

SECTION J

APPENDIX B - DEFINITIONS

Alpha Low-Level Mixed Waste (ALLMW): Low-level mixed waste containing, at the time of assay, concentrations of at least 10 but less than 100 nCi/g of waste of alpha-emitting radionuclides with an atomic number greater than 92 and half-lives greater than 20 years. The term "mixed" connotes waste containing both radioactive and hazardous constituents as defined by the Atomic Energy Act and the Resource Conservation and Recovery Act, respectively.

Characterization: All measurements that must be made on a waste material, waste treatment product or process treatment to ensure that process control meets all product performance and in-process regulatory compliance requirements for transportation, treatment, and final waste certification. Examples of tests include, but are not limited to: radioactive materials assay; chemical characterization for elemental composition; oxidative or reductive potential; reactivity; leachability; and, physical characterization such as hardness, bulk density, and particle size.

Closure: RCRA closure wherever the term is used.

Contact-Handled Waste: Packaged TRU or Alpha low-level waste whose external surface dose rate does not exceed 200 mrem per hour or low-level waste that does not exceed 500 mrem per hour at one meter.

Decontamination and Decommissioning (D&D): Includes all of those activities beyond RCRA closure which will (consistent with an "industrial" future land use scenario for facilities constructed on the INEL) control, minimize or eliminate, to the extent necessary to protect human health and the environment, escape of radioactive waste, constituents, leachate, contaminated runoff, or radioactive decomposition products to the ground or surface waters or the atmosphere.

Hazardous Waste: Those materials that are designated as hazardous wastes under the Resource Conservation and Recovery Act (RCRA).

Industrial Standard: A standard of site and facility clean up that is less stringent than a "residential standard."

Low-Level Mixed Waste (LLMW): Waste containing: (1) radioactive constituents as defined by the Atomic Energy Act and not classified as high-level waste, transuranic waste, or spent nuclear fuel or 11e(2) byproduct material, and (2) hazardous constituents as defined by the Resource Conservation and Recovery Act. The term 'mixed' connotes waste containing both radioactive and

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hazardous components as defined by the Atomic Energy Act and the Resource Conservation and Recovery Act, respectively.

Low-Level Waste (LLW): Waste that contains radioactivity and is not classified as high-level waste, transuranic waste, or spent nuclear fuel or 11e(2) byproduct material. Test specimens of fissionable material irradiated only for research and development, and not for the production of power or plutonium, may be classified as low-level waste provided the concentration of transuranic elements is less than one hundred nCi/g of waste.

Mixed Waste: Waste containing both radioactive and hazardous components as defined by the Atomic Energy Act and RCRA.

Neutral Evaluation for Past Performance: The neutral point in the scoring scheme is the point that differentiates between a good performer and a poor performer.

Package: The packaging, together with its radioactive contents, as presented for transport. (10 CFR 71.4, 49 CFR 173.403)

Packaging: The assembly of components necessary to ensure compliance with packaging requirements of 49 CFR Subpart 1. It may consist of one or more receptacles, absorbent materials, spacing structures, thermal insulation, radiation shielding, and devices for cooling or absorbing mechanical shock. The conveyance, tie-down system, and auxiliary equipment may sometimes be designated as part of the packaging. (10 CFR 71.4, 49 CFR 173.403)

Primary Waste Treatment Product: That product which is produced from the offeror's treatment of TRU and alpha low-level mixed waste that is the key high volume waste generated during processing. Primary waste is the key high volume product that results from treatment of TRU and alpha low level mixed waste.

Process Demonstration: Includes the full series of systems operational testing and all tests required as part of any permits which have been applied for or granted. Process demonstration also includes being able to demonstrate that treated product meets all certification requirements.

Process Generated Hazardous Waste: Wastes which are newly generated as a result of waste processing, maintenance operations, or equipment change out. Process generated hazardous wastes are those wastes that are generated from the operation and maintenance of the treatment and other facilities. Examples of process generated hazardous waste may include, but are not limited to, cleaning solvents used during maintenance, rags, contaminated clothing, and failed equipment parts. Process generated hazardous wastes are the responsibility of the Contractor.

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RCRA Closure: Involves all of those activities that will be taken by the Contractor at the completion of this project which will minimize the need for further maintenance of the AMWTP site, equipment and facility(ies); and which will control, minimize or eliminate, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground or surface waters or the atmosphere; and which will comply with all RCRA closure requirements at 40 CFR §§ 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, 264.601, 264.603 and 264.1102, or all state equivalents. For the treatment facility and all GFE, the Contractor must remove and dispose of, or decontaminate, all contaminated equipment, structures and soils as required by RCRA.

Remote-Handled Waste: Packaged TRU or Alpha low-level waste whose external surface dose rate exceeds 200 mrem per hour or exceeds 500 mrem per hour at one meter for low level wastes. For TRU waste the upper limit is 1000 rem/hour. Test specimens of fissionable material irradiated only for research and development purposes and not for the production of power or plutonium may be classified as remote-handled transuranic waste.

Secondary Waste Treatment Product: Those waste treatment products which are generated from wastes which have special properties that are not appropriate for inclusion into the Contractor's primary waste treatment product. Secondary wastes are the products resulting from treatment of TRU and alpha mixed waste that are not the primary waste products but contain high percentages of TRU or alpha treated waste product. For example, amalgamated mercury that could not be processed in the unit or stabilized scrubber blow down salts containing high chloride contents that should not be recycled to the unit.

Systems Operational (SO) Testing: Testing conducted of the entire integrated treatment system, including all characterization, pre-treatment segregation and sizing, all treatment system components to include final product analysis and waste product certification. The SO tests shall verify the proposed process meets all treatment requirements identified in the final contract. The SO tests shall be conducted in three parts.

1. Part 1 shall consist of Contractor testing, to find and correct individual process and system faults.
2. A formal SO test phase, with successful test results approved by DOE, shall be conducted.

Part 2 shall include processing surrogate wastes through the entire system. Both radioactive and hazardous waste surrogates should be used. The surrogates must simulate both the chemical and thermal behavior of actual wastes to be treated within the Contractor's process.

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3. Based upon successful completion of Part 2 above, tests using wastes to be treated may (with DOE concurrence) be conducted on key components of the Contractor's system which require testing with actual TRU and ALLMW waste.

TRU: Alpha-emitting radionuclides with an atomic number greater than 92 and half-lives greater than twenty years and concentrations greater than or equal to 100 nCi/g of waste at the time of assay. In this contract, TRU waste refers to waste having a TRU content greater than 100 nCi/g or TRU-mixed waste which contains, in addition to the alpha-emitting radionuclide, a RCRA hazardous component.

TRUPACT II: Nuclear shipping container manufactured by Nuclear Packaging Corporation.

TRUPACT II Container: Container approved for shipment of TRU waste to WIPP.

Volume Reduction: Volume reduction will be measured by volume in cubic meters of containers (or uncontainerized materials in the event of bulk items) entering the process compared to actual treated waste product coming out of the treatment system. For example, if 100 m³ (measured by the container itself) enters the treatment process, and results in a final waste product that measures 35 m³, a 65% volume reduction is achieved.

$(1 - VO/VI) \times 100 = \% \text{ vol. reduction}$ where VO=Volume of treated waste and VI is volume of container input.

Waste Container: Any receptacle (i.e., drums, boxes, bins) used to contain radioactive waste.