

TABLE H.2.1-1.—*Low-Level and Mixed Low-Level Waste Treatment Capability at Y-12 Plant [Page 1 of 2]*

Treatment Unit	Treatment Method(s)	Input Capability	Output Capability	Total Capacity ^a (m ³ /yr)	Comment
Biodenitrification Unit (Bldg. 9818)	Neutralization, pH adjustment, nitrate removal	Liquid mixed LLW (nitrate solutions from enriched uranium recovery-Buildings 9212 and 9206)	Biosludge to West End Treatment Facility	2,100	RCRA permit-by-rule. Design capacity.
Central Pollution Control Facility	Filtration, carbon adsorption, oil/water separation, and sludge dewatering	Liquid LLW, mixed LLW, and hazardous waste (nonnitrate liquid wastes)	Treated wastewater discharged through NPDES outfall and solids to west tank farm	10,300	NPDES permit April 28, 1995. RCRA permit-by-rule. Design capacity.
Cyanide Treatment Facility (Bldg. 9201-5N)	Chemical oxidation, pH adjustment	Liquid mixed LLW and hazardous waste (cyanide spent plating batches)	Wastewater to West End Treatment Facility	15	RCRA permit issued September 25, 1995. Also has 8 m ³ of mixed waste storage. Assumed operation is 250 days/yr, 8 hr/day.
Groundwater Treatment Facility (Bldg. 9616-7)	Carbon adsorption and air stripping	Liquid LLW and mixed LLW (liquid storage facility groundwater)	Groundwater air stripper effluent, spent carbon, and sludge to depleted uranium oxide storage vaults and liquid effluent through NPDES outfall	9,450	NPDES permit April 28, 1995. Facility may be treating mixed waste, but is intended for hazardous waste only. Maximum capacity is 17,700 m ³ /yr.
Interim Reactive Waste Treatment Area	Open burning	Solid LLW (sodium-potassium waste)	Treated residue waste to depleted uranium oxide storage vaults and treated waste to K-25	Campaign 2 times per year, 8 hours per campaign, 57 L/day	RCRA permit application submitted August 1992. Design feedrate is 0.7 m ³ /yr.
Liquid Storage Facility (Bldg. 9416-35)	Oil/water separation by filter cartridges	Liquid mixed LLW (leachate from certain capped burial grounds in Bear Creek Valley)	Stored liquids to groundwater treatment facility and PCB-laden oil to TSCA incinerator	9,450	Also a storage unit. Facility may be treating mixed waste, but is intended for hazardous waste only. RCRA permit-by-rule.
Uranium Chip Oxidation Facility	Thermal oxidation	Solid LLW (depleted and normal uranium chips)	Uranium oxide to Depleted Uranium Oxide Storage Vaults	Classified yearly treatment	Exempted from state air permitting requirements.
Uranium Recovery Operations (Bldg. 9206, 9272)	Leaching, filtration, dissolution, oxidation, evaporation, extraction	Metal and organic removal from aqueous stream, aqueous neutralization, purification for recycle	All waste diverted to Bioidentification Unit	2,100	System is exempt from permitting requirements under agreement with the State. Same capacity as Acid Neutralization and Recovery Facility. System removed from consideration for treatment.

TABLE H.2.1-1.—Low-Level and Mixed Low-Level Waste Treatment Capability at Y-12 Plant [Page 2 of 2]

Treatment Unit	Treatment Method(s)	Input Capability	Output Capability	Total Capacity^a (m³/yr)	Comment
Uranium Treatment Unit (Bldg 9206)	Filtration and precipitation	Liquid mixed LLW (uranium-contaminated organic solvents)	Organic waste to TSCA Incinerator at K-25	2 m ³ /day	Closure plan submitted March 1995.
Waste Coolant Processing Facility (Bldg. 9983-78)	Extended activated sludge treatment, sludge drying	Liquid LLW and mixed LLW (contaminated waste coolants)	Oily solids to dewatering and drums, biological solids to dewatering, and liquid to Central Pollution Control Facility or West End Treatment Facility/West Tank Farm	756	Also a storage unit. Maximum capacity is 1,320 m ³ /yr. RCRA permit-by-rule. Planned facility not currently funded.
Waste Feed Preparation Facility (Bldg. 9401-4)	Compaction	Compactable solid LLW	Compacted solid LLW to Y-12 Sludge Handling Pad	19,000	An exemption for the state air permit has been granted. Design feedrate is 23 m ³ /hr. Intermittent operation at 8 hours/day and 2 days/week.
West End Treatment Facility (Bldg. 9616-7)	Absorption, anaerobic digestion, clarification, coagulation, filtration, flocculation, and precipitation	Liquid mixed LLW and hazardous waste (radioactive-contaminated and nonradioactive nitrate waste)	Liquid effluent through NPDES outfall	2,600	Permitted capacity NPDES permit issued April 28, 1995. RCRA permit-by-rule. Design capacity is 7,600 m ³ /yr.

^a For those facilities already in use, this is a normal operating capacity; whereas, for facilities under design or construction, this is a design capacity. Schedules and capacities for facilities under design or construction are subject to changes such as availability of funds, results of treatability studies, and permit issuance.

Source: DOE 1993h; DOE 1994k; DOE 1994n; DOE 1995gg; OR DOE 1995g; OR MMES 1993f; OR MMES 1995c.