SAFETY EVALUATION

RELATED TO AMENDMENT NO. 201 TO FACILITY OPERATING LICENSE NO. DPR-61

CONNECTICUT YANKEE ATOMIC POWER COMPANY

HADDAM NECK PLANT

DOCKET NO. 50-213

1.0 INTRODUCTION

By letter dated August 11, 2004, the licensee, Connecticut Yankee Atomic Power Company (CYAPCO) requested amendment to its Haddam Neck Plant (HNP) License (DPR-61) and Technical Specifications (TS). The proposed changes would eliminate operational requirements and certain design requirements that will no longer be applicable following the transfer of all of the spent fuel from the HNP spent fuel pool into dry cask storage at the HNP Independent Spent Fuel Storage Installation (ISFSI). The proposed changes to the TS would also relocate administrative requirements to the Connecticut Yankee Quality Assurance Program (CYQAP). The licensee also proposes to delete the requirement for submittal of an annual Occupational Radiation Exposure Report.

2.0 BACKGROUND

On December 4, 1996, the HNP was permanently shutdown after approximately 28 years of operation. On December 5, 1996, CYAPCO notified the U.S. Nuclear Regulatory Commission (NRC) of the permanent cessation of operations and the permanent removal of all spent fuel from the reactor vessel to the spent fuel pool. Following cessation of operation, the licensee began to decommission the HNP. On October 19, 1999, the operating license was amended to reflect the decommissioning status of the plant and long term storage of the spent fuel in the spent fuel pool.

In support of the decommissioning process currently underway at the HNP, the licensee is currently transferring the spent fuel from the spent fuel pool to an ISFSI at the HNP using casks certified for use under a general 10 CFR Part 72 license. The licensee anticipates that transfer of all spent fuel from the spent fuel pool into the ISFSI will be completed by January 2005. Upon completion of the spent fuel transfer to the ISFSI, the TS requirements associated with the wet storage of the spent fuel in the spent fuel pool will no longer be applicable. On September 28, 2004, the staff published a proposed no significant hazards consideration determination in the Federal Register (69 FR 57978) related to this amendment request.

Section 182a of the Atomic Energy Act requires applicants for nuclear power plant operating licenses to include TS as part of the license. NRC's regulatory requirements related to the content of TS are set forth in 10 CFR 50.36. That regulation requires that the TS include items in five specific categories: (1) safety limits, limiting safety system settings, and limiting control

settings; (2) limiting conditions for operation (LCO); (3) surveillance requirements; (4) design features; and (5) administrative controls. The regulation, however, does not specify particular items to be included in TS.

Section 50.36(c)(2) provides four criteria to be used in determining whether particular items are required to be included in the TS. While the four criteria apply specifically to LCOs, in adopting the revision to the rule, NRC indicated that the intent of these criteria can be used to identify the optimum set of TS administrative controls. Addressing administrative controls, 10 CFR 50.36(c)(5) states that they "are the provisions relating to organization and management, procedures, recordkeeping, review and audit, and reporting necessary to assure operation of the facility in a safe manner." The particular administrative controls to be included in the TS, therefore, are the provisions that NRC deems essential for the safe operation of the facility that are not already covered by regulations or other regulatory requirements.

Accordingly, the staff has determined that administrative control requirements that are not specifically required under 10 CFR 50.36(c)(5), and that are not otherwise necessary to obviate the possibility of abnormal situation or event giving rise to an immediate threat to the public health and safety, may be relocated to more appropriate documents [e.g., Quality Assurance Program Plan (QAPP), Security Plan, or Emergency Plan], which are subject to regulatory controls. Similarly, while the required content of TS administrative controls is specified in 10 CFR 50.36(c)(5), particular details may be relocated to licensee-controlled documents, where other regulations provide adequate regulatory control.

The QAPP is a logical candidate for relocations of administrative controls due to the requirements imposed by regulations such as Appendix B to 10 CFR Part 50, the existing NRC-approved Quality Assurance (QA) plans and commitments to industry QA standards, and the established QA program change control process of 10 CFR 50.54(a).

NRC's Administrative Letter (AL) 95-06, "Relocation of Technical Specification Administrative Controls Related to Quality Assurance," provides guidance to licensees requesting amendments that relocate administrative controls to NRC-approved QAPP descriptions, where subsequent changes are controlled pursuant to 10 CFR 50.54(a). AL 95-06 provides specific guidance in the areas of: (1) independent safety engineering group, (2) reviews and audits, (3) procedure review process, and (4) records and record retention. Some relocations are specifically discussed in AL 95-06, while others are similar in nature. Relocations not specifically discussed in AL 95-06 are evaluated with respect to the appropriateness of the relocation.

3.0 EVALUATION

In anticipation of the licensee transferring all of the HNP spent fuel to dry cask storage within the HNP ISFSI, the licensee has proposed that certain requirements in the HNP License and TS be amended since the requirements will be inapplicable or no longer appropriate. The licensee proposes to delete the definitions, LCOs, surveillance requirements and associated bases, and design features related to spent fuel storage in the spent fuel pool. The licensee has also proposed relocating current TS administrative requirements and controls to the CYQAP, pursuant to the criteria in 10 CFR 50.36 and in accordance with recommendations contained in AL 95-06. The licensee also proposes to delete the requirement for submittal of

an annual Occupational Radiation Exposure Report, consistent with Industry's Technical Specifications Task Force (TSTF)-369, Revision 1. Each of the proposed changes is evaluated below.

3.1 Deletion and Relocation of Technical Specifications

(a) Section 1.0, "Definitions"

The licensee proposes to delete the definitions for the following terms in the HNP TS Section 1.0: ACTION, CERTIFIED FUEL HANDLER, MEMBER(S) OF THE PUBLIC, OPERABLE-OPERABILITY, RADIOACTIVE WASTE TREATMENT SYSTEMS, RADIOLOGICAL EFFLUENT MONITORING AND OFFSITE DOSE CALCULATION MANUAL (REMODCM), and SITE BOUNDARY, as these definitions are either provided in the regulations or will no longer be needed following transfer of all spent fuel to the ISFSI.

With the complete transfer of spent fuel from the spent fuel pool to the ISFSI, there will no longer be any LCOs [discussed in section (c) below]. Therefore, the definitions of ACTION and OPERABLE-OPERABILITY are no longer applicable. Also, with the transfer of all spent fuel to the ISFSI, there will no longer be any fuel handling operations, so the term CERTIFIED FUEL HANDLER is no longer needed. As the term MEMBER(S) OF THE PUBLIC is defined in 10 CFR Part 20, the licensee proposes deleting this definition in the TS. The licensee proposes relocating to the CYQAP, the Administrative Controls Section (Section 6.0) of the TS, which addresses the REMODCM, RADIOACTIVE WASTE TREATMENT SYSTEMS, and SITE BOUNDARY. As the terms REMODCM, RADIOACTIVE WASTE TREATMENT SYSTEMS, and SITE BOUNDARY are described in the REMODCM manual, the licensee proposes deleting these terms from the TS.

The staff agrees that after the complete transfer of spent fuel to the ISFSI, these definitions are no longer applicable or needed in the TS, and therefore, the deletion of these definitions from the TS is acceptable.

(b) Section 3.0/4.0, "Applicability"

TS Sections 3.0.1, 3.0.2, and 3.0.4 establish the general requirements applicable to LCOs. The licensee proposes to delete these sections, as after all of the spent fuel is transferred from the spent fuel pool to the ISFSI, there will no longer be any LCOs [discussed in section (c) below]. TS Sections 4.0.1, 4.0.2, 4.0.3, and 4.0.4 establish the general requirements applicable to surveillance requirements. The licensee proposes to delete Sections 4.0.1, 4.0.2, 4.0.3, and 4.0.4, as surveillance requirements are no longer needed once all of the spent fuel is transferred to the ISFSI. The staff agrees that it is acceptable to delete Sections 3.0.1, 3.0.2, 3.0.4, 4.0.1, 4.0.2, 4.0.3, and 4.0.4 from the TS.

(c) Section 3/4.9, "Spent Fuel Building Operations"

Specification 3/4.9.7, "Crane Travel - Spent Fuel Building," provides the LCO, applicability, action and surveillance requirements for heavy loads traveling over the spent fuel pool. This section requires that loads in excess of 1800 pounds be prohibited from travel over fuel assemblies in the spent fuel pool. The licensee proposes to delete Section 3/4.9.7 from the TS.

Once the spent fuel is transferred from the spent fuel pool to the ISFSI, the LCO and surveillance requirements will no longer be applicable since no fuel will remain in the pool. The staff agrees that the need to maintain the crane travel restriction over the spent fuel assemblies will no longer exist upon transfer of the fuel from the spent fuel pool to the ISFSI, and, therefore, the proposed deletion is acceptable.

Specification 3/4.9.11, “Water Level - Spent Fuel Pool,” provides the LCO, applicability, action, and surveillance requirements for spent fuel pool water level. This Section requires that at least 20 feet of water be maintained over the top of fuel assemblies seated in the spent fuel pool and specifies the frequency that the spent fuel pool water level is to be verified. The licensee proposes to delete Section 3/4.9.11. After all of the spent fuel is transferred from the spent fuel pool to the ISFSI, the need to maintain or monitor a specified water level no longer exists. The staff agrees that the proposed deletion is acceptable.

Specification 3/4.9.13, “Movement of Fuel in Spent Fuel Pool,” provides the LCO, applicability, action, and surveillance requirement for boron concentrations of the spent fuel pool water whenever a fuel assembly is moved in the spent fuel pool. This ensures that, in the event of any fuel handling accident in the spent fuel pool, Keff will remain #0.95. The licensee proposes to delete Section 3/4.9.13. After all of the spent fuel is transferred from the spent fuel pool to the ISFSI, the possibility of a fuel handling accident no longer exists, and therefore, there is no need to maintain boron concentrations in the spent fuel pool water. The staff agrees that this deletion is acceptable.

Specification 3/4.9.14, “Spent Fuel Pool - Reactivity Condition,” provides the limitation to ensure that the reactivity of fuel assemblies introduced into the spent fuel pool racks, with no credit taken for soluble boron in the spent fuel pool, will be # 0.95 at all times. The licensee proposes to delete Section 3/4.9.14, as there is no need to maintain the limitation on the reactivity condition in the spent fuel pool after all of the spent fuel is transferred from the spent fuel pool to the ISFSI. Therefore, the staff agrees that the proposed deletion is acceptable.

Specification 3/4.9.16, “Spent Fuel Pool Cooling - Defueled,” provides the LCO, applicability, action, and surveillance requirement for spent fuel pool water temperature. The primary basis for limiting the spent fuel pool water temperature to #150 ^{o}F is to limit thermal stresses on the spent fuel pool concrete structures due to the differential temperature across the internal and exterior surfaces of the walls and floor. The licensee proposes to delete Section 3/4.9.16. After all of the spent fuel is transferred to the ISFSI, there will not be any heat load of any concern to the interior and exterior surfaces of the walls and floors of the spent fuel pool. The staff agrees that the proposed deletion is acceptable.

Also, Figure 3.9-2 (Spent Fuel Pool Rack Minimum Burnup Requirements for Region 2), Figure 3.9-3 (Spent Fuel Pool Rack Minimum Burnup Requirements for Region 3), and Figure 3.9-4 (Spent Fuel Pool Rack Region Locations) are no longer needed once all of the spent fuel is transferred from the spent fuel pool to the ISFSI. Therefore, these figures can be deleted from the TS.

(d) Section 3/4, "Bases for Sections 3.0 and 4.0, Limiting Conditions for Operation and Surveillance Requirements"

As discussed above, after all of the spent fuel is transferred to the ISFSI, TS 3/4.9 (3/4.9.7, 3/4.9.11, 3/4.9.13, 3/4.9.14, and 3/4.9.16) are no longer applicable and can be deleted from the TS. The current TS Bases provides bases and reasons for current LCOs, and therefore, will also no longer be applicable after all of the spent fuel is transferred to the ISFSI. The licensee proposes to delete the 3/4 Bases sections. The staff agrees that this deletion is acceptable.

(e) Section 5.2, "Spent Fuel Storage" (in Section 5.0, "Design Features")

Section 5.2, "Spent Fuel Storage," provides a description of the spent fuel storage design, including criticality control, drainage, and storage capacity. The licensee proposes to delete Section 5.2, as there is no need to maintain the content of this section after all of the spent fuel is transferred to the ISFSI. The staff finds this proposed deletion acceptable.

(f) Section 6.0, "Administrative Controls"

Section 6.1, "Responsibility," currently provides a general description of the responsibilities of the VP-Operations and Decommissioning (Section 6.1.1), the Unit Manager (Section 6.1.2), and the Shift Manager (Section 6.1.3). The licensee is proposing to delete Sections 6.1.1 and 6.1.2, as an equivalent responsibility description of these positions is included in the CYQAP. Providing the responsibility description in CYQAP is consistent with AL 95-06. With removal of all of the spent fuel from the spent fuel pool, a need for the Shift Manager no longer exists. Therefore, the licensee proposes to delete Section 6.1.3, which provides a description of responsibility of the Shift Manager. The staff agrees that these changes are acceptable.

Section 6.2.1, "General Organizational Requirements," provides a general discussion of the unit organization established for safe facility operations. The licensee proposes to delete Section 6.2.1, as the CYQAP provides an equivalent description of the unit organization responsible for safe operation of the facility. Providing unit organization description in the CYQAP is consistent with AL 95-06. The staff agrees that the proposed deletion of Section 6.2.1 is acceptable.

Section 6.2.2, "Facility Staff," provides requirements for staff composition and staffing requirements only when the fuel is in the spent fuel pool or during fuel handling operations. The licensee proposes to delete Section 6.2.2, as these requirements will no longer be applicable when all of the spent fuel is transferred to the ISFSI. The staff agrees that the deletion of Section 6.2.2 is acceptable. Also, Table 6.2-1 (Minimum Shift Crew Composition) is no longer applicable and can be deleted from the TS.

Section 6.3, "Facility Staff Qualifications," currently specifies the minimum qualifications that each member of the facility staff and the health physics manager must meet. The licensee proposes to delete these requirements from the TS and relocate them to the CYQAP. Since this administrative requirement will be maintained in the CYQAP, the proposed relocation of the requirement is consistent with AL 95-06. Any subsequent changes to these provisions would be controlled in accordance with 10 CFR 50.54(a). The staff agrees the proposed deletion of Section 6.3 from the Technical Specifications and relocation to the CYQAP is acceptable.

Section 6.4, “Training,” currently specifies that the training program for the Certified Fuel Handlers be maintained under the direction of the Unit Manager. The licensee proposes to delete this requirement. With the completion of the transfer of all the spent fuel to the ISFSI, there will no longer be a need for Certified Fuel Handlers or for the associated training. The staff finds this proposed deletion acceptable.

Section 6.5, “Procedures and Programs,” currently specifies requirements for procedures. The licensee proposes to delete this section from the TS and relocate it to the CYQAP. It will be maintained in accordance with 10 CFR 50.54(a). Since this administrative requirement will be maintained in the CYQAP, the proposed relocation of the requirement is consistent with AL 95-06. The staff finds it acceptable to delete Section 6.5 from the TS and relocate this section to the CYQAP.

Section 6.6, “Programs and Manuals,” provides specific requirements for certain programs. The licensee proposes deleting from the TS and relocating to the CYQAP the programs contained in Section 6.6.1 (Radiation Protection Program), Section 6.6.2 (Process Control Program), Section 6.6.3 [Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODCM)], Section 6.6.4 (Radioactive Effluent Controls Program), and Section 6.6.5 (Radiological Environmental Monitoring Program). Section 6.6.1 (Radiation Protection Program) currently specifies that radiation protection procedures be approved, maintained, and adhered to and be in compliance with 10 CFR Part 20. Section 6.6.2 (Process Control Program) currently specifies how to prepare, review, approve and retain changes to the Process Control Program for on-site processing and packaging of solid radioactive wastes. Section 6.6.3, (REMODCM) currently specifies how to document, review, and approve changes to the REMODCM. Section 6.6.4 (Radioactive Effluent Controls Program) currently specifies requirements for the control of radioactive effluents and for maintaining doses to the public from effluents as low as is reasonably achievable. Section 6.6.5 (Radiological Environmental Monitoring Program) currently specifies requirements for monitoring the radiation and radionuclides in the environs of the facility. The proposed relocation of these requirements to the CYQAP is consistent with AL 95-06. The staff agrees with this proposed deletion and relocation to the CYQAP.

The licensee proposes to delete the requirements contained in Section 6.6.6, “Spent Fuel Pool Cooling and Makeup Monitoring Program,” and Section 6.6.7, “Technical Specifications (TS) Bases Control Program.” Section 6.6.6 currently specifies that the primary method for spent fuel pool cooling and the primary method for spent fuel pool water makeup capability be monitored and maintained. Once all of the spent fuel is transferred from the spent fuel pool to the ISFSI, there will no longer be a need for such a monitoring program. Section 6.6.7 specifies means for processing changes to the Bases of the Technical Specifications. With the transfer of all of the spent fuel assemblies to the ISFSI, there will no longer be any LCOs, and statements of bases for TS will no longer be required. Therefore, the staff finds the deletion of Sections 6.6.6 and 6.6.7 from the TS acceptable.

Section 6.7.2, “Annual Radiological Environmental Operating Report” and Section 6.7.3, “Annual Radioactive Effluent Release Report,” specify the content and submission of these reports. The licensee proposes to delete these requirements from the TS and relocate them to the CYQAP. The proposed relocation of these requirements is consistent with AL 95-06. The staff agrees that the proposed deletion and relocation of these requirements is acceptable.

Section 6.8, “High Radiation Area,” currently specifies the posting and access control requirements for high radiation areas, in order to meet the requirements in 10 CFR Part 20, Subpart G, “Control of Exposure From External Sources in Restricted Areas," and 10 CFR Part 20, Subpart J, "Precautionary Procedures." The licensee proposes to delete the requirements and relocate them to the CYQAP. The requirements of 10 CFR Part 20 would continue to mandate appropriate personnel protection. Also, the proposed relocation of this specification to the CYQAP is consistent with AL 95-06. The staff agrees that the deletion and relocation of these requirements is acceptable.

3.2 Incorporation of TSTF-369, Revision 1

The licensee requests to delete the requirement in Section 6.7.1 of the TS, which requires the submittal of the annual Occupational Radiation Exposure Report. The Report describes the number of station, utility, and other personnel for whom radiation exposure monitoring was performed according to work and job functions. This deletion is consistent with NRC-approved Industry’s TSTF-369, Revision 1. The availability of this TS improvement was published in the Federal Register on June 23, 2004 (69 FR 35067) as part of the consolidated line item improvement process (CLIIP).

The staff has determined that the conclusions presented in the regulatory and technical evaluation related to deleting the requirement to submit an annual Occupational Radiation Exposure Report, which are included in the June 23, 2004, model safety evaluation as part of the CLIIP (69 FR 35067), are applicable to the HNP. The information that the staff needs regarding occupational doses is provided by licensees in the reports required under 10 CFR Part 20. The data from the Part 20 reports are sufficient to support the NRC’s trending programs, radiation related studies, and preparation of reports such as NUREG-0713. Accordingly, the NRC’s limited use of the Occupational Radiation Exposure Report submitted pursuant to the existing TS requirements no longer warrants the regulatory burden imposed on licensees. Therefore, the staff finds it acceptable that Section 6.7.1 of the TS be deleted and the Report no longer be submitted by the licensee.

4.0 STATE CONSULTATION

In accordance with the NRC's regulations, the Connecticut State official was notified of the proposed issuance of this amendment, on November 30, 2004. The State official had no comment.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment involves changes to the HNP License and Technical Specifications contingent upon the transfer of all spent fuel into a dry cask storage ISFSI. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. NRC has previously issued a proposed finding that the amendment involves no significant hazards consideration (69 FR 57981; September 28, 2004), and there has been no public comment on such finding. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10

CFR 51.22(c)(9) and 10 CFR 51.22(c)(10). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

6.0 CONCLUSION

NRC has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner; (2) such activities will be conducted in compliance with NRC's regulations; and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

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