

# Maine Yankee

321 OLD FERRY RD. • WISCASSET, ME 04578-4922

June 20, 2005

MN-05-031

RA-05-033

Proposed Change No. 218, Supplement 27

UNITED STATES NUCLEAR REGULATORY COMMISSION

Attention: Document Control Desk

Washington, DC 20555

- References:
- (1) License No. DPR-36 (Docket No. 50-309)
  - (2) Maine Yankee Letter to the USNRC, MN-02-048, dated October 15, 2002, Revision 3, Maine Yankee's License Termination Plan
  - (3) USNRC Letter to Maine Yankee, dated February 28, 2003, Issuance of Amendment No. 168 to Facility Operating License No. DPR-36
  - (4) Maine Yankee Letter to the USNRC, MN-04-020, dated March 15, 2004, License Amendment Request: Release of Non-ISFSI Site Land, Proposed Change No. 218
  - (5) Maine Yankee Letter to the USNRC, MN-05-016, dated April 7, 2005, Release of Non-ISFSI Site Land – FSS Final Report No. 9, Proposed Change No. 218, Supplement 18

**Subject: Release of Non-ISFSI Site Land - FSS Final Report No. 10A**

On March 15, 2004, Maine Yankee submitted a request for amendment (Reference No. 4) to the facility operating license (Reference No. 1) pursuant to 10 CFR 50.90 and in accordance with the NRC Approved License Termination Plan (LTP) for Maine Yankee (Reference No. 2), to indicate NRC's approval of the release of the Non-ISFSI site land from the jurisdiction of the license. In support of that request, Maine Yankee supplied the information required in LTP section 1.4.2 and 5.9.3. The land area associated with the license amendment request included the entire non-ISFSI portion of the site land. Maine Yankee is submitting the required dismantlement and survey information for the survey units that make up the non-ISFSI portion of the site land in a phased fashion. Accordingly, Maine Yankee is herewith supplying the dismantlement and survey information for four survey areas comprising eight survey units. Other descriptive information and technical evaluations contained in Reference No. 4 are unaffected by this information and are, therefore, not included in this submittal, as indicated. One of these survey units is being resubmitted from FSS Final Report No. 9 (Reference No. 5)

Attachment I - Final Status Survey Final Report No. 10A, provides dismantlement and summary survey information for the survey units covered in this submittal. Attachment II provides a copy of the supporting final status survey release records for the survey units that make up this phase of survey information.

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This is the final submittal of survey unit results. Information on all other survey units for the non-ISFSI land areas have been provided in previous submittals. Maine Yankee requests timely review and acceptance of this final dismantlement and survey information, and subsequent license amendment releasing all non-ISFSI lands from the jurisdiction of the Facility Operating License No. DPR-36.

If you have any questions, please contact me.

Sincerely,

A handwritten signature in black ink that reads "Michael A. Whitey for T.C.F." The signature is fluid and cursive.

Ted C. Feigenbaum

President and Chief Executive Officer

Attachments

- I. Final Status Survey Final Report No. 10A
- II. Release Records

cc: Mr. D. R. Lewis, Esq., Shaw Pittman  
Mr. C. Pray, State of Maine, Nuclear Safety Advisor  
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Figure 1 Survey Areas

Figure 2 Survey Areas (Site Industrial Area)

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## **1.0 Description**

This letter is submitted as a supplement to Proposed Change No. 218 (Reference 7.3), which requests an amendment to the Operating License No. DPR-36 for Maine Yankee, specifically License Condition 2.B(9), addressing release of lands from the jurisdiction of the Facility Operating License. Maine Yankee requested that the NRC review and approve the release of remaining land under License No. DPR-36 with the exception of the land where the Independent Spend Fuel Storage Installation (ISFSI) is located. In support of that request, Maine Yankee supplied the information required in LTP section 1.4.2 and 5.9.3. The land area associated with the license amendment request included the entire non-ISFSI portion of the site land. Maine Yankee has submitted the required dismantlement and survey information for the survey units that make up the non-ISFSI portion of the site land in a phased fashion. Other descriptive information and technical evaluations contained in Reference No. 7.3 are unaffected by these submittals and are, therefore, not included in this submittal, as indicated.

In this submittal, Maine Yankee is providing the dismantlement and survey information for four areas (eight survey units), as described in Table 1 in Section 4.1.1. Maine Yankee is providing this information to facilitate NRC review and acceptance. This written NRC acceptance must conclude, for the land associated with the release, that the remaining dismantlement has been performed in accordance with the approved license termination plan, and the terminal radiation survey and associated documentation demonstrates that the facility and site are suitable for release in accordance with the criteria for decommissioning in 10 CFR part 20, subpart E by meeting a site release criteria of 10 millirem TEDE per year over background (all pathways) with no more than 4 millirem (as distinguishable from background) TEDE per year from groundwater sources of drinking water in accordance with the approved License Termination Plan.

Reference 7.3 provided the information required by section 1.4 of Maine Yankee's License Termination Plan (LTP). LTP section 1.4 discusses the information to be provided in support of releasing land from the jurisdiction of License No. DPR-36 and also describes Maine Yankee's overall phased approach to releasing land. This submittal provides the dismantlement, FSS results, and recontamination prevention and control information required by LTP section 1.4 specific to the survey units covered in this submittal.

The information contained in this submittal, together with the information provided in the prior supplemental phases will be sufficient for the NRC to make a determination equivalent to 10 CFR 50.82(a)(11) regarding the lands to be released from the license. Once these lands are so released, it is understood that the NRC will not require any additional surveys or decontamination of these areas unless the NRC determines that the criteria of 10CFR Part 20, Subpart E were not met and that residual activity remaining on the land could result in a significant threat to public health and safety.

## **2.0 Proposed License Condition**

The proposed wording for the license condition is provided in Reference 7.3 and is not affected by this supplement.

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### **3.0 Background**

Reference 7.3 transmitted an application to amend Maine Yankee's License No. DPR-36 to release the remaining non-ISFSI land from the jurisdiction of the license. The process for releasing land from Maine Yankee's license is established in section 1.4 of the License Termination Plan. This LTP section defines the information that will be provided to support release of land from Maine Yankee's license. This information, includes (1) a description of the boundaries associated with the area to be released (revised by Reference 7.62), (2) discussion of dismantlement activities performed; (3) final status survey results; (4) evaluation of the potential for re-contamination and controls applied to prevent this; (5) an evaluation of the impact on the exclusion area for site lands remaining under the Part 50 license; (6) an evaluation of possible combined dose effects as a result of partial release; (7) an evaluation of potential impact on various licensee programs and; (8) a no significant hazards determination evaluation. Items (1), (5), (6), (7), and (8) are applicable to the License Amendment Request and the release of the entire remaining non-ISFSI land. Items (2), (3), and (4) are specific to each survey unit/area. This information is contained in this submittal for the survey units covered by this submittal.

### **4.0 Site Information and Physical Description**

#### **4.1 Physical Description of Land to be Released**

The land to be released is described in Reference 7.3, supplemented by Reference 7.62, and is unchanged by this submittal.

##### **4.1.1 Survey Unit Information Included in this Submittal**

As discussed in section 1.0 above, this submittal provides a discussion of demolition activities completed and final status survey results for the survey units located on the proposed land to be released. Details are provided for each survey unit on survey methods, results, data analysis, and conclusions. Additional information on all other survey units for the Non-ISFSI land areas have been provided in previous submittals. This is the final submittal of survey unit results. This information has been provided so that the NRC staff can verify that the License Termination Plan has been fully implemented for each survey area and that the final status survey results support unrestricted release of the land from License DPR-36 in accordance with the proposed license amendment.

Table 1 provides a description of the survey units addressed in this submittal.

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<b>Table 1 - Survey Unit Description</b>			
<b>Survey Area</b>	<b>Survey Unit</b>	<b>Class</b>	<b>General Description of Survey Unit</b>
FD-3500	2	3	<b>Storm Drains</b> – This submittal is Revision 1 to FD-3500-02 <sup>1</sup> . The survey unit consists of the storm drain piping leading into Outfalls 9 and 10 (Storm Drain Sections 1 and 2, respectively per LTP Attachment 5A). The survey unit is approximately 416 m <sup>2</sup> .
FR-0200	5	1	<b>Yard East</b> – The survey unit is located in the southeast corner of the site, partially residing in the former “Industrial Area” yard and partially in the Turbine Building Footprint. The area was bordered on the north by FR-0200 Survey Unit 8, on the west by FR-0111 Survey Unit 19, on the south by FR-0200 Survey Units 4 and 9, and on the east by FR-0200 Survey Unit 2. The survey unit is approximately 1445 m <sup>2</sup> .
FR-0200	6	1	<b>Yard East</b> – The survey unit is located in the southeast corner of the site, partially residing in the former “Industrial Area” yard and partially residing in the Turbine Building Footprint. The area was bordered on the north by FR-0800 Survey Unit 1 and FR-0900 Survey Unit 1, on the west by FR-0111 Survey Unit 20, on the south by FR-0200 Survey Unit 8, and on the east by FR-0200 Survey Unit 7. The survey unit is approximately 1,907 m <sup>2</sup> .
FR-0200	7	1	<b>Yard East</b> – The survey unit is located in the southeast corner of the site, partially residing in the former “Industrial Area” yard and partially residing in the Turbine Building Footprint. The area was bordered on the north and east by FR-2900 Survey Unit 2, on the west by FR-0200 Survey Unit 6, on the south by FR-0200 Survey Unit 8. The survey unit is approximately 1,890 m <sup>2</sup> .
FR-0200	8	1	<b>Yard East</b> – The survey unit is located in the southeast corner of the site, partially residing in the former “Industrial Area” yard and partially residing in the Turbine Building Footprint. The area was bordered on the north by FR-0200 Survey Units 6 and 7, on the west by FR-0111 Survey Units 19 and 20, on the south by FR-0200 Survey Unit 5, and on the east by FR-0200 Survey Unit 2. The survey unit is approximately 1,585 m <sup>2</sup> .
FR-0200	9	1	<b>Yard East</b> – The survey unit is located in the southeast corner of the site, mostly residing in the former “Industrial Area” yard, but within the expanded Restricted Area boundary. The area was bordered on the north by FR-0200 Survey Unit 5, on the west by FR-0200 Survey Unit 4, on the south by FR-0200 Survey Unit 3, and on the east by FR-0200 Survey Unit 1. The survey unit is approximately 1413 m <sup>2</sup> .

<sup>1</sup> Per discussions with the NRC Staff, FD-3500-02 is being re-submitted. Revision 1 includes verification survey data that required investigation. Revision 0 was previously submitted in Maine Yankee Letter to USNRC, MN-05-016, dated April 7, 2005 (Reference 7.51).

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<b>Table 1 - Survey Unit Description</b>			
<b>Survey Area</b>	<b>Survey Unit</b>	<b>Class</b>	<b>General Description of Survey Unit</b>
FR-0900	4	1	<b>Balance of Plant Land</b> – This survey unit is located just off of the east end of the east/west access road that runs along the north side of the Restricted Area. The area was used during decommissioning to pile snow removed from the roadway, and consists of a reclassified portion of Survey Area FR-2900 Survey Unit 2 and Survey Area FR-0900 Survey Unit 1. The survey unit area is approximately 175 m <sup>2</sup> .
FR-2900	3	3	<b>Railroads Tracks and Roadways (Roads)</b> – The survey unit consists of the 6 meter wide footprint of the remaining site railroads and beds, and includes railroads from Gate 2 (Protected Area) to Old Ferry Road, with the exclusion of almost 200 meters of rails within the ISFSI boundary. The survey unit is approximately 6,370 m <sup>2</sup> .

These areas and locations of these survey units are shown in Figure 1. The cross-hatched portions of the site represent the areas for which detailed dismantlement and survey information is being provided in this submittal. Shaded areas in Figure 1 represent those included in previous submittals. See Figure 2 for an expanded scale illustration, showing the site's industrial area.

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**4.1.2 Survey Unit Information Being Provided in Subsequent Submittals**

This is the final submittal of survey unit results. Information on all other survey units for the Non-ISFSI land areas have been provided in previous submittals.

**4.2 Dismantlement Activities**

The Maine Yankee License Termination Plan (LTP) describes the dismantlement activities to be performed for each structure and area of the Maine Yankee plant. In general, the LTP indicates that structures will be demolished to an elevation corresponding to three feet below grade. A few structures will remain in-place including the 345 kV switchyard and associated relay house. The former Low Level Waste Storage Building, now the ISFSI Security Operations Building (SOB), will remain in-place until fuel is transferred to the United States Department of Energy and will be dismantled and/or released concurrent with FSS of the ISFSI and license termination. Portions of the west plant access road will remain in-place to service the ISFSI and/or other future uses of the site. Since Old Ferry Road is a public road, it will also remain in-place. Certain below grade structural remnants and buried/embedded piping will remain in-place as described in LTP section 3.2.4 and Attachment 5A.

This section reviews the activities that have been performed for the survey area(s) included in this submittal.

**4.2.1 FD-3500 Storm Drains**

Per LTP 5-1E, the Storm Drains systems consisted of both Class 1 and Class 3 areas.

As discussed in section 3.2.4 of the LTP, portions of the storm drain system piping serving the site radiologically Restricted Area (that is, "Hot Side" storm drains) were to be decontaminated, if required, and left in place. The storm drain system outside the Restricted Area (that is "Cold Side storm drains), were to 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.

Manholes and catch basins have been removed. In general, piping outside the former Restricted Area (RA) remains in-place. The storm drain piping between Manhole 19 and 20 was removed and the trench excavation was subject to FSS (FR-0200- SU's 6 & 7) and backfilled. One segment of piping (outside the RA) between Manhole 18 and 19 was removed for FSS purposes. Piping in storm drains inside the original RA has been removed.

This report includes Revision 1 of the FSS for Survey Unit 2



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**4.2.2 FR-0200 Yard East**

Survey Area FR-0200 addresses the FSS of a large of portion of the industrial area on the east side of site. This submittal includes Survey Units No. 5, 6, 7, 8 and 9. These survey units encompassed the former Turbine Building, spare transformer pad, main transformer pad, Administration Building. Most recently, this area was used for the temporary storage of excavated, contaminated soil and for temporary water storage and processing tanks.

During decommissioning, the RA boundary was expanded to include a portion of FR-0200 including Survey Unit Nos. 5, 6, 7, 8 and 9. Thus, Survey Unit Nos. 5 thru 9 were reclassified to Class 1. Part of this area was previously surveyed as part of Survey Area FB-0500 (Turbine Building Footprint). All temporary structures have been removed and all former permanent structures were demolished to at least 3 feet below grade.

Following the FSS of FD-3500 Survey Unit No. 2 Storm Drains, the storm drain manholes were removed and a soil sample taken at the bottom of the excavation of manholes 5 and 20. These soil samples did not identify any plant derived nuclides (less than MDA's of 0.05 pCi/g to 0.08 pCi/g Cs-137/Co-60). Prior to the removal of Manholes 18 and 19, the surface soil was scanned with SPA-3 and no areas of elevated activity were detected (8 – 11 kcpm) . Thus, the excavation of these manholes did not impact the associated FR-0200 Survey Units.

**4.2.3 FR-0900 Balance of Plant Land**

Survey Unit 4 is a reclassified section resulting from an investigation in FR-2900-02. Since the investigation direct sample exceeded the DCGL for areas outside the Restricted Area, the subject area was reclassified to Class 1. A portion of the investigation scan grid was located in a disturbed area used for piling snow/debris. No additional dismantlement was necessary for the Survey Unit, since the dismantlement associated with FR-0900 was previously completed.

**4.2.4 FR-2900 Railroad Tracks and Roadways**

As noted in LTP Table 5-1C and discussed in LTP section 5.2.3, Survey Area FR-2900 was established as a means to manage the final surveys of roads and rail areas traversed throughout the demolition project. This report includes one survey unit involving the rails from the Industrial Area north to the south ISFSI boundary and from the north ISFSI boundary to Old Ferry Road. There are no dismantlement activities necessary for the rails. A dead man rail device has been installed at the southern end of the rail just north of the former "Industrial Area."

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**5.0 Technical Evaluation**

**5.1 Potential for Cross-contamination from Subsequent Activities**

Since decommissioning activities were conducted onsite in parallel with final status survey and release decisions, measures were taken to protect survey areas from contamination during and subsequent to the final status survey (FSS). Maine Yankee LTP sections 3.5.6, 5.1.2 and 5.1.1 describe contamination and access controls measures and periodic routine monitoring practices to prevent and/or detect the re-contamination of survey areas during or following FSS. These requirements were implemented, as appropriate, through established procedures and were summarized in Reference 7.3.

The potential for re-contamination and the contamination controls/monitoring for the specific survey areas included in this release phase are discussed and evaluated below:

**5.1.1 FD-3500 Storm Drains**

Per LTP Table 5-1E, the Storm Drains systems consisted of both Class 1 and Class 3 areas. While some portions were determined to be Class 1, soil sampling from the various excavations in the area of storm drain system components (manholes and/or piping) did not indicate substantial residual plant-derived activity. Class 1 storm drains were removed.

Following the conduct of FSS, a hose that was used for liquid effluent release was removed from the storm drain piping that discharge through Outfall 10. During the removal of this hose, the hose was broken several times. Post FSS verification surveys were performed and are described in the revised release record attached. Given the removal and backfill of manholes and catch basins, as well as the removal of certain portions of piping, there no longer can be flow within the system.

The storm drain piping between manholes 19 and 20 was removed. The resulting excavations was incorporated into the FSS survey of FR-0200 Survey Unit Nos. 6 and 7. Standard controls and procedures were implemented including provisions for access control and postings.

**5.1.2 FR-0200 Yard East**

The associated survey unit areas are inside the industrial area, to the east of the power block. The areas were within the expanded RA.

Contamination controls for the soil remediation areas required special measures due to the proximity of other demolition and excavation work on-going in adjacent survey units and to manage water from both rain and groundwater sources.

1. In general, standard access controls and posting requirements were implemented following the completion of excavation.
2. Buffer zones were established around excavation areas to minimize the potential for foreign material to be inadvertently moved into the excavation.

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3. As a general practice, backfilling was accomplished as expeditiously as possible, to minimize the duration that the excavation was open.
4. Due to rainwater and groundwater intrusion, a number of water management measures were instituted. Dikes were used around the open excavation to minimize rainwater accumulation within the excavation. Pooled water in the excavation was sampled, processed, and discharged, meeting applicable discharge permit requirements.

As an additional control measure, following FSS of these survey units, the site RA boundaries were revised to reduce the overall size of the RA. As a result, the subject FR-0200 survey units were no longer within the RA. This action not only provides for improved management and control of activities (within a smaller RA) but also further reduces the possibility of vehicles traversing and contaminating the subject FR-0200 survey unit. In addition, standard controls and procedures were implemented including provisions for access control, postings, and routine surveys.

**5.1.3 FR-0900 Balance of Plant Lands**

The bulk of the FR-0900 was a Class 3 area; however, this survey unit was reclassified as Class 1 resulting from an investigation in FR-2900-02. Following FSS of the survey unit areas reported here, standard controls and procedures were implemented including provisions for access control, postings, and routine surveys.

**5.1.4 FR-2900 Railroad Tracks and Roadways**

FR-2900 is a Class 3 area. Following FSS of the survey unit area reported here, standard controls and procedures were implemented including provisions for access control, postings, and routine surveys. Since this rail survey was conducted prior to the last rail transfer of contaminated soil from the Industrial Area to the ISFSI, a verification (ISOCS) survey will be conducted of 100% of the rail from the Industrial Area north to the ISFSI and a portion of the rail from the ISFSI to Old Ferry Road.

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## **6.0 Final Status Survey Report**

Maine Yankee LTP section 5.9.3 identifies the contents of the written reports of final status survey results that are to be submitted to the NRC. These contents include the items described in NUREG 1757, Vol. 2, Section 4.5. The survey unit design information and survey results are provided below in summary fashion. Specific survey unit design details and results are provided in a copy of each survey unit release record in Attachment II of this submittal.

### **6.1 Overview of Results**

The following survey units are included in this report:

1. FD-3500-SU-2 Storm Drains - This submittal is Revision 1. The survey unit consists of the storm drain piping leading into Outfalls 9 and 10 (Storm Drain Sections 1 and 2, respectively per LTP Attachment 5A).
2. FR-0200-SU-5 Yard East – The survey unit is located in the southeast corner of the site, partially residing in the former “Industrial Area” yard and partially in the Turbine Building Footprint. The area was bordered on the north by FR-0200 Survey Unit 8, on the west by FR-0111 Survey Unit 19, on the south by FR-0200 Survey Units 4 and 9, and on the east by FR-0200 Survey Unit 2.
3. FR-0200-SU-6 Yard East – The survey unit is located in the southeast corner of the site, partially residing in the former “Industrial Area” yard and partially residing in the Turbine Building Footprint. The area was bordered on the north by FR-0800 Survey Unit 1 and FR-0900 Survey Unit 1, on the west by FR-0111 Survey Unit 20, on the south by FR-0200 Survey Unit 8, and on the east by FR-0200 Survey Unit 7.
4. FR-0200-SU-7 Yard East – The survey unit is located in the southeast corner of the site, partially residing in the former “Industrial Area” yard and partially residing in the Turbine Building Footprint. The area was bordered on the north and east By FR-2900 Survey Unit 2, on the west by FR-0200 Survey Unit 6, on the south by FR-0200 Survey Unit 8.
5. FR-0200-SU-8 Yard East – The survey unit is located in the southeast corner of the site, partially residing in the former “Industrial Area” yard and partially residing in the Turbine Building Footprint. The area was bordered on the north By FR-0200 Survey Units 6 and 7, on the west by FR-0111 Survey Units 19 and 20, on the south by FR-0200 Survey Unit 5, and on the east by FR-0200 Survey Unit 2.
6. FR-0200-SU-9 Yard East - The survey unit is located in the southeast corner of the site, mostly residing in the former “Industrial Area” yard, but within the expanded Restricted Area boundary. The area was bordered on the north by FR-0200 Survey Unit 5, on the west by

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- FR-0200 Survey Unit 4, on the south by FR-0200 Survey Unit 3, and on the east by FR-0200 Survey Unit 1.
7. FR-0900-SU-4 Balance of Plant Land - This survey unit is located just off of the east end of the east/west access road that runs along the north side of the Restricted Area. The area was used during decommissioning to pile snow removed from the roadway, and consists of a reclassified portion of Survey Area FR-2900 Survey Unit 2 and Survey Area FR-0900 Survey Unit 1.
8. FR-2900-SU-3 Railroad Tracks and Roadways (Roads) – The survey unit consists of the 6 meter wide footprint of the remaining site railroads and beds, and includes railroads from Gate 2 (Protected Area) to Old Ferry Road, with the exclusion of almost 200 meters of rails within the ISFSI boundary.

The release record for each survey unit contains a description of the survey unit; design information including classification, size, number of measurements, map, scan coverage, and DCGL; survey results; survey unit investigations (anomalous data); data assessment results, including statistical evaluations, if applicable and a simplified general retrospective dose estimate; changes in initial survey unit assumptions on extent of residual activity, an evaluation of LTP changes subsequent to the FSS of the survey unit and survey unit conclusions.

Overall, the release records for these survey units demonstrate that they meet the criteria for release for unrestricted use in accordance with the NRC approved Maine Yankee License Termination Plan.

## **6.2 Discussion of Changes to FSS Program**

The purpose of this section is to discuss changes to the FSS program. Relevant NRC guidance documents (NUREG 1727 and 1757) recommend a discussion of any changes that were made in the final status survey from what was proposed in the decommissioning plan or other prior submittals. The impacts of applicable changes on each survey unit are discussed in the survey units' release record provided in Attachment II.

There were no changes to the LTP with potential impact to the survey units in this FSS Final Report.

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**6.3 Final Status Survey Methodology**

This section summarizes the implementation of the LTP Final Status Survey methodology for the survey units that are included in this report supporting the release of remaining non-ISFSI site land. Table 2 lists the key FSS design features for each survey unit. These design features include the survey unit classification and size, the standard deviation and Lower Boundary of the Gray Region (LBGR) used for determining the number of static measurement taken, the percent scan coverage, the Derived Concentration Guideline Limit (DCGL), the design DCGL<sub>EMC</sub><sup>2</sup>, and the number of measurements required.

**Table 2 - Survey Unit Final Parameters**

Survey Unit	Class	Survey Unit Size (m <sup>2</sup> )	Standard Deviation	LBGR	DCGL	Design DCGL <sub>EMC</sub>	Units	No. Meas.	% Scan
<b>FD-3500 Storm Drains</b>									
2	3	416	727	4,900	9,800	N/A	dpm/100 cm <sup>2</sup>	30	1.1
<b>FR-0200 Yard East</b>									
5	1	1,445	1.33	2.1	4.2 1.5	6.9 2.5	pCi/g Cs-137 pCi/g Cs-60	18	100
6	1	1,907	1.33	2.1	4.2 1.5	6.4 2.3	pCi/g Cs-137 pCi/g Cs-60	18	100
7	1	1,890	1.33	2.1	4.2 1.5	6.42.3	pCi/g Cs-137 pCi/g Cs-60	18	100
8	1	1,585	1.33	2.1	4.2 1.5	6.72.4	pCi/g Cs-137 pCi/g Cs-60	18	100
9	1	1,413	1.33	2.1	4.2 1.5	6.9 2.5	pCi/g Cs-137 pCi/g Cs-60	18	100
<b>FR-0900 Balance of Plant Land</b>									
4	1	175	0.48	2.76	4.2 1.5	9.6 3.5	pCi/g Cs-137 pCi/g Cs-60	14	100
<b>FR-2900 Railroad Tracks and Roadways</b>									
3	3	6,370	0.23	3.5	4.2 1.5	N/A	pCi/g Cs-137 pCi/g Cs-60	14	100

<sup>2</sup> DCGL<sub>EMC</sub>: Derived Concentration Guideline Limit for the Elevated Measurement Comparison

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**6.4 Final Status Survey Results**

The methods used to determine the number of static measurements to be taken are described in the LTP and the specific survey unit release records provided in Attachment II.

<b>Table 3 - Survey Unit FSS Results</b>							
<b>Survey Unit</b>	<b>Class</b>	<b>No of Static Meas. Taken</b>	<b>Mean Sample (see units)</b>	<b>Maximum Sample (see units)</b>	<b>Standard Deviation (see units)</b>	<b>Units</b>	<b>No. Scan Elevated Areas (Note 1)</b>
<b>FD-3500 Storm Drains</b>							
2	3	32	553	2,820	788	dpm/100 cm <sup>2</sup>	0
<b>FR-0200 Yard East</b>							
5	1	52	5.50E-02	2.74E-01	3.74E-02	Unitized	0
6	1	40	5.30E-02	2.01E-01	2.50E-02	Unitized	0
7	1	42	5.83E-02	3.18E-01	4.68E-02	Unitized	0
8	1	48	4.75E-02	1.55E-01	1.74E-02	Unitized	0
9	1	45	6.73E-02	4.23E-01	6.14E-02	Unitized	0
<b>FR-0900 Balance of Plant Land</b>							
4	1	14	6.12E-02	1.43E-01	2.47E-02	Unitized	0
<b>FR-2900 Railroad Tracks and Roadways</b>							
3	3	14	5.43E-02	6.34E-02	5.50E-03	pCi/g Cs-137	0

Note 1: This column (No. Scan Elevated Areas) indicates the number of verified scan alarms whose post investigation, as-left, contamination level exceeded the DCGL (or unity for multiple nuclides).

**6.5 Survey Unit Conclusions**

Maine Yankee concludes that this information is sufficient for the NRC to make a determination equivalent to 10 CFR 50.82(a)(11) regarding the survey units contained in this submittal. The surveys for these survey units and associated documentation demonstrate that these areas of the facility and site are suitable for release in accordance with the criteria for decommissioning in 10 CFR part 20, subpart E by meeting a site release criteria of 10 millirem TEDE per year over background (all pathways) with no more than 4 millirem (as distinguishable from background) TEDE per year from groundwater sources of drinking water in accordance with the approved License Termination Plan.

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**7.0 References**

- 7.1 Maine Yankee Letter to USNRC, MN-02-048, dated October 15, 2002, Revision 3, Maine Yankee's License Termination Plan
- 7.2 USNRC Letter to Maine Yankee dated February 28, 2003, "Issuance of Amendment No. 168 to Facility Operating License No. DPR-36 - Maine Yankee Atomic Power Station - Approval of the MY License Termination Plan
- 7.3 Maine Yankee Letter to USNRC, MN-04-020, dated March 15, 2004, License Amendment Request: Release of Non-ISFSI Site Land, Proposed Change No. 218
- 7.4 USNRC Memorandum from John T. Buckley to Claudia M. Craig dated March 23, 2004, Meeting Report for the March 17, 2004, Meeting with Maine Yankee Atomic Power Company (Maine Yankee)
- 7.5 USNRC Memorandum from John Buckley to Biweekly Notice Coordinator dated May 5, 2004, Request for Publication in Biweekly FR Notice - Notice of Consideration of Issuance of Amendment to Facility Operating License DPR-26, Proposed No Significant Hazards Consideration Determination, and Opportunity for Hearing (TAC No. L52090)
- 7.6 Maine Yankee Letter to USNRC, MN-04-031, dated May 6, 2004, Release of Non-ISFSI Site Land - FSS Final Report No. 1A, Proposed Change No. 218, Supplement 1
- 7.7 Federal Register Biweekly Notice: Applications and Amendments to Facility Operating Licenses Involving No Significant Hazards Consideration - Maine Yankee, 69FR29768, dated May 11, 2004
- 7.8 Maine Yankee Letter to USNRC, MN-04-042, dated July 6, 2004, Maine Yankee License Amendment Request - Release of Non-ISFSI Site Lands
- 7.9 USNRC Letter to State of Maine dated July 30, 2004, Response to State of Maine Comments on Maine Yankee License Amendment Request - Release of Non-ISFSI Site Lands
- 7.10 Maine Yankee Letter to USNRC, MN-04-044, dated August 12, 2004, Release of Non-ISFSI Site Land - Resubmittal of FSS Final Report No. 1, Proposed Change No. 218, Supplement 2
- 7.11 USNRC Letter to Maine Yankee dated August 18, 2004, Integrated Inspection No. 05000309/2004001
- 7.12 USNRC Letter to Maine Yankee dated August 18, 2004, Changes to the Maine Yankee Atomic Power Station License Termination Plan Using the 50.59 Process
- 7.13 Maine Yankee Letter to USNRC, MN-04-047, dated September 2, 2004, License Amendment Request - Release of Non-ISFSI Site Land, Proposed Change No. 218, Supplement 3
- 7.14 Maine Yankee Letter to USNRC, MN-04-048, dated September 7, 2004, Reply to NRC Letters Re: Changes to Maine Yankee LTP Using 50.59 Process
- 7.15 USNRC Letter to Maine Yankee dated October 14, 2004, Meeting Report for the September 9, 2004, Meeting with Maine Yankee Atomic Power Company (Maine Yankee)
- 7.16 Maine Yankee Letter to USNRC, MN-04-049, dated September 15, 2004, Release of Non-ISFSI Site Land - FSS Final Report No. 2, Proposed Change No. 218, Supplement 4
- 7.17 USNRC Letter to Maine Yankee dated September 24, 2004, Request for Additional Information Regarding Final Status Survey (FSS) Final Report No. 1A.
- 7.18 Maine Yankee Letter to USNRC, MN-04-052, dated October 12, 2004, Release of Non-ISFSI Site Land - FSS Final Report No. 3, Proposed Change No. 218, Supplement 5



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- 7.19 Maine Yankee Letter to USNRC, MN-04-053, dated October 14, 2004, Release of Non-ISFSI Site Land - Addendum to FSS Final Report No. 1, Proposed Change No. 218, Supplement 6
- 7.20 USNRC Letter to Maine Yankee dated November 4, 2004, Request for Additional Information (RAI) Regarding Final Status Survey (FSS) Supplement Nos. 1 and 3
- 7.21 Maine Yankee Letter to USNRC, MN-04-056, dated November 17, 2004, Release of Non-ISFSI Site Land - FSS Final Report No. 4, Proposed Change No. 218, Supplement 7
- 7.22 USNRC Letter to Maine Yankee dated November 17, 2004, Maine Yankee - NRC Inspection Report NO. 05000309/2004001 and NRC Office of Investigations Report No. 1-2004-001
- 7.23 USNRC Letter to Maine Yankee dated November 22, 2004, Correction to NRC Letter to Maine Yankee, dated November 17, 2004
- 7.24 USNRC Letter to Maine Yankee dated November 30, 2004, Request for Additional Information (RAI) Regarding Final Status Survey (FSS) Supplement No. 2
- 7.25 USNRC Letter to Maine Yankee dated November 30, 2004, Receipt of Final Status Survey (FSS) Supplement No. 4
- 7.26 Maine Yankee Letter to USNRC, MN-04-058, dated December 7, 2004, Response to NRC RAI's on FSS Report Nos. 1 and 3, Proposed Change No. 218, Supplement 8
- 7.27 Maine Yankee Letter to USNRC, MN-04-059, dated December 7, 2004, Release of Non-ISFSI Site Land - FSS Final Report No. 5, Proposed Change No. 218, Supplement 9
- 7.28 Maine Yankee Letter to USNRC, MN-04-060, dated December 22, 2004, Release of Non-ISFSI Site Land - FSS Final Report No. 6, Proposed Change No 218, Supplement 10
- 7.29 Maine Yankee Letter to USNRC, MN-04-061, dated December 23, 2004, Response to NRC RAI's on FSS Report No. 2, Proposed Change No. 218, Supplement 11
- 7.30 USNRC Letter to Maine Yankee dated December 29, 2004, Receipt of Maine Yankee Final Status Survey Report Supplements 5 and 6
- 7.31 USNRC Letter to Maine Yankee dated January 5, 2005, Request for Additional Information (RAI) Regarding Final Status Survey (FSS) Supplement No. 4
- 7.32 USNRC Letter to Maine Yankee dated January 7, 2005, Receipt of Maine Yankee's Response to Request for Information on Final Status Survey Report Supplements 1 and 3
- 7.33 USNRC Letter to Maine Yankee dated January 19, 2005, Request for Additional Information (RAI) Regarding Final Status Survey (FSS) Supplement No. 2
- 7.34 Maine Yankee Letter to USNRC, MN-05-001, dated January 20, 2005, Release of Non-ISFSI Site Land - FSS Final Report No. 7, Proposed Change No. 218, Supplement 12
- 7.35 Maine Yankee Letter to USNRC, MN-05-002, dated January 26, 2005, Technical Basis Document for NRC Review: Exploranium GR-130 Minimum Detectable Concentration (MDC) of Cs-137 and Co-60 in Surface Soil - 30 Day Notice per LTP Requirement
- 7.36 Maine Yankee Letter to the NRC, MN-05-003, dated January 26, 2005, Area Classification Change: Storm Drains (D3500) - Section 7
- 7.37 Maine Yankee Letter to USNRC, MN-05-004, dated January 27, 2005, Response to NRC RAI on FSS Report No. 4, Proposed Change No. 218, Supplement 13
- 7.38 USNRC Letter to Maine Yankee dated January 27, 2005, Receipt of Maine Yankee Final Report Supplement 7
- 7.39 USNRC Letter to Maine Yankee dated February 9, 2005, Response to Area Classification Change: Storm Drains (D3500)
- 7.40 Maine Yankee Letter to USNRC, MN-05-006, dated February 16, 2005, Response to

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- NRC RAI's on FSS Final Report Nos. 1 and 2, Proposed Change No. 218, Supplement 14
- 7.41 Maine Yankee Letter to USNRC, MN-05-007, dated February 17, 2005, Release of Non-ISFSI Site Land - FSS Final Report No. 8, Proposed Change No. 218, Supplement 15
- 7.42 Maine Yankee Letter to USNRC, MN-05-008, dated February 23, 2005, Release of Non-ISFSI Land - FSS Final Report No. 8 - Attachment I, Figure 1 and 2 and Attachment II Header Page, Proposed Change No. 218, Supplement 16
- 7.43 Maine Yankee Letter to USNRC, MN-05-009, dated February 23, 2005, Response to NRC Comments on Maine Yankee Area Classification Change: Storm Drains (D3500) - Section 7
- 7.44 USNRC Letter to Maine Yankee dated February 23, 2005, Receipt of Maine Yankee Responses to Requests for Additional Information Regarding Supplements 1 and 2 and Final Status Survey Report Supplement 8
- 7.45 USNRC Letter to Maine Yankee dated February 24, 2005, Acceptance of Maine Yankee Technical Basis Document for the Limited Use of the Exploranium GR-130 Instrument
- 7.46 USNRC Letter to Maine Yankee dated March 2, 2005<sup>1</sup>, Approval of Final Status Survey Supplement No. 4
- 7.47 USNRC Letter to Maine Yankee dated March 13, 2005, Request for Additional Information (RAI) Regarding Final Status Survey (FSS) Supplement No. 5
- 7.48 USNRC Letter to Maine Yankee dated March 21, 2005, Storm Drain Area Survey Unit Classification Change
- 7.49 USNRC Letter to Maine Yankee dated March 28, 2005, Review of Maine Yankee Response to NRC RAI's on FSS Report Nos. 1 and 2
- 7.50 Maine Yankee Letter to USNRC, MN-05-015, dated April 7, 2005, Response to NRC RAI on FSS Final Report No. 5, Proposed Change No. 218, Supplement 17
- 7.51 Maine Yankee Letter to USNRC, MN-05-016, dated April 7, 2005, Release of Non-ISFSI Site Land - FSS Final Report No. 9, Proposed Change No. 218, Supplement 18
- 7.52 USNRC Letter to Maine Yankee dated April 7, 2005, Request for Additional Information (RAI) Regarding Final Status Survey (FSS) Supplement No. 6
- 7.53 Maine Yankee Letter to USNRC, MN-05-017, dated April 13, 2005, Response to NRC RAI of FSS Final Report Nos. 1 and 2, Proposed Change No. 218, Supplement 19
- 7.54 USNRC Letter to Maine Yankee dated April 15, 2005, Request for Additional Information (RAI) Regarding Final Status Survey (FSS) Supplement No. 7
- 7.55 USNRC Letter to Maine Yankee dated May 3, 2005, Meeting Report for the April 19, 2005, Meeting with Maine Yankee Atomic Power Company (Maine Yankee)
- 7.56 Maine Yankee Letter to USNRC, MN-05-019, dated May 5, 2005, Response to NRC RAI on FSS Final Report No. 6, Proposed Change No. 218, Supplement 20
- 7.57 Maine Yankee Letter to USNRC, MN-05-020, dated May 5, 2005, Release of Non-ISFSI Site Land - FSS Final Report No. 9A, Proposed Change No. 218, Supplement 21
- 7.58 Maine Yankee Letter to USNRC, MN-05-023, dated May 10, 2005, Release of Non-ISFSI Site Land - FSS Final Report Nos. 1 and 2 - Resolution, Proposed Change No. 218, Supplement 22
- 7.59 USNRC Letter to Maine Yankee dated May 12, 2005, Approval of Final Status Survey Supplement Nos 8. and 9

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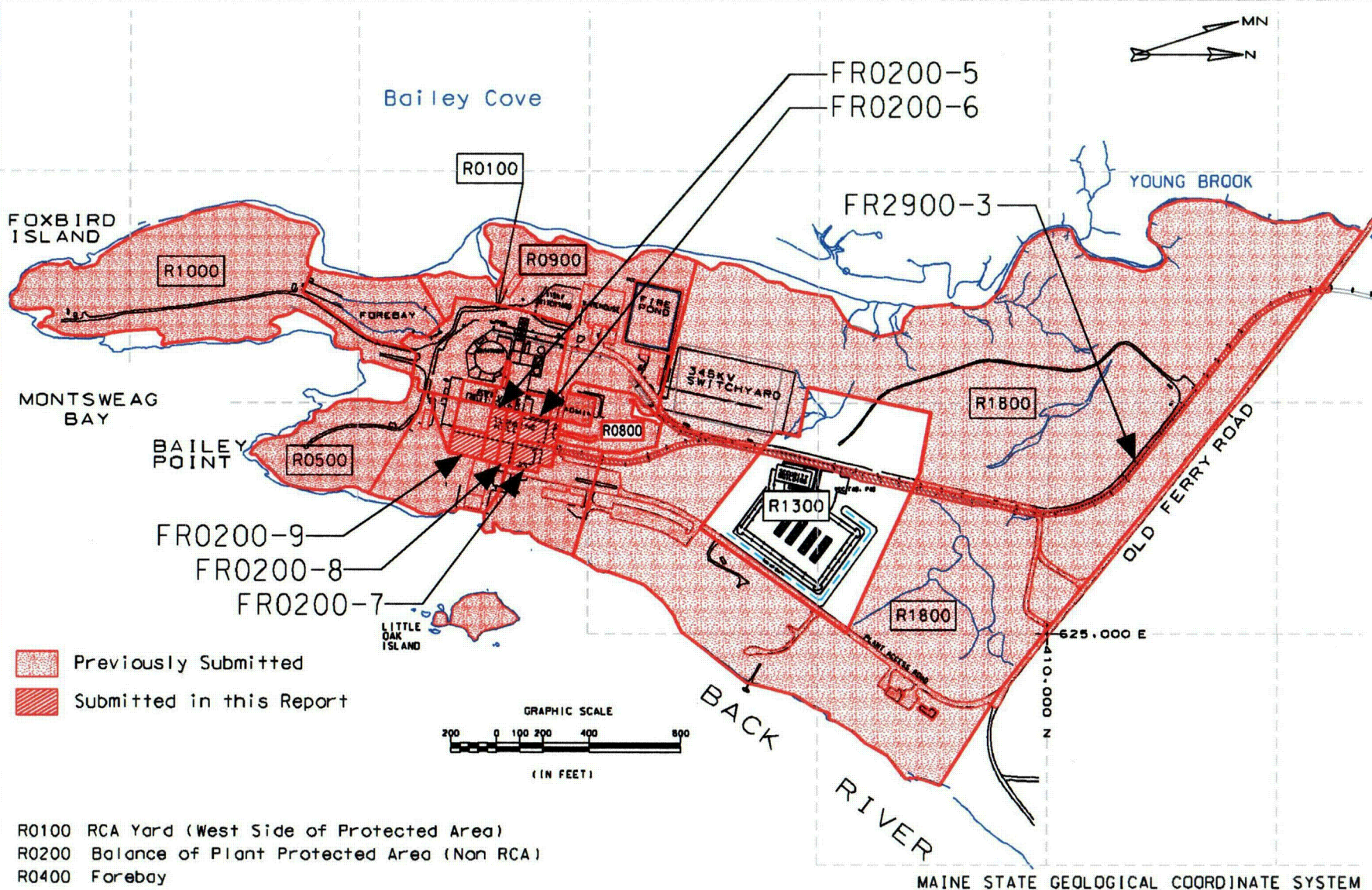
<sup>1</sup> This letter was erroneously dated "March 2, 2003" and should have been "March 2, 2005"

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- 7.60 Maine Yankee Letter to USNRC, MN-05-024, dated May 16, 2005, Response to NRC RAI on FSS Final Report No. 7, Proposed Change No. 218, Supplement 23
- 7.61 Maine Yankee Letter to USNRC, MN-05-025, dated May 16, 2005, License Amendment Request: Release of Non-ISFSI Site Land, Proposed Change No. 218, Supplement 24
- 7.62 Maine Yankee Letter to USNRC, MN-05-026, dated May 17, 2005, Conditional Acceptance of FSS Final Reports, Proposed Change No. 218, Supplement 25
- 7.63 Maine Yankee Letter to USNRC, MN-05-028, dated May 25, 2005, Release of Non-ISFSI Site Land - FSS Final Report No. 10, Proposed Change No. 218, Supplement 26

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Survey Areas

Figure  
1

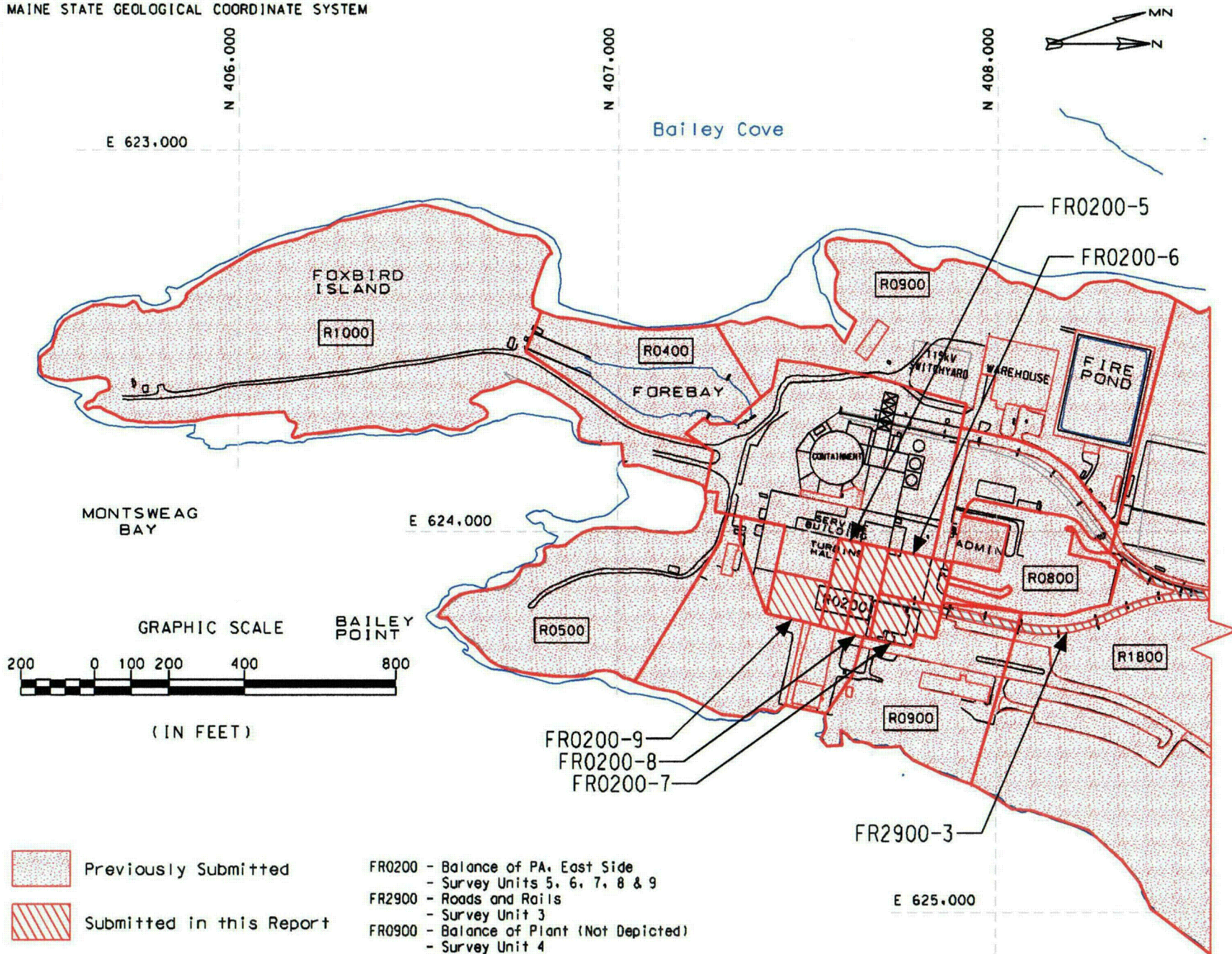


- R0100 RCA Yard (West Side of Protected Area)
- R0200 Balance of Plant Protected Area (Non RCA)
- R0400 Forebay
- R0500 Bailey Point
- R0800 Administration and Parking Areas
- R0900 Balance of Plant Area
- R1000 Foxbird Island
- R1300 ISFSI Area/Contractor Parking Lot
- R1800 Bailey House Land
- R2900 Roads and Rails



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Survey Areas

MAINE STATE GEOLOGICAL COORDINATE SYSTEM



- FR0200 - Balance of PA, East Side
- Survey Units 5, 6, 7, 8 & 9
- FR2900 - Roads and Rails
- Survey Unit 3
- FR0900 - Balance of Plant (Not Depicted)
- Survey Unit 4

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**ATTACHMENT II**

**Final Status Survey Release Records**

1. FD-3500-SU-2 Storm Drains - This submittal is Revision 1. The survey unit consists of the storm drain piping leading into Outfalls 9 and 10 (Storm Drain Sections 1 and 2, respectively per LTP Attach 5A).
2. FR-0200-SU-5 Yard East – The survey unit is located in the southeast corner of the site, partially residing in the former “Industrial Area” yard and partially in the Turbine Building Footprint. The area was bordered on the north by FR-0200 Survey Unit 8, on the west by FR-0111 Survey Unit 19, on the south by FR-0200 Survey Units 4 and 9, and on the east by FR-0200 Survey Unit 2.
3. FR-0200-SU-6 Yard East – The survey unit is located in the southeast corner of the site, partially residing in the former “Industrial Area” yard and partially residing in the Turbine Building Footprint. The area was bordered on the north by FR-0800 Survey Unit 1 and FR-0900 Survey Unit 1, on the west by FR-0111 Survey Unit 20, on the south by FR-0200 Survey Unit 8, and on the east by FR-0200 Survey Unit 7.
4. FR-0200-SU-7 Yard East – The survey unit is located in the southeast corner of the site, partially residing in the former “Industrial Area” yard and partially residing in the Turbine Building Footprint. The area was bordered on the north and east By FR-2900 Survey Unit 2, on the west by FR-0200 Survey Unit 6, on the south by FR-0200 SU 8.
5. FR-0200-SU-8 Yard East – The survey unit is located in the southeast corner of the site, partially residing in the former “Industrial Area” yard and partially residing in the Turbine Building Footprint. The area was bordered on the north By FR-0200 Survey Units 6 and 7, on the west by FR-0111 Survey Units 19 and 20, on the south by FR-0200 Survey Unit 5, and on the east by FR-0200 Survey Unit 2.
6. FR-0200-SU-9 Yard East - The survey unit is located in the southeast corner of the site, mostly residing in the former “Industrial Area” yard, but within the expanded Restricted Area boundary. The area was bordered on the north by FR-0200 Survey Unit 5, on the west by FR-0200 Survey Unit 4, on the south by FR-0200 Survey Unit 3, and on the east by FR-0200 Survey Unit 1.
7. FR-0900-SU-4 Balance of Plant Land - This survey unit is located just off of the east end of the east/west access road that runs along the north side of the Restricted Area. The area was used during decommissioning to pile snow removed from the roadway, and consists of a reclassified portion of Survey Area FR-2900 Survey Unit 2 and Survey Area FR-0900 Survey Unit 1.
8. FR-2900-SU-3 Railroad Tracks and Roadways (Roads) – The survey unit consists of the 6 meter wide footprint of the remaining site railroads and beds, and includes railroads from Gate 2 (Protected Area) to Old Ferry Road, with the exclusion of almost 200 meters of rails within the ISFSI boundary.