YANKEE ATOMIC ELECTRIC COMPANY
49 Yankee Road, Rowe, Massachusetts 01367

January 26, 2017
BYR 2017-007
10 CFR 50.82(a)(7)

72-031

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555 - 0001

Yankee Atomic Electric Company
Yankee Rowe Independent Spent Fuel Storage Installation
NRC License No. DPR-3 (NRC Docket No. 50-029)

Subject: Notification of Changes in accordance with 10 CFR 50.82(a)(7)

Yankee Atomic Electric Company (YAEC) is notifying the U.S. Nuclear Regulatory Commission (NRC) of significant changes to the decommissioning schedule in accordance with 10 CFR 50.82(a)(7) prior to incorporating these changes into the Yankee Nuclear Power Station (YNPS) Post-Shutdown Decommissioning Activities Report (PSDAR). This schedule change reflects a new decommissioning cost estimate that includes a cost estimate for management of irradiated fuel and Greater than Class C (GTCC) waste that was approved by the Federal Energy Regulatory Commission on November 15, 2016.

Currently, the YNPS PSDAR provides a schedule and cost estimate for the management of irradiated fuel and GTCC waste and decommissioning of the ISFSI for the time period of 2016 through 2033. This time period will be extended from 2016 through 2036. The attachment to this letter provides a mark-up of the YNPS PSDAR that establishes the applicable changes regarding the decommissioning schedule and the cost estimate. YAEC will update the YNPS PSDAR to reflect this new schedule and cost estimate in February 2017.

In addition, YAEC is sending a copy of this letter to the Commonwealth of Massachusetts as required by 10 CFR 50.82(a)(7).

If you have any questions regarding this submittal, please do not hesitate to contact me at (413) 424-5261 ext. 303.

Respectfully,

Brian E Smith

Brian Smith
ISFSI Manager

NMSS01
NMSS26

Attachment: Mark-Up of Revision 3 of the Yankee Nuclear Power Station Post-Shutdown Decommissioning Activities Report

cc: D. Dorman, NRC Region I Administrator
R. Powell, Chief, Decommissioning Branch, NRC, Region 1
J. Goshen, NRC Project Manager, Yankee Rowe
J. Giarrusso, Planning, Preparedness & Nuclear Section Chief, MEMA
J. Cope-Flanagan, Assistant General Counsel, MDPU
J. Reyes, State of Massachusetts Office of the Attorney General

ATTACHMENT TO BYR 2017-007

MARK-UP OF REVISION 3 OF THE

YANKEE NUCLEAR POWER STATION

POST-SHUTDOWN DECOMMISSIONING ACTIVITIES REPORT

YANKEE NUCLEAR POWER STATION (YNPS)

POST-SHUTDOWN DECOMMISSIONING ACTIVITIES REPORT (PSDAR)

(Previously Maintained as part of the FSAR)

~~January 2016~~February 2017 Revision

Issued as Revision ~~34~~

remediated (i.e., removed, processed and disposed of at a licensed facility) if determined to contain contamination levels above the derived concentration guideline levels (DCGLs) established in the License Termination Plan.

G. Processing and Disposal Site Locations

Currently, there are several facilities available for (1) the processing of waste materials to achieve volume reduction prior to disposal or (2) the disposal of low-level radioactive waste.

H. Removal of Mixed Wastes

Mixed wastes were managed according to all applicable federal and state regulations including NRC handling, storage, and transportation regulations. Mixed wastes from YNPS were transported only by authorized and licensed transporters and shipped only to authorized and licensed facilities. YAEC used an appropriate approved process to render mixed waste non-hazardous onsite. A thermal desorption system was used to remove PCB materials from soils.

I. Storage/Removal of Spent Fuel and GTCC Waste

In June 2003, YAEC completed transfer of spent fuel and GTCC waste to an onsite Independent Spent Fuel Storage Installation (ISFSI). YAEC cannot make a precise determination of when spent fuel and GTCC waste will be removed from the YNPS site because the availability of a licensed DOE high level waste repository is uncertain. Currently, YAEC expects that the turnover of spent fuel and GTCC waste to the DOE will be completed in ~~2031~~2034.

J. License Termination Plan, Final Radiological Survey and Site Release Criteria

The objective for decommissioning the Yankee Nuclear Power Station (YNPS) is to reduce residual radioactivity to levels that permit release of the site for unrestricted use and for termination of the 10CFR50 license, in accordance with the Nuclear Regulatory Commission's (NRC's) site release criteria set forth in 10CFR20, Subpart E. The purpose of the YNPS License Termination Plan (LTP) is to satisfy the requirements of 10CFR50.82, "Termination of License" using the guidance provided in Regulatory Guide 1.179, "Standard Format and Content of License Termination Plans for Nuclear Reactors". NRC staff review guidance, in the form of NUREG-1700 and NUREG-1757 was also considered.

In May 1997, YAEC submitted to the Commission for approval an LTP for YNPS, pursuant to 10CFR50.82, as amended by 62 Fed. Reg. 39091 (July 29, 1996). YAEC's LTP employed a survey methodology based on the "Manual for Conducting Radiological Surveys in Support of License Termination (Reference 9)," known as the NUREG-5849 Methodology. Subsequently, the Commission, jointly with a group of other federal agencies, approved an alternative survey methodology, known as NUREG-1575, "Multi-Agency Radiation Survey and Site Investigation Manual" (MARSSIM – Reference 10). In May 1999 (Reference 11), YAEC advised the Commission that it intended to shift from the NUREG-5849 Methodology to MARSSIM and withdrew its previously submitted LTP application. YAEC submitted a new LTP in 2003 incorporating the more recent regulatory guidance and descriptive of the

MARSSIM final status survey (FSS). The LTP was approved by the NRC on July 28, 2005. FSS was conducted to verify that structures and open land areas met the release criteria. An independent NRC contractor also conducted verification surveys, to confirm YNPS FSS results that the remaining structures and open land areas met the unrestricted release criteria. After final status surveys and NRC verification were completed, individual surveyed structures and open land areas were approved for release from the NRC License. YAEC will, nevertheless, maintain control over the site until termination of its 10CFRPart 50 license.

With the exception of decommissioning activities at the ISFSI to be undertaken when all fuel and GTCC waste have been removed from the site, all decommissioning and dismantlement activities have been completed a t this site.

K. Site Restoration

Following termination of the YNPS possession only license by the NRC, YAEC will complete the final site restoration activities. The remaining site areas will be graded and landscaped as necessary.

SCHEDULE OF DECOMMISSIONING ACTIVITIES

As stated above, decommissioning is being completed in three phases. The first phase consisted of the decontamination and dismantlement of remaining systems and components that did not support fuel storage. Next, the spent fuel was removed from the SFP and the SFP was drained in 2003. The second phase of decommissioning involved the dismantlement and decontamination of the SFP and its supporting systems, structures and components. The final phase of decommissioning will involve the decommissioning of the ISFSI and the termination of the possession only license. License termination of the ISFSI will occur after all spent fuel has been taken off-site. All decommissioning activities accomplished to date have resulted in no significant adverse environmental impacts.

YAEC completed the second phase of dismantlement and decontamination and final status surveys and License reduction in August 2007. The design and construction of a dry cask storage facility was completed in 2001. Fuel transfer activities commenced in 2002 and were completed in 2003. Following the transfer of spent fuel and GTCC waste from the SFP, decommissioning of the SFP island was completed over a period of approximately three years, including final status surveys. The dry cask storage facility is expected to be operated from 2002 through ~~2031~~2034, when the last fuel assembly is assumed to be taken off-site. Using this assumption, the YNPS license will be terminated after the dry cask storage facility is decommissioned (scheduled to occur in ~~2033~~2036).

Planning sequences and dates are based on current knowledge and could change in the future. Dry storage is addressed in the spent fuel management plans contained in the FSAR. Yankee will continue to inform the NRC of all major changes to the planned decommissioning activities in accordance with 10CFR50.82(a)(7).

DECOMMISSIONING COST ESTIMATE

The current ~~Federal Energy Regulatory Commission (FERC) approved~~ decommissioning cost estimate ~~(Docket # ER13-1397-000)~~ and cost estimate for management of spent fuel and GTCC

waste (Docket # ER16-2733) was filed with the Federal Energy Regulatory Commission (FERC) on September 30, 2016 and approved by FERC on November 15, 2016 with no objections from the State Agencies that were party to the April 30, 2013~~is based on the~~ Stipulation and Settlement Agreement (Docket # ER13-1397-000) including~~between YAEC and~~ the Connecticut Public Utilities Regulatory Authority, the Connecticut Office of Consumer Counsel, the Maine Public Utilities Commission, the Maine Office of Public Advocate, the Massachusetts Department of Public Utilities, and the Attorney General of Massachusetts~~ dated April 30, 2013~~.

This cost estimate includes the cost associated with the projected ISFSI decommissioning costs and a funding assumption of 15 years of operations costs to manage spent fuel and GTCC waste. A funding mechanism provides that damage awards and settlement proceeds that YAEC receives in future phases of its litigation with the Department of Energy (DOE) will be applied to maintain the adequacy of the Nuclear Decommissioning Trust (NDT) to cover 15 years of ISFSI operations (as well as all other projected decommissioning costs). In addition, YAEC has the right to resume collection of decommissioning charges from its customers subject to the submittal of a proposal under section 205 of the Federal Power Act, if needed.

YAEC has an account within its NDT entitled, "ISFSI Radiological Decom," that segregates the funds for radiological decommissioning of the ISFSI from the larger balance of funds for ongoing management of spent fuel and GTCC waste held in the NDT.

The assumptions of the current decommissioning cost estimate are discussed in the Decommissioning Funding Plan submitted to the NRC on December 14, 2015 in accordance with ~~10~~ 10 CFR 72.30(c) (Reference 19). The decommissioning cost estimate incorporates the most recent assumptions with respect to the remaining decommissioning activities and related costs (i.e., those associated with the Yankee Nuclear Power Plant ISFSI). The total un-escalated cost estimate for decommissioning the ISFSI, including contingency is ~~$10.1 million and~~ $10.4 million in ~~2015 and~~ 2016 dollars~~, respectively~~. This includes ~~$8.6 million and~~ $8.8 million for radiological removal and ~~$1.5 million and~~ $1.6 million for non-radiological removal in ~~2015 and~~ 2016 dollars~~, respectively~~.

ISFSI operations will continue until DOE removes the spent fuel and GTCC waste, allowing for the decommissioning of the ISFSI. YAEC expects that the ISFSI operating costs will continue to cover a number of categories, including costs for insurance, labor, security, materials and supplies, miscellaneous expenses, outside services, property taxes, regulatory fees, rentals and leases and utilities. The un-escalated cost estimate for the management of spent fuel and GTCC waste from 2016 through ~~2031~~2034, including contingency, is ~~$145.4 million and $149.1~~ approximately $183.1 million in ~~2015 and~~ 2016 dollars~~, respectively~~. ~~This is based on the estimate submitted to the NRC on December 14, 2015 (Reference 19).~~

The total un-escalated cost estimate is approximately ~~$155.6 and $159.5~~$193.5 million in ~~2015 and~~ 2016 dollars, respectively, for decommissioning the ISFSI and managing the storage of spent fuel and GTCC waste for the time period of 2016 through ~~2033~~2036.

YAEC will continue to inform the NRC regarding the status of this funding by complying with the obligations defined in: 1) 10 CFR 50.75(f)(1) and (2) to submit an annual Decommissioning Funding Status Report; 2) 10 CFR 50.82(a)(8)(v) to submit an annual financial assurance status report regarding decommissioning funding; 3) 10 CFR 72.30(c) to resubmit the decommissioning funding

estimate. YAEC does not anticipate that this material would be required to be disposed of to satisfy the NRC's 25 mRem/year release criteria.

Since the approval of the Decommissioning Plan (Reference 1) and the issuance of the Decommissioning Environmental Report (Reference 5), YNPS identified the presence of solid Polychlorinated Biphenyls (PCBs) in some paint coatings. As in the case of radiologically contaminated lead paint, asbestos, and other hazardous materials, contaminated paint that contains PCBs will be managed according to all applicable federal and state regulations.

No significant environmental impacts are anticipated in the event that LLW is required to be temporarily stored onsite because adequate storage space exists and LLW storage will be in accordance with all applicable federal and state regulations. Extending the storage period from ~~2022~~ 2031 through ~~2031~~2034 does not have a significant impact, because all applicable federal and state regulations will be met.

The non-radiological environmental impacts from decommissioning were temporary and were not significant. The largest occupational risk associated with decommissioning YNPS was related to the risk of industrial accidents. The primary environmental effects were short term, small increases in noise levels and fugitive dust in the immediate vicinity of the site, as well as truck traffic to and from the site for hauling equipment and waste. No significant socioeconomic impacts, other than those associated with cessation of operation (loss of jobs and taxes), or impacts to local culture, terrestrial or aquatic resources such as the Sherman Reservoir and Deerfield River were identified.

17. Letter from Wayne Norton to U.S. Nuclear Regulatory Commission, Letter of Intent Concerning the Phased Release of Land from the Part 50 License.

18. Letter from U.S. Nuclear Regulatory Commission to Wayne Norton, NYR 2007-046, "Approval of Partial Site Release".

19. Letter from C. Pizzella (YAEC) to U.S. Nuclear Regulatory Commission, BYR 2015-036, "Three-Year Update to the Independent Spent Fuel Storage Installation Decommissioning Funding Plan," dated December 14, 2015.

20. Letter from Alston & Bird LLP to Federal Energy Regulatory Commission, "Yankee Atomic Electric Company Docket No. ER163-___-~~000~~," dated ~~May 1, 2013~~September 30, 2016.