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**CHAPTER 8.0**  
**HANFORD GENERATING PLANT**

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**CHAPTER 8.0**  
**HANFORD GENERATING PLANT**

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1 **8.0 HANFORD GENERATING PLANT**

2 **8.1 185-N HANFORD GENERATING PLANT TURBINE GENERATOR BUILDING**

3 The 185-N Hanford Generating Plant (HGP) Turbine Generator Building (Remedial Unit 5) is a  
4 19,065-m<sup>2</sup> (205,000-ft<sup>2</sup>) facility owned by the Energy Northwest that housed two 430-megawatt,  
5 low-pressure steam turbine generators and associated equipment for generating electrical energy from  
6 steam supplied by the 100-N Reactor facility. The land under the HGP is owned by DOE and is part of  
7 the 100-N Area. The HGP operated continuously from April 1966 to December 1986. In 1996, Tri-Party  
8 Agreement Milestone M-16-01A was modified to require the submittal of necessary CERCLA  
9 documentation to support a cleanup decision of the HGP. This document fulfills that milestone. The  
10 responsibilities of the cleanup plans are negotiated between Energy Northwest and DOE.

11 Radiological contamination resulting from transferring 100-N Reactor steam was present in the building.  
12 The three SWMUs described below are located within of the 185-N HGP facility and are known to be  
13 contributors to the hazardous contamination identified in the facility. Additionally, asbestos-containing  
14 materials (ACMs) (e.g., insulation used in piping and floor tiles) are expected to have been used in the  
15 facility.

16 **8.1.1 SWMUs 2, 3, and 4 Located within the 185-N HGP Facility**

17 **8.1.1.1 SWMU 2, HGP Building Oil Storage**

18 Along the interior northwest was of the HGP building is a cinder block building approximately 2.4 by  
19 7.6 m (8 ft by 25 ft). Drums and smaller containers of products (e.g., petroleum, oil, and lubricants) are  
20 stored on the floor and shelving. One drum is labeled for used oil. A blind concrete sump (no outlet) is  
21 located below the grated floor.

22 **8.1.1.2 SWMU 3, HGP Building Floor Drains, Sumps, All Piping to the Settling Pond and**  
23 **Outfall**

24 Several floor drains in the basement level of the HGP building collect spills, leaks, and any floodwaters  
25 and direct them to two main sumps. The sump contents were then discharged to the settling pond (the  
26 settling pond is SWMU 6, which is addressed in the 100-NR-1 and 100-NR-2 CMS).

27 **8.1.1.3 SWMU 4, Turbine Oil Filter Unit**

28 The turbine oil cleaning systems are in the basement of the HGP building along the northeast and  
29 southeast walls. Each unit consists of a steel tank, 0.7 m<sup>2</sup> by 1.2 m (8 ft<sup>2</sup> by 4 ft) tall as well as a  
30 below-grade sump approximately 0.5 m<sup>2</sup> by 1.8 m (6 ft<sup>2</sup> by 6 ft) deep. The tank has a series of filters used  
31 when moving the oil from the turbines and is surrounded by a concrete berm that is approximately 15 cm  
32 (6 in.) high.

33 **8.1.2 SWMU 7, 1908-NE HGP Outfall Structure**

34 The 1908-NE HGP Outfall Structure is a reinforced concrete, box-shaped structure that extends deep into  
35 the ground. This facility was used as a sump for several discharge lines and to drop the liquid discharge  
36 level for overflow to the river. An unknown amount of radioactive contamination exists within the  
37 structure because the discharge lines were associated with the reactor operations. The structure is no  
38 longer operational. The 1908-NE HGP Outfall Structure is also identified as SWMU 7.

39 **8.1.3 SWMU 8, 1716-NE Maintenance Garage (Storage Garage Building)**

40 The 1716-NE Maintenance Garage is an approximately 190-m<sup>2</sup> (2,100-ft<sup>2</sup>), 5-m (17-ft) tall,  
41 structural-steel-frame building with metal siding and insulated wall panels. The garage is similar in  
42 design to a commercial gas station with a front office area, four vehicle bays with roll-up doors, and a  
43 back room in the northeast corner used to store paint and maintenance supplies, used oil, and solvents.  
44 The back room contains unknown amounts of miscellaneous hazardous materials and is known as  
45 SWMU 8. The facility is no longer used.

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**Table 8.1. Suspected Contaminants in 100 N Area Ancillary Facilities**

<b>RU</b>	<b>Facility</b>	<b>Hazardous Substances</b>
<b>Ancillary Facilities that Interfere with Waste Site Remediation</b>		
RU-1	105-N to 107-N Pipe Trench	Radioactive contamination
RU-1	107-N Basin Recirculation/Cooling Building	Radioactive contamination Miscellaneous chemicals Potential mercury (gauges, switches, drains) Lead (shielding/bricks) PCBs (in light ballasts and gear oils) Oil/petroleum products Potential asbestos
RU-1	1300-N Emergency Dump Basin	Radioactive contamination Potential asbestos (insulation)
RU-1	1304-N Emergency Dump Tank	Radioactive contamination
RU-1	1722-N Decontamination Building	Potential radioactive contamination Potential miscellaneous chemicals Potential solvents Potential asbestos
RU-1	1303-N Spacer Silos	Radioactive contamination Potential lead (paint shielding)
RU-2	184-N Power House	Oil/petroleum products Asbestos (insulation) Potential radioactive contamination Potential lead Potential solvents Mercury (gauges, switches, drains)
RU-2	184-NA Power House Annex	Oil/petroleum products Asbestos (insulation) Potential radioactive contamination
RU-2	184-NB Air Handler Main Building	Miscellaneous chemicals Potential radioactive contamination Potential asbestos
RU-3	163-N Demineralized Water Plant	Oil/petroleum products Radioactive contamination Miscellaneous chemicals Potential mercury Potential asbestos (insulation)
RU-4	116-N Ventilation Stack	Radioactive contamination Asbestos
RU-4	119-N Air Sample Facility	Radioactive contamination Potential miscellaneous chemicals Potential asbestos
RU-4	13-N Storage Facility	Potential radioactive contamination Potential lead (paint) Miscellaneous chemicals
RU-4	1310-N Radioactive Liquid and Waste Treatment Facility	Radioactive contamination Asbestos (insulation) Miscellaneous chemicals Lead (shielding/bricks)
RU-4	1314-N Liquid Disposal Building	Lead (shielding/bricks) Solvents Radioactive contamination Potential asbestos (insulation)

<b>RU</b>	<b>Facility</b>	<b>Hazardous Substances</b>
<b>Ancillary Facilities that Interfere with Waste Site Remediation</b>		
RU-4	1322-N Waste Treatment Pilot Facility	Lead (shielding/bricks) Potential solvents Radioactive contamination Potential asbestos (insulation)
RU-4	1322-NA Effluent Water Pilot Plant	Lead (shielding/bricks) Potential solvents Asbestos (insulation) Radioactive contamination
RU-5	185-HGP Turbine Generator Plant	Oil/petroleum products Potential PCB (gear oil) Potential radioactive contamination Asbestos (insulation) Mercury (gauges, switches) Lead
RU-5	1908-NE HGP Outfall	Potential radioactive contamination
RU-5	1716-NE Maintenance Garage	Miscellaneous chemical solvents Oil/petroleum products Lead (paint) Potential asbestos
<b>100-N Facilities that do not Interfere with Waste Site Remediation</b>		
	105-NA Emergency Diesel Enclosure	Oil/petroleum products Potential radioactive contamination Potential asbestos (insulation)
	105-NE Fission Products Trap	Radiological contamination Potential oil/petroleum products Potential mercury Asbestos Potential solvents Potential miscellaneous chemicals Potential lead (shielding)
	108-N Chemical Unloading Facility	Miscellaneous chemicals Potential oil/petroleum products Potential radioactive contamination Lead piping Potential asbestos (insulation)
	117-NVH Valve Control House	Radioactive contaminations Solvents Potential asbestos (insulation)
	119-NA Stack Air Sampling and Monitoring	Potential radioactive contamination Potential miscellaneous chemicals Potential asbestos (insulation)
	166-N Fuel Oil Storage Building	Asbestos (insulation) Oil petroleum products Potential PCB (light ballasts) Potential miscellaneous chemicals
	181-N River Pump house	Oil/petroleum products Potential asbestos (insulation)
	181-NA Pump house Guard Tower	Oil/petroleum products Potential asbestos (insulation)
	181-NB #3 Diesel Pump house	Oil/petroleum products Asbestos (insulation)

<b>RU</b>	<b>Facility</b>	<b>Hazardous Substances</b>
<b>Ancillary Facilities that Interfere with Waste Site Remediation</b>		
	182-N High Lift Pump house	Oil/petroleum products Asbestos (insulation) Mercury (switches, gauges) Potential radioactive contamination Potential solvents
	184-NF Chemical Injection	Miscellaneous chemicals
	1312-N Liquid Effluent Retention Facility	Potential radioactive contamination
	1313-N Change Control Building	Radioactive contamination Potential miscellaneous chemicals Potential asbestos (insulation) Potential oil products
	1315-N Diversion Valve House	Radioactive contamination Potential oil/petroleum products Potential asbestos
	1316-N Valve House	Radioactive contamination Potential oil/petroleum products Potential asbestos
	1316-NA Valve Vault	Radioactive contamination Potential oil/petroleum products Potential asbestos
	1316-NB Magnetic Flow meter Vault	Radioactive contamination Potential oil/petroleum products Potential asbestos
	1316-NC Turbine Meter Vault	Radioactive contamination
	1322-NB Crib Effluent Iodine Monitoring Building	Lead (shielding/pigs) Mercury (gauges, switches) Miscellaneous chemicals Radioactive contamination Potential asbestos
	1322-NC Crib Sample Pump Pit	Potential solvents Radioactive contamination Potential asbestos
	1327-N Diversion Valve House	Radioactive contaminants Potential oil/petroleum products Potential asbestos
	1715-N Oil Tanks	Oil/petroleum products Potential radioactive contamination
	1802-N Pipe Trestle (109-N to 185-N Building)	Asbestos Potential radioactive contamination
	1900-N Water Supply Tanks	Asbestos (insulation) Potential radioactive contamination
	1908-N Outfall Structure	Potential radioactive contamination
	181-NE HGP River Pump House	Oil/petroleum products Potential asbestos (insulation)
	1714-NB Warehouse	Potential oil/petroleum products Potential asbestos Potential radioactive contamination Potential solvents
	1712-N Insulator Shop	Miscellaneous chemicals Lead (paint) Solvents Potential asbestos
	1703-N Patrol Headquarters	Asbestos (insulation)
	1701-NE Gatehouse	Potential asbestos (insulation)

<b>RU</b>	<b>Facility</b>	<b>Hazardous Substances</b>
Ancillary Facilities that Interfere with Waste Site Remediation		
	1605-NE Observation Post	Potential asbestos (insulation)
	117-N Ventilation Filter Facility	Radioactive contamination

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WA7890008967, Part IV, Corrective Action Unit 1  
100-NR-1 Operable Unit

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