



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
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KING OF PRUSSIA, PA 19406**

November 26, 2002

Mr. K. Heider
Vice President - Operations and Decommissioning
Connecticut Yankee Atomic Power Company
362 Injun Hollow Road
East Hampton, CT 06424-3099

SUBJECT: NRC INTEGRATED INSPECTION REPORT 50-213/02-003

Dear Mr. Heider:

On October 25, 2002, the NRC completed an inspection at the Haddam Neck Plant, which began on July 26, 2002. The findings of the inspection were discussed with Mr. Noah Fetherston, and others by telephone on November 14, 2002. The enclosed report presents the results of that inspection.

Your decommissioning operations relative to spent fuel pool chemistry controls, cold weather preparations, final status survey program, onsite fabrication of spent fuel storage components, and plant support activities including radiation protection and effluent controls, were inspected during this thirteen-week period. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspectors. The spent fuel pool chemistry control program and cold weather operations program were effectively maintained. Security enhancements were timely and effective. Your final status survey program includes a comprehensive and integrated plan for each survey unit. Dry cask storage system components were fabricated and installed per applicable requirements. Plant support activities including external and internal exposure controls, and effluent controls were effective. The radioactive materials control program was generally adequate; however, one violation was identified.

Based on the results of this inspection, the NRC has determined that one Severity Level IV violation of NRC requirements occurred, the failure to control radioactive material in a controlled area and not in storage in accordance with 10 CFR 20.1802. However, because this violation is of low safety significance, was entered into your corrective action program, and effectively corrected, it is being treated as a Non-Cited Violation (NCV), consistent with Section VI.A of the NRC Enforcement Policy. The NCV is described in the subject inspection report. If you contest the violation or severity level of the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-001; with copies to the Regional Administrator, Region I; and the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-001.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Document Room (PDR) and will be accessible from the NRC Web site at <http://www.nrc.gov/reading-rm.html>. No reply to this letter is required.

Sincerely,

Mr. K. Heider

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/RA/

Ronald R. Bellamy, Chief
Decommissioning and Laboratory Branch
Division of Nuclear Material Safety

Docket No. 50-213
License No. DPR-61

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NRC Inspection Report No. 50-213/02-003

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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Docket No.: 50-213

License No.: DPR-61

Report No.: 50-213/02-003

Licensee: Connecticut Yankee Atomic Power Company (CYAPCO)
P. O. Box 270
Hartford, CT 06141-0270

Facility: Haddam Neck Station

Location: Haddam, Connecticut

Dates: July 26, 2002 through October 25, 2002

Inspectors: L. Peluso, Health Physicist, DNMS
J. Wray, Health Physicist, DNMS
S. Chaudhary, Reactor Inspector, DRS
A. Snyder, Health Physicist, NMSS

Approved by: Ronald Bellamy, Chief, Decommissioning and Laboratory Branch (D&LB)
Division of Nuclear Materials Safety (DNMS)

EXECUTIVE SUMMARY

Haddam Neck Station
NRC Inspection Report No. 50-213/02-003

This routine inspection included aspects of licensee activities regarding dismantlement and decommissioning of the facility. The report covers inspections by NRC regional and headquarters personnel, and includes reviews and assessments of spent fuel pool chemistry controls, cold weather preparations, Final Status Survey (FSS) Plan, onsite fabrication of spent fuel storage components, and plant support activities related to radiation protection and effluent controls.

Decommissioning Operations and Spent Fuel Pool Safety

The licensee maintained an effective spent fuel pool (SFP) chemistry control program. Required samples were being taken at the prescribed times and chemistry parameters were being maintained within required limits. Leakage from the SFP was adequately monitored and audits of SFP operations and maintenance activities were conducted.

The licensee had established an adequate cold weather operations program to maintain the operability of systems and equipment important to safety and effectively implemented the program to protect safety-related systems against extreme cold weather.

Timely and effective security enhancements based on the NRC Threat Advisories, Regulatory Issue Summaries, and Interim Safeguards and Security Compensatory Measures Orders, dated August 19, 2002, September 10, 2002, and October 16, 2002, respectively, were implemented.

Decommissioning Status of Facilities and Equipment

The licensee was implementing elements of the FSS Program, while the License Termination Plan (LTP) and FSS Plan continued under NRC review. In general, the licensee demonstrated an understanding of its FSS Program Strategy, as demonstrated by what it has accomplished to date in addressing the planning phase elements and by its plans to finish developing its FSS Program. Some elements of its developing FSS Program need to be improved, such as Data Quality Objectives documentation, while other implementing elements are either in the process of being developed, such as Data Quality Assurance Plan and data assessment procedures, or will be developed in the future, such as procedures for land areas impacted by existing radioactivity in groundwater. Other elements of the FSS Program, such as survey unit identification and classification, and turnover assessment were conducted in accordance with the commitments in the LTP dated October 10, 2002.

Dry cask storage system components were fabricated and installed per applicable requirements. No significant findings or negative observations were noted with regard to the construction of the storage pad.

Plant Support and Radiological Controls

The licensee provided controls to limit and monitor exposures of workers to external sources of radiation and internal uptakes of radioactive materials. The licensee maintained an adequate

program to control and monitor liquid and gaseous releases of radioactive material. The radioactive material control program was generally adequate. However, the failure to control radioactive material in a controlled area and not in storage in accordance with 10 CFR 20.1802 is considered a Non-Cited Violation (NCV) of NRC requirements.

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REPORT DETAILS

Summary of Facility Activities

The plant was maintained in a permanently shutdown condition during this inspection period. The spent fuel remains in storage in the spent fuel pool while the licensee plans for long-term storage of the spent fuel in dry casks onsite. Preparations for dismantlement of the waste tank farm and decontamination of the reactor cavity and transfer canal were in progress. The FSS Program continues to be developed.

I. Decommissioning Operations and Spent Fuel Pool Safety

O1 Conduct of Operations

O1.1 Spent Fuel Pool Chemistry Controls and Routine Surveillances

a. Inspection Scope (60801)

The inspector reviewed the licensee's SFP chemistry program to determine adherence to technical specification (TS) and licensee commitments. Quality Assurance Audits of Spent Fuel Pool Island (SFPI) activities were examined. The inspector also reviewed the licensee's monitoring program for leakage from the SFP.

b. Observations

TS require the boron concentration in the SFP be maintained greater than 800 parts per million. The Technical Response Manual specifies the frequency and limits for chlorides and fluorides which are controlled to reduce the potential for stress corrosion cracking of the spent fuel assemblies. The inspector reviewed with the senior Shift Fuel Handler (SFH) results of chemistry sampling for 2002 to date. All TS required chemistry samples were taken within the prescribed time period and the data indicated that no fuel pool parameter limits were exceeded. No safety concerns were identified.

The inspector reviewed procedures regarding the make-up rate calculation for the SFP and reviewed the spread sheet maintained to determine if a significant leak of SFP water had occurred. The inspector verified that the licensee is tracking pool make-up rates appropriately. Any detected leakage was well within TS limits. No safety concerns were identified.

The inspector reviewed QA Report, CYNS-02-1013, regarding SFPI activities and Quality Surveillance Report, QSR-02-035-CY, regarding SFPI Operations and Maintenance Adequacy and Effectiveness. The reports were comprehensive and detailed. Deficiencies and recommended corrective actions were identified. Appropriate levels of management were involved with review of the audit and the findings. No safety concerns were identified.

c. Conclusions

The licensee maintained an effective SFP chemistry control program. Required samples were being taken at the prescribed times and chemistry parameters were being maintained within required limits. Leakage from the SFP was adequately monitored and audits of SFP operations and maintenance activities were conducted.

O1.2 Cold Weather Preparations

a. Inspection Scope (71714)

The inspector reviewed the licensee's cold weather preparations to maintain the operability of systems and equipment important to safety during the cold weather season. The inspector reviewed the preventive maintenance and operations procedures, checklists, completed surveillances, the schedule of equipment tests and checks, and completed preparations for 2002. The inspector toured the spent fuel building (SFB) and screen-house with the licensee to verify the status of freeze protection equipment, such as heaters, thermostats, and heat tracing. The cold weather preparations were reviewed against the requirements of TS Section 6.6.6.

b. Observations and Findings

The Cold Weather Operation Checklist procedure provided guidance to conduct daily, weekly, and monthly inspections of specified equipment during the cold weather months to ensure operability in accordance with TS Section 6.6.6. The procedure required the checklist to be implemented from November 1 to April 1. The inspector noted that the licensee initiated implementation of the checklist in mid-October. Required preventive maintenance inspections were completed to perform functional tests of heat trace equipment and associated control circuits, and to inspect blankets and insulation. During the tour, the inspector observed the licensee conduct portions of the checklist. The inspector verified that thermostats and breakers were set, heating units were in place, vents were closed, and heat trace was energized as required by the checklist. No safety concerns were identified.

c. Conclusions

The licensee established an adequate cold weather operations program to maintain the operability of systems and equipment important to safety and effectively implemented the program to protect safety-related systems against extreme cold weather.

O1.3 Miscellaneous Security Related Activities

a. Inspection Scope (81701)

The inspector reviewed enhanced security measures and evaluated compliance to requirements and commitments.

b. Observations and Findings

On August 19, 2002, a Regulatory Issue Summary (RIS) 2002-012C was issued to communicate certain actions necessary to enhance safety and safeguards at Decommissioning Power Reactors and Independent Spent Fuel Storage Facilities (ISFSI). On September 10, 2002, the NRC issued a threat advisory and requested certain enhanced security measures be taken immediately by all NRC licensees. On October 16, 2002, RIS 2002-012D and an Interim Safeguards and Security Compensatory Measures Order (Order) were issued by the NRC to all ISFSI sites (Haddam Neck received this communication because they are expected to have an operational ISFSI within 18 months). During this inspection, the inspector verified that all applicable actions of the above referenced Threat Advisory, RIS, and Order were implemented as required. No safety concerns were identified.

c. Conclusions

Timely and effective security enhancements based on the NRC Threat Advisories, Regulatory Issue Summaries, and Interim Safeguards and Security Compensatory Measures Orders, dated August 19, 2002, September 10, 2002, and October 16, 2002, respectively, were implemented.

II. Decommissioning Status of Facilities and Equipment

O2 Decommissioning Status of Facilities and Equipment

O2.1 Final Status Survey Program

a. Inspection Scope (83801)

The inspector reviewed the adequacy of the licensee's implementation strategy for the FSS Program. The inspector reviewed the FSS Plan procedures and the FSS Plan for survey unit 9528-0004 relative to Data Quality Objectives (DQOs), application of Derived Concentration Guideline Levels (DCGLs), survey unit identification and classification, and the turnover assessment process. The inspector reviewed the licensee's program against the commitments established in the Haddam Neck Draft LTP as of October 2002 and the requirements of 10 CFR 20 Subpart E.

b. Observations and Findings

In November 2001, the licensee began conducting final status surveys with the knowledge that the LTP continues to be under review by NRC. The inspector reviewed procedures RPM 5.1-10, 5.1-11, and 5.1-12 that were used to implement the FSS Plan, survey unit classification, and determine number of samples in open land areas. The procedures were detailed and contained the required guidance, such as developing DQOs to implement the program. The reviewed procedures were limited in scope to Class 1, Class 2, and Class 3 open land areas not impacted by existing plant-related radioactivity in groundwater or subsurface soils. The procedures did not address data verification and validation, data evaluation, and quality assurance. However, the inspector determined the licensee understood the importance of such guidance relative to the data assessment phase in the FSS Program, and that a Quality Assurance Project Plan and associated procedures were being developed.

The inspector also reviewed the licensee's procedures to determine if a process had been established to assure survey units completed prior to groundwater characterization are re-evaluated for inclusion of groundwater and subsurface soils, as necessary. The licensee is in the process of characterizing groundwater and subsurface soils. The inspector determined the licensee did not yet have a mechanism in place to manage this aspect of the FSS Program, but was developing a strategy to include groundwater and subsurface soils in the FSS procedures.

The inspector reviewed the FSS Plan for survey unit 9528-0004 relative to documentation of DQOs, application of DCGLs, identification and classification of a survey unit, and transition from deconstruction and decontamination activities to FSS activities. The inspector determined that the DQOs were documented in the FSS Plan, organized, detailed, and followed the format of the DQO process as recommended in NUREG-1575, Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). The inspector noted that the licensee updated and amended the DQOs,

which demonstrated the licensee's understanding of repeated applications of the DQO process. In general, the licensee followed the DQO process and made it a significant piece of the FSS Plan. However, descriptions in the DQO document regarding statistical tests, detection limits, application and identification of DCGLs and action levels, acceptance criteria, investigation plans, and quality control contained insufficient detail for (1) the reader to independently determine the licensee's plan of action and (2) the licensee to be able to use the FSS Plan and DQOs to produce data of sufficient quantity and quality required to make decisions about compliance. Documentation in this area needs improvement.

The characterization data relative to the documentation of sampling locations was reviewed to determine whether the licensee was using the appropriate information to design the survey unit. The inspector noted that the characterization data was not representative of the entire survey unit and therefore, did not fully support the FSS design. The licensee had used the original characterization data set rather than the post remediation data set to calculate the number of samples for the FSS design. The inspector reviewed the standard deviation used to estimate the number of samples that the licensee had determined for the survey unit's FSS design. The inspector determined that the licensee was unable to produce documentation to justify using the original data set.

The inspector reviewed the licensee's mechanism to transition from deconstruction and decontamination activities to FSS activities. The licensee's turnover assessment process, including turnover surveys, were controlled and documented in procedure RPM 5.1-16 and were incorporated in a Bechtel Work Plan and Inspection Record (WP&IR). The turnover survey sheet for survey unit 9528-0004 and the associated WP&IR were incorporated in the FSS Plan package, indicating that the turnover process is tied to the FSS Plan.

c. Conclusions

The licensee was implementing elements of the FSS Program, while the LTP and FSS Plan continued under NRC review. In general, the licensee demonstrated an understanding of its FSS Program Strategy, as demonstrated by what it has accomplished to date in addressing the planning phase elements and by its plans to finish developing its FSS Program. Some elements of its developing FSS Program need to be improved, such as Data Quality Objectives documentation, while other implementing elements are either in the process of being developed, such as Data Quality Assurance Plan and data assessment procedures, or will be developed in the future, such as procedures for land areas impacted by existing radioactivity in groundwater. Other elements of the FSS Program, such as survey unit identification and classification, and turnover assessment were conducted in accordance with the commitments in the LTP dated October 10, 2002.

O2.2 ISFSI Construction and Component Fabrication

a. Inspection Scope (60853)

The scope of the inspection was to determine whether ISFSI dry cask storage system components were fabricated and installed in compliance with regulatory and technical requirements.

b. Observations and Findings

This inspection was focused on observations and verifications of the construction activities related to the installation of the storage pad. During the course of this inspection, the inspector observed that: 1) records verified that the subsoil had been compacted and treated to meet the specification,

2) reinforcing steel was installed of correct size, grade, and at proper spacing, 3) concrete of specified quality was placed in adequate forms, consolidated, and finished, and adequate arrangements were made for proper curing, 4) the concrete mix was sampled for required tests for slump and air to verify that it met specification, and to fabricate compressive strength specimens (cylinders). The above observations were based on inspection and verification of records, discussion with engineering and management personnel, and witnessing of the construction activities.

The inspector noted that the licensee completed the onsite fabrication of the 43 vertical concrete casks (VCC). The casks are being stored on site on a fabricated pad awaiting final ISFSI completion. The inspector toured the Haul Road area and the ISFSI pad site. The licensee continued to grade, proof, roll, and pave Haul Road. Load testing is scheduled for late November. The licensee continued to lay out the fence lines and electrical ground trenches at the ISFSI site. Concrete work has been completed and installation of fences, lighting and security system is scheduled for mid-March. The dry run to demonstrate the capability to transfer fuel from the SFPI to the ISFSI pad will be scheduled following completion of these construction activities.

c. Conclusions

Dry cask storage system components were fabricated and installed per applicable requirements. No significant findings or negative observations were noted with regard to the construction of the storage pad.

III. Plant Support and Radiological Controls

R1 Radiological Protection Controls

R1.1 External Exposure Controls

a. Inspection Scope (83750)

The inspection included touring the radiological controlled areas (RCAs) and reviewing current radiological surveys of various work activities to determine the adequacy of the licensee's occupational program to monitor and control external radiation exposure to employees. The inspector also interviewed selected radiation protection managers and staff. Records of Thermoluminescent Dosimetry (TLD), extremity dosimetry, teledosimetry, and relocated dosimeters were examined.

b. Observations

During tours of the facility, the inspector observed that all areas in the RCAs were appropriately posted and labeled for radioactive materials. Portal monitors and frisking instruments were located in the facility for use by workers as they left radiation areas or contaminated areas.

After the Health Physics (HP) Control Point and the RCA Access were relocated from the Service Building to the Old Training Building in 2000 in order to support decommissioning of the Service Building, TLD results for workers were 15% to 30% lower than Electronic Dosimeter (ED) doses. Historically, the TLD to ED results were within 5% of each other. An investigation determined that elevated background from the B Waste Storage Test Tanks caused increased exposure of the control TLD badges which are stored at the HP Control Point. When the control TLD badge dose was subtracted from a workers dose who spent time in a lower radiation field, lower exposure values were reported for the individual. The licensee shielded the TLD storage racks where the control TLD badges are stored to prevent recurrence. During this inspection, the inspector reviewed personnel exposure records and verified that the TLD:ED ratio had returned to historical values (within 5% agreement). The inspector verified that personnel records were updated with the correct exposure in individual dose files. No safety concerns were identified.

The inspector reviewed use of teledosimetry and the practice of relocating dosimeters in high dose gradient fields. Specifically, pre-job briefing forms for Radiation Work Permits (RWP) 02-2124 and 02-1123 required teledosimetry, relocation of TLDs, and multi dosimetry for Filter Basket Removal from Cavity and work on the trash High Integrity Container (HIC), respectively. Surveys indicated localized dose rates up to 75 R/hr in the work area. The inspector reviewed exposure records and verified multi dosimetry, teledosimetry, and relocated TLDs were used on these activities. The highest whole body exposure was 646 millirem to an individual. The inspector concluded that the licensee exercised good control of high exposure tasks with regard to monitoring personnel exposure.

Extremity dosimetry is issued to workers who may receive greater than 500 mrem Shallow Dose Equivalent (SDE) from a specific activity or 5 Rem in a year. The inspector reviewed work associated with RWP 02-2124, Sluicing Segmentation Debris and RWP 02-2123, Cavity Demobilization and Decontamination, for which extremity dosimetry was issued. No individual received greater than 10% of the applicable SDE limit. These RWPs also required periodic scanning of workers for hot particles whenever they contacted items greater than 1 R/hr. Based on

discussions with licensee health physics personnel and review of available survey data, the inspector determined that the appropriate hot particle scans had been performed. No safety concerns were identified.

The inspector reviewed records of dose extensions. Four individuals were authorized exposure increases from 1000 to 1500 mrem. No individuals have been authorized to exceed 1500 mrem. The inspector verified that the required reviews and management signatures were obtained prior to entrance by these workers into the RCA. Attachment A, "Request For Exposure Limit Extension", was complete for each individual. No safety concerns were identified.

The inspector observed work in containment on August 20, 2002, when a piece of hydrolasing equipment was cut and disposed of in the trash HIC. Surveys indicated dose rates up to 45 R/hr on the section of pipe. The inspector noted good prejob discussion of the work activity by the crew and control of the job by health physic technicians. A remote cutting tool was used and proper dosimetry was worn. The task was completed for approximately 6 mrem. No safety concerns were identified.

The inspector reviewed Condition Report 01-0179 regarding TLD results for two individuals monitored for the first quarter of 2001 which indicated unexpected neutron radiation exposure. The inspector examined surveys of neutron source locations, interviews with the individuals, and a report from the dosimetry lab where the TLDs were processed, including a letter from the NVLAP Technical Manager of the lab. Based on the glow curve evaluation and knowledge of the worker's activities in relation to the neutron sources, the licensee determined that the individuals were not exposed to neutron radiation. Based on review of available records, the inspector concluded that no exposure to neutron occurred.

c. Conclusions

The licensee has provided controls to limit and monitor exposures of workers to external sources of radiation.

R1.2 Internal Exposure Controls

a. Inspection Scope (83750)

The inspector reviewed selected records of bioassay results, air sampling, the respiratory protection program, the radioactive material control program, and engineering control equipment to determine if the licensee maintained adequate controls to limit internal uptakes of radioactive material As Low As Reasonably Achievable (ALARA) and to regulatory requirements.

b. Observations

The inspector reviewed a representative sample of whole body count (WBC) results for calendar year 2002 to date. No significant recordable uptakes of radioactive material was identified. There were 22 internal dose assessments performed for the year. The inspector reviewed the dose assessment methodology and discussed the reports with cognizant licensee personnel. No safety concerns were identified. The licensee practices a random WBC program. The inspector reviewed results of the 49 random WBC taken to date and verified that all procedural requirements were satisfied. The inspector discussed calibration of the WBC used by the licensee. The inspector verified that the licensee calibrates the counter using appropriate energies for the mix of isotopes encountered on site and that representative geometries are used in the calibration process. The inspector verified that the WBC was calibrated within the required time period and no abnormalities were identified.

The inspector reviewed available issue logs of respirators and verified, based on a random representative sample, that personnel issued respirators were properly trained and qualified. The licensee repairs and cleans respirators onsite. The inspector toured the respirator cleaning and repair facility and verified that personnel performing these functions for the site were adequately trained and qualified. A random sample of RWPs authorizing issuance of respirators was reviewed and compared to the issue log. No discrepancies were identified. Available records of samples of breathing air for Self-contained Breathing Apparatus were examined. The samples were analyzed for carbon dioxide, carbon monoxide, odor, condensed oil, oxygen content, dew point, and water content. The inspector verified that the samples were obtained at the required frequency and the acceptance criteria were not exceeded.

The inspector reviewed the licensee's program for control of portable filtration units and contaminated area vacuum cleaners. The licensee strengthened the program following the loss of a vacuum cleaner which resulted in a non-cited violation (see Section R8 of this Inspection Report). An issue log had been established with individual designations for each vacuum. The inspector observed the filtration and vacuum repair area. Adequate contamination controls were established for work on defective units. The inspector interviewed personnel responsible for management of the program and verified that they were adequately trained and qualified.

c. Conclusions

The licensee provided good controls to limit and monitor exposures of workers to internal uptakes of radioactive materials.

R1.3 Radiological Liquid and Gaseous Effluent Program

a. Inspection Scope (84750)

The inspector reviewed the licensee's radioactive liquid and gaseous effluent programs to ensure that the licensee effectively controlled, monitored, and quantified releases of radioactive materials in liquid and gaseous forms to the environment.

b. Observations

The inspector reviewed selected Quality Assurance (QA) audits and periodic surveillances of the program. The Annual Effluent Report for 2001 submitted in accordance with the requirements of 10 CFR 50.36(a) and TS Section 6.7.3 was also reviewed. The Annual Radiological Environmental Operating Report for 2001 submitted in accordance with the requirements of TS 6.7.2 and the Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODCM) was also reviewed. The audits were comprehensive and thorough. No abnormalities were identified in the Annual Effluent Report and the Annual Radiological Environmental Operating Report. The inspector reviewed the most recent liquid effluent release documentation, including the liquid effluent monitor (R-22) setpoint and calibration information. The effluent monitor was properly calibrated and its setpoint was determined correctly. Liquid releases did not exceed regulatory limits for the site. Offsite doses to the public were properly calculated in accordance with the REMODCM. No safety concerns were identified.

The inspector reviewed the most recent gaseous effluent release documentation, including the Spent Fuel Building (SFB) ventilation monitor (R-1) setpoint and calibration information. The effluent monitor was properly calibrated and its setpoint was appropriately determined. Gaseous releases did not exceed regulatory limits for the site. Offsite doses to the public were properly calculated in accordance with the REMODCM. No safety concerns were identified.

c. Conclusions

The licensee maintained an adequate program to control and monitor liquid and gaseous releases of radioactive material. Effluent monitors were properly calibrated and maintained. The Annual Effluent Report and the Annual Radiological Environmental Operating Report were submitted in a timely manner and releases were within regulatory requirements.

R8 Status of Previous Radiation Protection Items

a. Inspection Scope (71801)

The inspector reviewed documentation packages that had been prepared by the licensee to support closure of a radiation protection issue.

b. Observations and Findings

Closed (URI 2002-001-02): On February 25, 2002, the licensee discovered that a contaminated vacuum cleaner was missing and generated a Condition Report (CR-02-0084) the following day. On March 27, 2002, the vacuum cleaner was officially declared missing and the CR was upgraded to a significant condition. The licensee conducted an evaluation of relative contamination levels in the area where the vacuum was used and estimated that the vacuum contained a quantity of licensed material greater than ten times the quantity specified in 10 CFR 20 Appendix C, but less than 1000 times that quantity. On April 4, 2002, the licensee made a telephone report to the NRC pursuant to the requirements of 10 CFR 20.2201(a)(1)(ii) and reported the vacuum missing.

During this inspection period, the inspector determined that improvements to the procedures appeared to be adequate to prevent recurrence. The inspector verified that the licensee completed its search and did not locate the vacuum. 10 CFR 20.1802 states that the licensee shall control and maintain constant surveillance of licensed material that is in a controlled area and that

is not in storage. The loss of control of radioactive material (contaminated vacuum cleaner) in excess of ten times, but less than 1000 times, the 10 CFR 20, Appendix C limit constitutes a violation of 10 CFR 20.1802. However, because this violation is of low safety significance, was entered into the corrective action program, and effectively corrected, it is being treated as a Non-Cited Violation (NCV), consistent with Section VI.A of the NRC Enforcement Policy. **(NCV 2002-003-01)**

c. Conclusion

The documentation packages prepared by the licensee to support closure of the radiation protection issue were adequate. However, the failure to control radioactive material in a controlled area and not in storage in accordance with 10 CFR 20.1802 is considered a Non-Cited Violation of NRC requirements. This item is closed.

IV. Management Meetings

X1 Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management periodically during the inspection, and during a teleconference with the site manager and others on November 14, 2002. The licensee acknowledged the findings presented by the inspectors. The inspectors reviewed with the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

J. Allen, Project Manager, Duratek
S. Berger, Technical Support, Duratek
* J. Bourassa, Safety Oversight Manager
* D. Calsyn, CY Oversight Manager
B. Campbell, Operations Shift Manager
P. Clark, Regulatory Affairs
E. Darois, Health Physicist, Bechtel
* S. Day, Regulatory Affairs
M. DeWitt, Construction Manager, NAC International
* H. Farr, Radiological Engineer, Bechtel
* N. Fetherston, Site Manager
* M. Firsick, Connecticut DEP
S. Garrity, Equipment Operator
R. Gault, Radiation Protection Specialist
K. Gavin, Project Field Engineer, Bechtel
G. Glasbergen, Sub-contracts Manager, Bechtel
R. Johnson, Site Manager, Bechtel
W. Lienick, Site Manager, Bechtel
J. Lynch, Construction Oversight Manager
J. McCarthy, Final Status Survey Lead, Bechtel
* R. McGrath, HP and Waste Oversight Manager
W. McConnell, Assistant Waste Manager, Bechtel
* R. Mitchell, Unit Manager
* T. Nericcio, Community Relations Coordinator
D. O'Connor, Quality Control Inspector, NAC International
* B. Peacock, Quality Assurance Manager
* M. Powers, Construction Oversight
* R. Prunty, Licensing, Bechtel
M. Reimnitz, Design Engineer, Bechtel
D. Roberson, Health Physics Supervisor, Bechtel
* J. Rowland, Condition Report Program Coordinator
E. Sergent, Nuclear Safety
J. Tarzia, Radiation Protection and Chemistry Manager, Bechtel
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* G. van Noordennen, Regulatory Affairs Manager
* S. Webster, Licensing, Bechtel
* G. Wilson, Public Information Coordinator
A. Yates, Chemistry Supervisor

*Denotes attendance at the telephonic exit meeting held on November 14, 2002.

INSPECTION PROCEDURES USED

IP 60801: Spent Fuel Pool Safety
IP 60853: On-Site Fabrication of Components and Construction of an ISFSI
IP 71714: Cold Weather Preparations
IP 71801: Decommissioning Performance and Status Review at Permanently Shutdown Reactors
IP 81701: Physical Security Assessment
IP 83750: Occupational Radiological Exposure
IP 83801: Inspection of Final Surveys at Permanently Shutdown Reactors
IP 84750: Radioactive Waste Treatment and Effluent and Environmental Monitoring

ITEMS OPEN, CLOSED, AND DISCUSSED

Open

2002-003-01 NCV Failure to control radioactive material in a controlled area and not in storage
Closed

2002-001-02 URI Missing contaminated vacuum cleaner

2002-003-01 NCV Failure to control radioactive material in a controlled area and not in storage

Discussed

None

LIST OF ACRONYMS USED

ALARA	As Low As Reasonably Achievable
CFR	Code of Federal Regulations
CR	Condition Report
CYAPCO	Connecticut Yankee Atomic Power Company
DCGL	Derived Concentration Guideline Level
D&LB	Decommissioning and Laboratory Branch
DNMS	Division of Nuclear Materials and Safety
DOC	Decommissioning Operations Contractor
DQO	Data Quality Objectives
ED	Electronic Dosimeter
FSS	Final Status Survey
HIC	High Integrity Container
HP	Health Physics
ISFSI	Independent Spent Fuel Storage Installation
LTP	License Termination Plan
MARSSIM	Multi-Agency Radiological Survey and Site Investigation Manual
MDC	Minimum Detectable Concentrations
NCV	Non-Cited Violation
PDR	Public Document Room
QA	Quality Assurance
QC	Quality Control
RIS	Regulatory Issue Summary
REMODCM	Radiological Effluent Monitoring and Offsite Dose Calculation Manual
RCA	Radiologically Controlled Area
RWP	Radiation Work Permit
SCBA	Self-contained Breathing Apparatus
SDE	Shallow Dose Equivalent
SFB	Spent Fuel Building
SFH	Shift Fuel Handler
SFP	Spent Fuel Pool
SFPI	Spent Fuel Pool Island
TLD	Thermoluminescent Dosimetry
TS	Technical Specifications
WBC	Whole Body Count
WP&IR	Work Plan and Inspection Record