005013, DOMINION NUCLEAR CONNECTICUT, INC., MILLSTONE POWER STATION UNIT 1, WATERFORD, CONNECTICUT

Dear Mr. Price:

On June 29, 2005, the NRC completed an inspection of your Millstone Unit 1 nuclear reactor facility at Waterford, Connecticut. The findings of the inspection were discussed with Mr. Stephen Scace and other members of your staff on June 29, 2005. The enclosed report presents the results of that inspection.

Your spent fuel pool safety, corrective action program, maintenance and surveillance activities, radiation protection, and design modification programs were inspected during this inspection period. The inspection consisted of selected examinations of procedures and representative records, interviews with personnel, and observations by the inspector. The programs were implemented in a safe manner. Within the scope of this inspection no violations were identified.

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Sincerely,

/RA/

Marie Miller, Chief
Decommissioning Branch

Enclosure:
Inspection Report No. 05000245/2005013

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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No.	05000245/2005013
Docket No.	05000245
License No.	DPR-21
Licensee:	Dominion Nuclear Connecticut, Inc.
Location:	Millstone Power Station, Unit 1 Rope Ferry Road Waterford, CT 06385
Inspection Dates:	June 27-29, 2005
Inspector:	Robert Prince, Health Physicist
Approved by:	Marie Miller, Chief Decommissioning Branch Division of Nuclear Material Safety

EXECUTIVE SUMMARY

Dominion Nuclear Connecticut, Inc.
NRC Inspection Report No. 05000245/2005013

This inspection included aspects of licensee operations and plant support activities associated with the maintenance of Unit 1 while in SAFSTOR status. The report covers announced inspections by regional inspectors. No violations were identified.

Operations and Decommissioning

The licensee maintained an effective spent fuel pool safety program. Equipment important for the safe storage of spent fuel was adequately maintained. Equipment operational parameters important to the safe storage of spent fuel were monitored in accordance with approved procedures.

The licensee adequately implemented a design modification in accordance with design specifications to facilitate the draining of the decay heat removal system. Appropriate administrative controls have been established to preclude unnecessary personnel exposures while long term corrective actions to address a potential radiation exposure concern in the vicinity of the outer spent fuel pool gate are evaluated and corrective measures implemented.

The licensee effectively utilized the established corrective action program to self-identify and address issues to maintain the safe storage of Unit 1 spent fuel. The threshold for identifying issues important for the safe storage of spent fuel was adequate.

Maintenance and Surveillance

The licensee has maintained systems and components in an operable and reliable status. Work control processes are utilized to ensure timely and effective repairs of equipment important in maintaining the safe storage of spent fuel and returning equipment to operable status. The procurement of a standby diesel generator and the ongoing development of a preventative maintenance program are effective measures in improving and maintaining the long-term reliability of Unit 1 components and systems.

Occupational Exposure Controls

The licensee provided adequate controls to limit exposures of workers to external sources of radiation. Posting and labeling of radioactive materials and radiation areas continues to meet regulatory requirements. Radiological controls and dose estimates associated with the handling and movement of a radioactive waste material container were adequate and dose control measures were implemented to achieve dose goals.

REPORT DETAILS

I. Operations and Decommissioning Status

1.1 Spent Fuel Pool Safety

a. Inspection Scope (60801)

The inspector reviewed the condition and operational status of equipment and components important to the safe storage of spent fuel. The inspection consisted of tours of plant areas, visual observation of plant equipment, reviews of licensee procedures and surveillance records, and interviews with cognizant personnel.

b. Observations

The inspector reviewed selected records of Operator logs for the period April through June of 2005, associated with Unit 1 systems and components important to the safe storage of spent fuel. The inspector discussed the recording and evaluation of monitoring data with a Plant Equipment Operator (PEO). The individual was knowledgeable of the safety significance of various parameters recorded during the performance of Unit 1 PEO rounds. A Unit 1 Certified Fuel Handler demonstrated the ability to display key system parameters from a computerized data base that may be utilized to monitor trends of various operational parameters recorded during PEO rounds. The inspector noted that equipment operational parameters were maintained within expected and normal ranges with no operational concerns identified. The inspector toured the facility and verified that components and equipment important to the safe storage of spent fuel were operable and adequately maintained. Material condition of plant equipment and building areas was adequate. No safety concerns were identified.

c. Conclusions

The licensee maintained an effective spent fuel pool (SFP) safety program. Equipment important for the safe storage of spent fuel was adequately maintained. Equipment operational parameters important to the safe storage of spent fuel were monitored in accordance with approved procedures.

1.2 Safety Reviews, Design Changes, and Modifications

a. Inspection Scope (37801)

A review was performed to evaluate the licensee's safety review program and if design changes, tests, and modifications were conducted in accordance with regulatory requirements.

b. Observations and Findings

Unit 1 is currently maintained in a SAFSTOR configuration with no ongoing modification work. The licensee had previously completed the installation of drain line connections to minimize the time required to drain the decay heat removal (DHR) system during cold weather periods in the event of an extended loss of offsite power incident. The inspector observed that the field modifications were appropriately completed and are adequate to serve their intended function.

The licensee had previously identified the need to provide additional shielding in the refueling canal in the event that spent fuel assemblies were to be stored in close proximity to the inner SFP gate. The inspector discussed the controls currently in place to prevent the inadvertent movement of spent fuel assemblies to storage locations that could potentially produce high radiation levels outside the SFP gates. The licensee has posted a warning tag on the breaker to the bridge crane utilized to move spent fuel, cognizant organizations have been informed of the restrictions associated with the storage of spent fuel, and access to the SFP area is governed by specific Radiation Work Permits with appropriate controls specified. The inspector noted that the licensee plans to conduct required testing of the SFP racks in the summer of 2006 that may require the placement of spent fuel in close proximity to the SFP inner gate. The inspector noted that the licensee is tracking the resolution of this issue utilizing the corrective action program.

c. Conclusions

The licensee adequately implemented a design modification in accordance with design specifications to facilitate the draining of the DHR system. Appropriate administrative controls have been established to preclude unnecessary personnel exposures while long term corrective actions to address a potential radiation exposure concern in the vicinity of the outer SFP gate are evaluated and corrective measures implemented.

1.3 Self Assessment, Auditing, and Corrective Action Program

a. Inspection Scope (40801)

A review was performed to evaluate the effectiveness of licensee controls in identifying, resolving, and preventing issues that degrade safety or the quality of decommissioning activities. The inspector evaluated the licensees corrective action program through a review of condition reports (CRs) associated with Unit 1 activities.

b. Observations

The inspector discussed Unit 1 audit activities with the Quality Control (QC) Supervisor. QC personnel routinely review various plant data and CRs to identify possible candidate areas for surveillance as necessary. A recent QC surveillance identified material condition concerns with a trailer that was onsite for use in transporting radioactive materials. Based on results of this surveillance the trailer was rejected for use.

CRs for the period from January 1 to June 29, 2005, were reviewed for safety-related issues and for the identification of any adverse trends or generic concerns. The threshold for identification of issues was adequate. Selected CRs were reviewed to evaluate the licensees effectiveness in identifying appropriate corrective actions and the implementation of associated corrective actions. The inspector discussed the tracking, current status, and closure of selected corrective actions with cognizant personnel.

The inspector reviewed CR-05-02698 associated with the Unit 1 SFP island ventilation supply fan preheater causing grounds. The cause of the ground was attributed to rain water and moisture entering the ventilation header and grounding the preheater. A design modification to

address the issue was approved and scheduled for implementation. The status of several other CRs were discussed with cognizant personnel. The inspector noted that adequate corrective actions were established to address identified issues and that corrective actions were being tracked to closure utilizing established processes. No safety concerns were identified.

c. Conclusions

The licensee effectively utilized the established corrective action program to self-identify and address issues to maintain the safe storage of Unit 1 spent fuel. The threshold for identifying issues important for the safe storage of spent fuel was adequate.

2.0 **Maintenance and Surveillance**

a. Inspection Scope (62801)

The inspector reviewed licensee programs associated with the maintenance of plant systems and components. The inspection consisted of interviews with cognizant personnel, review of documentation and field observations.

b. Observations

The inspector discussed the status, reliability and operational history of Unit 1 components with cognizant personnel. The inspector toured plant areas and noted that systems and components were operable and available for service. The inspector noted that one train of spent fuel pool cooling was unavailable with the breaker tagged out for maintenance. A recent disturbance in the line (Flanders Line) providing offsite power to Unit 1 resulted in the tripping of the operable SFP cooling pump. Efforts to restore the pump to an operable condition were unsuccessful when a breaker would not reset. The standby SFP cooling pump was placed into service. Work activities to restore the second SFP cooling pump were performed in a timely manner using established work control processes. The inspector noted that appropriate resources and priority was placed on restoring to service a component important for maintaining the safe storage of Unit 1 spent fuel.

The licensee is developing a preventative maintenance (PM) program for Unit 1 equipment to ensure the reliability of equipment and components important to the safe storage of spent fuel. The licensee has established a number of PM work packages. The inspector reviewed selected PM packages and noted that they contained adequate information to ensure that key maintenance activities were incorporated into work activities. Completed PM packages included such items as the SFP cooling pumps and motors, DHR pumps and motors, ventilation supply fan motors and the standby diesel generator (DG).

The licensee has initiated an effort to monitor the reliability of the Flanders Line which provides offsite power to Unit 1. Lost of the Flanders Line has not resulted in any safety issues related to the storage of Unit 1 spent fuel. However, the licensee has experienced loss of this line, for various time periods, on a number of occasions over the last couple of years. Loss of power from the Flanders Line has resulted primarily from events originating offsite and not under the direct control of the licensee. The objective of the monitoring program is to identify the offsite causes that are contributing to the unavailability of the Flanders Line and identify corrective

actions to improve the long-term reliability of this line. The inspector noted that the licensee had recently purchased the standby DG that was previously procured under a lease arrangement. The standby DG can be used to provide power to Unit 1 equipment and systems in the event that offsite power is unavailable for an extended period. The inspector noted that purchase of the DG provides additional defense-in-depth relating to the licensees' ability to maintain a reliable back-up power source for Unit 1 equipment.

c. Conclusions

The licensee has maintained systems and components in an operable and reliable status. Work control processes are utilized to ensure timely and effective repairs of equipment important in maintaining the safe storage of spent fuel and returning equipment to operable status. The procurement of a standby diesel generator and the ongoing development of a preventative maintenance program are effective measures in improving and maintaining the long-term reliability of Unit 1 components and systems.

3.0 **Occupational Exposure Controls**

a. Inspection Scope (83750)

The inspector reviewed the licensee's program to determine the capability to monitor and control radiation exposure to employees and to determine adequacy of the licensee's radiation protection program. The inspection consisted of interviews with cognizant personnel, review of radiological survey records, and inspection of radiological postings.

b. Observations

A 2005 exposure goal of 3600 mrem was established for Unit 1 activities. This figure included dose estimates for removal of commodities and other activities that have not been undertaken. The majority of the annual dose to date is associated with routine plant monitoring and surveillance activities. The inspector noted that the Unit 1 dose total was 426 mrem as of June 27, 2005. Exposure results were discussed with cognizant personnel. The inspector noted that appropriate radiological safety measures were implemented to minimize personnel exposures.

The inspector reviewed the as low as reasonably achievable (ALARA) packages and dose summaries for selected Unit 1 activities. The licensee prepared and disposed of a waste container containing spent resins utilized during cleanup and processing of reactor cavity water. This project represented the most significant exposure task conducted in 2005. The licensee developed a dose estimate of 125 mrem for the task. The handling and preparation of the spent resin waste container was accomplished with a dose of 74 mrem. The radiological controls established for the task were comprehensive and maintained personnel exposures ALARA. The inspector noted that the evolution involved the handling and movement of a container that required high radiation area controls to be maintained during movement of the container. The ALARA package and established radiological controls adequately addressed the need to maintain high radiation area controls while the container was in transit.

The inspector reviewed selected radiological survey records. The inspector observed that areas of the Radiologically Controlled Area (RCA) were appropriately posted and labeled for radioactive material. Radiological postings were readily visible, well maintained and adequately reflected radiological conditions in the posted areas. High radiation areas and Technical Specification locked high radiation areas were properly posted and locked as required. No safety concerns were identified.

c. Conclusions

The licensee provided adequate controls to limit exposures of workers to external sources of radiation. Posting and labeling of radioactive materials and radiation areas continues to meet regulatory requirements. Radiological controls and dose estimates associated with the handling and movement of a radioactive waste material container were adequate and dose control measures were implemented to achieve dose goals.

4.0 **Exit Meeting Summary**

The inspector presented the inspection results to Mr. Steven Scace and members of your staff during an exit meeting on June 29, 2005. The licensee acknowledged the findings presented by the inspector. The licensee did not identify any documents or processes reviewed by the inspectors as proprietary.

PARTIAL LIST OF PERSONS CONTACTED

Licensee
Jeff Beebe, Unit 2, Unit Supervisor
Dave Decat, Site Services
*Don Delcore, Health Physics Supervisor
*David Dvorak, Unit 1 Site Services
Steve Heard, Supervisor, Nuclear Oversight
*W. Hoffer, Operations
Richard Kennedy, Unit 1, Certified Fuel Handler
Bob King, ALARA Engineer
*B. Krauth, Senior Analyst, Licensing
*J. Eric Lane, Manager, Radiation Protection and Chemistry
Jack Lemke, Unit 1, Preventive Maintenance Coordinator/Planner
*D. Meekhoff, Manager, Nuclear Site Services
Thomas Moriarty, Surveillance Coordinator
*Maria Nappi, ALARA Supervisor
F.T. Perry, ALARA Engineer, Radiation Protection
James Preston
P. Quinlan, Project Engineer, Unit 1 Projects
*Stephen Scace, Director, Nuclear Station Safety and Licensing
*Steven Turowski, Radiation Protection and Chemistry
Jamie Zummo, Unit 2, Radwaste and PEO

* Denotes attendance at the onsite exit meeting held on June 29, 2005.

INSPECTION PROCEDURES USED

40801 Self Assessment and Corrective Action
60801 Spent Fuel Pool Safety at Permanently Shutdown Reactors
62801 Maintenance and Surveillance at PSD Reactors
71801 Decommissioning Performance and Status Reviews at PSD Reactors
83750 Occupational Radiation Exposure

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

LISTS OF ACRONYMS USED

ALARA	As Low As Reasonably Achievable
CR	Condition Report
DG	Diesel Generator
DHR	Decay Heat Removal
PDR	Public Document Room
PEO	Plant Equipment Operator
PM	Preventative Maintenance
PSD	Permanently Shut Down
QC	Quality Control
RCA	Radiologically Controlled Area
SFP	Spent Fuel Pool