

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 RAls.*
  - *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.*