MAINE YANKEE

LTP SECTION 3

IDENTIFICATION OF REMAINING SITE DISMANTLEMENT ACTIVITIES

TABLE OF CONTENTS

ATTACHMENT 3A

Drawings Associated with Specific Decommissioning Tasks

List of Tables

3.0 IDENTIFICATION OF REMAINING SITE DISMANTLEMENT ACTIVITIES

3.1 Introduction

3.1.1 Purpose

This section of the LTP describes the remaining dismantlement activities at MY pursuant to 10 CFR 50.82(a)(9)(ii)(B) and following the guidance of NUREG 1700 and Regulatory Guide 1.179. Information is presented to demonstrate that these activities will be performed in accordance with 10 CFR Part 50 and will not be inimical to the common defense and security or to the health and safety of the public pursuant to 10 CFR 50.82(a)(10). Information which demonstrates that these activities will not have a significant effect on the quality of the environment is provided in LTP Section 8.

The dismantlement activities described in this section provide the NRC the information to support their determination to terminate the license pursuant to 10 CFR 50.82(a)(11)(i). Therefore, this section was written to clearly indicate each dismantlement activity which remains to be completed prior to qualifying for license termination. Furthermore, information is provided on the final state of the site including structural remnants, basement foundations and buried piping and conduits. This information ensures that the scope of any possible residual contaminated materials associated with the final state of the site are considered in dose modeling, survey design and environmental assessment. Any changes to the dismantlement activities described in this section which are made pursuant to 10 CFR 50.59 must also consider the impact of those changes on the final state of the site and any impacts on dose assessment, survey design or environmental assessment.

Information related to the remaining decontamination and dismantlement tasks is also provided. This information includes an estimate of the quantity of radioactive material to be released to unrestricted areas, a description of proposed control mechanisms to ensure areas are not recontaminated, estimates of occupational exposures, and characterization of radiological conditions to be encountered and the types and quantities of radioactive waste. This information supports the assessment of impacts considered in other sections of the LTP and provides sufficient detail to identify inspection or technical resources needed during the remaining dismantlement activities. Many of these dismantlement tasks require coordination with other federal, state or local regulatory agencies or groups. Maine Yankee's coordination with these agencies and groups is generally described.

An evaluation of the remaining decontamination and dismantlement activities is described in this section. This evaluation presents summary supporting justification for the conclusion that, pursuant to 10 CFR 50.59, activities may be conducted without obtaining a license amendment pursuant 10 CFR 50.90. Where activities require Maine Yankee to obtain a license amendment, such activities are identified along with the

corresponding schedule for the proposed license amendment and the schedule for needed approval.

3.1.2 Decommissioning Progress Update

Shortly after the submittal of the 10 CFR 50.82(a)(1) certifications, Maine Yankee assembled a System Evaluation Review Team (SERT) to evaluate each plant system, structure and component (SSC) against applicable regulatory and design basis requirements. These evaluations resulted in the classification of SSCs as available and/or abandoned. Applicable systems were drained, de-energized and deactivated as appropriate for turnover to the Decommissioning Operations Contractor (DOC). The reactor coolant system was chemically decontaminated to reduce source term in preparation for dismantlement.

Systems and functions required to support the safe storage of spent fuel were redesigned, as necessary and consolidated into the Spent Fuel Pool Island (SFPI). Electrical power was provided from the 115KV incoming line with a back up diesel generator specifically for security, but available for the SFPI. An industrial water-to-air cooling system replaced the primary component cooling /service water systems that serviced the spent fuel pool cooling and clean up system. Makeup water is supplied from the PWST with back up from the Wiscasset water supply and the fire protection service system. A portable mix tank and pump batches borated water when required in the make up for the spent fuel pool.

During the fall of 1997 and spring of 1998, Maine Yankee conducted a radiological characterization of the site through GTS Duratek. Appropriate historical information was compiled into the Historical Site Assessment (HSA). This site characterization, which is summarized in LTP Section 2, was conducted to assist companies bidding for a contract to decommission the site with additional characterization to be conducted as necessary thereafter. During the fall of 1998, Maine Yankee reviewed bids and selected Stone & Webster as the DOC. Under Maine Yankee oversight, Stone & Webster conducted various decontamination and dismantlement activities until May 2000 when the contract was cancelled.

The overall project schedule defines the current status and remaining activities. Four phases of site dismantlement, some of which run in parallel, were defined by Stone & Webster's contract. As part of preparing the site, Phase 1 removed structures to increase the free area needed for large vehicles and equipment. The removal work has been completed and involved the removal of guard towers, some tanks and other structures. Efforts to release non-impacted areas are ongoing. Phase 2 initiated activities for commodity removal, dismantlement and structure decontamination. This phase is currently in-progress. Phase 3 consists primarily of demolition activities as well as site restoration activities. Phase 4 consists of the construction of an Independent Spent Fuel Storage Installation (ISFSI) and movement of spent fuel to dry storage.

The construction of the ISFSI has been completed, and movement of spent fuel has commenced and is scheduled to be completed in 2003. In preparation for constructing the ISFSI, final status surveys of the land area and the ISFSI Security Operation Building (SOB), formerly the Low Level Waste Storage Building (LLWSB), were initiated in the fall of 1999 through summer of 2000. In preparation for fuel transfer, Maine Yankee conducted a complete inventory and inspection of the contents of the spent fuel pool during 2000.

Some major decommissioning activities have been completed and others are in-progress. Reactor coolant system piping, reactor coolant pumps and motors, steam generators and the pressurizer have been removed and shipped offsite for processing and/or waste disposal as appropriate. Other small commodities have also been removed and shipped offsite. Reactor vessel internals were segmented using an abrasive water jet (AWJ) system. Greater-than-class-C (GTCC) waste generated as a result of the segmentation project were loaded into NAC UMS casks and stored onsite at the ISFSI.

On January 3, 2001, Maine Yankee submitted an application to amend the license to release a portion of the site classified as non-impacted. This application provides the NRC with the information specified in LTP Section 1.4.2. This land area contains a few structures including the Eaton farmhouse. While some non-radiological remediation was conducted on the farmhouse, no dismantlement activities are required to be completed prior to removing this land area from the jurisdiction of the Part 50 license as requested in the proposed license amendment On April 10, 2001, Maine Yankee submitted a second application to amend the license to release an additional portion of the site classified as non-impacted. On August 16, 2001, Maine Yankee resubmitted its application to release these lands, combining the previous two applications into one application and revising the presentation of the characterization data and results. Statistical analyses were presented to demonstrate that the residual activity, if any, in these lands is indistinguishable from background. On November 19, 2001, Maine Yankee supplemented its combined application, making certain clarifications including land survey information. The NRC granted this request for the release of these lands in July 2002. See Section 1.4.2.

3.1.3 Decontamination & Dismantlement Process Summary

Decontamination & dismantlement activities will be supported by detailed project planning and scheduling. This planning supports as low as reasonably achievable (ALARA) reviews, estimation of labor and resource requirements, while tracking cost and schedule. Work packages are used to implement the detailed plans and provide instructions for actual field implementation. The work packages address described units of work and include appropriate hold and inspection points. Administrative procedures control work package format and content, as well as the review and approval process.

Systems and components removed and released from the secondary side of the plant for commercial disposal are surveyed in accordance with plant procedures based upon a no detectible radioactivity standard. The controlling procedure specifies that the instrumentation must be capable of detecting beta/gamma (and alpha if suspected) radioactivity[1] at or below the levels listed below:

a. Total surface beta/gamma contamination @5000 dpm/100 cm^2
b. Loose surface beta/gamma contamination @1000/100 cm^2
c. Fixed alpha contamination @100 dpm/100 cm^2
d. Loose surface alpha contamination @ 20 dpm/100 cm^2
e. Gamma dose rates of 10 micro rem/hr

A separate procedure has been implemented with the same detection levels, augmented by additional controls for the release of material from the radiologically restricted area. Generally, systems and components removed from the primary (radiologically controlled) side of the plant are packaged and either transported to an offsite processing facility, a low-level radioactive waste (LLRW) disposal facility, or an appropriate disposal facility.

Decontamination of structures will include a variety of techniques ranging from water washing to surface material removal. Structural material may be packaged and either transported to an offsite processing facility, a LLRW disposal facility, or an appropriate disposal facility.

Following the removal or decontamination of systems, components, and structures, a comprehensive final status survey (FSS) will be completed as described in section 5 of this LTP.

As referred to above, the dismantlement activities will be carried out in the following four phases:

Phase 1: Prepare Site & Release Non-Impacted Areas
Phase 2: Dismantle Commodities & Decontaminate Structures
Phase 3: Demolish Buildings & Restore Site
Phase 4: Establish Independent Spent Fuel Storage Installation (ISFSI)

[1] In accordance with NRC Circular 81-07

These phases may be implemented in parallel and are not necessarily sequential. A brief discussion of the four phases follows:

Phase 1: Prepare Site & Release Non-Impacted Areas

The preparations period began with permanent plant closure on August 7, 1997.

This phase involved the demolition of miscellaneous tanks, buildings, fences and vehicle barriers, etc. to allow ease of access to the site. During this phase, as demonstrated by this LTP, no radiological contaminants were found North of Old Ferry road, or West of Bailey Cove, and these areas are therefore designated and expected to be released on an early basis in accordance with 10 CFR Part 20 Subpart E (Radiological Criteria for Unrestricted Use), the enhanced state clean-up standards, and 10 CFR 50.82 (a)(11)(i) and (ii).

This phase also included site characterization activity, license basis document revision, spent fuel pool island construction and system evaluation, re-classification and, as appropriate, deactivation as described above.

Phase 2: Dismantle Commodities & Decontaminate Structures

Commodities are dismantled and removed during this phase. Following commodity removal, applicable portions of structures are decontaminated as necessary. Maine Yankee intends to demolish structures, with few exceptions, down to three feet below grade. For structures on the secondary side of the plant, sufficient surveys are conducted prior to demolition to ensure that any applicable portions of the structure are decontaminated. For structures on the primary (radiologically controlled) side of the plant, those portions of the structure above three feet below grade will generally be demolished, packaged and either transported to a LLRW disposal facility or an alternate disposal facility. Some metals, such as rebar, may be recycled, as appropriate, if the metals can be released using a no detectable radioactivity standard. Basement surfaces below three feet below grade will be decontaminated and remediated (paint removal, chemical stain removal, etc.) as necessary and a final status survey will be performed before the basement is filled with soil.

Phase 3: Demolish Buildings & Restore Site

During this phase, structures will be demolished to an elevation corresponding to three feet below grade. These demolition activities will be reviewed during planning to ensure no adverse effect on the SFPI (i.e. walls of adjacent buildings that have a support function of the SFP will remain intact). Concrete buildings will be demolished to 3 foot below grade. Other buildings are designated for either industrial reuse, recycling, or offsite disposal; and are dispositioned accordingly.

Activated portions of remaining foundations above the Activated Concrete DCGLs will be removed.

Several options exist for sequencing building demolition activities with FSS. These demolition sequences will be evaluated and selected with the objective of minimizing the potential for recontamination of surfaces that have already received a final status survey and maximizing the quality of the final status survey. For all options, a final status survey will be performed on the basement surfaces before fill material is placed and on the remaining building footprint after fill material is placed. The status of dismantlement, remediation and FSS activities will be frequently communicated to state and NRC authorities to ensure adequate time for confirmatory measurements, if necessary, prior to the basement being filled. Listed below are some options for sequencing building demolition activities with FSS.

Option 1 Complete Building Demolition prior to FSS:
Will require special attention to keeping the elements (weather) out of the basement during FSS and confirmatory measurements

Option 2 FSS prior to Building Demolition:
Will require special attention for preventing the building demolition from re-contaminating surfaces below where FSS has been completed.

Option 3 Building Demolition not including a floor above grade (nominally 21 ft.). This option would:

- Seal openings in the upper floor to act as a roof.
- Perform FSS on basement floors, walls and ceilings (if applicable).
- Allow MY to notify NRC and State of their opportunity to perform confirmatory measurements.
- Fill basement areas with soil fill material.
- Complete the demolition of the building down to the 17 ft. elevation.
- Perform confirmatory FSS on the surface of the soil fill material after super structure demolition.

This option would require actions to:

♦ Keep the elements out of foundation area which do not have a 21 ft floor (e.g. SFP portion of the Fuel Building).

- Prevent recontamination pathways to the basement during above 21 ft building demolition and during basement soil fill operations.

Other demolition sequencing options may be developed, as necessary, to achieve the objectives described above.

Phase 4: Establish an Independent Spent Fuel Storage Installation (ISFSI)

The ISFSI is designed, constructed and loaded with fuel stored in casks during this Phase. Maine Yankee's storage of spent fuel in the ISFSI will be conducted under a general Part 72 license pursuant to 10 CFR Part 72, Subpart K. Therefore, Maine Yankee will store fuel only in fuel casks approved by the NRC as listed in 10 CFR 72.214.

Following complete transfer of the spent fuel from the spent fuel pool to the ISFSI, Maine Yankee will dismantle and demolish the spent fuel pool. Maine Yankee has submitted a license amendment, pursuant to 10 CFR 50.90, to add an applicability statement to certain technical specifications that describe requirements associated with the spent fuel pool. This license amendment has been approved prior to demolition of the spent fuel pool.

3.2 Remaining Dismantlement Activities

The purpose of this section of the LTP is to indicate each dismantlement activity which remains to be completed prior to qualifying for license termination. This information is provided to support the NRC in making their determination to terminate the license pursuant to 10 CFR 50.82(a)(11)(i). In addition to identifying the dismantlement activities, information is provided on the final state of the site including structural remnants, basement foundations and buried piping and conduits. This information ensures that the scope of possible contaminated materials associated with the final state of the site are considered in dose modeling, survey design and environmental assessment. Any changes to the dismantlement activities described in this section which are made pursuant to 10 CFR 50.59 must also consider the impact of those changes on the final state of the site and any impacts on dose assessment, survey design or environmental assessment.

3.2.1 Major Decommissioning Activities

10 CFR 50.2 defines "major decommissioning activity" as any activity that results in permanent removal of major radioactive components, permanently modifies the structure of the containment, or results in dismantling components (separating and packaging GTCC waste) for shipment in accordance with 10 CFR 61.55.

Those activities are summarized as follows:

a. Removal of the steam generators and the pressurizer. The external surfaces decontaminated as required, and all openings sealed-welded. These components serve as their own transport containers. This activity was completed in 2000.

b. The reactor internals have been segmented such that the components with the lowest activity (upper guide structure and the uppermost and lowermost portions of the core support barrel assembly) will be shipped in the RPV,

c. The segments with intermediate levels of activity (the center section of the core support barrel assembly) will be shipped in casks for disposal in a near surface disposal site, and

d. The segments that exceed class C limits (the core support plate and the core shroud) are stored on site for later transport with the spent fuel to a USDOE disposal facility.

e. Remove the RPV and place it into transport/disposal container, for shipment and disposal intact.

f. Segment the neutron shield tank structure formerly surrounding the reactor vessel, and place the segments into shielded containers.

g. Segment the RCS and other large-bore piping, decontaminate to acceptable limits, if necessary, for offsite direct disposal, size reduction/disposal, or offsite recycle as appropriate considering the residual activity level. This was mostly completed in 2000.

h. The containment equipment access was modified (with closure capability) to facilitate moving a multi-wheeled transporter into containment for loading/ removal of large components. This task was completed.

i. Once all spent fuel is removed from the spent fuel pool, the spent fuel facility will be decontaminated and dismantled.

The containment polar crane, and/or a crane set-up inside containment loads each large component onto a multi-wheeled transporter for removal through the modified containment equipment hatch. The transporter moves the component(s) to the designated preparation/ temporary storage area within the industrial area. Reactor coolant pumps and motors were shipped via truck, and rail. Rail or barge will be used for the reactor vessel head for transport offsite. The large components such as RPV, pressurizer, and steam generators were or will be transferred via the multi-wheeled transporter onto barges for shipment either directly to the disposal facility (as in the case of the reactor vessel), or to an offsite facility for additional decontamination and/or volume reduction prior to final disposal or recycle (for the other components).

During 1999 and 2000, Maine Yankee removed containment piping and many components. Reactor vessel internals and the reactor vessel itself (with some internals) were processed and removed, in 2001 and 2002, from the containment building and stored for later shipment . The reactor vessel will be loaded into a transport/disposal container (DOT approved). The vessel and its container will be moved onto a sea-going barge and transported via the Atlantic Ocean, Intercoastal Waterway, then up the Savannah River where it will be offloaded at the Savannah River Site. After barge offloading, the vessel package will be transported overland for disposal at the GTS DURATEK low level radioactive waste disposal facility, near Barnwell, South Carolina. These activities will be coordinated with the State of Maine, US DOT, US Coast Guard, NRC, South Carolina Department of Health and Environmental Control (SCDHEC), and the other States requiring notification of the shipment.

3.2.2 Dismantlement Activity Schedule

In relation to plant commodities and internal structures, the project's approach to dismantlement is to expeditiously remove these items, and transport for processing or disposal. It provides a safe, productive, and cost-effective means for commodity removal and accelerates access to the building surfaces for decontamination efforts.

NSSS component removal should be completed approximately three and one half years following cessation of operations. It is expected that the majority of plant structures and facilities will be decontaminated and dismantled within seven years of cessation of operations as listed below in Table 3-1.

The few facilities and structures required to support the ISFSI (spent fuel and GTCC waste storage) will be decontaminated, as necessary, and dismantled after USDOE has removed the stored materials.

Table 3-1
Major MY Area/Systems, Structures, and Components Removed
(By Year)

2001
PZR quench tank
Rx vessel head
Rx vessel internals
Regenerative heat exchanger
SI tank #2
Evaporators
Turbine steam system
Circulating Water Pumphouse
Circulating water system
Primary drain tank
Neutron shield tank
Rx pressure vessel
Turbine building (Phase I)
2002
Spray Building
Steam and Valve House

Table 3-1 **Major MY Area/Systems, Structures, and Components Removed** **(By Year)**
Primary Vent Stack
115 KV yard limited (Switchyard remains)
2003
Emergency Feedwater
Spent fuel pool (limited)
Boron waste storage tank (BWST)
Primary water system
Fire protection system limited
Spent fuel pool
Spent fuel building
Fire Protection System
Primary Auxiliary Building
2004
PW - potable water connection (plant site)
Forebay
Containment
2026 (or after DOE removes the stored materials)
ISFSI site D&D with remediation as required

The remaining decommissioning schedule represented in Table 3-2 will be revised during the project. However, the LTP does not require revision to describe the schedule changes since this section is a general description of D&D activities and options. Existing lines of communication (i.e. weekly telecom) will be utilized to inform the NRC of any significant changes to major milestones in the schedule.

Equipment and materials will be removed from areas unless the radiation surveys indicate that the structures can be released for unrestricted access and

conventional demolition. By the Winter of 2002, after the fuel is transferred to the ISFSI, the SFP and its supporting systems are scheduled for D&D.

Table 3-2
Area of Activity & Decommissioning Activities Schedule (Arranged Chronologically)

Activity Number		Activity Description	Completion Date
TG0102-2	TG01	Demo Main Generator	2Q 01
Z-0139	SBHP	HP Checkpoint / Chem Lab Commodity Ripout	2Q 01
Z-0141	SB01	SBP Service Building Proper	2Q 01
SPRB01-8	HV7	HV-7 & 9 Room Commodity Ripout	2Q 01
0194X	P21E	P21E - PAB El 21' Evap Cubicle Segment EV-2	2Q 01
PULG01-1	PULG	PAB 36' General Area Commodity Ripout	2Q 01
PP-2 DWST	DWST	Foundation Pkg./Proc. C&D (Subgrade)	2Q 01
CB1501-5	CBQT	Quench Tank Area -2' Commodity Removal	2Q 01
0192	P21H	PAB 21' Letdown HX Room Commodity Removal	2Q 01
PULG01-4	PULG	PAB 36' - Boric Acid Storage Tank Demolition	2Q 01
0130	SPRB	Spray Building Commodity Ripout	2Q 01
PUDD01-1	PUDD	Remove Block Wall from Decay Drum Cube Opening	2Q 01
SPRB01-10	SPRB	Spray Pump Rebuild Room Commodity Removal	2Q 01
PUDDO1-3	PUDD	PAB 36' Remove Waste Gas Surge Tank TK-10	2Q 01
PUDDO1-4	PUDD	PAB 36' Remove Decay Drum Tank 60A	2Q 01
PUDD01-5	PUDD	PAB 36' Remove Decay Drum Tank 60B	2Q 01
PUDD01-6	PUDD	PAB 36' Remove Decay Drum Tank 60C	2Q 01

Table 3-2
Area of Activity & Decommissioning Activities Schedule (Arranged Chronologically)

Activity Number		Activity Description	Completion Date
0144X	CB14	SIT #2 Cut-Up	2Q 01
PUDD01-7	PUDD	PAB 36' Remove Decay Drum Tank 60D	2Q 01
PUDD01-8	PUDD	PAB 36' Remove Decay Drum Tank 60E	2Q 01
0245	XS00	Remove/Rig out Spare Transformer (X-1S)	2Q 01
TB0006-7X	TB00	Turbine Building - ROOFING REMOVAL	3Q 01
PERH	PH	Personnel Hatch Area Commodity Ripout	3Q 01
TB0006-7	TB00	Turb. Bldg. - Galbestos Siding Removal	3Q 01
0141X	CB14	Regen HX Commodity Removal	3Q 01
	CB11	Demo RCP #1 Pump Pedestal	3Q 01
PUDD01-2	PUDD	PAB 36' Decay Drum Cubicle Comm Rmvl	3Q 01
0053	CICI	CTMT ICI Sump Commodity Removal	3Q 01
0083X	CB13	SIT #3 Cut-Up	3Q 01
Z-0156P	SVH1	Steam & Valve House Commodity Removal	3Q 01
RCP2PED	CB12	Demo RCP #2 Pump Pedestal	3Q 01
SG1PED	CB11	Demo SG #1 Pedestal Base	3Q 01
PUTC01-4	PUTC	PAB 36' VCT Cubicle Commodity Ripout	3Q 01
P21L01-2	P21L	PAB 21' General Area Commodity Removal	3Q 01
CB1501-11	CBQT	Quench Tank Area Final Ripout	3Q 01
RCP3PED	CB13	Demo RCP #3 Pump Pedestal	3Q 01
PUTC01-2	PUTC	PAB 36' VCT Cubicle - Remove VCT TK-6	3Q 01
SG3PED	CB13	Demo SG #3 Pedestal Base	3Q 01

Table 3-2
Area of Activity & Decommissioning Activities Schedule (Arranged Chronologically)

Activity Number		Activity Description	Completion Date
Z-0157P	RMCC	Reactor MCC Room Commodity Removal	3Q 01
CB1201-7	CB12	CTMT Loop 2 Final Rip Out	3Q 01
LOOP1C	CB11	CTMT Loop 1 Commodity Removal Complete	3Q 01
LOOP1F	CB11	CTMT Loop 1 Final Ripout	3Q 01
0211	PLAD	PLAD PAB 11' ADT - Segment TK-12A	3Q 01
PUWG01-1	PUWG	PAB 36' Waste Gas Cube Commodity Removal	3Q 01
0147	CB31	Remove Commodities/Cut Liners Rx Cavity Area	3Q 01
CW0006-7	CCW1	Circ Water Demo- Walls & Roof El. 21'	3Q 01
WH5BF	MSW5	Warehouse #5 Subgrade Foundation Backfill	3Q 01
Z-0397Y	345K	Electrical Tower Demolition (X-1A/B Area)	3Q 01
Z-0397S	345K	Electrical Tower Subgrade Demo (B parking lot)	3Q 01
Z-0377	MSCL	Collection Site Demolition	3Q 01
Z-0447	YMET	Demo - MET (fences, house, tower, conc pads)	3Q 01
Z-0357	YDWW	Well Water House Demolition	3Q 01
Z-0357S	YDWW	Well Water House Subgrade Demolition	3Q 01
TB0006-20	TB00	Turbine Hall Crane Demolition	4Q 01
0066X	CB11	SIT #1 Cut-Up	4Q 01
P21E01-2	P21E	P21E El 21' Evap Cubicle Grating	4Q 01
CB1301-8	CB13	CTMT Loop 3 Final Ripout	4Q 01
LOOP3C	CB13	CTMT Loop 3 Commodity Removal Complete	4Q 01
TB0006-21	TG01	Turbine Pedestal	4Q 01

Table 3-2
Area of Activity & Decommissioning Activities Schedule (Arranged Chronologically)

Activity Number		Activity Description	Completion Date
TB0006-22	TB00	Turbine Building Demo (Ph I - Excl. North Wall)	4Q 01
Z-0152X	SB00	Service Building Demo (Phase I) (Above Grade)	4Q 01
CW0006-8	CCW1	Circ Water Pump House Demo - Slab @ 21'	4Q 01
PLAD01-2	PLAD	PLAD PAB 11' ADT - Segment TK-12B	4Q 01
CW0006-10	CCW1	Circ Water Pump House Demolition Retaining Walls	4Q 01
0226	TK33	Remove CWPH Ferrous Sulfate Storage Tk (TK-33)	4Q 01
CW0006-2	CCW1	Circ Water Pump Shaft Backfill	4Q 01
CW0006-9	CCW1	CW Pump House Demo Structure to High Water	4Q 01
CW0006-11	CCW1	Circ Water Pump House Concrete Demolition	4Q 01
0714	STP1	Sewage Treatment Plant Demolition	4Q 01
TB1BF	TB00	Turbine Building Demo Phase 1 Backfill	4Q 01
PUEC01-1	PUEC	PAB 36' Evap Cubicle Commodity Removal	4Q 01
STPBF	STP1	Sewage Treatment Plant Demolition Backfill	4Q 01
PUHV01-1	PUHV	PAB El 36' HVAC Rmv Comp Below HV-1,2	4Q 01
PUHV01-2	PUHV	PAB El 36' HVAC Remove Filters	4Q 01
CWBF	CCW1	CW Pump House Demo Backfill & Landscape	4Q 01
PUHV01-3	PUHV	Remove Tubing, Piping, Conduit & HVAC Duct	4Q 01
PUHV01-4	PUHV	PAB El 36' HVAC Remove Walkway	4Q 01
0311	PLPD	PAB 11' PDT - Segment TK-11 (Primary Drain)	4Q 01

Table 3-2
Area of Activity & Decommissioning Activities Schedule (Arranged Chronologically)

Activity Number		Activity Description	Completion Date
TB0006BG	TB00	Turb Bldg Foundation Subgrade Demo	4Q 01
Z-0152XS	SB00	Service Building Subgrade Demolition (Phase 1)	4Q 01
0114	NSRV	Segment Neutron Shield Tank	1Q 02
PLPA01-2	PLPA	PAB 11' - PAB Sump Area Commodity Removal	1Q 02
0153	CCG1	CTMT 46' Charging Floor Commodity	1Q 02
0150	CB32	CTMT Upender - Remove Commodities/Cut Liners	1Q 02
CB3301-3	CCOA	Remove CTMT 46' Outer Annulus Jib Crane	1Q 02
0156	CPLE	Remove CTMT Elevator Room Commodities 1	1Q 02
P21L01-5	P21L	P21L - PAB El 21' Remove Monorail	1Q 02
CB3301-2	CCOA	Remove CTMT 46' Outer Annulus Monorail	1Q 02
Z-0337	YDPH	MPH - Montsweag - Remove Commodities & Backfill	1Q 02
Z-0397	345K	Electrical Tower Demolition (B Parking Lot)	1Q 02
CCOAF	CCOA	CTMT 46' Outer Annulus Final Ripout	1Q 02
HV7DEMO	HV7	HV-7 & 9 Building Demolition	1Q 02
0713S	SBTT	Service Bldg Test Tank Subgrade Foundation Demo	2Q 02
CB18F	CB18	CTMT EL -2' OA Final Ripout	2Q 02
0726S	DWST	DWST -Subgrade Foundation Demolition	2Q 02
0731	X MSGH	Demo Gas House Foundation	2Q 02
SBTTBF	SBTT	SBTT Subgrade Foundation Demo Backfill	2Q 02

Table 3-2
Area of Activity & Decommissioning Activities Schedule (Arranged Chronologically)

Activity Number		Activity Description	Completion Date
0727S	RWST	RWST/SCAT Tank Subgrade Foundation Demo	2Q 02
DWSTBF	DWST	DWST Subgrade Foundation Demo Backfill	2Q 02
GHBF	MSGH	Gas House Foundation Backfill	2Q 02
PP-4	RWST	RWST/SCAT Foundation Packaging/Processing C&D	2Q 02
RWSTBF	RWST	RWST/SCAT Subgrade Foundation Demo Backfill	2Q 02
0569	SPRB	Spray Building Demolition	2Q 02
SBFD	SBF	Softball Field Demolition (Dugouts & Fencing)	2Q 02
SPRAY	CCG1	Remove CTMT Spray Rings	2Q 02
0719	YDBG	Barge Slip / Road Demolition	2Q 02
0159	CB34	Remove Commodities CTMT Polar Crane (CR-1)	2Q 02
Z-0156	SVH1	Steam Valve House Demolition (Above Grade)	2Q 02
CB2101F	CB21	Final Commodity Removal CTMT El 20'	3Q 02
0136	CPHO	CTMT Personnel Hatch Commodity Removal	3Q 02
CB3301-1	CCOA	Remove CTMT 46' Outer Annulus Grating	3Q 02
0712	CPHO	CTMT Personnel Hatch Demolition	3Q 02
CCFFR	CCG1	CTMT 46' Charging Floor Final Ripout	3Q 02
0233DR	PWST	Drain Primary Water System	3Q 02
PUFN01-2	PUFN	PAB El 36' Fan FN-1A Removal	3Q 02
Z-0152	SB00	Service Building Demo (Phase 2) Above Grade	3Q 02

Table 3-2
Area of Activity & Decommissioning Activities Schedule (Arranged Chronologically)

Activity Number		Activity Description	Completion Date
PUFN01-3	PUFN	PAB El 36' Fan FN-1B Removal	3Q 02
PAB11FR	PA00	PAB 11' Final Ripout	3Q 02
HV7DEMOS	HV7	HV-7 & 9 Subgrade Demolition	3Q 02
PUFN01-4	PUFN	PAB El 36' Install Temporary Roof	3Q 02
Z-0132	RCAD	RCA Drumming Room Commodity Removal	3Q 02
Z-0135	SFP1	Fuel Bldg Proper Commodities Ripout	3Q 02
Z-0156S	SVH1	Steam Valve House Subgrade Foundation Demo	3Q 02
Z-0157	RMCC	Reactor MCC Room Demolition	3Q 02
Z-0197	AD00	Admin Bldg / Gatehouse Demolition	4Q 02
0513	PWST	PWST - Primary Water Storage Tank Comm Rmvl	4Q 02
Z-0197S	AD00	Admin Bldg / Gatehouse Subgrade Demo	4Q 02
LSACOM	LSAB	LSA Building Commodity Ripout	4Q 02
0711	CEHO	Containment Equipment Hatch Demolition	4Q 02
PUFN01-1	PUFN	PAB El 36' Cut Opening in Roof	4Q 02
ADBF	AD00	Admin Bldg / Gatehouse Demolition Backfill	4Q 02
Z-0152S	SB00	Serv Bldg Subgrade Demo (Phase 2) Below Grade	4Q 02
PAB21FR	PA00	PAB 21' Final Ripout	4Q 02
TB0006-22X	TB00	Turbine Building Demo (Ph II North Wall)	4Q 02
0215	PABR	PAB Roof Area Commodity Removal	4Q 02

Table 3-2
Area of Activity & Decommissioning Activities Schedule (Arranged Chronologically)

Activity Number		Activity Description	Completion Date
0728	WART	Wart Building Demolition (Above Grade)	4Q 02
PUFN01-5	PUFN	PAB El 36' Fan FN-1A/B Area Commodities	4Q 02
PU4801-1	PU48	PAB El 36' Remove Duct	4Q 02
PU4801-2	PU48	PAB El 36' Remove Supports	4Q 02
Z-0131	SFP3	SFP Heat Exchanger Cubicle Commodity Removal	4Q 02
0253	SFP2	Spent Fuel Pool Area Commodity Removal	4Q 02
MYM16	SB00	Service Building Demolition Complete	4Q 02
TB0006BG2	TB00	Turb Bldg Subgrade Demo (Below North Wall)	4Q 02
0728S	WART	Wart Building Subgrade Demolition	4Q 02
0569S	SPRB	Spray Building Subgrade Demolition	4Q 02
PERHD	PH	Personel Hatch Area Demolition	4Q 02
Z-0071	NFLA	NFLA / Vault Commodity Demolition	4Q 02
PU4801-3	PU48	PAB El 36' Fan FN-48 Area Commodities	4Q 02
0230	X140	XFMRS X-14/16 Area Commodity Removal	4Q 02
Z-0140	RCAW	RCA Bldg Commodity Removal	4Q 02
PERHDS	PH	Personnel Hatch Area Subgrade Demolition	4Q 02
Z-0137	SFP4	SFP Ventilation Room Commodity Removal	4Q 02
MONO	PUSA	PAB 36' Monorail Demolition	4Q 02
0738	X140	X-14/16/16A/16B Transformer Demolition	4Q 02
TB2BF	TB00	Turbine Building Demo Phase 2 Backfill	4Q 02

Table 3-2
Area of Activity & Decommissioning Activities Schedule (Arranged Chronologically)

Activity Number		Activity Description	Completion Date
PT001	SFP6	RCA Pipe Tunnel Commodity Removal	4Q 02
PAB36FR	PA00	PAB 36' Final Ripout	4Q 02
0245FD	XALL	Transformer Foundations Demolition (All)	4Q 02
0236	115KV	115KV Tower Dismantlement (X-14 area)	1Q 03
Z-0207	CB00	Primary Vent Stack Demolition	1Q 03
0716	115KV	115KV Tower Subgrade Foundation Demo (X-14 Area)	1Q 03
0254	SFP2	Spent Fuel Pool - Cut Liner/Fuel Racks	1Q 03
0222COM	HR00	High Rad Bunker Commodity Ripout	1Q 03
0231	SFPI	Generator/Pagoda Area Commodity Removal	1Q 03
Z-0227	SFPI	Generator/Pagoda Area Demolition	1Q 03
Z-0172	PA00	Primary Aux. Building Demolition	1Q 03
0227	SEAL FI	Forebay/Seal Pit Demolition	1Q 03
MYM11	PA00	PAB Structure Demolition Complete	1Q 03
Z-0172S	PA00	Primary Aux Bldg Subgrade Demolition	1Q 03
0725	EFPR	Emergency Feed Pump Room Demolition	1Q 03
0227S	SEAL FI	Forebay/Seal Pit Subgrade Demolition	1Q 03
0725S	EFPR	Emergency Feed Pump Room Subgrade Demolition	1Q 03
0235	BWST	BWST Berm Demolition	2Q 03
0515	BWST	BWST Tank & Commodity Ripout	2Q 03

Table 3-2
Area of Activity & Decommissioning Activities Schedule (Arranged Chronologically)

Activity Number		Activity Description	Completion Date
0235S	BWST	BWST Subgrade Demolition	2Q 03
0233	PWST	PWST Tank Demolition	2Q 03
0237	BWST	Contaminated Soil Removal (BWST)	2Q 03
0233S	PWST	PWST Subgrade Demolition	2Q 03
PP-17	BWST	BWST/Berm Demolition Packaging/Processing C&D	2Q 03
PP-16	PWST	PWST Demolition Packaging/Processing C&D	2Q 03
PWSTBF	PWST	PWST Subgrade Demolition Backfill	2Q 03
0222	HR00	Demolition High Rad Bunker	2Q 03
Z-0347X	MSW4	MSW4 - Warehouses #4 (Annex) Demolition	2Q 03
0228	DIFF	Diffuser Piping Demolition	2Q 03
Z-0347XS	MSW4	MSW4 - Warehouse #4 Subgrade Demolition	2Q 03
Z-0347X1	MSW2	WHSE - Warehouses #2/3 Demolition	2Q 03
0236L	115KV	Drop 115 KV Power Lines	2Q 03
Z-0347X2	MSW2	WHSE - Warehouses #2/3 Subgrade Foundation Demo	3Q 03
Z-0367	MSIC	Information Center Demolition	3Q 03
Z-0482	BLPT	Bailey Farm House/BarnDemolition	3Q 03
Z-0482S	BLPT	Bailey Farm House/Barn Subgrade Demo	3Q 03
Z-0367S	MSIC	Information Center Subgrade Demolition	3Q 03
Z-0157S	RMCC	Reactor MCC Room Subgrade Foundation Demolition	3Q 03

Table 3-2
Area of Activity & Decommissioning Activities Schedule (Arranged Chronologically)

Activity Number		Activity Description	Completion Date
0224	FPH1	Fire Pump House Commodities	3Q 03
0717	FR00	Fire Pump House Demolition (Above Grade)	3Q 03
0717S	FR00	Fire Pump House Demolition (Below Grade) (Water from Fire Pond will be sampled and processed as necessary for release)	3Q 03
Z-0069S	STFB	Staff Building & Tunnel Demo (Subgrade)	4Q 03
Z-0257	YDTP	Test Pit Demolition	4Q 03
Z-0387	YDLT	LIFT - Lift Station Demolition	4Q 03
0257S	SF00	RCA/Fuel Building Subgrade Demolition	4Q 03
0239	LSAB	LSA Building Demolition	4Q 03
Z-0267	YDFC	SECF - Security Fence Demolition	4Q 03
0722	YDOU	Remove Outside Utilities (3 ft. below) Demo.	4Q 03
0239S	LSAB	LSA Bldg. Subgrade Foundation Demolition	4Q 03
Z-0417	YDSH	Temp. Power Shack Demolition (Whitehouse)	4Q 03
Z-0417C	YDSH	Temp. Power Shack Foundation Demolition	4Q 03
Z-0307	YDLP	ULP - Utilities Light Poles Demolition	4Q 03
Z-0437	SEAL	SEAL - Seal Pit Outfall Demolition (Above Grade)	4Q 03
Z-0437S	SEAL	SEAL - Seal Pit Outfall Demolition (Below Grade)	4Q 03
Z-0297	YARD	FPHS - Fire Protection Hose/STA/Hydrants Demo	4Q 03

Table 3-2
Area of Activity & Decommissioning Activities Schedule (Arranged Chronologically)

Activity Number		Activity Description	Completion Date
0257	SF00	SFP / RCA Building Demolition	1Q 04
		Forebay Sediment Assessment/Remediation	1Q 04
MYM13	SFP2	Spent Fuel Pool Demolition Complete	2Q 04
Z-0148	CB00	Containment Building Demolition	2Q 04
Z-0317	YDPW	PW-Potable Water Connection Demolition	2Q 04
0724	YDSL	Sanitary Lines Demolition	2Q 04
Z-0148S	CB00	Containment Building Subgrade Demo	2Q 04
ROAD	YDRP	Site Roads & Parking Lots Demolition	2Q 04
Z-0407RT	YDRR	Railroad Tracks Demolition	2Q 04
Z-0237	MSMO	MOD - Modular Offices (2) Demolition	2Q 04
	0591	Final Doc. Submittal to NRC	2Q 04
	0287	Decommissioning Complete / Non ISFSI Land Released	3Q 04
		ISFSI Dismantlement, Decommissioning and Remediation (After removal of all spent fuel)	2026**
		Dismantlement of structures, support buildings, fences, lighting and utilities poles	2026**
		Site Remediation, planting of grass, trees, etc	2026**
		Final Facility Site Survey	2026**
		Release of the Facility Site for unrestricted use	2026**
		Termination of Maine Yankee Atomic Power Company's Part 50 License	2026**

** Projected date for DOE to have taken possession and removed stored materials.

3.2.3 Material Removal Sequence

Removal sequence may be dictated by access and material handling restrictions or by personnel exposure considerations. In most cases, a top-down approach will be used; materials and structures at the highest elevations are removed first to allow access to components in lower levels. In other cases, different approaches may prove more efficient.

Generally, the first items removed are those that are not, or are only slightly, contaminated to preclude contamination by other equipment. However, personnel exposure considerations may not always allow this option. Where non-contaminated equipment cannot be removed first, covers or other protection methods to ensure effective contamination control shall be used. Similarly, non-contaminated piping should be removed from pipe chases and horizontal pipeways before cutting pipes. If this is not possible, other precautions, such as covers, are used to minimize the spread of contamination.

Where rapid cutting techniques are available, pipes and equipment can be sectioned into pieces that are manageable using light rigging or by manual lifting. Where slow cutting techniques are used the largest manageable pieces will typically be freed and moved to a more convenient location for further reduction.

In the initial stages of decommissioning, most material removed from the containment building will pass through the modified equipment hatch and/or the additional 8' x 8' and 10' x 10' openings cut through the side of the containment that facilitates movement of materials when the larger opening is in use.

The plant is equipped with multiple cranes, hoists, and lifting and transport systems. These systems can be used to lift and transport components and equipment to support plant decommissioning activities. Forklifts, mobile cranes, front-end loaders, and other lifting and transport devices can also be used for plant decommissioning activities. The major installed plant cranes, hoists, and lifting and transport devices that are available to support decommissioning include:

a. Containment Building Polar Crane (360 ton, dual 185 ton hooks, 15 ton auxiliary hook)

b. Fuel Building Overhead Crane;

c. Equipment Room Monorails; and

d. Fuel Building Yard Crane (125 ton main hook /20 ton auxiliary hook)

e. Turbine Hall Overhead Crane

f. Plant Equipment Monorail Systems

The cranes continue to be maintained in accordance with applicable standards and regulations. The containment building equipment hatch modification allows the multi-wheeled transport direct access into containment.

The containment building polar crane is capable of reaching most locations inside the containment building and can handle large, heavy loads. The fuel building yard crane has access into the fuel building via a roll up door for movement of heavy components. This crane is being upgraded to be single failure proof for use in transferring spent fuel out of the spent fuel pool in spent fuel storage casks. The fuel building crane is used to some extent for movement of components in the spent fuel pool.

Installed cranes, hoists, and monorails may be used in conjunction with temporary or mobile lifting and transport devices to support decommissioning. The installed plant cranes, hoists, and other lifting devices can be decontaminated and dismantled when they no longer are required to support decommissioning activities.

3.2.4 Final State-of-the-Site Description

The purpose of this section is to present a conceptual description of the site following license termination and unrestricted release and to identify the extent of the types of media that must be considered in dose assessment, survey design and environmental assessment. Figure 3-30 shows the anticipated final state of the site. At license termination, when the site will be released for unrestricted use, the site will be a backfilled and graded land area with possibly some above grade structures remaining depending on the industrial reuse of the site. Generally speaking, all of the above grade structures will be demolished to three feet below grade and the resulting concrete demolition debris will be disposed of offsite at either a low-level waste facility or an appropriate disposal facility except for the 345 & 115 kV switchyards and possibly other administrative buildings. The

remaining basement foundations will be filled with a soil fill material following any required remediation and FSS activities.

The former Low Level Waste Storage Building [now the ISFSI Security Operations Building-(SOB)] will remain in place until the fuel is transferred to the USDOE. The 115 kV switchyard and the 345 kV switchyard, will remain intact. The road that travels past the ISFSI will remain in place, terminating near the 115 kV switchyard. The original plant access road will remain but terminate between the ISFSI and the former location of the Information Building. The existing railroad that serves the ISFSI with its two spurs will remain in place, with one spur terminating near the 115 kV switchyard and the other terminating at the edge of the old road bed (formerly between the Restricted Area and the Service Building). The Old Ferry Road (a public road) and public boat ramp will remain in place.

Some below grade structures and systems will remain as described below:

Turbine and Service Building

These buildings will be demolished to three feet below grade. Concrete duct banks, building footings and foundations below this elevation will remain in place. A Final Status Survey will be performed on the remaining building footprint before it is backfilled. Piping below the foundation from the following systems will be removed: Primary Component Cooling, Secondary Component Cooling, sanitary sewer, oil lines, and floor drains. Service water intake lines may remain in place. The service water discharge line may be removed if necessary following final status survey. The service water discharge line was used as part of the radiological effluent discharge flow path from the test tanks. The circulating water discharge pipe encasement top may be left in place or may be broken and the lines backfilled following final status survey.

Containment, Primary Auxiliary Building, Fuel Building and Containment Spray Building

These buildings will be demolished to three feet below grade. Basement foundations below this level will remain in place and be backfilled with soil fill following remediation, as required, and final status survey. Some or all of the intervening walls and floors in the basements may be removed. The steel liner in the basement of the containment will remain in place. Many of the basement concrete and steel liner surfaces are covered with paint known to contain trace

amounts of lead and/or PCB's. This paint will be removed prior to final status survey. The fuel transfer tube and bellows will be removed. The spent fuel pool liner will be removed due to known contamination levels. Some limited amounts of embedded pipe which penetrate basement walls will remain in place. These embedded pipes are easily accessible from either side for final status survey. Sub-mat "popcorn" concrete and its embedded drain lines around the sub-base of the containment will remain in place. These lines lead to the containment foundation sump pump which has been regularly sampled for contaminants. The containment drain sump will be demolished to three feet below grade. The foundation drain discharge line to the storm drain system may be removed

Above Grade Structures in the Radiological Controlled Area: High Radiation Bunker, Main Steam and Valve House, Emergency Feedwater Pump Room, LSA Building, Equipment Hatch/HV-7 & 9 Rooms, Ventilation Equipment Area, Reactor Motor Control Center Room.

These structures will be demolished down to three feet below grade. Building footings and foundations may remain.

Circulating Water Pump House

The Circulating Water Pumphouse (CWPH) will be demolished (demolish concrete 3' below grade with grade varying from El. 17' at the west wall to El. -3' at the east, backfill and cover with rock rip-rap). The intake structure which is below water level will remain in communication with the river. Outlet CW piping will be removed along with portions of the SW piping.

Sewage Treatment Plant

The Sewage Treatment Plant inlet pipes (coming from the TB/SB) will be removed, with outlet piping inspected, decontaminated (if required) and left buried, prior to building demolition to 3 feet below grade.

Foundations associated with Tanks, Guard Towers, Meteorological Towers, Yard Crane Footings, Vehicle Barriers, Transformers and Above Grade Structures including: Warehouse 2/3, 4 and 5, Administrative Building (Front Office), Gatehouse, Staff Building, Collection Center, Information Center

The meteorological tower will be dismantled and removed. The concrete footings and attached guide lines will be removed to three feet below grade and the area

backfilled. Concrete foundations for tanks, guard towers, yard crane footings, vehicle barriers, transformers and buildings will be demolished to three feet below grade. Footings and foundations below three feet below grade may remain in place. Maine Yankee may determine that the Warehouses, Staff Building and Information Center can remain standing, after radiological release for unrestricted use.

Buried Piping

Buried fire protection and raw water piping will be left "in place." The CW and portions of the SW pipes between the CWPH and the Turbine and Service buildings will be removed. Piping between the DWST/RWST and the CSPA locations will be removed. All buried piping in the alleyway (area formerly between the service and containment buildings) will be removed. "Hot Side"storm drains will be decontaminated (if required) and left in place. Cold side storm drains will be left in place with the following caveats: All catch basins and manholes will be cleaned out, demolished to three feet below grade, and backfilled.

Forebay, Seal Pit and Diffuser Piping (see also Sections 8.2 and 8.6.4 regarding the NRPA process)

Maine Yankee is continuing to evaluate the final disposition of the Forebay, seal pit, and diffuser piping. As part of a NRPA process, Maine Yankee is analyzing remedial options and coordinating, as required, with the Maine Department of Environmental Protection and the U.S. Army Corps of Engineers. (Other responsible agencies coordinate through these two principal agencies). The key options under evaluation include: (1) leave in place as exists; (2) secure and leave in place; (3) partial removal and; (4) complete removal. The types of impact that will be considered in the analyses include environmental impacts (water quality, marine wetlands, freshwater wetlands and land use), ecological impacts including flora, fauna and marine resources, and impacts on natural resources and navigation. The evaluation will address the following options:

Diffuser Pipe, Foxbird Island – onshore below grade. Options include capping and leaving in place or removal, backfill and restoration to existing grade/conditions.

Diffuser Pipe, Mudflats – below the sediment/water interface. Options include capping and leaving in place or removal, backfill and restoration of the tidal flats.

Diffuser Pipe, Offshore above the sediment/water interface. The first option involves removal, possibly adding rip rap to the thrusters to form an artificial reef and augmented habitat. The second option involves leaving in place and filling with sand. This option may also include adding rip rap to form an artificial reef.

The concrete saddle supports and thrust blocks for the diffuser piping may be left in place.

Forebay. All options involve demolishing the seal pit and removal of concrete down to three feet below grade, capping piping and trenches, and removing contaminated sediments, if required, consistent with the assumptions and dose assessment presented in Section 6.6.9. The first option also includes removal of the west bank of the Forebay to re-establish tidal flow. The second option involves leaving the west bank of the Forebay in place, cutting down berms to above the high water elevation, and using this material as fill for the forebay. The third option involves leaving the berms in their present configuration.

Fire Pump House and Fire Pond

This pond existed solely for the purpose of holding water supplied from Montsweag Brook and pumping it to the fire water protection header surrounding the plant and adjacent buildings. It has no direct discharge path to the bodies of water surrounding Bailey Point. Demolition of the man-made, concrete lined Fire Water Pond, will return the site to conditions similar to pre-plant construction. After draining, the concrete liner will be removed and the earthen impoundment leveled. Surface water will once again flow across this area The Fire Pump House will be demolished to three feet below grade and backfilled with soil- like fill.

Bailey Farm House, Barn, Well water structure and systems

The Bailey farm house, barn and well water structure will be demolished to three feet below grade. Building footings and foundations may remain.

Restricted Area (RA)

The previously described Restricted Area (RA) will be radiologically released for unrestricted use. However, to assure compliance with non-radioactive environmental monitoring issues, it may be fenced, and the land deeded with

restrictive covenants against excavating basements, drilling wells for drinking or irrigation water, or residential construction.

Independent Spent Fuel Storage Installation (ISFSI)

After the DOE transports all the stored spent fuel and GTCC wastes from the ISFSI, it will be decontaminated, if necessary, and demolished down to three feet below grade. A Final Status Survey will be performed for remaining lands and/or structures.

3.3 Methods of Decontamination and Dismantlement

3.3.1 Decontamination of Systems and Components

Systems and components removed and released from the secondary side of the plant for commercial disposal are surveyed in accordance with plant procedures based upon a no detectable radioactivity standard. Generally, systems and components removed from the primary (radiologically controlled) side of the plant are packaged and either transported to an offsite processing facility, LLRW disposal facility, or an appropriate disposal facility. Application of coatings and hand wiping may be used to stabilize or remove loose surface contamination. Potentially or slightly contaminated components (i.e., lighting ballast, mercury switches, etc) will be decontaminated onsite for release in accordance with plant radiological monitoring procedures for release.

Tanks and vessels are evaluated and, if required, flushed or cleaned to reduce contamination levels and remove sludge prior to sectioning and/or removal. The following considerations are incorporated into tank and vessel sludge removal activities:

a. Precautions are taken to ensure that in the unlikely event liquid inadvertently is discharged from the tank it will be captured (i.e., plugged lines, attached catch container, or temporary berm installation) for processing by a liquid waste processing system;

b. Sludge removed from the tank is stabilized prior to shipment in conjunction with the Maine Yankee Process Control Program (PCP); and

c. Wastewater will be processed and analyzed before being discharged.

3.3.2 Dismantlement of Systems and Components

Dismantlement methods can be divided into two basic types: non-destructive means such as disassembly, and destructive means such as cutting. Disassembly generally means removing fasteners and components in an orderly non-destructive manner (the reverse of the original assembly). Cutting methods include but are not limited to water jet, flame cutting, abrasive cutting, and cold cutting.

Water jet uses a very high-pressure stream of water to cut components (usually submerged underwater). Flame cutting includes the use of oxyacetylene and other gas torches, carbon arc torches, air or oxy arc torches, plasma arc torches, cutting electrodes, or combinations of these. Most of the torches can either be handheld or operated remotely with the appropriate devices. Abrasive cutting includes the use of grinders, abrasive saw blades, most wire saws, water lasers, grit blast, and other techniques that wear away metal. Cold cutting includes the use of band saw, blade saw, drilling, machining, shear, and bolt/pipe/tubing cutter devices.

Selection of the preferred method depends on the specific situation. Other dismantlement technologies may be considered and used if appropriate. Dismantling of systems includes the removal of valves and piping for disposal. Most valves can be removed with piping. Larger valves and valves with actuators may be removed separately for handling purposes.

Commodities are considered to be piping, HVAC, conduit, cable, cable tray, platform steel, pipe supports - basically any piece of equipment or material located within a building/structure that does not form an integral part of that structure. The removal of commodities will be based upon three general categorizations:

a. Areas within the Restricted Area (RA) of the plant

   Systems and components will be removed from each area of the building/structure/yard, packaged, and either transported to an offsite processing facility, a LLRW disposal facility (Class A, B, or C), or an appropriate disposal facility.

b. Areas within the non-RA of the plant that may have some internal system contamination.

Systems and components identified during the site characterization and subsequently verified and bounded by Maine Yankee, will be remediated, and the balance of the building/structure surveyed and released for demolition. Remediation (leaving as is, removal, capping, or grouting) will depend on the level of radioactive contamination found (if any).

c. Areas outside of the Restricted Area (RA)

These areas have never been exposed to radiological contamination. Commodities will be demolished and removed with the building/structure upon completion of appropriate survey.

3.3.3 Decontamination of Structures

Structure decontamination methods typically include wiping, washing, vacuuming, scabbling, spalling, and abrasive blasting. Selection of the preferred method is based on the specific situation. Other decontamination technologies will be considered and used if appropriate.

If structural surfaces are washed to remove contamination, controls are implemented in accordance with approved plant procedures to ensure that wastewater is collected for processing by liquid waste processing systems. Airborne contamination control and waste processing systems are used as necessary to control and monitor releases.

Concrete that is activated will be removed down to the activated concrete DCGL and sent to a low level radioactive waste disposal facility. Removal of contaminated (non-activated) concrete will be performed using methods that control the removal depth to minimize the waste volume produced. Appropriate engineering controls for control of dust and debris will be used to minimize the spread of contamination and reliance on respiratory protection measures.

The following structural decontamination methods are described:

a. In-situ Concrete Decontamination by Bulk Removal

Diamond wire saw cutting may be used for the removal of volumetric concrete above the unrestricted use criteria, (or DCGL).

The removal of concrete consisting of the upper 1 or 2 feet of a thick slab such as a building foundation mat will require volumetric removals beyond the limits of scabblers or shot blasting. Whether due to activation or to leakage of liquids into concrete, the material may be removed using a mini-hoe ram or demolition robot. These have the flexibility to access congested areas and can be controlled to limit the volume of waste produced.

b. In-situ Surface Decontamination of Concrete

The expected depth of the contamination will establish the process used for the surface decontamination of concrete. Scabblers and shot blasting equipment fitted with vacuum collection systems may be used for surfaces with deeper contamination. Elsewhere, sponge blasting using one or more different media and wipe downs with solvents may be used. Cross-contamination and recontamination will be minimized using the vacuum collection systems.

c. Decontamination of Plant Concrete Structures That Are to Be Demolished (located higher than three feet below grade)

Contaminated concrete structures above three feet below grade may not be completely decontaminated. They will be packaged and shipped off site for disposal at a LLRW disposal facility or appropriate disposal facility.

d. Concrete Surfaces Located at Elevations Lower than Three Feet below Grade

Concrete surfaces below three feet below grade will be decontaminated if required to established criteria.

e. In-situ Surface Decontamination of Metals/Preparation of Metal - Surfaces for Segmentation

Most metallic wastes will not be decontaminated on site. Sponge blasting using various media ranging from non-aggressive for surface cleaning to heavy abrasive media or other methods for paint or oxide removal will be used and/or wipe downs with solvents. The contamination on exterior and/or interior metallic surfaces may be fixed prior to dismantling the structure or component.

Internal building steel within the RA will be dismantled, packaged, and shipped for processing, unless it can be easily determined that the steel can be released.

Steel located within non-RA buildings, i.e., not considered to have been exposed to radiological contamination, will be surveyed and released for demolition, i.e., Turbine Building, Circulating Water Pump Structure, etc. The external structural steel of plant buildings has been assessed during walkdowns and, depending upon the area, will either be surveyed and released for demolition or dismantled for packaging and shipment to a waste processor.

f. Embedded and Buried Piping Survey and Decontamination

There are two categories of pipe: buried pipe and embedded pipe. Buried pipe is pipe run underground, buried in a trench and surrounded by soil, whereas embedded pipe is encased in concrete. Treatment of buried pipe will depend on results from the surveys associated with the RCRA closure process as to whether it can be left in place, must be filled with inert material to be left in place, or must be removed. If buried pipe is to remain, it may be surveyed using the "pipe crawlers" to compare residual activity to the DCGLs or if the buried pipe is not expected to contain any residual activity, survey will only be conducted at accessible portions of the pipe, intakes or outfalls. The majority of embedded pipe (≈1000 feet) is expected to be removed when concrete is demolished to three feet below grade. Embedded pipe remaining will also be surveyed using "pipe crawlers" or other appropriate method to compare residual activity to DCGLs.

The radiological pipe crawler allows in-situ survey, characterization, and decontamination of underground (buried) and embedded piping. By using this technology, safety risks, demolition costs, and secondary waste are reduced. (This technology has been used by other licensees to unconditionally release over 18,000 linear feet of piping with verification by the NRC). Based on survey results a decision considering the best engineering practice, will determine whether the remaining buried or embedded piping will be left as is, capped, or grouted.

Areas with activity above DCGL values will be remediated.

3.3.4 Building Demolition and Site Restoration

Table 3-3 describes the structures and facilities within the scope of the decommissioning along with the condition of release and final configuration.

Table 3-3
Structures and Facilities Within the Scope of Work for Demolition

Building or area description	Condition of release	Final configuration of structure
Containment building	1	Demo. 3 ft below grade; backfill
Steam and valve house	1	Demo. 3 ft below grade; backfill
Spray building	1	Demo. 3 ft below grade; backfill
Containment equipment hatch outer	1	Demo.
Containment personal hatch outer	1	Demo.
LSA building	1	Demo. 3 ft below grade; backfill
Reactor MCC room	1	Demo. 3 ft below grade; backfill
Emergency feed pump room	1	Demo. 3 ft below grade; backfill
Primary auxiliary building	1	Demo. 3 ft below grade; backfill
Fuel building	1	Demo. 3 ft below grade; backfill
RA building	1	Demo. 3 ft below grade; backfill
Service building - hot side	1	Demo. 3 ft below grade; backfill
Service building test tanks (TK-14A/B)	1	Complete demo.; remove pads; backfill
Demin. water storage tank (TK-21)	1	Complete demo.; remove pads; backfill
Primary water storage tank (TK-16)	1	Complete demo.; remove pads; backfill
Boron water storage tank (TK-13 A/B)	1	Complete demo.; remove pads; backfill
Refueling water storage tank (TK-4 & TK-54) and greenhouse	1	Complete demo.; remove pads; backfill

Table 3-3
Structures and Facilities Within the Scope of Work for Demolition

Building or area description	Condition of release	Final configuration of structure
Offgas stack	1	Complete demolition
Aux boiler stack	1	Complete demolition
High radiation bunker	1	Demo. 3 ft below grade; backfill
Turbine building	2	Demo. 3 ft below grade; backfill
WART/I&C building	2	Complete demolition; backfill
LLWB - Low level waste building	2	Complete demolition; backfill
FI - Foxbird island	TBD	To Be Determined (TBD) based on alternatives analysis
Security/Gatehouse building	3	Demo. 3 ft below grade; backfill
Administration building	3	Demo. 3 ft below grade; backfill
Fuel oil bunker	3	Demo. 3 ft below grade; backfill
Gas house	3	Complete demolition; backfill
Circ water pump house	3	Demo.West wall down to 3 ft below grade (17' elevation) and East wall to -3 ft elevation; backfill and add rip rap
Temporary power shack - West of fuel building	3	Complete demolition; backfill
Modular office buildings (2)	3	Complete demolition
8 Sided storage building	3	Complete demolition
Test pit	3	Complete demolition; backfill
West - area West of the containment Building including (3) guard towers	3	Complete demolition; backfill
Condensate storage tank (concrete pad only)	3	Demo. 3 ft below grade; backfill

Table 3-3
Structures and Facilities Within the Scope of Work for Demolition

Building or area description	Condition of release	Final configuration of structure
Transformer including elect tower and concrete structures/pad	see below	see below
1. X-IA	3	Remove transformer for disposition; demo. pads; backfill
2. X-IB	3	Remove transformer for disposition; demo. pads; backfill
3. X-24	3	Remove transformer for disposition; demo. 3 ft below grade; backfill
4. X-26	3	Remove transformer for disposition; demo. 3 ft below grade ; backfill
5. X-28	3	Remove transformer for disposition; demo. 3 ft below grade; backfill
6. X-IS	3	Remove transformer for disposition; demo. 3 ft below grade; backfill
7. X- 14	3	Remove transformer for disposition; demo. 3 ft below grade; backfill
8. X-16	3	Remove transformer for disposition; demo. 3 ft below grade; backfill
9. X- 16A	3	Remove transformer for disposition; demo. 3 ft below grade; backfill
10. X- 16B	3	Remove transformer for disposition; demo. 3 ft below grade; backfill
Temp generator/transformer/pagoda (cold & dark equipment)	2	Remove transformer for disposition; demo. pagoda
Outside protected area		
STPI - Sewage treatment plant	3	Demo. 3 ft below grade; backfill

Table 3-3
Structures and Facilities Within the Scope of Work for Demolition

Building or area description	Condition of release	Final configuration of structure
Lift station	3	Demo. 3 ft below grade; backfill
Information center bldg (including concrete pad and blocks 4 ft x 4 ft x 4 ft)	3	Demo. 3 ft below grade; backfill
Collection site	3	Demo. 3 ft below grade; backfill
Staff building/staff tunnel	3	Demo. 3 ft below grade; backfill
Annex - WHSE 4	3	Complete demolition; backfill
WHSE 2 & 3 - warehouse	3	Demo. 3 ft below grade; backfill
WHSE 5 - warehouse	3	Complete demolition; backfill
FPH - fire pump house/retention pond	3	Demo.; level; backfill
Seal pit (outfall)	TBD	To Be Determined (TBD) based on Alternatives Analysis
Barge slip area	3	grade area adjacent to slip
Pre-fab building (generator) and yard	3	Complete demolition; backfill
ELECT towers (inside industrial area)	3	Demo. towers and pads; backfill
Railroad cars (4) - includes track spur from fuel bldg to the property line	3	Demo. rail cars; remove rails to location designated; grade
Well water house	3	Demo. to 3 ft below grade; backfill
MET tower and equip. inside fenced area	3	Demo. 3 ft below grade; backfill
Electrical fence (around radio tower area)	3	Complete demolition; backfill

Table 3-3
Structures and Facilities Within the Scope of Work for Demolition

Building or area description	Condition of release	Final configuration of structure
Concrete blocks - 4ft x 4ft x4ft Vehicle barriers	3	Remove initially and store for use; then demo.
Remove outside utilities - 3 ft below grade		
1. Potable water	3	Demo. 3 ft below grade; backfill
2. Utility light poles	3	Demo. 3 ft below grade; backfill
3. Fire hydrant hose stations	3	Demo. 3 ft below grade; backfill
4. Sanitary lines	3	Demo. 3 ft below grade; backfill

Notes:
a. Number 1 denotes that the bldg/area will undergo decontamination and the commodities will be removed prior to building demolition.
b. Number 2 denotes that the bldg/area will have commodities removed and decontamination will be done as required. Remaining commodities will remain as is for building demolition.
c. Number 3 denotes that the bldg/area is clean and the commodities will remain as is for building demolition.

Property, structures and facilities will be demolished to a level three feet below present grade, with few exceptions. As a result of this approach, the following sequence of dismantlement and demolition will occur for buildings with Condition of Release 1 identified in Table 3-3:

a. Strip, package, ship commodities from the buildings (piping, steel, components, etc.) Commodities, including building steel determined to be clean may be released to the demolition contractor.
b. Perform decontamination of the building concrete surfaces (at elevations below 3 feet below grade) to meet established criteria levels. Package the debris from decontamination and ship for LLW processing and/or disposal.
c. Perform a final survey (sequence of "c" and "d" optional as described in section 3.1.3)
d. Release for demolition.

e. Demolish the building structure to 3 feet below grade. Separate the clean[2] rebar from the concrete.
f. Prepare the demolished concrete for shipment offsite.
g. Release rebar using established radiological release procedures and ship rebar to metal recycling contractor.

The structures specified as Condition of Release 2 in Table 3-3, are those that are on the cold side of the plant and have been maintained as radiologically "clean," with the exception of some systems and equipment that may have internal contamination. Within these areas, the process for demolition will follow this process:

a. Remediate, package, and ship systems, components and, commodities identified within the site characterization report and assessed and bounded by Maine Yankee. Structural steel of plant buildings will either be surveyed and released for recycling or dismantled for packaging and shipment as LLW material.
b. Decontaminate, if required, to achieve the established radiological release criteria.
c. Perform radiation surveys to allow material release to the demolition contractor.
d. Release for demolition to the contractor.
e. Demolish structures and foundations to depth specified.
f. Subsurface piping to be handled as indicated above.
g. Perform final grade.

The buildings, structures, and facilities identified as Condition of Release 3 in Table 3-3 are those that do not have a history of contamination and are therefore classified as "presumed clean." In certain cases there are minor exceptions to this generalization, based upon the information in the site characterization report, such as a small area within the information center and the staff building, that appear to have been remediated. Also, the site characterization report identifies higher activity levels within the basement of the environmental lab (Bailey House), that may be attributed to background from the granite. However, Maine Yankee will evaluate and release these individual areas in accordance with plant radiological release procedures to allow for demolition. Procedural controls identify the monitoring requirements for construction debris release (Refer to Section 3.1.3).

---

[2] Clean rebar has no detectable, plant-derived radioactivity associated with it. Rebar will be surveyed in accordance with free release criteria and disposed of as scrap. If activated rebar is discovered it will be disposed of as radwaste.

Therefore, buildings, structures, and facilities identified as Condition of Release 3 in Table 3-3 will be processed as follows:

a. Remove ancillary equipment required for asset recovery (furniture, etc.) - (It is assumed that Maine Yankee will remove equipment designated for asset recovery, prior to the scheduled remediation/ demolition of the structure).
b. Perform survey in accordance with established procedures and criteria.
c. Release for demolition to the contractor.

3.4 Evaluation of Dismantlement Activities

3.4.1 Systems Review

The license basis status of Maine Yankee systems, structures, and components (SSC), is summarized in Table 3-4. As indicated by this table, the majority of radiologically contaminated systems and components not required to support the storage of spent fuel have been abandoned and accepted for decommissioning in accordance with the plant System Evaluation Reclassification Team (SERT) file 98-136. SERT designates them as ready to be "accepted for decommissioning." These SSCs will be deactivated, dismantled, and disposed of in accordance with the schedule described above. NRC and other regulatory agencies will be informed of significant schedule changes during weekly scheduled communications.

3.4.2 System Deactivation

SSCs, which are not Important to the Defueled Condition (ITDC), nor required to support the Spent Fuel Pool (SFP) are placed in an "abandoned" status per a defined program [System Evaluation Reclassification Team (SERT) file 98-136], which designates them as ready for "decommissioning". Those systems listed as "NO" in the "Required for SFP" Column in Table 3-4 have been eliminated from consideration in the license basis.

Systems or components will continue to be abandoned/deactivated prior to decontamination, if necessary and dismantlement. In general, deactivation is implemented by mechanical isolation of interfaces with operating plant systems, draining piping/components, and de-energizing electrical supplies. Combustible material (e.g., charcoal form filters, lube oil) is removed from abandoned/deactivated components where possible. Chemicals used in, or resulting from, decommissioning activities are controlled in accordance with the

applicable chemical safety program. Plant drawings are revised to indicate abandoned/deactivated portions of systems. Plant procedures are modified to reflect the changes when applicable.

Abandonment/deactivation of plant systems is controlled by approved plant procedures. The deactivation plans are established to implement the desired system valve lineup changes and electrical isolations. The design change process is used to remove components, lift electrical leads, install electrical jumpers, cut and cap piping systems, or install blank flanges as appropriate.

Plant procedures provide controls over the operation of deactivated system boundary valves. As additional systems are deactivated, existing isolation boundaries are re-evaluated and changed, as necessary, to reflect the new plant condition. Mechanical boundaries of abandoned SSCs (including boundary valves) are specifically identified in accordance with Maine Yankee's procedures

Temporary liquid and solid waste processing systems may be used during decommissioning for processing plant waste. These systems may include filters and/or demineralizers and may be used at one or more locations in the waste-processing path. Localized temporary ventilation equipment and HEPA filtration may be used to supplement building ventilation and minimize the spread of radioactive particulate contamination.

Table 3-4
Status of Major MY Systems, Structures, and Components

System/Component/Structure	Required for Defueled Condition	Status
Reactor coolant system	NO	Removal mostly complete
Reactor vessel internals	NO	Segmentation and Removal complete
Reactor vessel	NO	Removal complete
Secondary component cooling water system	NO	Removal ongoing
Potable water system Wiscasset water system	YES	Preparations for partial removal are ongoing, portion remaining in service to support SFP System and site needs

Table 3-4
Status of Major MY Systems, Structures, and Components

System/Component/Structure	Required for Defueled Condition	Status
Spent fuel pool and fuel handling equipment	YES	Preparations for partial removal are ongoing, portion remaining in service to support SFP System
Spent fuel pool cooling system	YES	Will remain in service as long as materials are stored in the SFP
Spent fuel pool cooling and demineralizer system	YES	Will remain in service as long as materials are stored in the SFP
Plant effluent system	YES	Rerouted to support Forebay remediation and dismantlement
Containment ventilation systems	YES	Preparations for removal are ongoing as portions of system are no longer required to support decommissioning or SFP
Fuel building ventilation systems	YES	Will remain in service as long as materials are stored in the SFP
Instrument and service air systems	NO	Preparations for removal of Components not required for support of spent fuel pool are ongoing.
Solid radioactive waste system	YES	Will remain in service as long as materials are stored in the SFP, and support decommissioning activities after removal of SFP contents.
Liquid radioactive waste system	YES	Will remain in service as long as materials are stored in the containment Building, Auxiliary Building, or SFP, and support decommissioning activities after removal of SFP contents.

Table 3-4
Status of Major MY Systems, Structures, and Components

System/Component/Structure	Required for Defueled Condition	Status
Radiation monitoring system	YES	Preparations for partial removal of Components not required for support of spent fuel pool are ongoing
Electrical systems	YES	Preparations for partial removal of Components not required for support of spent fuel pool are ongoing in Accordance with decommissioning
Fire protection systems	YES	Preparations for partial removal of components not required for support of spent fuel pool are ongoing (Back Up make-up water supply to Spent Fuel Pool)
Containment building	NO	Preparations for removal are ongoing. Impact on fuel transfer canal minimized through redesign
Auxiliary building	YES	Preparations for partial removal of components not required for support of spent fuel pool are ongoing in accordance with decommissioning schedule
Turbine/generator building (has a wall that supports the SFPI systems)	NO	Removal complete except for wall that supports the SFPI systems
Low level waste storage building	NO	Converted over to the Security and Ops bldg for ISFSI

3.4.3 Nuclear Safety and Regulatory Considerations

The following general considerations, as applicable, will continue to be incorporated into packages during the decommissioning period. . During the decommissioning period, dismantlement activities will be reviewed to ensure that they do not impact safe storage of fuel and GTCC wastes in the ISFSI licensed

under a general Part 72 license. Work packages are implemented in accordance with administrative controls. When applicable, decommissioning work is reviewed against the requirements of 10 CFR 50.59, 50.82(a)(6) and/or 72.48 to ensure work that is being performed without prior NRC approval does not need a license amendment.

Following complete transfer of the spent fuel from the spent fuel pool to the ISFSI, Maine Yankee will dismantle and demolish the spent fuel pool. Maine Yankee submitted a license amendment, pursuant to 10 CFR 50.90, to add an applicability statement to certain technical specifications that describe requirements associated with the spent fuel pool. On February 6, 2002, this license amendment was approved.

Dismantlement activities will be conducted to ensure the safe storage of spent fuel and to protect the public health and safety as well as the common defense and security. Maine Yankee's Quality Assurance Program (QAP) defines the mechanical SSCs in Table 3-5 as safety related.

Table 3-5
Safety Related Mechanical Components

Component	Safety Class
Spent fuel pool cooling loop suction piping (from the pool wall up to and including the siphon protection)	3
Fuel transfer tube	3
Blind flange on containment side of fuel transfer tube	3
Valve FP-21 (transfer tube isolation valve)	3

Other items are identified by the Quality Assurance Program (QAP) as requiring a degree of quality and are designated as QA Related (QAR). Following removal of fuel from the spent fuel pool, Maine Yankee will revise the Quality Assurance Program, pursuant to 10 CFR 50.54(a)(3) to delete the safety related and QAR classifications related to spent fuel storage in the spent fuel pool. Equivalent classifications for the ISFSI and the NAC UMS cask are specified in Appendix B to the Maine Yankee Quality Assurance Program.

3.5 Radiological Impacts of Decontamination and Dismantlement Activities

3.5.1 Waste Characterization

The MY Decommissioning Project Waste Management Plan includes waste disposal strategies, and addresses issues such as: estimates of the quantity of radioactive material to be released, control mechanisms, and radioactive waste characterization. Radioactive waste has been characterized by sending representative samples for 10 CFR Part 61 analysis. Table 3-6 lists the nuclides for which the samples were analyzed. Table 3-7 presents typical sample Part 61 analysis results.

3.5.2 Radioactive Waste Projections

Any data provided herein are estimated values and may or may not represent actual final volumes. The subject values shown in Table 3-7 provide relative fractions of nuclides historically present in Maine Yankee's waste streams. This and other information sources were used to identify those nuclides which were requested for Part 61 analyses. Alternate means and methods may be utilized when appropriate to reduce these volumes. The projected activities and volumes of radioactive material generated are summarized in Table 3-8 and 3-9.

Table 3-6
Nuclides Checked for by 10 CFR61 Analysis

Nuclide	Principal Emission★	Nuclide	Principal Emission★	Nuclide	Principal Emission★
Ag-110m	gamma	Zr-93	beta	*Nb-94 (in activated metal - C-14, Ni-59, Ni-63)	gamma
Am-241	alpha	Sn-126	beta	+Kr-85	gamma
C-14	beta	Iso-U	alpha	#Cr-51	gamma
Cm-242	alpha	K-40	gamma	#Fe-59	gamma
Cm-243/244	alpha	Zn-65	gamma	#Nb-95	gamma
Co-57	gamma	Eu-154	gamma	#Zr-95	gamma
–	--	Eu-155	gamma	#Mo-99	gamma
Co-60	gamma	Eu-152	gamma	#I-131	gamma
Cs-134	gamma	Tl-208	gamma	#Xe-133	gamma
Cs-137	gamma	Bi-212	gamma	#Ba-140	gamma
Fe-55	ec	Pb-212	gamma	#La-140	gamma
H-3	beta	Bi-214	gamma	#Ce-141	gamma
Mn-54	gamma	Pb-214	gamma	#Sn-113	gamma
Ni-59	ec	Ra-226	gamma	#Sb-124	gamma
Ni-63	beta	Ac-228	gamma	#Ru-103	gamma
Pu-238	alpha	Pa-234m	gamma	#Co-58	gamma
Pu-239/240	alpha	Th-234	gamma		
Pu-241	beta	U-235	gamma		
Sb-125	gamma	Be-7	gamma		
Sr-90	beta	Ce-144	gamma		
*Tc-99	beta	Sb-126	gamma		
* +I-129	beta	Sn-126	gamma		

★Analysis performed measuring this principal emission
*for waste classification
#for Rx pwr operations (short lived) + in spent fuel

Table 3-7
10 CFR61 Sample Analysis Results (Typical)
These values are shown to present relative fractions of nuclides historically present.

	RESIN SAMPLE	LIQUID FILTERS	SMEAR ACTIVITY	CAVITY DRAIN DOWN FILTER	UPENDER SMEAR	#3 SG BOWL
	μCi/g	μCi/sample	μCi/sample	μCi/sample	μCi/sample	μCi/sample
	8/21/96	9/4/96	6/18/97	ACTIVITY 7/23/96	ACTIVITY 6/10/98	SMEAR ACTIVITY 3/28/98
NUCLIDE						
H-3	2.00E-01		1.86E-02	1.40E-01		15500
C-14	8.51E-02					4270
Mn-54	8.01E-01		1.63E-03	1.00E-02	1.00E-03	1260
Fe-55	9.81E+00	7.49E-01	2.46E-01	2.58E-01	4.33E-02	160000
Co-57	2.07E-02		2.37E-04	4.79E-04		
Co-58	7.70E-02		4.15E-02			674
Co-60	9.68E+00	1.64E+00	4.48E-01	3.61E-01	1.14E-01	147000
Ni-59	1.04E-01					
Ni-63	1.42E+01	1.40E+00	3.34E-01	8.97E-02	3.86E-02	18700
Zn-65						
Sr-90	2.38E-01			2.74E-02		370
Zr-93						
Nb-94						
Tc-99						6920
Ag-110m			1.37E-03			
Sb-125	2.72E-01	2.62E-03	5.81E-03	1.61E-03	2.95E-03	2110
Sn-126						
I-129						
Cs-134	2.00E+01		5.54E-03			
Cs-137	3.72E+01	3.35E-03	8.06E-02	1.03E-02		
Ce-144				2.45E-03		
Eu-152						
Eu-154						
Eu-155						
U-234						
U-235						
U-238						
Pu-238	6.67E-04	1.53E-04	1.45E-05	1.83E-04	1.20E-05	6.9
Pu-239/240	2.79E-04	1.91E-04	2.24E-05	6.02E-04	1.53E-05	5.3
Pu-241	2.05E-02	1.65E-02	1.98E-03	2.32E-02	9.60E-04	315
Am-241	3.56E-04	2.71E-04	3.00E-05	2.77E-04	1.55E-05	3.4
Cm-242	1.64E-04			3.21E-06	6.10E-06	
Cm-243/244	4.53E-04	2.34E-04	1.19E-05		8.50E-06	1.8

Table 3-8
Projected Activities and Volumes

Activity	Curies	Volume
Reactor vessel and internals	2,200,000 Ci	11,500 Cu.Ft.
Large NSSS components Steam Generators Pressurizer	1,600 Ci	27,000 Cu.Ft.
Activated Concrete	390 Ci	23,000 Cu. Ft.
Contaminated Debris (Structural Steel, etc)	0.10 Ci	163,000 Cu. Ft
Contaminated Concrete	1.75 Ci	900,000 Cu. Ft.
Radioactive Water	0.5 Ci	850,000 Gallons
Soil①	0.1 Ci	25,000 Cu. Ft

① This volume is an estimate, subsurface soil will be sampled and surveyed following commodity removal

The Total Estimated Radwaste Volumes Transported and Buried are described in Table 3-9 (reproduction of Table 1 - PMP 9.0 Rev A, Section 6.3). Although the total estimated radwaste volumes exceeds the 18,340 m^3 described in NUREG-0586 the associated impacts are bounded by those addressed in the FGEIS as discussed in detail in section 8.7.

Materials removed and/or generated during the demolition process will be disposed of based upon the origin of the material and the radiological survey findings prior to or after demolition.

Radiologically contaminated concrete materials generated from the RA (from demolition at elevations above 3 feet below grade), will be shipped off site for disposal at a LLW facility or appropriate disposal facility. Disposal of building reinforcing steel and structural steel, which has been properly released, will be performed by the demolition contractor to scrap and/or landfill areas.

Table 3-9
Total Low-level Waste Volume per Maine Yankee Decommissioning

Item	Vol ft^3	Transportation Mode	Disposal/Process	Disposal Volume ft^3
Reactor Pressure Vessel (RPV)	9,500	Barge	Direct Disposal	9,500
Non-GTCC RPV Hardware	1,500	Cask/Truck	Direct Disposal	1,500
RPV Head	300	Cask/Truck	Direct Disposal	300
Pressurizer	2,200	Barge	Processing VR 21.3/1*	100
Reactor Coolant Pumps & Motors	4,800	Train/Truck	Direct Disposal	4,800
Steam Generators	20,000	Barge	Processing VR 21.3/1*	940
Radioactive Contaminated Metal	150,000	Truck	Processing VR 21.3/1*	7,040
Dry Active Waste (DAW) Resin	13,000	Truck	Processing VR 21.3/1*	610
Liquid Waste Processing	400	Cask/Truck	Direct Disposal	400
Spent Fuel Pool Purification Resin	150	Cask/Truck	Direct Disposal	150
Pre-Existing Waste	200	Cask/Truck	Direct Disposal	200
Contaminated Soil	25,000	Train	Direct Disposal	25,000
Radioactive Concrete	900,000	Train	Direct Disposal	900,000
Used Oil, Radioactive	270	Truck	Processing/ Incineration	0
TOTAL VOLUME SHIPPED	**1,127,320 ft^3 (31,924 m^3)**			
[74% increase over NUREG value-18,340 m^3]				
TOTAL DISPOSAL VOLUME @ a Volume Reduction of 176,770 **ft^3**				**950,550 ft^3 (26,920 m^3)**
[47% increase over NUREG value-18,340 m^3] **NOTE:** This would require an additional .3 acre more than the 2 acres described in the NUREG.				

* Past performance as of 01-16-01 indicates a 21.3 to 1 Volume Reduction

Table 3-10 below describes the approach to handling building materials for regulatory release.

Table 3-10
Approach to Handling of Building Materials for Regulatory Release

No.	Type of building material	Approach
1	Areas with low contamination potential	Free-release in accordance with procedures
2	Concrete with medium to high surface contamination potential (at elevations above - 3 feet below grade)	Ship offsite for disposal at Envirocare or Barnwell or an appropriate disposal facility
	Concrete with medium to high surface contamination potential (at elevations below - 3 feet below grade)	Remediate to acceptance criteria levels and leave in place, with removed material disposal at Envirocare or Barnwell
3	Contaminated metals removed	Ship to processor or for disposal at Envirocare or Barnwell
	Non-contaminated metals removed	Ship to processor for scrap or disposal
4	Built-up tar roofing, inner layer of siding (with actual or potential contamination)	Process at LLW treatment facility or directly dispose at Envirocare
	"Clean" tar roofing, siding	Ship to a processor or disposal
5	Outer layer of siding (Galbestos)	Surface release survey; send to asbestos landfill
6	Refueling cavity and spent fuel pool liners	Process at LLW treatment facility

3.5.3 Occupational Exposure

The estimated total nuclear worker exposure during decommissioning is estimated to be 946 person-rem which is below the 1215 person-rem found acceptable for decommissioning in the reference PWR NUREG-0586 Table 4.3-2.

Table 3-11 lists estimated exposure/area of activity Attachment A at the end of this document provides pictorial reference using the Acronym assigned to the decommissioning activity. Detailed planning precedes initiation of each specific activity, and includes engineering design, ALARA planning, and refinement of cost, schedule, and required resources estimates.

Table 3-11
Estimated Exposure/Area of Activity & Decommissioning Activities Scheduled

Area/Activity	Title	Exposure
DC.2 Period 2 (Decommissioning) DC.2.01 NSSS Removal DC.2.01.01 Reactor coolant piping DC.2.01.02 Pressurizer relief tank DC.2.01.03 Reactor coolant pumps and motors DC.2.01.04 Pressurizer DC.2.01.05 Steam Generators DC.2.01.06 CRDMs & service structure removal DC.2.01.07 Reactor vessel internals DC.2.01.08 Reactor vessel		93.951 REM
DC.2.03 System removal DC.2.03.01 Containment		
DC.2.03.01.01 **Cbl-1**	CTMT Loop #1	97.114 REM
DC.2.03.01.02 **Cbl-2**	CTMT Loop #2	65.745 REM
DC.2.03.01.03 **Cbl-3**	CTMT Loop #3	63.171 REM
DC.2.03.01.04 **Cbl-4**	SI Tank #2 & Regen Ht Exch E-67	11.592 REM
DC.2.03.01.05 **Cbl-5**	CTMT -2 Lvl Pressurizer Area	25.411 REM
DC.2.03.01.06 **Cbl-6**	CTMT -2 Lvl Sump Pump Area	22.608 REM
DC.2.03.01.07 **Cbl-7**	CTMT Iodine Filter Area	6.485 REM
DC.2.03.01.08 **Cbl-8**	CTMT -2' Outer Annulus	43.334 REM
DC.2.03.01.09 **CB2-1**	CTMT 20' Outer Annulus	19.313 REM
DC.2.03.01.10 **CB3-1**	Reactor Cavity Area	19.615 REM
DC.2.03.01.11 **CB3-2**	CTMT Cavity Upender Pit	26.683 REM

Table 3-11
Estimated Exposure/Area of Activity & Decommissioning Activities Scheduled

Area/Activity	Title	Exposure
DC.2.03.01.12 **CB3-3**	CTMT 46' Penetration Room	6.078 REM
DC.2.03.01.13 **CB3-4**	CTMT Polar Crane (CR-1)	4.042 REM
DC.2.03.01.14 **CCG**	CTMT Charging Floor	3.105 REM
DC.2.03.01.15 **CEHO**	CTMT Equip Hatch Outer (PE-3)	3.871 REM
DC.2.03.01.16 **CICI L DC.**	CTMT Incore Instrument Sump	6.533 REM
DC.2.03.01.17 **CPHO**	CTMT Personal Hatch Outer Area	.728 REM
DC.2.03.01.18 **CPLE**	CTMT Elevator & Room	.173 REM
DC.2.03.02 Primary Auxiliary Bldg	PAB 21' Level Valve Alley	.742 REM
DC.2.03.02.01 **P21A**	PAB 21' Boric Acid Pump Area	6.387 REM
DC.2.03.02.02 **P21B**	PAB 21' Charging Pump Cubicle	22.718 REM
DC.2.03.02.03 **P21C**	PAB 21' Level Degas Cubicle	9.160 REM
DC.2.03.02.04 **P21D**	PAB 21' Evap Cubicle	39.169 REM
DC.2.03.02.05 **P21E**	PAB 21' Heat Exchanger Room	16.495 REM
DC.2.03.02.06 **P21H**	PAB 21' General Area	1.418 REM
DC.2.03.02.07 **P21L**	PAB 21' Sample Sink Area	2.799 REM
DC.2.03.02.08 **P21S**	PAB 21' Level HPSI Room	.956 REM
DC.2.03.02.09 **P21V**	PAB Lower Lvl Aerated Drain Tank Area	22.184 REM
DC.2.03.02.10 **PLAD**	PAB Lower Lvl Boric Acid Mix Tank Area	13.790 REM
DC.2.03.02.11 **PLBA**	PAB Lower Lvl Aux Chrg Pump Cubicle	5.054 REM
DC.2.03.02.12 **PLCP**	PAB Lower Lvl Degas Cubicle	1.551 REM
DC.2.03.02.13 **PLDC**	PAB Lower Lvl Evap Cubicle	13.751 REM
DC.2.03.02.14 **PLEC**	PAB Lower Lvl Letdown Area	38.761 REM
DC.2.03.02.15 **PLLA**	PAB Lower Lvl Ctmt Penetration Area	28.907 REM
DC.2.03.02.16 **PLPA**	PAB Lower Lvl Primary Drain Tank Area	11.122 REM
DC.2.03.02.17 **PLPD**	PAB Lower Lvl Pipe Tunnel	30.815 REM
DC.2.03.02.18 **PLPT**	PAB Lower Lvl Primary Water Pump Area	.289 REM
DC.2.03.02.19 **PLPW**	PAB Upper Lvl FN-48 Area	.485 REM
DC.2.03.02.20 **PU48**	PAB Upper Lvl Decay Drum Cubicle	.512 REM
DC.2.03.02.21 **PUDD**	PAB Upper Lvl Evap Cubicle	5.921 REM
DC.2.03.02.22 **PUEC**	PAB Upper Lvl FN-1A/B Area	.506 REM
DC.2.03.02.23 **PUFN**	PAB Upper Lvl Heat & Ventilation	.383 REM
DC.2.03.02.24 **PUHV**	PAB Upper Lvl General	1.741 REM
DC.2.03.02.25 **PUL**	PAB Upper Lvl Radioactive Storage Area	.316 REM
DC.2.03.02.26 **PUSA**	PAB Upper Lvl VCT Cubicle	.529 REM
DC.2.03.02.27 **PUTC**	PAB Upper Lvl Waste Gas Cubicle	.279 REM
DC.2.03.02.28 **PUWG**		

Table 3-11
Estimated Exposure/Area of Activity & Decommissioning Activities Scheduled

Area/Activity	Title	Exposure
DC.2.03.04 **Service/fuel building/SVH/SPRB**		.103 REM
DC.2.03.04.01 **DWST**	Demineralizer Water Storage Tank (TK-21)	.159 REM
DC.2.03.04.02 **EFPR**	Emergency Feed Water Pump Room	
DC.2.03.04.03 **FBP**	Fuel Building Proper	.628 REM
DC.2.03.04.04 **LSAB**	LSA Storage Building	1.622 REM
DC.2.03.04.05 **NFLA**	New Fuel Laydown Area / Fuel Vault	
DC.2.03.04.06 **RCAD**	RCA Drumming Room	8.772 REM
DC.2.03.04.07 **RCAW**	RCA Waste Solidification	.046 REM
DC.2.03.04.08 **RMCC**	Reactor MCC Room	.314 REM
DC.2.03.04.09 **SBDR**	Service Building Decon Room	.044 REM
DC.2.03.04.10 **SBHP**	Service Building HP Checkpoint	.293 REM
DC.2.03.04.11 **SBMS**	Service Building Machine Shop	
DC.2.03.04.12 **SBP**	Service Building Proper	.111 REM
DC.2.03.04.13 **SBSR**	Service Building Seal Room	
DC.2.03.04.14 **SBTT**	Service Building Test Tanks (TK-14 A&B)	
DC.2.03.04.15 **SBVH**	Service Building Steam & Valve House	32.159
DC.2.03.04.16 **SFP**	Spent Fuel Pool	REM
DC.2.03.04.17 **SFPH**	Spent Fuel Pool Heat Exchanger Room	9.120 REM
DC.2.03.04.18 **SFPV**	Spent Fuel Pool Ventilation Room	.287 REM
DC.2.03.04.19 **SPRB**	Spray Building	78.093 REM
DC.2.03.04.20 **SVH**	Steam & Valve House	.054 REM
DC.2.03.05 Miscellaneous		
DC.2.03.05.01 **BWST**	Boron Waste Storage Tanks (TK-13 A&B)	.162 REM
DC.2.03.05.02 **CST**	Condensate Serge Tank (TK-122)	.003 REM
DC.2.03.05.03 **CWl**	Circulating Water Pump House	
DC.2.03.05.04 **Fl**	Foxbird Island	
DC.2.03.05.05 **FOB**	Fuel Oil Pump House & Bunker	
DC.2.03.05.06 **FPH**	Fire Pump House	
DC.2.03.05.07 **GH L**	Gas House	
DC.2.03.05.08 **HRB**	High Radiation Bunker	.528 REM
DC.2.03.05.09 **PWST**	Primary Water Storage Tank (TK-16)	.068 REM
DC.2.03.05.10 **RWST/SCAT**	RWST/SLAT Tanks	1.549 REM
DC.2.03.05.11 **STFB**	Staff Building & Tunnel	
DC.2.03.05.12 **STPl**	Sewage Treatment Plant	7.136 REM
DC.2.03.05.13 **West - RCA**	RCA Yard Area - West Side	

Table 3-11 **Estimated Exposure/Area of Activity & Decommissioning Activities Scheduled**		
Area/Activity	**Title**	**Exposure**
Total Estimated exposure for the project		**937.543 REM**

3.5.4 Public Exposure

Continued application of Maine Yankee's Radiation Protection Program, Waste Management Plan, Radiological Effluents Controls Program and Radiological Environmental Monitoring Program assures public protection in accordance with 10 CFR 20. Details for remediation are provided in Section 4 of this LTP. LTP Section 8 contains an evaluation of estimated public exposure as a result of decommissioning activities including the transportation of radioactive waste.

3.5.5 Expected Radiological Conditions

Characterization of concrete within the Restricted Area (RA) of the site shows the following:

1. Painted concrete has surface contamination up to 1 million dpm/100 cm^2 (worst case) which is amenable to surface remediation techniques such as wiping, washing, power washing or abrasive surface removal.

2. Bare concrete has surface contamination, absorbed contamination and activation products within the concrete matrix. Surface contamination levels are similar to those for painted concrete. Absorbed activity has been found to penetrate to a depth of approximately 1 mm.

3. Concrete structures adjacent to the reactor vessel also showed activation products at levels of a few pCi/g except for the In Core Instrumentation (ICI) sump where levels were as high as 600-800 pCi/g to depths of several inches. These types of radioactivity are amenable to remediation by surface removal techniques except for the deeply deposited activation products.

4. Surface abrasive or surface removal remediation techniques may generate airborne radioactivity. Airborne activity will be controlled within the requirements of 10 CFR Part 20 and measured using standard processes and procedures existing within the radiation protection program. These

processes and procedures have proven successful for controlling decontamination and demolition activities in the past while protecting the health and safety of the workers and the public.

Maine Yankee has segmented the reactor vessel internals and loaded resulting GTCC waste into NAC UMS casks for storage at the ISFSI. This segmentation process used an abrasive water jet. Special precautions were taken to capture the residue (SWARF) resulting from this segmentation.

3.5.6 Contamination Control

Due to the large scope of the D&D and the need for some FSS activities to be performed in parallel with dismantlement activities, a systematic approach to controlling areas is established. Upon commencement of the FSS for survey areas within the Restricted Area (RA) where there is a potential for re-contamination, implementation of one or more of the following control measures will be required:

a. Personnel training
b. Installation of barriers to control access to surveyed areas
c. Installation of barriers to prevent the migration of contamination from adjacent overhead areas
d. Installation of postings requiring personnel to perform contamination monitoring prior to surveyed area access
e. Locking entrances to surveyed areas of the facility
f. Installation of tamper-evident labels
g. Upon completion of FSS, the area is placed under periodic routine survey by Radiation Protection to ensure no re-contamination occurs. If re-contamination is identified, an investigation will be initiated that would result in corrective actions up to and including re-performance of the FSS on that area.

During the D&D activities, measures will be maintained and/or established to control and monitor radwaste effluents. This consideration should not preclude the removal of penetrations and attachments to the containment building, provided that openings are closed, or can be closed in a timely manner.

Airborne Controls

Airborne radioactive particulate emissions will continue to be filtered, and effluent discharges sampled/monitored and quantified. Consideration is given to the following items:

a. Operation of the appropriate portions of the containment ventilation and purge system, or an alternate system, during decontamination and dismantlement activities in the containment building;
b. Operation of the appropriate portion of the auxiliary building ventilation system, as required.
c. Operation of the appropriate portion of the fuel building ventilation system to support the fuel building.
   NOTE: The auxiliary building roof physically supports the fuel building ventilation ducts.
d. Use of local HEPA filtration systems for activities expected to result in the generation of airborne radioactive particulate (e.g. grinding, chemical decontamination, or thermal cutting of components)

When applicable during demolition engineering controls such as misting will be applied to concrete surfaces. Where practical for ALARA purposes, temporary shielding is used during decommissioning activities. Some dismantlement activities may be performed under water for shielding purposes as well as contamination control.

Liquid/Particle Control

Work activities are planned to minimize the spread of contamination. Liquids are contained within existing or supplemental barriers and processed by a liquid waste processing system prior to release. To minimize the potential for spread of contamination, the following considerations will continue to be addressed when planning decommissioning work activities.

a. Covering of openings in contaminated components to confine internal contamination;

b. D&D of SSCs by decontamination in place, removal and decontamination, or removal and disposal;

c. Removal of supports in conjunction with equipment removal or decontamination of supports in conjunction with building decontamination;

d. Removal of systems and components from areas and buildings prior to structural decontamination (block shield wall, portions of

other walls, ceiling, or floors may be removed to permit removal of systems and components.);

e. Removal or decontamination of embedded piping, conduit, ducts, plates, channels, anchors as required, sumps, and sleeves during area and building structural decontamination activities;

f. Use of local or centralized processing and cutting stations to facilitate packaging of components removed in large pieces; and

g. Removal of small or compact plant components and parts intact, where feasible. (This includes most valves, smaller pumps, some small tanks, and heat exchangers. These components could then be decontaminated in whole or part, and reduced to smaller dimensions in preparation for disposal or release.)

3.6 Coordination with Other Regulatory Agencies

The decommissioning and termination of Maine Yankee's Part 50 license involves, in addition to the NRC, coordination with a number of federal, state and local agencies as well as several advisory groups. This section outlines the broad responsibilities of those groups and also addresses specific environmental issues raised in the FGEIS in the context of the Maine Yankee site.

3.6.1 Regulatory Agencies

The following federal, state and local agencies have some level of involvement in Maine Yankee's decommissioning. Some have direct approval authority over site activities while others serve in an advisory capacity to other agencies. Their primary functions, programs, and regulatory authority are described below.

a. US Environmental Protection Agency (EPA) - EPA has been engaged in discussions with various stakeholders about the Maine Yankee decommissioning process. The EPA is supporting the Maine Yankee decommissioning project in several areas. The EPA is enabled by Resource Conservation and Recovery Act (RCRA) to administer closure of facilities that were hazardous waste generators. Since the State of Maine Department of Environmental Protection (MDEP) has been delegated authority to administer the RCRA program in Maine, EPA is serving in a technical support role for the Maine Yankee site closure. EPA is expected to review all major closure related documents and advise MDEP on their adequacy.

The EPA also is responsible for the Toxic Substances Control Act (TSCA) which serves as the primary means by which the use and disposal of PCBs and PCB-containing materials are controlled. PCBs have been identified above the TSCA limits of 50 parts per million (ppm) in electrical cable sheathing and, in limited areas, painted structural steel and painted concrete surfaces.

The EPA previously administered the National Pollutant Discharge Elimination System (NPDES) permit program as authorized by the Clean Water Act in Maine. Maine Yankee maintained an NPDES permit during operation to reflect discharge of certain process wastewater during decommissioning. Effective January 12, 2001, MDEP administers the NPDES program on EPA's behalf. MDEP has issued a new discharge license to Maine Yankee

b. US Department of Transportation (DOT) - The DOT regulates the packaging, labeling and shipment of waste materials offered for interstate commerce. Waste materials that are expected to be shipped from Maine Yankee during decommissioning that are regulated by the DOT include radiological wastes, mixed waste, and hazardous waste. DOT approved the transportation of the Pressurizer and Steam Generators as their own shipping containers and the shipping container for the Reactor Vessel.

c. US Coast Guard - The Coast Guard has authority to control vessel traffic in the navigable waterways of the US. Barge shipment of large components will be coordinated with the Coast Guard to ensure that all applicable requirements for securing loads and notifying the public are met.

d. US Department of Energy (DOE) - The DOE has a contractual obligation to take receipt and dispose of Maine Yankee's GTCC waste and spent nuclear fuel.

e. Maine Department of Environmental Protection (MDEP) - The MDEP is the lead state agency responsible to prevent, abate and control the pollution of the air, water and land and prevent diminution of the natural environment of the state. The MDEP has authority in a variety of statutes and accomplishes its charge through a number of regulations. The MDEP regulates solid and hazardous waste activities, development activities at Maine Yankee through the Site Location of Development Law, industrial discharges, air emissions, and activities affecting significant natural

resources including coastal and freshwater wetlands. These aspects are discussed in more detail in Section 8.6.

f. Maine Department of Human Services - The Department of Human Services through the Division of Health Engineering (DHE) has responsibility for radiological programs within the state. DHE also sponsors the two State Nuclear Inspectors that monitor activities at Maine Yankee.

g. Maine Department of Inland Fisheries and Wildlife (IF&W) - IF&W does not directly regulate activities at Maine Yankee. IF&W does however provide technical support to the MDEP for permitting activities relating to development projects and projects that may affect significant natural resources. IF&W is also responsible for the Maine threatened and endangered species protection program.

h. Maine Department of Marine Resources (DMR) - DMR does not directly regulate activities at Maine Yankee. However DMR does provides technical support to MDEP on projects involving potential impacts to coastal wetlands.

i. Maine Department of Transportation (MDOT) - MDOT has permitting authority for new development projects generating over 100 passenger car equivalent trips in the peak hour. It is not anticipated that MDOT will have active involvement in decommissioning activities.

j. Maine Historic Preservation Commission - Maine Yankee has coordinated with this organization for the preservation of the two identified archaeologic sites on Maine Yankee property. The specific location of archaeological sites is not provided to ensure their integrity is protected.

k. Town of Wiscasset (Town) - The Town has permitting authority over new development projects such as the recently permitted Independent Spent Fuel Storage Installation (ISFSI) now under construction. The Town also has permitting authority over major earthwork projects. It is expected that final site grading will trigger Town review and approval requirements.

l. The Maine Turnpike Authority- has a long standing agreement that placarded shipments of LLW will only travel on the Turnpike during daylight hours.

m. The Maine State Police- are given a courtesy call before each LLW shipment leaves the site. This is not an official requirement.

3.6.2 Advisory and Community Entities

a. The State Nuclear Safety Advisor responsibilities include advising the Governor and legislature on nuclear power issues, specifically transport and storage of nuclear waste at Maine Yankee. The Advisor also consults with relevant federal agencies and coordinates the activities of state agencies with respect to decommissioning. Another duty is to keep abreast of related activities in other states and to advise the Governor and legislature on such activities. In addition to making these recommendations and updates to the Governor, the Advisor prepares an annual report.

b. The Governor's Technical Advisory Panel (TAP) is currently comprised of four professors with expertise in radiological sciences from the University of Maine, Colorado State University, University of Michigan, and the University of Massachusetts Lowell. This panel was assembled in 1999 to provide independent evaluation of technical decommissioning issues and to advise the Governor accordingly. Panel members are Dr. C. T. Hess, Dr. F. Ward Whicker, Dr. Glenn Knoll, and Dr. George E. Chabot.

c. The Maine Advisory Commission on Radioactive Waste and Decommissioning is charged with overseeing radioactive waste activities in the state, including the decommissioning process at Maine Yankee. The Commission meets on a quarterly basis. Its members include state legislators, members of the public, waste generators and state agency staff.

d. The Maine Yankee Community Advisory Panel (CAP) was established in 1997 to enhance opportunities for public involvement in the decommissioning process of Maine Yankee. The CAP represents the community. By thoroughly reviewing the decommissioning process, the CAP is in a position to advise Maine Yankee on key issues of concern to the regional community.

e. Friends of the Coast (FOC)- Friends of the Coast Opposing Nuclear Pollution is a local environmental organization founded in 1995. Friends of the Coast participates regularly in stakeholder discussions on the full range of decommissioning issues and has a seat on the Maine Yankee CAP.

3.6.3 Environmental and Regulatory Issues

Section 8.6 of the LTP provides a detailed discussion of how non-radiological environmental and regulatory issues associated with decommissioning are being addressed with the cognizant state and federal agencies having jurisdiction over those issues.

3.7 References

3.7.1 NUREG-1700, "Standard Review Plan for Evaluating Nuclear Power Reactor License Termination Plans"

3.7.2 NRC Regulatory Guide 1.179, "Standard Format and Content of License Termination Plans for Nuclear Power Reactors" (January 1999)

3.7.3 Post Shutdown Decommissioning Activities Report

3.7.4 "Characterization Survey Report for the Maine Yankee Atomic Power Plant", Volumes 1-8, 1998 GTS Duratek

3.7.5 "Site History Report," Stone and Webster Environmental Technology and Services (November 1999), transmitted via James T. Kilbreth letter to Joan Jones, State of Maine, dated November 16, 1999

3.7.6 Kim Tripp, US Fish and Wildlife Services, letter to David Asherman, dated July 21, 1999, regarding federally listed species.

3.7.7 NRC letter to Maine Yankee, dated July 30, 2002, Issuance of Amendment No. 167, license amendment approving partial release of site lands

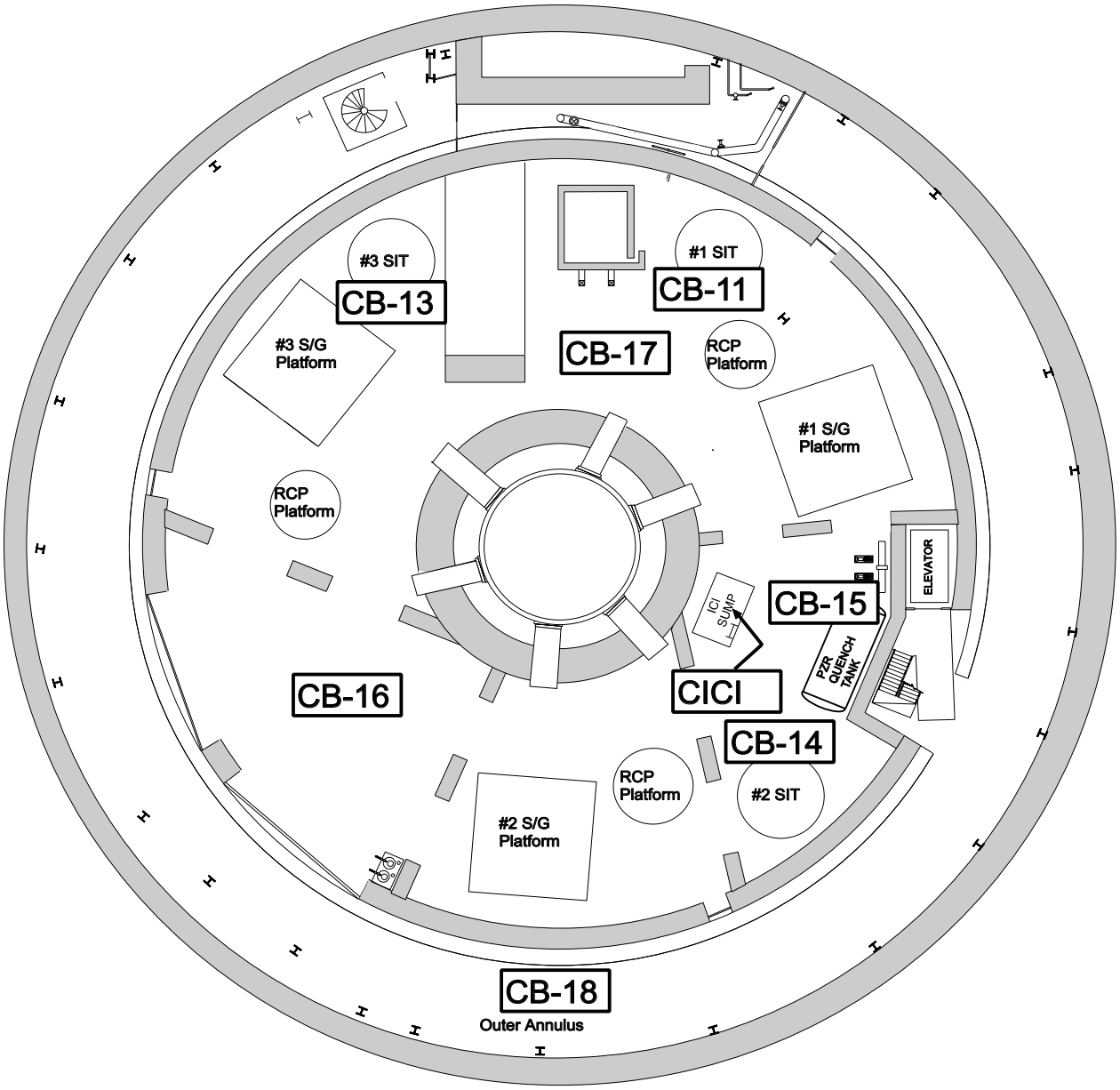
ATTACHMENT 3A

Drawings Associated with Specific Decommissioning Tasks

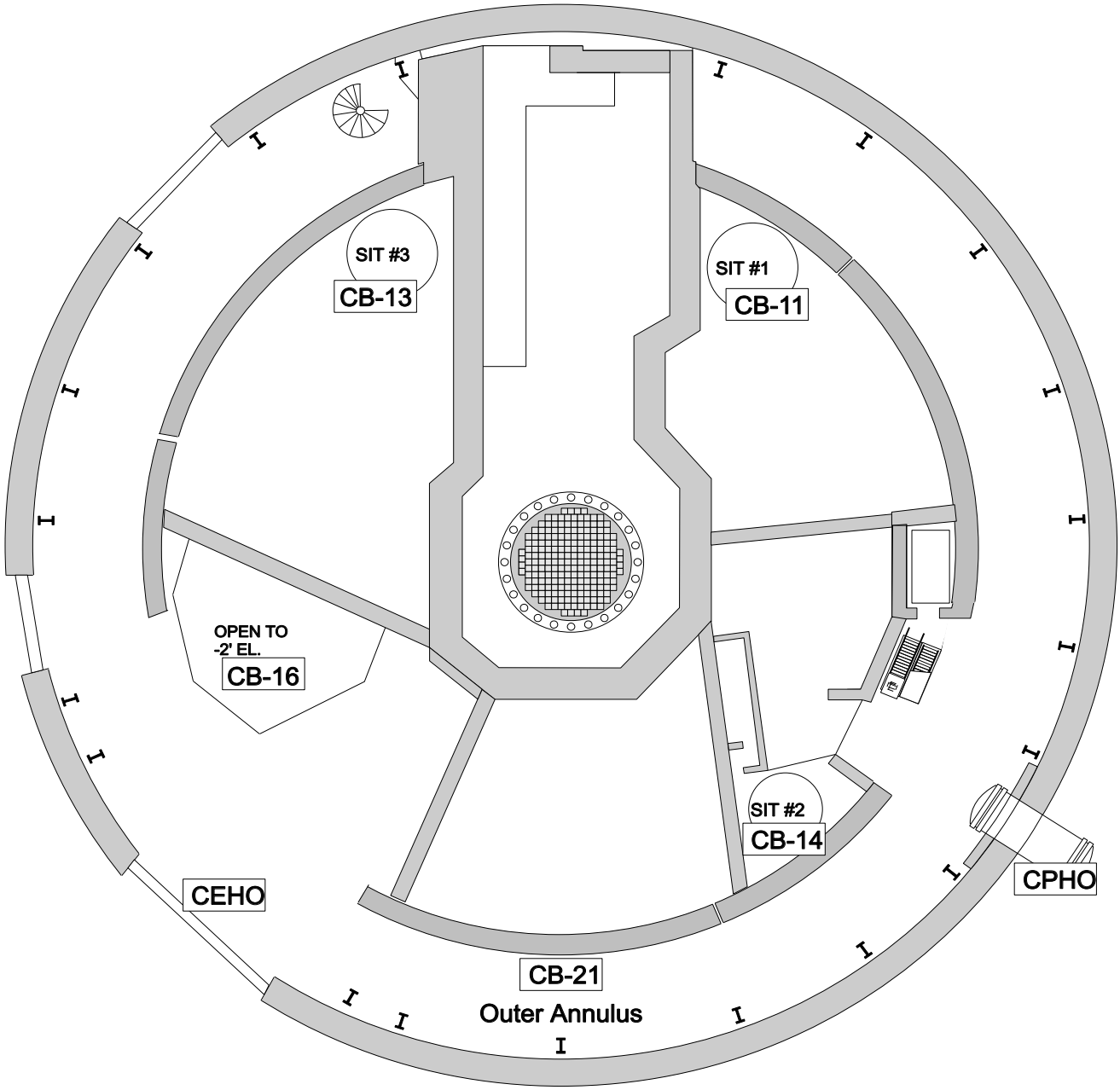
These drawings are provided "For Information Only" to support the reader's understanding and correlation of decommissioning tasks, anticipated radiation exposure, and physical locations involved in the subject tasks.

TABLE 3A-1 DECOMMISSIONING AREAS				
Figure Number	**Figure Title**	**Areas**		
Figure 3-1	Containment Building -2' Elevation General Area	CB-11 CB-13 CB-14	CB-15 CB-16 CB-17	CB-18 CICI
Figure 3-2	Containment Building 20' Elevation General Area	CB-11 CB-13 CB-14	CB-16 CB-21	CEHO CPHO
Figure 3-3	Containment Building 46' Elevation General Area	CB-32 CB-33	CB-34 CP-34	CPLE
Figure 3-4	Primary Auxiliary Building 11' Elevation General Area	PLAD PLDC PLEC	PLLA PLPA	PLPD PLPW
Figure 3-5	Primary Auxiliary Building 21' Elevation General Area	PLAD PLPD P21D	P21E P21H P21L	P21L
Figure 3-6	Primary Auxiliary Building 36' Elevation General Area	PU-48 PUDD PUEC PUFN	PUFN PUHV PULI PULI	PUSA PUSA PUTC PUWG
Figure 3-7	Containment Building Electrical Penetration Room	RMCC	RMCC	RMCC
Figure 3-8	Containment Building Mechanical Penetration Room Levels 4 & 5	SVH1		
Figure 3-9	Spray Building 4' Elevation	SBRP		
Figure 3-10	Spray Building 6' Elevation	SBRP		
Figure 3-11	Spray Building 11' Elevation	SBRP		
Figure 3-12	Spray Building 12' & 21" Elevation			
Figure 3-13	Spray Building 20' & 30' Elevations General Area	RMCC	SBRP	
Figure 3-14	Fuel Building 21' Elevation Decon Room	RCAD		
Figure 3-15	RCA Storage Building Waste Solidification	RCAW		
Figure 3-16	Fuel Building 21' Elevation Spent Fuel Pool Heat Exchanger Area	SFPH		
Figure 3-17	Fuel Building 21' Elevation Fuel Laydown Area	SFP03		
Figure 3-18	Fuel Building New Fuel Storage 31'-1 ½" Elevation	NFLA		
Figure 3-19	Fuel Building 44'-6" Elevation	SFP02	SFP04	SFPV

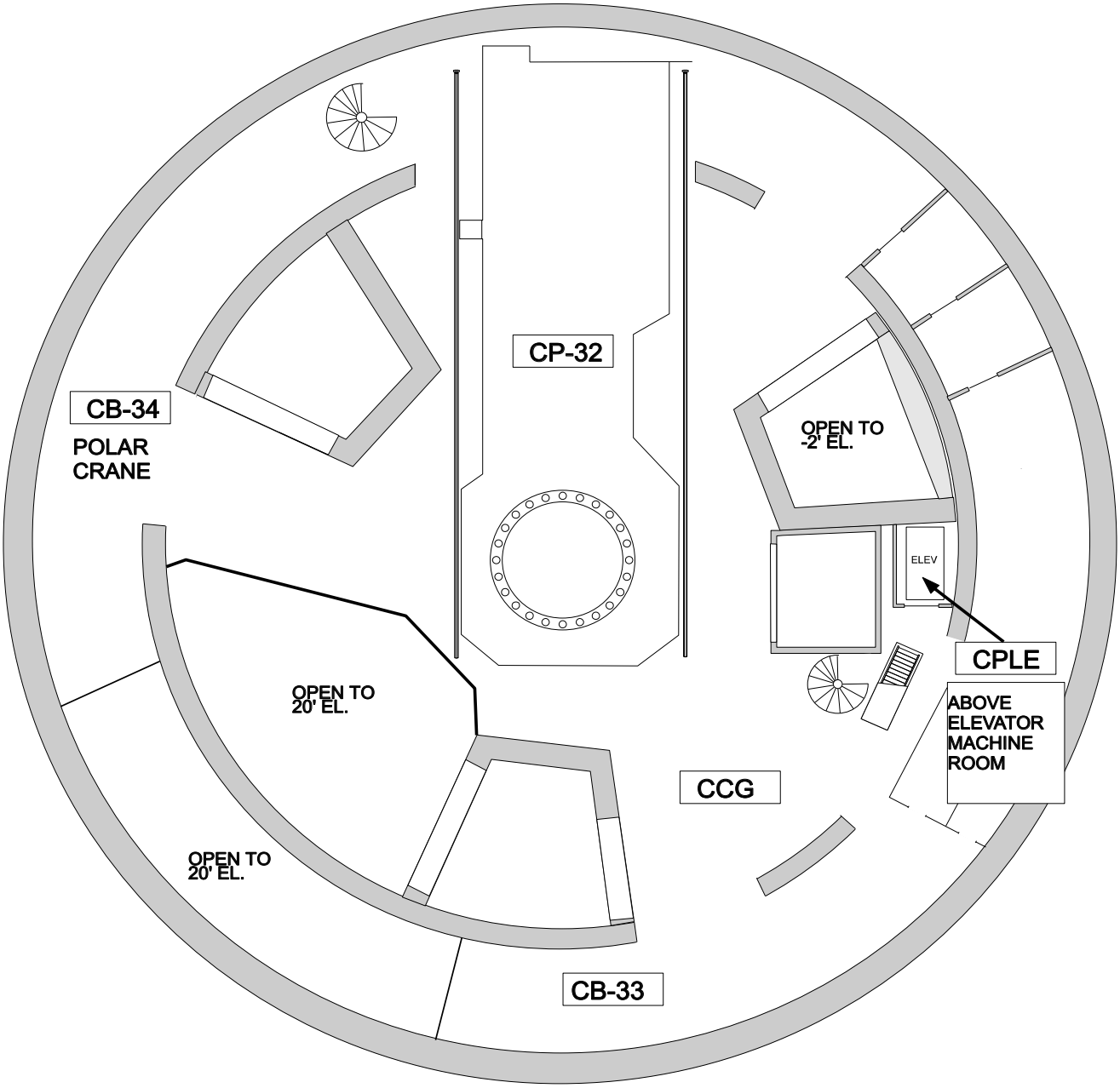
TABLE 3A-1 DECOMMISSIONING AREAS				
Figure Number	**Figure Title**	**Areas**		
Figure 3-20	Montsweag Bay			
Figure 3-21	Site Area Layout	CCWI FPHI HRB	PWST STPI X-16	X-19
Figure 3-22	Service Building 21’ Elevation	SB011 SB02 SB03	SBDR SBHP SBMS	SBP SBP SBSR
Figure 3-23	Service Building 21’ Elevation Control and Computer Room			
Figure 3-24	Cold Side Service Building 30’-10” Elevation 2nd Floor General Area	SBP		
Figure 3-25	Service Building 39’ Elevation	SB05	SB07	SB08
Figure 3-26	Cable Vault Room 49’ Elevation	SB09	SB10	
Figure 3-27	Turbine Building 21’ Elevation	TBLD TBMS TBSO TCA TCBA	TCDA TCNE TCSE TFPA THDT	THEA TMC TP2C TSPP
Figure 3-28	Turbine Building 61’ Elevation	MTGE TBR2 TD01	TDBV TDRW TDSN	TDSS TSRP TSRU
Figure 3-29	Turbine Building 39’ Elevation	FWH TCTP TCTU TDR2 TMAE TMCH TMDV	TMDW TMEC TMFA TMFR TMFV TMGL	TMHD TMIA TMLT TMNC TMSE TMWC TMWT
Figure 3-30	Final Site Configuration			



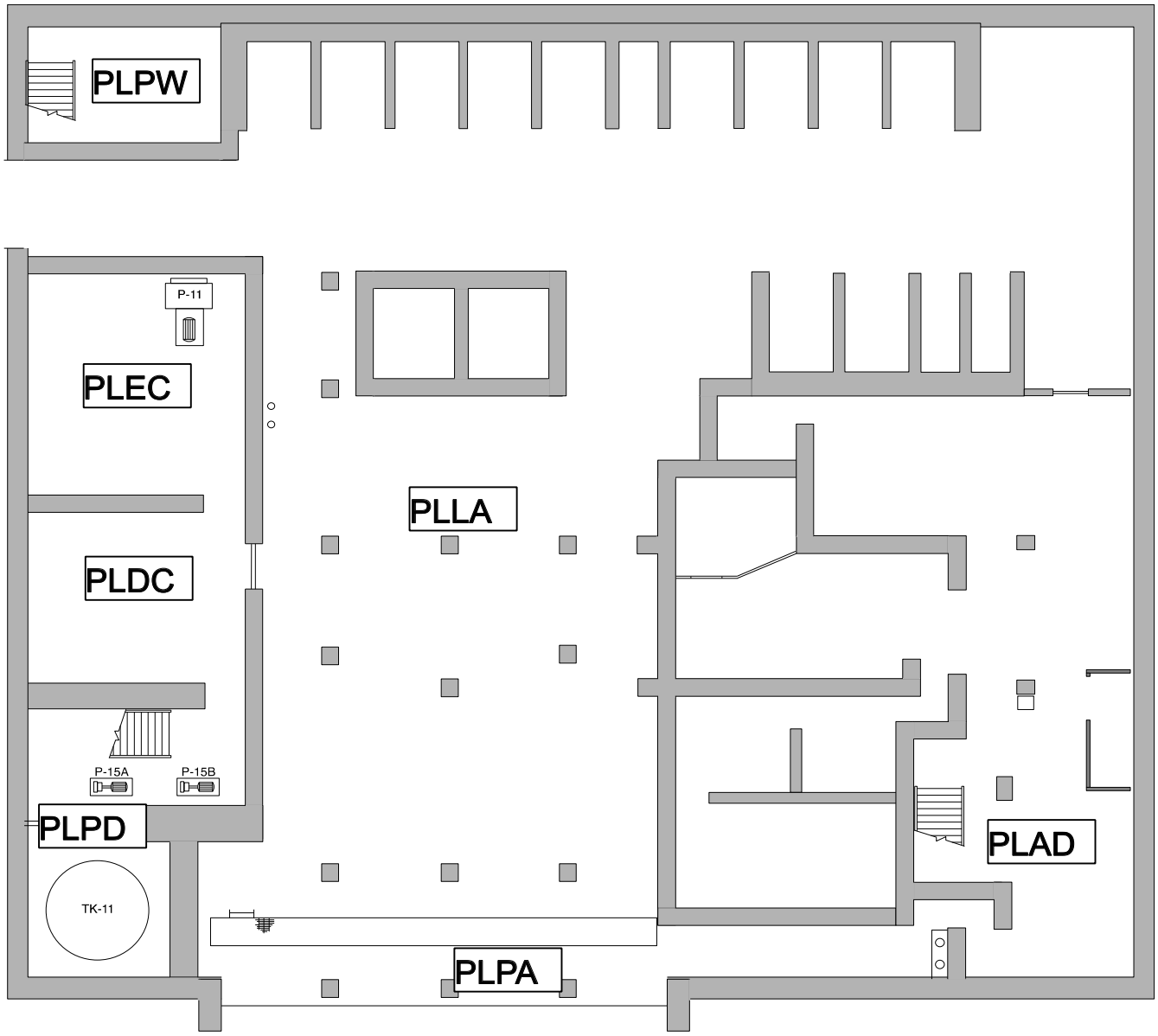
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Containment Building -2' Elevation General Area	Figure 3-1



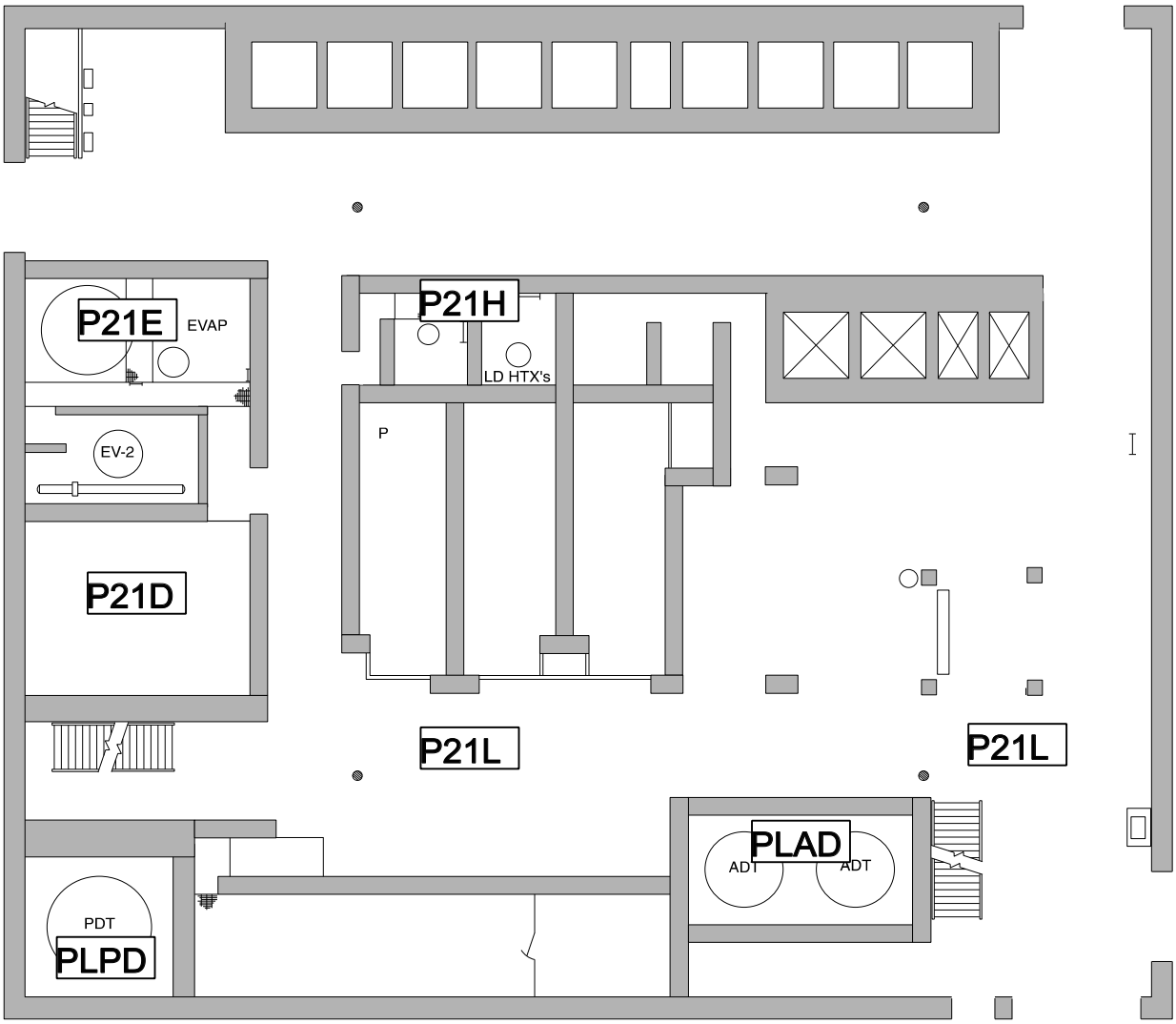
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Containment Building 20'Elevation General Area	Figure 3-2



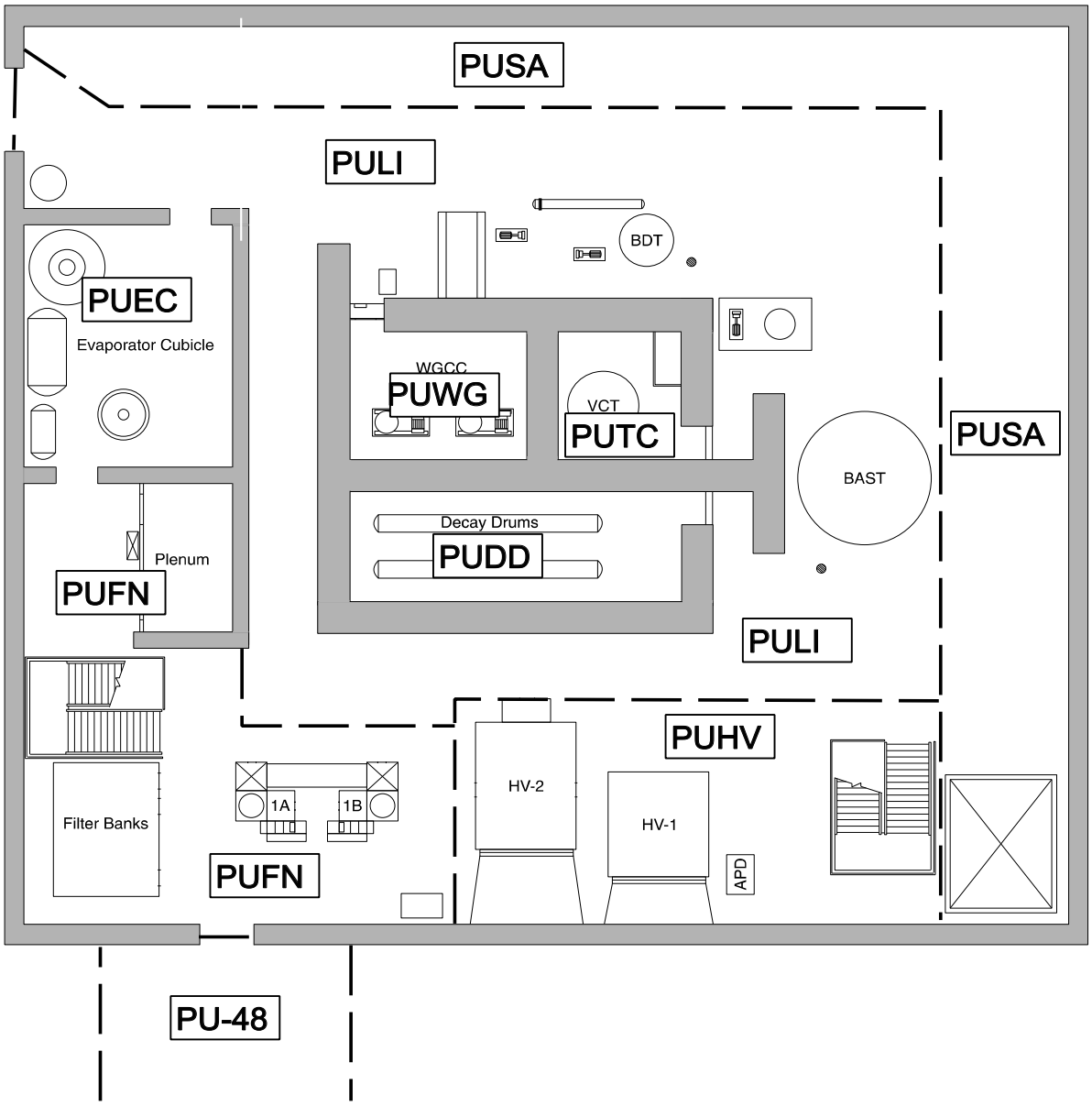
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Containment Building 46' Elevation General Area	Figure 3-3



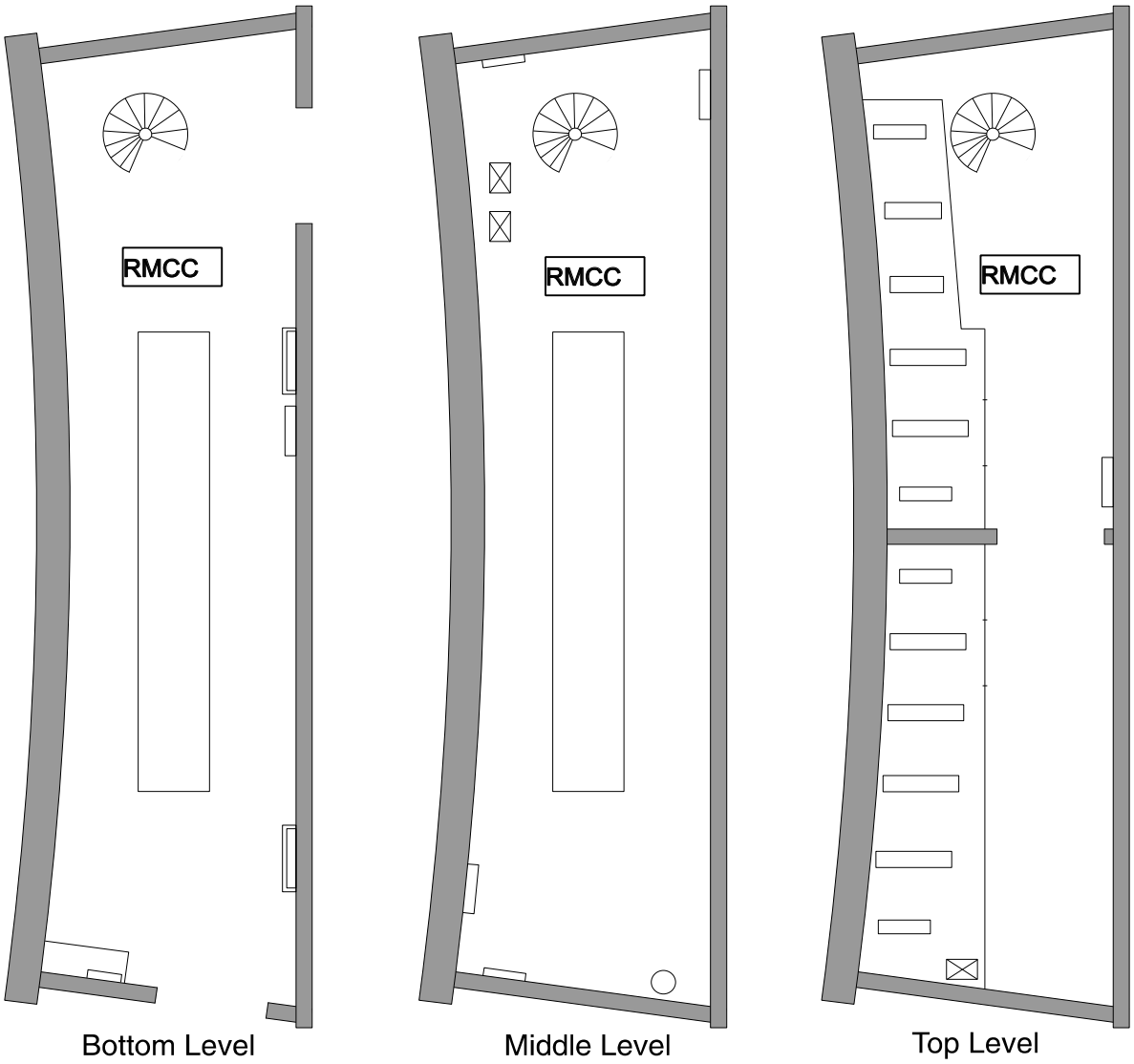
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Primary Auxiliary Building 11' Elevation General Area	Figure 3-4



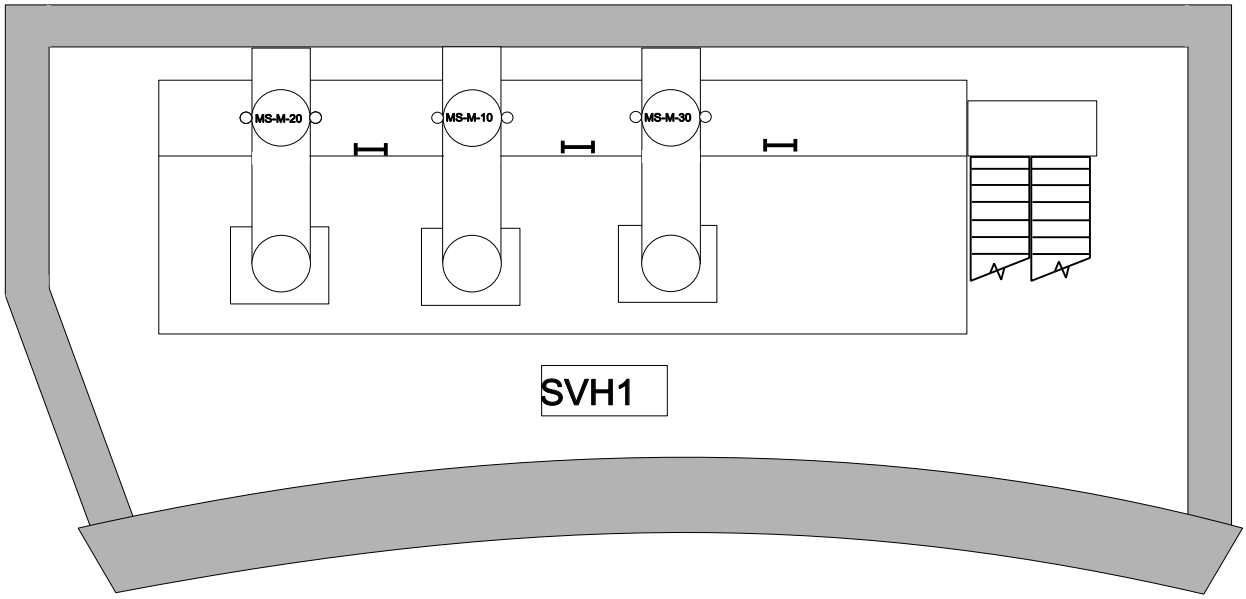
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Primary Auxiliary Building 21' Elevation General Area	Figure 3-5



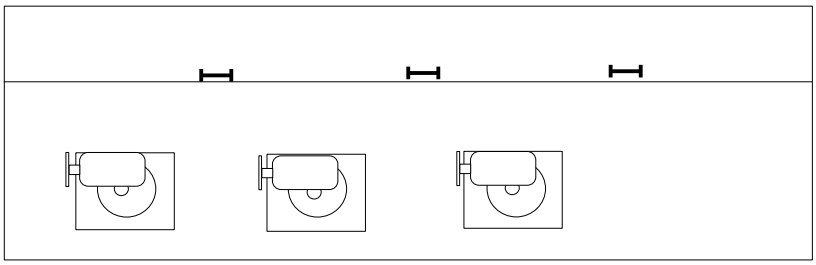
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Primary Auxiliary Building 36' Elevation General Area	Figure 3-6



MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Containment Building Electrical Penetration Room	Figure 3-7

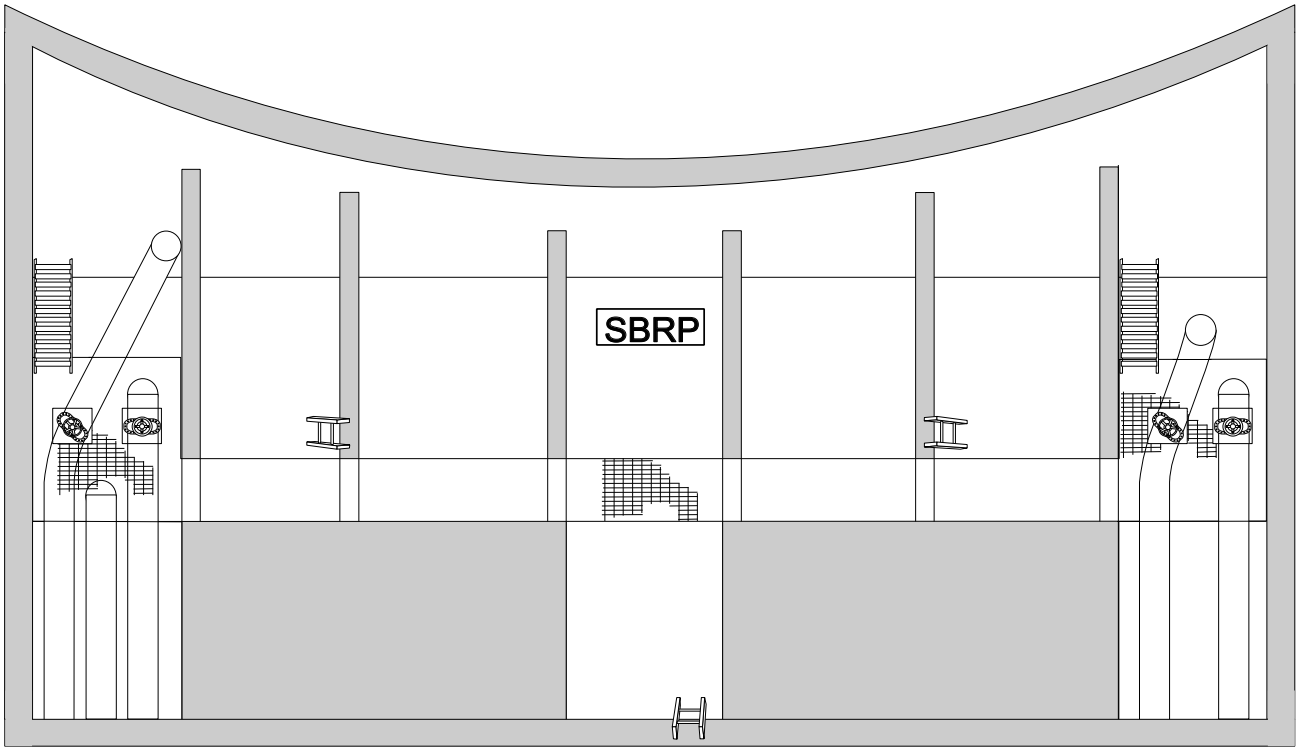


Level 4

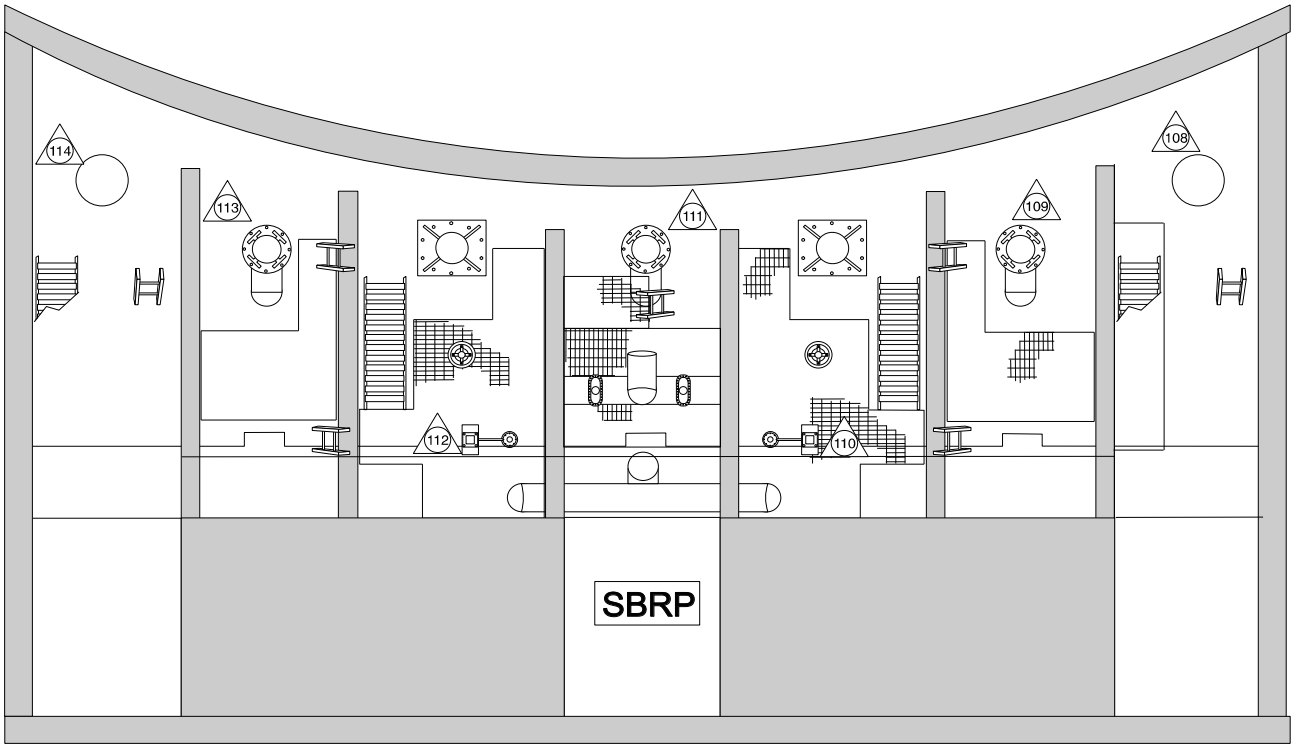


Level 5

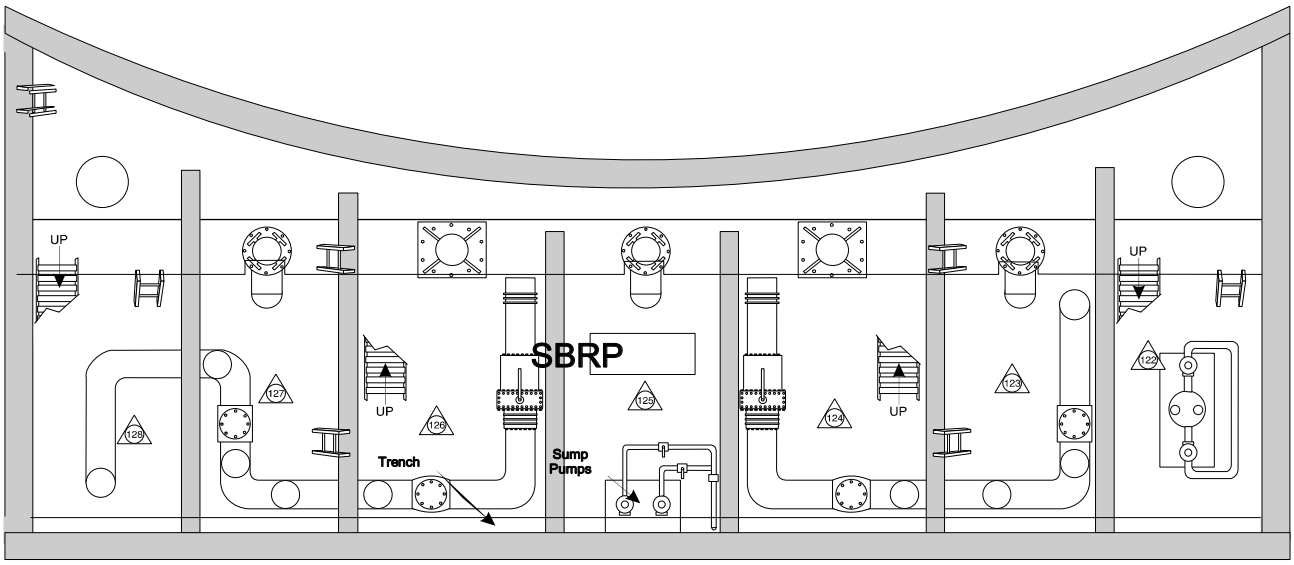
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Containment Building Mechanical Penetration Room Levels 4 & 5	Figure 3-8



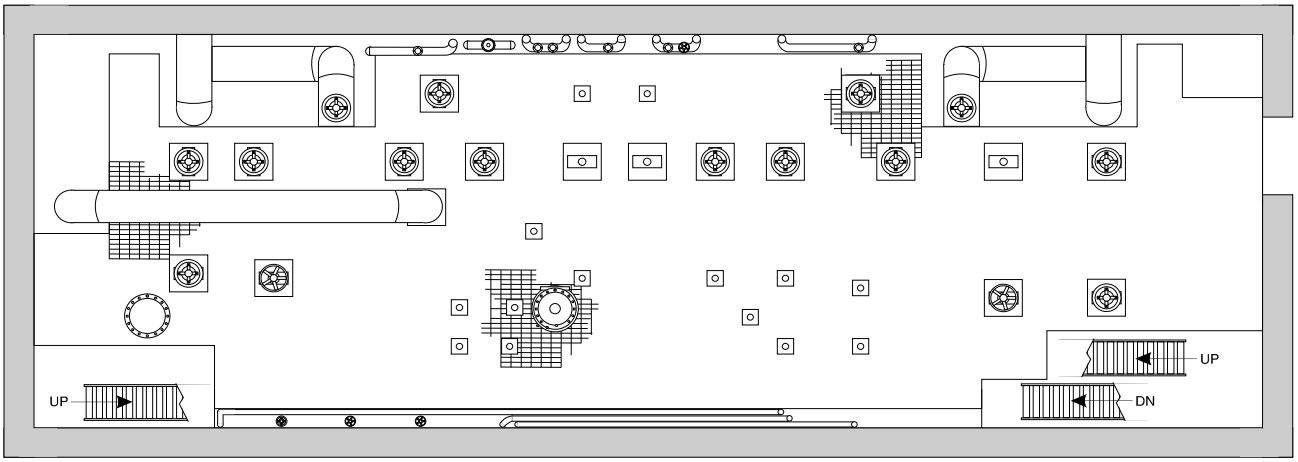
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Spray Buliding 4' Elevation	Figure 3-9



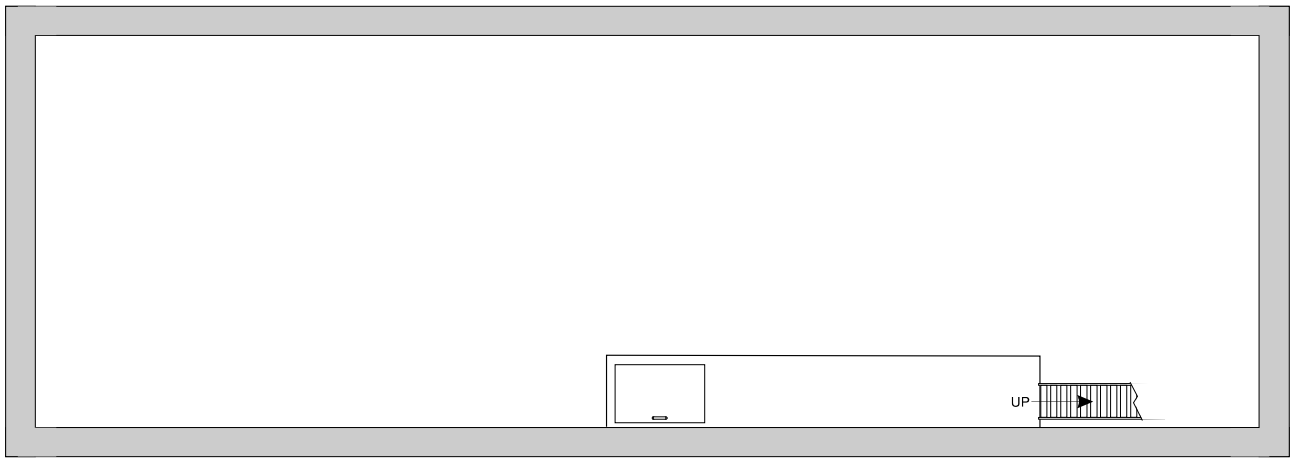
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Spray Building 6' Elevation	Figure 3-10



MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Spray Building 11' Elevation	Figure 3-11

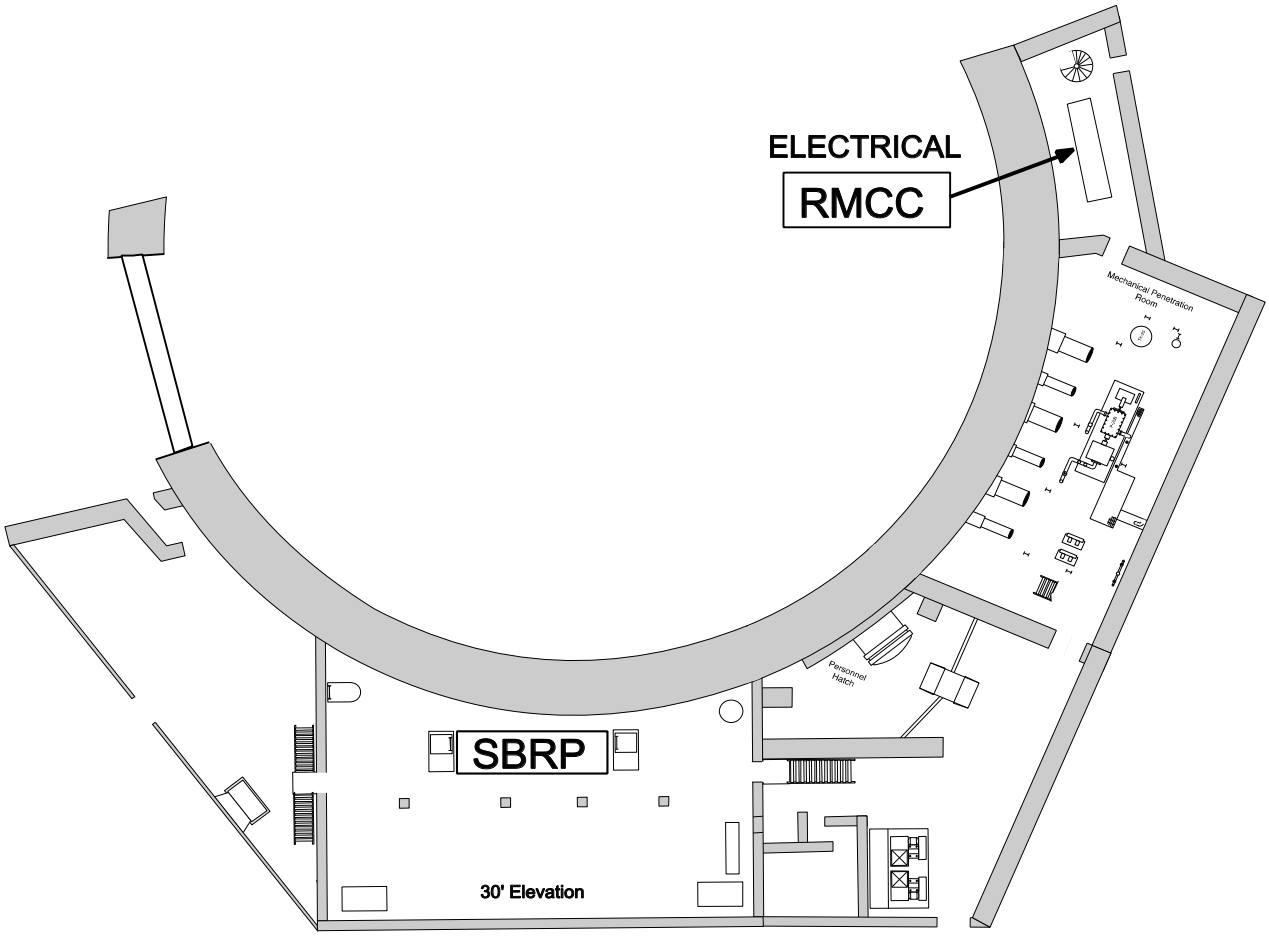


Elevation 21'-0"

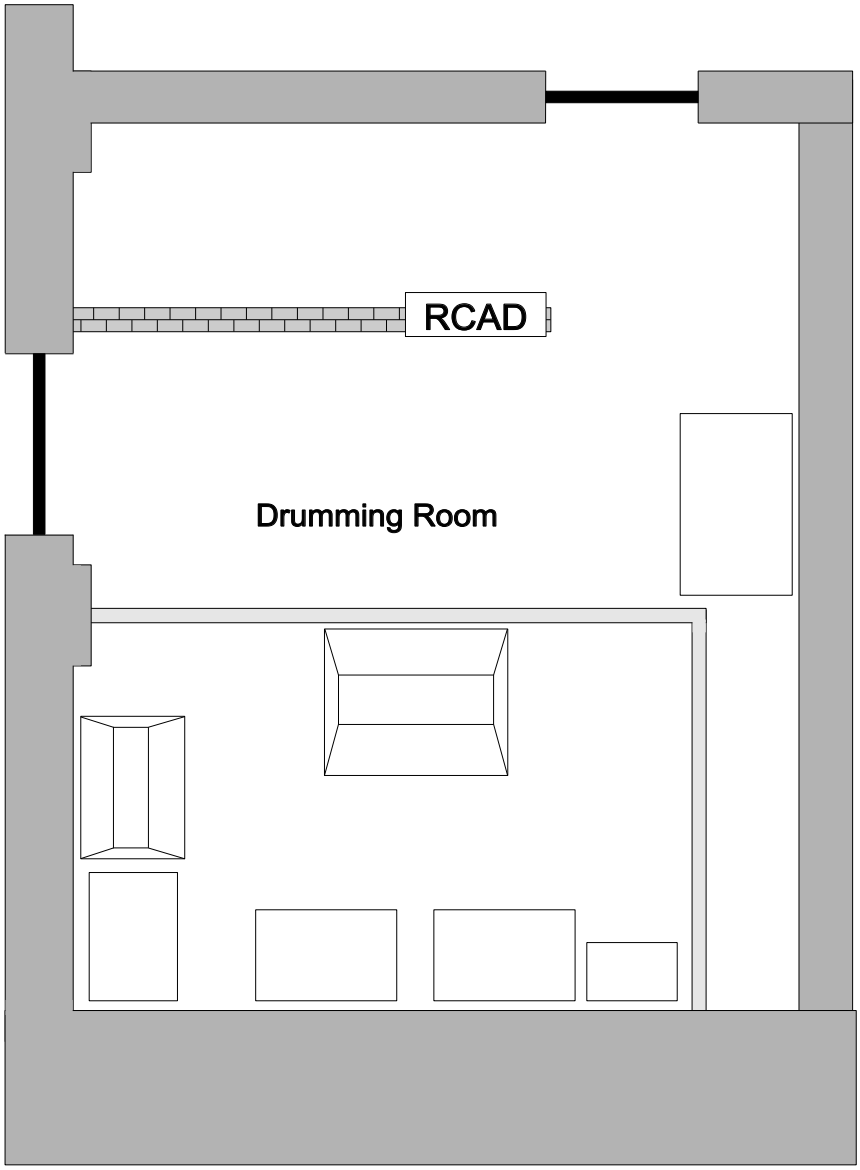


Elevation 12'-0"

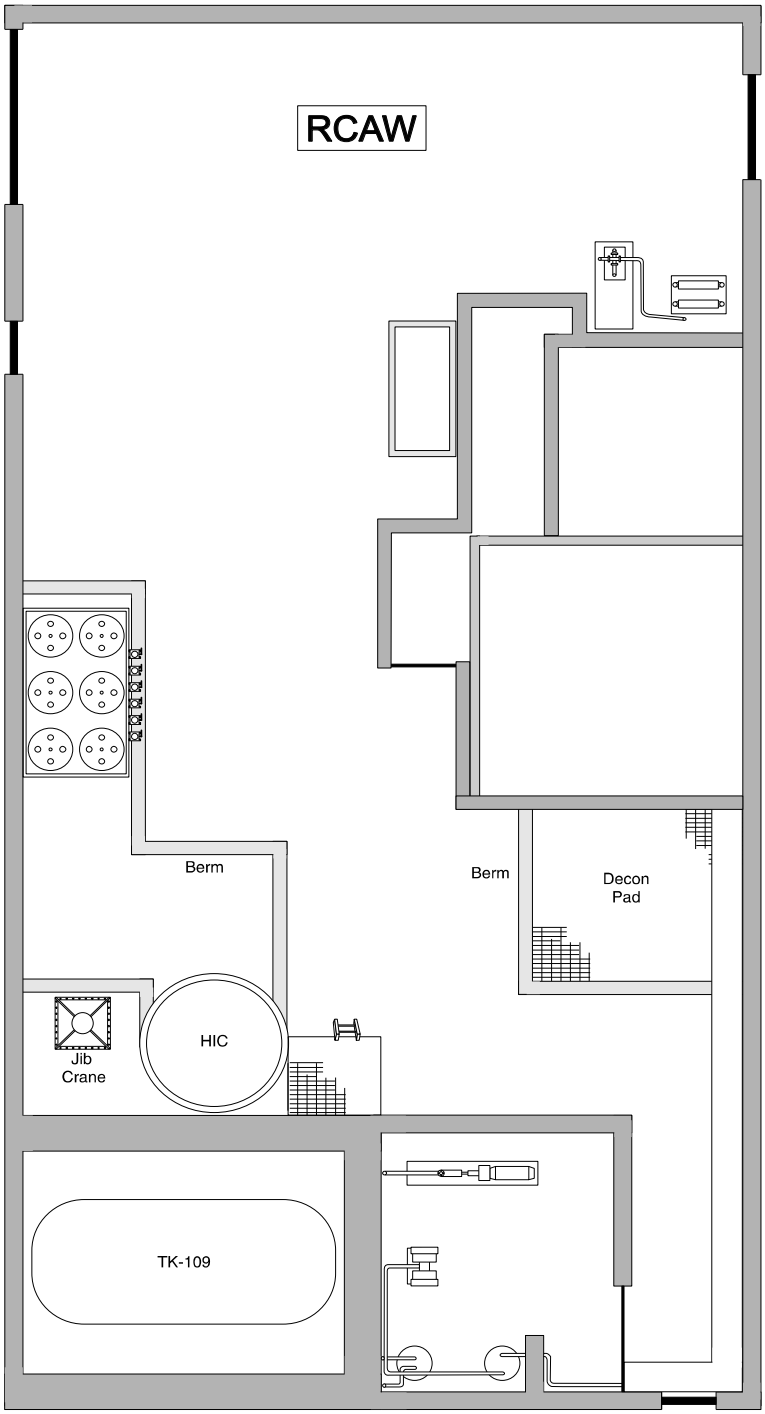
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Spray Building 12' & 21' Elevation	Figure 3-12



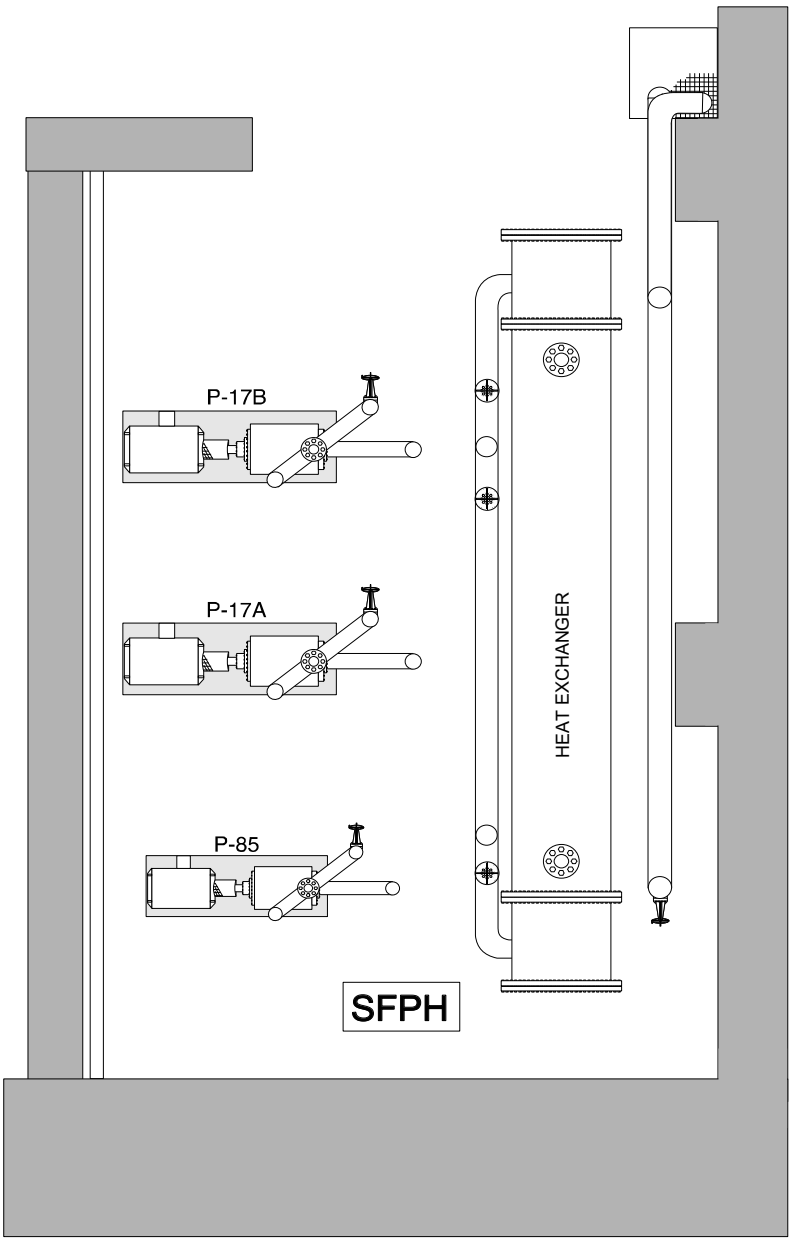
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Spray Building 20' & 30' Elevations General Area	Figure 3-13



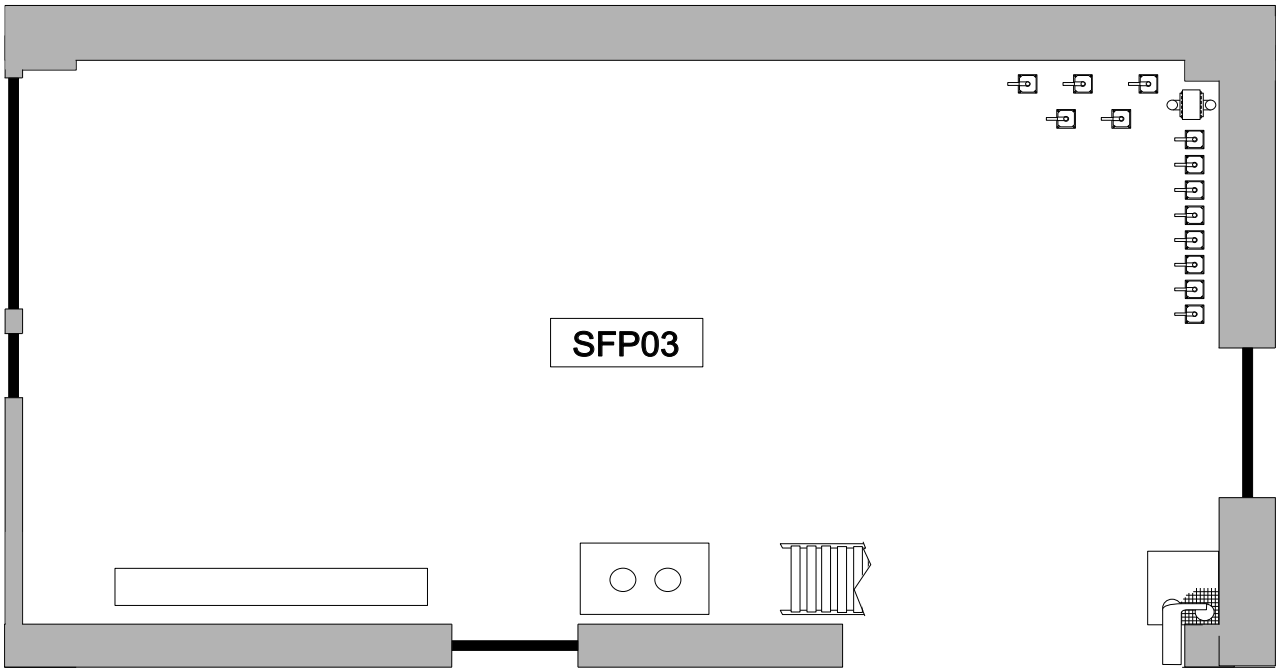
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Fuel Building 21' Elevation Decon Room	Figure 3-14



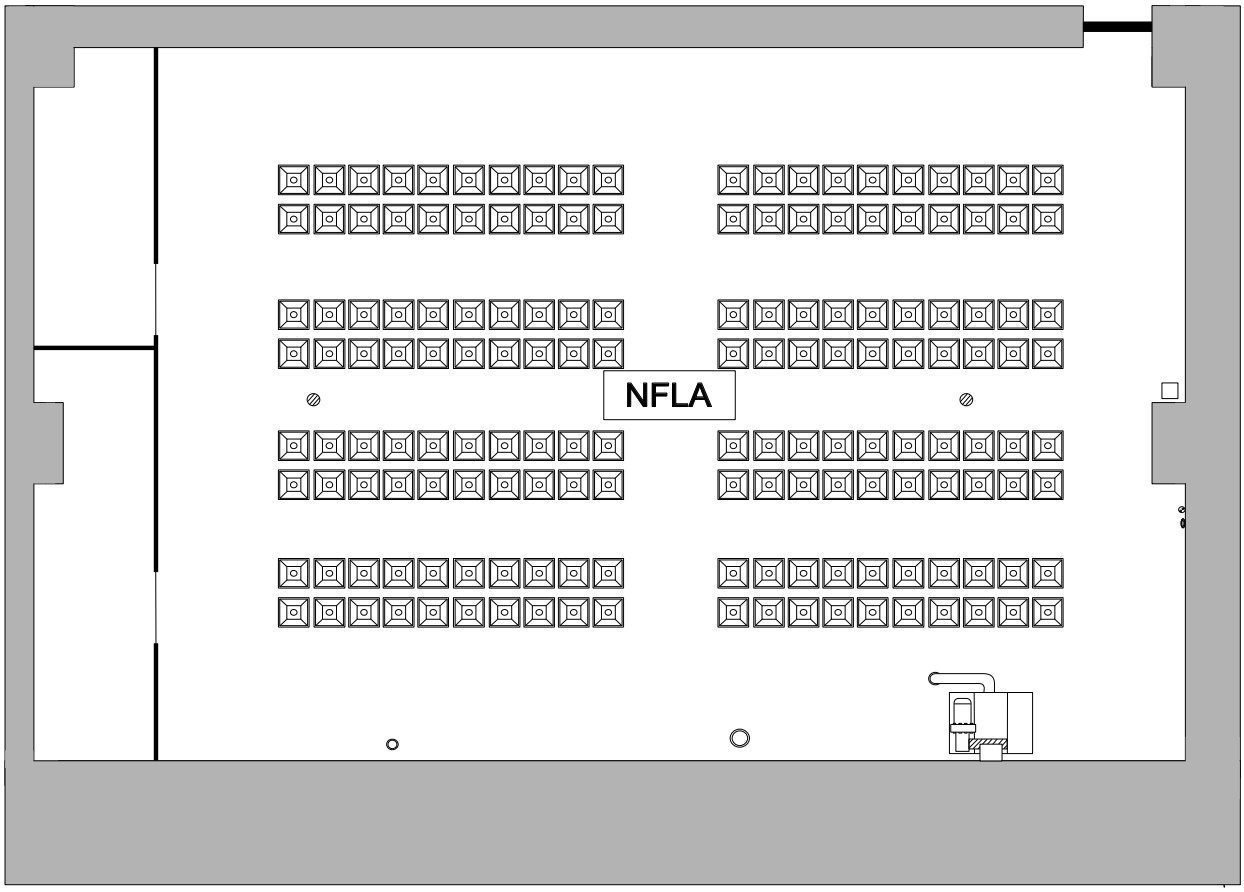
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	RCA Storage Building Waste Solidification	Figure 3-15



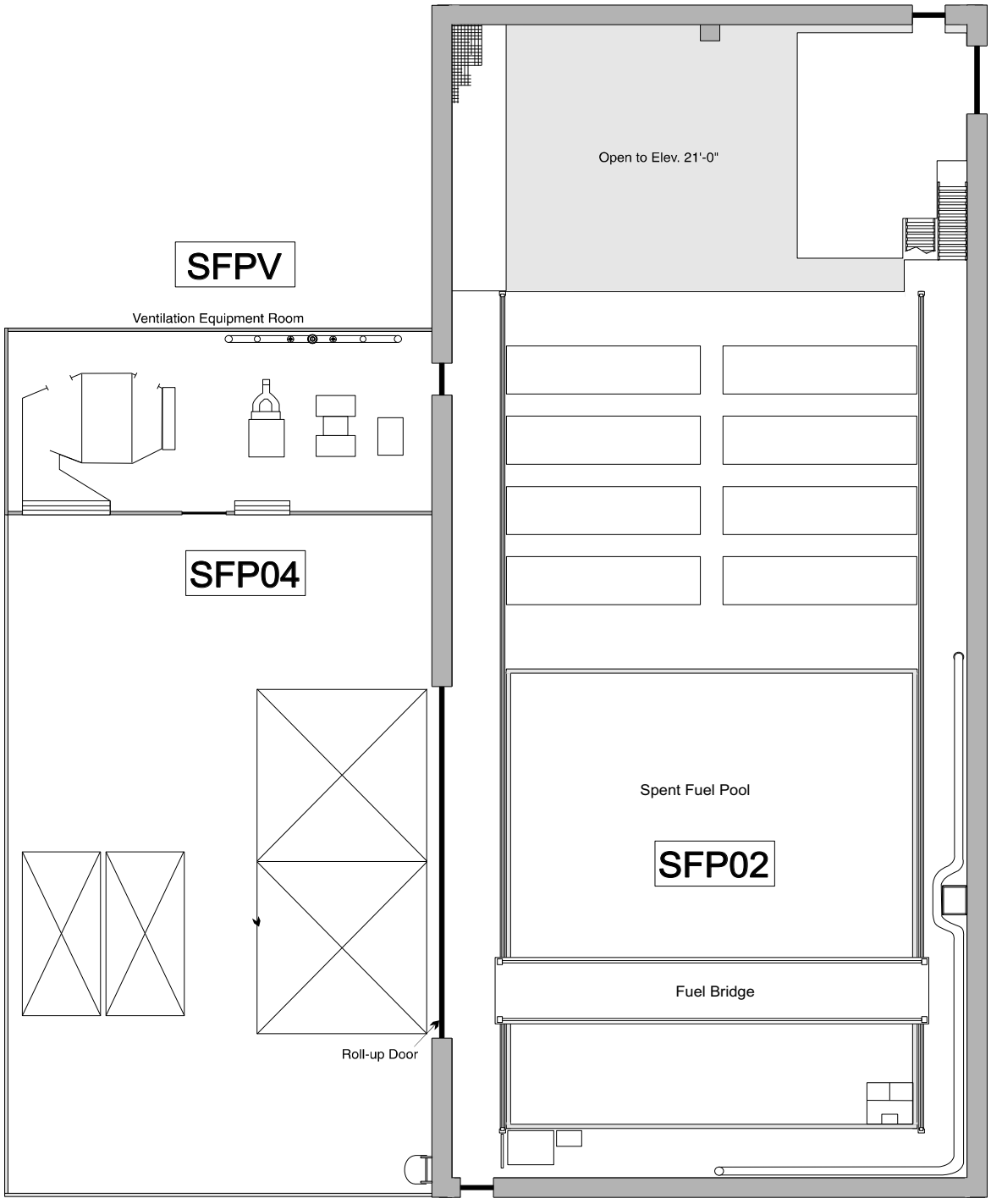
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Fuel Building 21' Elevation Spent Fuel Pool Heat Exchanger Area	Figure 3-16



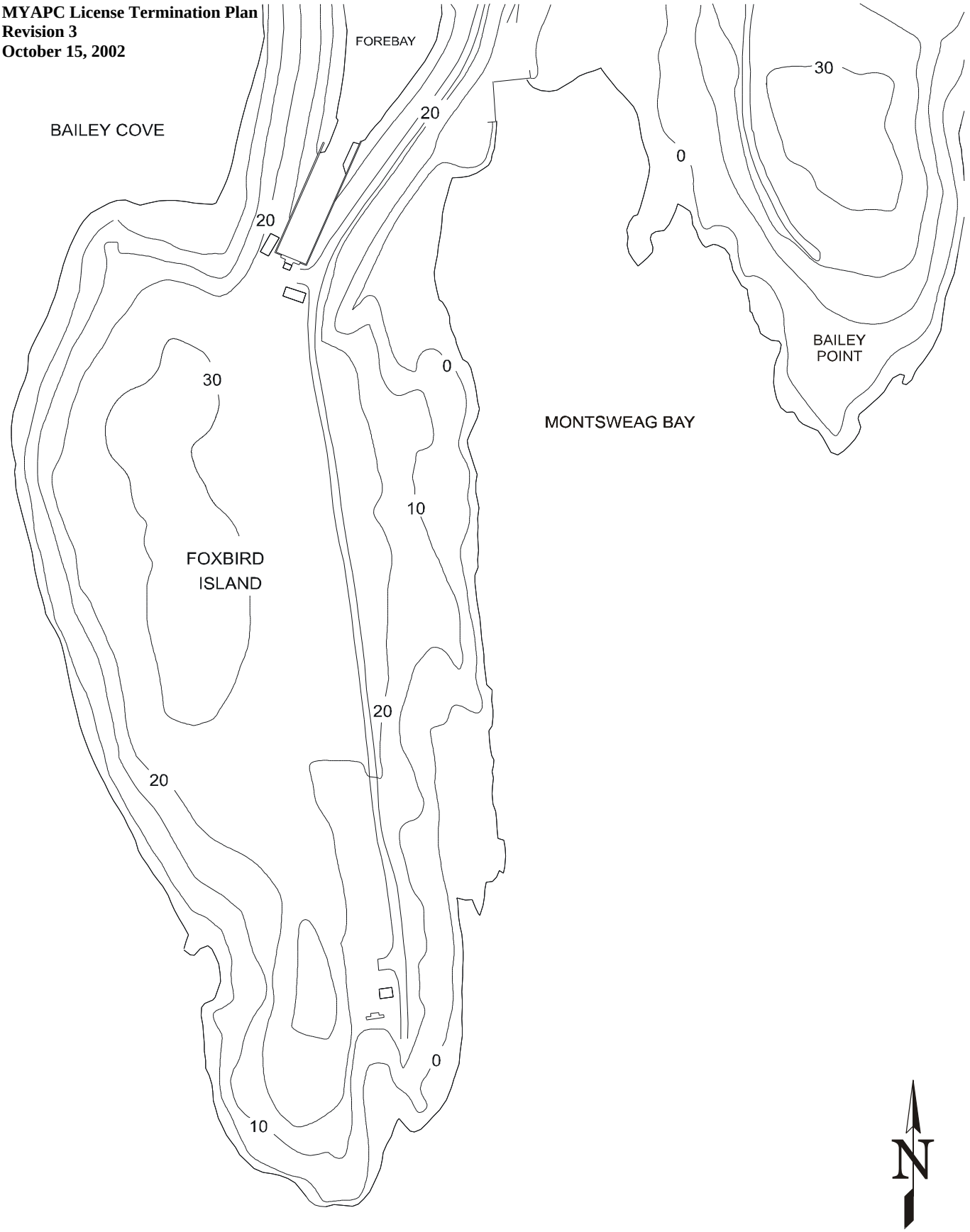
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Fuel Building 21'Elevation Fuel Laydown Area	Figure 3-17



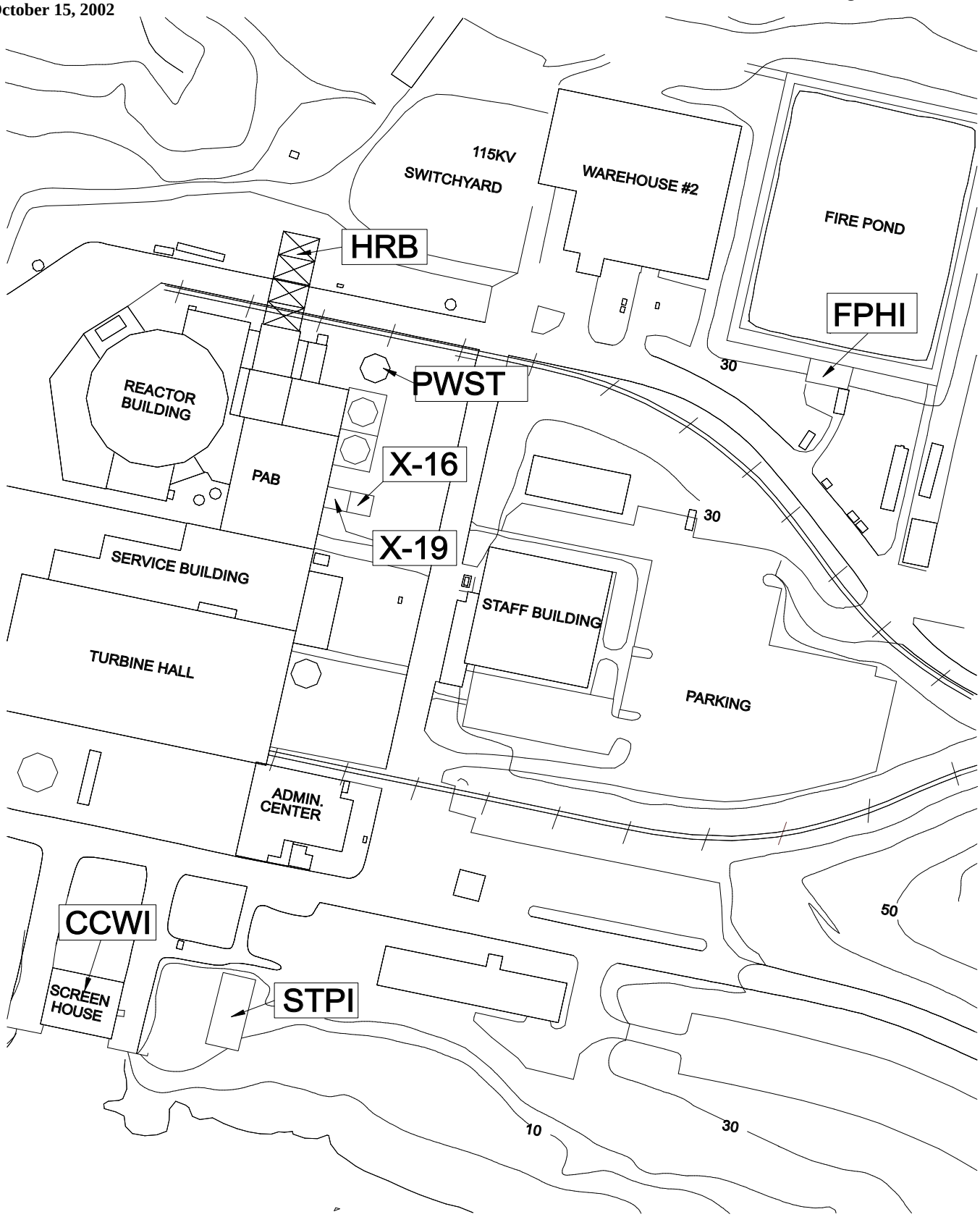
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Fuel Building New Fuel Storage 31'-1 ½" Elevation	Figure 3-18



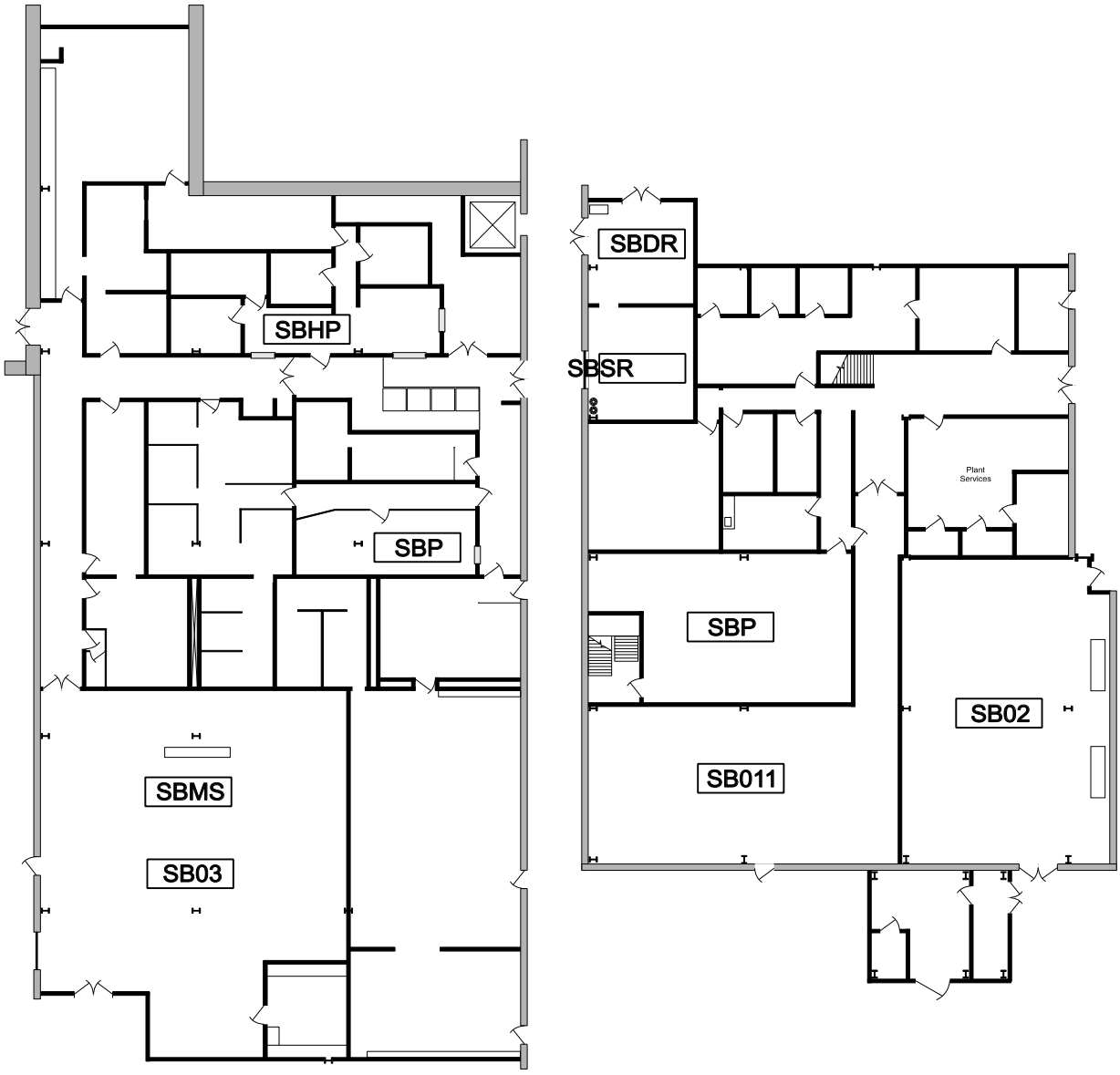
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Fuel Building 44'-6" Elevation	Figure 3-19



MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Montsweag Bay	Figure 3-20

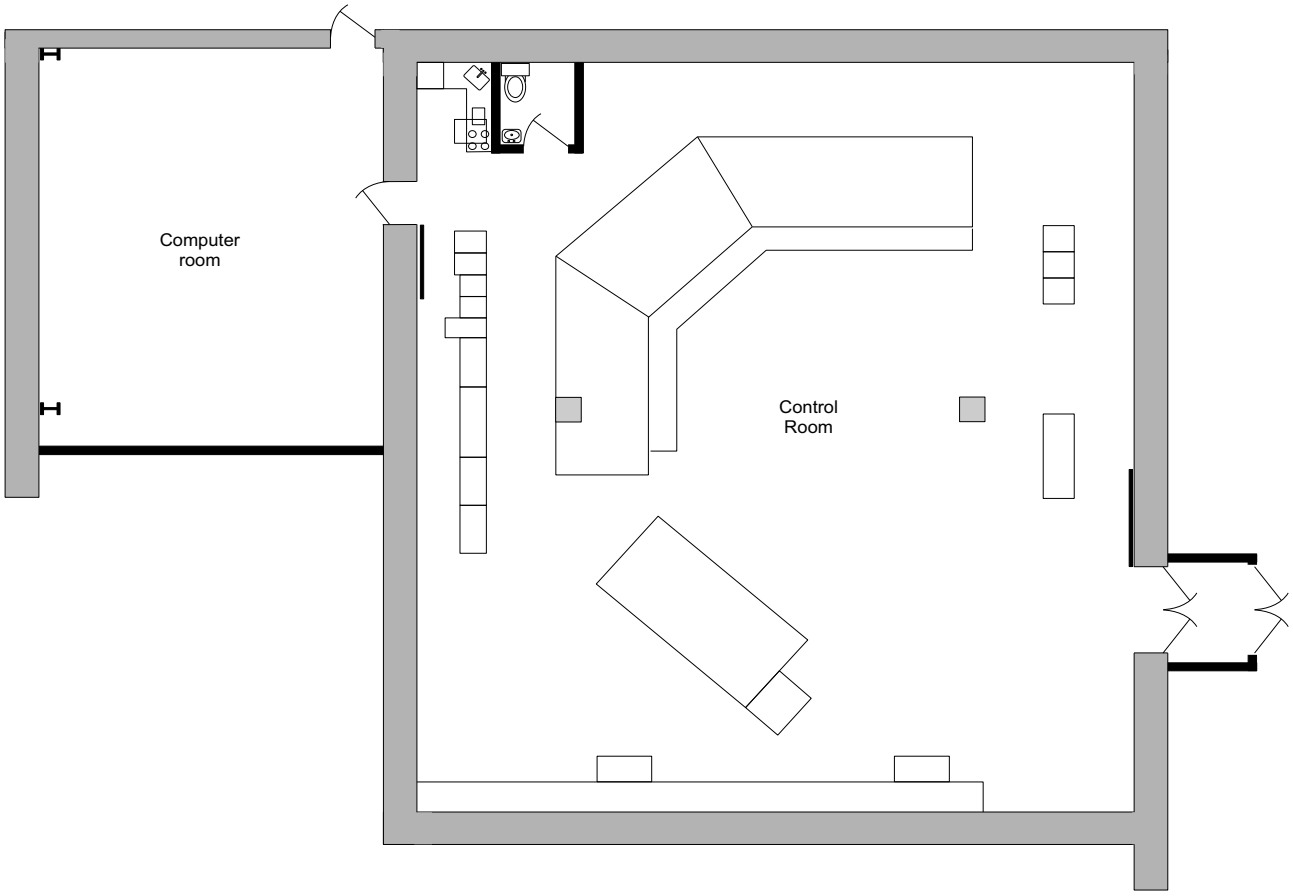


MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Site Area Layout	Figure 3-21

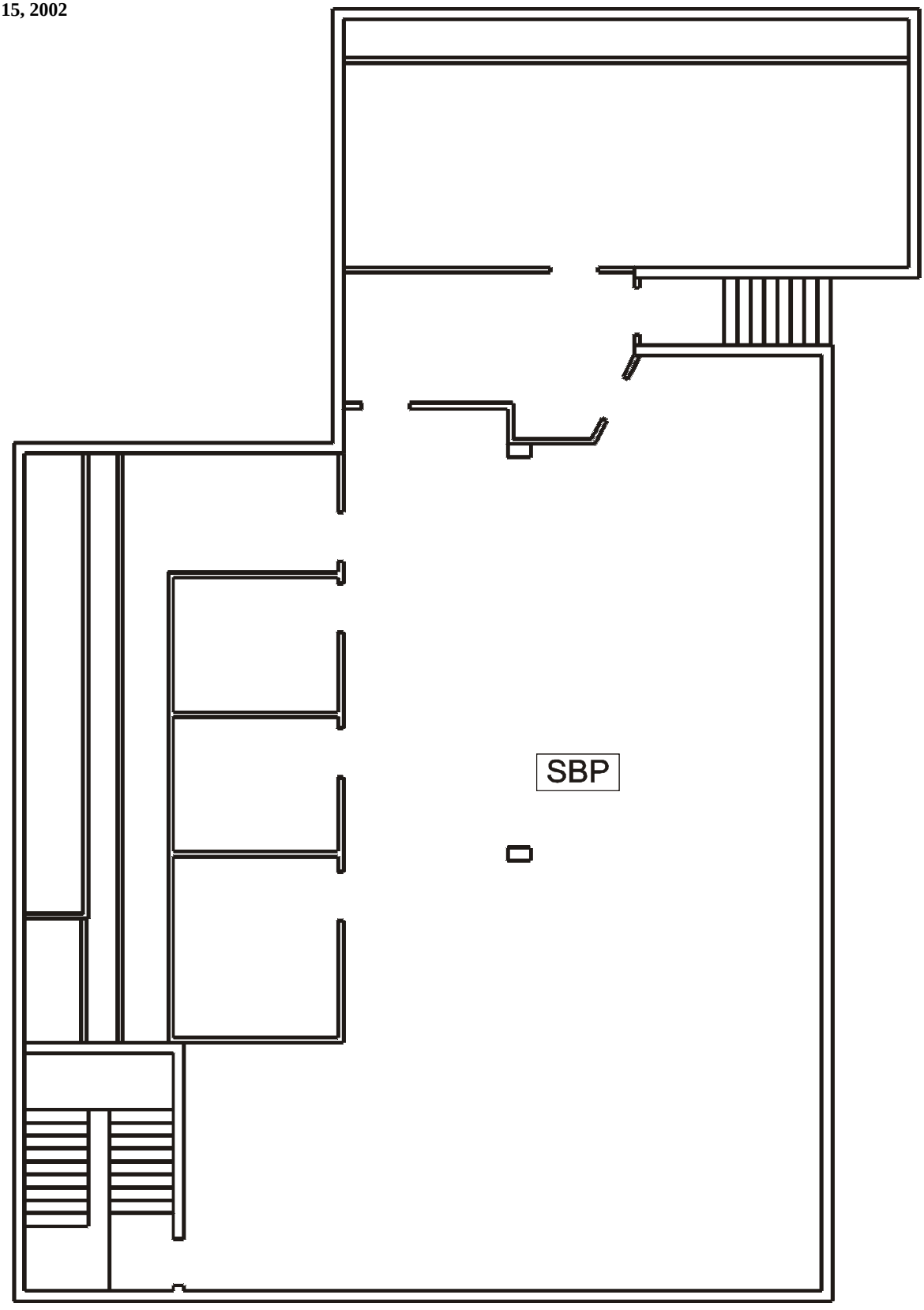


ALL COMMODITIES OUT BY 04/01/2001

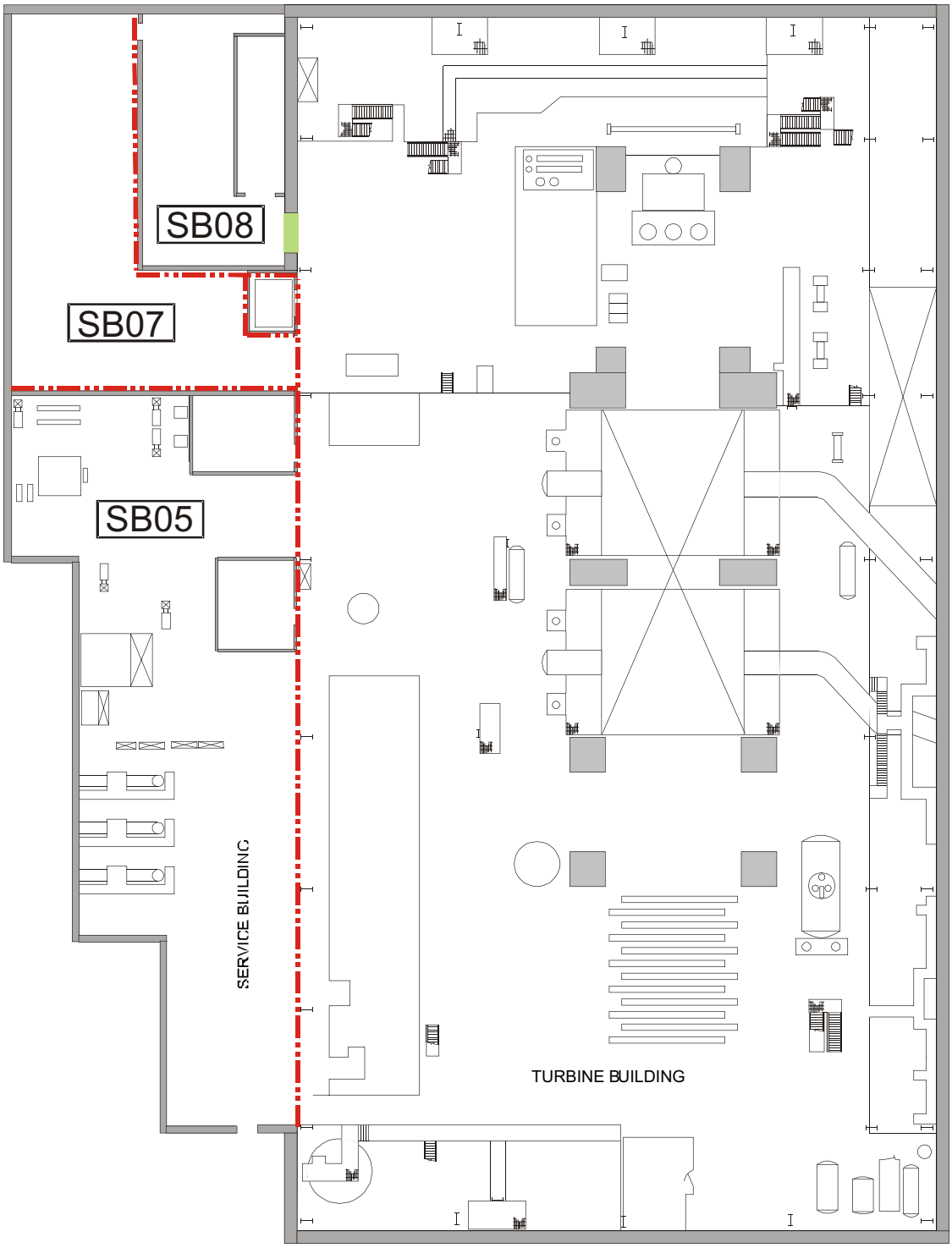
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	SERVICE BUILDING 21'ELEVATION	FIGURE 3-22



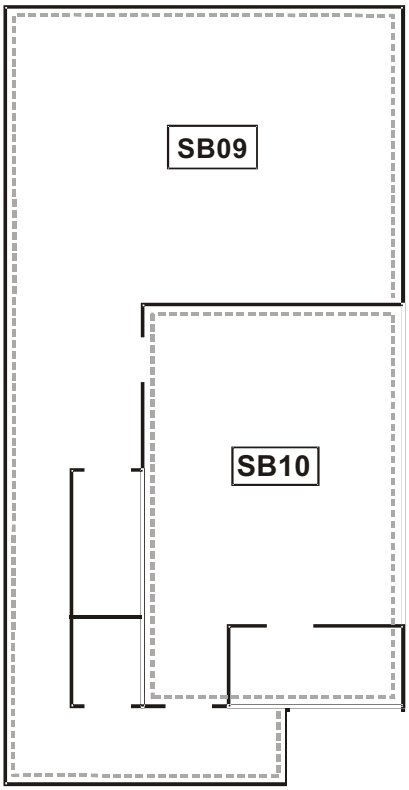
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Service Building 21'Elevation Control and Computer Room	Figure 3-23



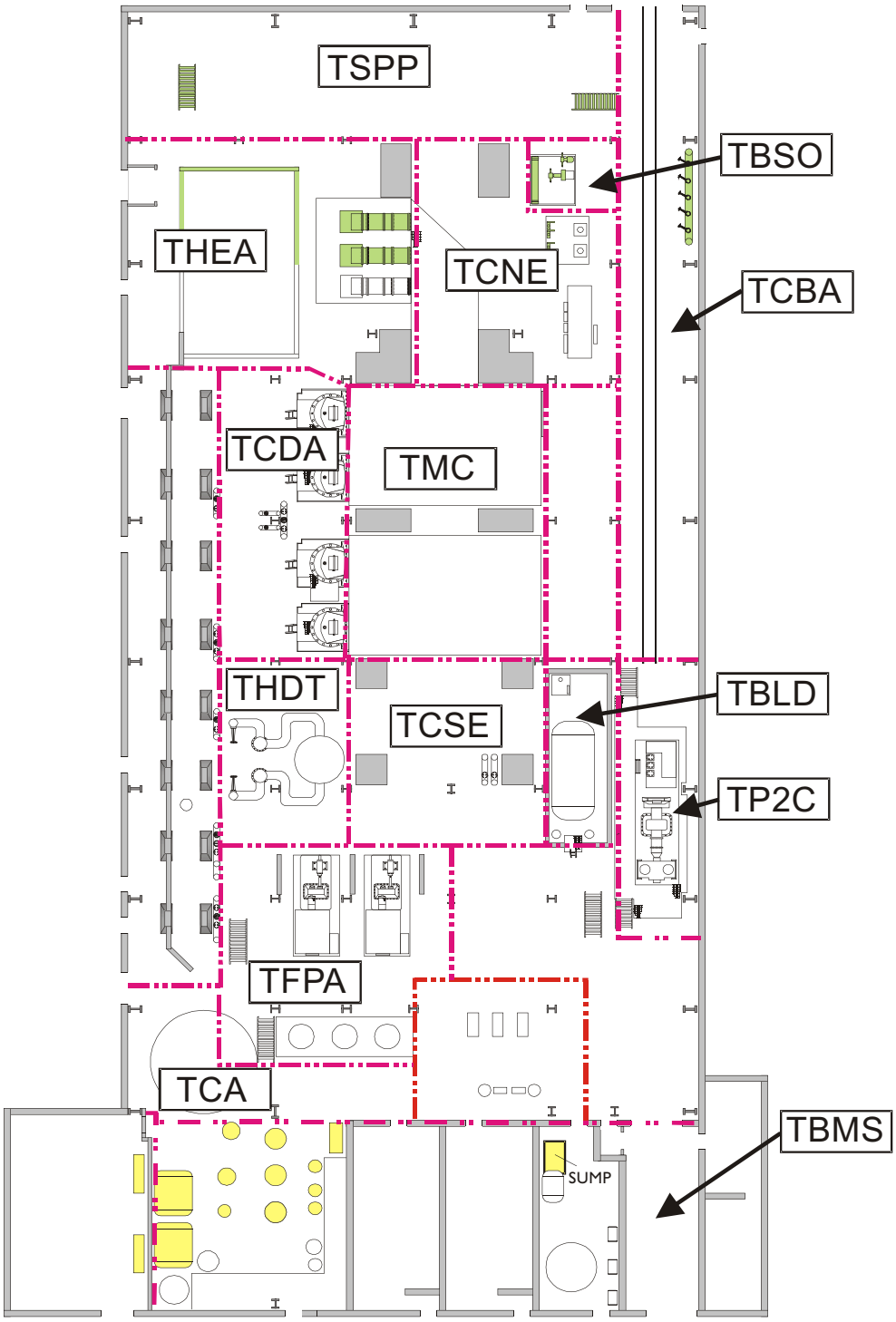
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Cold Side Service Building 30'-10" Elevation 2nd Floor General Area	Figure 3-24



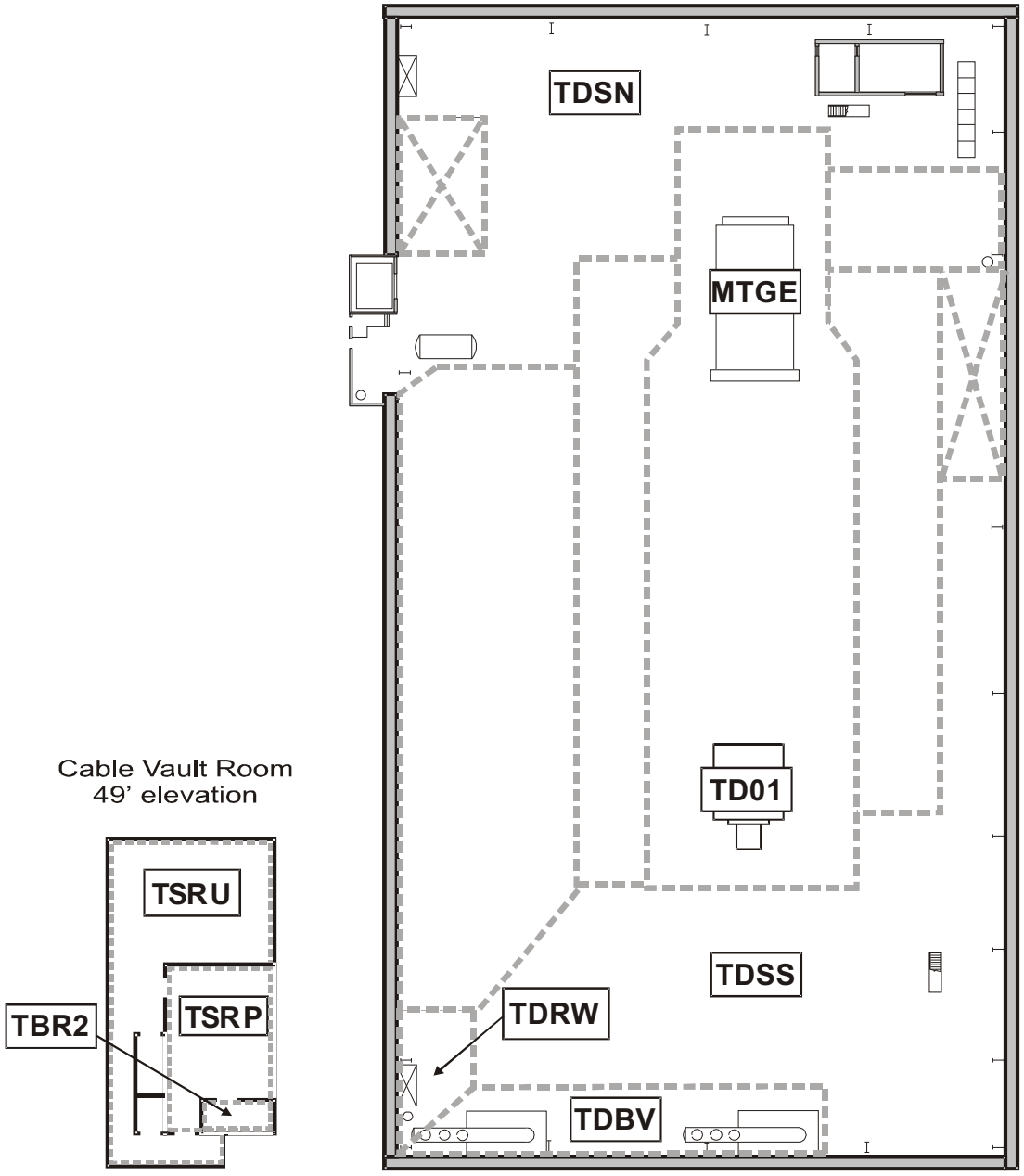
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Service Building 39' Elevation	Figure 3-25



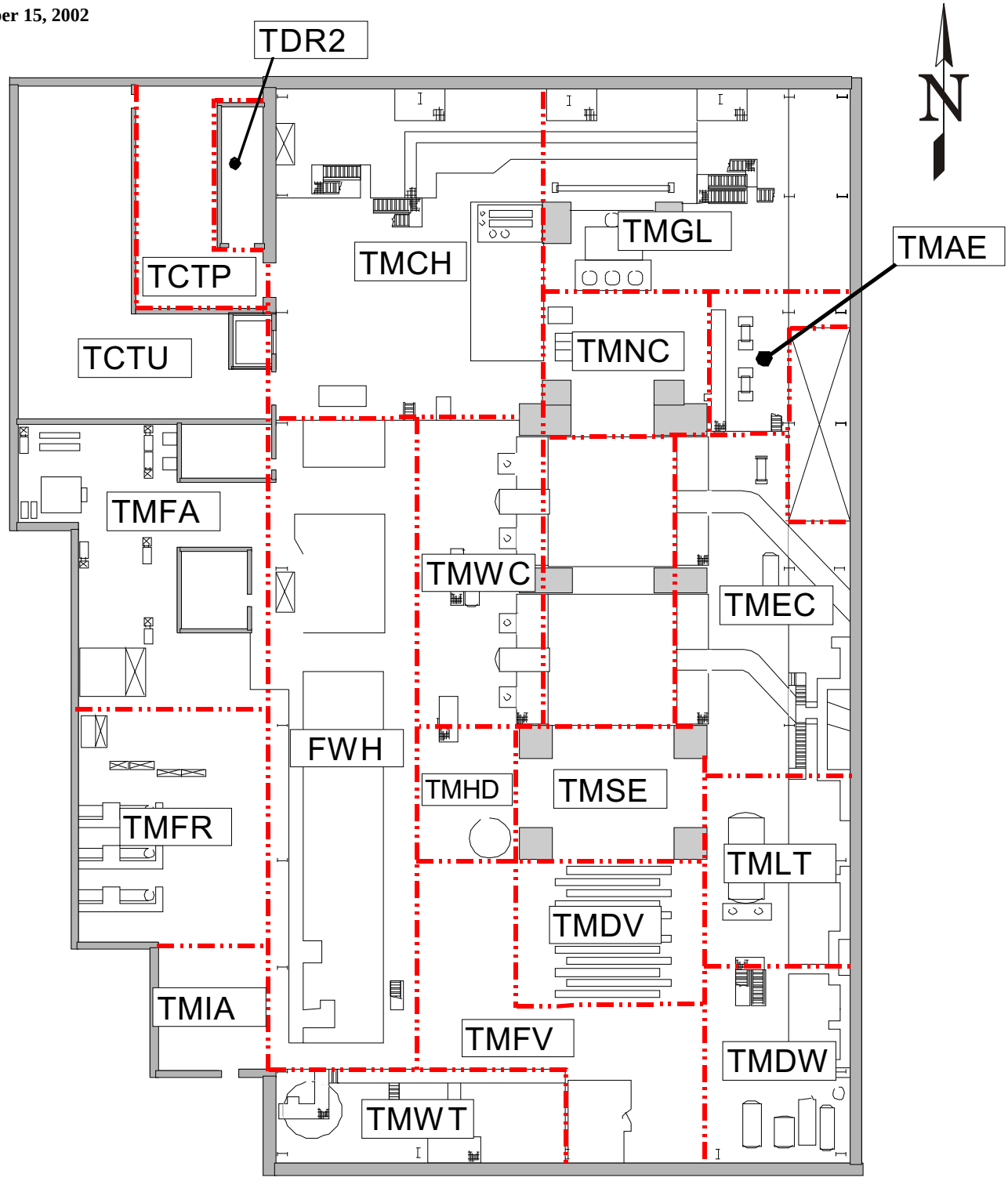
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Cable Vault Room 49' Elevation	Figure 3-26



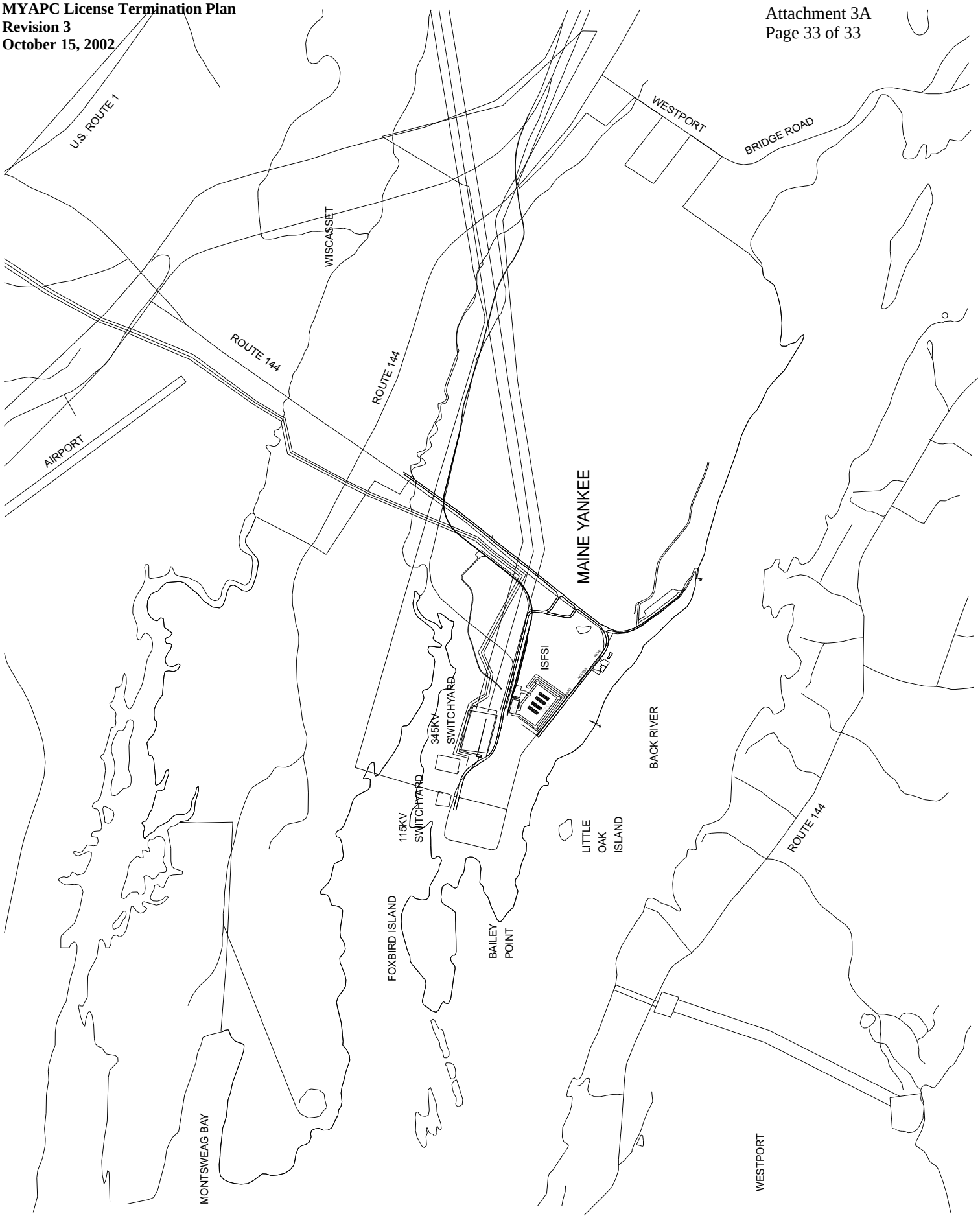
MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Turbine Building 21'Elevation	Figure 3-27



MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Turbine Building 61' Elevation	Figure 3-28



MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Turbine Building 39' Elevation	Figure 3-29



MAINE YANKEE ATOMIC POWER CO. LICENSE TERMINATION PLAN	Final Site Configuration	Figure 3-30