Chapter NR 274

NONFERROUS METALS MANUFACTURING

Subchapter XXXIII — Primary Zirconium and Hafnium

Note: Chapter NR 274 as it existed on March 31, 1991 was repealed and a new chapter NR 274 was created effective April 1, 1991.

NR 274.001 Purpose. The purpose of this chapter is to establish effluent limitations, performance standards, and pretreatment standards for discharges of process wastes from the nonferrous metals manufacturing point source category and its subcategories.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.002 Applicability. This chapter applies to facilities which produce primary metals from ore concentrates and recover secondary metals from recycle wastes and which discharge or may discharge pollutants to waters of the state or which introduce or may introduce pollutants into a publicly owned treatment works. The applicability of this chapter to alloying or casting of nonferrous metals is limited to alloying or casting of hot metals directly from the nonferrous metals manufacturing process without cooling. Remelting followed by alloying or cooling is regulated by aluminum forming, 40 CFR Part 467, nonferrous metals forming, 40 CFR Part 471, or metal molding and casting, ch. NR 256.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.003 General definitions. In addition to the definitions set forth in ss. NR 205.03, 205.04, and 211.03, the following definitions are applicable to the terms used in this chapter:

(1) "Existing source" means any point source, except a new source as defined in sub. (2), from which pollutants may be discharged either into waters of the state or into a publicly owned treatment works.

(2) "New source," as defined for purposes of new source performance standards and pretreatment standards for new sources, means any point source from which pollutants are or may be discharged directly to waters of the state or into a publicly owned treatment works and for which construction commenced after the date given in the following table:

February 17, 1983	**January 22, 1987**
Bauxite Refining	Primary Tungsten
Primary Aluminum Smelting	
Secondary Aluminum Smelting	
Primary Copper Smelting	
Primary Copper Electrolytic Refining	
Secondary Copper	
Primary Lead	
Primary Zinc	
Metallurgical Acid Plants	
Primary Columbium–Tantalum	
Secondary Silver	
Secondary Lead	
June 27, 1984	
Primary Antimony	
Primary Beryllium	
Primary and Secondary Germanium and Gallium	
Secondary Indium	
Secondary Mercury	
Primary Molybdenum and Rhenium	
Secondary Molybdenum and Vanadium	
June 27, 1984	
Primary Nickel and Cobalt	
Secondary Nickel	
Primary Precious Metals and Mercury	
Secondary Precious Metals	
Secondary Tantalum	
Secondary Tin	
Primary and Secondary Titanium	
Secondary Tungsten and Cobalt	
Secondary Uranium	
Primary Zirconium and Hafnium	

(3) "Primary" means the manufacture of a metal from ore concentrates or other virgin materials.

(4) "Secondary" means the manufacture of a metal from scrap or other recycled materials.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.004 Compliance dates. (1) Any existing source subject to this chapter which discharges to waters of the state shall achieve:

(a) The effluent limitations representing BPT by July 1, 1977; and

(b) The effluent limitations representing BAT by July 1, 1984.

(2) Any new source subject to this chapter which discharges to waters of the state shall achieve NSPS at the commencement of discharge.

(3) Any existing source subject to this chapter which introduces process wastewater pollutants into a POTW shall achieve PSES according to the date in the following tables:

March 8, 1987	September 20, 1988
Bauxite refining	Primary antimony
Primary aluminum smelting	Primary beryllium
Secondary aluminum smelting	Primary and secondary germanium and gallium
Primary copper smelting	Secondary indium
Primary electrolytic copper refining	Secondary mercury
Secondary copper	Primary molybdenum and rhenium
Primary lead	Secondary molybdenum and
Primary zinc	vanadium
Metallurgical acid plants	Primary nickel and cobalt
Primary tungsten	Secondary nickel
Primary columbium–tantalum	Primary precious metals and mercury
Secondary silver	Secondary precious metals
Secondary lead	Primary rare earth metals
	Secondary tantalum
	Secondary tin
	Primary and secondary titanium
	Secondary tungsten and cobalt
	Secondary uranium
	Primary zirconium and hafnium

(4) Any new source subject to this chapter which introduces process wastewater pollutants into a POTW shall achieve PSNS at the commencement of discharge.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.005 Removal allowances for pretreatment standards. Removal allowances according to 40 CFR 403.7(a) may be granted for the toxic metals limited in ch. NR 274 when the toxic metals are used as indicator pollutants.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.006 General provisions. (1) The monthly average regulatory values shall be the basis for the monthly average discharge in direct discharge permits and for pretreatment standards.

(2) Compliance with the monthly discharge limit is required regardless of the number of samples analyzed and averaged.

Subchapter I — Bauxite Refining

NR 274.01 Applicability; description of the bauxite refining subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the refining of bauxite to alumina by the Bayer process and by the combination process.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.011 Specialized definitions. The following definitions apply to the terms used in this subchapter:

(1) "Bauxite" means ore which contains alumina monohydrate or alumina trihydrate and which serves as the principal raw material for the production of alumina by the Bayer process or by the combination process.

(2) "Within the impoundment", for purposes of calculating the volume of process wastewater which may be discharged, means the surface area within the impoundment at the maximum capacity plus the area of the inside and outside slopes of the impoundment dam and the surface area between the outside edge of the impoundment dam and seepage ditches upon which rain falls and is returned to the impoundment, but the surface area allowance for external appurtenances to the impoundment shall not be more than 30% of the water surface area within the impoundment dam at maximum capacity.

(3) "Pond water surface area", for the purpose of calculating the volume of wastewater, means the area within the impoundment for rainfall and the actual water surface area for evaporation.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.012 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. (1) Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT.

(2) Except as provided in sub. (3), process wastewater pollutants may not be discharged to waters of the state.

(3) During any calender month, a process wastewater impoundment may discharge from the overflow a volume equivalent to whatever is the greatest of the following:

(a) The difference between the precipitation for that month which falls within the impoundment and the evaporation from the impoundment for that month; or

(b) The difference between the mean precipitation for that month which falls within the impoundment and the mean evaporation for that month as established for the impoundment's location by the national climatic center, national oceanic and atmospheric administration, or as otherwise established if no monthly evaporation has been determined by the national climatic center.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.013 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. (1) Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT.

(2) Except as provided in sub. (3), process wastewater pollutants may not be discharged to waters of the state.

(3) During any calender month, a process wastewater impoundment may discharge from the overflow a volume equivalent to whatever is the greatest of the following:

(a) The difference between the precipitation for that month which falls within the impoundment and the evaporation from the impoundment for that month; or

(b) The difference between the mean precipitation for that month which falls within the impoundment and the mean evaporation for that month as established for the impoundment's location by the national climatic center, national oceanic and atmospheric administration, or as otherwise established if no monthly evaporation has been determined by the national climatic center.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.014 New source performance standards. (1) Except as provided in sub. (2), any new source subject to this subchapter may not discharge process wastewater pollutants to waters of the state.

(2) During any calender month, a process wastewater impoundment may discharge from the overflow a volume equivalent to whatever is the greatest of the following:

(a) The difference between the precipitation for that month which falls within the impoundment and the evaporation from the impoundment for that month; or

(b) The difference between the mean precipitation for that month which falls within the impoundment and the mean evaporation for that month as established for the impoundment's location by the national climatic center, national oceanic and atmospheric administration, or as otherwise established if no monthly evaporation has been determined by the national climatic center.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.016 Pretreatment standards for new sources. Any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211.

Subchapter II — Primary Aluminum Smelting

NR 274.02 Applicability; description of the primary aluminum smelting subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of aluminum from alumina in the Hall–Heroult process.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.021 Measurements not detecting benzo(a)pyrene. If a permittee chooses to analyze for benzo(a)pyrene using any EPA approved method, any nondetected measurements shall be considered zeros for purposes of determining compliance with this subchapter.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.022 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 2–1
Primary Aluminum Smelting

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	kg/kkg (pounds per 1,000 pounds) of hot aluminum metal	
Fluoride	2.0	1.0
Total suspended solids	3.0	1.5
pH	(1)	(1)

(1) Within the range of 6.0 to 9.0.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.023 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 2–2
Primary Aluminum Smelting Anode and Cathode Paste Plant Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of paste	
Benzo(a)pyrene	0.005	0.002
Antimony	0.263	0.117
Nickel	0.075	0.050
Aluminum	0.831	0.369
Fluoride	8.092	3.591

Table 2–3
Primary Aluminum Smelting Anode Contact Cooling and Briquette Quenching

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of anodes cast	
Benzo(a)pyrene	0.007	0.003
Antimony	0.403	0.180
Nickel	0.115	0.077
Aluminum	1.277	0.566
Fluoride	12.440	5.518

Table 2–4
Primary Aluminum Smelting Anode Bake Plant Wet Air Pollution Control Closed Top Ring Furnace

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg(pounds per 1,000,000 pounds) of anodes baked	
Benzo(a)pyrene	0.146	0.067
Antimony	8.346	3.719
Nickel	2.378	1.600
Aluminum	26.420	11.720
Fluoride	257.300	114.200

Table 2–5
Primary Aluminum Smelting
Anode Bake Plant Wet Air Pollution Control
Open Top Ring Furnace With Spray Tower

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per1,000,000 pounds) of anodes baked	
Benzo(a)pyrene	0.002	0.001
Antimony	0.097	0.043
Nickel	0.028	0.019
Aluminum	0.306	0.136
Fluoride	2.975	1.320

Table 2–6
Primary Aluminum Smelting
Anode Bake Plant Wet Air Pollution Control
Open Top Ring Furnace With Wet Electrostatic Precipitator and Spray Tower

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of anodes baked	
Benzo(a)pyrene	0.025	0.011
Antimony	1.409	0.628
Nickel	0.402	0.270
Aluminum	4.461	1.979
Fluoride	43.440	19.270

Table 2–7
Primary Aluminum Smelting Anode Bake Plant Wet Air Pollution Control Tunnel Kiln

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of anodes baked	
Benzo(a)pyrene	0.038	0.018
Antimony	2.197	0.979
Nickel	0.626	0.421
Aluminum	6.953	3.084
Fluoride	67.710	30.050

Table 2–8
Primary Aluminum Smelting
Cathode Reprocessing Operated With Dry Potline Scrubbing and Not Commingled With Other Process or Nonprocess Wastewaters

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of cryolite recovered	
Benzo(a)pyrene	1.181	0.547
Antimony	420.400	189.200
Cyanide	157.600	70.060
Nickel	80.570	35.030
Aluminum	273.200	122.600
Fluoride	29,430.000	13,310.000

Table 2–9
Primary Aluminum Smelting
Cathode Reprocessing Operated With Dry Potline Scrubbing and Commingled With Other Process or Nonprocess Wastewaters

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of cryolite recovered	
Benzo(a)pyrene	1.181	0.547
Antimony	67.610	30.120
Cyanide	157.600	70.060
Nickel	19.270	12.960
Aluminum	214.000	94.930
Fluoride	2,084.000	924.800

Table 2–10
Primary Aluminum Smelting Cathode Reprocessing Operated With Wet Potline Scrubbing

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of cryolite recovered	
Benzo(a)pyrene	0.000	
Antimony	0.000	0.000
Cyanide	0.000	0.000
Nickel	0.000	0.000
Aluminum	0.000	0.000
Fluoride	0.000	0.000

Table 2–11
Primary Aluminum Smelting Potline Wet Air Pollution Control Operated Without Cathode Reprocessing

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	0.028	0.013
Antimony	1.618	0.721
Nickel	0.461	0.310
Aluminum	5.120	2.271
Fluoride	49.860	22.130

Table 2–12
Primary Aluminum Smelting Potline Wet Air Pollution Control Operated With Cathode Reprocessing and Not Commingled With Other Process or Nonprocess Waters

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	0.028	0.013
Antimony	10.060	4.525
Cyanide	3.771	1.676
Nickel	1.928	0.838
Aluminum	6.537	2.933
Fluoride	703.900	318.500

Table 2–13
Primary Aluminum Smelting Potline Wet Air Pollution Control Operated With Cathode Reprocessing and Commingled With Other Process or Nonprocess Waters

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	0.028	0.013
Antimony	1.618	0.721
Cyanide	3.771	1.676
Nickel	0.461	0.310
Aluminum	5.120	2.271
Fluoride	49.860	22.130

Table 2–14
Primary Aluminum Smelting Potroom Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	0.056	0.026
Antimony	3.204	1.428
Nickel	0.913	0.614
Aluminum	10.140	4.499
Fluoride	98.770	43.830

Table 2–15
Primary Aluminum Smelting Potline Sulfur Dioxide Emissions Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	0.045	0.021
Antimony	2.588	1.153
Nickel	0.738	0.496
Aluminum	8.194	3.634
Fluoride	79.790	35.400

Table 2–16
Primary Aluminum Smelting Degassing Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	(1)	(1)
Antimony	5.036	2.244
Nickel	1.435	0.965
Aluminum	15.940	7.071
Fluoride	155.300	68.880

(1) This pollutant has no discharge allowance.

Table 2–17
Primary Aluminum Smelting Pot Repair and Pot Soaking

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	0.000	
Antimony	0.000	0.000
Nickel	0.000	0.000
Aluminum	0.000	0.000
Fluoride	0.000	0.000

Table 2–18
Primary Aluminum Smelting Direct Chill Casting Contact Cooling

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from direct chill casting	
Benzo(a)pyrene	(1)	(1)
Antimony	2.565	1.143
Nickel	0.731	0.492
Aluminum	8.120	3.602
Fluoride	79.080	35.090

(1) This pollutant has no discharge allowance.

Table 2–19
Primary Aluminum Smelting Continuous Rod Casting Contact Cooling

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from rod casting	
Benzo(a)pyrene	(1)	(1)
Antimony	0.201	0.089
Nickel	0.057	0.038
Aluminum	0.636	0.282
Fluoride	6.188	2.746

(1) This pollutant has no discharge allowance.

Table 2–20
Primary Aluminum Smelting Stationary Casting or Shot Casting Contact Cooling

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from stationary casting or shot casting	
Benzo(a)pyrene	0.000	
Antimony	0.000	0.000
Nickel	0.000	0.000
Aluminum	0.000	0.000
Fluoride	0.000	0.000

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.024 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 2–21
Primary Aluminum Smelting Anode and Cathode Paste Plant Wet Air Pollution Control

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of paste	
Benzo(a)pyrene	0.000	
Antimony	0.000	0.000
Nickel	0.000	0.000
Aluminum	0.000	0.000
Fluoride	0.000	0.000
Oil and grease	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 2–22
Primary Aluminum Smelting Anode Contact Cooling and Briquette Quenching

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of anodes cast	
Benzo(a)pyrene	0.007	0.003
Antimony	0.403	0.180
Nickel	0.115	0.077
Aluminum	1.277	0.566
Fluoride	12.440	5.518
Oil and grease	2.090	2.090
Total suspended solids	3.135	2.508
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 2–23
Primary Aluminum Smelting Anode Bake Plant Wet Air Pollution Control

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of anodes baked	
Benzo(a)pyrene	0.000	
Antimony	0.000	0.000
Nickel	0.000	0.000
Aluminum	0.000	0.000
Fluoride	0.000	0.000
Oil and grease	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 2–24
Primary Aluminum Smelting Cathode Reprocessing Operated With Dry Potline Scrubbing and Not Commingled With Other Process or Nonprocess Wastewaters

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of cryolite recovered	
Benzo(a)pyrene	1.181	0.547
Antimony	420.400	189.200
Cyanide	157.600	70.060
Nickel	80.570	35.030
Aluminum	273.200	122.600
Fluoride	29,430.000	13,310.000
Oil and grease	350.300	350.300
Total suspended solids	2,172.000	945.800
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 2–25
Primary Aluminum Smelting Cathode Reprocessing Operated With Dry Potline Scrubbing and Commingled With Other Process or Nonprocess Wastewaters

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of cryolite recovered	
Benzo(a)pyrene	1.181	0.547
Antimony	67.610	30.120
Cyanide	157.600	70.060
Nickel	19.270	12.960
Aluminum	214.000	94.930
Fluoride	2,084.000	924.800
Oil and grease	350.300	350.300
Total suspended solids	2,172.000	945.800
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 2–26
Primary Aluminum Smelting Potline Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	0.000	0.000
Antimony	0.000	0.000
Nickel	0.000	0.000
Aluminum	0.000	0.000
Fluoride	0.000	0.000
Oil and grease	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 2–27
Primary Aluminum Smelting Potroom Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	0.000	
Antimony	0.000	0.000
Nickel	0.000	0.000
Aluminum	0.000	0.000
Fluoride	0.000	0.000
Oil and grease	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 2–28
Primary Aluminum Smelting Potline Sulfur Dioxide Emissions Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	0.045	0.021
Antimony	2.588	1.153
Nickel	0.738	0.496
Aluminum	8.194	3.634
Fluoride	79.790	35.400
Oil and grease	13.410	13.410
Total suspended solids	20.120	16.090
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 2–29
Primary Aluminum Smelting Degassing Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	0.000	
Antimony	0.000	0.000
Nickel	0.000	0.000
Aluminum	0.000	0.000
Fluoride	0.000	0.000
Oil and grease	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 2–30
Primary Aluminum Smelting Pot Repair and Pot Soaking

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	0.000	
Antimony	0.000	0.000
Nickel	0.000	0.000
Aluminum	0.000	0.000
Fluoride	0.000	0.000
Oil and grease	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 2–31
Primary Aluminum Smelting Direct Chill Casting Contact Cooling

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from direct chill casting	
Benzo(a)pyrene	(1)	(1)
Antimony	2.565	1.143
Nickel	0.731	0.492
Aluminum	8.120	3.602
Fluoride	79.080	35.090
Oil and grease	13.290	13.290
Total suspended solids	19.940	15.950
pH	(2)	(2)

(1) This pollutant has no discharge allowance.
(2) Within the range of 7.0 to 10.0 at all times, but if this waste is discharged separately and without commingling with any other wastewater, the pH shall be within the range of 6.0 to 10.0 at all times.

Table 2–32
Primary Aluminum Smelting Continuous Rod Casting Contact Cooling

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from rod casting	
Benzo(a)pyrene	(1)	(1)
Antimony	0.201	0.089
Nickel	0.057	0.038
Aluminum	0.636	0.282
Fluoride	6.188	2.746
Oil and grease	1.040	1.040
Total suspended solids	1.560	1.248
pH	(2)	(2)

(1) This pollutant has no discharge allowance
(2) Within the range of 7.0 to 10.0 at all times.

Table 2–33
Primary Aluminum Smelting Stationary Casting or Shot Casting Contact Cooling

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from stationary casting or shot casting	
Benzo(a)pyrene	0.000	
Antimony	0.000	0.000
Nickel	0.000	0.000
Aluminum	0.000	0.000
Fluoride	0.000	0.000
Oil and grease	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.026 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the following PSNS:

Table 2–34
Primary Aluminum Smelting Anode and Cathode Paste Plant Wet Air Pollution Control

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of paste	
Benzo(a)pyrene	0.000	
Nickel	0.000	0.000
Fluoride	0.000	0.000

Table 2–35
Primary Aluminum Smelting Anode Contact Cooling and Briquette Quenching

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of anodes cast	
Benzo(a)pyrene	0.007	0.003
Nickel	0.115	0.077
Fluoride	12.440	5.518

Table 2–36
Primary Aluminum Smelting Anode Bake Plant Wet Air Pollution Control

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of anodes baked	
Benzo(a)pyrene	0.000	
Nickel	0.000	0.000
Fluoride	0.000	0.000

Table 2–37
Primary Aluminum Smelting Cathode Reprocessing Operated With Dry Potline Scrubbing and Not Commingled With Other Process or Nonprocess Wastewaters

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of cryolite recovered	
Benzo(a)pyrene	1.181	0.547
Cyanide	157.600	70.060
Nickel	80.570	35.030
Fluoride	29,430.000	13,310.000

Table 2–38
Primary Aluminum Smelting Cathode Reprocessing Operated With Dry Potline Scrubbing and Commingled With Other Process or Nonprocess Wastewaters

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of cryolite recovered	
Benzo(a)pyrene	1.181	0.547
Cyanide	157.600	70.060
Nickel	19.270	12.960
Fluoride	2,084.000	924.800

Table 2–39
Primary Aluminum Smelting Potline Wet Air Pollution Control

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	0.000	
Nickel	0.000	0.000
Fluoride	0.000	0.000

Table 2–40
Primary Aluminum Smelting Potroom Wet Air Pollution Control

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	0.000	
Nickel	0.000	0.000
Fluoride	0.000	0.000

Table 2–41
Primary Aluminum Smelting Potline Sulfur Dioxide Emissions Wet Air Pollution Control

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	0.045	0.021
Nickel	0.738	0.496
Fluoride	79.790	35.400

Table 2–42
Primary Aluminum Smelting Degassing Wet Air Pollution Control

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	0.000	
Nickel	0.000	0.000
Fluoride	0.000	0.000

Table 2–43
Primary Aluminum Smelting Pot Repair and Pot Soaking

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	0.000	
Nickel	0.000	0.000
Fluoride	0.000	0.000

Table 2–44
Primary Aluminum Smelting Direct Chill Casting Contact Cooling

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from direct chill casting	
Benzo(a)pyrene	(1)	(1)
Nickel	0.731	0.492
Fluoride	79.080	35.090

(1) This pollutant has no discharge allowance.

Table 2–45
Primary Aluminum Smelting Continuous Rod Casting Contact Cooling

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from rod casting	
Benzo(a)pyrene	(1)	(1)
Nickel	0.057	0.038
Fluoride	6.188	2.746

(1) This pollutant has no discharge allowance.

Table 2–46
Primary Aluminum Smelting Stationary Casting or Shot Casting Contact Cooling

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum produced from stationary casting or shot casting	
Benzo(a)pyrene	0.000	
Nickel	0.000	0.000
Fluoride	0.000	0.000

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter III — Secondary Aluminum Smelting

NR 274.03 Applicability; description of the secondary aluminum smelting subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the recovery, processing, and remelting of aluminum scrap to produce metallic aluminum alloys.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.032 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. (1) Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT.

(2) Facilities which use water for metal cooling may not discharge process wastewater pollutants to waters of the state.

(3) Facilities which use aluminum fluoride in their magnesium removal process may not discharge process wastewater pollutants to waters of the state.

(4) Facilities which use chlorine in their magnesium removal process shall achieve the following limitations:

Table 3–1
Secondary Aluminum Smelting Magnesium Removal Process Using Chlorine

BPT Effluent Limitations	
	Maximum average of daily values for 30 consecutive days
Pollutant or pollutant property	kg/kkg (pounds per 1,000 pounds) of magnesium removed
Total suspended solids	175
Chemical oxygen demand	6.5
pH	(1)

(1) Within the range of 7.5 to 9.0.

(5) Facilities which process residues by wet methods shall achieve the following limitations:

Table 3–2
Secondary Aluminum Smelting Residue Processed By Wet Methods

BPT Effluent Limitations	
	Maximum average of daily values for 30 consecutive days
Pollutant or pollutant property	kg/kkg (pounds per 1,000 pounds) of hot aluminum metal
Total suspended solids	1.5
Fluoride	0.4
Ammonia (as N)	0.01
Aluminum	1.0
Copper	0.003
Chemical oxygen demand	1.0
pH	(1)

(1) Within the range of 7.5 to 9.0.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.033 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 3–3
Secondary Aluminum Smelting Scrap Drying Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of scrap dried	
Lead	0.000	0.000
Zinc	0.000	0.000
Aluminum	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 3–4
Secondary Aluminum Smelting Scrap Screening and Milling

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum scrap screened and milled	
Lead	0.000	0.000
Zinc	0.000	0.000
Aluminum	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 3–5
Secondary Aluminum Smelting Dross Washing

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of dross washed	
Lead	3.043	1.413
Zinc	11.090	4.565
Aluminum	66.410	29.450
Ammonia (as N)	1,449.000	636.900

Table 3–6
Secondary Aluminum Smelting Demagging Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum demagged	
Lead	0.216	0.100
Zinc	0.786	0.324
Aluminum	4.711	2.090
Ammonia (as N)	102.800	45.180

Table 3–7
Secondary Aluminum Smelting Delacquering Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum delacquered	
Lead	0.093	0.043
Zinc	0.340	0.140
Aluminum	2.035	0.903
Ammonia (as N)	44.389	19.514
Total phenolics (4–AAP) (1)	0.004	

(1) At or before the commingling of delacquering scrubber liquor blowdown with other process or nonprocess waters.

Table 3–8
Secondary Aluminum Smelting Direct Chill Casting Contact Cooling

	BAT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum cast	
Lead	0.372	0.173
Zinc	1.356	0.558
Aluminum	8.120	3.602
Ammonia (as N)	177.200	77.880

Table 3–9
Secondary Aluminum Smelting Ingot Conveyor Contact Cooling When Chlorine Demagging Wet Air Pollution Control Is Not Practiced On Site

	BAT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum cast	
Lead	0.019	0.009
Zinc	0.068	0.028
Aluminum	0.409	0.182
Ammonia (as N)	8.931	3.926

Table 3–10
Secondary Aluminum Smelting Ingot Conveyor Contact Cooling When Chlorine Demagging Wet Air Pollution Control Is Practiced On Site

	BAT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum cast	
Lead	0.000	0.000
Zinc	0.000	0.000
Aluminum	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 3–11
Secondary Aluminum Smelting Stationary Casting Contact Cooling

	BAT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum cast	
Lead	0.000	0.000
Zinc	0.000	0.000
Aluminum	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 3–12
Secondary Aluminum Smelting Shot Casting Contact Cooling

	BAT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum cast	
Lead	0.000	0.000
Zinc	0.000	0.000
Aluminum	0.000	0.000
Ammonia (as N)	0.000	0.000

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.034 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 3–13
Secondary Aluminum Smelting Scrap Drying Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of scrap dried	
Lead	0.000	0.000
Zinc	0.000	0.000
Aluminum	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
Oil and grease	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 3–14
Secondary Aluminum Smelting Scrap Screening and Milling

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum scrap screened and milled	
Lead	0.000	0.000
Zinc	0.000	0.000
Aluminum	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
Oil and grease	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 3–15
Secondary Aluminum Smelting Dross Washing

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of dross washed	
Lead	0.000	0.000
Zinc	0.000	0.000
Aluminum	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
Oil and grease	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 3–16
Secondary Aluminum Smelting Demagging Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum demagged	
Lead	0.216	0.100
Zinc	0.786	0.324
Aluminum	4.711	2.090
Ammonia (as N)	102.800	45.180
Total suspended solids	11.570	9.252
Oil and grease	7.710	7.710
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 3–17
Secondary Aluminum Smelting Delacquering Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum delacquered	
Lead	0.093	0.043
Zinc	0.340	0.140
Aluminum	2.035	0.903
Ammonia (as N)	44.389	19.514
Total phenolics (4–AAP) (1)	0.004	
Total suspended solids	4.995	3.996
Oil and grease	3.330	3.330
pH	(2)	(2)

(1) At or before the commingling of delacquering scrubber liquor blowdown with other process or nonprocess waters.
(2) Within the range of 7.0 to 10.0 at all times.

Table 3–18
Secondary Aluminum Smelting Direct Chill Casting Contact Cooling

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum cast	
Lead	0.372	0.173
Zinc	1.356	0.558
Aluminum	8.120	3.602
Ammonia (as N)	177.200	77.880
Total suspended solids	19.400	15.950
Oil and grease	13.290	13.290
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 3–19
Secondary Aluminum Smelting Ingot Conveyor Casting Contact Cooling When Chlorine Demagging Wet Air Pollution Control Is Not Practiced On Site

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum cast	
Lead	0.019	0.009
Zinc	0.068	0.028
Aluminum	0.409	0.182
Ammonia (as N)	8.931	3.926
Total suspended solids	1.005	0.804
Oil and grease	0.670	0.670
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 3–20
Secondary Aluminum Smelting Ingot Conveyor Contact Cooling When Chlorine Demagging Wet Air Pollution Control Is Practiced On Site

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum cast	
Lead	0.000	0.000
Zinc	0.000	0.000
Aluminum	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
Oil and grease	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 3–21
Secondary Aluminum Smelting Stationary Casting Contact Cooling

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum cast	
Lead	0.000	0.000
Zinc	0.000	0.000
Aluminum	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
Oil and grease	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 3–22
Secondary Aluminum Smelting Shot Casting Contact Cooling

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum cast	
Lead	0.000	0.000
Zinc	0.000	0.000
Aluminum	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
Oil and grease	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.035 Pretreatment standards for existing sources. Except as provided in ss. NR 211.13 and 211.14, any new [existing] source subject to the secondary aluminum smelting subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the following PSES:

Table 3–23
Secondary Aluminum Smelting Scrap Drying Wet Air Pollution Control

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum scrap dried	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 3–24
Secondary Aluminum Smelting Scrap Screening and Milling

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum scrap screened and milled	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 3–25
Secondary Aluminum Smelting Dross Washing

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of dross washed	
Lead	3.043	1.413
Zinc	11.090	4.565
Ammonia (as N)	1,449.000	636.000

Table 3–26
Secondary Aluminum Smelting Demagging Wet Air Pollution Control

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum demagged	
Lead	0.216	0.100
Zinc	0.786	0.324
Ammonia (as N)	102.800	45.180

Table 3–27
Secondary Aluminum Smelting Delacquering Wet Air Pollution Control

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum delacquered	
Lead	0.093	0.043
Zinc	0.340	0.140
Ammonia (as N)	44.389	19.514
Total phenolics (4–AAP) (1)	0.004	

(1) At or before the commingling of delacquering scrubber liquor blowdown with other process or nonprocess waters.

Table 3–28
Secondary Aluminum Smelting Direct Chill Casting Contact Cooling

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum cast	
Lead	0.372	0.173
Zinc	1.356	0.558
Ammonia (as N)	177.200	77.800

Table 3–29
Secondary Aluminum Smelting Ingot Conveyor Casting Contact Cooling When Chlorine Demagging Wet Air Pollution Control Is Not Practiced On Site

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum cast	
Lead	0.019	0.009
Zinc	0.068	0.028
Ammonia (as N)	8.931	3.926

Table 3–30
Secondary Aluminum Smelting Ingot Conveyor Contact Cooling When Chlorine Demagging Wet Air Pollution Control Is Practiced On Site

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum cast	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 3–31
Secondary Aluminum Smelting Stationary Casting Contact Cooling

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum cast	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 3–32
Secondary Aluminum Smelting Shot Casting Contact Cooling

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum cast	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.036 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to the secondary aluminum smelting subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the following PSNS:

Table 3–33
Secondary Aluminum Smelting Scrap Drying Wet Air Pollution Control

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of scrap dried	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 3–34
Secondary Aluminum Smelting Scrap Screening and Milling

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum scrap screened and milled	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 3–35
Secondary Aluminum Smelting Dross Washing

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of dross washed	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 3–36
Secondary Aluminum Smelting Demagging Wet Air Pollution Control

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum demagged	
Lead	0.216	0.100
Zinc	0.786	0.324
Ammonia (as N)	102.800	45.180

Table 3–37
Secondary Aluminum Smelting Delacquering Wet Air Pollution Control

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum delacquered	
Lead	0.093	0.043
Zinc	0.340	0.140
Ammonia (as N)	44.389	19.514
Total phenolics (4–AAP) [1]	0.004	

[1] At or before the commingling of delacquering scrubber liquor blowdown with other process or nonprocess waters.

Table 3–38
Secondary Aluminum Smelting Direct Chill Casting Contact Cooling

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum cast	
Lead	0.372	0.173
Zinc	1.356	0.558
Ammonia (as N)	177.200	77.880

Table 3–39
Secondary Aluminum Smelting Ingot Conveyor Casting Contact Cooling When Chlorine Demagging Wet Air Pollution Control Is Not Practiced On Site

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum cast	
Lead	0.019	0.009
Zinc	0.068	0.028
Ammonia (as N)	8.931	3.926

Table 3–40
Secondary Aluminum Smelting Ingot Conveyor Contact Cooling When Chlorine Demagging Wet Air Pollution Control Is Practiced On Site

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum cast	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 3–41
Secondary Aluminum Smelting Stationary Casting Contact Cooling

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum cast	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 3–42
Secondary Aluminum Smelting Shot Casting Contact Cooling

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of aluminum cast	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter IV — Primary Copper Smelting

NR 274.04 Applicability; description of the primary copper smelting subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the primary smelting of copper from ore or ore concentrates by processes such as roasting, converting, leaching if preceded by a pyrometallurgical step, slag granulation and dumping, and fire refining and from the casting of products from these operations.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.041 Specialized definitions. The following definitions apply to the terms used in this subchapter:

(1) "Within the impoundment," for purposes of calculating the volume of process wastewater which may be discharged, has the following meanings:

(a) If the impoundment was constructed prior to February 27, 1975, "within the impoundment" means the surface area within the impoundment at the maximum capacity plus the surface area of the inside and outside slopes of the impoundment dam and the surface area between the outside edge of the impoundment dam and any seepage ditch adjacent to the dam upon which rain falls and is returned to the impoundment, but the surface area allowance for external appurtenances to the impoundment may not be more than 30% of the water surface area within the impoundment dam at maximum capacity.

(b) If the impoundment was constructed on or after February 27, 1975, "within the impoundment" means the water surface area within the impoundment at maximum capacity.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.0415 Combining waste streams. If the waste streams subject to this subchapter are combined for treatment or discharge with waste streams subject to the primary electrolytic copper refining subchapter or the metallurgical acid plant subchapter, the quantity of each pollutant or pollutant property discharged may not exceed the quantity of each pollutant or pollutant property which could be discharged if each waste stream was discharged separately.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.042 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. (1) Except as provided in 40 CFR 125.30 to 125.32 and sub. (2), any existing point source subject to this primary copper smelting subchapter may not discharge process wastewater pollutants to waters of the state.

(2) A process wastewater impoundment which is designed, constructed, and operated to contain the precipitation from the 10–year, 24–hour rainfall event as established for the impoundment's location by the national climatic center, national oceanic and atmospheric administration, may discharge a volume of process wastewater equivalent to the volume of precipitation which falls within the impoundment in excess of the precipitation attributable to the 10–year, 24–hour rainfall event, when such an event occurs.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.043 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. (1) Except as provided in 40 CFR 125.30 to 125.32 and sub. (2), any existing point source subject to this subchapter may not discharge process wastewater pollutants into waters of the state.

(2) A process wastewater impoundment which is designed, constructed, and operated to contain the precipitation from the 25–year, 24–hour rainfall event as established for the impound-

ment's location by the national climatic center, national oceanic and atmospheric administration, may discharge a volume of process wastewater equivalent to the volume of precipitation which falls within the impoundment in excess of the precipitation attributable to the 25−year, 24−hour rainfall event, when such an event occurs.

History: Cr. Register, March, 1991, No. 423, eff. 4−1−91.

NR 274.044 New source performance standards. Any new source subject to this subchapter may not discharge process wastewater pollutants into waters of the state.

History: Cr. Register, March, 1991, No. 423, eff. 4−1−91.

NR 274.046 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and may not discharge process wastewater pollutants to a POTW.

History: Cr. Register, March, 1991, No. 423, eff. 4−1−91.

Subchapter V — Primary Electrolytic Copper Refining

NR 274.05 Applicability; description of the primary electrolytic copper refining subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the electrolytic refining of primary copper, such as anode casting performed at refineries which are not located on−site with a smelter, product casting, and byproduct recovery.

History: Cr. Register, March, 1991, No. 423, eff. 4−1−91.

NR 274.052 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 5−1
Primary Electrolytic Copper Refining

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum of daily values for 30 consecutive days
Pollutant or pollutant property	kg/kkg (pounds per 1,000 pounds) of electrolytically refined copper	
Total suspended solids	0.100	0.050
Copper	0.0017	0.0008
Cadmium	0.00006	0.00003
Lead	0.0006	0.0026
Zinc	0.0012	0.0003
pH	(1)	(1)

(1) Within the range of 6.0 to 9.0.

History: Cr. Register, March, 1991, No. 423, eff. 4−1−91.

NR 274.053 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 5−2
Primary Electrolytic Copper Refining Casting Contact Cooling

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of copper cast	
Arsenic	0.692	0.309
Copper	0.638	0.304
Nickel	0.274	0.184

Table 5−3
Primary Electrolytic Copper Refining Anode and Cathode Rinse

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of cathode copper production	
Arsenic	0.000	0.000
Copper	0.000	0.000
Nickel	0.000	0.000

Table 5−4
Primary Electrolytic Copper Refining Spent Electrolyte

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of copper cathode production	
Arsenic	0.068	0.031
Copper	0.063	0.030
Nickel	0.027	0.018

Table 5−5
Primary Electrolytic Copper Refining Casting Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of casting production	
Arsenic	0.000	0.000
Copper	0.000	0.000
Nickel	0.000	0.000

Table 5−6
Primary Electrolytic Copper Refining Byproduct Recovery

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of product recovered from electrolytic slimes processing	
Arsenic	0.000	0.000
Copper	0.000	0.000
Nickel	0.000	0.000

History: Cr. Register, March, 1991, No. 423, eff. 4−1−91.

NR 274.054 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 5–7
Primary Electrolytic Copper Refining Casting Contact Cooling

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of copper cast	
Arsenic	0.692	0.309
Copper	0.638	0.304
Nickel	0.274	0.184
Total suspended solids	7.470	5.976
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 5–8
Primary Electrolytic Copper Refining Anode and Cathode Rinse

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of cathode copper production	
Arsenic	0.000	0.000
Copper	0.000	0.000
Nickel	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 5–9
Primary Electrolytic Copper Refining Spent Electrolyte

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of copper cathode production	
Arsenic	0.068	0.031
Copper	0.063	0.030
Nickel	0.027	0.018
Total suspended solids	0.735	0.588
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 5–10
Primary Electrolytic Copper Refining Casting Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of casting production	
Arsenic	0.000	0.000
Copper	0.000	0.000
Nickel	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 5–11
Primary Electrolytic Copper Refining Byproduct Recovery

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of product recovered from electrolytic slimes processing	
Arsenic	0.000	0.000
Copper	0.000	0.000
Nickel	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.056 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the following PSNS:

Table 5–12
Primary Electrolytic Copper Refining Casting Contact Cooling

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of copper cast	
Arsenic	0.692	0.309
Copper	0.638	0.304
Nickel	0.274	0.184

Table 5–13
Primary Electrolytic Copper Refining Anode and Cathode Rinse

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of cathode copper production	
Arsenic	0.000	0.000
Copper	0.000	0.000
Nickel	0.000	0.000

Table 5–14
Primary Electrolytic Copper Refining Spent Electrolyte

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of cathode copper production	
Arsenic	0.068	0.031
Copper	0.063	0.030
Nickel	0.027	0.018

Table 5–15
Primary Electrolytic Copper Refining Casting Wet Air Pollution Control

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of casting production	
Arsenic	0.000	0.000
Copper	0.000	0.000
Nickel	0.000	0.000

Table 5–16
Primary Electrolytic Copper Refining Byproduct Recovery

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per 1,000,000 pounds) of product recovered from electrolytic slimes processing	
Arsenic	0.000	0.000
Copper	0.000	0.000
Nickel	0.000	0.000

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter VI — Secondary Copper

NR 274.06 Applicability; description of the secondary copper subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the recovery, processing and remelting of new and used copper scrap and residues to produce copper metal and copper alloys, except for continuous rod casting.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.061 Specialized definitions. The following definitions apply to the terms used in this subchapter:

(2) "Within the impoundment," for purposes of calculating the volume of process wastewater which may be discharged, means the following:

(a) For all impoundments constructed prior to April 23, 1984, "within the impoundment" means the water surface area within the impoundment at the maximum capacity plus the surface area of the inside and outside slopes of the impoundment dam and the surface area between the outside edge of the impoundment dam and any seepage ditch immediately adjacent to the dam upon which rain falls and is returned to the impoundment, but the surface area allowance for external appurtenances to the impoundment shall not be more than 30% of the water surface area within the impoundment dam at maximum capacity.

(b) For all impoundments constructed on or after April 23, 1984, "within the impoundment" means the water surface area within the impoundment at the maximum capacity.

(3) "Pond water surface area," for the purpose of calculating the volume of wastewater which may be discharged, means the water surface area of the pond created by the impoundment for storage of process wastewater at normal operating level, but not less than one third of the surface area of the maximum amount of water which could be contained by the impoundment.

(4) "Normal operating level" means the average level of the pond during the preceding calendar month.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.062 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. (1) Except as provided in 40 CFR 125.30 to 125.32 and subs. (2) and (3), any existing point source subject to this subchapter may not discharge process wastewater pollutants to waters of the state.

(2) A process wastewater impoundment which is designed, constructed and operated to contain the precipitation from the 10–year, 24–hour rainfall event as established for the impoundment's location by the national climatic center, national oceanic and atmospheric administration, may discharge a volume of process wastewater equivalent to the volume of precipitation which falls within the impoundment in excess of the precipitation attributable to the 10–year, 24–hour rainfall event, when such an event occurs.

(3) During any calendar month, a process wastewater impoundment may discharge from the overflow a volume equivalent to whatever is the greatest of the following:

(a) The difference between the precipitation for that month which falls within the impoundment and the evaporation from the impoundment for that month; or

(b) The difference between the mean precipitation for that month which falls within the impoundment and the mean evaporation for that month as established for the impoundment's location by the national climatic center, national oceanic and atmospheric administration or as otherwise established if no monthly evaporation has been determined by the national climatic center.

(c) Any process wastewater discharge according to this subsection shall comply with the following limitations:

Table 6–1
Secondary Copper

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum average of daily values for 30 consecutive days
Pollutant or pollutant property	mg/l (ppm)	
Total suspended solids	50	25
Copper	0.5	0.25
Zinc	10	5
Oil and grease	20	10
pH	(1)	(1)

(1) Within the range of 6.0 to 9.0.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.063 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. (1) Except as provided in 40 CFR 125.30 to 125.32 and sub. (2), any existing point source subject to this subchapter may not discharge process wastewater pollutants into waters of the state.

(2) A process wastewater impoundment which is designed, constructed and operated to contain the precipitation from the 25–year, 24–hour rainfall event as established for the impoundment's location by the national climatic center, national oceanic and atmospheric administration, may discharge a volume of process wastewater equivalent to the volume of precipitation which falls within the impoundment in excess of the precipitation attributable to the 25–year, 24–hour rainfall event, when such an event occurs.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.064 New source performance standards. Any new source subject to this subchapter may not discharge process wastewater pollutants into waters of the state.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.065 Pretreatment standards for existing sources. (1) Except as provided in ss. NR 211.13 and 211.14 and sub. (2), any existing source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and may not discharge process wastewater pollutants into a POTW.

(2) A process wastewater impoundment which is designed, constructed, and operated to contain the precipitation from the 25–year, 24–hour rainfall event as established for the impoundment's location by the national climatic center, national oceanic and atmospheric administration, may discharge a volume of process wastewater equivalent to the volume of precipitation which falls within the impoundment in excess of the precipitation attributable to the 25–year, 24–hour rainfall event, when such an event occurs.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.066 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to the secondary copper subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and may not discharge process wastewater pollutants into a POTW.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter VII — Primary Lead

NR 274.07 Applicability; description of the primary lead subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of lead at primary lead smelters and refineries.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.072 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 7–1
Primary Lead
Sinter Plant Materials Handling Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of sinter production	
Lead	594.000	270.000
Zinc	525.000	219.600
Total suspended solids	14,760.000	7,020.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–2
Primary Lead Blast Furnace Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	0.000	0.000
Zinc	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–3
Primary Lead Blast Furnace Slag Granulation

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	6,155.000	2,798.000
Zinc	5,446.000	2,276.000
Total suspended solids	153,000.000	72,740.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–4
Primary Lead Dross Reverberatory Slag Granulation

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of slag, speiss, or matte granulated	
Lead	9,499.000	4,318.000
Zinc	8,405.000	3,512.000
Total suspended solids	236,000.000	112,300.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–5
Primary Lead Dross Reverberatory Furnace Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of dross reverberatory furnace pollutant property production	
Lead	15,920.000	7,235.000
Zinc	14,080.000	5,884.000
Total suspended solids	395,500.000	188,100.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–6
Primary Lead Zinc Fuming Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	702.900	319.500
Zinc	622.000	259.900
Total suspended solids	17,470.000	8,307.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–7
Primary Lead Hard Lead Refining Slag Granulation

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of hard lead produced	
Lead	0.000	0.000
Zinc	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–8
Primary Lead Hard Lead Refining Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of hard lead produced	
Lead	32,730.000	14,880.000
Zinc	28,960.000	12,100.000
Total suspended solids	813,300.000	386,800.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–9
Primary Lead Facility Washdown

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	0.000	0.000
Zinc	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–10
Primary Lead Employe Handwash

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	5.445	2.475
Zinc	4.818	2.013
Total suspended solids	135.300	64.350
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–11
Primary Lead Respirator Wash

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	8.745	3.975
Zinc	7.738	3.233
Total suspended solids	217.300	103.400
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–12
Primary Lead Laundering of Uniforms

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	25.580	11.630
Zinc	22.630	9.455
Total suspended solids	635.500	302.300
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.073 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32,

any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 7–13
Primary Lead Sinter Plant Materials Handling Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of sinter production	
Lead	100.800	46.800
Zinc	367.200	151.200

Table 7–14
Primary Lead Blast Furnace Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–15
Primary Lead Blast Furnace Slag Granulation

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–16
Primary Lead Dross Reverberatory Slag Granulation

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of slag, speiss, or matte granulated	
Lead	1,612.000	748.400
Zinc	5,872.000	2,418.000

Table 7–17
Primary Lead Dross Reverberatory Furnace Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of dross reverberatory furnace production	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–18
Primary Lead Zinc Fuming Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–19
Primary Lead Hard Lead Refining Slag Granulation

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of hard lead produced	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–20
Primary Lead Hard Lead Refining Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of hard lead produced	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–21
Primary Lead Facility Washdown

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–22
Primary Lead Employe Handwash

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	0.924	0.425
Zinc	3.366	1.386

Table 7–23
Primary Lead Respirator Wash

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	1.484	0.689
Zinc	5.406	2.226

Table 7–24
Primary Lead Laundering of Uniforms

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	4.340	2.015
Zinc	15.810	6.510

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.074 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 7–25
Primary Lead Sinter Plant Materials Handling Wet Air Pollution Control

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of sinter production	
Lead	0.000	0.000
Zinc	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–26
Primary Lead Blast Furnace Wet Air Pollution Control

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	0.000	0.000
Zinc	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–27
Primary Lead Blast Furnace Slag Granulation

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	0.000	0.000
Zinc	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–28
Primary Lead Dross Reverberatory Slag Granulation

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of slag, speiss, or matte granulated	
Lead	0.000	0.000
Zinc	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–29
Primary Lead Dross Reverberatory Furnace Wet Air Pollution Control

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of dross reverberatory furnace production	
Lead	0.000	0.000
Zinc	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–30
Primary Lead Zinc Fuming Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	0.000	0.000
Zinc	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–31
Primary Lead Hard Lead Refining Slag Granulation

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of hard lead produced	
Lead	0.000	0.000
Zinc	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–32
Primary Lead Hard Lead Refining Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of hard lead produced	
Lead	0.000	0.000
Zinc	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–33
Primary Lead Facility Washdown

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	0.000	0.000
Zinc	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–34
Primary Lead Employe Handwash

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	0.924	0.429
Zinc	3.366	1.386
Total suspended solids	49.500	39.600
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–35
Primary Lead Respirator Wash

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	1.484	0.689
Zinc	5.406	2.226
Total suspended solids	79.500	63.600
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 7–36
Primary Lead Laundering of Uniforms

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	4.340	2.015
Zinc	15.810	6.510
Total suspended solids	232.500	186.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.075 Pretreatment standards for existing sources. Except as provided in ss. NR 211.13 and 211.14, any existing source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the following PSES:

Table 7–37
Primary Lead Sinter Plant Materials Handling Wet Air Pollution Control

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of sinter production	
Lead	100.800	46.800
Zinc	367.200	151.200

Table 7–38
Primary Lead Blast Furnace Wet Air Pollution Control

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–39
Primary Lead Blast Furnace Slag Granulation

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–40
Primary Lead Dross Reverberatory Slag Granulation

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of slag, speiss, or matte granulated	
Lead	1,612.000	748.400
Zinc	5,872.000	2,418.000

Table 7–41
Primary Lead Dross Reverberatory Furnace Wet Air Pollution Control

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of dross reverberatory furnace production	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–42
Primary Lead Zinc Fuming Wet Air Pollution Control

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–43
Primary Lead Hard Lead Refining Slag Granulation

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of hard lead produced	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–44
Primary Lead Hard Lead Refining Wet Air Pollution Control

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of hard lead produced	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–45
Primary Lead Facility Washdown

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–46
Primary Lead Employe Handwash

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	0.924	0.429
Zinc	3.366	1.386

Table 7–47
Primary Lead Respirator Wash

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	1.484	0.689
Zinc	5.406	2.226

Table 7–48
Primary Lead Laundering of Uniforms

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	4.340	2.015
Zinc	15.810	6.510

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.076 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source

subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the following PSNS:

Table 7–49
Primary Lead Sinter Plant Materials Handling Wet Air Pollution Control

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of sinter production	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–50
Primary Lead Blast Furnace Wet Air Pollution Control

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–51
Primary Lead Blast Furnace Slag Granulation

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–52
Primary Lead Dross Reverberatory Slag Granulation

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of slag, speiss, or matte granulated	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–53
Primary Lead Dross Reverberatory Furnace Wet Air Pollution Control

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of dross reverberatory furnace production	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–54
Primary Lead Zinc Fuming Wet Air Pollution Control

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–55
Primary Lead Hard Lead Refining Slag Granulation

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of hard lead produced	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–56
Primary Lead Hard Lead Refining Wet Air Pollution Control

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of hard lead produced	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–57
Primary Lead Facility Washdown

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	0.000	0.000
Zinc	0.000	0.000

Table 7–58
Primary Lead Employe Handwash

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	0.924	0.429
Zinc	3.366	1.386

Table 7–59
Primary Lead Respirator Wash

PSNS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	1.484	0.689
Zinc	5.406	2.226

Table 7–60
Primary Lead Laundering of Uniforms

PSNS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	4.340	2.015
Zinc	15.810	6.510

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter VIII — Primary Zinc

NR 274.08 Applicability; description of the primary zinc subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of primary zinc by either electrolytic or pyrolytic means.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.082 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 8–1
Primary Zinc
BPT Effluent Limitations

	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	kg/kkg (pounds per 1,000 pounds) of zinc metal	
Total suspended solids	0.42	0.21
Arsenic	0.0016	0.0008
Cadmium	0.008	0.004
Selenium	0.08	0.04
Zinc	0.08	0.04
pH	(1)	(1)

(1) Within the range of 6.0 to 9.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.083 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 8–2
Primary Zinc Zinc Reduction Furnace Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zinc reduced	
Cadmium	0.334	0.134
Copper	2.135	1.018
Lead	0.467	0.217
Zinc	1.702	0.701

Table 8–3
Primary Zinc Preleach of Zinc Concentrates

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of concentrate leached	
Cadmium	0.180	0.072
Copper	1.153	0.550
Lead	0.252	0.117
Zinc	0.919	0.378

Table 8–4
Primary Zinc Leaching Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zinc processed through leaching	
Cadmium	0.000	0.000
Copper	0.000	0.000
Lead	0.000	0.000
Zinc	0.000	0.000

Table 8–5
Primary Zinc Electrolyte Bleed Wastewater

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cathode zinc produced	
Cadmium	0.086	0.035
Copper	0.553	0.264
Lead	0.121	0.056
Zinc	0.441	0.182

Table 8–6
Primary Zinc Cathode and Anode Wash Wastewater

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cathode zinc produced	
Cadmium	0.150	0.060
Copper	0.961	0.458
Lead	0.210	0.098
Zinc	0.766	0.315

Table 8–7
Primary Zinc Casting Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zinc cast	
Cadmium	0.051	0.021
Copper	0.329	0.157
Lead	0.072	0.033
Zinc	0.262	0.108

Table 8–8
Primary Zinc Casting Contact Cooling

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zinc cast	
Cadmium	0.036	0.014
Copper	0.232	0.110
Lead	0.051	0.024
Zinc	0.185	0.076

Table 8–9
Primary Zinc Cadmium Plant Wastewater

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cadmium produced	
Cadmium	1.234	0.494
Copper	7.899	3.765
Lead	1.728	0.802
Zinc	6.295	2.592

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.084 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 8–10
Primary Zinc Zinc Reduction Furnace Wet Air Pollution Control

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zinc reduced	
Cadmium	0.334	0.134
Copper	2.135	1.018
Lead	0.467	0.217
Zinc	1.702	0.701
Total suspended solids	25.020	20.020
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 8–11
Primary Zinc Preleach of Zinc Concentrates

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of concentrate leached	
Cadmium	0.180	0.072
Copper	1.153	0.550
Lead	0.252	0.117
Zinc	0.919	0.378
Total suspended solids	13.520	10.810
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 8–12
Primary Zinc Leaching Wet Air Pollution Control

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zinc processed through leaching	
Cadmium	0.000	0.000
Copper	0.000	0.000
Lead	0.000	0.000
Zinc	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 8–13
Primary Zinc Electrolyte Bleed Wastewater

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cathode zinc produced	
Cadmium	0.086	0.035
Copper	0.553	0.264
Lead	0.121	0.056
Zinc	0.441	0.182
Total suspended solids	6.480	5.184
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 8–14
Primary Zinc Cathode and Anode Wash Wastewater

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cathode zinc produced	
Cadmium	0.150	0.060
Copper	0.961	0.458
Lead	0.210	0.098
Zinc	0.766	0.315
Total suspended solids	11.270	9.012
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 8–15
Primary Zinc Casting Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zinc cast	
Cadmium	0.051	0.021
Copper	0.329	0.157
Lead	0.072	0.033
Zinc	0.262	0.108
Total suspended solids	3.855	3.084
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 8–16
Primary Zinc Casting Contact Cooling

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zinc cast	
Cadmium	0.036	0.014
Copper	0.232	0.110
Lead	0.051	0.024
Zinc	0.185	0.076
Total suspended solids	2.715	2.172
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 8–17
Primary Zinc Cadmium Plant Wastewater

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cadmium produced	
Cadmium	1.234	0.494
Copper	7.899	3.765
Lead	1.728	0.802
Zinc	6.295	2.592
Total suspended solids	92.570	74.050
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.085 Pretreatment standards for existing sources. Except as provided in ss. NR 211.13 and 211.14, any new [existing] source subject to the primary zinc subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the following PSES:

Table 8–18
Primary Zinc Zinc Reduction Furnace Wet Air Pollution Control

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zinc reduced	
Cadmium	0.334	0.134
Zinc	1.702	0.701

Table 8–19
Primary Zinc Preleach of Zinc Concentrates

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of concentrate leached	
Cadmium	0.180	0.072
Zinc	0.919	0.378

Table 8–20
Primary Zinc Leaching Wet Air Pollution Control

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zinc processed through leaching	
Cadmium	0.000	0.000
Zinc	0.000	0.000

Table 8–21
Primary Zinc Electrolyte Bleed Wastewater

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cathode zinc produced	
Cadmium	0.086	0.035
Zinc	0.441	0.182

Table 8–22
Primary Zinc Cathode and Anode Wash Wastewater

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cathode zinc produced	
Cadmium	0.150	0.060
Zinc	0.766	0.315

Table 8–23
Primary Zinc Casting Wet Air Pollution Control

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zinc cast	
Cadmium	0.051	0.021
Zinc	0.262	0.108

Table 8–24
Primary Zinc Casting Contact Cooling

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zinc cast	
Cadmium	0.036	0.014
Zinc	0.185	0.076

Table 8–25
Primary Zinc Cadmium Plant Wastewater

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cadmium produced	
Cadmium	1.234	0.494
Zinc	6.295	2.592

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.086 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the standards set forth in s. NR 274.085.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter IX — Metallurgical Acid Plants

NR 274.09 Applicability; description of the metallurgical acid plants subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the byproduct sulfuric acid at primary copper smelters, primary zinc facilities, primary lead facilities, and primary molybdenum facilities, including any associated air pollution control or gas conditioning systems for sulfur dioxide off–gasses from pyrometallurgical acid plants operations.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.092 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 9–1
Metallurgical Acid Plants

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of 100% sulfuric acid capacity	
Cadmium	0.180	0.090
Copper	5.000	2.000
Lead	1.800	0.790
Zinc	3.600	0.900
Fluoride [1]	212.800	121.000
Molybdenum [1]	40.180	20.790
Total suspended solids	304.000	152.000
pH	[2]	[2]

[1] For molybdenum acid plants only
[2] Within the range of 6.0 to 9.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.093 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 9–2
Metallurgical Acid Plants

	BAT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of 100% sulfuric acid capacity	
Arsenic	3.550	1.584
Cadmium	0.511	0.204
Copper	3.269	1.558
Lead	0.715	0.332
Zinc	2.605	1.073
Fluoride [1]	89.390	50.820

(1) For molybdenum acid plants only.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.094 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 9–3
Metallurgical Acid Plants

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of 100% sulfuric acid capacity	
Arsenic	3.550	1.584
Cadmium	0.511	0.204
Copper	3.269	1.558
Lead	0.715	0.332
Zinc	2.605	1.073
Fluoride (1)	89.390	50.820
Total suspended solids	38.310	30.650
pH	(2)	(2)

(1) For molybdenum acid plants only.
(2) Within the range of 6.0 to 9.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.095 Pretreatment standards for existing sources. Except as provided in ss. NR 211.13 and 211.14, any new [existing] source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the following PSES:

Table 9–4
Metallurgical Acid Plants

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of 100% sulfuric acid capacity	
Cadmium	0.511	0.204
Zinc	2.605	1.073

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.096 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.093.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter X — Primary Tungsten

NR 274.10 Applicability; description of the primary tungsten subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of tungsten at primary tungsten facilities.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.102 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 10–1
Primary Tungsten
Tungstic Acid Rinse

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungstic acid produced	
Lead	17.230	8.205
Zinc	59.900	25.030
Ammonia (as N)	5,469.000	2,404.000
Total suspended solids	1,682.000	800.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–2
Primary Tungsten
Acid Leach Wet Air Pollution Control

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungstic acid produced	
Lead	15.040	7.162
Zinc	52.280	21.840
Ammonia (as N)	4,773.000	2,098.000
Total suspended solids	1,468.000	698.300
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–3
Primary Tungsten Alkali Leach Wash

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of sodium tungstate produced	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–4
Primary Tungsten Alkali Leach Wash Condensate

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of sodium tungstate produced	
Lead	8.057	3.837
Zinc	28.011	11.700
Ammonia (as N)	2,557.000	1,124.000
Total suspended solids	786.200	374.100
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–5
Primary Tungsten Ion–Exchange Raffinate Commingled With Other Process or Nonprocess Waters

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of ammonium tungstate produced	
Lead	37.160	17.700
Zinc	129.200	53.970
Ammonia (as N)	11,790.000	5,185.000
Total suspended solids	3,627.000	1,726.800
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–6
Primary Tungsten Ion–Exchange Raffinate Not Commingled With Other Process or Nonprocess Waters

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of ammonium tungstate produced	
Lead	37.160	17.700
Zinc	129.200	53.970
Ammonia (as N) (1)	11,790,000	5,185,000
Total suspended solids	3,627.000	1,726.800
pH	(2)	(2)

(1) The limitation for ammonia does not apply if the mother liquor feed to the ion exchange process or the raffinate from the ion exchange process contains sulfates at concentrations exceeding 1,000 mg/l, this mother liquor or raffinate is treated by ammonia stripping, and this mother liquor or raffinate is not commingled with any other process or nonprocess waters prior to steam stripping for ammonia removal.
(2) Within the range of 7.0 to 10.0 at all times.

Table 10–7
Primary Tungsten Calcium Tungstate Precipitate Wash

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of calcium tungstate produced	
Lead	31.000	14.760
Zinc	107.800	45.020
Ammonia (as N)	9,838.000	4,325.000
Total suspended solids	3,036.000	1,439.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–8
Primary Tungsten Crystallization and Drying of Ammonium Paratungstate

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of ammonium paratungstate produced	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–9
Primary Tungsten Ammonium Paratungstate Conversion to Oxides Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten oxide produced	
Lead	11.600	5.300
Zinc	40.320	16.380
Ammonia (as N)	3,681.000	1,618.000
Total suspended solids	1,132.000	538.500
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–10
Primary Tungsten Ammonium Paratungstate Conversion to Oxides Water of Formation

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten oxide produced	
Lead	0.026	0.013
Zinc	0.092	0.038
Ammonia (as N)	8.398	3.692
Total suspended solids	2.583	1.229
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–11
Primary Tungsten Reduction to Tungsten Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	12.940	6.161
Zinc	44.970	18.790
Ammonia (as N)	4,106.000	1,805.000
Total suspended solids	1,263.000	600.700
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–12
Primary Tungsten Reduction to Tungsten Water of Formation

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	0.205	0.098
Zinc	0.714	0.298
Ammonia (as N)	65.190	28.660
Total suspended solids	20.050	9.536
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–13
Primary Tungsten Tungsten Powder Acid Leach and Wash

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	1.008	0.480
Zinc	3.504	1.464
Ammonia (as N)	319.900	140.700
Total suspended solids	98.400	46.800
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–14
Primary Tungsten Molybdenum Sulfide Precipitation Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of molybdenum sulfide precipitated	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.103 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 10–15
Primary Tungsten
Tungstic Acid Rinse

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungstic acid produced	
Lead	11.490	5.333
Zinc	41.850	17.230
Ammonia (as N)	5,469.000	2,404.000

Table 10–16
Primary Tungsten
Acid Leach Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungstic acid produced	
Lead	1.003	0.466
Zinc	3.653	1.504
Ammonia (as N)	477.400	209.900

Table 10–17
Primary Tungsten
Alkali Leach Wash

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of sodium tungstate produced	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 10–18
Primary Tungsten
Alkali Leach Wash Condensate

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of sodium tungstate produced	
Lead	5.372	2.494
Zinc	19.570	8.057
Ammonia (as N)	2,557.000	1,124.000

Table 10–19
Primary Tungsten
Ion–Exchange Raffinate
Commingled With Other Process or Nonprocess Waters

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of ammonium tungstate produced	
Lead	24.780	11.500
Zinc	90.240	37.160
Ammonia (as N)	11,790.000	5,185.000

Table 10–20
Primary Tungsten
Ion–Exchange Raffinate
Not Commingled With Other Process or Nonprocess Waters

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of ammonium tungstate produced	
Lead	24.780	11.500
Zinc	90.240	37.160
Ammonia (as N) (1)	11,790.000	5,185.000

(1) The limitation for ammonia does not apply if the mother liquor feed to the ion exchange process or the raffinate from the ion exchange process contains sulfates at concentrations exceeding 1,000 mg/l, this mother liquor or raffinate

is treated by ammonia stripping, and this mother liquor or raffinate is not commingled with any other process or nonprocess waters prior to steam stripping for ammonia removal.

Table 10–21
Primary Tungsten
Calcium Tungstate Precipitate Wash

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of calcium tungstate produced	
Lead	20.670	9.594
Zinc	75.280	31.000
Ammonia (as N)	9,838.000	4,325.000

Table 10–22
Primary Tungsten
Crystallization and Drying of Ammonium Paratungstate

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of ammonium paratungstate produced	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 10–23
Primary Tungsten
Ammonium Paratungstate Conversion to Oxides
Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten oxide produced	
Lead	0.773	0.359
Zinc	2.817	1.160
Ammonia (as N)	368.200	161.900

Table 10–24
Primary Tungsten
Ammonium Paratungstate Conversion to Oxides
Water of Formation

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten oxide produced	
Lead	0.018	0.008
Zinc	0.064	0.026
Ammonia (as N)	8.398	3.692

Table 10–25
Primary Tungsten
Reduction to Tungsten Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	0.862	0.406
Zinc	3.142	1.294
Ammonia (as N)	410.600	180.500

Table 10–26
Primary Tungsten
Reduction to Tungsten Water of Formation

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	0.137	0.064
Zinc	0.499	0.205
Ammonia (as N)	65.190	28.660

Table 10–27
Primary Tungsten
Tungsten Powder Acid Leach and Wash

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	0.672	0.312
Zinc	2.448	1.008
Ammonia (as N)	319.900	140.700

Table 10–28
Primary Tungsten
Molybdenum Sulfide Precipitation
Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of molybdenum sulfide precipitated	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.104 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 10–29
Primary Tungsten
Tungstic Acid Rinse

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungstic acid produced	
Lead	11.490	5.333
Zinc	41.850	17.230
Ammonia (as N)	5,469.000	2,404.000
Total suspended solids	615.500	492.300
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–30
Primary Tungsten
Acid Leach Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungstic acid produced	
Lead	1.003	0.466
Zinc	3.653	1.504
Ammonia (as N)	477.400	209.900
Total suspended solids	53.720	42.970
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–31
Primary Tungsten
Alkali Leach Wash

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–32
Primary Tungsten
Alkali Leach Wash Condensate

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of sodium tungstate produced	
Lead	5.372	2.494
Zinc	19.570	8.057
Ammonia (as N)	2,557.000	1,124.000
Total suspended solids	287.800	229.600
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–33
Primary Tungsten
Ion–Exchange Raffinate
Commingled With Other Process or Nonprocess Waters

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of ammonium tungstate produced	
Lead	24.780	11.500
Zinc	90.240	37.160
Ammonia (as N)	11,790.000	5,185.000
Total suspended solids	1,327.000	1,062.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–34
Primary Tungsten
Ion–Exchange Raffinate
Not Commingled With Other Process or Nonprocess Waters

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of ammonium tungstate produced	
Lead	24.780	11.500
Zinc	90.240	37.160
Ammonia (as N) (1)	11,790.000	5,185.000
Total suspended solids	1,327.000	1,062.000
pH	(2)	(2)

(1) The limitation for ammonia does not apply if the mother liquor feed to the ion exchange process or the raffinate from the ion exchange process contains sulfates at concentrations exceeding 1,000 mg/l, this mother liquor or raffinate is treated by ammonia stripping, and this mother liquor or raffinate is not commingled with any other process or nonprocess waters prior to steam stripping for ammonia removal.
(2) Within the range of 7.0 to 10.0 at all times.

Table 10–35
Primary Tungsten
Calcium Tungstate Precipitate Wash

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of calcium tungstate produced	
Lead	20.670	9.594
Zinc	75.280	31.000
Ammonia (as N)	9,838.000	4,325.000
Total suspended solids	1,107.000	885.600
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–36
Primary Tungsten
Crystallization and Drying of Ammonium Paratungstate

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of ammonium paratungstate produced	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–37
Primary Tungsten
Ammonium Paratungstate Conversion to Oxides
Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten oxide produced	
Lead	0.773	0.359
Zinc	2.817	1.160
Ammonia (as N)	368.200	161.900
Total suspended solids	41.430	33.150
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–38
Primary Tungsten
Ammonium Paratungstate Conversion to Oxides
Water of Formation

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten oxide produced	
Lead	0.018	0.008
Zinc	0.064	0.026
Ammonia (as N)	8.398	3.692
Total suspended solids	0.945	0.756
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–39
Primary Tungsten
Reduction to Tungsten Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	0.862	0.400
Zinc	3.142	1.294
Ammonia (as N)	410.600	180.500
Total suspended solids	46.200	36.960
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–40
Primary Tungsten
Reduction to Tungsten Water of Formation

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	0.137	0.064
Zinc	0.499	0.205
Ammonia (as N)	65.190	28.660
Total suspended solids	7.335	5.868
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–41
Primary Tungsten
Tungsten Powder Acid Leach and Wash

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	0.672	0.312
Zinc	2.448	1.008
Ammonia (as N)	319.900	140.700
Total suspended solids	36.000	28.800
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

Table 10–42
Primary Tungsten
Molybdenum Sulfide Precipitation
Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of molybdenum sulfide precipitated	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.105 Pretreatment standards for existing sources. Except as provided in ss. NR 211.13 and 211.14, any new [existing] source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.103.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.106 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.103.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter XI — Primary Columbium–Tantalum

NR 274.11 Applicability; description of the primary columbium–tantalum subcategory. This subchapter

applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of columbium or tantalum by primary columbium–tantalum facilities.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.112 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 11–1
Primary Columbium–Tantalum
Concentrate Digestion Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of concentrate digested	
Lead	2.612	1.244
Zinc	9.080	3.794
Ammonia (as N)	829.000	364.500
Fluoride	217.700	124.400
Total suspended solids	255.000	121.300
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 11–2
Primary Columbium–Tantalum
Solvent Extraction Raffinate

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of concentrate digested	
Lead	3.888	1.851
Zinc	13.520	5.647
Ammonia (as N)	1,233.000	542.500
Fluoride	324.000	185.100
Total suspended solids	379.500	189.500
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 11–3
Primary Columbium–Tantalum
Solvent Extraction Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of concentrate digested	
Lead	1.032	0.491
Zinc	3.586	1.498
Ammonia (as N)	327.400	143.900
Fluoride	85.960	49.120
Total suspended solids	100.700	47.890
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 11–4
Primary Columbium–Tantalum
Precipitation and Filtration

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of concentrate digested	
Lead	5.750	2.738
Zinc	19.990	8.350
Ammonia (as N)	1,825.000	802.200
Fluoride	479.100	273.800
Total suspended solids	561.300	267.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 11–5
Primary Columbium–Tantalum
Precipitation and Filtration Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of concentrate digested	
Lead	26.680	12.700
Zinc	92.730	38.740
Ammonia (as N)	8,466.000	3,722.000
Fluoride	2,223.000	1,270.000
Total suspended solids	2,604.000	1,239.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 11–6
Primary Columbium–Tantalum
Tantalum Salt Drying

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum salt dried	
Lead	25.430	12.110
Zinc	88.390	36.930
Ammonia (as N)	8,070.000	3,548.000
Fluoride	2,119.000	1,211.000
Total suspended solids	2,482.000	1,181.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 11–7
Primary Columbium–Tantalum
Oxides Calcining Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of columbium–tantalum oxide dried	
Lead	16.140	7.685
Zinc	56.100	23.440
Ammonia (as N)	5,122.000	2,252.000
Fluoride	1,345.000	768.500
Total suspended solids	1,576.000	749.200
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 11–8
Primary Columbium–Tantalum
Reduction of Tantalum Salt to Metal

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum salt reduced	
Lead	69.750	33.220
Zinc	242.500	101.300
Ammonia (as N)	22,140.000	9,732.000
Fluoride	5,813.000	3,322.000
Total suspended solids	6,809.000	3,239.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 11–9
Primary Columbium–Tantalum
Reduction of Tantalum Salt to Metal
Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum salt reduced	
Lead	0.858	0.409
Zinc	2.983	1.246
Ammonia (as N)	272.400	119.700
Fluoride	71.510	40.860
Total suspended solids	83.770	39.840
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 11–10
Primary Columbium–Tantalum
Tantalum Powder Wash

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum powder washed	
Lead	8.582	4.087
Zinc	29.830	12.470
Ammonia (as N)	2,724.400	1,198.000
Fluoride	715.200	408.700
Total suspended solids	837.800	398.500
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 11–11
Primary Columbium–Tantalum
Consolidation and Casting Contact Cooling

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of columbium or tantalum cast or consolidated	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000
Fluoride	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.113 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 11–12
Primary Columbium–Tantalum
Concentrate Digestion Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of concentrate digested	
Lead	0.174	0.081
Zinc	0.635	0.261
Ammonia (as N)	82.910	36.450
Fluoride	21.770	12.440

Table 11–13
Primary Columbium–Tantalum
Solvent Extraction Raffinate

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of concentrate digested	
Lead	2.592	1.203
Zinc	9.442	3.888
Ammonia (as N)	1,233.000	542.500
Fluoride	324.000	185.100

Table 11–14
Primary Columbium–Tantalum
Solvent Extraction Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of concentrate digested	
Lead	0.069	0.032
Zinc	0.251	0.103
Ammonia (as N)	32.790	14.420
Fluoride	8.610	4.920

Table 11–15
Primary Columbium–Tantalum
Precipitation and Filtration

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of concentrate digested	
Lead	3.833	1.780
Zinc	13.960	5.750
Ammonia (as N)	1,825.000	802.200
Fluoride	479.100	273.800

Table 11–16
Primary Columbium–Tantalum
Precipitation and Filtration Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of concentrate digested	
Lead	1.778	0.826
Zinc	6.478	2.668
Ammonia (as N)	846.600	372.200
Fluoride	222.300	127.000

Table 11–17
Primary Columbium–Tantalum
Tantalum Salt Drying

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum salt dried	
Lead	16.950	7.871
Zinc	61.750	25.430
Ammonia (as N)	8,070.000	3,548.000
Fluoride	2,119.000	1,211.000

Table 11–18
Primary Columbium–Tantalum
Oxides Calcining Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of columbium–tantalum oxide dried	
Lead	1.076	0.500
Zinc	3.919	1.614
Ammonia (as N)	512.200	225.200
Fluoride	134.500	76.840

Table 11–19
Primary Columbium–Tantalum
Reduction of Tantalum Salt to Metal

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum salt reduced	
Lead	46.500	21.590
Zinc	169.400	69.750
Ammonia (as N)	22,140.000	9,732.000
Fluoride	5,813.000	3,322.000

Table 11–20
Primary Columbium–Tantalum
Reduction of Tantalum Salt to Metal
Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum salt reduced	
Lead	0.572	0.266
Zinc	2.084	0.858
Fluoride	71.510	40.860

Table 11–21
Primary Columbium–Tantalum
Tantalum Powder Wash

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum powder washed	
Lead	5.721	2.656
Zinc	20.840	8.582
Ammonia (as N)	2,724.400	1,198.000
Fluoride	715.200	408.700

Table 11–22
Primary Columbium–Tantalum
Consolidation and Casting Contact Cooling

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of columbium or tantalum cast or consolidated	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000
Fluoride	0.000	0.000

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.114 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 11–23
Primary Columbium–Tantalum
Concentrate Digestion Wet Air Pollution Control

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of concentrate digested	
Lead	0.174	0.081
Zinc	0.635	0.261
Ammonia (as N)	82.910	36.450
Fluoride	21.770	12.440
Total suspended solids	9.330	7.464
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 11–24
Primary Columbium–Tantalum
Solvent Extraction Raffinate

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of concentrate digested	
Lead	2.592	1.203
Zinc	9.442	3.888
Ammonia (as N)	1,233.000	542.500
Fluoride	324.000	185.100
Total suspended solids	138.900	111.100
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 11–25
Primary Columbium–Tantalum
Solvent Extraction Wet Air Pollution Control

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of concentrate digested	
Lead	0.069	0.032
Zinc	0.251	0.103
Ammonia (as N)	32.790	14.420
Fluoride	8.610	4.920
Total suspended solids	3.690	2.952
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 11–26
Primary Columbium–Tantalum
Precipitation and Filtration

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of concentrate digested	
Lead	3.833	1.780
Zinc	13.960	5.750
Ammonia (as N)	1,825.000	802.200
Fluoride	479.100	273.800
Total suspended solids	205.400	164.300
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 11–27
Primary Columbium–Tantalum
Precipitation and Filtration Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of concentrate digested	
Lead	1.778	0.826
Zinc	6.478	2.668
Ammonia (as N)	846.600	372.200
Fluoride	222.300	127.000
Total suspended solids	95.270	76.210
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 11–28
Primary Columbium–Tantalum
Tantalum Salt Drying

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum salt dried	
Lead	16.950	7.871
Zinc	61.750	25.430
Ammonia (as N)	8,070.000	3,548.000
Fluoride	2,119.000	1,211.000
Total suspended solids	908.200	726.500
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 11–29
Primary Columbium–Tantalum
Oxides Calcining Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of columbium–tantalum oxide dried	
Lead	1.076	0.500
Zinc	3.919	1.614
Ammonia (as N)	512.200	225.200
Fluoride	134.500	76.840
Total suspended solids	57.630	46.110
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 11–30
Primary Columbium–Tantalum
Reduction of Tantalum Salt to Metal

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum salt reduced	
Lead	46.500	21.590
Zinc	169.400	69.750
Ammonia (as N)	22,140.000	9,732.000
Fluoride	5,813.000	3,322.000
Total suspended solids	2,491.000	1,993.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 11–31
Primary Columbium–Tantalum
Reduction of Tantalum Salt to Metal
Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum salt reduced	
Lead	0.572	0.266
Zinc	2.084	0.858
Ammonia (as N)	272.400	119.700
Fluoride	71.510	40.860
Total suspended solids	30.650	24.520
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 11–32
Primary Columbium–Tantalum
Tantalum Powder Wash

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum powder washed	
Lead	5.721	2.656
Zinc	20.840	8.582
Ammonia (as N)	2,724.000	1,198.000
Fluoride	715.200	408.700
Total suspended solids	306.500	245.200
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 11–33
Primary Columbium–Tantalum
Consolidation and Casting Contact Cooling

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of columbium or tantalum cast or consolidated	
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000
Fluoride	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.115 Pretreatment standards for existing sources. Except as provided in ss. NR 211.13 and 211.14, any new [existing] source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.113.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.116 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.113.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter XII — Secondary Silver

NR 274.12 Applicability; description of the secondary silver subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of silver from secondary silver facilities processing photographic and nonphotographic raw materials.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.122 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 12–1
Secondary Silver
Film Stripping

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver from film stripping	
Copper	95.670	50.350
Zinc	73.510	30.720
Ammonia (as N)	6,712.000	2,951.000
Total suspended solids	2,065.000	981.800
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 12–2
Secondary Silver Film Stripping Wet Air Pollution Control and Precipitation and Filtration of Film Stripping Solutions
Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver from precipitation and filtration of film stripping solutions	
Copper	1.843	0.970
Zinc	1.416	0.592
Ammonia (as N)	129.300	56.840
Total suspended solids	39.770	18.920
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 12–3
Secondary Silver
Precipitation and Filtration of Film Stripping Solutions

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver precipitated	
Copper	109.400	57.570
Zinc	84.050	35.120
Ammonia (as N)	7,674.000	3,374.000
Total suspended solids	2,361.000	1,123.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 12–4
Secondary Silver
Precipitation and Filtration of Photographic Solutions

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver precipitated	
Copper	50.540	26.600
Zinc	38.836	16.226
Ammonia (as N)	3,545.000	1,559.000
Total suspended solids	1,090.600	518.700
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 12–5
Secondary Silver
Precipitation and Filtration of Photographic Solutions
Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver from precipitation and filtration of photographic solutions	
Copper	23.070	12.140
Zinc	17.730	7.406
Ammonia (as N)	1,618.000	711.400
Total suspended solids	497.800	236.800
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 12–6
Secondary Silver
Electrolytic Refining

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver from electrolytic refining	
Copper	1.444	0.760
Zinc	1.110	0.464
Ammonia (as N)	101.300	44.540
Total suspended solids	31.160	14.820
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 12–7
Secondary Silver
Furnace Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver roasted, smelted, or dried	
Copper	1.273	0.670
Zinc	0.978	0.409
Ammonia (as N)	89.310	39.260
Total suspended solids	27.470	13.070
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 12–8
Secondary Silver
Leaching

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver produced from leaching	
Copper	0.164	0.086
Zinc	0.126	0.053
Ammonia (as N)	11.470	5.040
Total suspended solids	3.526	1.677
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 12–9
Secondary Silver
Leaching Wet Air Pollution Control and
Precipitation of Nonphotographic Solutions
Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver produced from leaching or precipitated	
Copper	8.417	4.430
Zinc	6.468	2.703
Ammonia (as N)	590.500	259.600
Total suspended solids	181.700	86.390
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 12–10
Secondary Silver
Precipitation and Filtration of Nonphotographic Solutions

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver precipitated	
Copper	5.833	3.070
Zinc	4.482	1.873
Ammonia (as N)	409.300	179.900
Total suspended solids	125.900	59.870
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 12–11
Secondary Silver
Floor and Equipment Washdown

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver production	
Copper	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.123 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 12–12
Secondary Silver
Film Stripping

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver from film stripping	
Copper	64.450	30.720
Zinc	51.360	21.150
Ammonia (as N)	6,712.000	2,951.000

Table 12–13
Secondary Silver
Film Stripping Wet Air Pollution Control and Precipitation and Filtration of Film Stripping Solutions Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver from precipitation and filtration of film stripping solutions	
Copper	1.242	0.592
Zinc	0.990	0.408
Ammonia (as N)	129.300	56.840

Table 12–14
Secondary Silver
Precipitation and Filtration of Film Stripping Solutions

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver precipitated	
Copper	73.690	35.120
Zinc	58.720	24.180
Ammonia (as N)	7,674.000	3,374.000

Table 12–15
Secondary Silver
Precipitation and Filtration of Photographic Solutions

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver precipitated	
Copper	34.048	16.226
Zinc	27.132	11.172
Ammonia (as N)	3,545.000	1,559.000

Table 12–16
Secondary Silver
Precipitation and Filtration of Photographic Solutions Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver from precipitation and filtration of photographic solutions	
Copper	15.540	7.706
Zinc	12.380	5.099
Ammonia (as N)	1,618.000	711.400

Table 12–17
Secondary Silver
Electrolytic Refining

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver from electrolytic refining	
Copper	0.973	0.464
Zinc	0.775	0.319
Ammonia (as N)	101.300	44.540

Table 12–18
Secondary Silver
Furnace Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver roasted, smelted, or dried	
Copper	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 12–19
Secondary Silver
Leaching

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver produced from leaching	
Copper	0.110	0.053
Zinc	0.088	0.036
Ammonia (as N)	11.470	5.040

Table 12–20
Secondary Silver
Leaching Wet Air Pollution Control and Precipitation of Nonphotographic Solutions Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver produced from leaching or precipitated	
Copper	5.671	2.703
Zinc	4.519	1.861
Ammonia (as N)	590.500	259.600

Table 12–21
Secondary Silver
Precipitation and Filtration of Nonphotographic Solutions

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver precipitated	
Copper	3.930	1.873
Zinc	3.132	1.290
Ammonia (as N)	409.300	179.900

Table 12–22
Secondary Silver
Floor and Equipment Washdown

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver production	
Copper	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.124 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 12–23
Secondary Silver
Film Stripping

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver from film stripping	
Copper	64.450	30.720
Zinc	51.360	21.150
Ammonia (as N)	6,712.000	2,951.000
Total suspended solids	755.300	604.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 12–24
Secondary Silver
Film Stripping Wet Air Pollution Control and
Precipitation and Filtration of Film Stripping Solutions
Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver from precipitation and filtration of film stripping solutions	
Copper	1.242	0.592
Zinc	0.990	0.408
Ammonia (as N)	129.300	56.840
Total suspended solids	14.550	11.640
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 12–25
Secondary Silver
Precipitation and Filtration of Film Stripping Solutions

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver precipitated	
Copper	73.690	35.120
Zinc	58.720	24.180
Ammonia (as N)	7,674.000	3,374.000
Total suspended solids	863.600	690.900
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 12–26
Secondary Silver
Precipitation and Filtration of Photographic Solutions

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver precipitated	
Copper	34.048	16.226
Zinc	27.132	11.172
Ammonia (as N)	3,545.000	1,559.000
Total suspended solids	399.000	319.200
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 12–27
Secondary Silver
Precipitation and Filtration of Photographic Solutions
Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver from precipitation and filtration of photographic solutions	
Copper	15.540	7.406
Zinc	12.380	5.099
Ammonia (as N)	1,618.000	711.400
Total suspended solids	182.100	145.700
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 12–28
Secondary Silver
Electrolytic Refining

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver from electrolytic refining	
Copper	0.973	0.464
Zinc	0.775	0.319
Ammonia (as N)	101.300	44.540
Total suspended solids	11.400	9.120
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 12–29
Secondary Silver
Furnace Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver roasted, smelted, or dried	
Copper	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 12–30
Secondary Silver
Leaching

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver produced from leaching	
Copper	0.110	0.053
Zinc	0.088	0.036
Ammonia (as N)	11.470	5.040
Total suspended solids	1.290	1.032
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 12–31
Secondary Silver
Leaching Wet Air Pollution Control and
Precipitation of Nonphotographic Solutions
Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver produced from leaching or precipitated	
Copper	5.671	2.703
Zinc	4.519	1.861
Ammonia (as N)	590.500	259.600
Total suspended solids	66.450	53.160
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 12–32
Secondary Silver
Precipitation and Filtration of Nonphotographic Solutions

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver precipitated	
Copper	3.930	1.873
Zinc	3.132	1.290
Ammonia (as N)	409.300	179.900
Total suspended solids	46.050	36.840
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 12–33
Secondary Silver
Floor and Equipment Washdown

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver production	
Copper	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.125 Pretreatment standards for existing sources. Except as provided in ss. NR 211.13 and 211.14, any new [existing] source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.123.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.126 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.123.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter XIII — Secondary Lead

NR 274.13 Applicability; description of the secondary lead subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of lead by secondary lead facilities.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.132 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 13–1
Secondary Lead
Battery Cracking

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead scrap produced	
Antimony	1.932	0.862
Arsenic	1.407	0.579
Lead	0.283	0.135
Zinc	0.983	0.411
Ammonia (as N)	0.000	0.000
Total suspended solids	27.600	13.130
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 13–2
Secondary Lead
Blast, Reverberatory, or Rotary Furnace
Wet Air Pollution Control

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	7.491	3.341
Arsenic	5.455	2.245
Lead	1.096	0.522
Zinc	3.811	1.592
Ammonia (as N)	0.000	0.000
Total suspended solids	107.000	50.900
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 13–3
Secondary Lead
Kettle Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from refining	
Antimony	1.129	0.058
Arsenic	0.094	0.039
Lead	0.019	0.009
Zinc	0.066	0.027
Ammonia (as N)	0.000	0.000
Total suspended solids	1.845	0.878
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 13–4
Secondary Lead
Lead Paste Desulfurization

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead processed through desulfurization	
Antimony	0.000	0.000
Arsenic	0.000	0.000
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 13–5
Secondary Lead
Casting Contact Cooling

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead cast	
Antimony	0.634	0.283
Arsenic	0.462	0.190
Lead	0.093	0.044
Zinc	0.323	0.135
Ammonia (as N)	0.000	0.000
Total suspended solids	9.061	4.310
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 13–6
Secondary Lead
Truck Wash

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	0.060	0.027
Arsenic	0.044	0.018
Lead	0.009	0.004
Zinc	0.031	0.013
Ammonia (as N)	0.000	0.000
Total suspended solids	0.861	0.410
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 13–7
Secondary Lead
Facility Washdown

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	0.000	0.000
Arsenic	0.000	0.000
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 13–8
Secondary Lead
Battery Case Classification

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead scrap produced	
Antimony	0.000	0.000
Arsenic	0.000	0.000
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 13–9
Secondary Lead
Employe Handwash

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	0.077	0.035
Arsenic	0.056	0.023
Lead	0.011	0.005
Zinc	0.039	0.016
Ammonia (as N)	0.000	0.000
Total suspended solids	1.107	0.527
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 13–10
Secondary Lead
Employe Respirator Wash

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	0.126	0.056
Arsenic	0.092	0.038
Lead	0.018	0.009
Zinc	0.064	0.027
Ammonia (as N)	0.000	0.000
Total suspended solids	1.804	0.858
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 13–11
Secondary Lead
Laundering of Uniforms

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	0.367	0.164
Arsenic	0.268	0.110
Lead	0.054	0.026
Zinc	0.187	0.078
Ammonia (as N)	0.000	0.000
Total suspended solids	5.248	2.496
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.133 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 13–12
Secondary Lead
Battery Cracking

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead scrap produced	
Antimony	1.299	0.579
Arsenic	0.936	0.384
Lead	0.189	0.087
Zinc	0.687	0.283
Ammonia (as N)	0.000	0.000

Table 13–13
Secondary Lead
Blast, Reverberatory, or Rotary Furnace
Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	5.038	2.245
Arsenic	3.628	1.488
Lead	0.731	0.339
Zinc	2.662	1.096
Ammonia (as N)	0.000	0.000

Table 13–14
Secondary Lead
Kettle Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from refining	
Antimony	0.087	0.039
Arsenic	0.063	0.026
Lead	0.013	0.006
Zinc	0.046	0.019
Ammonia (as N)	0.000	0.000

Table 13–15
Secondary Lead
Lead Paste Desulfurization

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead processed through desulfurization	
Antimony	0.000	0.000
Arsenic	0.000	0.000
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 13–16
Secondary Lead
Casting Contact Cooling

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead cast	
Antimony	0.042	0.019
Arsenic	0.031	0.013
Lead	0.006	0.003
Zinc	0.022	0.009
Ammonia (as N)	0.000	0.000

Table 13–17
Secondary Lead
Truck Wash

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	0.041	0.018
Arsenic	0.029	0.012
Lead	0.006	0.003
Zinc	0.021	0.009
Ammonia (as N)	0.000	0.000

Table 13–18
Secondary Lead
Facility Washdown

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	0.000	0.000
Arsenic	0.000	0.000
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 13–19
Secondary Lead
Battery Case Classification

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead scrap produced	
Antimony	0.000	0.000
Arsenic	0.000	0.000
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 13–20
Secondary Lead
Employe Handwash

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	0.052	0.023
Arsenic	0.038	0.015
Lead	0.008	0.004
Zinc	0.028	0.011
Ammonia (as N)	0.000	0.000

Table 13–21
Secondary Lead
Employe Respirator Wash

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	0.085	0.038
Arsenic	0.061	0.025
Lead	0.012	0.006
Zinc	0.045	0.018
Ammonia (as N)	0.000	0.000

Table 13–22
Secondary Lead
Laundering of Uniforms

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	0.247	0.110
Arsenic	0.178	0.073
Lead	0.036	0.017
Zinc	0.131	0.054
Ammonia (as N)	0.000	0.000

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.134 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 13–23
Secondary Lead
Battery Cracking

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead scrap produced	
Antimony	1.299	0.579
Arsenic	0.936	0.384
Lead	0.189	0.087
Zinc	0.687	0.283
Ammonia (as N)	0.000	0.000
Total suspended solids	10.100	8.076
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 13–24
Secondary Lead
Blast, Reverberatory, or Rotary Furnace
Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	5.038	2.245
Arsenic	3.628	1.488
Lead	0.731	0.339
Zinc	2.662	1.096
Ammonia (as N)	0.000	0.000
Total suspended solids	39.150	31.320
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 13–25
Secondary Lead
Kettle Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from refining	
Antimony	0.000	0.000
Arsenic	0.000	0.000
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 13–26
Secondary Lead
Lead Paste Desulfurization

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead processed through desulfurization	
Antimony	0.000	0.000
Arsenic	0.000	0.000
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 13–27
Secondary Lead
Casting Contact Cooling

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead cast	
Antimony	0.042	0.019
Arsenic	0.031	0.013
Lead	0.006	0.003
Zinc	0.022	0.009
Ammonia (as N)	0.000	0.000
Total suspended solids	0.330	0.264
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 13–28
Secondary Lead
Truck Wash

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	0.041	0.018
Arsenic	0.029	0.012
Lead	0.006	0.003
Zinc	0.021	0.009
Ammonia (as N)	0.000	0.000
Total suspended solids	0.315	0.252
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 13–29
Secondary Lead
Facility Washdown

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	0.000	0.000
Arsenic	0.000	0.000
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 13–30
Secondary Lead
Battery Case Classification

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead scrap produced	
Antimony	0.000	0.000
Arsenic	0.000	0.000
Lead	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 13–31
Secondary Lead
Employe Handwash

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	0.052	0.023
Arsenic	0.038	0.015
Lead	0.008	0.004
Zinc	0.028	0.011
Ammonia (as N)	0.000	0.000
Total suspended solids	0.405	0.324
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 13–32
Secondary Lead
Employe Respirator Wash

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	0.085	0.038
Arsenic	0.061	0.025
Lead	0.012	0.006
Zinc	0.045	0.018
Ammonia (as N)	0.000	0.000
Total suspended solids	0.660	0.528
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 13–33
Secondary Lead
Laundering of Uniforms

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	0.247	0.110
Arsenic	0.178	0.073
Lead	0.036	0.017
Zinc	0.131	0.054
Ammonia (as N)	0.000	0.000
Total suspended solids	1.920	1.536
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.135 Pretreatment standards for existing sources. Except as provided in ss. NR 211.13 and 211.14, any new [existing] source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.133.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.136 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.133.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter XIV — Primary Antimony

NR 274.14 Applicability; description of the primary antimony subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of

pollutants into POTWs from the production of antimony at primary antimony facilities.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.142 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 14–1
Primary Antimony
Sodium Antimonate Autoclave Wastewater

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of antimony contained in sodium antimonate product	
Antimony	44.840	20.000
Arsenic	32.650	14.530
Mercury	3.906	1.562
Total suspended solids	640.600	304.700
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 14–2
Fouled Anolyte
BPT Effluent Limitations

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of antimony metal produced by electrowinning	
Antimony	44.840	20.000
Arsenic	32.650	14.530
Mercury	3.906	1.562
Total suspended solids	640.600	304.700
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 14–3
Primary Antimony
Cathode Antimony Wash Water

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of antimony metal produced by electrowinning	
Antimony	89.680	40.000
Arsenic	65.310	29.060
Mercury	7.812	3.125
Total suspended solids	1,281.000	609.300
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.143 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 14–4
Primary Antimony
Sodium Antimonate Autoclave Wastewater

	BAT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of antimony contained in sodium antimonate product	
Antimony	30.150	13.440
Arsenic	21.720	9.687
Mercury	2.344	0.937

Table 14–5
Primary Antimony
Fouled Anolyte

	BAT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of antimony metal produced by electrowinning	
Antimony	30.150	13.440
Arsenic	21.720	9.687
Mercury	2.344	0.937

Table 14–6
Primary Antimony
Cathode Antimony Wash Water

	BAT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of antimony metal produced by electrowinning	
Antimony	60.310	26.870
Arsenic	43.430	19.370
Mercury	4.687	1.875

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.144 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 14–7
Primary Antimony
Sodium Antimonate Autoclave Wastewater

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of antimony contained in sodium antimonate product	
Antimony	30.150	13.440
Arsenic	21.720	9.687
Mercury	2.344	0.937
Total suspended solids	234.400	187.500
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 14–8
Primary Antimony
Fouled Anolyte

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of antimony metal produced by electrowinning	
Antimony	30.150	13.440
Arsenic	21.720	9.687
Mercury	2.344	0.937
Total suspended solids	234.400	187.500
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 14–9
Primary Antimony
Cathode Antimony Wash Water

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of antimony metal produced by electrowinning	
Antimony	60.310	26.870
Arsenic	43.430	19.370
Mercury	4.687	1.875
Total suspended solids	468.700	375.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.146 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.143.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter XV — Primary Beryllium

NR 274.15 Applicability; description of the primary beryllium subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of beryllium from primary beryllium facilities processing beryllium ore concentrates or beryllium oxide raw materials.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.151 Cyanide. (1) Periodic analyses for cyanide are not required when both of the following conditions are met:

(a) The first wastewater sample taken in the calendar year has been analyzed and found to contain less than 0.7% mg/l cyanide; and

(b) The owner or operator certifies in writing to the department or control authority that cyanide is neither generated nor used in the manufacturing process.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.152 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 15–1
Primary Beryllium
Solvent Extraction Raffinate from Bertrandite Ore

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium carbonate produced from bertrandite ore as beryllium	
Beryllium	2,763.000	1,235.000
Chromium (total)	988.000	404.300
Copper	4,267.000	2,246.000
Cyanide (total)	651.300	269.500
Ammonia (as N)	299,400.000	131,600.000
Fluoride	78,610.000	131,600.000
Total suspended solids	92,090.000	43,800.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–2
Primary Beryllium
Solvent Extraction Raffinate from Beryl Ore

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium carbonate produced from beryl ore as beryllium	
Beryllium	270.6	121.0
Chromium (total)	96.8	39.0
Copper	418.0	220.0
Cyanide (total)	63.0	26.4
Ammonia (as N)	29,330.0	12,890.0
Fluoride	7,700.0	4,378.0
Total suspended solids	9,020.0	4,290.0
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–3
Primary Beryllium
Beryllium Carbonate Filtrate

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium carbonate produced as beryllium	
Beryllium	263.800	118.000
Chromium (total)	94.380	38.610
Copper	407.600	214.500
Cyanide (total)	62.210	25.740
Ammonia (as N)	28,590.000	12,570.000
Fluoride	7,508.000	4,269.000
Total suspended solids	8,795.000	4,183.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–4
Primary Beryllium
Beryllium Hydroxide Filtrate

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium hydroxide produced as beryllium	
Beryllium	167.280	78.800
Chromium (total)	59.840	24.480
Copper	258.400	136.000
Cyanide (total)	39.440	16.320
Ammonia (as N)	18,128.800	7,969.600
Fluoride	4,760.000	2,706.400
Total suspended solids	5,576.000	2,652.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–5
Primary Beryllium
Beryllium Oxide Calcining Furnace
Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium oxide produced	
Beryllium	324.000	126.000
Chromium (total)	116.000	47.470
Copper	501.000	263.000
Cyanide (total)	76.470	31.640
Ammonia (as N)	35,150.000	15,450.000
Fluoride	9,230.000	5,248.000
Total suspended solids	10,810.000	5,142.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–6
Primary Beryllium
Beryllium Hydroxide Supernatant

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium hydroxide produced from scrap and residues as beryllium	
Beryllium	282.9	126.5
Chromium (total)	101.2	41.4
Copper	437.0	230.0
Cyanide (total)	66.7	27.6
Ammonia (as N)	30,660.0	13,480.0
Fluoride	160,308.0	71,201.0
Total suspended solids	9,430.0	4,485.0
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–7
Primary Beryllium
Process Water

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium pebbles produced	
Beryllium	215.00	96.14
Chromium (total)	76.91	31.46
Copper	332.10	174.80
Cyanide (total)	50.69	20.98
Ammonia (as N)	23,300.00	10,240.00
Fluoride	6,118.00	3,479.00
Total suspended solids	7,167.00	3,409.00
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–8
Primary Beryllium
Fluoride Furnace Scrubber

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium pebbles produced	
Beryllium	0.000	0.000
Chromium (total)	0.000	0.000
Copper	0.000	0.000
Cyanide (total)	0.000	0.000
Ammonia (as N)	0.000	0.000
Fluoride	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–9
Primary Beryllium
Chip Treatment Wastewater

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium scrap chips treated	
Beryllium	9.533	4.263
Chromium (total)	3.410	1.395
Copper	14.730	7.750
Cyanide (total)	2.248	0.930
Ammonia (as N)	1,033.000	454.200
Fluoride	271.300	154.200
Total suspended solids	317.800	151.100
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–10
Primary Beryllium
Beryllium Pebble Plant Area Vent
Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium pebbles produced	
Beryllium	0.000	0.000
Chromium (total)	0.000	0.000
Copper	0.000	0.000
Cyanide (total)	0.000	0.000
Ammonia (as N)	0.000	0.000
Fluoride	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–11
Primary Beryllium
Beryllium Ore Gangue Dewatering

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryl ore processed	
Beryllium	1.283	0.574
Chromium (total)	0.459	0.188
Copper	1.982	1.043
Cyanide (total)	0.302	0.125
Ammonia (as N)	139.032	61.120
Fluoride	36.505	20.756
Total suspended solids	42.763	20.339
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–12
Primary Beryllium
Beryllium Ore Gangue Dewatering

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryl ore processed	
Beryllium	3.279	1.466
Chromium (total)	1.173	0.480
Copper	5.064	2.665
Cyanide (total)	0.773	0.320
Ammonia (as N)	355.245	156.169
Fluoride	93.275	53.034
Total suspended solids	109.265	51.968
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–13
Primary Beryllium
Beryl Ore Processing

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryl ore processed	
Beryllium	8.983	4.017
Chromium (total)	3.213	1.315
Copper	13.876	7.303
Cyanide (total)	2.118	0.876
Ammonia (as N)	973.490	427.956
Fluoride	255.605	145.330
Total suspended solids	299.423	142.409
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–14
Primary Beryllium
Aluminum Iron Sludge Area Wastewater

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of total beryllium carbonate produced as beryllium	
Beryllium	575.640	257.400
Chromium (total)	205.920	84.240
Copper	889.200	468.000
Cyanide (total)	135.720	56.160
Ammonia (as N)	62,384.400	27,424.800
Fluoride	16,380.000	9,313.200
Total suspended solids	19,188.000	9,126.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–15
Primary Beryllium
Bertrandite Ore Leaching Scrubber

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of bertrandite ore processed	
Beryllium	1.859	0.831
Chromium (total)	0.665	0.272
Copper	2.871	1.511
Cyanide (total)	0.438	0.181
Ammonia (as N)	201.416	88.545
Fluoride	52.885	30.069
Total suspended solids	61.951	29.465
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–16
Primary Beryllium
Bertrandite Ore Countercurrent and Decantation Scrubber

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of bertrandite ore processed	
Beryllium	0.124	0.056
Chromium (total)	0.044	0.018
Copper	0.192	0.101
Cyanide (total)	0.029	0.012
Ammonia (as N)	13.463	5.919
Fluoride	3.535	2.010
Total suspended solids	4.141	1.970
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.153 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 15–17
Primary Beryllium
Solvent Extraction Raffinate from Bertrandite Ore

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium carbonate produced from bertrandite ore as beryllium	
Beryllium	1,842.000	831.000
Chromium (total)	831.000	336.900
Copper	2,875.000	1,370.000
Cyanide (total)	449.200	179.700
Ammonia (as N)	299,400.000	131,600.000
Fluoride	78,610.000	44,700.000

Table 15–18
Primary Beryllium
Solvent Extraction Raffinate from Beryl Ore

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium carbonate produced from beryl ore as beryllium	
Beryllium	180.4	81.4
Chromium (total)	81.4	33.0
Copper	281.6	134.2
Cyanide (total)	44.8	17.6
Ammonia (as N)	29,330.0	12,890.0
Fluoride	7,700.0	4,378.0

Table 15–19
Primary Beryllium
Beryllium Carbonate Filtrate

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium carbonate produced as beryllium	
Beryllium	175.900	79.370
Chromium (total)	79.370	32.180
Copper	274.600	130.800
Cyanide (total)	42.900	17.160
Ammonia (as N)	28,590.000	12,570.000
Fluoride	7,508.000	4,269.000

Table 15–20
Primary Beryllium
Beryllium Hydroxide Filtrate

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium hydroxide produced as beryllium	
Beryllium	111.520	50.320
Chromium (total)	50.320	20.400
Copper	174.080	82.960
Cyanide (total)	27.200	10.880
Ammonia (as N)	18,128.800	7,969.600
Fluoride	4,760.000	2,706.400

Table 15–21
Primary Beryllium
Beryllium Oxide Calcining Furnace
Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium oxide produced	
Beryllium	216.20	97.57
Chromium (total)	97.57	39.56
Copper	337.50	160.90
Cyanide (total)	52.74	21.10
Ammonia (as N)	35,150.00	15,450.00
Fluoride	9,230.00	5,248.00

Table 15–22
Primary Beryllium
Beryllium Hydroxide Supernatant

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium hydroxide produced from scrap and residues as beryllium	
Beryllium	188.6	85.1
Chromium (total)	85.1	34.5
Copper	294.4	140.3
Cyanide (total)	46.0	18.4
Ammonia (as N)	30,660.0	13,480.0
Fluoride	160,308.0	71,201.0

Table 15–23
Primary Beryllium
Process Water

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium pebbles produced	
Beryllium	143.30	64.68
Chromium (total)	64.68	26.22
Copper	223.70	106.60
Cyanide (total)	34.96	13.98
Ammonia (as N)	23,300.00	10,240.00
Fluoride	6,118.00	3,479.00

Table 15–24
Primary Beryllium
Fluoride Furnace Scrubber

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium pebbles produced	
Beryllium	0.000	0.000
Chromium (total)	0.000	0.000
Copper	0.000	0.000
Cyanide (total)	0.000	0.000
Ammonia (as N)	0.000	0.000
Fluoride	0.000	0.000

Table 15–25
Primary Beryllium
Chip Treatment Wastewater

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium scrap chips treated	
Beryllium	6.355	2.868
Chromium (total)	2.868	1.163
Copper	9.920	4.728
Cyanide (total)	1.550	0.620
Ammonia (as N)	1,033.000	454.200
Fluoride	271.300	154.200

Table 15–26
Primary Beryllium
Beryllium Pebble Plant Area Vent
Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium pebbles produced	
Beryllium	0.000	0.000
Chromium (total)	0.000	0.000
Copper	0.000	0.000
Cyanide (total)	0.000	0.000
Ammonia (as N)	0.000	0.000
Fluoride	0.000	0.)00

Table 15–27
Primary Beryllium
Beryllium Ore Gangue Dewatering

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryl ore processed	
Beryllium	0.855	0.386
Chromium (total)	0.386	0.156
Copper	1.335	0.636
Cyanide (total)	0.209	0.083
Ammonia (as N)	139.032	61.120
Fluoride	36.505	20.756

Table 15–28
Primary Beryllium
Bertrandite Ore Gangue Dewatering

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryl ore processed	
Beryllium	2.185	0.986
Chromium (total)	0.986	0.400
Copper	3.411	1.626
Cyanide (total)	0.533	0.213
Ammonia (as N)	355.245	156.169
Fluoride	93.275	53.034

Table 15–29
Primary Beryllium
Beryl Ore Processing

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryl ore processed	
Beryllium	5.988	2.702
Chromium (total)	2.702	1.095
Copper	9.348	4.455
Cyanide (total)	1.461	0.584
Ammonia (as N)	973.490	427.956
Fluoride	255.605	145.330

Table 15–30
Primary Beryllium
Aluminum Iron Sludge Area Wastewater

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of total beryllium carbonate produced as beryllium	
Beryllium	383.760	173.160
Chromium (total)	173.160	70.200
Copper	599.040	285.480
Cyanide (total)	93.600	37.440
Ammonia (as N)	62,384.400	27,424.800
Fluoride	16,380.000	9,313.200

Table 15–31
Primary Beryllium
Bertrandite Ore Leaching Scrubber

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of bertrandite ore processed	
Beryllium	1.239	0.559
Chromium (total)	0.599	0.227
Copper	1.934	0.922
Cyanide (total)	0.302	0.121
Ammonia (as N)	201.416	88.545
Fluoride	52.885	30.069

Table 15–32
Primary Beryllium
Bertrandite Ore Countercurrent and Decantation Scrubber

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of bertrandite ore processed	
Beryllium	0.083	0.037
Chromium (total)	0.037	0.015
Copper	0.129	0.062
Cyanide (total)	0.020	0.008
Ammonia (as N)	13.463	5.919
Fluoride	3.535	2.010

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.154 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 15–33
Primary Beryllium
Solvent Extraction Raffinate from Bertrandite Ore

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium carbonate produced from bertrandite ore as beryllium	
Beryllium	1,842.000	831.000
Chromium (total)	831.000	336.900
Copper	2,875.000	1,370.000
Cyanide (total)	449.200	179.700
Ammonia (as N)	299,400.000	131,600.000
Fluoride	78,610.000	44,700.00
Total suspended solids	33,690.000	26,950.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–34
Primary Beryllium
Solvent Extraction Raffinate from Beryl Ore

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium carbonate produced from beryl ore as beryllium	
Beryllium	180.4	81.4
Chromium (total)	81.4	33.0
Copper	281.6	134.2
Cyanide (total)	44.8	17.6
Ammonia (as N)	29,330.0	12,890.0
Fluoride	7,700.0	4,378.0
Total suspended solids	3,300.0	2,640.0
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–35
Primary Beryllium
Beryllium Carbonate Filtrate

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium carbonate produced as beryllium	
Beryllium	175.900	79.370
Chromium (total)	79.370	32.180
Copper	274.600	130.800
Cyanide (total)	42.900	17.160
Ammonia (as N)	28,590.000	12,579.000
Fluoride	7,508.000	4,269.000
Total suspended solids	3,218.000	2,574.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–36
Primary Beryllium
Anode Bake Plant Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium hydroxide produced as beryllium	
Beryllium	111.520	50.320
Chromium (total)	50.320	20.320
Copper	174.080	82.960
Cyanide (total)	27.200	10.880
Ammonia (as N)	18,128.800	7,969.600
Fluoride	4,760.000	2,706.400
Total suspended solids	2,040.000	1,632.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–37
Primary Beryllium
Beryllium Oxide Calcining Furnace
Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium oxide produced	
Beryllium	216.20	97.57
Chromium (total)	97.57	39.56
Copper	337.50	160.90
Cyanide (total)	52.74	21.10
Ammonia (as N)	35,150.00	15,450.00
Fluoride	9,230.00	5,248.00
Total suspended solids	3,956.00	3,164.00
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–38
Primary Beryllium
Beryllium Hydroxide Supernatant

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium hydroxide produced from scrap and residues as beryllium	
Beryllium	188.6	85.1
Chromium (total)	85.1	34.5
Copper	294.4	140.3
Cyanide (total)	46.0	18.4
Ammonia (as N)	30,660.0	13,480.0
Fluoride	160,308.0	71,201.0
Total suspended solids	3,450.0	2,760.0
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–39
Primary Beryllium
Process Water

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium pebbles produced	
Beryllium	143.30	64.68
Chromium (total)	64.68	26.22
Copper	223.70	106.60
Cyanide (total)	34.96	13.98
Ammonia (as N)	23,300.00	10,240.00
Fluoride	61,180.00	3,479.00
Total suspended solids	2,622.00	2,098.00
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–40
Primary Beryllium
Fluoride Furnace Scrubber

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium pebbles produced	
Beryllium	0.000	0.000
Chromium (total)	0.000	0.000
Copper	0.000	0.000
Cyanide (total)	0.000	0.000
Ammonia (as N)	0.000	0.000
Fluoride	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–41
Primary Beryllium
Chip Treatment Wastewater

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium scrap chips treated	
Beryllium	6.355	2.868
Chromium (total)	2.868	1.163
Copper	9.920	4.728
Cyanide (total)	1.550	0.620
Ammonia (as N)	1,033.000	454.200
Fluoride	271.300	154.200
Total suspended solids	116.300	93.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–42
Primary Beryllium
Beryllium Pebble Plant Area Vent
Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium pebbles produced	
Beryllium	0.000	0.000
Chromium (total)	0.000	0.000
Copper	0.000	0.000
Cyanide (total)	0.000	0.000
Ammonia (as N)	0.000	0.000
Fluoride	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–43
Primary Beryllium
Beryllium Ore Gangue Dewatering

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryl ore processed	
Beryllium	0.855	0.386
Chromium (total)	0.386	0.156
Copper	1.335	0.636
Cyanide (total)	0.209	0.083
Ammonia (as N)	139.032	61.120
Fluoride	36.505	20.756
Total suspended solids	15.645	12.516
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–44
Primary Beryllium
Bertrandite Ore Gangue Dewatering

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryl ore processed	
Beryllium	2.185	0.986
Chromium (total)	0.986	0.400
Copper	3.411	1.626
Cyanide (total)	0.533	0.213
Ammonia (as N)	355.245	156.169
Fluoride	93.275	53.034
Total suspended solids	39.975	31.980
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–45
Primary Beryllium
Beryl Ore Processing

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryl ore processed	
Beryllium	5.988	2.702
Chromium (total)	2.702	1.095
Copper	9.348	4.455
Cyanide (total)	1.461	0.584
Ammonia (as N)	973.490	427.956
Fluoride	255.605	145.330
Total suspended solids	109.545	87.636
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–46
Primary Beryllium
Aluminum Iron Sludge Area Wastewater

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of beryllium carbonate produced as beryllium	
Beryllium	383.760	173.160
Chromium (total)	173.160	70.200
Copper	599.040	285.480
Cyanide (total)	93.600	37.440
Ammonia (as N)	62,384.400	27,424.800
Fluoride	16,380.000	9,313.000
Total suspended solids	7,020.000	5,616.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–47
Primary Beryllium
Bertrandite Ore Leaching Scrubber

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of bertrandite ore processed	
Beryllium	1.239	0.559
Chromium (total)	0.559	0.227
Copper	1.934	0.922
Cyanide (total)	0.302	0.121
Ammonia (as N)	201.416	88.545
Fluoride	52.885	30.069
Total suspended solids	22.665	18.132
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 15–48
Primary Beryllium
Bertrandite Ore Countercurrent and Decantation Scrubber

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of bertrandite ore processed	
Beryllium	0.083	0.037
Chromium (total)	0.037	0.015
Copper	0.129	0.062
Cyanide (total)	0.020	0.008
Ammonia (as N)	13.463	5.919
Fluoride	3.535	2.010
Total suspended solids	1.515	1.212
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.156 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.153.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter XVIII — Primary and Secondary Germanium and Gallium

NR 274.18 Applicability; description of the primary and secondary germanium and gallium subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of germanium or gallium by primary or secondary germanium or gallium facilities.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.182 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 18–1
Primary and Secondary Germanium and Gallium
Still Liquor

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of germanium chlorinated	
Arsenic	131.700	58.590
Lead	26.460	12.600
Zinc	91.980	38.430
Fluoride	2,205.000	1,254.000
Total suspended solids	2,583.000	1,229.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 18–2
Primary and Secondary Germanium and Gallium
Chlorinator Wet Air Pollution Control

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of germanium chlorinated	
Arsenic	27.530	12.250
Lead	5.531	2.634
Zinc	19.230	8.034
Fluoride	461.000	262.100
Total suspended solids	540.000	256.800
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 18–3
Primary and Secondary Germanium and Gallium
Germanium Hydrolysis Filtrate

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of germanium hydrolyzed	
Arsenic	39.440	17.550
Lead	7.925	3.774
Zinc	27.550	11.510
Fluoride	660.500	375.500
Total suspended solids	773.700	368.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 18–4
Primary and Secondary Germanium and Gallium
Acid Wash and Rinse Water

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of germanium washed	
Arsenic	325.500	144.800
Lead	65.400	31.140
Zinc	227.400	94.990
Fluoride	5,450.000	3,099.000
Total suspended solids	6,385.000	3,037.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 18–5
Primary and Secondary Germanium and Gallium
Gallium Hydrolysis Filtrate

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of gallium hydrolyzed	
Arsenic	70.450	31.350
Lead	14.160	6.742
Zinc	49.220	20.560
Fluoride	1,180.000	670.800
Total suspended solids	1,382.000	657.300
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 18–6
Primary and Secondary Germanium and Gallium
Solvent Extraction Raffinate

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of gallium produced by solvent extraction	
Arsenic	39.330	17.500
Lead	7.904	3.764
Zinc	27.480	11.480
Fluoride	658.700	374.500
Total suspended solids	771.600	367.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.183 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 18–7
Primary and Secondary Germanium and Gallium
Still Liquor

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of germanium chlorinated	
Arsenic	131.700	58.590
Lead	26.460	12.600
Zinc	91.980	38.430
Fluoride	2,205.000	1,254.000

Table 18–8
Primary and Secondary Germanium and Gallium
Chlorinator Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of germanium chlorinated	
Arsenic	27.530	12.250
Lead	5.531	2.634
Zinc	19.230	8.034
Fluoride	461.000	262.100

Table 18–9
Primary and Secondary Germanium and Gallium
Germanium Hydrolysis Filtrate

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of germanium hydrolyzed	
Arsenic	39.440	17.550
Lead	7.925	3.774
Zinc	27.550	11.510
Fluoride	660.500	375.500

Table 18–10
Primary and Secondary Germanium and Gallium
Acid Wash and Rinse Water

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of germanium washed	
Arsenic	325.500	144.800
Lead	65.400	31.140
Zinc	227.400	94.990
Fluoride	5,450.000	3,099.000

Table 18–11
Primary and Secondary Germanium and Gallium
Gallium Hydrolysis Filtrate

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of gallium hydrolyzed	
Arsenic	70.450	31.350
Lead	14.160	6.742
Zinc	49.220	20.560
Fluoride	1,180.000	670.800

Table 18–12
Primary and Secondary Germanium and Gallium
Solvent Extraction Raffinate

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of gallium produced by solvent extraction	
Arsenic	39.330	17.500
Lead	7.904	3.764
Zinc	27.480	11.480
Fluoride	658.700	374.500

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.184 New source performance standards. Any new source subject to this subchapter shall achieve the limitations set forth in s. NR 274.182.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.185 Pretreatment standards for existing sources. Except as provided in ss. NR 211.13 and 211.14, any existing source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.183.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.186 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the standards set forth in s. NR 274.183.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter XIX — Secondary Indium

NR 274.19 Applicability; description of the secondary indium subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of indium at secondary indium facilities processing spent electrolyte solutions and scrap indium metal raw materials.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.194 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 19–1
Secondary Indium
Displacement Supernatant

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of indium metal produced	
Cadmium	2.105	0.929
Lead	2.600	1.238
Zinc	9.037	3.776
Indium	2.724	1.114
Total suspended solids	253.800	120.700
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 19–2
Secondary Indium
Spent Electrolyte

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cathode indium produced	
Cadmium	12.170	5.370
Lead	15.040	7.160
Zinc	52.270	21.840
Indium	15.750	6.444
Total suspended solids	1,468.000	698.100
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.195 Pretreatment standards for existing sources. Except as provided in ss. NR 211.13 and 211.14, any new [existing] source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the following PSES:

Table 19–3
Secondary Indium
Displacement Supernatant

PSES		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of indium metal produced	
Cadmium	2.105	0.929
Lead	2.600	1.238
Zinc	9.037	3.776
Indium	2.724	1.114

Table 19–4
Secondary Indium
Spent Electrolyte

PSES		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cathode indium produced	
Cadmium	12.170	5.370
Lead	15.040	7.160
Zinc	52.270	21.840
Indium	15.750	6.444

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.196 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the standards set forth in s. NR 274.195.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter XX — Secondary Mercury

NR 274.20 Applicability; description of the secondary mercury subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of mercury at sec-

ondary mercury facilities processing recycled mercuric oxide batteries and other scrap raw materials containing mercury.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.204 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 20–1
Secondary Mercury
Spent Battery Electrolyte

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury produced from batteries	
Lead	0.030	0.014
Mercury	0.016	0.006
Total suspended solids	1.590	1.272
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 20–2
Secondary Mercury
Acid Wash and Rinse Water

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury washed and rinsed	
Lead	0.00056	0.00026
Mercury	0.00030	0.00012
Total suspended solids	0.03000	0.02400
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 20–3
Secondary Mercury
Furnace Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury processed through furnace	
Lead	0.000	0.000
Mercury	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.206 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the following standards:

Table 20–4
Secondary Mercury
Spent Battery Electrolyte

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury produced from batteries	
Lead	0.030	0.014
Mercury	0.016	0.006

Table 20–5
Secondary Mercury
Acid Wash and Rinse Water

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury washed and rinsed	
Lead	0.00056	0.00026
Mercury	0.00030	0.00012

Table 20–6
Secondary Mercury
Furnace Wet Air Pollution Control

	PSNS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury processed through furnace	
Lead	0.000	0.000
Mercury	0.000	0.000

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter XXI — Primary Molybdenum and Rhenium

NR 274.21 Applicability; description of the primary molybdenum and rhenium subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of molybdenum and rhenium at primary molybdenum and rhenium facilities.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.212 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 21–1
Primary Molybdenum and Rhenium
Molybdenum Sulfide Leachate

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of molybdenum sulfide leached	
Arsenic	0.968	0.431
Lead	0.195	0.093
Nickel	0.889	0.588
Selenium	0.570	0.255
Ammonia (as N)	61.720	27.130
Fluoride	16.210	9.214
Total suspended solids	18.980	9.029
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 21–2
Primary Molybdenum and Rhenium
Roaster Sulfur Dioxide Scrubber

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of molybdenum sulfide roasted	
Arsenic	3.509	1.561
Lead	0.705	0.336
Nickel	3.224	2.133
Selenium	2.065	0.924
Ammonia (as N)	223.800	98.390
Fluoride	58.770	33.410
Total suspended solids	68.840	32.740
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 21–3
Primary Molybdenum and Rhenium
Molybdic Oxide Leachate

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of molybdenum contained in molybdic oxide leachate	
Arsenic	24.210	10.770
Lead	4.865	2.317
Nickel	22.240	14.710
Selenium	14.250	6.371
Ammonia (as N)	1,544.000	678.800
Fluoride	405.400	230.500
Total suspended solids	474.900	225.900
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 21–4
Primary Molybdenum and Rhenium
Hydrogen Reduction Furnace Scrubber

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of molybdenum metal powder produced	
Arsenic	47.860	21.300
Lead	9.617	4.580
Nickel	43.970	29.080
Selenium	28.170	12.600
Ammonia (as N)	3,052.000	1,342.000
Fluoride	801.400	455.700
Total suspended solids	938.800	446.500
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 21–5
Primary Molybdenum and Rhenium
Depleted Rhenium Scrubbing Solution

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of molybdenum sulfide roasted	
Arsenic	1.497	0.666
Lead	0.301	0.143
Nickel	1.375	0.909
Selenium	0.881	0.394
Ammonia (as N)	95.440	41.960
Fluoride	25.060	14.250
Total suspended solids	29.360	13.960
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.213 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 21–6
Primary Molybdenum and Rhenium
Molybdenum Sulfide Leachate

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of molybdenum sulfide leachate	
Arsenic	0.644	0.287
Lead	0.130	0.060
Nickel	0.255	0.171
Selenium	0.380	0.171
Ammonia (as N)	61.720	27.130
Fluoride	16.210	9.214

Table 21–7
Primary Molybdenum and Rhenium
Roaster Sulfur Dioxide Scrubber

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of molybdenum sulfide roasted	
Arsenic	2.334	1.041
Lead	0.470	0.218
Nickel	0.924	0.621
Selenium	1.377	0.621
Ammonia (as N)	223.800	98.390
Fluoride	58.770	33.410

Table 21–8
Primary Molybdenum and Rhenium
Molybdic Oxide Leachate

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of molybdenum contained in molybdic oxide leachate	
Arsenic	16.100	7.182
Lead	3.244	1.506
Nickel	6.371	4.286
Selenium	9.499	4.286
Ammonia (as N)	1,544.000	678.800
Fluoride	405.400	230.500

Table 21–9
Primary Molybdenum and Rhenium
Hydrogen Reduction Furnace Scrubber

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of molybdenum metal powder produced	
Arsenic	3.183	1.420
Lead	0.641	0.298
Nickel	1.260	0.847
Selenium	1.878	0.847
Ammonia (as N)	305.300	134.200
Fluoride	80.150	45.570

Table 21–10
Primary Molybdenum and Rhenium
Depleted Rhenium Scrubbing Solution

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of molybdenum sulfide roasted	
Arsenic	0.995	0.444
Lead	0.201	0.093
Nickel	0.394	0.265
Selenium	0.587	0.265
Ammonia (as N)	95.440	41.960
Fluoride	25.060	14.250

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.214 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 21–11
Primary Molybdenum and Rhenium
Molybdenum Sulfide Leachate

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of molybdenum sulfide leachate	
Arsenic	0.644	0.287
Lead	0.130	0.060
Nickel	0.255	0.171
Selenium	0.380	0.171
Ammonia (as N)	61.720	27.130
Fluoride	16.210	9.214
Total suspended solids	6.945	5.556
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 21–12
Primary Molybdenum and Rhenium
Roaster Sulfur Dioxide Scrubber

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of molybdenum sulfide roasted	
Arsenic	2.334	1.041
Lead	0.470	0.218
Nickel	0.924	0.621
Selenium	1.377	0.621
Ammonia (as N)	223.800	98.390
Fluoride	58.770	33.410
Total suspended solids	25.190	20.150
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 21–13
Primary Molybdenum and Rhenium
Molybdic Oxide Leachate

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of molybdenum contained in molybdic oxide leachate	
Arsenic	16.100	7.182
Lead	3.244	1.506
Nickel	6.371	4.286
Selenium	9.499	4.286
Ammonia (as N)	1,544.000	678.800
Fluoride	405.400	230.500
Total suspended solids	173.800	139.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 21–14
Primary Molybdenum and Rhenium
Hydrogen Reduction Furnace Scrubber

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of molybdenum metal powder produced	
Arsenic	3.183	1.420
Lead	0.641	0.298
Nickel	1.260	0.847
Selenium	1.878	0.847
Ammonia (as N)	305.300	134.200
Fluoride	80.150	45.570
Total suspended solids	34.350	27.480
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 21–15
Primary Molybdenum and Rhenium
Depleted Rhenium Scrubbing Solution

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of molybdenum sulfide roasted	
Arsenic	0.995	0.444
Lead	0.201	0.093
Nickel	0.394	0.265
Selenium	0.587	0.265
Ammonia (as N)	95.440	41.960
Fluoride	25.060	14.250
Total suspended solids	10.740	8.592
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.
History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.216 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.213.
History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter XXIII — Primary Nickel and Cobalt

NR 274.23 Applicability; description of the primary nickel and cobalt subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of nickel and cobalt by primary nickel and cobalt facilities processing ore concentrate raw materials.
History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.232 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 23–1
Primary Nickel and Cobalt
Raw Material Dust Control

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of copper, nickel, and cobalt in crushed raw material	
Copper	0.146	0.077
Nickel	0.148	0.098
Ammonia (as N)	10.260	4.512
Cobalt	0.016	0.007
Total suspended solids	3.157	1.502
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 23–2
Primary Nickel and Cobalt
Nickel Wash Water

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of nickel powder washed	
Copper	0.064	0.034
Nickel	0.065	0.043
Ammonia (as N)	4.515	1.985
Cobalt	0.007	0.003
Total suspended solids	1.389	0.660
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 23–3
Primary Nickel and Cobalt
Nickel Reduction Decant

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of nickel produced	
Copper	24.120	12.700
Nickel	24.370	16.120
Ammonia (as N)	1,692.000	743.900
Cobalt	2.666	1.143
Total suspended solids	520.500	247.600
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 23–4
Primary Nickel and Cobalt
Cobalt Reduction Decant

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cobalt produced	
Copper	40.660	21.400
Nickel	41.080	27.180
Ammonia (as N)	2,852.000	1,254.000
Cobalt	4.494	1.926
Total suspended solids	877.300	417.300
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.233 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 23–5
Primary Nickel and Cobalt
Raw Material Dust Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of copper, nickel, and cobalt in crushed raw material	
Copper	0.099	0.047
Nickel	0.042	0.028
Ammonia (as N)	10.260	4.512
Cobalt	0.011	0.005

Table 23–6
Primary Nickel and Cobalt
Nickel Wash Water

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of nickel powder washed	
Copper	0.043	0.021
Nickel	0.019	0.013
Ammonia (as N)	4.515	1.985
Cobalt	0.005	0.002

Table 23–7
Primary Nickel and Cobalt
Nickel Reduction Decant

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of nickel produced	
Copper	16.250	7.744
Nickel	6.982	4.697
Ammonia (as N)	1,692.000	743.900
Cobalt	1.777	0.889

Table 23–8
Primary Nickel and Cobalt
Cobalt Reduction Decant

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cobalt produced	
Copper	27.390	13.050
Nickel	11.770	7.917
Ammonia (as N)	2,852.000	1,254.000
Cobalt	2.996	1.498

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.234 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 23–9
Primary Nickel and Cobalt
Raw Material Dust Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of copper, nickel, and cobalt in crushed raw material	
Copper	0.099	0.047
Nickel	0.042	0.028
Ammonia (as N)	10.260	4.512
Cobalt	0.011	0.005
Total suspended solids	1.155	0.924
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 23–10
Primary Nickel and Cobalt
Nickel Wash Water

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of nickel powder washed	
Copper	0.043	0.021
Nickel	0.019	0.013
Ammonia (as N)	4.515	1.985
Cobalt	0.005	0.002
Total suspended solids	0.508	0.406
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 23–11
Primary Nickel and Cobalt
Nickel Reduction Decant

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of nickel produced	
Copper	16.250	7.744
Nickel	6.982	4.697
Ammonia (as N)	1,692.000	743.900
Cobalt	1.777	0.889
Total suspended solids	190.400	152.300
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 23–12
Primary Nickel and Cobalt
Cobalt Reduction Decant

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cobalt produced	
Copper	27.390	13.050
Nickel	11.770	7.917
Ammonia (as N)	2,852.000	1,254.000
Cobalt	2.996	1.498
Total suspended solids	321.000	256.800
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.236 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.233.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter XXIV — Secondary Nickel

NR 274.24 Applicability; description of the secondary nickel subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of nickel by secondary nickel facilities which process slag, spent acids, or scrap metals raw materials.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.244 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 24–1
Secondary Nickel
Slag Reclaim Tailings

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of slag input into the reclaim process	
Chromium	5.653	2.313
Copper	24.410	12.850
Nickel	24.670	16.320
Total suspended solids	526.800	250.500
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 24–2
Secondary Nickel
Acid Reclaim Leaching Filtrate

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of acid reclaim nickel produced	
Chromium	2.198	0.899
Copper	9.491	4.995
Nickel	9.590	6.344
Total suspended solids	204.800	97.400
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 24–3
Secondary Nickel
Acid Reclaim Leaching Belt Filter Backwash

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of nickel produced	
Chromium	0.528	0.216
Copper	2.278	1.199
Nickel	2.302	1.523
Total suspended solids	49.160	23.380
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.245 Pretreatment standards for existing sources. Except as provided in ss. NR 211.13 and 211.14, any existing source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the following PSES:

Table 24–4
Secondary Nickel
Slag Reclaim Tailings

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of slag input into the reclaim process	
Chromium	5.653	2.313
Copper	24.410	12.850
Nickel	24.670	16.320

Table 24–5
Secondary Nickel
Acid Reclaim Leaching Filtrate

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of acid reclaim nickel produced	
Chromium	2.198	0.899
Copper	9.491	4.995
Nickel	9.590	6.344

Table 24–6
Secondary Nickel
Acid Reclaim Leaching Belt Filter Backwash

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of nickel produced	
Chromium	0.528	0.216
Copper	2.278	1.199
Nickel	2.302	1.523

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.246 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the standards set forth in s. NR 274.245.

History: Cr. Register, January, 1990, No. 421, eff. 1–1–91.

Subchapter XXV — Primary Precious Metals and Mercury

NR 274.25 Applicability; description of the primary precious metals and mercury subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of gold, silver or mercury by primary precious metals and mercury facilities.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.252 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 25–1
Primary Precious Metals and Mercury
Smelter Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold and silver smelted	
Lead	0.546	0.260
Mercury	0.325	0.130
Silver	0.533	0.221
Zinc	1.898	0.793
Gold	0.130	
Oil and grease	26.000	15.600
Total suspended solids	53.300	25.350
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 25–2
Primary Precious Metals and Mercury
Silver Chloride Reduction Spent Solution

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver reduced in solution	
Lead	0.168	0.080
Mercury	0.100	0.040
Silver	0.164	0.068
Zinc	0.584	0.244
Gold	0.040	
Oil and grease	8.000	4.800
Total suspended solids	16.400	7.800
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 25–3
Primary Precious Metals and Mercury
Electrolytic Cells Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold refined electrolytically	
Lead	83.160	39.600
Mercury	49.500	19.800
Silver	81.180	33.660
Zinc	289.100	120.800
Gold	19.800	
Oil and grease	3,960.000	2,376.000
Total suspended solids	8,118.000	3,861.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 25–4
Primary Precious Metals and Mercury
Electrolyte Preparation Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver in the produced electrolyte	
Lead	0.021	0.010
Mercury	0.013	0.005
Silver	0.021	0.009
Zinc	0.073	0.031
Gold	0.005	
Oil and grease	1.000	0.600
Total suspended solids	2.050	0.975
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 25–5
Primary Precious Metals and Mercury
Calciner Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury condensed	
Lead	78.200	37.240
Mercury	46.550	18.620
Silver	76.340	31.650
Zinc	271.900	113.600
Gold	18.600	
Oil and grease	3,724.000	2,234.000
Total suspended solids	7,634.000	3,631.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 25–6
Primary Precious Metals and Mercury
Calcine Quench Water

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury condensed	
Lead	7.392	3.520
Mercury	4.400	1.760
Silver	7.216	2.992
Zinc	25.700	10.740
Gold	1.760	
Oil and grease	352.000	211.200
Total suspended solids	721.600	343.200
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 25–7
Primary Precious Metals and Mercury
Calciner Stack Gas Contact Cooling Water

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury condensed	
Lead	1.743	0.830
Mercury	1.038	0.415
Silver	1.702	0.706
Zinc	6.059	2.532
Gold	0.415	
Oil and grease	83.000	49.800
Total suspended solids	170.200	80.930
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 25–8
Primary Precious Metals and Mercury
Condenser Blowdown

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury condensed	
Lead	5.796	2.760
Mercury	3.450	1.380
Silver	5.658	2.346
Zinc	20.150	8.418
Gold	1.380	
Oil and grease	276.000	165.600
Total suspended solids	565.800	269.100
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 25–9
Primary Precious Metals and Mercury
Mercury Cleaning Bath Water

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury condensed	
Lead	0.588	0.280
Mercury	0.350	0.140
Silver	0.574	0.238
Zinc	2.044	0.854
Gold	0.140	
Oil and grease	28.000	16.800
Total suspended solids	57.400	27.300
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.253 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 25–10
Primary Precious Metals and Mercury
Smelter Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold and silver smelted	
Lead	0.364	0.169
Mercury	0.195	0.078
Silver	0.377	0.156
Zinc	1.326	0.546
Gold	0.130	

Table 25–11
Primary Precious Metals and Mercury
Silver Chloride Reduction Spent Solution

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver reduced in solution	
Lead	0.112	0.052
Mercury	0.060	0.024
Silver	0.116	0.048
Zinc	0.408	0.168
Gold	0.040	

Table 25–12
Primary Precious Metals and Mercury
Electrolytic Cells Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold refined electrolytically	
Lead	5.544	2.574
Mercury	2.970	1.188
Silver	5.742	2.376
Zinc	20.200	8.316
Gold	1.980	

Table 25–13
Primary Precious Metals and Mercury
Electrolyte Preparation Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver in the produced electrolyte	
Lead	0.014	0.007
Mercury	0.008	0.003
Silver	0.015	0.006
Zinc	0.051	0.021
Gold	0.005	

Table 25–14
Primary Precious Metals and Mercury
Calciner Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury condensed	
Lead	6.160	2.860
Mercury	3.300	1.320
Silver	6.380	2.640
Zinc	22.440	9.240
Gold	2.200	

Table 25–15
Primary Precious Metals and Mercury
Calcine Quench Water

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury condensed	
Lead	4.928	2.288
Mercury	2.640	1.056
Silver	5.104	2.112
Zinc	17.950	7.392
Gold	1.760	

Table 25–16
Primary Precious Metals and Mercury
Calciner Stack Gas Contact Cooling Water

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury condensed	
Lead	1.162	0.540
Mercury	0.623	0.249
Silver	1.204	0.498
Zinc	4.233	1.743
Gold	0.415	

Table 25–17
Primary Precious Metals and Mercury
Condenser Blowdown

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury condensed	
Lead	3.864	1.794
Mercury	2.070	0.828
Silver	4.002	1.656
Zinc	14.080	5.796
Gold	1.380	

Table 25–18
Primary Precious Metals and Mercury
Mercury Cleaning Bath Water

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury condensed	
Lead	0.392	0.182
Mercury	0.210	0.084
Silver	0.406	0.168
Zinc	1.428	0.588
Gold	0.140	

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.254 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 25–19
Primary Precious Metals and Mercury
Smelter Wet Air Pollution Control

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold and silver smelted	
Lead	0.364	0.169
Mercury	0.195	0.078
Silver	0.377	0.156
Zinc	1.326	0.546
Gold	0.130	
Oil and grease	13.000	13.000
Total suspended solids	19.500	15.600
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 25–20
Primary Precious Metals and Mercury
Silver Chloride Reduction Spent Solution

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver reduced in solution	
Lead	0.112	0.052
Mercury	0.060	0.024
Silver	0.116	0.048
Zinc	0.408	0.168
Gold	0.040	
Oil and grease	4.000	4.000
Total suspended solids	6.000	4.800
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 25–21
Primary Precious Metals and Mercury
Electrolytic Cells Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold refined electrolytically	
Lead	5.544	2.574
Mercury	2.970	1.188
Silver	5.742	2.376
Zinc	20.200	8.316
Gold	1.980	
Oil and grease	198.000	198.000
Total suspended solids	297.000	237.600
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 25–22
Primary Precious Metals and Mercury
Electrolyte Preparation Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of silver in the produced electrolyte	
Lead	0.014	0.007
Mercury	0.008	0.003
Silver	0.015	0.006
Zinc	0.051	0.021
Gold	0.005	
Oil and grease	0.500	0.500
Total suspended solids	0.750	0.600
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 25–23
Primary Precious Metals and Mercury
Calciner Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury condensed	
Lead	6.160	2.860
Mercury	3.300	1.320
Silver	6.380	2.640
Zinc	22.440	9.240
Gold	2.200	
Oil and grease	220.000	220.000
Total suspended solids	330.000	264.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 25–24
Primary Precious Metals and Mercury
Calcine Quench Water

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury condensed	
Lead	4.928	2.288
Mercury	2.640	1.056
Silver	5.104	2.112
Zinc	17.950	7.392
Gold	1.760	
Oil and grease	176.000	176.000
Total suspended solids	264.000	211.200
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 25–25
Primary Precious Metals and Mercury
Calciner Stack Gas Contact Cooling Water

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury condensed	
Lead	1.162	0.540
Mercury	0.623	0.249
Silver	1.204	0.498
Zinc	4.233	1.743
Gold	0.415	
Oil and grease	41.500	41.500
Total suspended solids	62.250	49.800
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 25–26
Primary Precious Metals and Mercury
Condenser Blowdown

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury condensed	
Lead	3.864	1.794
Mercury	2.070	0.828
Silver	4.002	1.656
Zinc	14.080	5.796
Gold	1.380	
Oil and grease	138.000	138.000
Total suspended solids	207.000	165.600
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 25–27
Primary Precious Metals and Mercury
Mercury Cleaning Bath Water

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mercury condensed	
Lead	0.392	0.182
Mercury	0.210	0.084
Silver	0.406	0.168
Zinc	1.428	0.588
Gold	0.140	
Oil and grease	14.000	14.000
Total suspended solids	21.000	16.800
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.256 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.253.

Subchapter XXVI — Secondary Precious Metals

NR 274.26 Applicability; description of the secondary precious metals subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of precious metals at secondary precious metals facilities.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.261 Specialized definition. "Combined metals" means the total of gold, platinum and palladium.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.262 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 26–1
Secondary Precious Metals
Furnace Wet Air Pollution Control

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of precious metals, including silver, incinerated or smelted	
Copper	136.400	71.800
Cyanide	20.820	8.616
Zinc	104.800	43.800
Ammonia (as N)	9,571.000	4,207.000
Combined metals	21.54	
Total suspended solids	2,944.000	1,400.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 26–2
Secondary Precious Metals
Raw Material Granulation

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of precious metal in the granulated raw material	
Copper	12.050	6.340
Cyanide	1.839	0.761
Zinc	9.256	3.867
Ammonia (as N)	845.100	371.500
Combined metals	1.902	
Total suspended solids	259.900	123.600
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 26–3
Secondary Precious Metals
Spent Plating Solutions

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/liter of spent plating solution used as a raw material	
Copper	1.900	1.000
Cyanide	0.290	0.120
Zinc	1.460	0.610
Ammonia (as N)	133.300	58.600
Combined metals	0.300	
Total suspended solids	41.000	19.500
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 26–4
Secondary Precious Metals
Spent Cyanide Stripping Solutions

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold produced by cyanide stripping	
Copper	7.030	3.700
Cyanide	1.073	0.444
Zinc	5.402	2.257
Ammonia (as N)	493.200	216.800
Combined metals	1.110	
Total suspended solids	151.700	72.150
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 26–5
Secondary Precious Metals
Refinery Wet Air Pollution Control(1)

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of precious metals, including silver, produced in the refinery	
Copper	39.900	21.000
Cyanide	6.090	2.520
Zinc	30.660	12.810
Ammonia (as N)	2,799.000	1,231.000
Combined metals	6.300	
Total suspended solids	861.000	409.500
pH	(2)	(2)

(1) This allowance applies to either acid or alkaline wet air pollution control scrubbers. If both acid and alkaline wet air pollution control scrubbers are present in a particular facility, the same allowance applies to each.
(2) Within the range of 7.5 to 10.0 at all times.

Table 26–6
Secondary Precious Metals
Gold Solvent Extraction Raffinate and Wash Water

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold produced by solvent extraction	
Copper	1.197	0.630
Cyanide	0.183	0.076
Zinc	0.920	0.384
Ammonia (as N)	83.980	36.920
Combined metals	0.189	
Total suspended solids	25.830	12.290
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 26–7
Secondary Precious Metals
Gold Spent Electrolyte

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold produced by electrolysis	
Copper	0.017	0.009
Cyanide	0.003	0.001
Zinc	0.103	0.005
Ammonia (as N)	0.160	0.510
Combined metals	0.003	
Total suspended solids	0.357	0.170
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 26–8
Secondary Precious Metals
Gold Precipitation and Filtration

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold precipitated	
Copper	8.360	4.400
Cyanide	1.276	0.528
Zinc	6.424	2.684
Ammonia (as N)	586.500	257.800
Combined metals	1.320	
Total suspended solids	180.400	85.800
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 26–9
Secondary Precious Metals
Platinum Precipitation and Filtration

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of platinum precipitated	
Copper	9.880	5.200
Cyanide	1.508	0.624
Zinc	7.592	3.172
Ammonia (as N)	693.200	304.700
Combined metals	1.560	
Total suspended solids	213.200	101.400
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 26–10
Secondary Precious Metals
Palladium Precipitation and Filtration

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of palladium precipitated	
Copper	11.400	6.000
Cyanide	1.740	0.720
Zinc	8.760	3.660
Ammonia (as N)	799.800	351.600
Combined metals	1.800	
Total suspended solids	246.000	117.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 26–11
Secondary Precious Metals
Other Platinum Group Metals Precipitation and Filtration

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of other platinum group metals precipitated	
Copper	9.880	5.200
Cyanide	1.508	0.624
Zinc	7.592	3.172
Ammonia (as N)	693.200	304.700
Combined metals	1.560	
Total suspended solids	213.200	101.400
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 26–12
Secondary Precious Metals
Spent Solution for PGC Salt Production

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold contained in PGC product	
Copper	1.710	0.900
Cyanide	0.261	0.108
Zinc	1.314	0.549
Ammonia (as N)	120.000	52.740
Combined metals	0.270	
Total suspended solids	36.900	17.550
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 26–13
Secondary Precious Metals
Equipment and Floor Wash

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of precious metals, including silver, produced in the refinery	
Copper	0.000	0.000
Cyanide	0.000	0.000
Zinc	0.000	0.000
Ammonia (as N)	0.000	0.000
Combined metals	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 26–14
Secondary Precious Metals
Preliminary Treatment

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of precious metals, metals produced through this operation	
Copper	95.000	50.000
Cyanide	14.500	6.000
Zinc	73.000	30.500
Ammonia (as N)	6,665.000	2,930.000
Combined metals	15.000	
Total suspended solids	2,050.000	975.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.263 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 26–15
Secondary Precious Metals
Furnace Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of precious metals, including silver, incinerated or smelted	
Copper	5.760	2.745
Cyanide	0.900	0.360
Zinc	4.590	1.890
Combined metals	1.350	
Ammonia (as N)	599.900	263.700

Table 26–16
Secondary Precious Metals
Raw Material Granulation

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of precious metal in the granulated raw material	
Copper	0.819	0.390
Cyanide	0.128	0.051
Zinc	0.653	0.269
Combined metals	0.192	
Ammonia (as N)	85.310	37.500

Table 26–17
Secondary Precious Metals
Spent Plating Solutions

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/liter of spent plating solution used as a raw material	
Copper	1.280	0.610
Cyanide	0.200	0.080
Zinc	1.020	0.420
Combined metals	0.300	
Ammonia (as N)	133.300	58.600

Table 26–18
Secondary Precious Metals
Spent Cyanide Stripping Solutions

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold produced by cyanide stripping	
Copper	4.736	2.257
Cyanide	0.740	0.296
Zinc	3.774	1.554
Combined metals	1.110	
Ammonia (as N)	493.200	216.800

Table 26–19
Secondary Precious Metals
Refinery Wet Air Pollution Control[1]

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of precious metals, including silver, produced in the refinery	
Copper	1.280	0.610
Cyanide	0.200	0.080
Zinc	1.020	0.420
Combined metals	0.300	
Ammonia (as N)	133.300	58.600

[1] This allowance applies to either acid or alkaline wet air pollution control scrubbers. If both acid and alkaline wet air pollution control scrubbers are present in a particular facility, the same allowance applies to each.

Table 26–20
Secondary Precious Metals
Gold Solvent Extraction Raffinate and Wash Water

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold produced by solvent extraction	
Copper	0.806	0.384
Cyanide	0.126	0.050
Zinc	0.643	0.265
Combined metals	0.189	
Ammonia (as N)	83.980	36.920

Table 26–21
Secondary Precious Metals
Gold Spent Electrolyte

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold produced by electrolysis	
Copper	0.0111	0.0053
Cyanide	0.0017	0.0007
Zinc	0.0089	0.0037
Combined metals	0.0030	
Ammonia (as N)	1.1600	0.5100

Table 26–22
Secondary Precious Metals
Gold Precipitation and Filtration

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold precipitated	
Copper	5.632	2.684
Cyanide	0.880	0.352
Zinc	4.488	1.848
Combined metals	1.320	
Ammonia (as N)	586.500	257.800

Table 26–23
Secondary Precious Metals
Platinum Precipitation and Filtration

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of platinum precipitated	
Copper	6.656	3.172
Cyanide	1.040	0.416
Zinc	5.304	2.184
Combined metals	1.560	
Ammonia (as N)	693.200	304.700

Table 26–24
Secondary Precious Metals
Palladium Precipitation and Filtration

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of palladium precipitated	
Copper	7.680	3.660
Cyanide	1.200	0.480
Zinc	6.120	2.520
Combined metals	1.800	
Ammonia (as N)	799.800	351.600

Table 26–25
Secondary Precious Metals
Other Platinum Group Metals Precipitation and Filtration

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of other platinum group metals precipitated	
Copper	6.656	3.172
Cyanide	1.040	0.416
Zinc	5.304	2.184
Combined metals	1.560	
Ammonia (as N)	693.200	304.700

Table 26–26
Secondary Precious Metals
Spent Solution for PGC Salt Production

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold contained in PGC product	
Copper	1.152	0.549
Cyanide	0.180	0.072
Zinc	0.918	0.376
Combined metals	0.270	
Ammonia (as N)	120.000	52.740

Table 26–27
Secondary Precious Metals
Equipment and Floor Wash

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of precious metals, including silver, produced in the refinery	
Copper	0.000	0.000
Cyanide	0.000	0.000
Zinc	0.000	0.000
Combined metals	0.000	
Ammonia (as N)	0.000	0.000

Table 26–28
Secondary Precious Metals
Preliminary Treatment

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of total precious metals produced through this operation	
Copper	64.000	30.500
Cyanide	10.000	4.000
Zinc	51.000	21.000
Combined metals	15.000	
Ammonia (as N)	6,665.000	2,930.000

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.264 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 26–29
Secondary Precious Metals
Furnace Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of precious metals, including silver, incinerated or smelted	
Copper	5.760	2.745
Cyanide	0.900	0.360
Zinc	4.590	1.890
Combined metals	1.350	
Ammonia (as N)	599.900	263.700
Total suspended solids	67.500	54.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

Table 26–30
Secondary Precious Metals
Raw Material Granulation

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of precious metal in the granulated raw material	
Copper	0.819	0.390
Cyanide	0.128	0.051
Zinc	0.653	0.269
Combined metals	0.192	
Ammonia (as N)	85.310	37.500
Total suspended solids	9.600	7.680
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

Table 26–31
Secondary Precious Metals
Spent Plating Solutions

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/liter of spent plating solution used as a raw material	
Copper	1.280	0.610
Cyanide	0.200	0.080
Zinc	1.020	0.420
Combined metals	0.300	
Ammonia (as N)	133.300	58.600
Total suspended solids	15.000	12.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

Table 26–32
Secondary Precious Metals
Spent Cyanide Stripping Solutions

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold produced by cyanide stripping	
Copper	4.736	2.257
Cyanide	0.740	0.296
Zinc	3.774	1.554
Combined metals	1.110	
Ammonia (as N)	493.200	216.800
Total suspended solids	55.500	44.400
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

Table 26–33
Secondary Precious Metals
Refinery Wet Air Pollution Control(1)

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of precious metals, including silver, produced in the refinery	
Copper	1.280	0.610
Cyanide	0.200	0.080
Zinc	1.020	0.420
Combined metals	0.300	
Ammonia (as N)	133.300	58.600
Total suspended solids	15.000	12.000
pH	(2)	(2)

(1) This allowance applies to either acid or alkaline wet air pollution control scrubbers. If both acid and alkaline wet air pollution control scrubbers are present in a particular facility, the same allowance applies to each.
(2) Within the range of 7.5 to 10 at all times.

Table 26–34
Secondary Precious Metals
Gold Solvent Extraction Raffinate and Wash Water

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold produced by solvent extraction	
Copper	0.806	0.384
Cyanide	0.126	0.050
Zinc	0.643	0.265
Combined metals	0.189	
Ammonia (as N)	83.980	36.920
Total suspended solids	9.450	7.560
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

Table 26–35
Secondary Precious Metals
Gold Spent Electrolyte

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold produced by electrolysis	
Copper	0.011	0.005
Cyanide	0.002	0.001
Zinc	0.009	0.004
Combined metals	0.003	
Ammonia (as N)	1.160	0.510
Total suspended solids	0.131	0.104
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

Table 26–36
Secondary Precious Metals
Gold Precipitation and Filtration

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold precipitated	
Copper	5.632	2.684
Cyanide	0.880	0.352
Zinc	4.488	1.848
Combined metals	1.320	
Ammonia (as N)	586.500	257.800
Total suspended solids	66.000	52.800
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

Table 26–37
Secondary Precious Metals
Platinum Precipitation and Filtration

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of platinum precipitated	
Copper	6.656	3.172
Cyanide	1.040	0.416
Zinc	5.304	2.184
Combined metals	1.560	
Ammonia (as N)	693.200	304.700
Total suspended solids	78.000	62.400
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

Table 26–38
Secondary Precious Metals
Palladium Precipitation and Filtration

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of palladium precipitated	
Copper	7.680	3.660
Cyanide	1.200	0.480
Zinc	6.120	2.520
Combined metals	1.800	
Ammonia (as N)	799.800	351.600
Total suspended solids	90.000	72.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

Table 26–39
Secondary Precious Metals
Other Platinum Group Metals Precipitation and Filtration

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of other platinum group metals precipitated	
Copper	6.656	3.172
Cyanide	1.040	0.416
Zinc	5.304	2.184
Combined metals	1.560	
Ammonia (as N)	693.200	304.700
Total suspended solids	78.000	62.400
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

Table 26–40
Secondary Precious Metals
Spent Solution for PGC Salt Production

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of gold contained in PGC product	
Copper	1.152	0.549
Cyanide	0.180	0.072
Zinc	0.918	0.378
Combined metals	0.270	
Ammonia (as N)	120.000	52.740
Total suspended solids	13.500	10.800
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

Table 26–41
Secondary Precious Metals
Equipment and Floor Wash

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of precious metals, including silver, produced in the refinery	
Copper	0.000	0.000
Cyanide	0.000	0.000
Zinc	0.000	0.000
Combined metals	0.000	
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

Table 26–42
Secondary Precious Metals
Preliminary Treatment

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/troy ounce of total precious metals produced through this operation	
Copper	64.000	50.000
Cyanide	10.000	6.000
Zinc	51.000	30.500
Ammonia (as N)	6,665.000	2,930.000
Combined metals	15.000	
Total suspended solids	750.000	600.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.265 Pretreatment standards for existing sources. Except as provided in s. NR 211.13, any existing source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.263.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.266 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.263.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter XXVII — Primary Rare Earth Metals

NR 274.27 Applicability; description of the primary rare earth metals subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of rare earth metals and mischmetal by primary rare earth metals facilities which process rare earth metal oxides, chlorides and fluorides.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.271 Specialized definitions. The following definitions apply to the terms used in this subchapter:

(1) "Rare earth metals" means the elements scandium, yttrium and lanthanum to lutetium, inclusive.

(2) "Mischmetal" means a rare earth metal alloy comprised of the natural mixture of rare earths to 94% to 99% with the remainder of the alloy including traces of other elements and 1% to 2% iron.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.274 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 27–1
Primary Rare Earth Metals
Dryer Vent Water Quench and Scrubber

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mischmetal produced from wet rare earth chlorides	
Hexachlorobenzene	0.042	0.042
Chromium	1.544	0.626
Lead	1.168	0.542
Nickel	2.295	1.544
Total suspended solids	62.600	50.080
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 27–2
Primary Rare Earth Metals
Dryer Vent Caustic Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mischmetal produced from wet rare earth chlorides	
Hexachlorobenzene	0.007	0.007
Chromium	0.272	0.110
Lead	0.206	0.095
Nickel	0.404	0.272
Total suspended solids	11.010	8.808
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 27–3
Primary Rare Earth Metals
Electrolytic Cell Water Quench and Scrubber

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of total mischmetal produced	
Hexachlorobenzene	0.094	0.094
Chromium	3.474	1.409
Lead	2.629	1.221
Nickel	5.165	3.474
Total suspended solids	140.900	112.700
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 27–4
Primary Rare Earth Metals
Electrolytic Cell Caustic Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of total mischmetal produced	
Hexachlorobenzene	0.000	0.000
Chromium	0.000	0.000
Lead	0.000	0.000
Nickel	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 27–5
Primary Rare Earth Metals
Sodium Hypochlorite Filter Backwash

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of total mischmetal produced	
Hexachlorobenzene	0.004	0.004
Chromium	0.134	0.054
Lead	0.101	0.047
Nickel	0.199	0.134
Total suspended solids	5.430	4.334
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.275 Pretreatment standards for existing sources. Except as provided in s. NR 211.13, any existing source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the following PSES:

Table 27–6
Primary Rare Earth Metals
Dryer Vent Water Quench and Scrubber

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mischmetal produced from wet rare earth chlorides	
Hexachlorobenzene	0.042	0.042
Chromium	1.544	0.626
Lead	1.168	0.542
Nickel	2.295	1.544

Table 27–7
Primary Rare Earth Metals
Dryer Vent Caustic Wet Air Pollution Control

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of mischmetal produced from wet rare earth chlorides	
Hexachlorobenzene	0.007	0.007
Chromium	0.272	0.110
Lead	0.206	0.095
Nickel	0.404	0.272

Table 27–8
Primary Rare Earth Metals
Electrolytic Cell Water Quench and Scrubber

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of total mischmetal produced	
Hexachlorobenzene	0.094	0.094
Chromium	3.474	1.409
Lead	2.629	1.221
Nickel	5.165	3.474

Table 27–9
Primary Rare Earth Metals
Electrolytic Cell Caustic Wet Air Pollution Control

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of total mischmetal produced	
Hexachlorobenzene	0.000	0.000
Chromium	0.000	0.000
Lead	0.000	0.000
Nickel	0.000	0.000

Table 27–10
Primary Rare Earth Metals
Sodium Hypochlorite Filter Backwash

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of total mischmetal produced	
Hexachlorobenzene	0.004	0.004
Chromium	0.134	0.054
Lead	0.101	0.047
Nickel	0.199	0.134

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.276 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the standards set forth in s. NR 274.275.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter XXVIII — Secondary Tantalum

NR 274.28 Applicability; description of the secondary tantalum subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of tantalum at secondary tantalum facilities.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.282 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 28–1
Secondary Tantalum
Tantalum Alloy Leach and Rinse

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum powder produced	
Copper	438.100	230.600
Lead	96.850	46.120
Nickel	442.800	292.900
Zinc	336.700	140.700
Tantalum	103.800	
Total suspended solids	9,455.000	4,497.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 28–2
Secondary Tantalum
Capacitor Leach and Rinse

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum powder produced from leaching	
Copper	38.380	20.200
Lead	8.484	4.040
Nickel	38.780	25.650
Zinc	29.490	12.320
Tantalum	9.090	
Total suspended solids	828.200	393.900
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 28–3
Secondary Tantalum
Tantalum Sludge Leach and Rinse

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of equivalent pure tantalum powder produced	
Copper	390.100	205.300
Lead	86.230	41.060
Nickel	394.200	260.700
Zinc	299.700	125.200
Tantalum	92.390	
Total suspended solids	8,417.000	4,003.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 28–4
Secondary Tantalum
Tantalum Powder Acid Wash and Rinse

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum powder produced	
Copper	0.665	0.350
Lead	0.147	0.070
Nickel	0.672	0.445
Zinc	0.511	0.214
Tantalum	0.158	
Total suspended solids	14.350	6.825
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 28–5
Secondary Tantalum
Leaching Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of equivalent pure tantalum powder produced	
Copper	9.272	4.880
Lead	2.050	0.976
Nickel	9.370	6.198
Zinc	7.125	2.977
Tantalum	2.196	
Total suspended solids	200.100	95.160
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.283 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 28–6
Secondary Tantalum
Tantalum Alloy Leach and Rinse

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum powder produced	
Copper	295.200	140.700
Lead	64.570	29.980
Nickel	126.800	85.320
Zinc	235.200	96.850
Tantalum	103.800	

Table 28–7
Secondary Tantalum
Capacitor Leach and Rinse

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum powder produced from leaching	
Copper	25.860	12.320
Lead	5.656	2.626
Nickel	11.110	7.474
Zinc	20.600	8.484
Tantalum	9.090	

Table 28–8
Secondary Tantalum
Tantalum Sludge Leach and Rinse

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of equivalent pure tantalum powder produced	
Copper	262.800	125.200
Lead	57.480	26.690
Nickel	112.900	75.960
Zinc	209.400	86.230
Tantalum	92.390	

Table 28–9
Secondary Tantalum
Tantalum Powder Acid Wash and Rinse

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum powder produced	
Copper	0.448	0.214
Lead	0.098	0.046
Nickel	0.193	0.130
Zinc	0.357	0.147
Tantalum	0.158	

Table 28–10
Secondary Tantalum
Leaching Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of equivalent pure tantalum powder produced	
Copper	6.246	2.977
Lead	1.366	0.634
Nickel	2.684	1.806
Zinc	4.978	2.050
Tantalum	2.196	

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.284 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 28–11
Secondary Tantalum
Tantalum Alloy Leach and Rinse

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum powder produced	
Copper	295.200	140.700
Lead	64.570	29.980
Nickel	126.800	85.320
Zinc	235.200	96.850
Tantalum	103.800	
Total suspended solids	3,459.000	2,767.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 28–12
Secondary Tantalum
Capacitor Leach and Rinse

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum powder produced from leaching	
Copper	25.860	12.320
Lead	5.656	2.626
Nickel	11.110	7.474
Zinc	20.600	8.484
Tantalum	9.090	
Total suspended solids	303.000	242.400
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 28–13
Secondary Tantalum
Tantalum Sludge Leach and Rinse

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of equivalent pure tantalum powder produced	
Copper	262.800	125.200
Lead	57.480	26.690
Nickel	112.900	75.960
Zinc	209.400	86.230
Tantalum	92.390	
Total suspended solids	3,080.000	2,464.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 28–14
Secondary Tantalum
Tantalum Powder Acid Wash and Rinse

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tantalum powder produced	
Copper	0.448	0.214
Lead	0.098	0.046
Nickel	0.193	0.130
Zinc	0.357	0.147
Tantalum	0.158	
Total suspended solids	5.250	4.200
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 28–15
Secondary Tantalum
Leaching Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of equivalent pure tantalum powder produced	
Copper	6.246	2.977
Lead	1.366	0.634
Nickel	2.684	1.806
Zinc	4.978	2.050
Tantalum	2.196	
Total suspended solids	73.200	58.560
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.286 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.283.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter XXIX — Secondary Tin

NR 274.29 Applicability; description of the secondary tin subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of tin at secondary tin facilities which utilize either pyrometalurgical or hydrometalurgical processes to recover tin from secondary materials.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.292 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently

available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 29–1
Secondary Tin
Tin Smelter Sulfur Dioxide Scrubber

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of crude tapped tin metal produced	
Arsenic	19.220	8.554
Lead	3.863	1.840
Iron	11.040	5.611
Tin	3.495	2.024
Total suspended solids	377.100	179.400
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 29–2
Secondary Tin
Dealuminizing Rinse

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of dealuminized scrap produced	
Lead	0.015	0.007
Cyanide	0.010	0.004
Fluoride	1.225	0.700
Tin	0.013	0.008
Total suspended solids	1.435	0.683
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 29–3
Secondary Tin
Tin Mud Acid Neutralization Filtrate

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of neutralized dewatered tin mud produced	
Lead	2.120	1.009
Cyanide	1.464	0.606
Fluoride	176.600	100.400
Tin	1.918	1.110
Total suspended solids	206.900	98.420
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 29–4
Secondary Tin
Tin Hydroxide Wash

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tin hydroxide washed	
Lead	5.020	2.391
Cyanide	3.466	1.434
Fluoride	418.400	237.900
Tin	4.542	2.630
Total suspended solids	490.100	233.100
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 29–5
Secondary Tin
Spent Electrowinning Solution From New Scrap

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cathode tin produced	
Lead	7.056	3.360
Cyanide	4.872	2.016
Fluoride	588.000	334.300
Tin	6.384	3.696
Total suspended solids	688.800	327.600
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 29–6
Secondary Tin
Spent Electrowinning Solution From Municipal Solid Waste

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of municipal solid waste scrap used as a raw material	
Lead	0.050	0.024
Cyanide	0.035	0.014
Fluoride	4.165	2.368
Tin	0.045	0.026
Total suspended solids	4.879	2.321
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 29–7
Secondary Tin
Tin Hydroxide Supernatant From Scrap

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tin metal recovered from scrap	
Lead	23.370	11.130
Cyanide	16.140	6.677
Fluoride	1,947.000	1,107.000
Tin	21.140	12.240
Total suspended solids	2,281.000	1,085.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 29–8
Secondary Tin
Tin Hydroxide Supernatant From Plating Solutions and Sludges

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tin metal recovered from plating solutions and sludges	
Lead	48.30	23.00
Cyanide	33.35	13.80
Fluoride	4,025.00	2,289.00
Tin	43.70	25.30
Total suspended solids	4,715.00	2,243.00
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 29–9
Secondary Tin
Tin Hydroxide Filtrate

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of crude tapped tin metal produced	
Lead	10.520	5.009
Cyanide	7.263	3.005
Fluoride	876.500	498.400
Tin	9.517	5.510
Total suspended solids	1,027.000	488.400
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.293 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 29–10
Secondary Tin
Tin Smelter Sulfur Dioxide Scrubber

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of crude tapped tin metal produced	
Arsenic	12.790	5.703
Lead	2.575	1.196
Iron	11.040	5.611
Tin	3.495	2.024

Table 29–11
Secondary Tin
Dealuminizing Rinse

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of dealuminized scrap produced	
Lead	0.010	0.005
Cyanide	0.007	0.003
Fluoride	1.225	0.697
Tin	0.013	0.008

Table 29–12
Secondary Tin
Tin Mud Acid Neutralization Filtrate

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of neutralized dewatered tin mud produced	
Lead	1.413	0.656
Cyanide	1.009	0.404
Fluoride	176.600	100.400
Tin	1.918	1.110

Table 29–13
Secondary Tin
Tin Hydroxide Wash

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tin hydroxide washed	
Lead	3.347	1.554
Cyanide	2.391	0.956
Fluoride	418.400	237.900
Tin	4.542	2.630

Table 29–14
Secondary Tin
Spent Electrowinning Solution From New Scrap

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cathode tin produced	
Lead	4.704	2.184
Cyanide	3.360	1.344
Fluoride	588.000	334.300
Tin	6.384	3.696

Table 29–15
Secondary Tin
Spent Electrowinning Solution From Municipal Solid Waste

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of municipal solid waste scrap used as a raw material	
Lead	0.033	0.015
Cyanide	0.024	0.010
Fluoride	4.165	2.368
Tin	0.045	0.026

Table 29–16
Secondary Tin
Tin Hydroxide Supernatant From Scrap

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tin metal recovered from scrap	
Lead	15.580	7.233
Cyanide	11.130	4.451
Fluoride	1,947.000	1,107.000
Tin	21.140	21.140

Table 29–17
Secondary Tin
Tin Hydroxide Supernatant From Plating Solutions and Sludges

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tin metal recovered from plating solutions and sludges	
Lead	32.20	14.95
Cyanide	23.00	9.20
Fluoride	4,025.00	2,289.00
Tin	43.70	25.30

Table 29–18
Secondary Tin
Tin Hydroxide Filtrate

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of crude tapped tin metal produced	
Lead	7.012	3.256
Cyanide	5.009	2.004
Fluoride	876.500	498.400
Tin	9.517	5.510

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.294 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 29–19
Secondary Tin
Tin Smelter Sulfur Dioxide Scrubber

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of crude tapped tin metal produced	
Arsenic	12.790	5.703
Lead	2.575	1.196
Iron	11.040	5.611
Tin	3.495	2.024
Total suspended solids	138.000	110.400
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 29–20
Secondary Tin
Dealuminizing Rinse

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of dealuminized scrap produced	
Lead	0.010	0.005
Cyanide	0.007	0.003
Fluoride	1.225	0.697
Tin	0.013	0.008
Total suspended solids	0.525	0.420
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 29–21
Secondary Tin
Tin Mud Acid Neutralization Filtrate

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of neutralized dewatered tin mud produced	
Lead	1.413	0.656
Cyanide	1.009	0.404
Fluoride	176.600	100.400
Tin	1.918	1.110
Total suspended solids	75.710	60.560
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 29–22
Secondary Tin
Tin Hydroxide Wash

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tin hydroxide washed	
Lead	3.347	1.554
Cyanide	2.391	0.956
Fluoride	418.400	237.900
Tin	4.542	2.630
Total suspended solids	179.300	143.400
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 29–23
Secondary Tin
Spent Electrowinning Solution From New Scrap

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cathode tin produced	
Lead	4.704	2.184
Cyanide	3.360	1.344
Fluoride	588.000	334.300
Tin	6.384	3.696
Total suspended solids	252.000	201.600
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 29–24
Secondary Tin
Spent Electrowinning Solution From Municipal Solid Waste

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of municipal solid waste scrap used as a raw material	
Lead	0.033	0.015
Cyanide	0.024	0.010
Fluoride	4.165	2.368
Tin	0.045	0.026
Total suspended solids	1.785	1.428
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 29–25
Secondary Tin
Tin Hydroxide Supernatant From Scrap

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tin metal recovered from scrap	
Lead	15.580	7.233
Cyanide	11.130	4.451
Fluoride	1,947.000	1,107.000
Tin	21.140	21.240
Total suspended solids	834.600	667.700
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 29–26
Secondary Tin
Tin Hydroxide Supernatant From
Plating Solutions and Sludges

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tin metal recovered from plating solutions and sludges	
Lead	32.20	14.95
Cyanide	23.00	9.20
Fluoride	4,025.00	2,289.00
Tin	43.70	25.30
Total suspended solids	1,725.00	1,380.00
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 29–27
Secondary Tin
Tin Hydroxide Filtrate

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of crude tapped tin metal produced	
Lead	7.012	3.256
Cyanide	5.009	2.004
Fluoride	876.500	498.400
Tin	9.517	5.510
Total suspended solids	375.700	300.500
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.295 Pretreatment standards for existing sources. Except as provided in s. NR 211.13, any existing source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.293.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.296 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.293.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter XXX — Primary and Secondary Titanium

NR 274.30 Applicability; description of the primary and secondary titanium subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of titanium or cobalt at secondary titanium and cobalt facilities which process titanium or titanium carbide scrap raw materials.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.302 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 30–1
Primary and Secondary Titanium
Chlorination Off–gas Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium tetrachloride produced	
Chromium	0.412	0.168
Lead	0.393	0.187
Nickel	1.797	1.187
Titanium	0.880	0.384
Oil and grease	18.720	11.230
Total suspended solids	38.380	18.250
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 30–2
Primary and Secondary Titanium
Chlorination Area–vent Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium tetrachloride produced	
Chromium	0.458	0.187
Lead	0.437	0.208
Nickel	1.997	1.321
Titanium	0.978	0.426
Oil and grease	20.800	12.480
Total suspended solids	42.640	20.280
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 30–3
Primary and Secondary Titanium
Titanium Tetrachloride Handling Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium tetrachloride handled	
Chromium	0.082	0.034
Lead	0.079	0.037
Nickel	0.359	0.237
Titanium	0.176	0.077
Oil and grease	3.740	2.244
Total suspended solids	7.667	3.647
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 30–4
Primary and Secondary Titanium
Reduction Area Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	18.170	7.435
Lead	17.350	8.261
Nickel	79.300	52.450
Titanium	38.820	16.930
Oil and grease	826.100	495.600
Total suspended solids	1,693.000	805.400
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 30–5
Primary and Secondary Titanium
Melt Cell Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	9.352	3.826
Lead	8.927	4.251
Nickel	40.810	26.990
Titanium	19.980	8.714
Oil and grease	425.100	255.000
Total suspended solids	871.400	414.500
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 30–6
Primary and Secondary Titanium
Chlorine Liquefaction Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	130.900	53.560
Lead	125.000	59.510
Nickel	571.300	377.900
Titanium	279.700	122.000
Oil and grease	5,951.000	3,571.000
Total suspended solids	12,200.000	5,702.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 30–7
Primary and Secondary Titanium
Sodium Reduction Container Reconditioning Wash Water

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	0.564	0.231
Lead	0.538	0.256
Nickel	2.461	1.628
Titanium	1.205	0.526
Oil and grease	25.640	15.380
Total suspended solids	52.560	25.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 30–8
Primary and Secondary Titanium
Chip Crushing Wet Air Pollutant Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	10.090	4.126
Lead	9.627	4.584
Nickel	44.010	29.110
Titanium	21.550	9.398
Oil and grease	458.400	275.100
Total suspended solids	939.800	447.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 30–9
Primary and Secondary Titanium
Acid Leachate and Rinse Water

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	5.210	2.131
Lead	4.973	2.368
Nickel	22.730	15.040
Titanium	11.130	4.854
Oil and grease	236.800	142.100
Total suspended solids	485.400	230.900
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times

Table 30–10
Primary and Secondary Titanium
Sponge Crushing and Screening Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	2.847	1.165
Lead	2.717	1.294
Nickel	12.420	8.217
Titanium	6.082	2.653
Oil and grease	129.400	77.640
Total suspended solids	265.300	126.200
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 30–11
Primary and Secondary Titanium
Acid Pickle and Wash Water

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium pickled	
Chromium	0.027	0.011
Lead	0.026	0.012
Nickel	0.117	0.077
Titanium	0.057	0.025
Oil and grease	1.220	0.732
Total suspended solids	2.501	1.190
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 30–12
Primary and Secondary Titanium
Scrap Milling Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium milled	
Chromium	0.995	0.407
Lead	0.950	0.452
Nickel	4.341	2.871
Titanium	2.125	0.927
Oil and grease	45.220	27.130
Total suspended solids	92.700	44.090
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 30–13
Primary and Secondary Titanium
Scrap Detergent Wash Water

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of scrap washed	
Chromium	7.948	3.252
Lead	7.587	3.613
Nickel	34.680	22.940
Titanium	16.980	7.406
Oil and grease	361.300	216.800
Total suspended solids	740.600	352.300
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 30–14
Primary and Secondary Titanium
Casting Crucible Wash Water

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium cast	
Chromium	0.210	0.086
Lead	0.200	0.095
Nickel	0.916	0.606
Titanium	0.448	0.196
Oil and grease	9.540	5.724
Total suspended solids	19.560	9.302
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 30–15
Primary and Secondary Titanium
Casting Contact Cooling Water

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium cast	
Chromium	321.100	131.400
Lead	306.500	145.900
Nickel	1,401.000	926.800
Titanium	685.900	299.200
Oil and grease	14,590.000	8,757.000
Total suspended solids	29,920.000	14,230.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.303 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 30–16
Primary and Secondary Titanium
Chlorination Off–gas Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium tetrachloride produced	
Chromium	0.346	0.140
Lead	0.262	0.122
Nickel	0.515	0.346
Titanium	0.496	0.216

Table 30–17
Primary and Secondary Titanium
Chlorination Area–vent Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium tetrachloride produced	
Chromium	0.385	0.156
Lead	0.291	0.135
Nickel	0.572	0.385
Titanium	0.551	0.239

Table 30–18
Primary and Secondary Titanium
Titanium Tetrachloride Handling Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium tetrachloride handled	
Chromium	0.069	0.028
Lead	0.052	0.024
Nickel	0.103	0.069
Titanium	0.099	0.043

Table 30–19
Primary and Secondary Titanium
Reduction Area Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	1.528	0.620
Lead	1.156	0.537
Nickel	2.272	1.528
Titanium	2.189	0.950

Table 30–20
Primary and Secondary Titanium
Melt Cell Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	0.787	0.319
Lead	0.595	0.276
Nickel	1.169	0.787
Titanium	1.127	0.489

Table 30–21
Primary and Secondary Titanium
Chlorine Liquefaction Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	11.010	4.463
Lead	8.332	3.868
Nickel	16.370	11.010
Titanium	15.770	6.844

Table 30–22
Primary and Secondary Titanium
Sodium Reduction Container Reconditioning Wash Water

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	0.474	0.192
Lead	0.359	0.167
Nickel	0.705	0.474
Titanium	0.679	0.295

Table 30–23
Primary and Secondary Titanium
Chip Crushing Wet Air Pollutant Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	0.848	0.344
Lead	0.642	0.298
Nickel	1.261	0.848
Titanium	1.215	0.527

Table 30–24
Primary and Secondary Titanium
Acid Leachate and Rinse Water

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	4.381	1.776
Lead	3.315	1.539
Nickel	6.512	4.381
Titanium	6.275	2.723

Table 30–25
Primary and Secondary Titanium
Sponge Crushing and Screening Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	0.239	0.097
Lead	0.181	0.084
Nickel	0.356	0.239
Titanium	0.343	0.149

Table 30–26
Primary and Secondary Titanium
Acid Pickle and Wash Water

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium pickled	
Chromium	0.023	0.009
Lead	0.017	0.008
Nickel	0.034	0.023
Titanium	0.032	0.014

Table 30–27
Primary and Secondary Titanium
Scrap Milling Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium milled	
Chromium	0.084	0.034
Lead	0.064	0.030
Nickel	0.125	0.084
Titanium	0.120	0.052

Table 30–28
Primary and Secondary Titanium
Scrap Detergent Wash Water

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of scrap washed	
Chromium	6.684	2.710
Lead	5.058	2.348
Nickel	9.935	6.684
Titanium	9.574	4.155

Table 30–29
Primary and Secondary Titanium
Casting Crucible Wash Water

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium cast	
Chromium	0.176	0.072
Lead	0.134	0.062
Nickel	0.262	0.176
Titanium	0.253	0.110

Table 30–30
Primary and Secondary Titanium
Casting Contact Cooling Water

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium cast	
Chromium	27.000	10.950
Lead	20.430	9.486
Nickel	40.140	27.000
Titanium	38.680	16.780

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.304 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 30–31
Primary and Secondary Titanium
Chlorination Off–gas Wet Air Pollution Control

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium tetrachloride produced	
Chromium	0.346	0.140
Lead	0.262	0.122
Nickel	0.515	0.346
Titanium	0.496	0.215
Oil and grease	9.360	9.360
Total suspended solids	14.040	11.230
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 30–32
Primary and Secondary Titanium
Chlorination Area–vent Wet Air Pollution Control

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium tetrachloride produced	
Chromium	0.385	0.156
Lead	0.291	0.135
Nickel	0.572	0.385
Titanium	0.551	0.239
Oil and grease	10.400	10.400
Total suspended solids	15.600	12.480
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 30–33
Primary and Secondary Titanium
Titanium Tetrachloride Handling Wet Air Pollution Control

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium tetrachloride handled	
Chromium	0.069	0.028
Lead	0.052	0.024
Nickel	0.103	0.069
Titanium	0.099	0.043
Oil and grease	1.870	1.870
Total suspended solids	2.805	2.244
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 30–34
Primary and Secondary Titanium
Reduction Area Wet Air Pollution Control

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	1.528	0.620
Lead	1.156	0.537
Nickel	2.272	1.528
Titanium	2.198	0.950
Oil and grease	41.300	41.600
Total suspended solids	61.950	49.560
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 30–35
Primary and Secondary Titanium
Melt Cell Wet Air Pollution Control

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	0.787	0.319
Lead	0.595	0.276
Nickel	1.169	0.276
Titanium	1.127	0.489
Oil and grease	21.260	21.260
Total suspended solids	31.890	25.510
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 30–36
Primary and Secondary Titanium
Chlorine Liquefaction Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	0.000	0.000
Lead	0.000	0.000
Nickel	0.000	0.000
Titanium	0.000	0.000
Oil and grease	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 30–37
Primary and Secondary Titanium
Sodium Reduction Container Reconditioning Wash Water

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	0.474	0.192
Lead	0.359	0.167
Nickel	0.705	0.474
Titanium	0.679	0.295
Oil and grease	12.820	12.820
Total suspended solids	19.230	15.380
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 30–38
Primary and Secondary Titanium
Chip Crushing Wet Air Pollutant Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	0.000	0.000
Lead	0.000	0.000
Nickel	0.000	0.000
Titanium	0.000	0.000
Oil and grease	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 30–39
Primary and Secondary Titanium
Acid Leachate and Rinse Water

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	4.381	1.776
Lead	3.351	1.539
Nickel	6.512	4.381
Titanium	6.275	2.723
Oil and grease	118.400	118.400
Total suspended solids	177.600	142.100
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 30–40
Primary and Secondary Titanium
Sponge Crushing and Screening Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium produced	
Chromium	0.000	0.000
Lead	0.000	0.000
Nickel	0.000	0.000
Titanium	0.000	0.000
Oil and grease	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 30–41
Primary and Secondary Titanium
Acid Pickle and Wash Water

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium pickled	
Chromium	0.023	0.009
Lead	0.017	0.008
Nickel	0.034	0.023
Titanium	0.032	0.014
Oil and grease	0.610	0.610
Total suspended solids	0.915	0.732
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 30–42
Primary and Secondary Titanium
Scrap Milling Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium milled	
Chromium	0.000	0.000
Lead	0.000	0.000
Nickel	0.000	0.000
Titanium	0.000	0.000
Oil and grease	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 30–43
Primary and Secondary Titanium
Scrap Detergent Wash Water

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of scrap washed	
Chromium	6.684	2.710
Lead	5.058	2.348
Nickel	9.935	6.684
Titanium	9.574	4.155
Oil and grease	180.600	180.600
Total suspended solids	271.000	216.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 30–44
Primary and Secondary Titanium
Casting Crucible Wash Water

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium cast	
Chromium	0.176	0.072
Lead	0.134	0.062
Nickel	0.262	0.176
Titanium	0.253	0.110
Oil and grease	4.770	4.770
Total suspended solids	7.155	5.724
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 30–45
Primary and Secondary Titanium
Casting Contact Cooling Water

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of titanium cast	
Chromium	27.000	10.950
Lead	20.430	9.486
Nickel	40.140	27.000
Titanium	38.680	16.780
Oil and grease	729.700	729.700
Total suspended solids	1,095.000	875.700
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.305 Pretreatment standards for existing sources. Except as provided in ss. NR 211.13 and 211.14, any existing source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.303.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.306 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.303.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter XXXI — Secondary Tungsten and Cobalt

NR 274.31 Applicability; description of the secondary tungsten and cobalt subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the

introduction of pollutants into POTWs from the production of tungsten or cobalt at secondary tungsten and cobalt facilities which process tungsten or tungsten carbide scrap raw materials.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.312 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 31–1
Secondary Tungsten and Cobalt
Tungsten Detergent Wash and Rinse

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten scrap washed	
Copper	0.371	0.195
Nickel	0.374	0.248
Ammonia (as N)	25.990	11.430
Cobalt	0.768	0.337
Tungsten	1.357	0.542
Oil and grease	3.900	2.340
Total suspended solids	7.995	3.803
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 31–2
Secondary Tungsten and Cobalt
Tungsten Leaching Acid

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten produced	
Copper	4.885	2.571
Nickel	4.937	3.365
Ammonia (as N)	342.700	150.700
Cobalt	10.130	4.448
Tungsten	17.890	7.147
Oil and grease	51.420	30.850
Total suspended solids	105.400	50.140
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 31–3
Secondary Tungsten and Cobalt
Tungsten Post Leaching Wash and Rinse

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten produced	
Copper	9.772	5.143
Nickel	9.875	6.532
Ammonia (as N)	685.600	301.400
Cobalt	20.263	8.897
Tungsten	35.800	14.300
Oil and grease	102.900	61.720
Total suspended solids	210.900	100.300
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 31–4
Secondary Tungsten and Cobalt
Synthetic Scheelite Filtrate

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of synthetic scheelite produced	
Copper	31.660	16.660
Nickel	31.990	21.160
Ammonia (as N)	2,221.000	976.300
Cobalt	65.644	28.824
Tungsten	116.000	46.320
Oil and grease	333.200	200.000
Total suspended solids	683.000	324.900
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 31–5
Secondary Tungsten and Cobalt
Tungsten Carbide Leaching Wet Air Pollution Control

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten carbide scrap leached	
Copper	3.327	1.751
Nickel	3.362	2.224
Ammonia (as N)	233.400	102.600
Cobalt	6.899	3.039
Tungsten	12.190	4.868
Oil and grease	35.020	21.010
Total suspended solids	71.790	34.150
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 31–6
Secondary Tungsten and Cobalt
Tungsten Carbide Wash Water

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten carbide produced	
Copper	15.830	8.333
Nickel	16.000	10.580
Ammonia (as N)	1,111.000	488.300
Cobalt	32.832	14.146
Tungsten	58.000	23.170
Oil and grease	166.700	100.000
Total suspended solids	341.700	162.500
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 31–7
Secondary Tungsten and Cobalt
Cobalt Sludge Leaching Wet Air Pollution Control
BPT Effluent Limitations

	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cobalt produced from cobalt sludge	
Copper	67.990	35.780
Nickel	68.700	45.440
Ammonia (as N)	4,770.000	2,097.000
Cobalt	140.977	61.901
Tungsten	249.000	99.470
Oil and grease	715.600	429.400
Total suspended solids	1,467.000	697.700
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 31–8
Secondary Tungsten and Cobalt
Crystallization Decant

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cobalt produced	
Copper	79.140	41.650
Nickel	79.970	52.900
Ammonia (as N)	5,552.000	2,441.000
Cobalt	164.101	72.055
Tungsten	289.900	115.800
Oil and grease	833.000	499.800
Total suspended solids	1,708.000	812.200
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 31–9
Secondary Tungsten and Cobalt
Acid Wash Decant

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cobalt produced	
Copper	36.220	19.060
Nickel	36.600	24.210
Ammonia (as N)	2,541.000	1,117.000
Cobalt	75.104	32.977
Tungsten	132.700	52.990
Oil and grease	381.300	228.800
Total suspended solids	781.600	371.700
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 31–10
Secondary Tungsten and Cobalt
Cobalt Hydroxide Filtrate

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cobalt produced	
Copper	107.600	56.650
Nickel	108.800	71.940
Ammonia (as N)	7,551.000	3,320.000
Cobalt	223.189	97.999
Tungsten	394.300	157.500
Oil and grease	1,133.000	679.800
Total suspended solids	2,323.000	1,105.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 31–11
Secondary Tungsten and Cobalt
Cobalt Hydroxide Filter Cake Wash

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cobalt produced	
Copper	207.200	109.100
Nickel	209.400	138.500
Ammonia (as N)	14,530.000	6,389.000
Cobalt	429.598	188.631
Tungsten	758.900	303.100
Oil and grease	2,181.000	1,309.000
Total suspended solids	4,471.000	2,126.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.313 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 31–12
Secondary Tungsten and Cobalt
Tungsten Detergent Wash and Rinse

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten scrap washed	
Copper	0.250	0.119
Nickel	0.107	0.072
Ammonia (as N)	25.990	11.430
Cobalt	0.538	0.236
Tungsten	0.679	0.302

Table 31–13
Secondary Tungsten and Cobalt
Tungsten Leaching Acid

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten produced	
Copper	3.291	1.569
Nickel	1.414	0.951
Ammonia (as N)	342.700	150.700
Cobalt	7.096	3.111
Tungsten	8.947	3.985

Table 31–14
Secondary Tungsten and Cobalt
Tungsten Post Leaching Wash and Rinse

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten produced	
Copper	6.583	3.137
Nickel	2.829	1.903
Ammonia (as N)	685.600	301.400
Cobalt	14.194	6.223
Tungsten	17.900	7.972

Table 31–15
Secondary Tungsten and Cobalt
Synthetic Scheelite Filtrate

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of synthetic scheelite produced	
Copper	21.330	10.170
Nickel	9.164	6.165
Ammonia (as N)	2,221.000	976.300
Cobalt	45.984	20.160
Tungsten	57.980	25.820

Table 31–16
Secondary Tungsten and Cobalt
Tungsten Carbide Leaching Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten carbide scrap leached	
Copper	2.241	1.068
Nickel	0.963	0.648
Ammonia (as N)	233.400	102.600
Cobalt	4.833	2.119
Tungsten	6.093	2.714

Table 31–17
Secondary Tungsten and Cobalt
Tungsten Carbide Wash Water

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten carbide produced	
Copper	10.670	5.083
Nickel	4.583	3.083
Ammonia (as N)	1,111.000	488.300
Cobalt	22.999	10.083
Tungsten	29.000	12.920

Table 31–18
Secondary Tungsten and Cobalt
Cobalt Sludge Leaching Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cobalt produced from cobalt sludge	
Copper	45.800	21.830
Nickel	19.680	13.240
Ammonia (as N)	4,770.000	2,097.000
Cobalt	98.756	43.295
Tungsten	124.500	55.460

Table 31–19
Secondary Tungsten and Cobalt
Crystallization Decant

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cobalt produced	
Copper	53.310	25.410
Nickel	22.910	15.410
Ammonia (as N)	5,552.000	2,441.000
Cobalt	114.954	50.397
Tungsten	144.900	64.560

Table 31–20
Secondary Tungsten and Cobalt
Acid Wash Decant

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cobalt produced	
Copper	24.400	11.630
Nickel	10.490	7.053
Ammonia (as N)	2,541.000	1,117.000
Cobalt	52.611	23.065
Tungsten	66.340	29.550

Table 31–21
Secondary Tungsten and Cobalt
Cobalt Hydroxide Filtrate

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cobalt produced	
Copper	72.510	34.560
Nickel	31.160	20.960
Ammonia (as N)	7,551.000	3,320.000
Cobalt	156.346	68.543
Tungsten	197.100	87.800

Table 31–22
Secondary Tungsten and Cobalt
Cobalt Hydroxide Filter Cake Wash

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cobalt produced	
Copper	139.600	66.510
Nickel	59.970	40.340
Ammonia (as N)	14,530.000	6,389.000
Cobalt	300.094	131.094
Tungsten	379.400	169.000

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.314 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 31–23
Secondary Tungsten and Cobalt
Tungsten Detergent Wash and Rinse

NSPS		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten scrap washed	
Copper	0.250	0.119
Nickel	0.107	0.072
Ammonia (as N)	25.990	11.430
Cobalt	0.538	0.236
Tungsten	0.679	0.302
Oil and grease	1.950	1.950
Total suspended solids	2.925	2.340
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 31–24
Secondary Tungsten and Cobalt
Tungsten Leaching Acid

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten produced	
Copper	3.291	1.569
Nickel	1.414	0.951
Ammonia (as N)	342.700	150.700
Cobalt	7.096	3.111
Tungsten	8.947	3.985
Oil and grease	25.710	25.710
Total suspended solids	38.570	30.850
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 31–25
Secondary Tungsten and Cobalt
Tungsten Post Leaching Wash and Rinse

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten produced	
Copper	6.583	3.137
Nickel	2.829	1.903
Ammonia (as N)	685.600	301.400
Cobalt	14.194	6.223
Tungsten	17.900	7.972
Oil and grease	51.430	51.430
Total suspended solids	77.150	61.720
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 31–26
Secondary Tungsten and Cobalt
Synthetic Scheelite Filtrate

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of synthetic scheelite produced	
Copper	21.330	10.170
Nickel	9.164	6.165
Ammonia (as N)	2,221.000	976.300
Cobalt	45.984	20.160
Tungsten	57.980	25.820
Oil and grease	166.600	166.600
Total suspended solids	249.900	199.900
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 31–27
Secondary Tungsten and Cobalt
Tungsten Carbide Leaching Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten carbide scrap leached	
Copper	2.241	1.068
Nickel	0.963	0.648
Ammonia (as N)	233.400	102.600
Cobalt	4.833	2.119
Tungsten	6.093	2.714
Oil and grease	17.510	17.510
Total suspended solids	26.270	21.010
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 31–28
Secondary Tungsten and Cobalt
Tungsten Carbide Wash Water

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of tungsten carbide produced	
Copper	10.670	5.083
Nickel	4.583	3.083
Ammonia (as N)	1,111.000	488.300
Cobalt	22.999	10.083
Tungsten	29.000	12.920
Oil and grease	83.330	83.330
Total suspended solids	125.000	100.349
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 31–29
Secondary Tungsten and Cobalt
Cobalt Sludge Leaching Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cobalt produced from cobalt sludge	
Copper	45.800	21.830
Nickel	19.680	13.240
Ammonia (as N)	4,770.000	2,097.000
Cobalt	98.756	43.295
Tungsten	124.500	55.460
Oil and grease	357.800	357.800
Total suspended solids	536.700	429.400
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 31–30
Secondary Tungsten and Cobalt
Crystallization Decant

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cobalt produced	
Copper	53.310	25.410
Nickel	22.910	15.410
Ammonia (as N)	5,552.000	2,441.000
Cobalt	114.954	50.397
Tungsten	144.900	64.560
Oil and grease	416.500	416.500
Total suspended solids	624.800	499.800
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 31–31
Secondary Tungsten and Cobalt
Acid Wash Decant

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cobalt produced	
Copper	24.400	11.630
Nickel	10.490	7.053
Ammonia (as N)	2,541.000	1,117.000
Cobalt	52.611	23.065
Tungsten	66.340	29.550
Oil and grease	190.600	190.600
Total suspended solids	285.900	228.700
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 31–32
Secondary Tungsten and Cobalt
Cobalt Hydroxide Filtrate

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cobalt produced	
Copper	72.510	34.560
Nickel	31.160	20.960
Ammonia (as N)	7,551.000	3,320.000
Cobalt	156.346	68.543
Tungsten	197.100	87.800
Oil and grease	566.500	566.500
Total suspended solids	849.700	679.800
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 31–33
Secondary Tungsten and Cobalt
Cobalt Hydroxide Filter Cake Wash

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of cobalt produced	
Copper	139.600	66.510
Nickel	59.970	40.340
Ammonia (as N)	14,530.000	6,389.000
Cobalt	300.094	131.932
Tungsten	379.400	169.000
Oil and grease	1,090.000	1,090.000
Total suspended solids	1,636.000	1,308.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.315 Pretreatment standards for existing sources. Except as provided in ss. NR 211.13 and 211.14, any existing source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.313.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.316 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.313.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter XXXII — Secondary Uranium

NR 274.32 Applicability; description of the secondary uranium subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of uranium, including depleted uranium, by secondary uranium facilities.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.322 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 32–1
Secondary Uranium
Refinery Sump Filtrate

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium processed in the refinery	
Chromium	32.270	13.200
Copper	139.300	73.340
Nickel	140.800	93.140
Fluoride	2,567.000	1,459.000
Total suspended solids	3,007.000	1,430.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 32–2
Secondary Uranium
Slag Leach Reslurry

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium processed in the refinery	
Chromium	2.009	0.822
Copper	8.675	4.566
Nickel	8.767	5.799
Fluoride	159.800	90.860
Total suspended solids	187.200	89.040
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 32–3
Secondary Uranium
Solvent Extraction Raffinate Filtrate

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium processed in the refinery	
Chromium	2.802	1.146
Copper	12.100	6.369
Nickel	12.230	8.089
Fluoride	222.900	126.700
Total suspended solids	261.100	124.200
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 32–4
Secondary Uranium
Digestion Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium processed in the refinery	
Chromium	0.000	0.000
Copper	0.000	0.000
Nickel	0.000	0.000
Fluoride	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 32–5
Secondary Uranium
Evaporation and Denitration Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium trioxide produced	
Chromium	0.000	0.000
Copper	0.000	0.000
Nickel	0.000	0.000
Fluoride	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 32–6
Secondary Uranium
Hypofluorination Alkaline Scrubber

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium tetrafluoride produced	
Chromium	0.009	0.004
Copper	0.038	0.020
Nickel	0.038	0.025
Fluoride	0.070	0.398
Total suspended solids	0.820	0.390
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 32–7
Secondary Uranium
Hypofluorination Water Scrubber

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium tetrafluoride produced	
Chromium	0.000	0.000
Copper	0.000	0.000
Nickel	0.000	0.000
Fluoride	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 32–8
Secondary Uranium
Magnesium Reduction and Casting Floor Wash

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium produced by magnesium reduction	
Chromium	0.013	0.005
Copper	0.057	0.030
Nickel	0.058	0.038
Fluoride	1.056	0.599
Total suspended solids	1.234	0.587
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 32–9
Secondary Uranium
Laundry Wastewater

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium produced by magnesium reduction	
Chromium	0.084	0.035
Copper	0.365	0.192
Nickel	0.369	0.244
Fluoride	6.720	3.821
Total suspended solids	7.872	3.744
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.323 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 32–10
Secondary Uranium
Refinery Sump Filtrate

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium processed in the refinery	
Chromium	27.14	11.00
Copper	93.88	44.74
Nickel	40.34	27.14
Fluoride	2,567.00	1,459.00

Table 32–11
Secondary Uranium
Slag Leach Reslurry

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium processed in the refinery	
Chromium	1.689	0.685
Copper	5.844	2.785
Nickel	2.511	1.689
Fluoride	159.800	90.860

Table 32–12
Secondary Uranium
Solvent Extraction Raffinate Filtrate

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium processed in the refinery	
Chromium	2.357	0.955
Copper	8.152	3.885
Nickel	3.503	2.357
Fluoride	222.900	126.700

Table 32–13
Secondary Uranium
Digestion Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium processed in the refinery	
Chromium	0.000	0.000
Copper	0.000	0.000
Nickel	0.000	0.000
Fluoride	0.000	0.000

Table 32–14
Secondary Uranium
Evaporation and Denitration Wet Air Pollution Control

	BAT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium trioxide produced	
Chromium	0.000	0.000
Copper	0.000	0.000
Nickel	0.000	0.000
Fluoride	0.000	0.000

Table 32–15
Secondary Uranium
Hypofluorination Alkaline Scrubber

	BAT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium tetrafluoride produced	
Chromium	0.007	0.003
Copper	0.026	0.012
Nickel	0.011	0.025
Fluoride	0.700	0.398

Table 32–16
Secondary Uranium
Hypofluorination Water Scrubber

	BAT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium tetrafluoride produced	
Chromium	0.000	0.000
Copper	0.000	0.000
Nickel	0.000	0.000
Fluoride	0.000	0.000

Table 32–17
Secondary Uranium
Magnesium Reduction and Casting Floor Wash

	BAT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium produced by magnesium reduction	
Chromium	0.011	0.005
Copper	0.039	0.018
Nickel	0.017	0.011
Fluoride	1.054	0.599

Table 32–18
Secondary Uranium
Laundry Wastewater

	BAT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium produced by magnesium reduction	
Chromium	0.036	0.014
Copper	0.123	0.059
Nickel	0.053	0.036
Fluoride	3.360	1.910

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91

NR 274.324 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 32–19
Secondary Uranium
Refinery Sump Filtrate

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium processed in the refinery	
Chromium	27.14	11.00
Copper	93.88	44.74
Nickel	40.34	27.14
Fluoride	2,567.00	1,459.00
Total suspended solids	1,100.00	880.10
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 32–20
Secondary Uranium
Slag Leach Reslurry

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium processed in the refinery	
Chromium	1.689	0.685
Copper	5.844	2.785
Nickel	2.511	1.689
Fluoride	159.800	90.860
Total suspended solids	68.490	54.790
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 32–21
Secondary Uranium
Solvent Extraction Raffinate Filtrate

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium processed in the refinery	
Chromium	2.357	0.955
Copper	8.152	3.885
Nickel	3.503	2.357
Fluoride	222.900	126.700
Total suspended solids	95.540	76.430
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 32–22
Secondary Uranium
Digestion Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium processed in the refinery	
Chromium	0.000	0.000
Copper	0.000	0.000
Nickel	0.000	0.000
Fluoride	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 32–23
Secondary Uranium
Evaporation and Denitration Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium trioxide produced	
Chromium	0.000	0.000
Copper	0.000	0.000
Nickel	0.000	0.000
Fluoride	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 32–24
Secondary Uranium
Hypofluorination Alkaline Scrubber

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium tetrafluoride produced	
Chromium	0.007	0.003
Copper	0.026	0.012
Nickel	0.011	0.025
Fluoride	0.700	0.398
Total suspended solids	0.300	0.240
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 32–25
Secondary Uranium
Hypofluorination Water Scrubber

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium tetrafluoride produced	
Chromium	0.000	0.000
Copper	0.000	0.000
Nickel	0.000	0.000
Fluoride	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 32–26
Secondary Uranium
Magnesium Reduction and Casting Floor Wash

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium produced by magnesium reduction	
Chromium	0.011	0.005
Copper	0.039	0.018
Nickel	0.017	0.011
Fluoride	1.054	0.599
Total suspended solids	0.452	0.361
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 32–27
Secondary Uranium
Laundry Wastewater

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of uranium produced by magnesium reduction	
Chromium	0.036	0.014
Copper	0.123	0.059
Nickel	0.053	0.036
Fluoride	3.360	1.910
Total suspended solids	1.440	1.152
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.326 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.323.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

Subchapter XXXIII — Primary Zirconium and Hafnium

NR 274.33 Applicability; description of the primary zirconium and hafnium subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from the production of zirconium or hafnium at primary zirconium and hafnium facilities except for facilities which only produce zirconium or zirconium/nickel alloys by magnesium reduction of zirconium dioxide.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.332 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BPT:

Table 33–1
Primary Zirconium and Hafnium
Sand Drying Wet Air Pollution Control

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	0.250	0.102
Cyanide	0.165	0.068
Lead	0.239	0.114
Nickel	1.091	0.721
Ammonia (as N)	75.710	33.280
Total suspended solids	23.290	11.080
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–2
Primary Zirconium and Hafnium
Sand Chlorination Off–Gas Wet Air Pollution Control

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	19.130	7.825
Cyanide	12.610	5.216
Lead	18.260	8.694
Nickel	83.460	55.210
Ammonia (as N)	5,795.000	2,547.000
Total suspended solids	1,782.000	847.700
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–3
Primary Zirconium and Hafnium
Sand Chlorination Area–Vent Wet Air Pollution Control

	BPT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	3.751	1.534
Cyanide	2.472	1.023
Lead	3.580	1.705
Nickel	16.370	10.830
Ammonia (as N)	1,136.000	449.500
Total suspended solids	349.500	166.200
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–4
Primary Zirconium and Hafnium
Silicon Tetrachloride Purification Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	3.299	1.350
Cyanide	2.174	0.900
Lead	3.149	1.500
Nickel	14.400	9.522
Ammonia (as N)	999.500	439.400
Total suspended solids	307.400	146.200
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–5
Primary Zirconium and Hafnium
Feed Make Up Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	2.501	1.023
Cyanide	1.648	0.682
Lead	2.387	1.137
Nickel	10.910	7.217
Ammonia (as N)	757.500	333.000
Total suspended solids	233.000	110.800
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–6
Primary Zirconium and Hafnium
Iron Extraction Steam Stripper Bottoms

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	0.987	0.404
Cyanide	0.651	0.269
Lead	0.942	0.449
Nickel	4.308	2.850
Ammonia (as N)	299.100	131.500
Total suspended solids	92.000	43.760
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–7
Primary Zirconium and Hafnium
Zirconium Filtrate

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	17.070	6.982
Cyanide	11.250	4.655
Lead	16.290	7.758
Nickel	74.480	49.260
Ammonia (as N)	5,171.000	2,273.000
Total suspended solids	1,590.000	756.400
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–8
Primary Zirconium and Hafnium
Hafnium Filtrate

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	0.000	0.000
Cyanide	0.000	0.000
Lead	0.000	0.000
Nickel	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–9
Primary Zirconium and Hafnium
Calcining Caustic Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	3.959	1.619
Cyanide	2.609	1.080
Lead	3.799	1.799
Nickel	17.270	11.430
Ammonia (as N)	1,199.000	527.200
Total suspended solids	368.900	175.400
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–10
Primary Zirconium and Hafnium
Pure Chlorination Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	16.860	6.897
Cyanide	11.110	4.598
Lead	16.090	7.663
Nickel	73.570	48.660
Ammonia (as N)	5,108.000	2,245.000
Total suspended solids	1,571.000	747.200
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–11
Primary Zirconium and Hafnium
Reduction Area Vent Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	1.622	0.663
Cyanide	1.069	0.442
Lead	1.548	0.737
Nickel	7.077	4.681
Ammonia (as N)	491.300	216.000
Total suspended solids	151.100	71.880
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–12
Primary Zirconium and Hafnium
Magnesium Recovery Off–Gas Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	9.123	3.732
Cyanide	6.013	2.488
Lead	8.708	4.147
Nickel	39.810	26.330
Ammonia (as N)	2,764.000	1,215.000
Total suspended solids	850.100	404.300
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–13
Primary Zirconium and Hafnium
Magnesium Recovery Area–Vent Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	5.068	2.073
Cyanide	3.340	1.382
Lead	4.838	2.304
Nickel	22.110	14.630
Ammonia (as N)	1,535.000	675.000
Total suspended solids	472.200	224.600
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–14
Primary Zirconium and Hafnium
Zirconium Chip Crushing Wet Air Pollution Control

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	0.000	0.000
Cyanide	0.000	0.000
Lead	0.000	0.000
Nickel	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–15
Primary Zirconium and Hafnium
Acid Leachate From Zirconium Metal Production

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	12.970	5.304
Cyanide	8.545	3.536
Lead	12.380	5.893
Nickel	56.570	37.420
Ammonia (as N)	3,928.000	1,727.000
Total suspended solids	1,208.000	574.600
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–16
Primary Zirconium and Hafnium
Acid Leachate From Zirconium Alloy Production

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	6.939	2.839
Cyanide	4.574	1.893
Lead	6.624	3.154
Nickel	30.280	20.030
Ammonia (as N)	2,102.000	924.200
Total suspended solids	646.600	307.600
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–17
Primary Zirconium and Hafnium
Leaching Rinse Waters From Zirconium Metal Production

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	25.930	10.610
Cyanide	17.090	7.072
Lead	24.750	11.790
Nickel	113.200	74.840
Ammonia (as N)	7,856.000	3,453.000
Total suspended solids	2,416.000	1,149.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–18
Primary Zirconium and Hafnium
Leaching Rinse Waters From Zirconium Alloy Production

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	0.347	0.142
Cyanide	0.299	0.095
Lead	0.331	0.158
Nickel	1.515	1.002
Ammonia (as N)	105.200	46.240
Total suspended solids	32.350	15.390
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.333 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 33–19
Primary Zirconium and Hafnium
Sand Drying Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	0.210	0.085
Cyanide	0.114	0.045
Lead	0.159	0.074
Nickel	0.312	0.210
Ammonia (as N)	75.710	33.280

Table 33–20
Primary Zirconium and Hafnium
Sand Chlorination Off–Gas Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	16.080	6.521
Cyanide	8.694	3.478
Lead	12.170	5.651
Nickel	23.910	16.080
Ammonia (as N)	5,795.000	2,547.000

Table 33–21
Primary Zirconium and Hafnium
Sand Chlorination Area–Vent Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	3.154	1.279
Cyanide	1.705	0.682
Lead	2.387	1.108
Nickel	4.688	3.154
Ammonia (as N)	1,136.000	499.500

Table 33–22
Primary Zirconium and Hafnium
Silicon Tetrachloride Purification Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	2.774	1.125
Cyanide	1.500	0.600
Lead	2.099	0.975
Nickel	4.124	2.774
Ammonia (as N)	999.500	439.400

Table 33–23
Primary Zirconium and Hafnium
Feed Make Up Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	2.103	0.852
Cyanide	1.137	0.455
Lead	1.591	0.739
Nickel	3.126	2.103
Ammonia (as N)	757.500	333.000

Table 33–24
Primary Zirconium and Hafnium
Iron Extraction Steam Stripper Bottoms

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	0.830	0.337
Cyanide	0.449	0.180
Lead	0.628	0.292
Nickel	1.234	0.830
Ammonia (as N)	299.100	131.500

Table 33–25
Primary Zirconium and Hafnium
Zirconium Filtrate

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	14.350	5.819
Cyanide	7.758	3.103
Lead	10.860	5.043
Nickel	21.330	14.350
Ammonia (as N)	5,171.000	2,273.000

Table 33–26
Primary Zirconium and Hafnium
Hafnium Filtrate

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	0.000	0.000
Cyanide	0.000	0.000
Lead	0.000	0.000
Nickel	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 33–27
Primary Zirconium and Hafnium
Calcining Caustic Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	3.329	1.350
Cyanide	1.799	0.720
Lead	2.519	1.170
Nickel	14.948	3.329
Ammonia (as N)	1,199.000	527.200

Table 33–28
Primary Zirconium and Hafnium
Pure Chlorination Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	14.180	5.748
Cyanide	7.663	3.065
Lead	10.730	4.981
Nickel	21.070	14.180
Ammonia (as N)	5,108.000	2,245.000

Table 33–29
Primary Zirconium and Hafnium
Reduction Area Vent Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	1.364	0.553
Cyanide	0.737	0.295
Lead	1.032	0.479
Nickel	2.027	1.364
Ammonia (as N)	491.300	216.000

Table 33–30
Primary Zirconium and Hafnium
Magnesium Recovery Off–Gas Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	7.671	3.110
Cyanide	4.147	1.659
Lead	5.805	2.695
Nickel	11.400	7.671
Ammonia (as N)	2,764.000	1,215.000

Table 33–31
Primary Zirconium and Hafnium
Magnesium Recovery Area–Vent Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	4.262	1.728
Cyanide	2.304	0.921
Lead	3.225	1.497
Nickel	26.335	4.262
Ammonia (as N)	1,535.000	675.000

Table 33–32
Primary Zirconium and Hafnium
Zirconium Chip Crushing Wet Air Pollution Control

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	0.000	0.000
Cyanide	0.000	0.000
Lead	0.000	0.000
Nickel	0.000	0.000
Ammonia (as N)	0.000	0.000

Table 33–33
Primary Zirconium and Hafnium
Acid Leachate From Zirconium Metal Production

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	10.900	4.420
Cyanide	5.893	2.357
Lead	8.250	3.831
Nickel	16.210	10.900
Ammonia (as N)	3,928.000	1,674.000

Table 33–34
Primary Zirconium and Hafnium
Acid Leachate From Zirconium Alloy Production

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	5.835	2.366
Cyanide	3.154	1.262
Lead	4.416	2.050
Nickel	8.674	5.835
Ammonia (as N)	2,102.000	895.000

Table 33–35
Primary Zirconium and Hafnium
Leaching Rinse Waters From Zirconium Metal Production

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	21.810	8.840
Cyanide	11.790	4.715
Lead	16.500	7.661
Nickel	32.410	21.810
Ammonia (as N)	7,856.000	3,453.000

Table 33–36
Primary Zirconium and Hafnium
Leaching Rinse Waters From Zirconium Alloy Production

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	0.292	0.118
Cyanide	0.158	0.063
Lead	0.221	0.103
Nickel	1.434	0.292
Ammonia (as N)	105.200	46.240

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.334 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 33–37
Primary Zirconium and Hafnium
Sand Drying Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	0.210	0.085
Cyanide	0.114	0.045
Lead	0.159	0.074
Nickel	0.312	0.210
Ammonia (as N)	75.710	33.280
Total suspended solids	8.520	6.816
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–38
Primary Zirconium and Hafnium
Sand Chlorination Off–Gas Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	16.080	6.521
Cyanide	8.694	3.478
Lead	12.170	5.651
Nickel	23.910	16.080
Ammonia (as N)	5,795.000	2,547.000
Total suspended solids	652.100	521.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–39
Primary Zirconium and Hafnium
Sand Chlorination Area–Vent Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	3.154	1.279
Cyanide	1.705	0.682
Lead	2.387	1.108
Nickel	4.688	3.154
Ammonia (as N)	1,136.000	499.500
Total suspended solids	127.900	102.300
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–40
Primary Zirconium and Hafnium
Silicon Tetrachloride Purification Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	2.774	1.125
Cyanide	1.500	0.600
Lead	2.099	0.975
Nickel	4.124	2.774
Ammonia (as N)	999.500	439.400
Total suspended solids	112.500	89.980
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–41
Primary Zirconium and Hafnium
Feed Make Up Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	2.103	0.852
Cyanide	1.137	0.455
Lead	1.591	0.739
Nickel	3.126	2.103
Ammonia (as N)	757.500	333.000
Total suspended solids	85.250	68.200
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–42
Primary Zirconium and Hafnium
Iron Extraction Steam Stripper Bottoms

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	0.830	0.337
Cyanide	0.449	0.180
Lead	0.628	0.292
Nickel	1.234	0.830
Ammonia (as N)	299.100	131.500
Total suspended solids	33.660	26.930
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–43
Primary Zirconium and Hafnium
Zirconium Filtrate

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	14.350	5.819
Cyanide	7.758	3.103
Lead	10.860	5.043
Nickel	21.330	14.350
Ammonia (as N)	5,171.000	2,273.000
Total suspended solids	581.900	465.500
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–44
Primary Zirconium and Hafnium
Hafnium Filtrate

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	0.000	0.000
Cyanide	0.000	0.000
Lead	0.000	0.000
Nickel	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–45
Primary Zirconium and Hafnium
Calcining Caustic Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	3.329	1.350
Cyanide	1.799	0.720
Lead	2.519	1.170
Nickel	4.948	3.329
Ammonia (as N)	1,199.000	527.200
Total suspended solids	135.000	108.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–46
Primary Zirconium and Hafnium
Pure Chlorination Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	14.180	5.748
Cyanide	7.663	3.065
Lead	10.730	4.981
Nickel	21.070	14.180
Ammonia (as N)	5,108.000	2,245.000
Total suspended solids	574.800	459.800
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–47
Primary Zirconium and Hafnium
Reduction Area Vent Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	1.364	0.553
Cyanide	0.737	0.295
Lead	1.032	0.479
Nickel	2.027	1.364
Ammonia (as N)	491.300	216.000
Total suspended solids	55.290	44.230
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–48
Primary Zirconium and Hafnium
Magnesium Recovery Off–Gas Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	7.671	3.110
Cyanide	4.147	1.659
Lead	5.805	2.695
Nickel	11.400	7.671
Ammonia (as N)	2,764.000	1,215.000
Total suspended solids	404.300	248.800
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–49
Primary Zirconium and Hafnium
Magnesium Recovery Area–Vent Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	4.262	1.728
Cyanide	2.304	0.921
Lead	3.225	1.497
Nickel	6.335	4.262
Ammonia (as N)	1,535.000	675.000
Total suspended solids	172.800	138.200
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–50
Primary Zirconium and Hafnium
Zirconium Chip Crushing Wet Air Pollution Control

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	0.000	0.000
Cyanide	0.000	0.000
Lead	0.000	0.000
Nickel	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–51
Primary Zirconium and Hafnium
Acid Leachate From Zirconium Metal Production

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	10.900	4.420
Cyanide	5.893	2.357
Lead	8.250	3.831
Nickel	16.210	10.900
Ammonia (as N)	3,928.000	1,674.000
Total suspended solids	442.000	353.600
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–52
Primary Zirconium and Hafnium
Acid Leachate From Zirconium Alloy Production

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	5.835	2.366
Cyanide	3.154	1.262
Lead	4.416	2.050
Nickel	8.674	5.835
Ammonia (as N)	2,102.000	895.800
Total suspended solids	236.600	189.300
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–53
Primary Zirconium and Hafnium
Leaching Rinse Waters From Zirconium Metal Production

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	21.810	8.840
Cyanide	11.790	4.715
Lead	16.500	7.661
Nickel	32.410	21.810
Ammonia (as N)	7,856.000	3,453.000
Total suspended solids	884.000	707.200
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

Table 33–54
Primary Zirconium and Hafnium
Leaching Rinse Waters From Zirconium Alloy Production

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium	0.292	0.118
Cyanide	0.158	0.063
Lead	0.221	0.103
Nickel	1.434	0.292
Ammonia (as N)	105.200	46.240
Total suspended solids	11.840	9.468
pH	(1)	(1)

(1) Within the range of 7.5 to 10.0 at all times.

History: Cr. Register, March, 1991, No. 423, eff. 4–1–91.

NR 274.336 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve the limitations set forth in s. NR 274.333.

Note: The Wisconsin administrative code corresponds to the code of federal regulations as cross referenced in the following table:

State Code	Corresponding Federal Regulation
NR 205.03	40 CFR 401.11
NR 205.04	40 CFR 401.11
ch. NR 211	40 CFR Part 403
NR 211.03	40 CFR 403.3
NR 211.13	40 CFR 403.7
NR 211.14	40 CFR 403.13
ch. NR 219	40 CFR Part 136
ch. NR 256	40 CFR Part 464
ch. NR 274	40 CFR Part 421