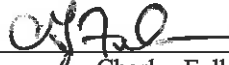
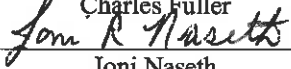
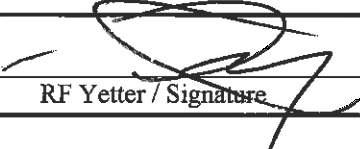


ATTACHMENT A
D&D Procedure Cover Page

CHARACTERIZATION/LICENSE TERMINATION PROCEDURE

SURVEY UNIT CLASSIFICATION ZS-LT-300-001-002 Revision No. 2

Preparer: (Print name / sign):  Date: 10/12/15
Secondary Reviewer: (Print name / sign):  Date: 10/12/2015
Charles Fuller
Joni Naseth

Regulatory Required Reviews (per AD-11, "Regulatory Reviews")	
Part 72 ISFSI Impact License: 10 CFR 72.48	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Part 50 License: 10 CFR 50.59 and 50.90	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Fire Protection: 10 CFR 50.48(f)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Conditions of License: E-Plan: 10 CFR 50.54(q)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
QA Review Required? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
QA Reviewer: <u>N/A</u>	DATE: _____
Print Name / Signature	
Technical Review Required? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
Technical Reviewer: <u>N/A</u>	DATE: _____
Print Name / Signature	
Technical Reviewer: <u>N/A</u>	DATE: _____
Print Name / Signature	
Approval Section	
DEPARTMENT MANAGER: <u></u>	DATE: <u>10/14/15</u>
RF Yetter / Signature	
DECOMMISSIONING PLANT MANAGER*: <u>N/A</u>	DATE: _____
Print Name / Signature	

* Required for Technical Reviews only

Effective Date: 10/16/15 (entered by Document Control later)

Summary of Changes in this Revision:

- Rev. 2 – Added Responsibility for Database and LTP Support Engineer. Modified forms to add printed name to signature line.

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1. PURPOSE AND SCOPE

1.1. Purpose

This procedure defines the decision process for identifying and classifying survey units in accordance with applicable U.S. Nuclear Regulatory Commission (NRC) regulations and guidance documents; specifically, NUREG-1575, *Multi-Agency Radiation Survey and Site Investigation Manual* (MARSSIM, Reference 6.1) and Chapter 5 of the Zion Station Restoration Project (ZSRP) License Termination Plan (LTP) (Reference 6.2).

Because of differences in the conceptual models and required source terms, the Final Radiation Survey (FRS) includes two different approaches depending on the media; (1) Final Status Survey (FSS) is conducted on soil, buried piping and groundwater to demonstrate that residual radionuclide concentrations are equal to or below site-specific Derived Concentration Guideline Levels (DCGL), and (2) a “Source Term Survey” (STS) is conducted to demonstrate that the inventory of residual radioactivity in building basements, embedded piping and penetrations is below a source term inventory commensurate with the dose criterion in 10 CFR 20.1402.

The term “FRS” is used in this procedure to represent both the FSS and STS surveys. When only one of the survey methods is being addressed, either FSS or STS is specifically referenced.

1.2. Scope

All areas of the Zion Nuclear Power Station (ZNPS) do not have the same potential for residual contamination and therefore, will not require the same magnitude of survey coverage to achieve an acceptable level of confidence to satisfy the established release criteria. Consequently, survey areas are classified by contamination potential. Contamination potential is determined by evaluating available information on the radiological characteristics of the area, the historical use of radioactive materials in the area, and by professional judgment. This evaluation includes review of initial and current characterization surveys, historical site assessments, and any other available radiological survey information.

To provide an overall planning basis for the FRS, the site was divided into two categories, impacted and non-impacted. To enable a concerted survey effort in the potentially contaminated areas, the impacted areas are further subdivided into Class 1, Class 2, or Class 3 survey units.

Section 5.5.2.2 of LTP Chapter 5 (Reference 6.2) presents the logic and reasoning employed to determine adequate areal coverage based upon contamination potential for each STS survey unit. The requisite number of measurements in each STS survey unit was then calculated as the quotient of the *In-Situ* Object Counting System (ISOCS) Field-of-View (FOV) divided into the surface area required for areal coverage. To ensure that the number of ISOCS measurements based on the necessary areal coverage in a STS survey unit was sufficient to satisfy a statistically based sample design, a simplified calculation was performed to determine sample size using the guidance in MARSSIM (Reference 6.1). This calculation is summarized in section 5.5.2.2 of LTP Chapter 5 (Reference 6.2) and was applied to the Class 2 and Class 3 STS survey units.

Attachment 5 presents the STS survey units and the initial survey unit classifications for each.

This procedure applies to all personnel performing site characterization and FRS survey package development and/or implementation.

2. RESPONSIBILITIES

2.1. Characterization/License Termination (C/LT) Manager – is responsible for:

- Providing FRS program direction and technical content, and ensuring the program adheres to all applicable regulatory and license requirements.
- Ensuring proper implementation of this procedure.
- Reviewing and approving revisions to survey unit classifications.

2.2. Radiological Engineer (RE) – is responsible for:

- Evaluating and interpreting survey data and verifying the initial or current classification of a survey unit is correct.
- Notifying the C/LT Manager when survey unit classification requires modification from the initial or current classification as maintained in Attachment 4, “Survey Units for Open Land Areas” and Attachment 5, “Survey Units for Structures.”

2.3. Graphics/GPS Specialist – is responsible for:

- Preparation/revision of drawings and other graphics as necessary to support survey unit final classification or re-classification.

2.4. Database and LTP Support Engineer (D/LTP)

- Maintaining and updating the master Attachment 4, “Survey Units for Open Land Areas” and Attachment 5, “Survey Units for Structures.”

3. DEFINITIONS

- 3.1 Class 1 Area** – Areas that have, or had prior to remediation, a potential for radioactive contamination (based on site operating history) or known contamination (based on previous radiation surveys) above the DCGL_w or STS dose criterion. Examples of Class 1 areas include: 1) site areas previously subjected to remedial actions, 2) locations where leaks or spills are known to have occurred, 3) former burial or disposal sites, 4) waste storage sites, and 5) areas with contaminants in discrete solid pieces of material and high specific activity.

- 3.2 Class 2 Area** – Areas that have, or had prior to remediation, a potential for radioactive contamination or known contamination, but are not expected to exceed the DCGL_W or STS dose criterion. To justify changing the classification from Class 1 to Class 2, there should be measurement data that provides a high degree of confidence that no individual measurement would exceed the DCGL_W or STS dose criterion. Other justifications for reclassifying an area as Class 2 may be appropriate based on site-specific considerations. Examples of areas that might be classified as Class 2 for the FRS include: 1) locations where radioactive materials were present in an unsealed form, 2) potentially contaminated transport routes, 3) areas downwind from stack release points, 4) upper walls and ceilings of buildings or rooms subjected to airborne radioactivity, 5) areas handling low concentrations of radioactive materials, and 6) areas on the perimeter of former contamination control areas.
- 3.3 Class 3 Area** – Any impacted areas that are not expected to contain any residual radioactivity, or are expected to contain levels of residual radioactivity at a small fraction of the DCGL_W or STS dose criterion, based on site operating history and previous radiation surveys. Examples of areas that might be classified as Class 3 include buffer zones around Class 1 or Class 2 areas, and areas with very low potential for residual contamination but insufficient information to justify a non-impacted classification.
- 3.4 Classification** – The act or result of separating areas or survey units into one of three designated classes: Class 1, Class 2, or Class 3.
- 3.5 Derived Concentration Guideline Level (DCGL)** – DCGLs are radionuclide specific activity concentrations within a survey unit corresponding to the release criterion derived from activity/dose relationships through various exposure pathway scenarios. The DCGL is based on the spatial distribution of the contaminant and hence is derived differently for the non-parametric statistical test (DCGL_W) and the Elevated Measurement Comparison (DCGL_{EMC}). The DCGL_W (the DCGL used for the statistical tests) is based on an average concentration over a large area. The DCGL_{EMC} (the DCGL used for the elevated measurement comparison) is derived separately for small areas of elevated activity.
- 3.7 Final Radiation Survey (FRS)** – Measurements and sampling to describe the radiological conditions of a site, following completion of decontamination activities (if any) in preparation for release.
- 3.8 Final Status Survey (FSS)** – FRS conducted on soil, buried piping and groundwater to demonstrate that residual radionuclide concentrations are equal to or below site-specific DCGLs.
- 3.9 Impacted Areas** – Areas with a possibility of containing residual radioactivity from licensed radioactive materials in excess of natural background and fallout levels.
- 3.10 Non-impacted Areas** – Areas where there is no reasonable possibility of residual contamination from licensed activities.
- 3.11 Source Term Survey (STS)** – FRS conducted to demonstrate that the inventory of residual radioactivity in building basements, embedded piping and penetrations is below a source term inventory commensurate with the dose criterion in 10 CFR 20.1402.
- 3.12 Standard Deviation (Sigma)** – The standard deviation of the measurement results

expressing the variability in the sample population. The standard deviation of measurements in a survey unit is used during FSS survey design to calculate the relative shift. The standard deviation(s) is a survey unit-specific variable, typically estimated from preliminary survey data (i.e. characterization, post-remediation, etc.).

3.13 Acronyms

<u>BFM</u>	Basement Fill Model
<u>C/LT</u>	Characterization/License Termination
<u>DCGL</u>	Derived Concentration Guideline Level
<u>EMC</u>	Elevated Measurement Comparison
<u>FOV</u>	Field-of-View
<u>FRS</u>	Final Radiation Survey
<u>FSS</u>	Final Status Survey
<u>HSA</u>	Historical Site Assessment
<u>ISOCS</u>	<i>In-Situ</i> Object Counting System
<u>LTP</u>	License Termination Plan
<u>MARSSIM</u>	Multi-Agency Radiation Survey and Site Investigation Manual
<u>NRC</u>	Nuclear Regulatory Commission
<u>QA</u>	Quality Assurance
<u>RA</u>	Radiological Assessment
<u>RASS</u>	Remedial Action Support Survey
<u>RCA</u>	Radiologically Controlled Area
<u>RE</u>	Radiological Engineer
<u>RWP</u>	Radiation Work Permit
<u>SFP</u>	Spent Fuel Pool
<u>STS</u>	Source Term Survey
<u>WWTF</u>	Waste Water Treatment Facility
<u>ZSRP</u>	Zion Station Restoration Project

4. PRECAUTIONS, LIMITATIONS, AND PREREREQUISITES

4.1. Precautions

- 4.1.1 Documents and databases containing FRS survey data and survey records are Quality Assurance (QA) records when complete. Positive control of these records shall be maintained until they are forwarded to Records Management.

- 4.1.2 A survey unit may not be reclassified to a lesser classification (e.g. from a Class 1 to a Class 2 or from a Class 2 to a Class 3) without C/LT Manager approval.
- 4.1.3 All Class 1 open land areas shall have a Class 2 or Class 3 “buffer zone” between the Class 1 area and any non-impacted area.

4.2. Limitations

- 4.2.1 A survey unit must be reclassified if at any time in the planning, design phase or data evaluation, it is determined the criteria for the current classification are no longer satisfied.
- 4.2.2 Survey units will not be reclassified during the actual performance of the survey process. The survey shall be completed in accordance with the survey instructions. Once data evaluation is complete, the area will be investigated, remediated and/or reclassified as appropriate.

4.3. Prerequisites

- 4.3.1 The impacted open land survey areas at Zion Station have been subdivided into Class 1, Class 2, or Class 3 survey units. The initial classifications and survey unit boundaries for open land survey units are specified in the Commonwealth Edison “*Zion Station Historical Site Assessment*”, (HSA, Reference 6.3). The initial classifications and survey unit boundaries for structural survey units are specified in LTP Chapter 5 (Reference 6.2). Actual open land survey unit boundaries may vary from the conceptual survey unit boundaries presented in the HSA based on actual conditions at the time of survey design as long as the classification does not change.
- 4.3.2 Each survey unit shall have only one classification.
- 4.3.3 Prior to performing FRS in a survey unit, the classification of the survey unit and the basis for the classification shall be verified based on any scoping, characterization, operational and/or post-remediation surveys performed in that survey unit to date.

5. MAIN BODY**NOTE**

Initial Survey Area numbers, Survey Unit numbers and Survey Unit classifications in accordance with the HSA (Reference 6.3) and characterization surveys performed to date are presented in the attached version of Attachment 4, “Survey Units for Open Land Areas”. Attachment 5 presents the STS survey units and the initial survey unit classifications for each from LTP Chapter 5 (Reference 6.2). A master copy of Attachment 4 and Attachment 5 is maintained by the C/LT Manager. As changes are made to the physical boundaries of survey units and, as survey unit classifications change due to the results of characterization, Remedial Action Support Surveys (RASS) and Radiological Assessments (RA), the master copy of Attachment 4 and Attachment 5 will be updated by the D/LTP Engineer up until the time that final classification is performed. This procedure will not be revised to reflect these changes.

NOTE

The use of computer generated forms in lieu of Attachments 1 and 2 is acceptable provided the minimum information contained within these attachments is included.

5.1. Survey Unit Classification Basis

- 5.1.1 Initiate Attachment 1, “Survey Unit Classification Basis Summary” for the survey unit.

NOTE

Initial classification is performed only once, that is at the time of survey unit creation. Verification and change of classification can be performed at any time. Final classification is performed in conjunction with the preparation of the FRS Sample Plan. Only one box should be checked-off on Attachment 1 to indicate the type of classification. However, re-classification of a survey unit requires either the Verification or Final box and the Change box to be checked-off.

- 5.1.2 Denote the survey area number, survey unit number, the name of the survey unit and the type of classification.

- 1.) If the type of classification is “initial,” then describe the relationship between the new survey unit and the survey units described in the HSA (Reference 6.3) or LTP Chapter 5 (Reference 6.2) in the space denoted for “comments.”
- 2.) If the type of classification is “verification,” then describe the reason why the classification verification is being performed in the space denoted for “comments.”
- 3.) If the type of classification is “change,” then describe the reason why the classification change is being performed in the space denoted for “comments.”

- 4.) If the type of classification is “final,” then state in the space denoted for comments that the classification verification is being performed to support FRS design for the survey unit.

NOTE

The master copy of Attachment 4, “Survey Units for Open Land Areas” and Attachment 5, “Survey Units for Structures” that is maintained by the C/LT Manager will be used to ascertain the initial classification of a survey unit.

- 5.1.3 Denote the current classification of the survey unit by checking the appropriate box and denote the basis for the classification as follows:
- 1.) Summarize the function of the area of interest during facility operation.
 - 2.) Summarize any process events, spills or radiological incidents that have been documented in the HSA (Reference 6.3) and are pertinent to the survey unit.
 - 3.) Summarize the historical radiological condition(s) of the survey unit that the current classification was based on, using all pertinent radiological surveys [e.g. routine surveys, characterization surveys, RA or RASS surveys, Radiation Work Permit (RWP) coverage surveys].

NOTE

Visual inspection and walk-down is a good practice but is not always necessary to perform the classification process. This step of the procedure may be omitted if the responsible RE decides to make the classification without walking down the survey unit.

- 5.1.4 If validating final classification for FRS, then ensure that any pre-FRS walk-down requirements for the survey unit have been performed in accordance with ZS-LT-300-001-003, “*Isolation and Control for Final Radiation Survey*” (Reference 6.4).
- 1.) Check the appropriate box on Attachment 1 signifying that a visual inspection and walk-down of the survey unit was, or was not performed.
 - 2.) If the walk-down was performed, then record on Attachment 1 a brief summary of any observations and/or findings of the visual inspection and walk-down, including the date and time it was performed in the comment section provided. Use additional pages as necessary.
- 5.1.5 If the survey unit classification is being performed for verification, change or final classification for FRS, then document the radiological survey data that is pertinent to the decision.
- 1.) Review the results of any pertinent characterization, RASS or RA survey data.
 - 2.) Summarize the radiological data reviewed in the space provided, focusing on results that may alter or validate the classification of the survey unit.

- 5.1.6 Record a brief explanation of the review results in the comment section of Attachment 1, summarizing the information that was used as the basis for the classification or change in classification. Use additional pages as necessary.
- 5.1.7 Initiate and complete Attachment 2, "Survey Unit Classification Worksheet" in accordance with section 5.2.
- 5.1.8 Denote the derived classification of the survey unit by checking the appropriate box commensurate with the conclusion of Attachment 2, "Survey Unit Classification Worksheet."

5.2. Survey Unit Classification Worksheet

NOTE

Classifying a survey unit correctly is critical to FSS design. The potential for making decision errors increases when a survey unit is classified incorrectly. This is the reason for beginning the classification process with the assumption that all survey units have residual radioactivity levels in excess of the DCGL_w, thereby resulting in a default Class 1 designation. Information (survey and historical) is then used to present evidence that the potential or known residual radioactivity in a survey unit is less than the DCGL_w, which is then used as a basis to support classification of a survey unit as Class 2, Class 3 or non-impacted. The formal screening tool using Attachment 2 is used to document the decision process for survey unit classification. Information obtained in previous steps of this procedure and recorded in Attachment 1 will be used to support the screening process described by Attachment 2.

NOTE

The survey units designated for structures below 588 foot elevation from the HSA (Reference 6.3) were based on screening values and source term assumptions that are significantly different from the Basement Fill Model (BFM) and are therefore not applicable. The BFM is a mixing model that is independent of the range and distribution of residual radioactivity and therefore the typical concentration- DCGLs are not applicable. The Auxiliary Building 542 foot elevation floor and the remaining concrete of the Spent Fuel Pool (SFP)/Transfer Canal are the only STS survey units with an initial classification of Class 1. LTP Chapter 5, sections 5.5.2.1.1 and 5.5.2.1.2 (Reference 6.2) presents the basis for the initial classification of the Class 2 and Class 3 STS survey units. Consequently, Attachment 2, "Survey Unit Classification Worksheet" is not required for STS survey units.

- 5.2.1 Denote the survey area number and survey unit number.
- 5.2.2 Identify all applicable items by checking the appropriate boxes on Attachment 2 using Attachment 3, "Terminology" as a reference and Attachment 1 for input.

NOTE

A complete screening process with every question answered as positive is commensurate with a non-impacted classification.

- 5.2.3 Answer the question at the end of each classification section. If the response to the question is negative (or unknown), then the screening process is complete at that point. Otherwise, continue the screening process until a negative response is reached.
- 5.2.4 Record a brief summary of the basis in the comment section of Attachment 2, using additional pages for comments as necessary.

5.3. Review and Approval

- 5.3.1 Review classification package containing Attachments 1 and 2 (if applicable) and any supplemental or supporting documents for completeness, legibility and adequacy of classification.
- 5.3.2 Sign and date all Attachments.
- 5.3.3 Forward classification package to a qualified peer reviewer.
- 5.3.4 Peer review the classification as follows.
- 1.) Ensure the Attachments are complete and the basis for classification is adequately justified.
 - 2.) Review and resolve comments with the author.
 - 3.) Sign and date indicating approval when complete.
- 5.3.5 If the classification of the survey unit has changed from the initial classification, then the change must be approved by the C/LT Manager, who will indicate approval by signature in the provided space. The D/LTP Support Engineer shall document the change(s) on the master versions of Attachment 4 or Attachment 5.
- 5.3.6 Place a copy of completed, reviewed and signed classification documents in the appropriate characterization and/or FRS package for the survey unit.

6. REFERENCES

- 6.1. NUREG-1575, "Multi-Agency Radiation Survey and Site Investigation Manual" (MARSSIM) – August 2000
- 6.2. "Zion Station Restoration Project License Termination Plan" – December 2014
- 6.3. Commonwealth Edison "Zion Station Historical Site Assessment," 1999
- 6.4. ZS-LT-300-001-003, "Isolation and Control for Final Radiation Survey"

7. **RECORDS**

- 7.1. Final Radiation Survey Package

8. **ATTACHMENTS**

- 8.1. Attachment 1, “Survey Unit Classification Basis Summary”
- 8.2. Attachment 2, “Survey Unit Classification Worksheet”
- 8.3. Attachment 3, “Terminology”
- 8.4. Attachment 4, “Survey Units for Open Land Areas”
- 8.5. Attachment 5, “Survey Units for Structures”

9. **FORMS**

None

Attachment 1
SURVEY UNIT CLASSIFICATION SUMMARY

Page ____ of ____

Survey Area No.: _____ Survey Unit No.: _____

Survey Unit Name: _____

Type of Classification

Initial

Verification

Change

Final

Comments:

Basis for Current Classification

Class 1

Class 2

Class 3

1) Function of Area during Facility Operation –

2) Documented Process Events, Spills and/or Radiological Incidents (HSA) –

3) Historical Radiological Conditions –

Visual Inspection & Walk-down

Performed

Date: _____

Time: _____

Not Performed

1) Observations and/or Findings –

Current Radiological Survey Data

Characterization

RASS/RA

Turnover

1) Summary –

Comments

Classification

Class 1

Class 2

Class 3

Non-Impacted

Review & Approval

Submitted: _____
(Print/Sign Name/Date)

Reviewed: _____
(Print/Sign Name/Date)

If the classification of the survey unit has changed from the initial classification

Approved: _____
(Print/Sign Characterization/License Termination Manager)

Date: _____

Attachment 2
SURVEY UNIT CLASSIFICATION WORKSHEET

Survey Area No.: _____ Survey Unit No.: _____

SECTION 1 – Class 1

(checked box indicates affirmative)

- Area previously subjected to remedial actions (see MARSSIM section 5.4).
- Leaks and/or spills of radioactive material are known to have occurred.
- Former burial or disposal site for radioactive waste.
- Radioactive waste storage site.
- The presence of discrete solid radioactive material with high specific activity.

Considering the potential for all impacted areas to exceed the DCGL, does the existing data provide a high degree of confidence that no individual measurement will exceed the applicable DCGL in this survey unit? Yes No

IF NO OR UNKNOWN, THEN THE SURVEY UNIT IS CLASSIFIED AS A CLASS 1 AREA.
IF YES, CONTINUE WITH THE CLASSIFICATION PROCESS BELOW.

I
M
P
A
C
T
E
D

A
R
E
A

SECTION 2 – Class 2

- Radioactive materials present in unsealed form.
- Potentially contaminated transport route.
- Area downwind and/or downstream from an effluent release point.
- Upper walls or ceiling of building subjected to airborne radioactivity.
- Area where low concentrations of radioactive materials were handled.
- Perimeter of former contamination control area.

Does the existing data provide a high degree of confidence that no individual measurement will exceed 5% of the applicable DCGL? Yes No

IF NO OR UNKNOWN, THEN THE SURVEY UNIT IS CLASSIFIED AS A CLASS 2 AREA.
IF YES, CONTINUE WITH THE CLASSIFICATION PROCESS BELOW.

SECTION 3 – Class 3

- Buffer zone around a Class 1 or Class 2 area.
- Potential for low levels of residual radioactivity.

Is there no reasonable potential for contamination in this area? Yes No

IF NO OR UNKNOWN, THEN THE SURVEY UNIT IS CLASSIFIED AS A CLASS 3 AREA.
IF YES, CONTINUE WITH THE CLASSIFICATION PROCESS BELOW.

SECTION 4

Sufficient process knowledge and/or historical data to warrant a non-impacted designation? Yes No

IF NO OR UNKNOWN, THEN THE SURVEY UNIT IS CLASSIFIED AS A CLASS 3 AREA.
IF YES, THE SURVEY UNIT IS NON-IMPACTED.

Submitted: _____
(Print/Sign Name/Date)

Reviewed: _____
(Print/Sign Name/Date)

**Attachment 3
TERMINOLOGY**

Previously subjected to remedial actions – Remedial action, in this context, means those activities related to the cleanup effort and supporting surveys required to demonstrate that a survey unit is ready for FRS. This does not include clean-up performed for non-radiological purposes during the normal deconstruction processes.

Leaks or spills are known to have occurred – Radioactive leaks or spills as identified in the 10 CFR 50.75(g)(1) files.

Formal burial or disposal site – Areas identified to have been used to dispose, bury or dump radioactive or potentially radioactive materials. Plant records and the HSA (Historical Site Assessment) should adequately identify these sites. Area walk-downs, investigations and non-intrusive measurement techniques can help provide additional evidence of surface and subsurface disturbances (e.g., ground-penetrating radar can identify subsurface anomalies such as trenches and buried items).

Waste storage site – Considered here to be a long-term radioactive materials storage area (long-term being over a month) posted in accordance with 10 CFR 20.1902(e). Other examples may include waste processing and storage containers such as liquid radwaste tanks and the Spent Fuel Pool.

Discrete solid pieces of material with high specific activity – Hot particles as defined by station radiation protection procedures.

Radioactive materials present in unsealed form – Unsealed, in this context, means that physical boundaries or enclosures are not in place to reduce or eliminate dispersion of contamination. Compare to sealed (e.g., calibration sources) which have a low potential for contamination as verified by periodic leak tests.

Potentially contaminated transport route – This general statement applies to areas directly impacted by the transport of radioactive materials and personnel and will typically include most areas inside the Protected Area.

Area downwind and/or downstream from an effluent release point – In this context, downwind and/or downstream areas are presumed to show some evidence of direct impact as a result of a release of airborne and/or liquid radioactivity.

Upper walls or ceiling of building subjected to airborne radioactivity – Upper walls are defined as being over two meters above the floor.

Area where low concentrations of radioactive materials are handled – This general statement applies to most areas inside the Protected Area.

Perimeter of former contamination control area – Contamination control area is defined here as a Radiologically Controlled Area (RCA).

Buffer zone around a Class 1 or Class 2 area – Self-explanatory, no elaboration necessary.

Potential for low levels of residual radioactivity – Self-explanatory, no elaboration necessary.

Attachment 4
SURVEY UNITS FOR OPEN LAND AREAS

Survey Unit No	Survey Unit Description	Survey Unit Area (m²)	Current Classification	Date of Last Change
12101	WWTF Sludge Drying Bed Area	2,036	Class 1	HSA
12102	Waste Water Treatment Facility (WWTF)	2,024	Class 1	HSA
12103	Unit 2 PWST/SST Area	2,034	Class 1	HSA
12104	North Half of Unit 2 Containment	1,940	Class 1	HSA
12105	South Half of Unit 2 Containment	1,938	Class 1	HSA
12106	North Half of Fuel & Auxiliary Buildings	1,936	Class 1	HSA
12107	South Half of Fuel & Auxiliary Buildings	1,935	Class 1	09/11/12
12108	North Half of Unit 1 Containment	1,933	Class 1	09/11/12
12109	South Half of Unit 1 Containment	1,931	Class 1	HSA
12110	Yard Between Unit 1 Containment and Turbine	1,740	Class 1	HSA
12111	South Yard Area Northeast of Gate House	1,964	Class 1	09/11/12
12112	Unit 1 PWST/SST Area West	1,693	Class 1	07/31/12
12113	Unit 1 PWST/SST Area East	1,658	Class 1	07/31/12
12201	North Protected Area Yard	9,610	Class 2	HSA
12202	Gate House and Southwest Yard	7,574	Class 2	04/17/13
12203	Under Service Building and South East Yard	7,569	Class 2	HSA
12204	Crib House Area	5,909	Class 2	HSA
12205	Area Under the Turbine Building	9,085	Class 2	HSA
10201A	NE Corner of Restricted Area - Lakeshore	6,028	Class 3	09/10/13
10202A	IRSF/Fire Training Area	6,844	Class 3	09/10/13
10203	East Training Area	9,998	Class 3	04/19/13
10204	North Gate Area	7,228	Class 3	04/19/13
10205	Switchyard	54,573	Class 3	02/04/13
10206	Station Construction Area	10,529	Class 3	04/19/13
10207	North Warehouse Area	10,274	Class 3	04/16/13
10208	South Warehouse Area	11,821	Class 3	04/18/13
10209	Restricted Area South of Gate House	5,971	Class 3	04/19/13
10210	Restricted Area South of Turbine Building	5,594	Class 3	04/19/13
10211	Southeast Corner of Restricted Area - Lakeshore	3,199	Class 3	04/19/13
10212A	NE Corner of Exclusion Area - Lakeshore	12,256	Class 3	06/03/13

Attachment 4
SURVEY UNITS FOR OPEN LAND AREAS

Survey Unit No	Survey Unit Description	Survey Unit Area (m²)	Current Classification	Date of Last Change
10212B	VCC Construction Area	15,364	Class 3	10/06/11
10213A	NE Corner of Exclusion Area	12,255	Class 3	06/05/13
10214	Construction Parking Area	33,551	Class 3	10/14/13
10218A	ISFSI Area East	11,559	Class 3	07/30/12
10218B	ISFSI Area East	11,559	Class 3	07/30/12
10218F	Area Near South of Switchyard	3,152	Class 3	07/24/13
10219A	Area Far South of Switchyard (Part A)	2,433	Class 3	06/03/13
10219B	Area Far South of Switchyard (Part B)	7,516	Class 3	06/05/13
10220A	SE Corner of Exclusion Area – Lake Shore	8,192	Class 3	10/10/13
10220B	SE Corner of Exclusion Area – Inland	8,271	Class 3	10/10/13
10220C	SE Corner of Exclusion Area – Inland	25,560	Class 3	10/10/13
10221A	South of Protected Area - Lakeshore	6,274	Class 3	10/10/13
10221B	South of Protected Area - Inland	6,374	Class 3	09/03/13
10222	North Beach Area	21,778	Class 3	09/25/13
10223	Power Block Beach Area	12,371	Class 3	09/25/13
10224	South Beach Area	14,608	Class 3	10/10/13
10301	West Training Area	55,942	Class 3	09/19/13

Attachment 5
SURVEY UNITS FOR STRUCTURES

Survey Unit No.	Survey Unit Description	Area (m ²)	Classification	Date of Last Change
05100	Auxiliary Building 542 foot Floor	2,591	Class 1	LTP
05119	Auxiliary Building Pipe/Penetrations	TBD	Class 1	LTP
05119	Auxiliary Building Basement Walls	3,912	Class 2	LTP
01100	Unit 1 Containment Basement	2,759	Class 2	LTP
01111	Unit 1 Containment Pipe/Penetrations	TBD	Class 2	LTP
02100	Unit 2 Containment Basement	2,759	Class 2	LTP
02111	Unit 2 Containment Pipe/Penetrations	TBD	Class 2	LTP
03201	Spent Fuel Pool (SPF)/Transfer Canal	780	Class 1	LTP
06100	Turbine Building Basement	14,679	Class 3	LTP
06105	Turbine Building Embedded Pipe	TBD	Class 3	LTP
08100	Crib House/Forebay	6,940	Class 3	LTP
09200	Circulating Water Discharge Tunnels	4,871	Class 3	LTP
09100	Waste Water Treatment Facility (WWTF)	1,124	Class 3	LTP