PROPOSED TEMPLATE FORMAT OF THE HDP FINAL STATUS SURVEY FINAL REPORT

August 13, 2015

Volume 1 HDP Final Status Survey

Chapter 1 FSS Introduction

This section will contain introductory statements to that of the DP.

I. Decommissioning Plan

This section will contain;

- *An overview discussion on development of the DP.*
- *An overview discussion of the RAI process and Approval of the DP.*
- *A history of FSS subsequent to DP approval.*

II. Site Description

This section will contain;

- *General and specific geographic location.*
- *General site description.*

III. Site Historical Operations

This section will contain;

- *General description of historical licensed operations.*
- *General description of previous decommissioning activities.*

IV. Organization and Responsibilities

This section will contain;

- *General description of the decommissioning organization.*
- *Specific description of the FSS organization.*
- *FSS Personnel Training Requirements.*

V. Site Release Criteria

This section will contain a general description of the release criteria. The methodology to demonstrate compliance will be provided in each volume 1 chapter 1.

VI. FSSFR Organization

This section will contain a description of how this report, (Volumes and Chapters) will be presented.

VII. Final Status Survey Final Report

This section will contain a description of the FSSFR (Volume 7).

Volume 2 Reuse Soil

Chapter 1 Reuse Soil

This section will contain introductory statements to that of the DP.

I. Background

This section will contain;

- *A general discussion of reuse soil as described in the DP.*
- *A history of the development of the stockpiles.*

II. Survey Methodology

This section will contain;

- *A general description of the survey and sample methodology for each stockpile.*
- *A general description of any changes to methodology for each stockpile.*

III. Sorting System Operations

This section will contain;

- *A general description of the sorting process*.
- *Operating parameters and results*.
- *NRC and ORAU inspection results*.

IV. Modified Investigation Level

This section will contain;

- *Regulatory position on use of MIL for reuse stockpiles.*
- *Regulatory technical basis for MIL parameters.*

Chapter 2 Data Summary Reports for Reuse Stockpiles HDP-RPT-FSS-1XX

Chapters continue to completion of all Stockpile Data Summary Reports

Chapter 3 Data Summary Report for Combined Reuse Stockpile 1-2, HDP-RPT-FSS-106

Chapter 4 Data Summary Report for Reuse Stockpile 3, HDP-RPT-FSS-107

Volume 3 Land Survey Areas

Chapter 1 Land Survey Areas

This section will contain introductory statements to that of the DP.

I. Remediation Activities

This section will contain introductory statements that describe how the remediation processes as described in the DP prepare LSAs for FSS.

i. Documented Burial Pit Area

This section will contain;

- *A description of a Documented Burial Pit.*
- *Relevance of "Potentially Recoverable SNM".*
- *DP requirements for remediation.*
- *Conservative modifications to the remediation process.*
- *An overview of remediation results.*

ii. Undocumented Burials

This section will contain;

- *A description of an Undocumented Burial and the Undocumented Burial Area.*
- *Differentiation between a Documented Burial Pit and an Undocumented Burial.*
- *DP requirements for remediation.*
- *Conservative modifications to the remediation process.*
- *An overview of remediation results.*

iii. Process Buildings

This section will contain;

- *An overview description of Process Building Demolition.*
- *An overview description of Process Building Slab Demolition and UST foundation component removal.*
- *Process Building subsurface soil remediation.*
- *An overview of remediation results.*

iv. Vaults

This section will contain;

- *An overview description of West Vault Demolition and subsurface soil remediation.*
- *An overview description of South Vault Demolition and subsurface soil remediation.*
- *An overview of remediation results.*

v. Evaporation Pond

This section will contain;

- *A historical description of remediation activities during licensed operations.*
- *A description of Tc-99 locations identified during characterization*
- *Evaporation Pond Remediation.*
- *A description of additional characterization activities during remediation.*
- *An overview of remediation results.*

vi. Natural Gas Pipe Line Area

This section will contain;

- *An overview description of the Natural Gas Pipeline.*
- *An overview of the remediation process.*
- *A description of additional characterization activities during remediation.*
- *An overview of remediation results.*
- *An overview of subsurface soil averaging in the vicinity of the NGP.*

vii. Red Room Roof Burial Area and Barns Area

This section will contain;

- *An overview description of the Red Room Roof Burial Area and Barns Area.*
- *An overview of the remediation process.*
- *An overview of remediation results.*

viii. Sanitary Wastewater Treatment Plant

This section will contain;

- *An overview description of the Sanitary Wastewater Treatment Plant and the Former Septic System/Leach Field.*
- *An overview of the remediation process.*
- *An overview of remediation results.*

ix. Site Pond/Site Creek Area

This section will contain;

- *An overview description of the Site Pond/Site Creek Area.*
- *An overview description of the Water Treatment System Resin Bed retention element failure and conclusion of no impact to the Site Pond.*
- *NRC Inspection results of the Water Treatment System Resin Bed retention element failure.*
- *An overview of the remediation process.*
- *An overview of remediation results.*

x. Tc-99 Area
This section will contain;
- *An overview of the Tc-99 Area.*
- *An overview of the remediation process.*
- *An overview of remediation results.*

xi. Class 2 and Class 3 Survey Units
This section will contain a description in regards to any remediation that would be required in a Class 2 or Class 3 survey unit.

xii. Waste Disposal
This section will contain;
- *An overview of Waste Generation.*
- *An overview of Waste Disposition.*

xiii. Backfill Operations
This section will contain;
- *An overview description of Backfill Operations.*
- *An overview description of Off-Site Borrow Soil used for Backfill Operations.*

II. Release Criteria
This section will contain introductory statements to that of the DP and a overview discussion of the FSS procedures in regards to release criteria.

i. LSA Release Criteria
1. Uniform DCGLs
This section will contain;
- *Use of Uniform DCGLs in LSA survey units.*

2. Three Stratum DCGLs
This section will contain;
- *Use of Three Stratum DCGLs in Class 1 survey units.*
- *Use of Three Stratum DCGLs in Class 2 and Class 3 survey units.*

3. Elevated Areas
This section will contain a description of release criteria as it relates to elevated areas.

ii. Demonstrating Compliance with Dose Criteria

1. Average SU Soil Dose

   This section will contain;

   - *A description of how average survey unit dose is determined using the Uniform DCGL in a Class 1 survey unit.*
   - *A description of how average survey unit dose is determined using the Uniform DCGL in Class 2 and Class 3 survey units.*
   - *A description of how average survey unit dose is determined using the Three Stratum DCGL in a Class 1 survey unit.*

2. Elevated Area Dose

   This section will contain;

   - *A description of elevated dose determination for a Class 1 survey unit.*
   - *A description of elevated dose determination for a Class 2 and Class 3 survey units.*

3. Groundwater Dose

   This section will contain;

   - *A description of the DP and RAIs in regards to determination of groundwater dose as it applies to LSAs.*
   - *A summary of current groundwater monitoring well data.*

4. Buried Piping/Structures Dose

   This section will contain;

   - *A description of dose determination for buried piping.*
   - *A description of dose determination for buried structures.*

5. Reuse Soil Dose

   This section will contain;

   - *Regulatory position on placing Reuse Soil in excavations.*
   - *A description of dose determination for Reuse Soil.*

6. Total Dose

   This section will contain;

   - *A description of determination of total dose for a Class 1 survey unit.*
   - *A description of determination of total dose for Class 2 and Class 3 survey units.*

III. Data Quality Objectives

This section will contain a description of the DQO process as described in the DP in regards to Land Survey Areas.

IV. Final Status Survey Design

This section will contain;

- *A discussion on DP Chapter 14, MARSSIM and implementation of FSS Design through procedure HDP-PR-FSS-701 for LSAs.*
- *A discussion on Surrogate Evaluation Areas in regards to FSS Design.*
- *A discussion on FSS Design in regards to Tc-99 Side Wall sampling.*

V. Final Status Survey

i. Gamma Walk Over Survey

This section will contain;

- *A description of the application of the use of 3 dimensional survey unit area for GWS.*
- *A description of the intent of 100% GWS.*

1. Instrumentation

This section will contain;

- *A description of the instrumentation used.*
- *Calibration requirements.*

2. Scan MDC

This section will contain;

- *A description of how Scan MDC is calculated.*
- *Scan MDC calculations.*

3. Investigation Action Level (IAL)

This section will contain;

- *A description of how the IAL is calculated.*
- *Scan IAL calculations.*
- *A description of how the IAL relates to the DCGLs.*

ii. Soil Sampling

1. Systematic Sampling

This section will contain;

- *A description of systematic soil sampling in a Class 1 survey unit using the Uniform DCGLs.*
- *A description of systematic soil sampling in a Class 1 survey unit using the Three Stratum DCGLs.*
- *A description of systematic soil sampling in a Class 2 and Class 3 survey units.*

2. Biased Sampling
   This section will contain a description of biased sampling.

3. Judgmental Sampling
   This section will contain a description of judgmental sampling as it pertains to Tc-99 side wall sampling.

4. Quality Control Sampling
   This section will contain a description of quality control sampling.

5. Tc-99 Side Wall Sampling
   This section will contain;
   - *A discussion of the side wall sampling requirements in the DP and RAIs.*
   - *Regulatory position on side wall sampling for Tc-99.*
   - *A description of side wall sampling for Tc-99.*

6. Off-site Laboratory
   This section will contain a description of the Off-site Laboratory requirements.

iii. Data Quality Assessment
This section will contain a description of the Data Quality Assessment conducted for a LSA survey unit.

VI. Survey Area Release Record Organization
This section will contain a description of the format of a Survey Area Release Record.

Chapter 2 Land Survey Area – Survey Area Release Record HDP-RPT-FSS-2XX

Chapters continue to completion of all LSA Survey Units.

Volume 4 Building Survey Areas

Chapter 1 Building Survey Areas

This section will contain introductory statements to that of the DP.

I. Remediation Activities

i. Process Buildings

This section will contain;

- *An overview description of the Process Building demolition.*
- *An overview description of the Process Building concrete slab demolition.*

ii. Building 110

This section will contain;

- *A description of structural remediation.*
- *A description of ventilation system remediation.*
- *A description of subterranean piping and subsurface soil remediation.*

iii. Building 115

This section will contain;

- *A description of structural remediation.*
- *A description of ventilation system remediation.*
- *A description of subterranean piping and subsurface soil remediation.*

iv. Building 230

This section will contain;

- *A description of structural remediation.*
- *A description of ventilation system remediation.*
- *A description of subterranean piping and subsurface soil remediation.*

v. Building 231

This section will contain;

- *A description of structural remediation.*
- *A description of ventilation system remediation.*
- *A description of subterranean piping and subsurface soil remediation.*

II. Release Criteria

i. Building and Structural Surface DCGLs.

This section will contain;

- *A description of the Small Office DCGLs.*
- *A description of the Large Warehouse DCGLs.*

ii. Ventilation Systems.

This section will contain;

- *An overview of the DP requirements for the ventilation systems.*
- *An overview of ventilation system sample methodology.*

iii. Subterranean Piping.

This section will contain a discussion on Subterranean Piping as it relates to Building Survey Areas.

iv. Demonstrating Compliance with Dose Criteria

This section will contain;

- *A description of how average survey unit dose is determined using the Small Office DCGL.*

III. Data Quality Objectives

This section will contain a description of the DQO process as described in the DP in regards to Building Survey Areas.

IV. Final Status Survey Design

This section will contain a discussion on DP Chapter 14, MARSSIM and implementation of FSS Design through procedure HDP-PR-FSS-701 for BSAs.

V. Final Status Survey

i. Scanning Survey

This section will contain;

1. Instrumentation

   This section will contain;

   - *A description of the instrumentation used.*
   - *Calibration requirements.*

2. Scan MDC

   This section will contain;

   - *A description of how Scan MDC is calculated.*
   - *Scan MDC calculations.*

3. Investigation Action Level (IAL)

   This section will contain;

   - *A description of how the IAL is calculated.*
   - *Scan IAL calculations.*
   - *A description of how the IAL relates to the gross alpha + beta DCGL.*

ii. Measurements

1. Systematic Sampling
   This section will contain a description of systematic sampling.

2. Biased Sampling
   This section will contain a description of biased sampling.

3. Judgmental Sampling
   This section will contain a description of judgmental sampling.

4. Quality Control Sampling
   This section will contain a description of Quality Control sampling.

VI. Data Quality Assessment
This section will contain a description of the Data Quality Assessment conducted for a BSA survey unit.

Chapter 2 Building Survey Areas – Survey Area Release Records HDP-RPT-FSS-3XX

Chapters continue to completion of all BSA Survey Units.

Volume 5 Piping Survey Areas

Chapter 1 Subterranean Piping

I. Remediation Activities

i. Storm Water Drain System

This section will contain a description of the visual inspection and cleanout prior to FSS implementation.

ii. Sanitary Waste Water Treatment Plant Piping

This section will contain a description of the visual Inspection and cleanout prior to FSS implementation.

II. Release Criteria

This section will contain;

- *A description of the Building and Structural Surface DCGLs that will be used to evaluate Subterranean Piping.*
- *A discussion on Subterranean Piping DCGLs are reserved for piping that exceeds the Building and Structural Surface DCGLs, and will be grouted and left in place.*

III. Data Quality Objectives

This section will contain a description of the DQO process as described in the DP in regards to Piping Survey Areas.

IV. Final Status Survey Design

This section will contain a discussion on DP Chapter 14, MARSSIM and implementation of FSS Design through procedure HDP-PO-FSS-800 for PSAs.

V. Final Status Survey

This section will contain a discussion/description of;

- *Scan surveys performed using remote control vehicles equipped with radiological scanning instrumentation.*
- *Systematic sampling performed on a linear grid and compared to the Small Office DCGLs.*
- *Biased investigation and soil sampling will be performed in all areas where cracks in piping are identified.*
- *Piping that exceeds the Small Office DCGL will be compared to the Piping DCGL and grouted to be left in place, or removed.*
- *Dose contributions from grouted piping will be included in Land Survey Area reports for the units where grouted piping resides.*

VI. Data Quality Assessment

This section will contain a description of the Data Quality Assessment conducted for a PSA survey unit.

Chapter 2 Piping Survey Areas – Survey Area Release Record HDP-RPT-FSS-4XX

Chapters continue to completion of all PSA Survey Units.

Volume 6 Groundwater

Chapter 1 Groundwater

I. Groundwater Sampling and Analysis
This section will contain a historical overview of groundwater monitoring.

II. Remediation and Post-Remediation Groundwater Sampling and Analysis
This section will contain;
- *An overview of discussion of the DP requirements.*
- *An over view discussion of groundwater monitoring post remediation.*

III. Summary of current groundwater data.
This section will contain an overview of groundwater monitoring data.

Volume 7 FSSFR

Chapter 1 Summary Report

I. Land Survey Areas
This section will contain;
- *A summary of the LSA survey results.*
- *Summary data tables.*

II. Groundwater
This section will contain;
- *A summary of the groundwater monitoring results.*
- *Summary data tables.*

III. Building Survey Areas
This section will contain;
- *A summary of the BSA survey results.*
- *Summary data tables.*

IV. Piping Survey areas
This section will contain;
- *A summary of the PSA survey results.*
- *Summary data tables.*

V. Conclusion
This section will contain a final summary and conclusion in regards to acceptability for license termination.