BNINW216 INORGANIC SOLIDS

This waste consists of immobilized materials generated from first-stage treatment operations in Rocky Flats Plant (RF) Building 774. Aqueous liquids coming into the process originated from Building 771 recovery operations. The liquids were made basic with sodium hydroxide to precipitate iron, magnesium, etc. that also carried down the relatively small precipitate of plutonium and americium hydrated oxides. The precipitate was filtered to produce a sludge (IDC 001), which was placed in a drum with Portland cement. Beginning in 1979, sludge waste from second-stage treatment was combined with first-stage sludge. The combined sludges were also assigned IDC 001. IDC 001 was discontinued in 1986 when the immobilization process changed, and has since been assigned IDC 800.

ID-RF-S3114 ORGANIC SOLIDS

Waste stream ID-RF-S3114 consists of various organic liquids that were transferred to Building 774 where they were immobilized using Micro-cel E (a synthetic calcium silicate) to form a grease or paste-like material. The organic liquids were primarily a mixture of oils and chlorinated solvents. Small amounts of Oil-Dri were sometimes added to the mixture as well. The waste may also include small amounts of soil and debris materials (e.g., cellulosic, plastic, metals, etc.).

This waste stream meets the definition of waste materials that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity. This waste stream was generated from the solidification of organic liquids in Building 774.

LA-MHD01.001 DEBRIS

Waste stream LA-MHD01.001 consists of mixed heterogeneous debris waste generated in TA-55. The debris waste includes paper, rags, plastic, rubber, wood based high efficiency particulate air (HEPA) filters, other plastic based and cellulose based items (e.g., PPE), noncombustible (e.g., metal and glass), and lesser quantities of homogeneous solids (less than 50 percent by volume) contaminated with nuclear materials (e.g., americium oxide). Plastic-based waste includes (but may not be limited to): bottles, dry-box gloves (unleaded neoprene base), gloves including leaded gloves, ion-exchange resins, Plexiglas, polyethylene and vinyl, polystyrene, polyvinyl chloride plastic, rigid liner lids, sheeting, tags and labels, tape, ties, Tygon tubing, and vials. Rubber- and Teflon-based waste includes rubber gloves, Teflon tape, gaskets, and stoppers. Cellulose-based waste includes (but may not be limited to): booties, cardboard, cotton gloves, coveralls, laboratory coats, paper, rags and wipes (Kimwipes), tags and labels, wood/plywood, and similar materials. Noncombustible debris waste includes (but may not be limited to): bottles (e.g., glass), cans (e.g., steel and brass), composite HEPA filters, crucibles, equipment (e.g., furnaces, foundry parts, machine tools and parts), fluorescent bulbs, glass, gloveboxes, glovebox windows, graphite, lead (e.g., shielding), metal pipes, miscellaneous labware, metal (e.g., beryllium), motors, pumps, slag, small tools, ventilation ductwork, and wire ties. Homogeneous solid waste includes: hydroxide cake/filter materials, salts, and ash residues. Hydroxide cake/filter materials are composed of precipitated materials such as americium cadmium, calcium, chromium, iron, lead, magnesium, mercury, neptunium, plutonium potassium, silver, sodium hydroxide, thorium, and uranium. Salt waste can include varying mixtures of calcium chloride, cesium chloride, lithium chloride, magnesium chloride, potassium chloride, sodium chloride, zinc chloride, residual entrained calcium and zinc metal, and various plutonium and americium compounds. Ash residues originate from the thermal reduction of organic-based waste products that were contaminated with plutonium (e.g., plastics, rubber, wood, cellulosics, and oils) and may include incomplete combustion products such as small pieces of plastic and metal debris items. The waste stream also includes a small fraction of liquids (e.g., waste oils and organics) and solids (e.g., nitrate salts) absorbed or mixed with absorbent materials which may include Ascarite, diatomaceous earth, kitty litter, vermiculite, Waste Lock 770, and/or zeolite. Any payload container consisting of more than 50 percent by volume of homogeneous solids will be excluded from this waste stream (References C176, D025, D041, D083, D084, M019, M215, M216, M217, M218, M219, M222, and P178)

LA-MHD04.001 DEBRIS

Waste stream LA-MHD04.001 consists of mixed heterogeneous combustible and noncombustible debris. Combustible debris generated at the TA-21 DP West Facility consists of items that were originally packaged so the waste could be incinerated, but would not require further processing to meet the requirements of the WIPP WAC.

Examples of combustible debris generated at TA-21 include paper, rags, plastic, rubber, wood-based high-efficiency particulate air (HEPA) filters, filter media, cardboard, wipes, paper towels, filter/grinding/transfer paper, stoppers, tubing, valves, bottles, containers, plastic sheeting, cotton gloves, cotton coveralls, coveralls, paper coveralls, plastic booties, tape, laboratory coats, nylon booties, polyvinyl chloride plastic, Plexiglas®, rubber-brass-steel supplied-air hoses, leather gloves, latex gloves, respiratory protection, hoses, hoods, hand tools, ladders, and wood.

Examples of non-combustible debris consist of small tools, equipment, cans, pumps and motors, process equipment, gloveboxes and associated tunnels, holdup tanks, machine shop mill, lathe, and press, glovebox windows, metal and stainless steel ventilation ductwork, composite HEPA filters, metal pipes and valves, graphite, dust, fiberglass filter media, brass nuts, steel washers, stainless steel mesh, steel supports, equipment, glassware, ladders, filter frames, titanium and steel experimental containers, tantalum molds, sintered glass frits, stainless steel filters, anode heels, casting skulls, shielding, foil, lead solder, and crucibles. Small amounts of liquids (cutting oil, lubricating oil and solvents listed in Table 1 of this Summation) solidified in vermiculite, Waste Lock 770 (bentonite powder), zeolite (a silica mineral absorbent), or cement, may be present in this waste stream. Small amounts of solid process residues such as ash, salts, filter cakes, resin, leached residues and filtrate as described in the generating processes may also contaminate this waste.

This waste stream is assigned Waste Matrix Code S5400, Heterogeneous Debris. The waste stream LA-MHD04.001 is comprised of greater than 50 percent heterogeneous inorganic and organic debris. Waste stream LA-MHD04.001 may contain smaller amounts (<50% by volume for each container) of homogeneous solids generated during the solidification and absorption of aqueous or organic liquids and immobilization of particulate materials, but no individual drum will contain greater than 50 percent homogeneous solids. The waste material that comprises waste stream LA-MHD04.001 is generated from a single process or from an activity that is similar in material, physical form, and radiological constituents and is therefore a single waste stream.

SR-221H-PUOX DEBRIS

Waste stream SR-221H-PuOx is comprised primarily of plutonium oxide blended with a nonhazardous inorganic material to facilitate termination of safeguards practices. The waste stream will also contain packaging materials such as metal cans and plastic bags. The waste was plutonium oxide material that was selected for disposal. SRS stores plutonium oxide material that originated from RFETS, Hanford, Los Alamos National Laboratory (LANL), Lawrence Livermore National Laboratory (LLNL), and SRS. The materials currently identified for disposal are from RFETS, Hanford, and SRS.

Waste Stream SR-221H-PuOx meets the WIPP Waste Analysis Plan waste stream definition. The waste stream consists of waste materials that have common physical form (blended plutonium oxide), that contain similar hazardous constituents (this is a Resource Conservation and Recovery Act (RCRA)-regulated waste), and that are generated from a single process or activity (the blending project).

The final form of the waste stream is a debris consisting of blended plutonium oxide, a blend can, a bagout bag, an S&C can, and the POC.

SR-MD-PAD1 DEBRIS

Waste stream SR-MD-PAD1 is comprised primarily of organic and inorganic debris waste items and generally consists of combustible, plastic, rubber, glass, and metal. Waste items include High Efficiency Particulate Air (HEPA) filters containing asbestos filter media, fiberglass pre-

filters, lime filters, hoods and hood fronts, large equipment (i.e., cut-off saw, evaporators, microscopes, presses, tanks), aerosol cans, batteries, bolts, dissolvers, metal beakers, hotplates, lathes, lead bricks, lead shot, nuts, pans, plastic and metal piping, plates, ring stands, spatulas, tables, plastic and metal tanks, valves, wrenches, glass flasks, glass and plastic sample vials, spun glass filters, cardboard, cartons, cloth rags, paper, wipes, wood, lead-lined gloves, gloves, o-rings, gaskets, tubing, evaporator and dissolver sludge, fused poly beads, and resin.

The waste stream meets the definition of waste materials that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity. This waste stream was generated during Pu-238 heat source production and associated R&D, plutonium recovery, analytical laboratory, D&D, and liquid waste treatment operations.

SR-W027-HBL-BOX DEBRIS

Waste stream SR-W027-HBL-BOX consists of heterogeneous debris from equipment replacements and decontamination and removal (D&R) activities. Waste includes large pieces of metal equipment and machinery, plywood boxes, plastic, tape, bags, personal protective equipment (PPE), and organic debris. Examples of waste items include exhaust filter, vessel vent filter, filters, cabinet equipment, cabinet panels, dissolver, sump, furnace, agitator, tanks, base plate, duct, metal, pipe, plastic, scrap, frame, monorail, hut, lights, conduit, high volume air sample boxes, air manifold system, scaffold material, bags of suits, sections of flooring, ceiling tiles, sheets of shielding, carbon steel shielding, metal panels, wire mesh, metal door pieces, valves, cover plates, furnace off-gas filters, High Efficiency Particulate Air (HEPA) filter housing, stainless-steel pan, steel tube block, concrete, plaster, tools, and hoses. The waste may also include small amounts of homogeneous solids such as Celite (diatomaceous earth), soda ash, and Oil-Dri (fullers earth and quartz).

LA-MIN02-V.001 INORGANIC SOLIDS WASTE STREAM NOT IN THE WHE

Waste stream LA-MIN02-V.001 consists primarily of inorganic particulate waste generated in TA-55. The waste is largely comprised of TRU waste such as liquids and solids absorbed or mixed with absorbent (e.g., Ascarite [carbon dioxide], diatomaceous earth [silica, quartz], kitty litter [clay], vermiculite [hydrated magnesium aluminum iron silicate], Waste Lock 770 [sodium polyacrylate] and/or zeolite [aluminosilicate mineral]). Examples of absorbed liquids include acids (e.g., hydrochloric acid, hydrofluoric acid, and nitric acid); carbon tetrachloride; ethylene glycol; kerosene; methanol; methylene chloride; silicone based liquids (e.g., silicone oil); tetrachloroethylene; tributyl phosphate; trichloroethylene; and various types of oils including hydraulic, vacuum pump, grinding, and lapping (mixture of mineral oil and lard). Solids mixed with absorbents are typically evaporator salts (i.e., nitrate salts). The waste is also expected to contain heavy metals such as cadmium, chromium, and lead. Liquids and solids not absorbed or mixed with absorbent are often cemented and disposed of separately in waste stream LA-CIN01.001. A small fraction of debris waste (mainly plastic packaging, metal packaging, PPE, and secondary waste from repackaging) and metal fines may also be present. Any payload container consisting of more than 50 percent by volume of heterogeneous debris will be excluded from this waste stream (References C005, C035, C080, C094, C232, D007, D025, D032, D036, D041, D080, D083, M064, M142, M242, and M286).

The waste stream meets the definition of waste materials that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity.

This waste stream was generated during TA-55 R&D/fabrication and associated recovery, facility and equipment maintenance, D&D, waste repackaging, and below-grade retrieval

facility and equipment maintenance, D&D, waste repackaging, and below-grade retrieval operations.

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