

Appendix C: Air Permits

Table C.1. Air permits at the Y-12 Plant

Y-12 Plant source number	Source reference number	Permit number	Stack	Stack description
<i>Part I—operating permits at Y-12 Plant</i>				
Y-9201-1-A	01-0020-15	730303P	582	Weld booths sanders and grinders
			583	Metal sanders and grinders
			584	Plasma torch
Y-9201-1-B	01-0020-59	730310P	586	Tool grinding machine shop
Y-9201-1-C	01-0020-17	036057P	278	Graphite carbon machine shop
			279	Graphite carbon machine shop
Y-9201-1W-A	01-0020-99	036129P	272	Paint spray booth
Y-9201-5-F	–	–	821	Lindberg Furnaces
			822	Lindberg Furnaces
Y-9201-5-G	01-0020-44	730308P	412	DeVilbiss hood
			413	Acid pickling tanks
			75	Arc melt
			76	Scrap metal recycle
Y-9201-5-H	01-0020-16	026019P	600	Vapor blasters
			762	Mixing process material
			763	Setup and sample area
			764	Vapor blaster
			765	Nickel plating tank exhaust
			766	Material handling
			767	Material handling
			768	Glovebox and blending station
			769	Inspection house vacuum
Y-9201-5E-B	01-0020-21	730305P	72	Chip vacuum system
Y-9201-5N-A	01-1020-18	730314P	67	Machine shop exhaust
Y-9201-5N-B	01-0020-30	030484P	239	Plating tanks and hoods
			240	Plating tanks and hoods
			241	Plating tanks and hoods
			242	Incinerator
			243	Grit blaster
			244	Grit blaster and area exhaust
			245	Process hoods
			454	Plating hoods
Y-9202-A	01-0020-06	031696P	160	Laboratory beryllium
			161	Laboratory beryllium

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Table C.1 (continued)

Y-12 Plant source number	Source reference number	Permit number	Stack	Stack description
Y-9204-2-B	01-0020-71	025954P	313	Caustic scrubber stack exhaust
			314	Caustic scrubber exhaust
			317	Lithium metal wash station
			318	Lithium cell pan wash station
Y-9204-2-D	01-1020-57	730327P	342	Salvage vats
			344	Lithium chloride crystallizer
			345	Lithium chloride crystallizer
			346	Neutralizer
			347	Process tank
			348	Salvage crystallizer
			349	Reactor wash station
			350	Reactor wash station
Y-9204-2-E	01-1020-55	730325P	357	Glove box and oven
			359	Machine dust dumping station
			361	Gloveboxes
			363	Glovebox and four ovens
9204-2-E1	01-1020-55	730325P	364	Dry powder process
			351	Rotary dryer
			358	Gloveboxes, sonic sifter
			360	Rotary dryer
Y-9204-2-G	01-1020-79	730329P	362	Glovebox
			371	Metal working machine shop
Y-9204-2E-A	01-0020-68	730312P	372	Metal working machine shop
			101	Lathes
			436	Exhaust hoods
Y-9204-4-A	01-1020-56	032416P	439	Hood exhaust
			415	Wash tank
			416	Exhaust from press pit area
			417	Dye penetrant hood exhaust
			85	Vent from two grit blasters
			86	Exhaust from press pit area
			87	Exhaust from press pit area
			88	Exhaust from press pit area
			91	Exhaust from ingot cooler
93	Dust removal exhaust			
95	Salt baths			

Table C.1 (continued)

Y-12 Plant source number	Source reference number	Permit number	Stack	Stack description
Y-9206-B	01-0020-03	731689P	13	South stack incinerator
			15	West stack
			17	Steam cleaning hoods
			209	HF purge vent
			211	Hood 29 and 30
Y-9212-A	01-1020-72	036942P	111	Reduction fluid bed
			112	Conversion fluid beds
			132	Decontamination facility
			134	B-Wing and C-1 Wing exhaust
			141	Reduction fluid bed
			142	Conversion fluid beds
			19	Filter exhaust
			21	Centrifuges
			22	Reduction salvage crusher
			24	Calcliner and dry vacuum system enclosure
			25	Denitrator area and fluid bed room enclosure
			27	D-Wing room 1010 hoods
			28	Reduction shear and room
			33	Headhouse equipment incinerator
			40	B-1 sampling lab hood
			430	HF dock cylinder/vaporizer
			431	N ₂ O ₄ cylinder purge vent
			432	Muffle furnaces (2) vent room 229
			518	HF dock cylinder/vaporizer
519	Potassium hydroxide storage			
520	Potassium hydroxide storage			
Y-9212-B	01-0020-02	730301P	110	U metal and U metal alloy
			38	U metal drying and briquetting process
			43	Exhaust from machine shop
			48	Chip washing and drying
Y-9212-C	01-0020-05	025984P	113	Dissolver trays/scrubber
			114	Shear and hacksaw hood
			128	Precipitation process
			26	Drum receiving/sampling hood and glovebox
			290	Tube furnace/gas purge vent
			44	Leaching and dissolving hoods
			45	Muffle furnace dry hoods
			46	Tray dissolver hoods
47	Dissolver tray hoods/room 1			

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Table C.1 (continued)

Y-12 Plant source number	Source reference number	Permit number	Stack	Stack description
Y-9212-M	01-0020-21	730305P	1083	Air bearing operations
Y-9215-A	01-0020-37	731839P	3	Machine shop hood exhaust
Y-9215-B	01-1020-51	732125P	1	O-wing metal working operations
			2	Abar water quench vacuum
			4	O-wing metal working operations
			6	Base of rolling mill
Y-9215-C	01-1020-52	730323P	6	Base of rolling mill
			7	Metal process area
Y-9215-D	01-1020-53	025966P	10	Roll mill exhaust
			11	Furnace/quench tank/conveyor exhaust
			12	Hydraulic shear exhaust
			9	Rolling mill/salt bath
Y-9401-2-A	01-0020-88	730286P	205	Plating equipment
			220	Plating equipment
			221	Plating equipment
			222	Plating equipment
			223	Plating equipment
			224	Plating equipment
			225	Plating equipment
			226	Plating equipment
			227	Plating equipment
			228	Plating equipment
			229	Plating equipment
			230	Plating equipment
			231	Plating equipment
			232	Plating equipment
			233	Plating equipment
			234	Plating equipment
			235	Plating equipment
Y-9401-3-A	01-1020-31	034809P	170	Coal or natural gas fired boiler
Y-9401-3-B	01-1020-32	034809P	170	Coal or natural gas fired boiler
Y-9401-3-C	01-1020-33	034809P	171	Coal or natural gas fired boiler
Y-9401-3-D	01-1020-34	034809P	171	Coal or natural gas fired boiler
Y-9401-5-A	–	–	109	Uranium chip oxidixer
Y-9404-9-C	01-1020-19	730315P	324	Urethane warming ovens
			325	Urethane warming oven #3
			326	PVC oven #4
			327	PVC oven #5

Table C.1 (continued)

Y-12 Plant source number	Source reference number	Permit number	Stack	Stack description
Y-9720-32-C	01-1020-99	742886I	435	Classified paper waste incinerator
Y-9738-A	01-0020-14	036776P	576	Sand blaster
			577	Hood with fan
Y-9767-13-A	01-0020-35	036292P	00	Chilled water circulating system
Y-9767-4-B	01-0020-38	036293P	00	Chilled water circulating system
Y-9811-6-A	01-1020-82	029415P	377	Dry ash handling system
			378	Dry ash handling system
Y-9815-A	01-0020-11	025895P	780	Vent from dissolvers
Y-9825-1-A	–	–	127	Oxide storage vault
Y-9825-2-A	–	–	127	Oxide storage vault
Y-9998-A	01-0020-13	038154P	60	5 swagging machines
			61	Foundry operations
			62	Hood
			64	Nitric acid pickling tank
			812	Swagging machines
			813	Sintering furnaces
Y-9998-B	01-1020-84	025984P	172	Machining beryllium source
<i>Part II—Construction permits at Y-12 Plant</i>				
Y-9201-1-A	01-0020-15	730303P	582	Weld booths, sanders and grinders
			583	Metal sanders and grinders
			584	Plasma torch
Y-9201-1-B	01-0020-59	730310P	586	Tool grinding machine shop
Y-9201-5-G	01-0020-44	730308P	412	DeVilbiss hood
			413	Acid pickling tanks
			75	Arc melt
			76	Scrap metal recycle
Y-9201-5E-B	01-0020-21	730305P	72	Chip vacuum system
Y-9201-5N-A	01-1020-18	730314P	67	Machine shop exhaust
Y-9204-2-D	01-1020-57	730327P	342	Salvage vats
			344	Lithium chloride crystallizer
			345	Lithium chloride crystallizer
			346	Neutralizer
			347	Process tank
			348	Salvage crystallizer
			349	Reactor wash station
			350	Reactor wash station

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Table C.1 (continued)

Y-12 Plant source number	Source reference number	Permit number	Stack	Stack description
Y-9204-2-E	01-1020-55	730325P	351	Glove box and oven
			359	Machine dust dumping station
			361	Gloveboxes
			363	Glove box and four ovens
			364	Dry powder process
Y-9204-2-E1	01-1020-55	730325P	351	Rotary dryer
			358	Glove boxes, sonic sifter
			360	Rotary dryer
			362	Glove box
Y-9204-2-G	01-1020-79	730329P	371	Metal working machine shop
			372	Metal working machine shop
Y-9204-2E-A	01-0020-68	730312P	101	Lathes
			436	Exhaust hoods
			439	Hood exhaust
Y-9206-B	01-0020-03	731689P	13	South stack incinerator
			15	West stack
			17	Steam cleaning hoods
			209	HF purge vent
			211	Hood 29 and 30
Y-9212-A	01-1020-72	743807P	111	Reduction fluid beds
			112	Conversion fluid beds
			132	Decontamination facility
			134	B-wing and C-1 wing exhaust
			141	Reduction fluid beds
			142	Conversion fluid beds
			19	Filter exhaust
			21	Centrifuges
			22	Reduction salvage crusher
			24	Calcliner and dry vacuum system enclosure
			25	Denitrator area and fluid bed room enclosure
			27	D-wing room 1010 hoods
			28	Reduction shear and room
			33	Headhouse equipment incinerator
			40	B-1 sampling lab hoods
			430	HF dock cylinder/vaporizer
431	N2O4 cylinder purge vent			
432	Muffle furnaces (2) vent room 229			

Table C.1 (continued)

Y-12 Plant source number	Source reference number	Permit number	Stack	Stack description
			518	HF dock cylinder/vaporizer
			519	Potassium hydroxide storage
			520	Potassium hydroxide storage
Y-9212-B	01-0020-02	730301P	110	U metal and U metal alloy
			38	U metal drying and briquetting process
			43	Exhaust from machine shop
			48	Chip washing and drying
Y-9212-M	01-0020-21	730305P	1083	Air bearing operations
Y-9215-A	01-0020-37	731839P	3	Machine shop hood exhaust
Y-9215-B	01-1020-51	732125P	1	O-wing metal working operations
			2	Abar water quech vacuum
			4	O-wing metal working operations
			6	Base of rolling mill
Y-9215-C	01-1020-52	730323P	6	Base of rolling mill
			7	Metal process area
Y-9401-2-A	01-0020-88	730286P	205	Plating equipment
			220	Plating equipment
			221	Plating equipment
			222	Plating equipment
			223	Plating equipment
			224	Plating equipment
			225	Plating equipment
			226	Plating equipment
			227	Plating equipment
			228	Plating equipment
			229	Plating equipment
			230	Plating equipment
			231	Plating equipment
			232	Plating equipment
			233	Plating equipment
			234	Plating equipment
			235	Plating equipment
Y-9404-9-C	01-1020-19	730315P	324	Urethane warming ovens
			325	Urethane warming oven #3
			326	PVC oven #4
			327	PVC oven #5
Y-9720-32-C	01-1020-99	742886I	435	Classified paper waste incinerator
Y-9815-A	01-0020-11	7432133P	780	Vent from dissolver

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Table C.2. ORNL air permits

ORNL Source Number	Emission Source Reference Number	TDEC Permit Number	Source Description
X-2519-1/5	73-0112-03	030284P	Steam plant
X-2525-SV11	73-0112-49	035026P	Electroplating shop
X-3039	73-0112-93	739974P	Off-gas and hot cell ventilation
X-3502	73-0112-05	947267P	Manipulator boot shop
X-3544-SV1	73-0112-70	730468P	Process waste treatment plant
X-3587-SV1	73-0112-56	029830P	Printed circuit board facility
X-3608-01	73-0112-37	730489P	Nonrad wastewater treatment plant, air stripper column
X-4508-SV8	73-0112-61	040077P	Acid etching process
X-4508-SV9	73-0112-55	024306P	Sandblaster
X-7007	73-0112-09	743190P	Paint shop
X-7015-03	73-1106-47	947142P	Plasma arc torch
X-7021-00	73-0112-58	038357P	Grinding shop and sandblaster
X-7600-01	73-0112-20	017930P	Nuclear fuel reprocessing
X-7602-01	73-0112-24	027090F	Boiler, hot water
X-7603-01	73-0112-25	740219F	Steam boiler
X-7667-0	6007	6007	Chemical detonation facility
X-7877-SV1	73-0112-71	043761P	Liquid waste solidification project
X-7911-00	73-0112-82	034381P	High flux isotope reactor, 7920 and 7930
X-7934-SV2	73-0112-53	024912P	Silver recovery system
X-7935-SV1	73-0112-78	027393P	Equipment cleaning facility
X-FE	73-0112-97	029660P	Fugitive emission source

Table C.3. ETPP air permits

ETTP source number	Emission source reference number	Permit number	Source description	Permit type
K1037AVLISPRODCON	73-1106-36	935597P	Products conversion demonstration	Permit to construct
K1095PS1234	73-0106-14	734461P	Paint spray operation, one oven, two spray booths, and one silk screen degreaser	Operating
K1202ST1	73-1106-20	033203P	Tank stores waste oils and solvents for incinerator	Operating
K1202ST2	73-1106-41	034392P	Tank stores waste oils and solvents for incinerator	Operating
K1420AI	73-0106-82	034619P	Flammable materials storage tank	Operating
K1425WOSC	73-0106-11	029895P	Waste oil and solvent storage tanks	Operating
K1425WOSA	73-0106-11	029895P	Waste oil and solvent storage tanks	Operating
K1425WOSD	73-0106-11	029895P	Waste oil and solvent storage tanks	Operating
K1425WOSB	73-0106-11	029895P	Waste oil and solvent storage tanks	Operating
K1435TSCAINCIN	73-0106-78	0324491	TSCA Incinerator	Operating
K1435CTANKFARM	73-0106-75	037460P	Tank farm for hazardous liquid wastes	Operating
K1501BOILER7	73-0106-17	042076F	Gas/oil boiler	Operating
K1501BOILER8	73-0106-12	937114F	Gas/oil boiler	Operating
K1501BOILER9	73-0106-12	038751F	Gas/oil boiler	Operating
K1407CNFAIRSTRIPPER	73-0106-90	045253P	Air stripper for removing VOCs at CNF	Operating
K1775TVS	73-0106-91	944465P	LLMW vitrification system	Permit to construct
ETTPFUGITIVEEMISSIONS	73-1106-38	043016P	Number of sources logged into permit	Operating

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Table C.4. Periods of excess emissions and out-of-service conditions for Y-12 Plant Steam Plant east and west opacity monitors in 1997

Date	Stack	Condition	Comments
February 24	West	One six-minute period of excess emissions.	Bag failure in Compartment 4 of Baghouse 1.
February 25	West	One six-minute period of excess emissions.	Bag failure in Compartment 5 of Baghouse 1.
April 22 and 23	East and West	Opacity monitoring equipment was out of service.	Annual calibration of the opacity monitors.
April 23	West	One six-minute period of excess emissions.	Bag failure (bad bags) in Baghouse 2.
May 14	West	One six-minute period of excess emissions.	Start-up of fans on Boiler 1 after overhaul.
June 10	East and West	Monitoring system inoperative.	Shutter alarm/monitor malfunction.
June 11	West	Five six-minute periods of excess emissions.	Baghouse 1 malfunction.
June 15	East	One six-minute period of excess emissions.	High inlet temperature causing Baghouse 3 bypass dampers to open.
June 16	West	Two six-minute periods of excess emissions.	Operators cleaning the steam generating tubes on Boiler 2 after overhaul.
September 24	West	Two six-minute periods of excess emissions.	Start-up of fans and restart of fans after tachometer failure on Boiler 2 following overhaul.
December 19 and 20	West	Opacity monitoring equipment was out of service.	West opacity monitor stack blower malfunction.