Chapter NR 255

BATTERY MANUFACTURING

Subchapter I — General Provisions

NR 255.01 Purpose. The purpose of this chapter is to establish effluent limitations, standards of performance, and pretreatment standards for discharges of process wastes from the battery manufacturing category of point sources and its subcategories.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.015 Applicability. This chapter applies to any battery manufacturing plant that discharges or may discharge a pollutant to waters of the state or that introduces pollutants into a publicly owned treatment works. Battery manufacturing operations subject to regulation under this chapter are not subject to regulation under chs. NR 260 and 261.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.02 General definitions. In addition to the definitions set forth in ch. NR 205 and s. NR 211.03, the following definitions apply to this chapter:

(1) "Ancillary operations" means all of the operations specific to battery manufacturing and not included specifically within anode or cathode manufacture. Ancillary operations are primarily associated with battery assembly and chemical production of anode or cathode active materials.

(2) "Battery" means a modular electric power source where part or all of the fuel is contained within the unit and electric power is generated directly from a chemical reaction rather than indirectly through a heat cycle engine. In this chapter, there is no differentiation between a single cell and a battery.

(3) "Battery manufacturing operations" means all of the specific processes used to produce a battery including the manufacture of anodes and cathodes and associated ancillary operations. These manufacturing operations are excluded from regulation under any other point source category.

(4) "Discharge allowance" means the amount of pollutant that a plant will be permitted to discharge measured by mg. per kg. of production unit. For purposes of this chapter, the allowances are specific to battery manufacturing operations.

(5) "Existing source" means any point source, except a new source as defined in sub. (9), from which pollutants may be discharged either into the waters of the state or into a POTW.

(6) "Leclanche type batteries" means zinc anode batteries with acid electrolyte.

(7) "Miscellaneous wastewater streams" means the combined wastewater streams from the process operations within each of 4 subcategories: cadmium, lead, lithium, and zinc. If a plant has one of these wastewater streams, then the plant receives the entire miscellaneous wastewater stream allowance. The process operations for the cadmium subcategory are cell wash, electrolyte preparation, floor and equipment wash, and employe wash. The process operations for the lead subcategory are floor wash, wet air pollution control, battery repair, laboratory, hand wash, and respirator wash. The process operations for the

lithium subcategory are floor and equipment wash, cell testing, and lithium scrap disposal. The process operations for the zinc subcategory are cell wash, electrolyte preparation, employe wash, reject cell handling, and floor and equipment wash.

(8) "NSPS" means new source performance standards.

(9) "New source," as defined for NSPS and PSNS, means any point source from which pollutants may be discharged directly into the waters of the state or into a POTW, the construction of which commenced after November 10, 1982.

(10) "PSES" means pretreatment standards for existing sources.

(11) "PSNS" means pretreatment standards for new sources.

(12) "Plate soak" means the process operation of soaking or reacting lead subcategory battery plates, that are more than 2.5 mm. or 0.100 in. thick, in sulfuric acid.

(13) "Trucked batteries" means batteries moved into or out of the plant by truck when the truck is actually washed in the plant to remove residues left in the truck from the batteries.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.03 Monitoring and reporting requirements. Compliance with the maximum monthly average effluent limitations and pretreatment standards listed in the tables for each regulated process is required regardless of the number of samples analyzed and averaged. The maximum monthly average effluent limitations and pretreatment standards listed in the tables for each regulated process shall be the basis for monthly average discharge limits in direct discharge permits and for pretreatment standards.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.04 Compliance date for PSES. The compliance date for pretreatment standards for existing sources is March 9, 1987.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

Subchapter II — Cadmium Subcategory

NR 255.10 Applicability; description of the cadmium subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from manufacturing cadmium anode batteries.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.11 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 C.F.R. ss. 125.30 to 125.32, any existing source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of BPT:

Table 1

Pasted and Pressed Powder Anodes

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium	
	English units — lb/million lbs of cadmium	
Cadmium	0.92	0.41
Nickel	5.18	3.43
Zinc	3.94	1.65
Cobalt	0.57	0.24
Oil and grease	54.00	32.40
TSS	111.00	52.65
pH	(1)	(1)

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

Table 2

Electrodeposited Anodes

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium	
	English units — lb/million lbs of cadmium	
Cadmium	237.0	104.6
Nickel	1,338.2	885.2
Zinc	1,017.6	425.2
Cobalt	146.4	62.7
Oil and grease	13,940.0	8,364.0
TSS	28,577.0	13,592.0
pH	(1)	(1)

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

Table 3

Impregnated Anodes

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium	
	English units — lb/million lbs of cadmium	
Cadmium	339.3	149.7
Nickel	1,916.2	1,267.5
Zinc	1,457.1	608.8
Cobalt	209.6	89.8
Oil and grease	19,960.0	11,976.0
TSS	40,918.0	19,461.0
pH	(1)	(1)

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

Table 4

Nickel Electrodeposited Cathodes

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of nickel applied	
	English units — lb/million lbs of nickel applied	
Cadmium	193.5	85.4
Nickel	1,092.5	722.6
Zinc	830.7	347.1
Cobalt	119.5	51.2
Oil and grease	11,380.0	6,828.0
TSS	23,329.0	11,095.5
pH	(1)	(1)

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

Table 5

Nickel Impregnated Cathodes

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of nickel applied	
	English units — lb/million lbs of nickel applied	
Cadmium	557.6	246.0
Nickel	3,148.8	2,082.8
Zinc	2,394.4	1,000.4
Cobalt	344.4	147.6
Oil and grease	32,800.0	19,680.0
TSS	67,240.0	31,980.0
pH	(1)	(1)

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

Table 6

Miscellaneous Wastewater Streams

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced	
	English units — lb/million lbs of cells produced	
Cadmium	6.29	2.77
Nickel	35.54	23.50
Zinc	27.02	11.29
Cobalt	3.89	1.66
Oil and grease	370.20	222.12
TSS	758.91	360.94
pH	(1)	(1)

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

Table 7

Cadmium Powder Production

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium powder produced English units — lb/million lbs of cadmium powder produced	
Cadmium	22.34	9.86
Nickel	126.14	83.44
Zinc	95.92	40.08
Cobalt	13.80	5.91
Oil and grease	1,314.00	788.40
TSS	2,693.00	1,281.20
pH	(1)	(1)

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

Table 8

Silver Powder Production

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver powder produced English units — lb/million lbs of silver powder produced	
Cadmium	7.21	3.18
Nickel	40.70	26.92
Silver	8.69	3.61
Zinc	30.95	12.93
Cobalt	4.45	1.91
Oil and grease	424.00	254.40
TSS	869.20	413.40
pH	(1)	(1)

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

Table 9

Cadmium Hydroxide Production

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium used	
	English units — lb/million lbs of cadmium used	
Cadmium	0.31	0.14
Nickel	1.73	1.14
Zinc	1.31	0.55
Cobalt	0.19	0.08
Oil and grease	18.00	10.80
TSS	86.90	17.60
pH	[1]	[1]

[1] Within the range of 7.5 to 10.0 at all times.

Table 10

Nickel Hydroxide Production

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of nickel used	
	English units — lb/million lbs of nickel used	
Cadmium	37.4	16.5
Nickel	211.2	139.7
Zinc	160.6	67.1
Cobalt	23.1	9.9
Oil and grease	2,200.0	1,320.0
TSS	4,510.0	2,145.0
pH	[1]	[1]

[1] Within the range of 7.5 to 10.0 at all times.

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than those battery manufacturing operations listed in tables 1 to 10.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.12 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 C.F.R. ss. 125.30 to 125.32, any existing source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of BAT:

Table 11

Electrodeposited Anodes

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium English units — lb/million lbs of cadmium	
Cadmium	11.95	5.27
Nickel	67.49	44.64
Zinc	51.32	21.44
Cobalt	7.38	3.16

Table 12

Impregnated Anodes or Nickel Impregnated Cathodes

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium or nickel applied English units — lb/million lbs of cadmium or nickel applied	
Cadmium	68.0	30.0
Nickel	384.0	254.0
Zinc	292.0	122.0
Cobalt	42.0	18.0

Table 13

Nickel Electrodeposited Cathodes

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of nickel applied English units — lb/million lbs of nickel applied	
Cadmium	11.22	4.95
Nickel	63.36	41.91
Zinc	48.18	20.13
Cobalt	6.93	2.97

Table 14

Miscellaneous Wastewater Streams

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced English units — lb/million lbs of cells produced	
Cadmium	0.79	0.35
Nickel	4.47	2.96
Zinc	3.40	1.42
Cobalt	0.49	0.21

Table 15

Cadmium Powder Production

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium powder produced English units — lb/million lbs of cadmium powder produced	
Cadmium	2.23	0.99
Nickel	12.61	8.34
Zinc	9.59	4.01
Cobalt	1.38	0.59

Table 16

Silver Powder Production

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver powder produced English units — lb/million lbs of silver powder produced	
Cadmium	1.09	0.48
Nickel	6.16	4.08
Silver	1.32	0.55
Zinc	4.69	1.96
Cobalt	0.67	0.29

Table 17

Cadmium Hydroxide Production

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium used English units — lb/million lbs of cadmium used	
Cadmium	0.05	0.02
Nickel	0.27	0.18
Zinc	0.20	0.09
Cobalt	0.03	0.01

Table 18

Nickel Hydroxide Production

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of nickel used English units — lb/million lbs of nickel used	
Cadmium	5.61	2.48
Nickel	31.68	20.96
Zinc	24.09	10.07
Cobalt	3.47	1.49

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than those battery manufacturing operations listed in tables 11 to 18.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.13 New source performance standards. (1) The discharge of wastewater pollutants from any new source subject to this subchapter may not exceed the following standards:

Table 19

Electrodeposited Anodes

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium	
	English units — lb/million lbs of cadmium	
Cadmium	7.03	2.81
Nickel	19.33	13.01
Zinc	35.85	14.76
Cobalt	4.92	2.46
Oil and grease	351.5	351.5
TSS	527.3	421.8
pH	(1)	(1)

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

Table 20

Impregnated Anodes or Nickel Impregnated Cathodes

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium or nickel applied	
	English units — lb/million lbs of cadmium or nickel applied	
Cadmium	40.0	16.0
Nickel	110.0	74.0
Zinc	204.0	84.0
Cobalt	28.0	14.0
Oil and grease	2,000.0	2,000.0
TSS	3,000.0	2,400.0
pH	(1)	(1)

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

Table 21

Nickel Electrodeposited Cathodes

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of nickel applied	
	English units — lb/million lbs of nickel applied	
Cadmium	6.60	2.64
Nickel	18.15	12.21
Zinc	33.66	13.86
Cobalt	4.62	2.31
Oil and grease	330.0	330.0
TSS	495.0	396.0
pH	(1)	(1)

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

Table 22

Miscellaneous Wastewater Streams

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced	
	English units — lb/million lbs of cells produced	
Cadmium	0.47	0.19
Nickel	1.28	0.86
Zinc	2.38	0.98
Cobalt	0.33	0.16
Oil and grease	23.3	23.3
TSS	35.0	28.0
pH	(1)	(1)

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

Table 23

Cadmium Powder Production

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium powder produced English units — lb/million lbs of cadmium powder produced	
Cadmium	1.31	0.53
Nickel	3.61	2.43
Zinc	6.70	2.76
Cobalt	0.92	0.46
Oil and grease	65.70	65.70
TSS	98.55	78.84
pH	(1)	(1)

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

Table 24

Silver Powder Production

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver powder produced English units — lb/million lbs of silver powder produced	
Cadmium	0.64	0.26
Nickel	1.77	1.19
Silver	0.93	0.39
Zinc	3.27	1.35
Cobalt	0.45	0.22
Oil and grease	32.10	32.10
TSS	48.15	38.52
pH	(1)	(1)

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

Table 25

Cadmium Hydroxide Production

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium used	
	English units — lb/million lbs of cadmium used	
Cadmium	0.028	0.011
Nickel	0.077	0.051
Zinc	0.142	0.058
Cobalt	0.019	0.009
Oil and grease	1.40	1.40
TSS	2.10	1.68
pH	(1)	(1)

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

Table 26

Nickel Hydroxide Production

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of nickel used	
	English units — lb/million lbs of nickel used	
Cadmium	3.30	1.32
Nickel	9.08	6.11
Zinc	16.83	6.93
Cobalt	2.31	1.16
Oil and grease	165.0	165.0
TSS	247.5	198.0
pH	(1)	(1)

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

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than those battery manufacturing operations listed in tables 19 to 26.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.14 Pretreatement standards for existing sources. (1) Except as provided in 40 C.F.R. ss. 403.7 and 403.13, any existing source subject to this subchapter that introduces pollutants into a POTW shall comply with 40 C.F.R. Part 403 and achieve the following pretreatment standards for existing sources:

Table 27

Electrodeposited Anodes

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium English units — lb/million lbs of cadmium	
Cadmium	11.95	5.27
Nickel	67.49	44.64
Zinc	51.32	21.44
Cobalt	7.38	3.16

Table 28

Impregnated Anodes or Nickel Impregnated Cathodes

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium or nickel applied English units — lb/million lbs of cadmium or nickel applied	
Cadmium	68.0	30.0
Nickel	384.0	254.0
Zinc	292.0	122.0
Cobalt	42.0	18.0

Table 29

Nickel Electrodeposited Cathodes

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of nickel applied English units — lb/million lbs of nickel applied	
Cadmium	11.22	4.95
Nickel	63.36	41.91
Zinc	48.18	20.13
Cobalt	6.93	2.97

Table 30

Miscellaneous Wastewater Streams

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced English units — lb/million lbs of cells produced	
Cadmium	0.79	0.35
Nickel	4.47	2.96
Zinc	3.40	1.42
Cobalt	0.49	0.21

Table 31

Cadmium Powder Production

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium powder produced English units — lb/million lbs of cadmium powder produced	
Cadmium	2.23	0.99
Nickel	12.61	8.34
Zinc	9.59	4.01
Cobalt	1.38	0.59

Table 32

Silver Powder Production

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver powder produced English units — lb/million lbs of silver powder produced	
Cadmium	1.09	0.48
Nickel	6.16	4.08
Silver	1.32	0.55
Zinc	4.69	1.96
Cobalt	0.67	0.29

Table 33

Cadmium Hydroxide Production

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium used	
	English units — lb/million lbs of cadmium used	
Cadmium	0.05	0.02
Nickel	0.27	0.18
Zinc	0.20	0.09
Cobalt	0.03	0.012

Table 34

Nickel Hydroxide Production

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of nickel used	
	English units — lb/million lbs of nickel used	
Cadmium	5.61	2.48
Nickel	31.68	20.96
Zinc	24.09	10.07
Cobalt	3.47	1.49

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than those battery manufacturing operations listed in tables 27 to 34.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.15 Pretreatment standards for new sources. (1) Except as provided in 40 C.F.R. s. 403.7, any new source subject to this subchapter that introduces pollutants into a POTW shall comply with 40 C.F.R. Part 403 and achieve the following pretreatment standards for new sources:

Table 35

Electrodeposited Anodes

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium English units — lb/million lbs of cadmium	
Cadmium	7.03	2.81
Nickel	19.33	13.01
Zinc	35.85	14.76
Cobalt	4.92	2.46

Table 36

Impregnated Anodes or Nickel Impregnated Cathodes

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium or nickel applied English units — lb/million lbs of cadmium or nickel applied	
Cadmium	40.0	16.0
Nickel	110.0	74.0
Zinc	204.0	84.0
Cobalt	28.0	14.0

Table 37

Nickel Electrodeposited Cathodes

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of nickel applied English units — lb/million lbs of nickel applied	
Cadmium	6.60	2.64
Nickel	18.15	12.21
Zinc	33.66	13.86
Cobalt	4.62	2.31

Table 38

Miscellaneous Wastewater Streams

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced English units — lb/million lbs of cells produced	
Cadmium	0.47	0.19
Nickel	1.28	0.86
Zinc	2.38	0.96
Cobalt	0.33	0.16

Table 39

Cadmium Powder Production

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium powder produced English units — lb/million lbs of cadmium powder produced	
Cadmium	1.31	0.53
Nickel	3.61	2.43
Zinc	6.70	2.76
Cobalt	0.92	0.46

Table 40

Silver Powder Production

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver powder produced English units — lb/million lbs of silver powder produced	
Cadmium	0.64	0.26
Nickel	1.77	1.19
Silver	0.93	0.39
Zinc	3.27	1.35
Cobalt	0.45	0.22

Table 41

Cadmium Hydroxide Production

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cadmium used	
	English units — lb/million lbs of cadmium used	
Cadmium	0.028	0.011
Nickel	0.077	0.051
Zinc	0.142	0.058
Cobalt	0.019	0.009

Table 42

Nickel Hydroxide Production

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of nickel used	
	English units — lb/million lbs of nickel used	
Cadmium	3.30	1.32
Nickel	9.08	6.11
Zinc	16.83	6.93
Cobalt	2.31	1.16

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than those battery manufacturing operations listed in tables 35 to 42.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

Subchapter III — Calcium Subcategory

NR 255.20 Applicability; description of the calcium subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from manufacturing calcium anode batteries.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.23 New source performance standards. There may be no discharge allowance for process wastewater pollutants from any battery manufacturing new source subject to this subchapter.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.25 Pretreatment standards for new sources. There may be no discharge allowance for process wastewater pollutants into a POTW from any battery manufacturing new source subject to this subchapter.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

Subchapter IV — Lead Subcategory

NR 255.30 Applicability; description of the lead subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from manufacturing lead anode batteries.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.31 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 C.F.R. ss. 125.30 to 125.32, any existing source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of BPT:

Table 43

Closed Formation — Double Fill, or Fill and Dump

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.86	0.45
Lead	0.19	0.090
Iron	0.54	0.27
Oil and grease	9.00	5.40
TSS	18.45	8.78
pH	(1)	(1)

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

Table 44

Open Formation — Dehydrated

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	20.99	11.06
Lead	4.64	2.21
Iron	16.13	6.74
Oil and grease	221.00	132.60
TSS	453.05	215.47
pH	(1)	(1)

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

Table 45

Open Formation — Wet

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.10	0.05
Lead	0.02	0.01
Iron	0.06	0.03
Oil and grease	1.06	0.64
TSS	2.17	1.03
pH	(1)	(1)

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

Table 46

Plate Soak

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.040	0.020
Lead	0.009	0.004
Iron	0.030	0.010
Oil and grease	0.420	0.250
TSS	0.860	0.410
pH	(1)	(1)

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

Table 47

Battery Wash with Detergent

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	1.71	0.90
Lead	0.38	0.18
Iron	1.08	0.55
Oil and grease	18.00	10.80
TSS	36.90	17.55
pH	(1)	(1)

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

Table 48

Battery Wash — Water Only

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	1.12	0.59
Lead	0.25	0.12
Iron	0.71	0.36
Oil and grease	11.80	7.08
TSS	24.19	11.51
pH	(1)	(1)

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

Table 49

Direct Chill Lead Casting

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.00040	0.00020
Lead	0.00008	0.00004
Iron	0.00020	0.00010
Oil and grease	0.00400	0.00200
TSS	0.00800	0.00300
pH	(1)	(1)

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

Table 50

Mold Release Formulation

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.011	0.006
Lead	0.002	0.001
Iron	0.007	0.004
Oil and grease	0.120	0.072
TSS	0.246	0.117
pH	(1)	(1)

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

Table 51

Truck Wash

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead in trucked batteries English units — lb/million lbs of lead in trucked batteries	
Copper	0.026	0.014
Lead	0.005	0.002
Iron	0.016	0.006
Oil and grease	0.280	0.168
TSS	0.574	0.273
pH	(1)	(1)

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

Table 52

Laundry

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.21	0.11
Lead	0.05	0.02
Iron	0.13	0.07
Oil and grease	2.18	1.31
TSS	4.47	2.13
pH	(1)	(1)

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

Table 53

Miscellaneous Wastewater Streams

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.81	0.43
Lead	0.18	0.09
Iron	0.51	0.26
Oil and grease	8.54	5.12
TSS	17.51	8.33
pH	(1)	(1)

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

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than those battery manufacturing operations listed in tables 43 to 53.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.32 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 C.F.R. ss. 125.30 to 125.32, any existing source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of BAT:

Table 54

Open Formation — Dehydrated

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	3.19	1.68
Lead	0.71	0.34
Iron	2.02	1.02

Table 55

Open Formation — Wet

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.100	0.053
Lead	0.022	0.010
Iron	0.06	0.03

Table 56

Plate Soak

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.039	0.021
Lead	0.008	0.004
Iron	0.030	0.010

Table 57

Battery Wash with Detergent

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	1.71	0.90
Lead	0.38	0.18
Iron	1.08	0.55

Table 58

Direct Chill Lead Casting

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.0004	0.0002
Lead	0.00008	0.00004
Iron	0.0002	0.0001

Table 59

Mold Release Formulation

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.011	0.006
Lead	0.002	0.001
Iron	0.007	0.003

Table 60

Truck Wash

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead in trucked batteries	
	English units — lb/million lbs of lead in trucked batteries	
Copper	0.026	0.014
Lead	0.005	0.002
Iron	0.016	0.008

Table 61

Laundry

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used	
	English units — lb/million lbs of lead used	
Copper	0.21	0.11
Lead	0.05	0.02
Iron	0.13	0.07

Table 62

Miscellaneous Wastewater Streams

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used	
	English units — lb/million lbs of lead used	
Copper	0.58	0.31
Lead	0.13	0.06
Iron	0.37	0.19

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than those battery manufacturing operations listed in tables 54 to 62.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.33 New source performance standards. (1) The discharge of wastewater pollutants from any new source subject to this subchapter may not exceed the following standards:

Table 63

Open Formation — Dehydrated

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	2.15	1.02
Lead	0.47	0.21
Iron	2.01	1.02
Oil and grease	16.80	16.80
TSS	25.20	20.16
pH	(1)	(1)

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

Table 64

Open Formation — Wet

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.067	0.032
Lead	0.014	0.006
Iron	0.063	0.032
Oil and grease	0.53	0.53
TSS	0.80	0.64
pH	(1)	(1)

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

Table 65

Plate Soak

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.026	0.012
Lead	0.005	0.002
Iron	0.025	0.012
Oil and grease	0.21	0.21
TSS	0.32	0.25
pH	(1)	(1)

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

Table 66

Battery Wash with Detergent

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	1.152	0.549
Lead	0.252	0.117
Iron	1.08	0.55
Oil and grease	9.0	9.0
TSS	13.5	10.8
pH	(1)	(1)

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

Table 67

Direct Chill Lead Casting

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.000256	0.000122
Lead	0.000056	0.000026
Iron	0.000240	0.000122
Oil and grease	0.0020	0.0020
TSS	0.0030	0.0024
pH	(1)	(1)

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

Table 68

Mold Release Formulation

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.0077	0.0037
Lead	0.0017	0.0008
Iron	0.0072	0.0037
Oil and grease	0.060	0.060
TSS	0.090	0.072
pH	(1)	(1)

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

Table 69

Truck Wash

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead in trucked batteries	
	English units — lb/million lbs of lead in trucked batteries	
Copper	0.006	0.003
Lead	0.001	0.0007
Iron	0.006	0.003
Oil and grease	0.050	0.050
TSS	0.075	0.060
pH	(1)	(1)

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

Table 70

Laundry

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used	
	English units — lb/million lbs of lead used	
Copper	0.14	0.07
Lead	0.03	0.01
Iron	0.13	0.07
Oil and grease	1.09	1.09
TSS	1.64	1.31
pH	(1)	(1)

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

Table 71

Miscellaneous Wastewater Streams

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.39	0.19
Lead	0.085	0.039
Iron	0.37	0.19
Oil and grease	3.07	3.07
TSS	4.61	3.69
pH	(1)	(1)

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

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than those battery manufacturing operations listed in tables 63 to 71.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.34 Pretreatment standards for existing sources. (1) Except as provided in 40 C.F.R. ss. 403.7 and 403.13, any existing source subject to this subchapter that introduces pollutants into a POTW shall comply with 40 C.F.R. Part 403 and achieve the following pretreatment standards for existing sources:

Table 72

Open Formation — Dehydrated

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	3.19	1.68
Lead	0.71	0.34

Table 73

Open Formation — Wet

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.100	0.053
Lead	0.022	0.010

Table 74

Plate Soak

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.039	0.021
Lead	0.008	0.004

Table 75

Battery Wash with Detergent

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	1.71	0.90
Lead	0.38	0.18

Table 76

Direct Chill Lead Casting

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.0004	0.0002
Lead	0.00008	0.00004

Table 77

Mold Release Formulation

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.011	0.006
Lead	0.002	0.001

Table 78

Truck Wash

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead in trucked batteries English units — lb/million lbs of lead in trucked batteries	
Copper	0.026	0.014
Lead	0.005	0.002

Table 79

Laundry

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.21	0.11
Lead	0.05	0.02

Table 80

Miscellaneous Wastewater Streams

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.58	0.31
Lead	0.13	0.06

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than those battery manufacturing operations listed in tables 72 to 80.

(3) In cases where battery employe shower wastewater containing concentrations of lead exceeding 0.20 mg/l is combined with process wastewaters prior to treatment, the control authority may, under and notwithstanding the provisions of s. NR 211.12, exercise its discretion and classify battery employe shower wastewater as an unregulated rather than a dilute (F_D) wastestream, for the purpose of applying the combined wastestream formula. Before the control authority may exercise its discretion to classify such a stream as an unregulated stream, the battery manufacturer must provide engineering, production, and sampling and analysis information sufficient to allow a determination by the control authority on how the stream should be classified.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.35 Pretreatment standards for new sources. (1) Except as provided in 40 C.F.R. s. 403.7, any new source subject to this subchapter that introduces pollutants into a POTW shall comply with 40 C.F.R. Part 403 and achieve the following pretreatment standards for new sources:

Table 81

Open Formation — Dehydrated

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	2.15	1.02
Lead	0.47	0.21

Table 82

Open Formation — Wet

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used	
	English units — lb/million lbs of lead used	
Copper	0.067	0.032
Lead	0.014	0.006

Table 83

Plate Soak

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used	
	English units — lb/million lbs of lead used	
Copper	0.026	0.012
Lead	0.005	0.002

Table 84

Battery Wash with Detergent

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used	
	English units — lb/million lbs of lead used	
Copper	1.152	0.549
Lead	0.252	0.117

Table 85

Direct Chill Lead Casting

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used	
	English units — lb/million lbs of lead used	
Copper	0.000256	0.000122
Lead	0.000056	0.000026

Table 86

Mold Release Formulation

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used	
	English units — lb/million lbs of lead used	
Copper	0.007	0.0037
Lead	0.0017	0.0008

Table 87

Truck Wash

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead in trucked batteries	
	English units — lb/million lbs of lead in trucked batteries	
Copper	0.006	0.003
Lead	0.001	0.0007

Table 88

Laundry

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used	
	English units — lb/million lbs of lead used	
Copper	0.14	0.07
Lead	0.03	0.01

Table 89

Miscellaneous Wastewater Streams

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead used English units — lb/million lbs of lead used	
Copper	0.39	0.19
Lead	0.085	0.039

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than those battery manufacturing operations listed in tables 81 to 89.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

Subchapter V — Leclanche Subcategory

NR 255.40 Applicability; description of the leclanche subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from manufacturing Leclanche type batteries.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.43 New source performance standards. (1) The discharge of wastewater pollutants from any new source subject to this subchapter may not exceed the following standards:

Table 90

Foliar Battery Miscellaneous Wash

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced English units — lb/million lbs of cells produced	
Mercury	0.010	0.004
Zinc	0.067	0.030
Manganese	0.019	0.015
Oil and grease	0.66	0.66
TSS	0.99	0.79
pH	(1)	(1)

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

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than the battery manufacturing operation listed in table 90.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.44 Pretreatment standards for existing sources. (1) Except as provided in 40 C.F.R. ss. 403.7 and 403.13, any existing source subject to this subchapter that introduces pollutants into a POTW shall comply with 40 C.F.R. Part 403 and achieve the following pretreatment standards for existing sources:

Table 91

Foliar Battery Miscellaneous Wash

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced	
	English units — lb/million lbs of cells produced	
Mercury	0.010	0.004
Zinc	0.067	0.030
Manganese	0.019	0.015

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than the battery manufacturing operation listed in table 91.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.45 Pretreatment standards for new sources. (1) Except as provided in 40 C.F.R. s. 403.7, any new source subject to this subchapter that introduces pollutants into a POTW shall comply with 40 C.F.R. Part 403 and achieve the following pretreatment standards for new sources:

Table 92

Foliar Battery Miscellaneous Wash

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced	
	English units — lb/million lbs of cells produced	
Mercury	0.010	0.004
Zinc	0.067	0.030
Manganese	0.019	0.015

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than the battery manufacturing operation listed in table 92.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

Subchapter VI — Lithium Subcategory

NR 255.50 Applicability; description of the lithium subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from manufacturing lithium anode batteries.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.53 New source performance standards. (1) The discharge of wastewater pollutants from any new source subject to this subchapter may not exceed the following standards:

Table 93

Lead Iodide Cathodes

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead English units — lb/million lbs of lead	
Chromium	23.34	9.46
Lead	17.66	8.20
Iron	75.70	38.48
TSS	946.2	756.96
pH	(1)	(1)

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

Table 94

Iron Disulfide Cathodes

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of iron disulfide English units — lb/million lbs of iron disulfide	
Chromium	2.79	1.13
Lead	2.11	0.96
Iron	9.05	4.60
TSS	113.1	90.5
pH	(1)	(1)

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

Table 95

Miscellaneous Wastewater Streams

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced	
	English units — lb/million lbs of cells produced	
Chromium	0.039	0.016
Lead	0.030	0.014
Iron	0.129	0.066
TSS	1.62	1.30
pH	(1)	(1)

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

Table 96

Air Scrubbers

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced	
	English units — lb/million lbs of cells produced	
TSS	434.0	207.0
pH	(1)	(1)

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

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than those battery manufacturing operations listed in tables 93 to 96.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.55 Pretreatment standards for new sources. (1) Except as provided in 40 C.F.R. s. 403.7, any new source subject to this subchapter that introduces pollutants into a POTW shall comply with 40 C.F.R. Part 403 and achieve the following pretreatment standards for new sources:

Table 97

Lead Iodide Cathodes

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of lead English units — lb/million lbs of lead	
Chromium	23.34	9.46
Lead	17.66	8.20

Table 98

Iron Disulfide Cathodes

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of iron disulfide English units — lb/million lbs of iron disulfide	
Chromium	2.79	1.13
Lead	2.11	0.96

Table 99

Miscellaneous Wastewater Streams

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced English units — lb/million lbs of cells produced	
Chromium	0.039	0.016
Lead	0.030	0.014

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than those battery manufacturing operations listed in tables 97 to 99.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

Subchapter VII — Magnesium Subcategory

NR 255.60 Applicability; description of the magnesium subcategory. This subchapter applies to the discharge of pollutants to waters of the state

and the introduction of pollutants into POTWs from manufacturing magnesium anode batteries.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.63 New source performance standards. (1) The discharge of wastewater pollutants from any new source subject to this subchapter may not exceed the following standards:

Table 100

Silver Chloride Cathodes — Chemically Reduced

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver processed	
	English units — lb/million lbs of silver processed	
Lead	22.93	10.65
Silver	23.75	9.83
Iron	98.28	49.96
TSS	1,228.5	982.8
COD	4,095.0	1,999.0
pH	(1)	(1)

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

Table 101

Silver Chloride Cathodes — Electrolytic

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver processed	
	English units — lb/million lbs of silver processed	
Lead	40.6	18.9
Silver	42.1	17.4
Iron	174.0	86.5
TSS	2,175.0	1,740.0
COD	7,250.0	3,540.0
pH	(1)	(1)

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

Table 102

Cell Testing

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced	
	English units — lb/million lbs of cells produced	
Lead	19.5	7.89
Silver	15.3	6.31
Iron	63.1	32.1
TSS	789.0	631.2
COD	2,630.0	1,290.0
pH	(1)	(1)

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

Table 103

Floor and Equipment Wash

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced	
	English units — lb/million lbs of cells produced	
Lead	0.026	0.012
Silver	0.027	0.011
Iron	0.112	0.057
COD	1.41	1.13
TSS	4.70	2.30
pH	(1)	(1)

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

Table 104

Air Scrubber

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced	
	English units — lb/million lbs of cells produced	
TSS	8,467.0	4,030.0
pH	(1)	(1)

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

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than those battery manufacturing operations listed in tables 100 to 104.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.64 Pretreatment standards for existing sources. (1) Except as provided in 40 C.F.R. ss. 403.7 and 403.13, any existing source subject to this subchapter that introduces pollutants into a POTW shall comply with 40 C.F.R. Part 403 and achieve the following pretreatment standards for existing sources:

Table 105

Silver Chloride Cathodes — Chemically Reduced

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver processed	
	English units — lb/million lbs of silver processed	
Lead	1,032.36	491.60
Silver	1,007.78	417.86

Table 106

Silver Chloride Cathodes — Electrolytic

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver processed	
	English units — lb/million lbs of silver processed	
Lead	60.9	29.0
Silver	59.5	24.7

Table 107

Cell Testing

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced	
	English units — lb/million lbs of cells produced	
Lead	22.1	10.5
Silver	21.6	8.9

Table 108

Floor and Equipment Wash

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced	
	English units — lb/million lbs of cells produced	
Lead	0.039	0.018
Silver	0.038	0.105

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than those battery manufacturing operations listed in tables 105 to 108.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.65 Pretreatment standards for new sources. (1) Except as provided in 40 C.F.R. s. 403.7, any new source subject to this subchapter that introduces pollutants into a POTW shall comply with 40 C.F.R. Part 403 and achieve the following pretreatment standards for new sources:

Table 109

Silver Chloride Cathodes — Chemically Reduced

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver processed	
	English units — lb/million lbs of silver processed	
Lead	22.93	10.65
Silver	23.75	9.83

Table 110

Silver Chloride Cathodes — Electrolytic

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver processed	
	English units — lb/million lbs of silver processed	
Lead	40.6	18.9
Silver	42.1	17.4

Table 111

Cell Testing

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced	
	English units — lb/million lbs of cells produced	
Lead	19.5	7.89
Silver	15.3	6.31

Table 112

Floor and Equipment Wash

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced	
	English units — lb/million lbs of cells produced	
Lead	0.026	0.012
Silver	0.027	0.001

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than those battery manufacturing operations listed in tables 109 to 112.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

Subchapter VIII — Zinc Subcategory

NR 255.70 Applicability; description of the zinc subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from manufacturing zinc anode batteries.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.71 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 C.F.R. ss. 125.30 to 125.32, any existing source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of BPT:

Table 113

Wet Amalgamated Powder Anodes

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg zinc	
	English units — lb/million lbs of zinc	
Chromium	1.67	0.68
Mercury	0.95	0.38
Silver	1.56	0.65
Zinc	5.55	2.32
Manganese	2.58	1.10
Oil and grease	76.0	45.6
TSS	155.8	74.1
pH	[1]	[1]

[1] Within the range of 7.5 to 10.0 at all times.

Table 114

Gelled Amalgam Anodes

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of zinc English units — lb/million lbs of zinc	
Chromium	0.30	0.12
Mercury	0.17	0.07
Silver	0.28	0.12
Zinc	0.99	0.42
Manganese	0.46	0.20
Oil and grease	13.6	8.16
TSS	27.9	13.26
pH	(1)	(1)

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

Table 115

Zinc Oxide, Formed Anodes

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of zinc English units — lb/million lbs of zinc	
Chromium	62.9	25.7
Mercury	35.8	14.3
Silver	58.7	24.3
Zinc	208.8	87.2
Manganese	97.2	41.5
Oil and grease	2,860.0	1,716.0
TSS	5,863.0	2,789.0
pH	(1)	(1)

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

Table 116

Electrodeposited Anodes

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of zinc deposited	
	English units — lb/million lbs of zinc deposited	
Chromium	1,404.0	574.0
Mercury	798.0	319.0
Silver	1,308.0	543.0
Zinc	4,657.0	1,948.0
Manganese	2,169.0	925.0
Oil and grease	63,800.0	38,280.0
TSS	130,700.0	62,210.0
pH	(1)	(1)

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

Table 117

Silver Powder, Formed Cathodes

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver applied	
	English units — lb/million lbs of silver applied	
Chromium	86.2	35.3
Mercury	49.0	19.6
Silver	80.4	33.3
Zinc	286.2	119.6
Manganese	133.3	56.8
Oil and grease	3,920.0	2,350.0
TSS	8,036.0	3,822.0
pH	(1)	(1)

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

Table 118

Silver Oxide Powder, Formed Cathodes

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver applied	
	English units — lb/million lbs of silver applied	
Chromium	57.7	23.6
Mercury	32.8	13.1
Silver	53.7	22.3
Zinc	191.3	79.9
Manganese	89.1	38.0
Oil and grease	2,620.0	1,570.0
TSS	5,370.0	2,554.0
pH	(1)	(1)

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

Table 119

Silver Peroxide Cathodes

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver applied	
	English units — lb/million lbs of silver applied	
Chromium	13.8	5.65
Mercury	7.85	3.14
Silver	12.9	5.34
Zinc	45.8	19.2
Manganese	21.4	9.11
Oil and grease	628.0	377.0
TSS	1,287.0	612.0
pH	(1)	(1)

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

Table 120

Nickel Impregnated Cathodes

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of nickel applied	
	English units — lb/million lbs of nickel applied	
Chromium	721.6	295.2
Mercury	410.0	164.0
Nickel	3,149.0	2,083.0
Silver	672.4	279.0
Zinc	2,394.4	1,000.4
Manganese	1,115.2	475.6
Oil and grease	32,800.0	19,680.0
TSS	67,240.0	31,980.0
pH	(1)	(1)

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

Table 121

Miscellaneous Wastewater Streams

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced	
	English units — lb/million lbs of cells produced	
Chromium	3.85	1.58
Cyanide	2.54	1.05
Mercury	2.19	0.68
Nickel	16.82	11.12
Silver	3.59	1.49
Zinc	12.79	5.34
Manganese	5.96	2.54
Oil and grease	175.20	105.12
TSS	359.16	170.82
pH	(1)	(1)

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

Table 122

Silver Etch

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver processed	
	English units — lb/million lbs of silver processed	
Chromium	21.6	8.84
Mercury	12.3	4.91
Silver	20.2	8.35
Zinc	71.7	30.0
Manganese	33.4	14.3
Oil and grease	982.0	589.2
TSS	2,013.1	957.5
pH	(1)	(1)

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

Table 123

Silver Peroxide Production

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver in silver peroxide produced	
	English units — lb/million lbs of silver in silver peroxide produced	
Chromium	23.0	9.40
Mercury	13.1	5.22
Silver	21.4	8.88
Zinc	76.2	31.80
Manganese	35.5	15.10
Oil and grease	1,044.0	627.00
TSS	2,140.0	1,018.00
pH	(1)	(1)

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

Table 124

Silver Powder Production

BPT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver powder produced English units — lb/million lbs of silver powder produced	
Chromium	9.33	3.82
Mercury	5.30	2.12
Silver	8.69	3.61
Zinc	30.95	12.93
Manganese	14.42	6.15
Oil and grease	424.0	254.40
TSS	869.0	413.40
pH	(1)	(1)

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

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than those battery manufacturing operations listed in tables 113 to 124.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.72 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 C.F.R. ss. 125.30 to 125.32, any existing source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of BAT:

Table 125

Wet Amalgamated Powder Anodes

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of zinc English units — lb/million lbs of zinc	
Chromium	0.24	0.099
Mercury	0.14	0.056
Silver	0.23	0.093
Zinc	0.80	0.34
Manganese	0.37	0.16

Table 126

Gelled Amalgam Anodes

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of zinc English units — lb/million lbs of zinc	
Chromium	0.030	0.012
Mercury	0.017	0.007
Silver	0.028	0.012
Zinc	0.099	0.042
Manganese	0.046	0.020

Table 127

Zinc Oxide Formed Anodes

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of zinc English units — lb/million lbs of zinc	
Chromium	9.53	3.90
Mercury	5.42	2.17
Silver	8.89	3.68
Zinc	31.64	13.22
Manganese	14.74	6.28

Table 128

Electrodeposited Anodes

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of zinc deposited English units — lb/million lbs of zinc deposited	
Chromium	94.47	38.65
Mercury	53.68	21.47
Silver	88.03	36.50
Zinc	313.46	130.97
Manganese	146.00	62.26

Table 129

Silver Powder Formed Cathodes

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver applied	
	English units — lb/million lbs of silver applied	
Chromium	13.07	5.35
Mercury	7.43	2.97
Silver	12.18	5.05
Zinc	43.36	18.12
Manganese	20.20	8.61

Table 130

Silver Oxide Powder Formed Cathodes

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver applied	
	English units — lb/million lbs of silver applied	
Chromium	8.73	3.57
Mercury	4.96	1.99
Silver	8.14	3.37
Zinc	28.96	12.11
Manganese	13.50	5.76

Table 131

Silver Peroxide Cathodes

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver applied	
	English units — lb/million lbs of silver applied	
Chromium	2.09	0.87
Mercury	1.19	9.48
Silver	1.95	0.81
Zinc	6.95	2.90
Manganese	3.24	1.38

Table 132

Nickel Impregnated Cathodes

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of nickel applied English units — lb/million lbs of nickel applied	
Chromium	88.0	36.0
Mercury	50.0	20.0
Nickel	384.0	254.0
Silver	82.0	34.0
Zinc	292.0	122.0
Manganese	136.0	58.0

Table 133

Miscellaneous Wastewater Streams

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced English units — lb/million lbs of cells produced	
Chromium	0.57	0.23
Cyanide	0.38	0.16
Mercury	0.32	0.13
Nickel	2.48	1.64
Silver	0.53	0.22
Zinc	1.88	0.79
Manganese	0.88	0.37

Table 134

Silver Etch

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver processed	
	English units — lb/million lbs of silver processed	
Chromium	3.27	1.34
Mercury	1.86	0.74
Silver	3.05	1.26
Zinc	10.86	4.54
Manganese	5.06	2.16

Table 135

Silver Peroxide Production

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver in silver peroxide produced	
	English units — lb/million lbs of silver in silver peroxide produced	
Chromium	3.48	1.42
Mercury	1.96	0.79
Silver	3.24	1.34
Zinc	11.56	4.83
Manganese	5.36	2.29

Table 136

Silver Powder Production

BAT

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver powder produced	
	English units — lb/million lbs of silver powder produced	
Chromium	1.41	0.58
Mercury	0.80	0.32
Silver	1.32	0.55
Zinc	4.69	1.96
Manganese	2.18	0.93

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than those battery manufacturing operations listed in tables 125 to 136.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.73 New source performance standards. (1) The discharge of wastewater pollutants from any new source subject to this subchapter may not exceed the following standards:

Table 137

Zinc Oxide Formed Anodes

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of zinc English units — lb/million lbs of zinc	
Chromium	4.55	1.97
Mercury	2.82	1.19
Silver	4.55	1.97
Zinc	0.87	0.39
Manganese	6.50	4.98
Oil and grease	216.7	216.7
TSS	325.0	260.0
pH	(1)	(1)

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

Table 138

Electrodeposited Anodes

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of zinc deposited English units — lb/million lbs of zinc deposited	
Chromium	45.09	19.54
Mercury	27.91	11.81
Silver	45.09	19.54
Zinc	8.59	3.86
Manganese	64.41	49.38
Oil and grease	2,147.00	2,147.00
TSS	3,220.50	2,576.40
pH	(1)	(1)

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

Table 139

Silver Powder Formed Cathodes

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver applied	
	English units — lb/million lbs of silver applied	
Chromium	6.24	2.70
Mercury	3.86	1.63
Silver	6.24	2.70
Zinc	1.19	0.53
Manganese	8.91	6.83
Oil and grease	297.00	297.00
TSS	445.5	356.40
pH	(1)	(1)

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

Table 140

Silver Oxide Powder Formed Cathodes

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver applied	
	English units — lb/million lbs of silver applied	
Chromium	4.17	1.81
Mercury	2.58	1.09
Silver	4.17	1.81
Zinc	0.79	0.36
Manganese	5.96	4.57
Oil and grease	198.5	198.5
TSS	297.8	238.2
pH	(1)	(1)

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

Table 141

Silver Peroxide Cathodes

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver applied	
	English units — lb/million lbs of silver applied	
Chromium	1.00	0.43
Mercury	0.62	0.26
Silver	1.00	0.43
Zinc	0.19	0.09
Manganese	1.43	1.09
Oil and grease	47.6	47.6
TSS	71.4	57.1
pH	(1)	(1)

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

Table 142

Nickel Impregnated Cathodes

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of nickel applied	
	English units — lb/million lbs of nickel applied	
Chromium	42.0	18.2
Mercury	26.0	11.0
Nickel	42.0	18.2
Silver	42.0	18.2
Zinc	8.0	3.6
Manganese	60.0	46.0
Oil and grease	2,000.0	2,000.0
TSS	3,000.0	2,400.0
pH	(1)	(1)

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

Table 143

Miscellaneous Wastewater Streams

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced English units — lb/million lbs of cells produced	
Chromium	0.27	0.12
Cyanide	0.039	0.016
Mercury	0.17	0.07
Nickel	0.27	0.12
Silver	0.27	0.12
Zinc	0.05	0.02
Manganese	0.39	0.30
Oil and grease	12.90	12.90
TSS	19.35	15.48
pH	(1)	(1)

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

Table 144

Silver Etch

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg silver processed English units — lb/million lbs of silver processed	
Chromium	1.56	0.68
Mercury	0.97	0.41
Silver	1.56	0.68
Zinc	0.30	0.13
Manganese	2.23	1.71
Oil and grease	74.40	74.40
TSS	111.60	89.28
pH	(1)	(1)

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

Table 145

Silver Peroxide Production

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver in silver peroxide produced English units — lb/million lbs of silver in silver peroxide produced	
Chromium	1.66	0.72
Mercury	1.03	0.44
Silver	1.66	0.72
Zinc	0.32	0.14
Manganese	2.37	1.82
Oil and grease	79.10	79.10
TSS	118.65	94.92
pH	(1)	(1)

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

Table 146

Silver Powder Production

NSPS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver powder produced English units — lb/million lbs of silver powder produced	
Chromium	0.67	0.29
Mercury	0.42	0.18
Silver	0.67	0.29
Zinc	0.13	0.06
Manganese	0.96	0.74
Oil and grease	32.10	32.10
TSS	48.15	38.52
pH	(1)	(1)

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

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than those battery manufacturing operations listed in tables 137 to 146.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.74 Pretreatment standards for existing sources. (1) Except as provided in 40 C.F.R. ss. 403.7 and 403.13, any existing source subject to this subchapter that introduces pollutants into a POTW shall comply with 40 C.F.R. Part 403 and achieve the following pretreatment standards for existing sources:

Table 147

Wet Amalgamated Powder Anode

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of zinc English units — lb/million lbs of zinc	
Chromium	0.24	0.099
Mercury	0.14	0.055
Silver	0.23	0.093
Zinc	0.80	0.34
Manganese	0.37	0.16

Table 148

Gelled Amalgam Anodes

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of zinc English units — lb/million lbs of zinc	
Chromium	0.030	0.12
Mercury	0.017	0.006
Silver	0.028	0.012
Zinc	0.099	0.042
Manganese	0.046	0.020

Table 149

Zinc Oxide Formed Anodes

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of zinc English units — lb/million lbs of zinc	
Chromium	9.53	3.90
Mercury	5.42	2.17
Silver	8.89	3.68
Zinc	31.64	13.22
Manganese	14.74	6.28

Table 150

Electrodeposited Anodes

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of zinc deposited	
	English units — lb/million lbs of zinc deposited	
Chromium	94.47	38.65
Mercury	53.68	21.47
Silver	88.03	36.50
Zinc	313.46	130.97
Manganese	146.00	62.26

Table 151

Silver Powder Formed Cathodes

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver applied	
	English units — lb/million lbs of silver applied	
Chromium	13.07	5.35
Mercury	7.43	2.97
Silver	12.18	5.05
Zinc	43.36	18.12
Manganese	20.20	8.61

Table 152

Silver Oxide Powder Formed Cathodes

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver applied	
	English units — lb/million lbs of silver applied	
Chromium	8.73	3.57
Mercury	4.96	1.99
Silver	8.14	3.37
Zinc	28.98	12.11
Manganese	13.50	5.76

Table 153

Silver Peroxide Cathodes

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver applied	
	English units — lb/million lbs of silver applied	
Chromium	2.09	0.87
Mercury	1.19	0.48
Silver	1.95	0.81
Zinc	6.95	2.90
Manganese	3.24	1.38

Table 154

Nickel Impregnated Cathodes

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of nickel applied	
	English units — lb/million lbs of nickel applied	
Chromium	88.0	36.0
Mercury	50.0	20.0
Nickel	384.0	254.0
Silver	82.0	34.0
Zinc	292.0	122.0
Manganese	136.0	58.0

Table 155

Miscellaneous Wastewater Streams

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced English units — lb/million lbs of cells produced	
Chromium	0.57	0.23
Cyanide	0.38	0.16
Mercury	0.32	0.13
Nickel	2.48	1.64
Silver	0.53	0.22
Zinc	1.88	0.79
Manganese	0.88	0.37

Table 156

Silver Etch

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver processed English units — lb/million lbs of silver processed	
Chromium	3.27	1.34
Mercury	1.86	0.74
Silver	3.05	1.26
Zinc	10.86	4.54
Manganese	5.06	2.16

Table 157

Silver Peroxide Production

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver in silver peroxide produced English units — lb/million lbs of silver in silver peroxide produced	
Chromium	3.48	1.42
Mercury	1.98	0.79
Silver	3.24	1.34
Zinc	11.55	4.83
Manganese	5.38	2.29

Table 158

Silver Powder Production

PSES

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver powder produced English units — lb/million lbs of silver powder produced	
Chromium	1.41	0.58
Mercury	0.80	0.32
Silver	1.32	0.55
Zinc	4.69	1.96
Manganese	2.18	0.93

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than those battery manufacturing operations listed in tables 147 to 158.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.75 Pretreatment standards for new sources. (1) Except as provided in 40 C.F.R. s. 403.7, any new source subject to this subchapter that introduces pollutants into a POTW shall comply with 40 C.F.R. Part 403 and achieve the following pretreatment standards for new sources:

Table 159

Zinc Oxide Formed Anodes

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of zinc English units — lb/million lbs of zinc	
Chromium	4.55	1.97
Mercury	2.82	1.19
Silver	4.55	1.97
Zinc	0.87	0.39
Manganese	6.50	4.98

Table 160

Electrodeposited Anodes

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of zinc deposited	
	English units — lb/million lbs of zinc deposited	
Chromium	45.09	19.54
Mercury	27.91	11.81
Silver	45.09	19.54
Zinc	8.59	3.86
Manganese	64.41	49.38

Table 161

Silver Powder Formed Cathodes

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver applied	
	English units — lb/million lbs of silver applied	
Chromium	6.24	2.70
Mercury	3.86	1.63
Silver	6.24	2.70
Zinc	1.19	0.53
Manganese	8.91	6.83

Table 162

Silver Oxide Powder Formed Cathodes

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver applied	
	English units — lb/million lbs of silver applied	
Chromium	4.17	1.81
Mercury	2.58	1.09
Silver	4.17	1.81
Zinc	0.79	0.36
Manganese	5.96	4.57

Table 163

Silver Peroxide Cathodes

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver applied English units — lb/million lbs of silver applied	
Chromium	1.00	0.43
Mercury	0.62	0.26
Silver	1.00	0.43
Zinc	0.19	0.09
Manganese	1.43	1.09

Table 164

Nickel Impregnated Cathodes

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of nickel applied English units — lb/million lbs of nickel applied	
Chromium	42.0	18.2
Mercury	26.0	11.0
Nickel	42.0	18.2
Silver	42.0	18.2
Zinc	8.0	3.6
Manganese	60.0	46.0

Table 165

Miscellaneous Wastewater Streams

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of cells produced English units — lb/million lbs of cells produced	
Chromium	0.27	0.12
Cyanide	0.039	0.016
Mercury	0.17	0.07
Nickel	0.27	0.12
Silver	0.27	0.12
Zinc	0.05	0.02
Manganese	0.39	0.30

Table 166

Silver Etch

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver processed English units — lb/million lbs of silver processed	
Chromium	1.56	0.68
Mercury	0.97	0.41
Silver	1.56	0.68
Zinc	0.30	0.13
Manganese	2.23	1.71

Table 167

Silver Peroxide Production

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver in silver peroxide produced English units — lb/million lbs of silver in silver peroxide produced	
Chromium	1.66	0.72
Mercury	1.03	0.44
Silver	1.66	0.72
Zinc	0.32	0.14
Manganese	2.37	1.82

Table 168

Silver Powder Production

PSNS

POLLUTANT OR POLLUTANT PROPERTY	MAXIMUM FOR ANY 1 DAY	MAXIMUM FOR MONTHLY AVERAGE
	Metric units — mg/kg of silver powder produced English units — lb/million lbs of silver powder produced	
Chromium	0.67	0.29
Mercury	0.42	0.18
Silver	0.67	0.29
Zinc	0.13	0.06
Manganese	0.96	0.74

(2) There may be no discharge allowance for process wastewater pollutants from any battery manufacturing operation other than those battery manufacturing operations listed in tables 159 to 168.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.

NR 255.80 Cross-references. The federal citations in this chapter correspond to provisions of the Wisconsin administative code and Wisconsin statutes. The federal citations may be cross-referenced in the following table:

Code of Federal Regulations	Corresponding state code section
40 C.F.R. Part 401	ch. NR 205
40 C.F.R. s. 403.6 (e)	s. NR 211.12
40 C.F.R. ss. 125.30 to 125.32	s. 147.04 (3), Stats.

History: Cr. Register, November, 1987, No. 383, eff. 12-1-87.