

October 15, 2004

MN-04-051

RA-04-095

UNITED STATES NUCLEAR REGULATORY COMMISSION

Attention: Document Control Desk

Washington, DC 20555

References:

1. License No. DPR-36 (Docket No. 50-309)
2. MYAPC Letter MN-00-004 dated January 13, 2000, Maine Yankee License Termination Plan
3. MYAPC Letter MN-01-023 dated June 1, 2001, Revision 1, Maine Yankee's License Termination Plan
4. MYAPC Letter MN-01-032 dated August 13, 2001, Revision 2, Maine Yankee's License Termination Plan
5. MYAPC Letter MN-02-048 dated October 15, 2021, Revision 3, Maine Yankee's License Termination Plan
6. NRC Letter to MYAPC dated February 28, 2003, Issuance of Amendment No. 168 to Facility Operating License No. DPR-36 -- Maine Yankee Atomic Power Station (TAC No. M8000).

Subject: **Revision 4, Maine Yankee's License Termination Plan**

In accordance with 10 CFR 50.71(e), Maine Yankee (MY) hereby submits an update to the License Termination Plan (LTP). The updated LTP (Revision 4) continues to demonstrate that the remainder of decommissioning activities: (1) will be performed in accordance with Title 10 Code of Federal Regulations, (2) will not be inimical to the common defense and security or to the health and safety of the public, and (3) will not have a significant effect on the quality of the environment.

This 10 CFR 50.71(e) update<sup>1</sup> contains changes necessary to reflect current information<sup>2</sup> and analyses, including NRC approved addenda to LTP Revision 3, approved license amendments, and changes made in accordance with 10 CFR 50.59. Attachment 1 provides a summary listing of the key LTP Revision 4 changes. Attachment 2 provides a List of Effective Sections. (Only those sections updated by Revision 4 changes are reflected as "Revision 4." The sections

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<sup>1</sup> Also in accordance with LTP Section 1.1 and 1.4.

<sup>2</sup> Note that Section 3 of the LTP has not been updated to reflect the current status of dismantlement activities. Dismantlement status is being provided via the Final Status Survey (FSS) Reports that are submitted to the NRC for review.

requiring no update remain labeled as “Revision 3.”) Attachment 3 provides the complete, updated LTP via CD-ROM.

### Maine Yankee LTP Revision History

Reference 2 transmitted the initial Maine Yankee LTP for NRC review and approval. Reference 3 transmitted LTP Revision 1 and reflected changes in the approach for decommissioning and revised criteria for completion of decommissioning activities. LTP Revision 1 also incorporated MY responses to comments and questions from the State of Maine, Friends of the Coast, and the NRC. Reference 4 transmitted LTP Revision 2 which incorporated additional changes resulting from on-going stakeholder interface, as well as internal MY LTP review and refinement. Reference 5 transmitted LTP Revision 3 which incorporated additional changes addressing NRC Requests for Additional Information (RAI), and other decommissioning updates. Reference 6 provided the NRC SER on LTP Revision 3, and incorporated the NRC approved LTP Revision 3 and associated LTP addenda correspondence<sup>3</sup> into the MY license.

If you have any questions, please contact us.

Sincerely,

**Original signed by**

Thomas L. Williamson, Director  
Nuclear Safety and Regulatory Affairs

### Attachments

1. Listing of Key Changes - LTP Revision 4
2. List of Effective Sections – LTP Revision 4
3. License Termination Plan, Revision 4 (CD-ROM)

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<sup>3</sup> Three addenda letters were submitted to the NRC: (1) MN-02-058, LTP Revision 3 Addenda dated November 21, 2002 - Clarifications and Minor Corrections to Maine Yankee License Termination Plan Revision 3; (2) MN-02-061, dated November 26, 2002, Maine Yankee License Termination Plan, Rev. 3 Addenda and Additional Information Related to the Eberline Model E600 Instrument; (3) MN-02-063, dated December 12, 2002, Update on Forebay Dike Coring Results and Associated Changes to LTP Attachment 2H (LTP Revision 3 Addenda).

U.S. Nuclear Regulatory Commission

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cc: Dr. R. R. Bellamy, NRC Region I, Division of Nuclear Materials Safety and Safeguards  
Mr. D. R. Lewis, Esq., Shaw Pittman  
Mr. C. Pray, State of Maine, Nuclear Safety Advisor  
Mr. P. J. Dostie, State of Maine, Division of Health Engineering  
Mr. J. T. Greeves, NRC Director, NMSS Division of Waste Management &  
Environmental Protection  
Ms. E. Mason, Esq., USEPA New England, Office of Regional Counsel  
Mr. S. J. Collins, NRC Regional Administrator, Region I  
Mr. J. T. Buckley, NRC NMSS Project Manager, Decommissioning  
Mr. D. M. Gillen, NRC Deputy Director, NMSS Decommissioning Directorate  
Mr. M.C. Roberts, NRC Region I Inspector  
Mr. R. Shadis, Friends of the Coast

STATE OF MAINE

Then personally appeared before me, Thomas L. Williamson, who being duly sworn did state that he is the Director, Nuclear Safety and Regulatory Affairs of Maine Yankee Atomic Power Company, that he is duly authorized to execute and file the foregoing request in the name and on the behalf of Maine Yankee Atomic Power Company, and that the statements therein are true to the best of his knowledge and belief.

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Notary Public

**Attachment 1**

**Listing of Key Changes - LTP Revision 4**

<b>LTP Section</b>	<b>LTP Section Title</b>	<b>Source of LTP Change</b>
2.5.3.b	Activated Concrete / Rebar	Decrease soil DCGL inside RA to 2.39 pCi/g and use building specific surface area to volume ratio for containment (resulting from License Amendment 170)
2.5.3.d	Nuclide Profile - Groundwater and Surface Water	LTP Revision 3 Addenda dated November 21, 2002 - Clarifications and Minor Corrections to Maine Yankee License Termination Plan Revision 3 (HSA, background, groundwater, and miscellaneous) (MN-02-058)
2.7	References (2.7.24 & 2.7.25)	LTP Revision 3 Addenda dated November 21, 2002 - Clarifications and Minor Corrections to Maine Yankee License Termination Plan Revision 3 (HSA, background, groundwater, and miscellaneous) (MN-02-058)
2.7	References (2.7.26)	LTP Revision 3 Addenda dated December 12, 2002, Update of Forebay Dike Coring Results and Associated Changes to LTP Attachment 2H (LTP Revision 3 Addenda) (MN-02-063)
Attachment 2A.3	Non-Impacted Area Assessment - Historical Site Assessment	LTP Revision 3 Addenda dated November 21, 2002 - Clarifications and Minor Corrections to Maine Yankee License Termination Plan Revision 3 (HSA, background, groundwater, and miscellaneous) (MN-02-058)
Attachment 2B Table 2B-8	Radiological Characterization Water Sample Results for Affected and Unaffected Environs, Including Environs Background Study	LTP Revision 3 Addenda dated November 21, 2002 - Clarifications and Minor Corrections to Maine Yankee License Termination Plan Revision 3 (HSA, background, groundwater, and miscellaneous) (MN-02-058)
Attachment 2H	Forebay and Diffuser Characterization Discussion	LTP Revision 3 Addenda dated December 12, 2002, Update of Forebay Dike Coring Results and Associated Changes to LTP Attachment 2H (LTP Revision 3 Addenda) (MN-02-063)

### Attachment 1

<b>LTP Section</b>	<b>LTP Section Title</b>	<b>Source of LTP Change</b>
3.1.3	Introduction - Decontamination & Dismantlement Process Summary	Free release process of PMP 6.0.22 summarized in LTP Section 3.1.3 in accordance with ASLB Settlement Agreement No. A.3 closure discussions
3.1.3	Introduction - Decontamination & Dismantlement Process Summary	FSS Survey Area Turnover and Control (PMP 6.7.5) - Clarifies requirements for confirmatory measurements on the surface of soil fill material after super structure demolition
4.2.1	Remediation Actions / Structures	Decrease soil DCGL inside RA to 2.39 pCi/g and use building specific surface area to volume ratio for containment (resulting from License Amendment 170)
5.1.2.a	Introduction - Overview - Survey Preparation	FSS Survey Area Turnover and Control (PMP 6.7.5) - Turnover surveys made optional and equipment staging in survey areas revised to address loose contamination on external surfaces (PMP 6.7.5)
5.2.3 Table 5-1E	Initial Classification of Basements, Land, Embedded Piping and Buried Piping Table 5-1E Survey Area Classification - Embedded and Buried Pipe	Maine Yankee letter to NRC dated May 13, 2004, Reassessment of Area Classification of Containment Foundation Drains from Class 1 to Class 2 and Revision of FSS Requirements
5.3.1.a & Table 5-2	Establishing Survey Units - Survey Unit - Survey Unit Size - Table 5-2	Decrease soil DCGL inside RA to 2.39 pCi/g and use building specific surface area to volume ratio for containment (resulting from Amendment 170)
5.4.3 & 5.12.35	Background Reference Areas	Added reference to Background White Paper per NRC staff recommendation
5.5.1.a	Survey Methods and Instrumentation - Survey Measurement Methods - Structures	Use of SPA-3 Gamma Detector for Concrete FSS Scans to Reduce the amount of Smoothing needed during Concrete Remediation (PMP 6.7.1)
5.5.1.d	Survey Methods and Instrumentation - Survey Measurement Methods - Specific Areas and Conditions	Add method for surveying & reusing class 1 & 2 stored excavated soil

**Attachment 1**

<b>LTP Section</b>	<b>LTP Section Title</b>	<b>Source of LTP Change</b>
5.5.2.d	Instrumentation - Minimum Detectable Concentration - Open Land Area and Structure Scan MDC Using Alarm Set Point	LTP Revision 3 Addenda dated November 26, 2002, Maine Yankee License Termination Plan, Rev. 3 Addenda and Additional Information Related to the Eberline Model E600 Instrument (MN-02-061)
5.5.2.d	Instrumentation - Minimum Detectable Concentration - Open Land Area and Structure Scan MDC Using Alarm Set Point - Maximum scan grid size of 10 m <sup>2</sup> .	Revised Report on Eberline Model E-600 Field Testing (MN-03-009) - See Maine Yankee Response to SOM Comment No. B.5
5.5.2.d	Instrumentation - Minimum Detectable Concentration - Open Land Area and Structure Scan MDC Using Alarm Set Point	Use of SPA-3 Gamma Detector for Concrete FSS Scans to Reduce the amount of Smoothing needed during Concrete Remediation (PMP 6.7.1)
Table 5-5 and Table 5-6	"Survey Instrument Efficiencies" and "Measurement Detection Sensitivities"	Updated with current FSS instrument efficiencies
5.5.2.e Table 5-6	Instrumentation - Detection Sensitivities	LTP Revision 3 Addenda dated November 26, 2002, Maine Yankee License Termination Plan, Rev. 3 Addenda and Additional Information Related to the Eberline Model E600 Instrument (MN-02-061)
5.5.2.e Table 5-6	Instrumentation - Detection Sensitivity - Table 5-6	Use of SPA-3 Gamma Detector for Concrete FSS Scans to Reduce the amount of Smoothing needed during Concrete Remediation (PMP 6.7.1)
5.5.2.e Table 5-6	Instrumentation - Detection Sensitivity - Table 5-6	Decrease soil DCGL inside RA to 2.39 pCi/g and use building specific surface area to volume ratio for containment (resulting from License Amendment 170)
5.6.1 Table 5-7	Investigation Levels and Elevated Areas Test - Investigation Levels	LTP Revision 3 Addenda dated November 26, 2002, Maine Yankee License Termination Plan, Rev. 3 Addenda and Additional Information Related to the Eberline Model E600 Instrument (MN-02-061)

**Attachment 1**

<b>LTP Section</b>	<b>LTP Section Title</b>	<b>Source of LTP Change</b>
5.6.2	Investigation Levels and Elevated Areas Test - Investigation Process	LTP Revision 3 Addenda dated November 26, 2002, Maine Yankee License Termination Plan, Rev. 3 Addenda and Additional Information Related to the Eberline Model E600 Instrument (MN-02-061)
5.6.2	Investigation levels and Elevated Areas Test - Investigation Process	Spray Building Survey Unit 1 Release Record - Clarify requirements for investigations
5.6.3	Investigation Levels and Elevated Areas Test - Elevated Measurement Comparison (EMC)	LTP Revision 3 Addenda dated November 26, 2002, Maine Yankee License Termination Plan, Rev. 3 Addenda and Additional Information Related to the Eberline Model E600 Instrument (MN-02-061)
5.6.3	Investigation Levels and Elevated Areas Test - Elevated Measurement Comparison (EMC)	Evaluation of LTP Change: Elevated Measurement Comparison (EMC) Unity Rule (PMP 6.7.4)
5.9.2	Reporting Format - Survey Unit Release Record	FSS Data Processing and Reporting (PMP 6.7.8) - Minor reorganization of information included in release record and FSS report
5.9.3	Reporting Format - Final Status Survey Report	FSS Data Processing and Reporting (PMP 6.7.8) - Minor reorganization of information included in release record and FSS report
5.10.1.b	FSS Quality Assurance Program (QAP) - Project Management and Organization - Superintendent of Radiation Remediation	FSS Survey Area Turnover and Control (PMP 6.7.5) - Turnover surveys made optional and equipment staging in survey areas revised to address loose contamination on external surfaces (PMP 6.7.5)
5.11.1.d	Access Control Measures - Turnover	FSS Survey Area Turnover and Control (PMP 6.7.5) - Turnover surveys made optional and equipment staging in survey areas revised to address loose contamination on external surfaces (PMP 6.7.5)
5.12	References (5.12.34)	Use of SPA-3 Gamma Detector for Concrete FSS Scans to Reduce the amount of Smoothing needed during Concrete Remediation (PMP 6.7.1)

**Attachment 1**

<b>LTP Section</b>	<b>LTP Section Title</b>	<b>Source of LTP Change</b>
Attach 5A	Embedded and Buried Piping Remaining on Site	Maine Yankee letter to NRC dated May 13, 2004, Reassessment of Area Classification of Containment Foundation Drains from Class 1 to Class 2 and Revision to FSS Requirements
6.6.1.b	Material Specific Dose Assessment Methods and Unitized Dose Factors - Contaminated Basement Surfaces - Mathematical Model	Decrease soil DCGL inside RA to 2.39 pCi/g and use building specific surface area to volume ratio for containment (resulting from License Amendment 170)
6.6.2 Table 6-5	Activated Basement Concrete / Rebar	Decrease soil DCGL inside RA to 2.39 pCi/g and use building specific surface area to volume ratio for containment (resulting from License Amendment 170)
6.7 Table 6-11	Material Specific DCGLs and Total Dose Calculation - Table 6-11 Contaminated Material DCGL	Decrease soil DCGL inside RA to 2.39 pCi/g and use building specific surface area to volume ratio for containment (resulting from License Amendment 170)
6.8.1	Area Factors: Basement Contamination	Evaluation of LTP Change: Elevated Measurement Comparison (EMC) Unity Rule (PMP 6.7.4)
6.8.1	Area Factors: Basement Contamination	Allows the use of either Equation 19 or 20 of LTP Section 6.8.1 for the Area Factor for Containment Basements in the Unity Rule.
6.8.2 Table 6-12	Surface Soil and Deep Soil Area Factors	LTP Revision 3 Addenda dated November 21, 2002 - Clarifications and Minor Corrections to Maine Yankee License Termination Plan Revision 3 (HSA, background, groundwater, and miscellaneous) (MN-02-058)
Attachment 6-6	Activated Concrete Inventory	Decrease soil DCGL inside RA to 2.39 pCi/g and use building specific surface area to volume ratio for containment (resulting from License Amendment 170)
Attachment 6-13	Attachment 6-13 DCGL/Total Dose Spreadsheets	Decrease soil DCGL inside RA to 2.39 pCi/g and use building specific surface area to volume ratio for containment (resulting from License Amendment 170)

**Attachment 1**

<b>LTP Section</b>	<b>LTP Section Title</b>	<b>Source of LTP Change</b>
Attachment 6-17	Unitized Dose Factors for Activated Rebar	Decrease soil DCGL inside RA to 2.39 pCi/g and use building specific surface area to volume ratio for containment (resulting from License Amendment 170)
Attachment 6-20	Dose Model Input Parameters	New attachment per ASLB Settlement Agreement No. A.8
8.2	Site Description after License Termination	Maine Yankee letter to NRC dated February 24, 2003, Maine Yankee Forebay Remediation Plan Approved by Maine Department of Environmental Protection (MDEP)(MN-03-008) - Forebay "end state"

## Attachment 2

### LTP Revision 4 - List of Effective Sections

Section	Revision Number	Comments
Preface	3	
1	3	
Attachment 1A	3	
2	4	
Attachment 2A	4	
Attachment 2B	4	
Attachment 2C	3	
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Attachment 2E	3	
Attachment 2F	3	
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Attachment 2I	3	
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Attachment 3A	3	
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Attachment 4A	3	
Attachment 4B	3	
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Attachment 5A	4	
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Attachment 6-1	3	
Attachment 6-2	3	
Attachment 6-3	3	
Attachment 6-4	3	
Attachment 6-5	3	
Attachment 6-6	4	deleted
Attachment 6-7	3	

## Attachment 2

Section	Revision Number	Comments
Attachment 6-8	3	
Attachment 6-9	3	
Attachment 6-10	3	
Attachment 6-11	3	
Attachment 6-12	3	
Attachment 6-13	4	
Attachment 6-14	3	
Attachment 6-15	3	
Attachment 6-16	3	
Attachment 6-17	4	deleted
Attachment 6-18	3	
Attachment 6-19	3	
Attachment 6-20	4	new attachment
7	3	
8	4	
9	3	

**Attachment 3**

**MAINE YANKEE LICENSE TERMINATION PLAN  
REVISION 4  
(Enclosed CD-ROM)**