

APPENDIX O

FEDERAL CELL FACILITY WASTE CHARACTERIZATION PLAN

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Table of Contents

I.	General Provisions and Requirements	2
II.	Waste Profile Record Requirements	4
III.	Incoming Shipment Inspection Requirements	7
IV.	Sampling and Analysis Requirements	10
V.	Sample Management	18
VI.	Sampling and Inspection of Waste at a Location Other Than the Licensee's Facility	19
VII.	Containerized Federal Cell Facility Characterization	22
VIII.	Transfer of Waste from the Mixed Waste Facility	24

I. GENERAL PROVISIONS AND REQUIREMENTS

1. This Waste Characterization Plan (WCP) describes procedures for identifying, characterizing, controlling, sampling, and accepting incoming depleted uranium for disposal at the Licensee's Federal Cell Facility.
2. This WCP is applicable to the radioactive component of all waste destined for disposal at the Licensee's Federal Cell Facility.
3. Wastes destined for disposal at the Federal Cell Facility shall be characterized and accepted in accordance with Section VIII of this WCP.
4. For each waste stream received at the Licensee's Federal Cell Facility from an off-site generator (off-site waste), the generator shall characterize the waste and the Licensee shall evaluate the associated Waste Profile Record (WPR) to ensure the waste is acceptable for management prior to allowing that waste stream to be shipped to the Licensee's Federal Cell Facility. WPR requirements are outlined in Section II of this WCP.
5. Each shipment shall be inspected, and accepted or rejected, in accordance with Section III of this WCP.
6. Each waste stream shall be sampled and analyzed, and the data evaluated, in accordance with Section IV of this WCP.
 - a. Waste destined for the Federal Cell Facility does not require sampling as long as the requirements of Section VIII of this WCP are met.
 - b. Waste that is sampled at a location other than the Licensee's Federal Cell Facility and in compliance with Section VII of this WCP does not require sampling upon receipt at the Licensee's Federal Cell Facility.
 - c. Waste meeting the definition of debris or pure product may be exempted from chemical sampling and analysis if the shipment containing debris or pure product is visually inspected to confirm that no material in the shipment is amenable to sampling and analysis.
 - d. Other wastes may be exempted from sampling and analysis through a petition to the Director.
 - i. Petitions to exempt waste streams from sampling may be based on ALARA (e.g., dose rate, DAC, removable contamination) or other personnel health and safety concerns.
 - ii. Approval by the Director is required prior to managing petitioned wastes without sampling and analyzing the waste.
7. If a waste sample is analyzed and it is determined that the sample results are non-compliant with the WPR, the Licensee shall collect at least two additional samples and analyze them for those parameters that were exceeded. If all of the additional sample results confirm the first analysis, the procedures for resolving discrepancies outlined in Sections IV.6 and IV.7 of this WCP shall be followed. If all of the additional sample results do not confirm the results of the first analysis, the original result shall be viewed as an anomaly and the waste shall be managed in accordance with this WCP.

8. Analytical data for this WCP shall be obtained from laboratories meeting one of the following criteria:
 - a. Laboratories that hold a current National Environmental Laboratory Accreditation Conference (NELAC) accreditation, or
 - b. Laboratories certified by the Utah Department of Health (UDOH), insofar as official certifications are given, or
 - c. Laboratories with reciprocity with the State of Utah for the parameter being analyzed, or
 - d. Laboratories that are certified in a state that has been determined by the UDOH to have a laboratory certification program equal to or more stringent than Utah's, or
 - e. Laboratories approved by the Director.
9. Wastes that do not contain hazardous waste as defined in R315-261 of Utah Administrative Code may be transferred from the MW Facility for disposal at the Federal Cell Facility in accordance with Section IX of this WCP.
10. Wastes that contain greater than 1% free liquids are referred to as "liquid wastes" and shall be managed in accordance with Section V of this WCP.
11. Wastes that contain less than 1% free liquids may be managed within its respective area of the Licensee's Federal Cell Facility within locations that have approved secondary containment.
12. Samples sent to the Licensee's Federal Cell Facility for treatability study testing, solidification study testing, or other pre-shipment waste characterization purposes shall be managed in accordance with Section VI of this WCP.
13. Following waste receipt and acceptance, waste containers shall be marked or labeled with the following information:
 - a. Generator identification number;
 - b. Licensee identification number;
 - c. The date the waste was received; and
 - d. Specific hazards (e.g., "Asbestos", etc.), when applicable.
14. Errors and omissions (e.g., transcription errors, typographical errors, errors in calculations) within generator documents shall be corrected as soon as information becomes available.
 - a. The Licensee shall receive certified written confirmation from the generator for all changes made.
 - i. The Licensee shall document this confirmation by placing it with the shipping paperwork or WPR in the Operating Record.
 - b. Corrections to paper records shall be made by striking out the incorrect information and writing the correct information on the page as near the error as practicable or updating information designated by the generator.
 - i. These corrections shall be initialed and dated by the person making the correction.
 - c. Electronic records shall not require correction as long as the generator confirmation is kept with the electronic record.
15. All documentation described in this WCP shall be retained as follows:
 - a. Hard copies at least 90 days; and

- b. Hard copies shall be scanned and electronic copies retained according to R313-25-33 of the Utah Administrative Code.

II. WASTE PROFILE RECORD REQUIREMENTS

- 1. The WPR shall provide the necessary information for management of a waste stream. The following information shall be provided in the WPR:
 - a. A description of the generator, including the generator's:
 - i. Company or Facility Name;
 - ii. Generator number and waste stream number assigned by the Permittee;
 - iii. Mailing address;
 - iv. Business telephone number, a 24-hour emergency telephone number, or both; and
 - v. WPR contact person.
 - b. A description of the waste, including:
 - i. A determination that the waste does not meet the definition of a hazardous waste as found in R315-261 of Utah Administrative Code;
 - ii. Whether the waste contains liquids;
 - iii. A general indication of the waste's density;
 - iv. Any distinguishing color or odor;
 - v. A statement that the sample(s) used for characterization was representative of the waste;
 - vi. If sorbents are used, a statement on the type used; and
 - vii. Other additional information necessary for determining appropriate management of the waste stream such as:
 - A. Chemical, physical, and general characteristics and properties;
 - B. Information relating to the waste's generation and history;
 - C. An indication of the possible presence of non-hazardous waste constituents such as asbestos, PCBs, chelating agents, etc.; and
 - (1) The Licensee shall provide to the generator the License limits of these non-hazardous waste constituents, as applicable.
 - D. A statement that the waste is not air reactive, water reactive, shock sensitive or pyrophoric.
 - E. A statement that the waste is not a listed hazardous waste as defined in R315-262 of Utah Administrative Code.
 - viii. A certification that the waste is depleted uranium waste.
 - c. A description of the radioactive characteristics of the waste, including worst-case isotopic concentrations.
 - d. TCLP analytical results for the characteristically hazardous list of elements and compounds described in R315-261 of Utah Administrative Code (8 metals and 32 organics).
 - i. Total results on a dry weight basis may be used to show that a waste is not toxic. The total results shall be divided by a conversion factor of 15 (mg/kg)/(mg/L) in order to determine whether a TCLP limit has the possibility of being exceeded. For example, an analytical result of 75 mg/kg for silver on a soil sample would demonstrate that the characteristic limit of 5 mg/L TCLP silver would not be exceeded.

- ii. All analytical data shall meet the laboratory requirements of Section I.10 of this WCP.
 - iii. The generator may provide a certification demonstrating process knowledge in place of some or all of the analytical data (e.g., the waste may have been generated in a closed system in which organic contaminants could not enter, or the waste may be a pure product material with associated Material Safety Data Sheets or Safety Data Sheets etc.).
 - iv. The Licensee shall follow the requirements of Section IV.6 of this WCP when waiving chemical analysis.
 - e. For wastes containing free liquids, the profile shall also include a packaging and transportation plan for compliance with applicable DOT regulations.
- 2. The Licensee shall conduct and document Radiological and Chemical Evaluations of the WPR prior to approving the waste for shipment.
 - a. The Licensee shall ensure that its Radiological Evaluation is such that profiled waste meets License limits.
 - b. The Licensee shall ensure that its Chemical Evaluation is such that profiled waste is not a hazardous waste.
- 3. Acceptance of the WPR shall be documented through the issuing of a waste stream specific “Notice to Transport” (NTT) to the generator.
 - a. An NTT shall not be issued until all evaluations of Section II.2 of this WCP have been completed.
 - b. If a shipment arrives prior to the generator receiving an NTT, the shipment shall be rejected and the Director shall be notified within 24-hours of the shipment’s arrival.
- 4. The Licensee may provide information or amend a generator’s WPR in coordination with the generator:
 - a. Certification of information amended to a WPR shall be documented in accordance with this WCP.
 - b. Prior to the change, the information that changes radiological or chemical characteristics of the waste shall be evaluated in accordance with Condition II.2 of this WCP.

III. INCOMING SHIPMENT INSPECTION REQUIREMENTS

- 1. In conjunction with each waste shipment or shipment campaign, the Licensee shall conduct a file review to ensure that there is a current WPR and NTT on file.
- 2. On the date a shipment arrives at the Licensee’s Federal Cell Facility, the following shall be completed before the Licensee signs the shipping manifest:
 - a. The Uniform Low-Level Radioactive Waste Manifest or shipping papers shall be reviewed for discrepancies; and
 - b. The shipment shall be inspected for compliance with DOT and state radioactive material shipment regulations. This inspection shall include:
 - i. an external survey of the transportation packages for gamma radiation; and

- ii. a physical inspection of the shipment for Inspection or Appearance Discrepancies as required by Section III.5 of this WCP.
 - A. If free liquids are present, a liquid volume determination shall be made prior to waste management. If the free liquid volume is less than 1% of the waste by volume, the waste shall be solidified prior to disposal or managed in accordance with Section V of this WCP.
- 3. Shipments that have been inspected at a location other than the Licensee’s Federal Cell Facility and conducted in accordance with Section VII of this WCP do not require further inspection upon arrival at the Licensee’s Federal Cell Facility.
- 4. Incoming Shipment Discrepancies
 - a. Manifest Discrepancies:
 - i. Manifest incompleteness
 - ii. Typographical errors (e.g., wrong telephone number, address, names, etc.)
 - b. Inspection Discrepancies:
 - i. Unexpected free liquids exceeding 1% of the waste, by volume.
 - ii. Damaged, leaking or open container(s).
 - iii. Waste outside of the container.
 - c. Appearance Discrepancies:
 - i. Different appearance than is described in the WPR.
- 5. Incoming Shipment Discrepancy Resolution
 - a. Where discrepancies are identified, the discrepancies shall be noted. The generator shall be contacted within ten days of discovering a discrepancy to determine how the discrepancy can be resolved. Discrepancies shall be resolved prior to disposal of the waste.
 - i. The waste shall be labeled “hold” and segregated to clearly identify the shipment(s) or package(s) with discrepancies and to prevent further management of the waste until the discrepancy is resolved.
 - ii. If discrepancies cannot be resolved, the waste shall be returned to the generator.
 - iii. If the Licensee determines that the waste does not meet the acceptance criteria of its License, the waste shall be rejected and returned to the generator.
 - iv. “Resolved” means that the generator has acknowledged the discrepancy and has approved a path forward for the waste.
 - b. Notification requirement for Inspection Discrepancies
 - i. Within 24 hours of discovery, the Licensee shall provide electronic mail or oral notice of the discrepancy to the Director.
 - ii. Within 7 calendar days of discovery, the Licensee shall provide written notice of the discrepancy to the Director. The written notice shall include:
 - A. a description of the discrepancy;
 - B. the disposition of the waste;
 - C. a schedule for resolution of the discrepancy;
 - D. corrective actions taken; and
 - E. a schedule for resolving any associated non-compliance with the License.
 - c. Shipments with unexpected free liquid exceeding 1% of the waste by volume shall be managed in accordance with Section V of this WCP.

- d. Leaking shipments or packages shall have the leak immediately contained and the shipment or package moved into the Restricted Area.
 - i. The 1% free liquid determination shall be made after the shipment is contained and within the Restricted Area.
 - A. If the volume of free liquid exceeds 1% of the waste by volume, the waste shall be placed “on hold” and managed in accordance with Section V of this WCP.
 - B. If the volume of free liquid is less than 1% of the waste by volume, the liquid may either be solidified in place or managed in accordance with Section V of this WCP.
- e. Any generator with two shipments containing free-liquids in excess of 1% by volume within a 12 month period shall have their NTT revoked by the Licensee until a corrective action plan has been completed, approved and implemented.
- f. Errors and omissions within generator documents that were missed by the Licensee or discovered after the waste has been accepted, shall be resolved by making corrections as soon as the discrepancy is discovered or information becomes available.
- g. Appearance discrepancies shall be resolved with the generator by either:
 - i. Adding information to the WPR; or
 - ii. Rejecting the waste and arranging for the return of the shipment.

IV. SAMPLING AND ANALYSIS REQUIREMENTS

- 1. Waste shipments sampled off-site in accordance with Section VI or certified in accordance with Section VII of this plan do not require sampling upon receipt at the Federal Cell Facility.
- 2. Representative samples shall be collected from incoming shipments. The Licensee shall document that the samples for radiologic and deferred chemical screening parameters have been taken. The samples shall be analyzed for the following parameters:
 - a. Depleted uranium Deferred Chemical Screening Parameters – hazardous waste characteristics D001-D043 as defined in R315-261 of Utah Administrative Code.
 - i. The characteristic of ignitability (D001) determination for non-liquid waste shall consist of screening for oxidizer tendency and further analyses in accordance with the DOT oxidizer test (SW-846 Method 1040 or equivalent) if the screening results show the waste could be an oxidizer.
 - ii. Non-liquid waste does not require an analyses analysis for the characteristic of corrosivity (D002).
 - iii. The characteristic of reactivity (D003) shall be assessed using a reactive cyanide analysis.
 - A. If a total cyanide analysis is used as an indicator for the presence of cyanide, on a case-by-case basis, the Licensee shall notify the Director, and justify its use, prior to using this option.
 - iv. Samples of Federal Cell Facility waste will be analyzed for all characteristic parameters (D004-D043).
 - b. Federal Cell Facility waste shall be analyzed for free liquids through either:
 - i. visual inspection; or
 - ii. the Environmental Protection Agency’s Paint Filter Liquids Test (SW-846 9095).

- c. Radiological Analytical Parameters – gamma spectroscopy analysis.
 - i. All significant photo-peaks shall be accounted for using the “unidentified peak summary”. A peak is not significant if it has less than 0.10 counts per second or has uncertainty of more than 50%.
 - ii. When non-gamma radionuclide concentrations contribute to the waste being within 75% of Class A limits, the contributing non-gamma radionuclide(s) shall also be analyzed.

- 3. Sampling Frequencies
 - a. For ease in counting, one rail car (any type) will represent a nominal 100 cubic yards and one highway shipment (any type) will represent a nominal 20 cubic yards. Actual manifested volumes might be used for counting purposes.
 - b. For purposes of sampling and analysis, it is understood that a railcar or highway shipment is identified by a Uniform Low-Level Radioactive Waste Manifest. At a maximum, each railcar or each highway shipment trailer shall be considered a separate shipment if the manifest represents multiple railcars or multiple highway shipment trailers, respectively.
 - c. Federal Cell Facility Deferred Chemical Screening Parameters – for each waste stream, the minimum number of samples to be analyzed for deferred chemical screening parameters is:
 - i. The first shipment to arrive at the site.
 - ii. Thereafter,
 - A. Annually or every 36,000 cubic yards whichever occurs first. For off-site wastes that have never met the definition of a hazardous waste, the first shipment following or any one shipment prior to the one-year anniversary date of the most recent shipment that was sampled and analyzed for deferred chemical screening parameters;
 - d. Federal Cell Facility Free Liquids Verification – for each waste stream, the minimum number of free liquid verifications is:
 - i. one for each shipment through the first 1,000 cubic yards received at the site;
 - ii. thereafter, one for each set of ten (10) shipments received.
 - e. Radiological Analytical Parameters – for each waste stream, the minimum number of samples to be analyzed for radiological analytical parameters (rail or highway) is:
 - i. one sample for each of the first ten (10) shipments to arrive at the site;
 - ii. thereafter, one sample for each set of ten (10) shipments received following the first ten (10) shipments.

- 4. Required Sample Collection
 - a. Samples for Deferred Chemical Screening Parameters or Radiological Analytical Parameters shall be collected as follows:
 - i. Bulk Rail Shipments. The sample shall be a composite sample consisting of six aliquots from random locations.
 - ii. Bulk Highway Shipments. The sample shall be a composite sample consisting of four aliquots from random locations.
 - iii. Container Shipments (rail or highway).
 - A. One composite sample consisting of aliquots from ten (10) percent of the containers on a shipment.
 - B. For shipments consisting of six or more containers, at least six aliquots shall be collected from six different containers.

- C. For shipments consisting of fewer than six containers, one aliquot shall be collected from each container.
 - D. Containers from which aliquots are collected shall be randomly selected or, if necessary, from all of the containers on a shipment consisting of six or fewer containers.
 - b. Each aliquot shall be approximately equal in volume.
 - c. If there is insufficient volume in a shipment to complete all required analyses, the facility shall prioritize constituents for analysis.
 - d. Aliquots shall be collected using one or more of the following clean devices: a shovel, spade, scoop, thief, auger, sampling tube (Shelby or split tube) or other applicable device.
 - e. The sample container shall comply with the analytical method.
 - f. The Licensee shall keep an accurate written record of the custody of each sample from the time of collection in the field through laboratory analysis.
 - i. A sample is considered to be in an individual's custody if it is:
 - A. in their physical possession;
 - B. in continuous view after possession has been assumed; or
 - C. secured or monitored by the custody holder so that no one can gain access to the sample without being detected by the custody holder.
 - ii. All transfers of a sample from collection in the field through laboratory analysis shall be documented and kept in the Operating Record.
 - iii. Custody seals shall be placed on samples that are not in an individual's custody. Custody seals shall be applied in such a manner as to secure the opening of the outermost sample container.
 - g. Once all required samples have been collected, the waste may, at the risk of the Licensee, be disposed prior to receipt and review of analytical results.
5. Review of Analytical Results
- a. The Licensee shall perform a review of analytical results received from off-site laboratories.
 - i. Analytical data from Federal Cell Facility Deferred Chemical Screening Parameters shall be reviewed against applicable characteristic and listed requirements as defined in R315-261 of Utah Administrative Code.
 - ii. Analytical data from Radiological Analytical Parameters shall be reviewed against License limits.
 - iii. The Licensee shall document the analytical data reviews.
 - iv. Retain analytical documents in accordance with Condition I.17 of this WCP.
 - b. Non-Conforming Waste
 - i. Waste is non-conforming when the following occurs:
 - A. The Deferred Chemical Screening Parameters analytical review indicates if the waste is either a characteristic or listed hazardous waste as determined by R315-261 of Utah Administrative Code; or
 - B. The Radiological Analytical Parameters review indicates that the waste did not meet the acceptance criteria of the License.
 - (1) For waste exceeding radiological limits, the notification requirements in Section III.5.b of this WCP shall be followed.
 - ii. Non-conforming waste shall be labeled "hold" and segregated from other waste streams and follow the requirements of Condition IV.5.b.iii.
 - iii. The generator shall be contacted for disposition of non-conforming waste.

- A. The waste may be rejected and returned to the generator; or
 - B. The waste may be sent to a facility that has permits in place to manage the non-conforming waste (e.g., hazardous waste may be moved to the Licensee's MW Facility).
 - iv. Container shipments with non-conforming waste in some of the containers but not in others may be split such that only those containers which are non-conforming shall be managed in accordance with Section IV.5.b.iv of this WCP.
 - v. If the non-conforming waste has been disposed:
 - A. Within 24 hours of discovery that non-conforming waste has been disposed; the Licensee shall provide electronic mail or oral notice to the Director.
 - B. Within 7 calendar days of discovery that non-conforming waste has been disposed; the Licensee shall provide written notice to the Director. The written notice shall include:
 - (1) the name of the generator;
 - (2) the designation of the non-conforming waste stream;
 - (3) the amount of non-conforming waste disposed;
 - (4) the location of the non-conforming waste in the Disposal Cell;
 - (5) the date the non-conforming waste was accepted;
 - (6) the date the non-conforming waste was placed in the Disposal Cell;
 - (7) a description of waste placed on and around the non-conforming waste;
 - (8) the plan of action for resolving the non-conformance; and
 - (9) a compliance schedule for either the removal of the non-conforming waste from the disposal cell or a written justification to the Director for approval to leave the non-conforming waste in place.
- 6. Waiver of Sampling
 - a. For waste requiring sampling, Deferred Chemical sampling may be waived as described in this section. Radiological sampling may only be waived through a petition to the Director as described in Condition I.8.d of this WCP.
 - b. Individual Shipment Sampling Waivers
 - i. Some debris wastes (greater than 60 mm) do not lend themselves to chemical sampling. The following debris items do not require chemical sampling:
 - A. Solid-phase metals
 - B. Wood (excluding sawdust or shavings)
 - C. Concrete (excluding pulverized)
 - D. Brick
 - E. Stone (not to include drywall)
 - F. Glass
 - G. Plastic (not to include ion-exchange resins)
 - H. Rubber
 - I. Other items meeting the definition of R315-268.2 of the Utah Administrative Code.
 - ii. Clearly labeled pure product waste, with associated Safety Data Sheets may be waived for sampling.
 - iii. If a portion of a waste can be sampled, that portion shall be sampled and analyzed according to this WCP.

- iv. A sample may be analyzed for some parameters and waived for others.
 - v. Explanations of all waivers shall be documented and maintained in the Operating Record.
7. Logistics
- a. Intermodal containers holding waste may be placed on unimproved surfaces adjacent to the rail track to facilitate sampling or loading operations, provided that the movement to an approved waste storage area or disposal embankment is completed within 48 hours.
 - b. Waste which remains in off-site transportation equipment or vehicles (e.g., rail cars, flatbeds, vans, trucks, etc.) and are awaiting analytical results may remain at the Licensee's Facility for up to 30 days.
 - c. For these logistics items, additional conveyance storage time may be approved by the Director.

V. SAMPLE MANAGEMENT

- 1. All samples sent to the Licensee's Facility shall meet the radiological and chemical acceptance criteria of Radioactive Material Licenses UT2300249 and UT2300478, and the state-issued Part B Permit.
- 2. A draft waste profile record, identifying preliminary chemical characterization shall be completed prior to shipment of a sample to the Licensee's Facility.
 - a. Radiological characterization results shall be provided and reviewed by the Licensee to ensure the sample meets License limits.
 - b. Available chemical analytical results, waste generation mechanisms, and generator process knowledge shall be reviewed by the Licensee to ensure the sample meets License limits.
- 3. The Licensee shall submit a Preshipment Sample Authorization Record to the generator, giving them authorization to ship the sample. A NTT is not required for submitting a sample.
- 4. A Uniform Low-Level Radioactive Waste Manifest shall be provided for all samples.
- 5. Sample shipments shall contain the Licensee-designated Shipment Number (either on paperwork or a label).
- 6. The Director shall be notified within 7 calendar days of any sample received at the Licensee's Facility that does not meet the criteria in Section VI.1. through VI.4. of this WCP.
- 7. Sample Requirements.
 - a. The requirements of R315-261-4(e) of Utah Administrative Code shall be met for all treatability study samples accepted at the Licensee's Facility.
 - b. Samples not regulated under R315-261-4(e) of Utah Administrative Code shall not exceed 15 cubic feet per waste stream unless prior authorization is received from the Director.
- 8. Samples shall be stored in the on-site laboratory or permitted waste storage areas.
- 9. Samples shall be disposed or returned to the generator within one-year of receipt.

- a. The sample (or sample residue) may be combined with other waste in the waste stream from which it originated.
- b. The sample (or sample residue) may be managed as a Licensee-generated waste for storage and disposal.

VI. SAMPLING AND INSPECTION OF WASTE AT A LOCATION OTHER THAN THE LICENSEE'S FACILITY

- 1. Inspection of waste at a location other than the Licensee's Facility shall meet the incoming shipment inspection requirements of Section III of this WCP.
- 2. Sampling of waste at a location other than the Licensee's Facility for Deferred Chemical Screening Parameters, Radiological Analytical Parameters, or both shall meet the appropriate sampling and analysis requirements of Section IV of this WCP.
- 3. Applicability. The following wastes or situations may be sampled and/or inspected at a location other than the Licensee's Facility in accordance with the requirements of this section:
 - a. Supercompaction performed on waste at a location other than the Licensee's Facility.
 - b. Situations where sampling at the Licensee's Federal Cell Facility would interfere with the applied treatment.
 - c. Specific cases approved by the Director (e.g., cases where remote sampling promotes the ALARA principle).
- 4. The Licensee shall provide the Director with at least 14 calendar days' notice of its intent to perform sampling or an inspection at a location other than the Licensee's Facility.
- 5. The Licensee's notice of intent to perform sampling or an inspection at a location other than the Licensee's Facility shall be accompanied by a detailed sampling/inspection plan. This plan shall include at a minimum, the following information:
 - a. A physical description of the waste being sampled or inspected;
 - i. The total amount of waste (tonnage and volume) represented by the sampling/inspection event;
 - b. The purpose for the sampling/inspection;
 - c. A description of sampling/inspection activities;
 - d. The identity of Licensee representatives (personnel) who shall perform the sampling/inspection;
 - i. These personnel shall be employed by or consultants of the Licensee;
 - ii. These personnel shall be independent of the waste generator or treatment facility;
 - iii. These personnel shall have written documentation demonstrating they have completed all applicable qualifications and training for performing incoming waste sampling and/or inspections at the Licensee's Federal Cell Facility;
 - iv. The Licensee shall retain documentation of training and qualifications for these personnel in accordance with this WCP.
 - v. The treatment technology employed;
 - vii. The projected amount of waste (tonnage and volume) after treatment;

- viii. A certification from the generator or treatment facility that the treatment has met appropriate Federal Cell Facility QA/QC specifications;
 - ix. A description of off-site treatment operating procedures, including procedures to fill voids, if applicable;
 - x. A certification from the Licensee that they have reviewed the generator or treatment facility's documentation and concur that the appropriate Federal Cell Facility QA/QC specifications shall be, or have been, met by this process; and
 - xi. The generator or treatment facility's regulatory conditions governing treatment operations.
6. Waste that has been sampled/inspected at a location other the Licensee's Federal Cell Facility shall have a tamper-evident seal applied and signed by the Licensee representative performing the sampling/inspection. The recordkeeping requirements of this WCP shall be followed for all samples collected.
7. If unable to physically perform sampling, the Licensee representative shall be present to observe and direct all activities associated with the sampling event.
8. Upon receipt of the waste, the following conditions shall apply:
- a. The Licensee shall confirm that the tamper-evident seal is present and uncompromised;
 - i. If there is evidence that the tamper-evident seal has been broken, the Licensee shall reject the waste for disposal. Rejected waste may be managed as follows:
 - A. Returned to the generator/treatment facility; or
 - B. Managed as a normal shipment, including the inspection and sampling requirements in Sections III and IV of this WCP; or
 - C. Upon approval from the Director, accepted for management without performing inspection or sampling of the waste (i.e., accepting the sampling results even though the seals have been broken).
 - (1) A request to accept the waste which may have been tampered with shall include justification for waiving the inspection and/or sampling requirements in Sections III and IV of this WCP.

VII. CONTAINERIZED WASTE CHARACTERIZATION

1. Waste that does not meet the certification requirements of this section shall not be disposed at the Federal Cell Facility.
- a. Waste that has been sampled at a location other than the Licensee's Federal Cell Facility and is in compliance with Section VII of this WCP may be disposed at the Federal Cell Facility if packaged, transported and accepted in compliance with License requirements for the Federal Cell Facility.
 - b. Waste that meets the certification requirements of this section shall be designated Certified Containerized Federal Cell Facility.
2. Wastes destined for disposal at the Federal Cell Facility shall have a unique Certified Containerized Federal Cell Facility Profile Record (Federal Cell FacilityWPR) specifically for that waste. Other

- wastes from the same generator that require disposal at other areas of the Licensee's Federal Cell Facility shall have separate WPRs.
3. Prior to shipment, the Licensee shall document its review and acceptance of the Federal Cell Facility WPRs for disposal at the Federal Cell Facility. The review shall consist of the following aspects of the generator's waste management program:
 - a. Procedures for radioactive and hazardous waste characterization, packaging, and transportation. These procedures shall demonstrate that the waste sent under the Federal Cell Facility WPR meets the following criteria:
 - i. License radiological requirements;
 - ii. License prohibitions;
 - iii. waste acceptance criteria (including the absence of regulated hazardous waste); and
 - iv. receipt and disposal requirements.
 - b. Programs and procedures for the following:
 - i. radiological characterization;
 - ii. hazardous waste exclusion from Federal Cell Facility packages
 - iii. free liquid management;
 - iv. inspections; and
 - v. void space minimization.
 - c. Federal Cell Facility Quality Assurance/Quality Control (QA/QC) specifications applicable to those items reviewed in VIII.3.a and VIII.3.b. The generator QA/QC program shall be determined to be acceptable if the documentation reviewed demonstrates the generator's ability to correctly characterize, package and ship radioactive waste that does not exceed the CWF requirements. The generator QA/QC program shall further demonstrate that the generator understands the prohibitions of the License.
 - d. Inspection reports or summaries for the previous three years from agencies with oversight over the generator's program (e.g., NRC audits, DOE audits, EPA audits, agreement state compliance records, etc.).
 - i. Responses and corrective actions to identified deficiencies applicable to waste characterization, packaging, and/or transportation.
 - ii. The concurrence from the oversight agency that deficiencies have been adequately addressed.
 - e. Generator's primary point of contact and compliance authority for compliance of shipments to the Licensee's Federal Cell Facility.
 4. After the Federal Cell Facility WPR has been reviewed and approved in accordance with Section VIII.3 of this WCP, an NTT shall be issued to the generator. The requirements of Section II.3.b of this WCP shall be followed.
 5. Three calendar years after the first shipment is received at the Clive Facility, and every three years thereafter, the generator shall certify that the process that generated the waste has not changed.
 - a. If the process that generated the waste has changed, the Licensee shall re-review the V specific to the change in accordance with Condition VIII.3 of this WCP.
 6. The incoming shipment inspection requirements (including discrepancy management and resolution) of Section III of this WCP shall be followed with these additional requirements for waste with unexpected free liquids exceeding 1% of the waste, by volume:

- a. Free liquids determination shall be completed on Class A-unstable waste.
 - b. Free liquids determination shall not be completed for waste with a contact dose rate greater than 80 mR/hr.
 - c. Free liquids inspections shall be performed within the footprint of the disposal cell.
 - d. The package shall be sealed upon completion of the free liquids determination.
7. The sampling and analysis requirements of Section IV of this WCP are not used for Certified Federal Cell Facility Waste.
8. Certified Federal Cell Facility Waste shipments that are determined to exceed License limits shall be rejected, the generator notified within 24 hours of discovery, and the shipment returned to the generator.
- a. The notification requirements of Section III.6.b of this WCP shall be followed.
 - b. Written approval from the Director shall be required for any waste management other than 'return to the generator'.

VIII. TRANSFER OF WASTE FROM THE MIXED WASTE FACILITY

- 1. Transfer of waste from the MW Facility to the Federal Cell Facility, for final disposal, shall be performed in accordance with the requirements of this section and Attachment II-1-8, Management of Waste for Disposal at the Federal Cell Facility, of the state-issued Part B Permit.
- 2. Only waste that does not meet the definition of a hazardous waste and/or waste that has been completely solidified shall be transferred between the facilities. All waste transfer approvals shall be based upon regulatory statutes codified within R315-261 and R315-268 of the Utah Administrative Code.

END OF WASTE CHARACTERIZATION PLAN