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

April 16, 2007

Docket No. 05000245 License No. DPR-21

J. Allan Price
Site Vice President
Millstone Power Station, Unit 1
Dominion Nuclear Connecticut
c/o Mr. D. W. Dobson, Supervisor -
Station Nuclear Licensing
Rope Ferry Road
Waterford, CT 06385

SUBJECT: INSPECTION 05000245/2007006, DOMINION NUCLEAR CONNECTICUT, MILLSTONE POWER STATION UNIT 1, WATERFORD, CONNECTICUT

Dear Mr. Price:

On March 19-21, 2007, Robert Prince of this office conducted an inspection of your Millstone Unit 1 nuclear reactor facility at Waterford, Connecticut. The inspection was an examination of your activities related to the maintenance of Unit 1 in a SAFSTOR status. The inspection consisted of observations by the inspector, interviews with personnel, and a selected examination of representative records. The findings of the inspection were discussed with Mr. Skip Jordan and members of your staff on March 21, 2007.

Within the scope of this inspection, no violations were identified. Activities associated with maintaining Unit 1 in a safe condition to ensure the safe storage of spent fuel were implemented effectively .

In accordance with 10 CFR 2.390 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 of from the Publically Available Records (PARS) component of the 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).

No reply to this letter is required. Your cooperation with us is appreciated.

Sincerely,

/RA/

Samuel Hansell, Chief
Decommissioning Branch
Division of Nuclear Materials Safety

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SUNSI Review Complete: RPrince

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Enclosure:
1. NRC Region I Inspection Report No. 05000245/2007006

cc:
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P. J. Parulis, Manager - Nuclear Oversight
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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No.	05000245/2007006
Docket No.	05000245
License No.	DPR-21
Licensee:	Dominion Nuclear Connecticut
Location:	Millstone Power Station Rope Ferry Road Waterford, CT 06385
Inspection Dates:	March 19-21, 2007
Inspector:	Robert Prince, Health Physicist Decommissioning Branch (DB) Division of Nuclear Materials Safety (DNMS)
Approved By:	Samuel Hansell, Chief DB, DNMS

Enclosure

EXECUTIVE SUMMARY

Dominion Nuclear Connecticut
NRC Inspection Report No. 05000245/2007006

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

Operations and Decommissioning

The licensee maintained an effective spent fuel pool (SFP) safety program. Equipment 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 and maintained within established acceptance criteria. Appropriate actions were being pursued to determine the cause of changing decay hear removal (DHR) system flow rates.

The licensee effectively utilized the established corrective action program to self-identify and resolve issues to maintain the safe storage of Unit 1 spent fuel. Condition Reports (CRs) were appropriately prioritized and implementation of corrective actions tracked in accordance with approved procedures.

Maintenance and Surveillance

The licensee has maintained systems and components in an operable and reliable status. Adequate controls and measures have been established to plan, schedule, and perform Unit 1 work activities. The preventive maintenance (PM) program is effectively utilized to maintain equipment reliability. Data obtained from operator rounds is effectively utilized to plan and schedule maintenance activities.

Occupational Exposure Controls

The licensee provided adequate controls to limit the exposure 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 Unit 1 tasks were effective to achieve dose goals.

REPORT DETAILS

I. Operations and Decommissioning

1. Spent Fuel Pool Safety

a. Inspection Scope (60801 and 71801)

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, review of surveillance records, and interviews with cognizant personnel. The inspector reviewed selected records of Operator logs for the first quarter of 2007, associated with Unit 1 systems and components important to the safe storage of spent fuel.

b. Observations and Findings

The inspector toured the facility and verified that components and equipment important to the safe storage of spent fuel were operable and adequately maintained. Cognizant personnel were knowledgeable of the status of Unit 1 equipment and those components important to maintaining safe status of Unit 1. The inspector visually observed several telltale leak detection stations during the tour and noted there was no indication of active spent fuel pool (SFP) leakage. Material condition of plant equipment and building areas was adequate. No safety concerns were identified.

Personnel responsible for monitoring the performance of Unit 1 system parameters such as SFP temperature and water level, SFP cooling flow rates, and decay heat removal (DHR) system flow rates were knowledgeable of the importance of system parameters and their role in maintaining safe storage of spent fuel. The inspector noted that system and equipment operational parameters were maintained within established acceptance criteria.

The licensee had identified a trend in which the DHR system experienced a decreasing flow rate over a given time period. The DHR system provides cooling to the SFP system. DHR system flow rates decreased from approximately 580 gpm to approximately 540 gpm over a 30-day time period. The low flow alarm setpoint for the DHR system is 433 gpm. In response to the reduced flow, the licensee would adjust a throttle flow control valve in the DHR system, to re-establish higher DHR system flow rates. Cognizant personnel discussed previous actions that had been taken to evaluate the situation. The inspector noted that these actions included the use of external flow indicators to confirm DHR system flow rates and evaluating possible sources of air entrainment that may be present in the DHR system. Ongoing evaluations were directed towards the possibility that air in-leakage or entrainment may be a possible cause of the decreasing flow rates over a period of time. The licensee had identified possible scenarios that could be a cause of the changing flow rates and had developed a trouble shooting plan to further investigate the condition. Cognizant personnel

presented an overview of the trouble shooting plan that essentially involved securing the DHR system, draining and venting the system in an attempt to identify any possible sources of air in leakage. The system would then be refilled and placed back into service and monitored. Licensee personnel stated that a schedule was under development to implement the troubleshooting plan later in the year. The inspector noted that adequate DHR system flow rates were being maintained to provide sufficient cooling to the SFP system. No safety concerns were identified.

c. Conclusions

The licensee maintained an effective SFP safety program. Equipment 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 and maintained within established acceptance criteria. Appropriate actions were being pursued to determine the cause of changing DHR system flow rates.

2. Self Assessment, Auditing, and Corrective Action Program

a. Inspection Scope (40801)

The licensee's program for identifying, resolving, and preventing issues that degrade safety or the quality of decommissioning activities was evaluated. The inspection evaluated the licensee's corrective action program through interviews with cognizant personnel and a review of Unit 1 condition reports (CRs) issued since the last inspection for safety-related issues.

b. Observations and Findings

Selected CRs were reviewed to evaluate the licensees effectiveness in identifying issues that could impact the safe storage of spent fuel 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 noted that the priority for addressing CRs and implementation of corrective actions was adequate and based upon safety significance. Responsible personnel were knowledgeable of the status of corrective actions and had established measures to monitor completion of corrective actions. The inspector noted that the threshold for identification of issues entered into the corrective action program was adequate. No adverse trends or safety concerns were identified.

c. Conclusions

The licensee effectively utilized the established corrective action program to self-identify and resolve issues to maintain the safe storage of Unit 1 spent fuel. CRs were appropriately prioritized and implementation of corrective actions tracked in accordance with approved procedures.

II. Maintenance and Surveillance

a. Inspection Scope

The inspector reviewed licensee programs associated with the maintenance of plant systems and components. The inspection consisted of a review of documentation and field observations. The inspector discussed the status, reliability, and operational history of Unit 1 components with cognizant personnel.

b. Observations and Findings

The inspector toured plant areas and noted that systems and components were operable and available for service. Unit 1 equipment is maintained utilizing established work planning and scheduling processes. The inspector reviewed selected system performance indicator trend data covering a six month period. Performance data reviewed included SFP temperature and level, SFP and DHR system flow rates, and an overview of Unit 1 maintenance activities. The inspector discussed system and component performance with cognizant personnel. Other than the changing DHR system flow rates noted above, no issues or concerns were identified associated with the maintenance of equipment or components.

Work activities are supported by the site's maintenance organizations. The inspector noted that the licensee was evaluating the establishment of a dedicated Unit 1 support organization, that would be responsible for maintaining Unit 1 systems and components.

The licensee has developed a preventative maintenance (PM) program for components and equipment important for maintaining the safe storage of spent fuel. The intent of the PM program is to ensure long-term reliability of Unit 1 systems and to minimize component out of service time. Information obtained during plant equipment operator (PEO) rounds is utilized in evaluating the adequacy of established PM frequencies and the overall effectiveness of the PM program. No issues or concerns were identified associated with the reliability and maintenance of systems or components important to the safe storage of spent fuel.

c. Conclusions

The licensee has maintained systems and components in an operable and reliable status. Adequate controls and measures have been established to plan, schedule, and perform Unit 1 work activities. The PM program is effectively utilized to maintain equipment reliability. Data obtained from operator rounds is effectively utilized to plan and schedule maintenance activities.

III. Occupational Exposure Controls

a. Inspection Scope

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

b. Observations and Findings

Radiological survey maps and related information maintained at the Unit 1 Radiological Control Area (RCA) access point were current. Radiological zone classifications were noted by means of a color coded system that facilitated interpretation of survey data. The inspector noted that the posted survey data was of high quality. The inspector observed that the Unit 1 RCA was appropriately posted and labeled for radioactive material. Radiological postings were readily visible, well maintained, and reflected radiological conditions in posted areas.

During a plant tour the inspector noted that the design modification to modify the existing fuel transfer canal shield blocks had been completed since the time of the last inspection. The shield blocks were subsequently installed in the fuel transfer canal to provide the intended shielding. The completion of this design modification eliminated the need for additional administrative access control measures that had been established to prevent the unauthorized movement of spent fuel assemblies to storage locations immediately adjacent to the inner transfer canal gate.

Cognizant personnel provided a summary of Unit 1 dose totals for 2006. The Unit 1 dose total for 2006 was approximately 600 mrem with the majority of exposure attributable to blackness testing of the Unit 1 spent fuel pool racks. A stretch goal of 425 mrem was established for the blackness testing work activity. Actual dose received for the activity was 312 mrem, 241 mrem of which was received in 2006. The inspector reviewed ALARA Evaluation AE1-06-01, "Unit 1 Blackness Testing and Support Activities." Cognizant personnel presented an overview of the work activity and as low as reasonably achievable (ALARA) measures that were prescribed for the activity. Appropriate exposure control measures were established for the activity.

The inspector noted that appropriate exposure controls were established and methods to track and trend dose performance were commensurate with the radiological significance of the tasks.

c. Conclusions

The licensee provided adequate controls to limit the exposure 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 Unit 1 tasks were effective to achieve dose goals.

IV. Exit Meeting

The inspector presented the inspection results to Mr. Skip Jordan and members of your staff during an exit meeting on March 21, 2007. The licensee acknowledged the findings presented by the inspector. The licensee did not identify any documents or processes reviewed by the inspector as proprietary.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

William Brown, Technical Specialist - Licensing
Allan Cobb, Unit 1 Health Physics
*Don Delcore, Health Physics Supervisor
*David Dvorak, Unit 1 Supervisor of Decommissioning
*A.J. Jordan, Plant Manager - Nuclear
Richard Kennedy, Unit 1 Planning and Scheduling
*Brian Krauth, Technical Specialist - Licensing
*J.E. Laine, Manager - Radiation Protection and Chemistry
*Maria Nappi, ALARA
Frank Perry, ALARA Engineer, Radiation Protection
Gary Sturgeon
*Steven Turowski, Radiation Protection/Chemistry
John Wasglik, Unit 2 Shift Manager

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

LIST OF ACRONYMS USED

ALARA	As Low As Reasonably Achievable
CR	Condition Report
DHR	Decay Heat Removal
GPM	Gallons per minute
PEO	Plant Equipment Operator
PM	Preventative Maintenance
RCA	Radiological Controlled Area
SFP	Spent Fuel Pool