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Chapter NR 273

NONFERROUS METALS FORMING AND METAL POWDERS

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NR 273.001 Purpose. The purpose of this chapter is to establish effluent limitations, new source performance standards, and pretreatment standards for the discharge of process wastewater pollutants from the nonferrous metals forming and metal powders point source category and its subcategories.

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History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.002 Applicability. (1) Except as provided in sub. (2), this chapter applies to discharges of pollutants to waters of the state and to pub-Register, September, 1990, No. 417 licly owned treatment works from the forming of nonferrous metals and nonferrous metal alloys and the associated ancillary operations.

(2) This chapter does not apply to the forming of:

(a) beryllium, copper, aluminum, or their alloys; or

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(b) cadmium, chromium, gallium, germanium, indium, lithium, manganese, neodynum, or praseodymium.

(3) This chapter applies to discharges to waters of the state and the introduction of pollutants into publcly owned treatment works from the mechanical production of metal powders from iron, copper, aluminum, nonferrous metals, and their alloys, the forming of parts from metal powders, and the associated ancillary operations. This chapter does not apply to the production of metal powders by chemical means such as precipitation. If the metal powder is produced as the final step in refining metal, the regulations for nonferrous metals manufacturing, ch. NR 274, apply.

(4) This chapter applies to any chemical of electrochemical treatment applied to the surface of the metal whenever these surface treatments are performed at the plant site where the metals are formed. If surface treatment is performed at a site other than where the metals are formed, regulations for electroplating, ch. NR 260, or metal finishing, ch. NR 261, apply.

(5) This chapter applies to casting when the casting is performed as an integral part of the metal forming process and takes place at the site where the metals are formed. When the casting does not take place where the metals are formed, the regulations for metal molding and casting, ch. NR 256, apply.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.003 General definitions. In addition to the definitions set forth in ss. NR 205.03, 205.04, and 211.03, the following definitions apply to the terms used in this chapter:

(1) "Alkaline cleaning" means the removal of lard, oil, and other compounds from a metal surface by a solution bath, usually detergent, followed by a rinse or multiple stage rinsing.

(2) "Aluminum alloy" means an alloy in which alumium is the major constituent in percent by weight.

(3) "Ancillary operation" means an operation performed as an integral part of the forming, such as casting for subsequent forming, heat treatment, surface treatment, alkaline cleaning, solvent degreasing, product testing, surface coating, sawing, grinding, tumbling, burnishing, and wet air pollution control.

(4) "Atomization" means the process by which a stream of water or gas impinges upon a molten metal stream, breaking it into droplets which solidify as powder particles.

(5) "Beryllium alloy" means an alloy in which beryllium is present at 0.1% or greater.

(6) "Burnishing" means a surface finishing process in which minute surface irregularities are displaced rather than removed.

(7) "Casting" means pouring molten metal into a mold to produce an object of the desired shape.

(8) "Cladding" means the art of producing a composite metal containing 2 or more layers which have been metallurgically bonded together by roll bonding, solder application, or explosion bonding.

(9) "Contact cooling water" means wastewater which contacts the metal workpiece or the raw materials used in forming metals for the purpose of removing heat from the metal.

(10) "Continuous casting" means the production of sheet, rod, or other long shapes by solidifying the metal while it is being poured through an open ended mold.

(11) "Copper alloy" means an alloy in which copper is the major constituent by weight, except any copper-precious metal alloy containing 30% by weight or greater precious metal is a precious metal alloy.

(12) "Degreasing" means the removal of oils and greases from the surface of the metal workpiece by detergents as in alkaline cleaning or by the use of solvents.

(13) "Direct chill casting" means an operation in which molten nonferrous metal is poured into a water cooled mold, contact cooling water is sprayed on the metal as it is dropped into the mold, and the metal ingot falls into a water bath at the end of the casting process.

(14) "Forming" means a set of manufacturing operations in which metals and alloys are made into semifinished products by hot or cold working, such as hot and cold rolling, extruding, forging, drawing, swaging, cladding, and tube reducing.

(15) "Drawing" means the process of pulling a metal through dies or succession of dies to reduce the metal's diameter or alter its cross sectional shape.

(16) "Dye penetrant testing" means a nondestructive method for finding discontinuities that are open to the surface of the metal in which a dye is applied to the surface of the metal and the excess is rinsed off so that the dye which penetrates the surface is not rinsed off and thus marks the discontinuities.

(17) "Emulsion" means a stable dispersion of 2 immiscible liquids, usually oil and water.

(18) "Electrocoating" means the electrodeposition of a metallic or nonmetallic coating onto the surface of a workpiece.

(19) "Existing source" means any point source from which pollutants may be discharged either directly into the waters of the state or into a POTW, except a new source as defined in sub. (30).

(20) "Extrusion" means the application of pressure to a billet of metal which forces the metal to flow through a die orifice.

(21) "Forging" means deforming a usually hot metal with compressive force into a desired shape, with or without dies, but where dies are used the metal is forced to take the shape of the die.

(22) "Grinding" means processes, such as surface finishing, sanding and slicing, in which stock is removed from a workpiece by the use of a tool consisting of abrasive grains held by a rigid or semirigid grinder.

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(23) "Heat treatment" means the application of heat of a specified temperature and duration to change the physical properties of the metal.

(24) "Hot pressing" means the forming of a powder metallurgy compact at a temperature high enough to effect concurrent sintering.

(25) "Hydrotesting" means the testing of piping or tubing by filling with water and pressurizing to test for integrity.

(26) "Impregnation" means the process of filling the pores of a formed powder part, usually with a liquid such as a lubricant, or mixing particles of a nonmetallic substance in a matrix of metal powder.

(27) "Metal powder production" means mechanical process operations which convert metal to a finely divided form.

(28) "Milling" means the mechanical treatment of a nonferrous metal to produce a powder or to coat one component of a powder mixture with another.

(29) "Neat oil" means a pure oil, with no or few impurities added, used mostly as a lubricant.

(30) "New source" means any point source for which construction commenced after March 4, 1984, and from which pollutants may be discharged either directly into waters of the state or into a POTW.

(31) "Nonferrous metal" means any pure metal other than iron and any metal alloy for which a metal other than iron is the alloy's major constituent in percent by weight.

(32) "Off-kg" and "off-lb" mean the mass of metal or metal alloy removed from a forming operation at the end of a process cycle for transfer to a different machine or process.

(33) "Powder forming" means forming and compressing powder into a fully dense finished shape, usually within closed dies.

(34) "Precious metals" means gold, platinum, palladium, and silver and any alloy containing 30% or more by weight of these metals.

(35) "Product testing" means operations such as dye penetrant testing, hydrotesting, and ultrasonic testing.

(36) "Refractory metals" means the metals columbium, tantalum, molybdenum, rhenium, tungsten, and vanadium and their alloys.

(37) "Rolling" means the reduction in thickness or diameter of a workpiece by passing it between lubricated steel rollers.

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(38) "Roll bonding" means the process by which a permanent bond is created between 2 metals by rolling under high pressure in a bonding mill.

(39) "Sawing" means cutting a workpiece with a band, blade, or circular disc having teeth.

(40) "Shot casting" means the production of shot by pouring molten metal in finely divided streams to form spherical particles.

(41) "Stationary casting" means the pouring of molten metal into molds and allowing the metal to cool.

(42) "Surface treatment" means a chemical or electrochemical treatment applied to the surface of a metal, such as pickling, etching, conversion coating, phosphating, and chromating, and any rinse or multiple stage rinsing which follows.

(43) "Swaging" means a process in which a solid point is formed at the end of a tube, rod, or bar by the repeated blows of one or more pairs of opposing dies.

(44) "Tube reducing" means an operation which reduces the diameter and wall thickness of tubing with a mandrel and a pair of rolls with tapered grooves.

(45) "Tumbling" means an operation in which castings, forgings, or parts pressed from metal powder are rotated in a barrel with ceramic or metal slugs or abrasives to remove scale, fins, or burrs, either dry or with an aqueous solution.

(46) "Ultrasonic testing" means a nondestructive test in which sound at a frequency above 20 Hz is applied to metal which has been immersed in a liquid, usually water, to locate inhomogeneities or structural discontinuities.

(47) "Wet air pollution control scrubbers" means air pollution control devices used to remove particulates and fumes from the air by entraining the pollutants in water spray.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.004 Compliance dates. (1) Any existing source subject to this chapter which discharges to waters of the state shall ahieve:

(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 discharges to a POTW shall achieve PSES by August 23, 1988.

(4) Any new source subject to this chapter which discharges to a POTW shall achieve PSNS at the commencement of discharge.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

Subchapter I — Lead-Tin-Bismuth

NR 273.01 Applicability; description of the lead-tin-bismuth subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from lead-tin-bismuth forming.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90. Register, September, 1990, No. 417

NR 273.011 Discharge prohibitions. Any facility subject to this subchapter may not discharge process wastewater pollutants from the following sources:

(1) Drawing spent neat oils; and

(2) Degreasing spent solvents.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.012 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 C.F.R. ss. 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 1-1 Lead-Tin-Bismuth Rolling Spent Emulsions				
	BPT Enluent Limita	utions		
	Maximum for any 1 day	Maximum for monthly average		
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth rolled with emulsions			
Antimony	0.068	0.030		
Lead	0.010	0.005		
Oil and grease	0.468	0.281		
Total suspended solids	0.960	0.457		
pH	(1)	(1)		

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

Table 1-2Lead-Tin-BismuthRolling Spent Soap Solutions			
)	3PT Effluent Limita	tions	
Maximum for Maximum fo any 1 day monthly ave			
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth rolled with soap solutions		
Antimony Lead Oil and grease Total suspended solids pH	0.125 0.019 0.860 1.80 (1)	0,055 0,009 0,520 0,840 (1)	

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

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I	Table 1-3 Lead-Tin-Bismut Drawing Spent Emul	h sions	
]	BPT Effluent Limita	tions	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth drawn with emulsions		
Antimony Lead Oil and grease	0.076 0.011 0.526	0.034 0.005 0.316	
Total suspended solids pH	1.08 (1)	0.513 (1)	
(1) Within the range of 7.5 to	10.0 at all times	_	
n an	Table 1-4 Lead-Tin-Bismut awing Spent Soap So	h lutions	
	BPT Effluent Limita	tions	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds p lead-tin-bismuth dr	per million off-pounds) of awn with soap solutions	
Antimony Lead Oil and grease Total suspended solids pH	$\begin{array}{c} 0.022 \\ 0.003 \\ 0.149 \\ 0.306 \\ (1) \end{array}$	0.010 0,002 0.090 0.146 (1)	
(1) Within the range of 7.5 to	10.0 at all times		
Extrusion	Table 1-5 Lead-Tin-Bismut Press and Solution H Contact Cooling Wa	h leat Treatment ater	
	BPT Effluent Limita	tions	
##\$\\	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds p lead-tin-bismuth he	per million off-pounds) of at treated	
Antimony Lead Oil and grease Total suspended solids pH	4.14 0.605 28.80 59.10 (1)	1.850 0.288 17.30 28.10 (1)	
<u></u>	(1)	(*/	

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

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	Table 1-6		
Extrusic	Lead-Tin-Bismuth on Press Hydraulic Fue	l Leakage	
]	BPT Effluent Limitatio	ons	
	Maximum for	Maximum for	
a.	any 1 day	monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth extruded		
Antimony	0.158	0.071	
Lead	0.023	0.011	
Oil and grease	1.10	0.660	
Total suspended solids	2.26	1.07	
pH .	(1)	(1)	
(1) Within the range of 7.5 to	10.0 at all times		
	Table 1-7		
	Lead-Tin-Bismuth		
	Continuous Strip Casti	ng	
	Contact Cooling Wate	er	
	BPT Effluent Limitatio	ons	
	Maximum for	Maximum for	
	any 1 day	monthly average	
Pollutant or	mg/off-kg (pounds per	million off-pounds) of	
pollutant property	lead-tin-bismuth cast	by the continuous strip	
	method	-	
Antimony	0.003	0.001	
Lead	0.0004	0.0002	
Oil and grease	0.020	0.012	
Total suspended solids	0.041	0.020	
pH	(1)	(1)	
(1) Within the range of 7.5 to	10.0 at all times		
	Table 1-8		
	Lead-Tin-Bismuth		
Sen	ni-Continuous Ingot C	asting	
	Contact Cooling Wate)r)r	
a	BPT Effluent Limitatio	ons	
	Maximum for	Maximum for	
	any 1 day	monthly average	
Pollutant or	mg/off-kg (pounds per	million off-pounds) of	
pollutant property	lead-tin-bismuth ingo	t cast by the semi-con-	
	tinuous method	-	
Antimony	0.085	0.038	
Lead	0.013	0.006	
Oil and grease	0.588	0.353	
Total suspended solids	1 21	0.574	
nH	(1)	(1)	
htt	(1)	(1)	

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

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Shot (Table 1-9 Lead-Tin-Bismuth	X7 -4-1	
	BPT Effluent Limitation	s	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth shot cast		
Antimony Lead Oil and grease Total suspended solids pH	0.107 0.016 0.746 1.53 (1)	0.048 0.008 0.448 0.728 (1)	
Shot-Fo	Table 1-10 Lead-Tin-Bismuth rming Wet Air Pollution Scrubber Blowdown	Control	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth shot formed		
Antimony Lead Oil and grease Total suspended solids pH	$1.69 \\ 0.247 \\ 11.8 \\ 24.1 \\ (1)$	0.753 0.118 7.06 11.5 (1)	
(1) Within the range of 7.5 to Alk	10.0 at all times Table 1-11 Lead-Tin-Bismuth caline Cleaning Spent Ba	ths	
]	BPT Effluent Limitation	<u>S</u>	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per 1 lead-tin-bismuth alkalin	nillion off-pounds) of 1e cleaned	
Antimony Lead Oil and grease Total suspended solids pH	0.345 0.051 2.40 4.92 (1)	0.154 0.024 1.44 2.34 (1)	
(1) Within the range of 7.5 to	10.0 at all times		

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Table 1-12				
Alkaline Cleaning Rinse				
· I	BPT Effluent Limitations			
· · ·	Maximum for any 1 day	Maximum for monthly average		
Pollutant or pollutant property	ollutant or mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth alkaline cleaned			
Antimony Lead	6.78 0.991	3.02 0.472		
Total suspended solids pH	47.2 96.8 (1)	28.4 46.0 (1)		
(1) Within the range of 7.5 to	10.0 at all times			
\$	Table 1-13 Lead-Tin-Bismuth Swaging Spent Emulsion	18		
<u>} 1</u>	3PT Effluent Limitation	18		
	Maximum for any 1 day	Maximum for monthly average		
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth swaged with emulsion			
Antimony Lead	0.005 0.0007	0.002 0.0004		

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

Oil and grease

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Total suspended solids

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.013 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 C.F.R. ss. 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:

0.036

0.073

(1)

Table 1-14 Lead-Tin-Bismuth Rolling Spent Emulsions			
	BAT Effluent Limit:	ations	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth rolled with emulsions		
Antimony Lead	0.067 0.010	0.030 0.005	

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0.022

0.034

(1)

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	Table 1-15 Lead-Tin-Bismu	th	
	Rolling Spent Soap Sc	lutions	
	BAT Effluent Limita	ations	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth rolled with soap solutions		
Antimony Lead	0.120 0.018	0.055 0.009	
	Table 1-16 Lead-Tin-Bismu Drawing Spent Emu	th Isions	
	BAT Effluent Limit a	ations	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds lead-tin-bismuth di	per million off-pounds) of rawn with emulsions	
Antimony . Lead	0.080 0.011	0.034 0.005	
I	Table 1-17 Lead-Tin-Bismu Drawing Spent Soap S	th olutions	
	BAT Effluent Limita	ations	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds lead-tin-bismuth di	per million off-pounds) of rawn with soap solutions	
Antimony Lead	0.022 0.003	0.010 0.002	
Extrusio	Table 1-18 Lead-Tin-Bismu n Press and Solution I Contact Cooling W	th Heat Treatment 'ater	
	BAT Effluent Limita	ations	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds lead-tin-bismuth he	per million off-pounds) of eat treated	
Antimony Lead	0.414 0.061	0.185 0.030	

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	Table 1-19 Lead-Tin-Bismut	h	
Extru	sion Press Hydraulic H	uel Leakage	
	BAT Effluent Limita	tions	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth extruded		
Antimony Lead	0.158 0.023	0.071 0.011	
	Table 1-20 Lead-Tin-Bismut Continuous Strip Ca Contact Cooling W	:h sting ater	
	BAT Effluent Limita	tions	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth cast by the continuous strip method		
Antimony Lead	0.003 0.0004	0.001 0.0002	
s	Table 1-21 Lead-Tin-Bismut emi-Continuous Ingot Contact Cooling W	h Casting ater	
	BAT Effluent Limita	tions	
· · ·	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds) lead-tin-bismuth in tinuous method	per million off-pounds) of got cast by the semi-con-	
Antimony Lead	0.009 0.001	0.004 0.0006	
Sho	Table 1-22 Lead-Tin-Bismut t Casting Contact Coo	h ling Water	
	BAT Effluent Limita	tions	
· · · · ·	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds) lead-tin-bismuth sh	per million off-pounds) of ot cast	
Antimony Lead	0.107 0.016	0.048 0.008	

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Shot-1	Table 1-23 Lead-Tin-Bismu Forming Wet Air Poll Scrubber Blowdo	th ution Control wn
	BAT Effluent Limit	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds lead-tin-bismuth s	per million off-pounds) of hot formed
Antimony Lead	0.169 0.025	0.076 0.012
	Table 1-24 Lead-Tin-Bismu Alkaline Cleaning Sper	th nt Baths
	BAT Effluent Limit	ations
-4 ⁻²⁴	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth alkaline cleaned	
Antimony Lead	0.345 0.051	0.154 0.024
(1) Within the range of 7.8	i to 10.0 at all times	
	Table 1-25 Lead-Tin-Bismu Alkaline Cleaning I	th Rinse
	BAT Effluent Limit	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds lead-tin-bismuth a	per million off-pounds) of Ikaline cleaned
Antimony Lead	0.678 0.099	0.302 0.047
	Table 1-26 Lead-Tin-Bismu Swaging Spent Emu	ith Isions
	BAT Effluent Limit	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds lead-tin-bismuth s	per million off-pounds) of waged with emulsion
Antimony Lead	0.005 0.0008	0.002 0.0004

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

Register, September, 1990, No. 417

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NR 273.014 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

	Table 1-27 Lead-Tin-Bismut	h
	Rolling Spent Emuk	sions
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p lead-tin-bismuth ro	per million off-pounds) of led with emulsions
Antimony	0.067	0.030
Lead	0.010	0.005
Oil and grease	0.468	0.281
Total suspended solids	0.960	0.457
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
R	Table 1-28 Lead-Tin-Bismut olling Spent Soap So	h lutions
	NSPS	
· ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth rolled with soap solutions	
Antimony Lead Oil and grease Total suspended solids nH	0.120 0.018 0.860 1.8 (1)	0.055 0.009 0.520 0.840 (1)
$\frac{1}{(1)}$ Within the range of 7.5 to	10.0 at all times	
]	Table 1-29 Lead-Tin-Bismut Drawing Spent Emu NGPS	th Isions
	0.1011	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds lead-tin-bismuth di	per million off-pounds) of rawn with emulsions
Antimony	0.076	0.034
Lead	0.011	0.005
Oil and grease	0.526	0.316
Total suspended solids	1.087	0.513
pH	(1)	(1)

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

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Table 1-30	
Lead-Tin-Bismuth	
awing Spent Soap Solut	ions
NSPS	
Maximum for	Maximum for
any 1 day	monthly average
mg/off-kg (nounds per	million off-nounds) of
lead-tin-bismuth drawn	with soap solutions
0.022	0.010
0.003	0.002
0.149	0.090
0.306	0.146
(1)	(1)
10.0 at all times	
Table 1-31	
Lood-Tin-Rismuth	
Press and Solution Host	Treatment
Contact Cooling Water	
NSPS	
Maximum for	Maximum for
any I day	monthly average
mg/off-kg (pounds per lead-tin-bismuth heat t	million off-pounds) of created
0.414	0.185
0.061	0.030
2.8	1.72
5.91	2.81
(1)	(1)
10.0 at all times	(-)
Table 1-32 Lead-Tin-Bismuth on Press Hydraulic Fuel	Leakage
NSPS	Trange
Mauimum for	Mavimum for
any 1 day	monthly average
mg/off-kg (pounds per lead-tin-bismuth extru	million off-pounds) of ded
0.158	0.071
0.023	0.011
1.10	0.660
2.26	1.07
(1)	(1)
	Table 1-30Lead-Tin-Bismuthawing Spent Soap SolutNSPSMaximum for any 1 daymg/off-kg (pounds per lead-tin-bismuth drawn0.022 0.003 0.149 0.306 (1)10.0 at all timesTable 1-31 Lead-Tin-BismuthLead-Tin-BismuthPress and Solution Heat Contact Cooling WaterNSPSMaximum for any 1 daymg/off-kg (pounds per lead-tin-bismuth heat to0.414 0.061 2.8 5.91 (1)10.0 at all timesTable 1-32 (1)Lead-Tin-Bismuth on Press Hydraulic Fuel NSPSMaximum for any 1 daymg/off-kg (pounds per

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

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		Table 1-33 Lead-Tin-Bismuth Continuous Strip Casting Contact Cooling Water	<u>z</u>
		NSPS	
C .		Maximum for any 1 day	Maximum for monthly average
χ /	Pollutant or pollutant property	mg/off-kg (pounds per r lead-tin-bismuth cast by method	nillion off-pounds) of y the continuous strip
	Antimony Lead Oil and grease Total suspended solids pH	0.003 0.0004 0.020 0.041 (1)	0.001 0.0002 0.012 0.020 (1)
	(1) within the lange of 7.5 to	Table 1-34 Lead-Tin-Bismuth ii-Continuous Ingot Cas Contact Cooling Water	ting
		NSPS	
	·	Maximum for any 1 day	Maximum for monthly average
	Pollutant or pollutant property	mg/off-kg (pounds per r lead-tin-bismuth ingot o tinuous method	nillion off-pounds) of cast by the semi-con-
	Antimony Lead Oil and grease Total suspended solids pH	0.009 0.001 0.059 0.121 (1)	0.004 0.0006 0.036 0.058 (1)
	$\frac{P^{-2}}{(1)}$ Within the range of 7.5 to	10.0 at all times	
	Shot C	Table 1-35 Lead-Tin-Bismuth Casting Contact Cooling	Water
		NSPS	
		Maximum for any 1 day	Maximum for monthly average
	Pollutant or pollutant property	mg/off-kg (pounds per 1 lead-tin-bismuth shot c	million off-pounds) of ast
$\left(\right)$	Antimony Lead Oil and grease Total suspended solids pH	0.107 0.016 0.746 1.53 (1)	0.048 0.008 0.448 0.728 (1)

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

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Shot-Fo	Table 1-36 Lead-Tin-Bismuth rming Wet Air Pollution Scrubber Blowdown	n Control
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth shot formed	
Antimony Lead Oil and grease Total suspended solids pH	0.169 0.025 1.18 2.41 (1)	0.076 0.012 0.706 1.15 (1)
(1) within the range of 7.5 to	Table 1-37 Lead-Tin-Bismuth caline Cleaning Spent B	aths
i	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth alkaline cleaned	
Antimony Lead Oil and grease Total suspended solids pH	0.345 0.051 2.40 4.92 (1)	0.154 0.024 1.44 2.34 (1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 1-38 Lead-Tin-Bismuth Alkaline Cleaning Rins	9
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth alkaline cleaned	
Antimony Lead Oil and grease Total suspended solids pH	0.678 0.099 4.72 9.68 (1)	0.302 0.047 2.84 4.60 (1)

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

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ş	Table 1-39 Lead-Tin-Bismut Swaging Spent Emuj	th Isions
2	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth swaged with emulsion	
Antimony Lead Oil and grease Total suspended solids nH	0.005 0.0008 0.036 0.073 (1)	0.002 0.0004 0.022 0.035 (1)

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

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.015 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 273.013.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.016 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 273.013.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

Subchapter II — Magnesium

NR 273.02 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 magnesium forming.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.021 Discharge prohibitions. Any facility subject to this subchapter may not discharge process wastewater pollutants from the following sources:

(1) Forging spent lubricants; and

(2) Degreasing spent solvents.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.022 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 C.F.R. ss. 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:

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	Table 2-1 Magnesium Rolling Spent Emulsion	s
	3PT Effluent Limitation	18
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per magnesium rolled with	million off-pounds) of emulsions
Chromium Zinc Ammonia Fluoride	$0.033 \\ 0.109 \\ 9.95 \\ 4.440$	0.014 0.046 4.37 1.97
Oil and grease Total suspended solids pH	1.49 3.06 (1)	0.895 1.46 (1)
(1) Within the range of 7.5 to	10.0 at all times	
For	Table 2-2 Magnesium ging Contact Cooling W	/ater
]	BPT Effluent Limitation	18
	Maximum for any 1 day	Maximum for monthly average
Poilutant or poilutant property	mg/off-kg (pounds per forged magnesium cool	million off-pounds) of ed with water
Chromium Zinc Ammonia Fluoride	1.27 4.22 385 172	0.520 1.77 170 76.3
Oil and grease Total suspended solids pH	57.8 119 (1)	34.7 56.4 (1)
(1) Within the range of 7.5 to	10.0 at all times	
Forging	Table 2-3 Magnesium Equipment Cleaning W	astewater
	BPT Effluent Limitation	18 `
4	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per forged magnesium	million off-pounds) of
Chromium Zine Ammonia	0.018 0.059 5.32	0.007 0.025 2.34 1.06
Oil and grease Total suspended solids pH	$2.30 \\ 0.798 \\ 1.64 \\ (1)$	0.479 0.778 (1)
(1) Within the range of 7.5 to	10.0 at all times	

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	Table 2-4 Magnesium	
Direct Chi	ill Casting Contact Cool	ng Water
J	3PT Effluent Limitations	\$
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per n magnesium cast with di	nillion off-pounds) of rect chill methods
Chromium Zinc	1.74 5.77	0.711 2.41
Ammonia	527	232
Fluoride	235	105
Oil and grease	79.0	47.4
Total suspended solids	162	T_{1}
рН	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
Suri	Table 2-5 Magnesium face Treatment Spent Ba	aths
]	BPT Effluent Limitation	8
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per r magnesium surface trea	nillion off-pounds) of ted
Chromium	0.205	0.084
Zine	0.681	0.285
Ammonia	62.1	27.3
Fluoride	27.8	12.3
Oil and grease	9.32	5.59
Total suspended solids	19.1	9.09
pH ·	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 2-6 Magnesium Surface Treatment Rins	е.
	BPT Effluent Limitation	S
· ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per 1 magnesium surface trea	million off-pounds) of ated
Chromium	8.32	3.4
Zinc	27.6	11.5
Ammonia	2520	1110
Fluoride	1130	499
Oil and grease	378	227
Total suspended solids	775	369
pH	(1)	(1)
141 9791 11 11 EP.F.	10.0 4 11.4	

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

Sawin	Table 2-7 Magnesium g or Grinding Spent	Emulsions
]	BPT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds) magnesium sawed o	per million off-pounds) of or ground
Chromium Zinc Ammonia	0,009 0.029 2.60	0.004 0.012 1.15 0.515
Oil and grease Total suspended solids pH	0.390 0.800 (1)	0.515 0.234 0.381 (1)
(1) Within the range of 7.5 to Wet Air Po	10.0 at all times Table 2-8 Magnesium Ilution Control Scru	bber Blowdown
]	BPT Effluent Limita	tions
£	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of magnesium sanded and repaired or forged	
Chromium Zinc Ammonia Eluoride	0.273 0.904 82.5 36 9	0,112 0,378 36,3 16 4
Oil and grease Total suspended solids pH	12.4 25.4 (1)	7.43 12.1 (1)

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

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.023 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 C.F.R. ss. 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:

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DEPARTME	NT OF NATURAL RI	ESOURCES 250-123 NR 273
	Table 2-9 Magnesium Rolling Spent Emuls	ions
	BAT Effluent Limitat	ions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p magnesium rolled w	er million off-pounds) of ith emulsions
Chromium Zinc Ammonia Fluoride	0.033 0.109 9.95 4.44	0.014 0.046 4.37 1.97
F	Table 2-10 Magnesium orging Contact Cooling	g Water
	BAT Effluent Limitat	tions
X 19 - 1	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of forged magnesium cooled with water	
Chromium Zinc Ammonia Fluoride	0.127 0.422 38.5 17.2	0.052 0.177 17.0 7.63
Forgir	Table 2-11 Magnesium g Equipment Cleaning	Wastewater
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p forged magnesium	per million off-pounds) of
Chromium Zinc Ammonia Fluoride	0,002 0,006 0,532 0,238	0.0007 0.003 0.234 0.106

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Direct	Table 2-12 Magnesium Chill Casting Contact	Cooling Water
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds) magnesium cast wi	per million off-pounds) of th direct chill methods
Chromium Zinc Ammonia Fluoride	1.74 5.77 527 235	0.711 2.41 232 105
£	Table 2-13 Magnesium Surface Treatment Sper	nt Baths
	BAT Effluent Limita	tions
•	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of magnesium surface treated	
Chromium Zinc Ammonia Fluoride	0.205 0.681 62.1 27.8	0.084 0.285 27.3 12.3
	Table 2-14 Magnesium Surface Treatment J	Rinse
· · · · · · · · · · · · · · · · · · ·	BAT Effluent Limita	tions
And the second	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of magnesium surface treated	
Chromium Zinc Ammonia Fluoride	0,832 2.76 252 113	0.340 1.16 111 49.9

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Saw	Table 2-15 Magnesium ing or Grinding Spent	Emulsions
	BAT Effluent Limita	ations
+	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds magnesium sawed	per million off-pounds) of or ground
Chromium	0.009	0.004
Zine	0.029	0.012
Ammonia	2.60	1.15
Fluoride	1.16	0.515

Wet Air I	Table 2-16 Magnesium Pollution Control Scru	ıbber Blowdown
	BAT Effluent Limita	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds magnesium sanded	per million off-pounds) of and repaired or forged
Chromium Zinc Ammonia Fluoride	0.273 0.904 82.5 36.9	0.112 0.378 36.3 16.4

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.024 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

	Table 2-17 Magnesium Rolling Spent Emul	sions
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds) magnesium rolled v	per million off-pounds) of vith emulsions
Chromium Zinc Ammonia Fluoride Oil and grease Total suspended solids pH	$\begin{array}{c} 0.028\\ 0.076\\ 9.95\\ 4.44\\ 0.746\\ 1.12\\ (1)\end{array}$	$\begin{array}{c} 0.011 \\ 0.032 \\ 4.37 \\ 1.97 \\ 0.746 \\ 0.895 \\ (1) \end{array}$

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

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	Table 2-18 Magnosium	
For	ring Contact Coolir	og Water
	NSPS	
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds forged magnesium	per million off-pounds) of cooled with water
Chromium	0.107	0.044
Zinc	0.295	0.122
Ammonia	38.5	17.0
Fluoride	17.2	7.63
Oil and grease	2.89	2.89
Total suspended solids	4.34	3.47
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 2-19	
	Magnesium	· · · · · · · · · · · · · · · · · · ·
Forging	Equipment Cleanin	g Wastewater
	NSPS	
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or	mg/off-kg (pounds	per million off-pounds) of
pollutant property	torged magnesium	
Chromium	0.002	0.0006
Zinc	0,004	0.002
Ammonia	0.532	0.234
Fluoride	0.238	0.106
Uil and grease	0.040	0.040
Total suspended solids	0.000	(1)
	(1)	(1)
(1) Within the range of 7.5 to	10,0 at all times	
	Table 2-20	
	Magnesium	
Direct Ch	ill Casting Contact	Cooling Water
	NSPS	
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds magnesium cast w	per million off-pounds) of ith direct chill methods
Chromium	1.46	0.593
Zine	4.03	1.66
Ammonia	527	232
Fluoride	235	105
Ull and grease	39,5	39.5
Total suspended solids	09.3 (1)	47.4
pn	(1)	(1)
Within the range of 7.5 to	10.0 at all times	

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	Table 2-21	
Sur	face Treatment Spent	Baths
	NSPS	
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or	mg/off-kg (pounds pe	r million off-pounds) of
pollutant property	magnesium surface ti	reated
Chromium	0.173	0.070
Zine	0.476	0.196
Ammonia	62.1	27.3
Fluoride	27.8	12.3
Oil and grease	4.66	4.66
Total suspended solids	6.99	5,6
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 2-22 Magnesium	
·····	Surface Treatment Ri	nse
•	NSPS	
· ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe magnesium surface tr	er million off-pounds) of reated
Chromium	0.700	0.284
Zine	1.93	0.794
Ammonia	252	111
Fluoride	113	49
Oil and grease	18.9	18.9
Total suspended solids	28 4	22.7
nH	(1)	<u> </u>
(1) Within the range of 7.5 to	10.0 at all times	\~ <i>i</i>
Sawin	Table 2-23 Magnesium g or Grinding Spent F	Imulsions
	NSPS	· · · · · · · · · · · · · · · · · · ·
· · · · · · · · · · · · · · · · · · ·	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe magnesium sawed or	er million off-pounds) of ground
Chromium	0.007	0.003
Zine	0.020	0.008
Ammonia	2.60	1.15
Fluoride	1.16	0.515
Oil and grease	0.195	0.195
Total suspended solids	0.293	0.234
nH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	

Within the rai ige of 7.5 to 10.0 at an

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	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of magnesium sanded and repaired or forged	
Chromium	0,229	0.093
Zinc	0.632	0.260
Ammonia	82.5	36.3
Fluoride	36.9	16.4
Oil and grease	6.19	6.19
Total suspended solids	9.29	7.43
nH	(1)	(1)

Table 2-24 Magnesium Wet Air Pollution Control Scrubber Blowdown

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

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.025 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 273.023.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.026 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 limitations set forth in s. NR 273.023.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

Subchapter III — Nickel-Cobalt

NR 273.03 Applicability; description of the nickel-cobalt subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from nickel-cobalt forming.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.031 Discharge prohibitions. (1) Any facility subject to this subchapter may not discharge process wastewater pollutants from the following sources:

- (a) Rolling spent neat oils;
- (b) Drawing spent neat oils;
- (c) Extrusion spent lubricants;
- (d) Forging spent lubricants;
- (e) Vacuum melting steam condensate;
- (f) Annealing and solution heat treatment contact cooling water;

(g) Hydrostatic tube testing and ultrasonic testing wastewater; and Register, September, 1990, No. 417

(h) Degreasing spent solvents.

(2) TUBE REDUCING SPENT LUBRICANTS. (a) Tube reducing spent lubricant process wastewater pollutants may not be discharged, except as provided in par. (b).

(b) Tube reducing spent lubricant process wastewater pollutants may be discharged, with no allowance for any pollutants discharged, if the facility owner or operator demonstrates according to pars. (c), (d), (e), and (f) that the concentrations of nitrosamine compounds in the discharged wastewater do not exceed the following levels:

Nitrosamine	Maximum Concentration
N-nitrosodimethylamine	0.050 mg/l
N-nitrosodiphenylamine	0.020 mg/l
N-nitrosodi-n-propylamine	0.020 mg/l

(c) For the demonstration required by par. (b), the facility owner or operator shall use the analytical methods approved by ch. NR 219, Table C.

(d) The demonstration required by par. (b) shall be made once per month until the demonstration has been made for all 3 nitrosamine compounds for six consecutive months. After this time, the demonstration may be made once per quarter. If a sample is found to contain any of the 3 nitrosamine compounds at concentrations greater than those specified in par. (b), the actions set forth in par. (e) shall be taken and the demonstration required by par. (b) shall be made once per month until it has been made for all 3 nitrosoamine compounds for 6 consecutive months.

(e) If sampling results show that any of the 3 nitrosamine compounds is present in the process wastewater at concentrations greater than those set forth in par. (b), the facility owner or operator shall ensure that starting within 30 days of receiving written notification of the sampling results no tube reducing spent lubricant wastewater is discharged until one of the following conditions is met:

1. The owner or operator performs a subsequent analysis which demonstrates that the concentrations of 3 regulated nitrosamine compounds do not exceed the levels set forth in par. (b); or

2. The owner or operator substitutes a new tube reducing lubricant and thereafter complies with the requirements of par. (d); or

3. Determines the source of the pollutants whose concentration exceeded the level set forth in par. (b) and demonstrates to the satisfaction of the permit issuing authority that the source has been eliminated.

(f) The concentration limits specified in par. (b) apply at the point of discharge from the tube reducing process. However, sampling after the tube reducing wastewater has been commingled with other wastewaters is permitted if 2 conditions are met:

1. Any dilution caused by the other wastewaters is accounted for when determining the appropriate allowable discharge concentration; and

2. An analytical method of sufficient sensitivity is used to measure the levels of each of the 3 nitrosamine compounds in the wastewater being sampled.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.032 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 C.F.R. ss. 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 3-1 Nickel-Cobalt	
	Rolling Spent Emuls	ions
-	BPT Effluent Limitat	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of nickel-cobait rolled with emulsions	
Chromium Nickel Fluoride	0.075 0.327 10 1	0.031 0.216 4.49
Oil and grease Total suspended solids	3.4 6.97	2.04 3.32 (1)
pm	(1)	(1)

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

Table 3-2 Nickel-Cobalt Rolling Contact Cooling Water

	BPT Effluent Limit:	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of nickel-cobalt rolled with water 1.66 0.679 7.24 4.79	
Chromium Nickel		
Fluoride Oil and grease	225 75.4	99.6 45.3
pH	(1)	(1)

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

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Ľ	Table 3-3 Nickel-Cobalt Drawing Spent Emulsion	8
F	3PT Effluent Limitation	8
-	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per r nickel-cobalt drawn wit	nillion off-pounds) of h emulsions
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	0.042 0.183 5.68 1.91 3.91 (1)	0.017 0.121 2.53 1.15 1.86 (1)
Extrusion	Table 3-4 Nickel-Cobalt Press or Solution Heat ' Contact Cooling Water 3PT Effluent Limitation	Treatment
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per r nickel-cobalt heat treat	nillion off-pounds) of ed
Chromium Nickel Fluoride Oil and grease Total suspended solids pH (1) Within the range of 7.5 to	0.037 0.160 4.95 1.67 3.41 (1) 10.0 at all times	$\begin{array}{c} 0.015\\ 0.106\\ 2.20\\ 0.999\\ 1.63\\ (1)\end{array}$
Extrusio	Table 3-5 Nickel-Cobalt n Press Hydraulic Fluid	Leakage
.]	BPT Effluent Limitation	S
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per n nickel-cobalt extruded	million off-pounds) of
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	$\begin{array}{c} 0.102 \\ 0.446 \\ 13.8 \\ 4.64 \\ 9.51 \\ (1) \end{array}$	$\begin{array}{c} 0.042 \\ 0.295 \\ 6.13 \\ 2.79 \\ 4.53 \\ (1) \end{array}$

 $\begin{array}{c} \text{Initial definition of the formula}\\ \text{Oil and grease} & 4.64\\ \text{Total suspended solids} & 9.5\\ \text{pH} & (1)\\ \hline \text{(1) Within the range of 7.5 to 10.0 at all times} \end{array}$

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	Table 3-6 Nickel-Cobalt	
Forging	Equipment Cleaning V	Vastewater
	BPT Effluent Limitatio	ons
	Maximum for	Maximum for
#10-A	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per nickel-cobalt forged	r million off-pounds) of
Chromium	0.018	0.007
Nickel	0.077	0.051
Fluoride	2.38	1.06
Oil and grease	0.800	0.480
Total suspended solids	1.640	0.780
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
For	Table 3-7 Nickel-Cobalt ging Contact Cooling	Water
]	BPT Effluent Limitatio	ons
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per forged nickel-cobalt c	r million off-pounds) of ooled with water
Chromium	0 209	0.086
Nickel	0.910	0.602
Fluoride	28.2	12.5
Oil and grease	9.48	5.69
Total suspended solids	19.5	9.25
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	<u> </u>
Forging	Table 3-8 Nickel-Cobalt Press Hydraulic Fluid	i Leakage
	BPT Effluent Limitatio	ons
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per nickel-cobalt forged	r million off-pounds) of
Chromium	0.083	0.034
Nickel	0.359	0,238
Fluoride	11.2	4.94
Oil and grease	3.74	2.25
Total suspended solids	7.67	3.65

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

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Stationar	Table 3-9 Nickel-Cobali v Casting Contact	; Cooling Water			
BPT Effuent Limitations					
<u> </u>	Maximum for any 1 day	Maximum for monthly average			
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of nickel-cobalt cast by stationary methods				
Chromium Nickel Fluoride Oil and grease	5.33 23.3 720 242	2.18 15.4 320 145			
Total suspended solids pH	496 (1)	236 (1)			
(1) Within the range of 7.5 to	10.0 at all times				
Table 3-10 Nickel-Cobalt Metal powder Production Atomization Wastewater					
J	3PT Effluent Limi	tations			
· · · · ·	Maximum for any 1 day	Maximum for monthly average			
Pollutant or pollutant property	ollutant or mg/off-kg (pounds per million off-pounds) of nickel-cobalt metal powder atomized				
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	1.165.0315652.4108(1)	$\begin{array}{c} 0.472\\ 3.33\\ 69.2\\ 31.5\\ 51.1\\ (1)\end{array}$			
(1) Within the range of 7.5 to	10.0 at all times				
Table 3-11 Nickel-Cobalt Wet Air Pollution Control Scrubber Blowdown					
]	BPT Effluent Limi	tations			
	Maximum for any 1 day	Maximum for monthly average			
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of nickel-cobalt formed				
Chromium Nickel Fluoride Oil and grease Total suspended solids	0.357 1.56 48.2 16.2 33.2	0.146 1.03 21.4 9.72 15.8 (1)			
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pH (1) (1) Within the range of 7.5 to 10.0 at all times

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Table 8-12 Nickel-Cobalt				
Sur	face Treatment Spent	Baths		
	BPT Effluent Limitati	ons		
	Maximum for any 1 day	Maximum for monthly average		
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of nickel-cobalt surface treated			
Chromium Nickel Fluoride Oil and grease Total suspended solids	0.412 1.8 55.7 18.7 38.4 (1)	0.169 1.19 24.7 11.2 18.3		
$\frac{p_{11}}{(1)}$ Within the range of 7.5 to	(1) 10.0 at all times	(1)		
	Table 3-13 Nickel-Cobalt Surface Treatment Riv	nse		
	BPT Effluent Limitati	ons		
	Maximum for any 1 day	Maximum for monthly average		
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of nickel-cobalt surface treated			
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	$10.4 \\ 45.3 \\ 1410 \\ 472 \\ 968 \\ (1)$	$\begin{array}{r} 4.25 \\ 30.0 \\ 623 \\ 283 \\ 460 \\ (1) \end{array}$		
(1) Within the range of 7.5 to	10.0 at all times			
AII	Table 3-14 Nickel-Cobalt kaline Cleaning Spent	Baths		
BPT Effluent Limitations				
	Maximum for any 1 day	Maximum for monthly average		
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of nickel-cobalt alkaline cleaned			
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	$\begin{array}{r} 0.015\\ 16.2\\ 502\\ 169\\ 346\\ (1)\end{array}$	1.5210.7223101165(1)		
(1) Within the range of 7.5 to	10.0 at all times	· · · · · · · · · · · · · · · · · · ·		

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	Table 3-15 Nickel-Cobalt Alkaline Cleaning Rinse	
	3PT Effluent Limitation	18
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of nickel-cobalt alkaline cleaned	
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	1.03 4.48 139 46.6 95.6 (1)	$\begin{array}{c} 0.420 \\ 2.96 \\ 61.5 \\ 28.0 \\ 45.5 \\ (1) \end{array}$
(1) Within the range of 7.5 to	10.0 at all times	
	Table 3-16 Nickel-Cobalt Molten Salt Rinse	
	3PT Effluent Limitation	18
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of nickel-cobalt treated with molten salt	
Chromium Nickel Fluoride Oil and grease Total suspended solids pH (1) Within the range of 7.5 to	3.72 16.2 502 169 346 (1)	1.52 10.7 223 101 165 (1)
	Table 3-17 Nickel-Cobalt Ammonia Rinse	
]	BPT Effluent Limitation	15
- · · · · ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per nickel-cobalt treated w	million off-pounds) of ith ammonia solution
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	0.007 0.029 0.881 0.296 0.607 (1)	$\begin{array}{c} 0.003 \\ 0.019 \\ 0.391 \\ 0.178 \\ 0.289 \\ (1) \end{array}$

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

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~ .	Table 3-18 Nickel-Cobalt				
Sawing or Grinding Spent Emulsions					
1	SF1 Emilient Lanneaulor				
	Maximum for any 1 day	Maximum for monthly average			
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of nickel-cobalt sawed or ground with emulsions				
Chromium Nickel Fluoride Oil and grease Total suspended solids	0.018 0.076 2.35 0.788 1.62	0.007 0.050 1.04 0.473 0.769			
pH	(1)	(1)			
(1) Within the range of 7.5 to	10.0 at all times	<u> </u>			
Ş	Table 3-19 Nickel-Cobalt Sawing or Grinding Rins	;e			
I	3PT Effluent Limitatior	18			
	Maximum for any 1 day	Maximum for monthly average			
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of sawed or ground nickel-cobalt rinsed				
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	$\begin{array}{r} 0.797\\ 3.48\\ 108\\ 36.2\\ 74.2\\ (1)\end{array}$	$\begin{array}{c} 0.326\\ 2.30\\ 47.8\\ 21.7\\ 35.3\\ (1)\end{array}$			
(1) Within the range of 7.5 to	10.0 at all times	· · ·			
St	Table 3-20 Nickel-Cobalt ceam Cleaning Condens:	ate			
BPT Effluent Limitations					
	Maximum for any 1 day	Maximum for monthly average			
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of nickel-cobalt steam cleaned				
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	0.013 0.058 1.79 0.602 1.24 (1)	$\begin{array}{c} 0.006 \\ 0.039 \\ 0.795 \\ 0.361 \\ 0.587 \\ (1) \end{array}$			
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(1) Within the range of 7.5 to 10.0 at all times
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Dye F	Table 3-21 Nickel-Cobalt Penetrant Testing Waste	water
H	3PT Effluent Limitation	8
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per r nickel-cobalt tested wit method	nillion off-pounds) of h the dye penetrant
Chromium Nickel Fluoride Oil and grease Total suspended solids pH (1) Within the range of 7.5 to	0.094 0.409 12.7 4.26 8.74 (1) 10.0 at all times	$\begin{array}{c} 0.039 \\ 0.271 \\ 5.63 \\ 2.56 \\ 4.16 \\ (1) \end{array}$
	Table 3-22 Nickel-Cobalt Electrocoating Rinse	s
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of nickel-cobalt electrocoated	
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	1.48 6.47 201 67.4 138 (1)	0.607 4.28 89.0 40.5 65.7 (1)
Misce	Table 3-23 Nickel-Cobalt ellancous Wastewater St	reams
	BPT Effluent Limitation	18
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per mickel-cobalt formed	million off-pounds) of
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	$\begin{array}{c} 0.108 \\ 0.473 \\ 14.7 \\ 4.92 \\ 10.1 \\ (1) \end{array}$	0.044 0.313 6.50 2.95 4.80 (1)

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

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.033 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 C.F.R. ss. 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 3-24	
	Nickel-Cobalt	
	Rolling Spent Emul	sions
	BAT Effluent Limita	ations
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of nickel-cobalt rolled with emulsions	
Chromium	0.063	0.026
Nickel	0.094	0.063
Fluoride	10.1	4.49
	Table 3-25 Nickel-Cobalt Rolling Contact Coolin	g Water
	BAT Effluent Limita	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds nickel-cobalt rolled	per million off-pounds) of with water
Chromium	0.028	0.012
Nickel	0.042	0.028
Fluoride	4,49	1.99
	Table 3-26 Nickel-Cobalt Drawing Spent Emu	lsions
	BAT Effluent Limits	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds nickel-cobalt drawn	per million off-pounds) of h with emulsions
Chromium	0.036	0.015
Nickel	0.053	0.036
Fluoride	5.68	2.52

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Extrus	Table 3-27 Nickel-Cobalt ion Press or Solution H Contact Cooling W	leat Treatment Vater
<u>,, 14</u>	BAT Effluent Limit:	ations
:	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds nickel-cobalt heat	per million off-pounds) of treated
Chromium Nickel Fluoride	0.031 0.046 4.95	0.013 0.031 2.20
Extru	Table 3-28 Nickel-Cobalt Ision Press Hydraulic I	Fluid Leakage
	BAT Effluent Limit:	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds nickel-cobalt extru	per million off-pounds) of ded
Chromium Nickel Fluoride	0.086 0.128 13.8	0.034 0.086 6.13
Forgi	Table 3-29 Nickel-Cobalt ng Equipment Cleanin BAT Effluent Limit:	g Wastewater
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds nickel-cobalt forge	per million off-pounds) of d
Chromium Nickel Fluoride	0.002 0.002 0.238	0.0006 0.002 0.106
	Table 3-30 Nickel-Cobalt Forging Contact Coolin	ng Water
	BAT Effluent Limit	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds forged nickel-coba	per million off-pounds) of it cooled with water
Chromium Nickel Fluoride	0.018 0.026 2.82	0,007 0,018 1,25

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	Table 3-31	
Forgi	Nickel-Cobalt ng Press Hydraulic Fli	uid Leakage
	BAT Effluent Limita	tions
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds j nickel-cobalt forged	per million off-pounds) of
Chromium	0.069	0.028
Nickel Fluoride	0.103 11.2	0.069 4.94
Station	Table 3-32 Nickel-Cobalt ary Casting Contact C	Cooling Water
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds) nickel-cobalt cast b	per million off-pounds) of y stationary methods
Chromium	0.448	0.182
Nickel Fluorido	0.666	0.448
r tuot tue	14.0	02,0
Metal powe	Table 3-33 Nickel-Cobalt fer Production Atomiz	ation Wastewater
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds) nickel-cobalt metal	per million off-pounds) of powder atomized
Chromium	0.970	0.393
Nickel Fluoride	1.44 156	0.970
Fidolide	100	05.2
Wet Air	Table 3-34 Nickel-Cobalt Pollution Control Scru	bber Blowdown
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds) nickel-cobalt forme	per million off-pounds) of d
Chromium	0.300	0.122
Nickel Fluoride	0.446 18 2	0.300
1.100110C	40.4	41.4

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	Table 3-35	
ş	Nickel-Cobalt Surface Treatment Spe	nt Baths
	BAT Effluent Limit:	ations
	Maximum for	Maximum for
······································	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of nickel-cobalt surface treated	
Chromium	0.346	0.141
Nickel Fluoride	0.514 55.7	0,346 94 7
L'IUOLIUE		<i>L</i> 1 ,;
	Table 3-36 Nickel-Cobalt	Dimen
	BAT Effluent Limit	ations
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds nickel-cobalt surfa	per million off-pounds) of ce treated
Chromium	0.873	0.354
Nickel Eluorido	1.30	0.878
	Nickel-Cobalt Alkaline Cleaning Sper BAT Effluent Limit:	nt Baths ations
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds nickel-cobalt alkal	per million off-pounds) of ine cleaned
Chromium	0.013	0.005
Nickel	0.019	0.013
r iuoriue	2.02	0.000
	Table 3-38 Nickel-Cobalt Alkaline Cleaning 1	Rinse
	BAT Effluent Limit	ations
	Maximum for	Maximum for
<u> </u>	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds nickel-cobalt alkal	per million off-pounds) of ine cleaned
Chromium	0.086	0.035
Fluoride	0,128 13.9	6.15
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	Table 3-39 Nickel-Cobalt	
	Molten Salt Rins	e
	BAT Effluent Limita	tions
	Maximum for	Maximum for
·	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds) nickel-cobalt treate	per million off-pounds) of d with molten salt
Chromium	0.312	0.127
Nickel	0.464	0.312
Fluoride	50.2	22.3
	Table 3-40 Nickel-Cobalt Ammonia Rinse	9
	BAT Effluent Limita	tions
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds) nickel-cobalt treate	per million off-pounds) of d with ammonia solution
Chromium	0.006	0.002
Nickel	0.008	0.006
	Table 3-41 Niekol Cobalt	
Sav	ving or Grinding Spent	Emulsions
	BAT Effluent Limits	tions
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds nickel-cobalt sawed	per million off-pounds) of I or ground with emulsions
Chromium	0.015	0.006
Nickel	0.022	0.015
Fluoride	2.30	1.04
	Table 3-42 Nickel-Cobalt	D:
	DATE Efficient Limite	Allise
	DAI Emuent Limit	Mouinarra for
	any 1 day	monthly average
Pollutant or	mg/off_kg (pounds	ner million off-nounds) of
pollutant property	sawed or ground n	ickel-cobalt rinsed
Chromium	0.067	0.027
Nickel	0.100	0.067
Fluoride	10.8	4.78

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	Table 3-43 Nickel-Cobalt Steam Cleaning Condens	sate
	BAT Effluent Limitatio	ons
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per nickel-cobalt steam cl	million off-pounds) of eaned
Chromium Nickel Fluoride	0.011 0.017 1.79	0.005 0.011 0.795
Dy	Table 3-44 Nickel-Cobalt e Penetrant Testing Was	tewater
	BAT Effluent Limitatio	ons
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per nickel-cobalt tested w method	r million off-pounds) of rith the dye penetrant
Chromium Nickel Fluoride	0.079 0.117 12.7	0.032 0.079 5.63
	Table 3-45 Nickel-Cobalt Electrocoating Rinse	9
<i></i>	BAT Effluent Limitatio	ons
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per nickel-cobalt electroc	r million off-pounds) of oated
Chromium Nickel Fluoride	1,25 1.86 201	0.506 1.25 89.0

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Mi	Table 3-46 Nickel-Cobalt scellaneous Wastewater \$	Streams
	BAT Effluent Limitatio	ons
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe nickel-cobalt formed	r million off-pounds) of
Chromium Nickel Fluoride	0.091 0.136 14.7	0.037 0.091 6.50

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.034 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

	Table 3-47	
	Nickel-Cobalt	
	Rolling Spent Emuls	sions
· · · · · · · · · · · · · · · · · · ·	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of nickel-cobalt rolled with emulsions	
Chromium Nickel	0.063 0.094	0.026 0.063
Fluoride Oil and grease Total suspended solids	10,1 1.70 2.55	4.49 1.70 2.04
pH (1) Within the range of 7.5 to	(1) 10.0 at all times	(1)
n de reage Rol	Table 3-48 Nickel-Cobalt ling Contact Coolin	g Water
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of nickel-cobalt rolled with water	
Chromium Nickel Fluoride	0.028 0.042 4.49	0.012 0.028 1.99
Oil and grease Total suspended solids pH	0.754 1.13 (1)	0.754 0.905 (1)

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

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Table 3-49 Nickel-Cobalt Drawing Spent Emulsions			
NSPS			
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of nickel-cobalt drawn with emulsions		
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	$\begin{array}{c} 0.036 \\ 0.053 \\ 5.68 \\ 0.954 \\ 1.43 \\ (1) \end{array}$	0.015 0.036 2.52 0.954 1.15 (1)	
(1) Within the range of 7.5 to	10.0 at all times		
Extrusion	Table 3-50 Nickel-Cobalt Press or Solution Heat Contact Cooling Wate	Treatment r	
	NSPS		
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per nickel-cobalt heat trea	million off-pounds) of ted	
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	$\begin{array}{c} 0.031 \\ 0.046 \\ 4.95 \\ 0.832 \\ 1.25 \\ (1) \end{array}$	0.013 0.031 2.20 0.832 0.999 (1)	
(1) Within the range of 7.5 to	10.0 at all times		
Table 3-51 Nickel-Cobalt Extrusion Press Hydraulic Fluid Leakage			
NSPS			
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per nickel-cobalt extruded	million off-pounds) of	
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	$\begin{array}{c} 0.086\\ 0.128\\ 13.8\\ 2.32\\ 3.48\\ (1)\end{array}$	0.035 0.086 6.13 2.32 2.79 (1)	

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

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Forging	Table 3-52 Nickel-Cobalt Equipment Cleaning	Wastewater
	NSPS	
· · · ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p nickel-cobalt forged	er million off-pounds) of
Chromium Nickel Fluoride Oil and grease Total suspended solids pH (1) Within the range of 7.5 to	0.002 0.002 0.238 0.040 0.060 (1) 10.0 at all times	$\begin{array}{c} 0.00006\\ 0.002\\ 0.106\\ 0.040\\ 0.048\\ (1)\end{array}$
For	Table 3-53 Nickel-Cobalt ging Contact Cooling NSPS	Water
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p forged nickel-cobalt	er million off-pounds) of cooled with water
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	0.018 0.026 2.82 0.474 0.711 (1)	$\begin{array}{c} 0.007\\ 0.018\\ 1.25\\ 0.474\\ 0.569\\ (1)\end{array}$
(1) Within the range of 7.5 to 10.0 at all times Table 3-54 Nickel-Cobalt Forging Press Hydraulic Fluid Leakage		
· · · · · · · · · · · · · · · · · · ·	NSPS	· · · · · · · · · · · · · · · · · · ·
·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p nickel-cobalt forged	er million off-pounds) of
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	$\begin{array}{r} 0.069 \\ 0.103 \\ 11.2 \\ 1.87 \\ 2.81 \\ (1) \end{array}$	$\begin{array}{c} 0.028 \\ 0.069 \\ 4.94 \\ 1.87 \\ 2.25 \\ (1) \end{array}$

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

Stationar	Table 3-55 Nickel-Cobalt v Casting Contact C	cooling Water
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p nickel-cobalt cast b	per million off-pounds) of y stationary methods
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	0.448 0.666 72.0 12.1 18.2 (1)	$\begin{array}{c} 0.182\\ 0.448\\ 32.0\\ 12.1\\ 14.5\\ (1)\end{array}$
1) Within the range of 7.5 to Metal powder	10.0 at all times Table 3-56 Nickel-Cobalt Production Atomiz NSPS	ation Wastewater
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds j nickel-cobalt metal	per million off-pounds) of powder atomized
Chromium Nickel Fluoride Oil and grease Total suspended solids pH (1) Within the range of 7.5 to	0.970 1.44 156 26.2 39.3 (1) 10.9 at all times	0.393 0.970 69.2 26.2 31.5 (1)
Wet Air Po	Table 3-57 Nickel-Cobalt Ilution Control Scru	bber Blowdown
	NSPS	
: · · · · ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds) nickel-cobalt forme	per million off-pounds) of d
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	$\begin{array}{r} 0.300 \\ 0.450 \\ 48.2 \\ 8.1 \\ 12.2 \\ (1) \end{array}$	$ \begin{array}{r} 0.122 \\ 0.300 \\ 21.1 \\ 8.1 \\ 9.72 \\ (1) \end{array} $

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

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face Treatment Spent NSPS	Baths
NSPS	
Maximum for any 1 day	Maximum for monthly average
mg/off-kg (pounds pe nickel-cobalt surface	er million off-pounds) of treated
$\begin{array}{c} 0.346\\ 0.515\\ 55.7\\ 9.35\\ 14.1\\ (1)\end{array}$	$\begin{array}{c} 0.141 \\ 0.346 \\ 24.7 \\ 9.35 \\ 11.2 \\ (1) \end{array}$
10.0 at all times Table 3-59 Nickel-Cobalt Surface Treatment Ri	nse
NSPS Maximum for	Maximum for
any 1 day	monthly average
mg/off-kg (pounds per million off-pounds) of nickel-cobalt surface treated	
$\begin{array}{r} 0.874 \\ 1.30 \\ 141 \\ 23.6 \\ 35.4 \\ (1) \end{array}$	$\begin{array}{c} 0.354 \\ 0.873 \\ 62.3 \\ 23.6 \\ 28.3 \\ (1) \end{array}$
10.0 at all times Table 3-60 Nickel-Cobalt kaline Cleaning Spent	Baths
NSPS	
Maximum for any 1 day	Maximum for monthly average
mg/off-kg (pounds p nickel-cobalt alkalin	er million off-pounds) of e cleaned
$\begin{array}{c} 0.013 \\ 0.019 \\ 2.02 \\ 0.339 \\ 0.509 \\ (1) \end{array}$	0.005 0.013 0.895 0.339 0.407 (1)
	mg/off-kg (pounds penickel-cobalt surface 0.346 0.515 55.7 9.35 14.1 (1) 10.0 at all times Table 3-59 Nickel-Cobalt Surface Treatment Ri NSPS Maximum for any 1 day mg/off-kg (pounds penickel-cobalt surface 0.874 1.30 141 23.6 35.4 (1) 10.0 at all times Table 3-60 Nickel-Cobalt kaline Cleaning Spent NSPS Maximum for any 1 day mg/off-kg (pounds penickel-cobalt kaline Cleaning Spent NSPS Maximum for any 1 day mg/off-kg (pounds penickel-cobalt kaline Cleaning Spent NSPS Maximum for any 1 day mg/off-kg (pounds penickel-cobalt alkalin 0.013 0.019 2.02 0.339 0.509 (1)

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

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DEPARTMEN'	T OF NATURAL RESO	URCES 250-149 NR 273
:	Table 3-61 Nickel-Cobalt Alkaline Cleaning Rinse	
	NSPS	
· · · ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per n nickel-cobalt alkaline cl	nillion off-pounds) of eaned
Chromium Nickel Fluoride Oil and grease Total suspended solids oH	$\begin{array}{c} 0.086\\ 0.128\\ 13.9\\ 2.33\\ 3.50\\ (1)\end{array}$	$\begin{array}{c} 0.035 \\ 0.086 \\ 6.15 \\ 2.33 \\ 2.80 \\ (1) \end{array}$
(1) Within the range of 7.5 to	10.0 at all times	
	Table 3-62 Nickel-Cobalt Molten Salt Rinse NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per r nickel-cobalt treated wi	nillion off-pounds) of th molten salt
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	$\begin{array}{c} 0.312 \\ 0.464 \\ 50.2 \\ 8.44 \\ 12.7 \\ (1) \end{array}$	0.127 0.312 22.3 8.44 10.1 (1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 3-63 Nickel-Cobalt Ammonia Rinse	
	NSPS	
÷	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per r nickel-cobalt treated wi	nillion off-pounds) of th ammonia solution
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	0.006 0.008 0.881 0.148 222 (1)	0.002 0.006 0.391 0.148 178 (1)
(1) Within the range of 7.5 to	10.0 at all times	

 $\begin{array}{c} \text{Oil and grease} & 0.14\\ \text{Total suspended solids} & 222\\ \text{pH} & (1)\\ \hline \text{(1) Within the range of 7.5 to 10.0 at all times} \end{array}$

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Sawing	Table 3-64 Nickel-Cobalt or Grinding Spent H	Imulsions
	NSPS	· • · · · · · · · · · · · · · · · · · ·
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds po nickel-cobalt sawed o	er million off-pounds) of or ground with emulsions
Chromium Nickel Fluoride Oil and grease Total suspended solids pH (1) Within the range of 7.5 to	0.015 0.002 2.35 0.394 591 (1)	0.006 0.015 1.04 0.394 473 (1)
<u></u> <u>{</u>	Table 3-65 Nickel-Cobalt Sawing or Grinding R	inse
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds pa sawed or ground nicl	er million off-pounds) of kel-cobalt rinsed
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	$\begin{array}{r} 0.067\\ 0.100\\ 10.8\\ 1.61\\ 272\\ (1)\end{array}$	$\begin{array}{c} 0.027\\ 0.067\\ 4.78\\ 1.81\\ 217\\ (1)\end{array}$
(1) Within the range of 7.5 to	10.0 at all times	
s	Table 3-66 Nickel-Cobalt team Cleaning Conde	nsate
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds po nickel-cobalt steam of	er million off-pounds) of cleaned
Chromium Nickel Fluoride Oil and grease Total suspended solids pH	$\begin{array}{c} 0.011 \\ 0.017 \\ 1.79 \\ 0.301 \\ 0.452 \\ (1) \end{array}$	$\begin{array}{c} 0.005\\ 0.011\\ 0.795\\ 0.301\\ 0.361\\ (1)\end{array}$

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

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	Table 3-67 Nickel-Cobalt	
Dye H	Penetrant Testing Waste	water
	NSPS	
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per 1 nickel-cobalt tested wit method	nillion off-pounds) of h the dye penetrant
Chromium	0.079	0.032
Nickel	0.117	0.079
Fluoride	12.7	5.63
Oil and grease	2.13	2.13
Total suspended solids	3.20	2.56
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
n - Ball Andreas	Table 3-68 Nickel Cohalt	
and the first of the second	Electrocoating Rinse	· · · · · · · · · · · · · · · · · · ·
· · · · ·	NSPS	
	Mauluun fan	Mayimum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per) nickel-cobalt electrocoa	million off-pounds) of ated
Chromium	1.25	0.506
Nickel	1.86	1.25
Fluoride	201	89.0
Oil and grease	33.7	33.7
Total suspended solids	50.6	40.5
pH	(1)	(1)
(1) Within the range of 7.5 to	10,0 at all times	
Mise	Table 3-69 Nickel-Cobalt ellaneous Wastewater St	reams
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per nickel-cobalt formed	million off-pounds) of
Chromium	0.091	0.037
Nickel	0.136	0.091
Fluoride	14.7	6.50
Oil and grease	2.46	2.46
Total suspended solids	3.69	2.95
pH os	(1)	. (1)

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

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History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

250-152 NR 273 WISCONSIN ADMINISTRATIVE CODE

NR 273.035 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 273.033.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.036 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 273.033.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

Subchapter IV — Precious Metals

NR 273.04 Applicability; description of the precious metals subcategory This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from precious metals forming.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.041 Discharge prohibitions Any facility subject to this subchapter may not discharge process wastewater pollutants from the following sources:

(1) Rolling spent neat oils;

(2) Drawing spent neat oils;

(3) Stationary casting contact cooling water;

- (4) Wet air pollution control scrubber blowdown;
- (5) Sawing or grinding spent neat oils; and

(6) Degreasing spent solvents.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.042 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 C.F.R. ss 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:

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		NR 273
	Table 4-1	
	Precious Metals	
	Rolling Spent Emulsions	
		· · · · · · · · · · · · · · · · · · ·
	3PT Elluent Limitation	3
	Maximum for	Maximum for
•	any 1 day	monthly average
Dollutant on	maloff lea (nounda non n	aillion off nounda) of
ronutant or	mg/on-kg (pounds per n	with emulsions
ponutant property	precious metals rolled w	Tun emuisions
Cadmium	0.026	0.012
Copper	0.147	0.077
Cyanide	0.023	0.010
Silver	0.032	0.013
Oil and grease	1.54	0.925
Total suspanded solids	316	1.51
nU	(1)	(1)
pn	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 4-2	
	Provinus Matele	
Т	I recious Metals	2
	Jrawing Spent Emulsion	<u>s</u>
]	BPT Effluent Limitation	S
·	Maximum for	Maximum for
	any 1 day	monthly average
	any I day	monthing average
Pollutant or	mg/off-kg (pounds per r	nillion off-pounds) of
pollutant property	precious metals drawn	with emulsions
Cadmium	0.016	0.007
Coppor	0.001	0.048
Cuonida	0.001	0.040
Cyanide	0.014	0.000
Suver	0.020	0.008
Oil and grease	0.950	0.570
Total suspended solids	1.95	0.926
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
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	Table 4-3	
	Precious Metals	
Dr	awing Spent Soap Soluti	ons
	BPT Effluent Limitation	8
	Movimum for	Maximum for
	waximum for	waxing in for
	any 1 day	monumy average
Pollutant or	mg/off-kg (pounds per 1	nillion off-pounds) of
pollutant property	precious metals drawn	with soap solutions
Cadmium	<u>0 001</u>	0.0005
Coppor	0.001	0.0000
Copper	0.000	0.003
Cyanide	0.0009	0.0004
Silver	0.001	0.0006
Oil and grease	0.063	0.038
Total suspended solids	0,128	0.061
pH	(1)	(1)

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

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n We	Table 4-4 Precious Metals Metal Powder Produ et Atomization Was	s iction tewater
]	BPT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of precious metals powder wet atomized	
Cadmium Copper Cyanide Silver Oil and grease Total suspended solids pH	$2.27 \\ 12.7 \\ 1.94 \\ 2.70 \\ 134 \\ 274 \\ (1)$	1.00 6.70 0.802 1.14 80.2 130 (1)

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

Table 4-5

Precious Metals Heat Treatment Contact Cooling Water

BPT Effluent Limitations		
2	Maximum for any 1 day	Maximum for monthly average
Pollutant or mg/off-kg (pounds per million off-pour pollutant property extruded precious metals heat treated		per million off-pounds) of netals heat treated
Cadmium	1.42	0.626
Copper	7.93	4.17
Cyanide	1.21	0.501
Silver	1.71	0.709
Oil and grease	83.4	50,1
Total suspended solids	171	81,3
pH	(1)	(1)

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

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	Table 4-6	
Semi-Continuou	is or Continuous Conta	ct Cooling Water
	BPT Effluent Limitatio	ns
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per precious metals cast by continuous method	million off-pounds) of y the semi-continuous or
Cadmium	3.50	1.55
Copper	19.6	10.3
Cyanide	2.99	1.24
Silver	4.23	1.75
Oil and grease	206	124
Total suspended solids	423	209
pН	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
Direct Cł	Table 4-7 Precious Metals iill Casting Contact Coe	oling Water
	BPT Effluent Limitatio	ns
· · · · · · · · · · · · · · · · · · ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of precious metals cast by the direct chill method	
Cadmium	3 67	1.62

Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of precious metals cast by the direct chill method	
Cadmium	3.67	1.62
Copper	20.5	10.8
Cvanide	3.13	1.30x
Silver	4.43	1.84x
Oil and grease	216	130
Total suspended solids	443	211
pH	(1)	. (1)
(1) Within the range of 7.5 to	10.0 at all times	

	Table 4-8 Precious Metals	ξ.
Shot C	asting Contact Coo	ling Water
]	BPT Effluent Limita	tions
· · · · · · · · · · · · · · · · · · ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of precious metals shot cast	
Cadmium Copper Cyanide Silver Oil and grease Total suspended solids pH	1.25 6.98 1.07 1.51 73.4 151 (1)	$\begin{array}{c} 0.551 \\ 3.67 \\ 0.441 \\ 0.624 \\ 44.1 \\ 71.6 \\ (1) \end{array}$

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

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	Table 4-9	
	Precious Metals	
Pressure	Bonding Contact Cool	ing Water
]	BPT Effluent Limitatio	ns
1	Maximum for	Maximum for
	any 1 day	monthly average
D.11.1		
pollutant or pollutant property	mg/off-kg (pounds per precious metal base m	etal pressure bonded
Cadmium	0.029	0.013
Copper	0.159	0.084
Cvanide	0.024	0.010
Silver	0 034	0.014
Oil and groase	1.67	1 00
Total auspanded solids	2,49	1.69
Total suspended solids	0.40	(1)
рн	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	· ·
	Table 4-10	
	Precious Metals	
Sur	face Treatment Spent	Baths
	DDT DAluget T init-4:-	
	BPT Enluent Limitatio	ns
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant on	mg/off kg (nounds por	million off pounds) of
ronutant or	mg/on-kg (pounds per	minion oil-pounds) of
ponutant property	precious metals surfac	e treateu
Cadmium	0.033	0.015
Copper	0.183	0.097
Cyanido	0.028	0.012
Gilmon	0.040	0.012
	0.040	0.017
On and grease	1.93	1.10
Total suspended solids	3.95	1.88
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 4-11	
	Precious Motals	
	I Tectous Metals	90
-	Surface Treatment Kill	0C
]	BPT Effluent Limitatio	ns
	Maximum for	Maximum for
	any 1 day	monthly average
T		
Pollutant or pollutant property	mg/off-kg (pounds per precious metals surfac	e treated
Cadmium	2.10	0.924
Copper	11 7	5 16
Civanida	1 70	0 720
Gilmon	1.17	V.107 1 05
	4,00 100	1,00
UII and grease	123	73.9
Total suspended solids	253	120
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	117 1111 1111100	

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Alk	Table 4-12 Precious Metals aline Cleaning Spent Ba	aths
I	3PT Effluent Limitation	18
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per precious metals alkaling	million off-pounds) of e cleaned
Cadmium Copper Cyanide Silver Oil and grease Total suspended solids pH	$\begin{array}{c} 0.021 \\ 0.114 \\ 0.018 \\ 0.025 \\ 1.20 \\ 2.46 \\ (1) \end{array}$	$\begin{array}{c} 0.009\\ 0.060\\ 0.007\\ 0.010\\ 0.720\\ 1.170\\ (1) \end{array}$
(1) Within the range of 7.5 to	10.0 at all times	
	Table 4-13 Precious Metals Alkaline Cleaning Rinso	9
]	3PT Effluent Limitation	18
· ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per precious metals alkalin	million off-pounds) of e cleaned
Cadmium Copper Cyanide Silver Oil and grease Total suspended solids pH	3.81 21.3 3.25 4.59 224 459 (1)	$1.68 \\ 11.2 \\ 1.35 \\ 1.91 \\ 135 \\ 219 \\ (1)$
(1) Within the range of 7.5 to	10.0 at all times	
Alkaline	Table 4-14 Precious Metals Cleaning Prebonding W	'astewater
·]	BPT Effluent Limitation	18
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per precious metals and ba to bonding	million off-pounds) of se metal cleaned prior
Cadmium Copper Cyanide Silver Oil and grease	$\begin{array}{r} 3.95 \\ 22.1 \\ 3.37 \\ 4.76 \\ 232 \end{array}$	1.74 11.6 1.39 1.97 139
Total suspended solids pH	476 (1)	226 (1)

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

Table 4-15 Precious Metals Tumbling or Burnishing Wastewater		
F	PT Effluent Limita	itions
:	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds precious metals tur	per million off-pounds) of nbled or burnished
Cadmium Copper Cyanide Silver Oil and grease	$\begin{array}{r} 4.12 \\ 23.0 \\ 3.51 \\ 4.96 \\ 242 \end{array}$	1.8212.11.452.06145
Total suspended solids pH	496 (1)	236 (1)
Sawinj	Table 4-16 Precious Metals 5 or Grinding Spent	s Emulsions
I	BPT Effluent Limita	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds precious metals say sions	per million off-pounds) of ved or ground with emul-
Cadmium Copper Cyanide Silver Oil and graase	0.032 0.178 0.027 0.039 1.87	0.014 0.094 0.011 0.016 1.12
Total suspended solids pH	3.83 (1)	1.82 (1)

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

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.043 Effluent limitations representing the degree of effluent reduction attainable by the applications of the best available technology economically achievable. Except as provided in 40 C.F.R. ss. 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:

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	Table 4-17 Precious Metals Rolling Spent Emul	3 sions
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds) precious metals roll	per million off-pounds) of led with emulsions
Cadmium Copper Cyanide Silver	0.026 0.147 0.023 0.032	0.012 0.077 0.010 0.013
	Table 4-18 Precious Metals Drawing Spent Emu	s Isions
	BAT Effluent Limita	itions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds) precious metals dra	per million off-pounds) of wn with emulsions
Cadmium Copper Cyanide Silver	0.016 0.091 0.014 0.020	0.007 0.048 0.006 0.008
	Table 4-19 Precious Metals Drawing Spent Soap Se	s olutions

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BAT Effluent Limitations Maximum for Maximum for any 1 day monthly average mg/off-kg (pounds per million off-pounds) of precious metals drawn with soap solutions Pollutant or pollutant property 0.001 0.006 0.0009 Cadmium 0.0005 Copper Cyanide Silver 0.003 0.0004 0.002 0.0006

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	Table 4-20 Precious Metak Metal Powder Produ Wet Atomization Was	s Iction tewater
	BAT Effluent Limita	ations
• • • • • • • • • • • • • • • • • • •	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds precious metals po	per million off-pounds) of wder wet atomized
Cadmium Copper Cyanide Silver	2.27 12.7 1.94 2.74	$1.0 \\ 6.68 \\ 0.802 \\ 1.14$

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Table 4-21 Precious Metals

Heat	Treatment Contact Co	ooling Water
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of extruded precious metals heat treated	
Cadmium Copper Cyanide Silver	0.142 0.793 0.121 0.171	0.063 0.417 0.050 0.071

Table 4-22Precious MetalsSemi-Continuous or Continuous Contact Cooling Water

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of precious metals cast by the semi-continuous or continuous method	
Cadmium Copper Cyanide Silver	0.350 1.96 0.299 0.430	0.155 1.03 0.124 0.175

Direct	Table 4-23 Precious Metals Chill Casting Contact	Cooling Water
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds) precious metals cas	per million off-pounds) of t by the direct chill method
Cadmium Copper Cyanide Silver	0.3676 2.05 0.313 0.443	0.162 1.08 0.130 0.184

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

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Sho	Table 4-24 Precious Metals	ling Water
540	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds) precious metals sho	per million off-pounds) of t cast
Cadmium Copper Cyanide Silver	0.125 0.698 0.107 0.151	0.055 0.367 0.044 0.063
Pressu	Table 4-25 Precious Metals are Bonding Contact C	ooling Water
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of precious metals base metal pressure bonded	
Cadmium Copper Cyanide Silver	0.0297 0.159 0.0247 0.0342	0.013 0.084 0.010 0.014

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	Table 4-26 Precious Metals	3
	Surface Treatment Spe	nt Baths
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds precious metals sur	per million off-pounds) of face treated
Cadmium Copper Cyanide Silver	0.033 0.183 0.028 0.040	0.015 0.097 0.012 0.017
	Table 4-27 Precious Metals Surface Treatment 1	s Rinse
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of precious metals surface treated	
Cadmium Copper Cyanide Silver	0.210 1.17 0.179 0.253	0.093 0.616 0.074 0.105
	Table 4-28 Precious Metals Alkaline Cleaning Sper	s it Baths
	BAT Effluent Limita	tions
· · · · · · · · · · · · · · · · · · ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of precious metals alkaline cleaned	
Cadmium Copper Cyanide Silver	0.021 0.114 0.018 0.025	0.009 0.060 0.007 0.010

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	Table 4-29 Precious Metal: Alkaline Cleaning H	s Rinse
<u> </u>	BAT Effluent Limita	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds precious metals alk	per million off-pounds) of caline cleaned
Cadmium Copper Cyanide Silver	0.381 2.13 0.325 0.459	0.168 1.12 0.135 0.191
Alkalin	Table 4-30 Precious Metal e Cleaning Prebondin	s Ig Wastewater
	BAT Effluent Limit:	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of precious metals and base metal cleaned prior to bonding	
Cadmium Copper Cyanide Silver	0.400 2.210 0.337 0.476	0,174 1.16 0.139 0.197
Tun	Table 4-31 Precious Metal abling or Burnishing	s Wastewater
	BAT Effluent Limits	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of precious metals tumbled or burnished	
Cadmium Copper Cyanide Silver	0.412 2.300 0.351 0.496	0.182 1.21 0.145 0.206

Saw	Table 4-32 Precious Metals ing or Grinding Spent	s Emulsions
	BAT Effluent Limita	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of precious metals sawed or ground with emul- sions	
Cadmium	0.0327	0.014
Copper	0.178	0.094
Cvanide	0.0277	0.011
Silver	0.0381	0.016

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History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.044 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 4-33 Precious Metals Polling Sport Emploi

:	Rolling Spent Emul	sions
	NSPS	
· · ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	llutant or mg/off-kg (pounds per million off-pounds) of lutant property precious metals rolled with emulsions	
Cadmium Copper Cyanide Silver Oil and grease Total suspended solids pH	$\begin{array}{c} 0.026\\ 0.147\\ 0.023\\ 0.032\\ 1.54\\ 3.16\\ (1)\end{array}$	0.012 0.077 0.010 0.013 0.925 1.51 (1)

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

DEPARTMEN'	F OF NATURAL RI	ESOURCES 250-165 NR 273
Ι	Table 4-34 Precious Metals Drawing Spent Emuls	sions
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p precious metals drav	er million off-pounds) of yn with emulsions
Cadmium Copper Cyanide Silver Oil and grease Total suspended solids nH	$\begin{array}{c} 0.017\\ 0.091\\ 0.014\\ 0.020\\ 0.950\\ 1.95\\ (1)\end{array}$	$\begin{array}{c} 0.007\\ 0.048\\ 0.006\\ 0.008\\ 0.570\\ 0.927\\ (1)\end{array}$
(1) Within the range of 7.5 to	10.0 at all times	
Dr	Table 4-35 Precious Metals awing Spent Soap So	lutions
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p precious metals drav	er million off-pounds) of wn with soap solutions
Cadmium Copper Cyanide Silver Oil and grease Total suspended solids pH	$\begin{array}{c} 0.001 \\ 0.006 \\ 0.0009 \\ 0.002 \\ 0.063 \\ 0.128 \\ (1) \end{array}$	0.0005 0.003 0.0004 0.0006 0.038 0.061 (1)
(1) Within the range of 7.5 to	10.0 at all times Table 4-36 Precious Metals Metal Powder Produce t Atomization Wast	ction ewater
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p precious metals pow	per million off-pounds) of oder wet atomized
Cadmium Copper Cyanide Silver Oil and grease Total suspended solids	$2.27 \\12.7 \\1.94 \\2.74 \\134 \\274 \\134 \\274 \\()$	$ \begin{array}{r} 1,00\\ 6.68\\ 0.802\\ 1.14\\ 80.2\\ 131 \end{array} $
рн	(1)	(1)

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

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Heat Tr	Table 4-37 Precious Metals eatment Contact Coo	ling Water
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe extruded precious me	r million off-pounds) of tals heat treated
Cadmium Copper Cyanide Silver Oil and grease Total suspended solids pH	0.142 0.793 0.121 0.171 8.84 17.1 (1)	0.063 0.417 0.050 0.071 5.01 8.13 (1)
(1) within the range of 7.5 to	The first and times	
Semi-Continuou	Precious Metals s or Continuous Cont	act Cooling Water
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe precious metals cast l continuous method	r million off-pounds) of by the semi-continuous or
Cadmium Copper Cyanide Silver Oil and grease Total suspended solids pH	$\begin{array}{c} 0.350 \\ 1.96 \\ 0.299 \\ 0.423 \\ 20.6 \\ 42.3 \\ (1) \end{array}$	$\begin{array}{c} 0.155\\ 1.03\\ 0.124\\ 0.175\\ 12.4\\ 20.1\\ (1) \end{array}$
(1) Within the range of 7.5 to	10.0 at all times	
Direct Ch	Table 4-39 Precious Metals ill Casting Contact Co	ooling Water
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe precious metals cast l	r million off-pounds) of by the direct chill method
Cadmium Copper Cyanide Silver Oil and grease Total suspended solids pH	$\begin{array}{c} 0.367\\ 2.05\\ 0.313\\ 0.443\\ 21.6\\ 44.3\\ (1)\end{array}$	$\begin{array}{c} 0.162 \\ 1.08 \\ 0.130 \\ 0.184 \\ 13.0 \\ 21.1 \\ (1) \end{array}$

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

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(D. 1. C	Table 4-40 Precious Metals	
Snot C	NSPS	, water
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per precious metals shot ca	million off-pounds) of ast
Cadmium Copper Cyanide Silver Oil and grease Total suspended solids pH	0,125 0,698 0,107 0,151 7,34 15.1 (1)	$\begin{array}{c} 0.055\\ 0.367\\ 0.044\\ 0.063\\ 4.41\\ 7.16\\ (1)\end{array}$
Pressure	Table 4-41 Precious Metals Bonding Contact Cooli	ing Water
	NSPS Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per precious metals base m	million off-pounds) of netal pressure bonded
Cadmium Copper Cyanide Silver Oil and grease Total suspended solids pH	$\begin{array}{c} 0.029 \\ 0.159 \\ 0.024 \\ 0.034 \\ 1.67 \\ 3.43 \\ (1) \end{array}$	$\begin{array}{c} 0.013\\ 0.084\\ 0.010\\ 0.014\\ 1.00\\ 1.63\\ (1)\end{array}$
(1) Within the range of 7.5 to	10.0 at all times	
Sur	Table 4-42 Precious Metals face Treatment Spent I NSPS	Baths
•	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per precious metals surfac	million off-pounds) of e treated
Cadmium Copper	0.033 0.183	0.015 0.097

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	or mg/off-kg (pounds per million off-pounds) property precious metals surface treated	
Cadmium	0.033	0.015
Copper	0,183	0.097
Cvanide	0.028	0.012
Silver	0.040	0.017
Oil and grease	1.93	1.16
Total suspended solids	3.95	1.88
рН .	(1)	(1)

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

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	Table 4-43 Precious Metals	
Ì	NSPS	se
······································	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per precious metals surfac	million off-pounds) of e treated
Cadmium	0.210	0.093
Copper	1.17	0.616
Cyanide	0.179	0.074
Silver	0.253	0.105
Oil and grease	12.3	7.39
Total suspended solids	25.3	12.0
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 4-44	
	Precious Metals	t
Alk	taline Cleaning Spent E	Saths
	NSPS	
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per precious metals alkalin	million off-pounds) of ne cleaned
Cadmium	0.021	0.009
Copper	0.114	0.060
Cvanide	0.018	0.007
Silver	0.025	0.010
Oil and grease	1.20	0.720
Total suspended solids	2.46	1.17
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	<u> </u>
	Table 4-45	
	Precious Metals	
	Alkaline Cleaning Rins	se
	NSPS	
	Maximum for	Maximum for
. .	any 1 day	monthly average
Pollutant or	mg/off-kg (nounds per	million off-pounds) of
pollutant property	precious metals alkali	ne cleaned
Cadmium	0.381	0,168
Copper	2.13	1.112
Cvanide	0.325	0.135
Silver	0.459	0.191
Oil and grease	22.4	13.5
Total suspended solids	45.9	21.9
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
(*) WHILL CHE LAUSE OF FOUR	A WAW MAY MAN CHANGO	

Alkaline	Table 4-46 Precious Metals Cleaning Prebonding	Wastewater
	NSPS	
•	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of precious metals and base metal cleaned prior to bonding	
Cadmium	0.400	0.174
Copper	2.21	1,16
Cvanide	0,337	0.139
Silver	0.476	0.197
Oil and grease	23.2	13.9
Total suspended solids	47.6	22.6
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
Tumb	Table 4-47 Precious Metals ling or Burnishing W	astewater
<u> </u>	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p precious metals tum	er million off-pounds) of bled or burnished
Cadmium	0.412	0.182
Copper	2.300	1.21
Cyanide	0.351	0.145
Silver	0.496	0.206
Oil and grease	24.2	14.5
Total suspended solids	49.6	23.6
FT .	74 \	/1\

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

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Sawin	Table 4-48 Precious Metals g or Grinding Spent	s Emulsions
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of precious metals sawed or ground with emul- sions	
Cadmium	0.032	0.014
Copper	0.178	0.094
Cyanide	0.027	0.011
Silver	0.038	0.016
Oil and grease	1.87	1.12
Total suspended solids	3.83	1.82
pH	(1)	(1)

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

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.045 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 273.043.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.046 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 achieve the limitations set forth in s. NR 273.043.

Subchapter V — Refractory Metals

NR 273.05 Applicability; description of the refractory metals subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from refractory metals forming.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.051 Discharge prohibitions. Any facility subject to this subchapter may not discharge process wastewater pollutants from the following sources:

(1) Rolling spent neat oils and graphite based lubricants;

(2) Drawing spent lubricants;

(3) Extrusion spent lubricants;

- (4) Forging spent lubricants;
- (5) Metal powder production floor wash wastewater;
- (6) Metal powder pressing spent lubricants;
- (7) Sawing and grinding spent neat oils; and

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(8) Degreasing spent solvents.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.052 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 C.F.R. ss. 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 Refractory Metal Rolling Spent Emuk	ls sions
	BPT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p refractory metals re	per million off-pounds) of olled with emulsions
Copper Nickel Fluoride Molybdenum Oil and grease Total suspended solids pH	$\begin{array}{c} 0.815\\ 0.824\\ 25.5\\ 2.84\\ 8.58\\ 17.6\\ (1)\end{array}$	$\begin{array}{c} 0.429\\ 0.545\\ 11.3\\ 1.47\\ 5.15\\ 8.37\\ (1)\end{array}$

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

Table 5-2 Refractory Metals

Extrusio	on Press Hydraulic	Fuel Leakage
	BPT Effluent Limits	ations
N	Maximum for any 1 day	Maximum for monthly average
Pollutant or mg/off-kg (pounds per million off-pour refractory metals extruded		per million off-pounds) of extruded
Copper Nickel Fluoride Molybdenum Oil and grease Total suspended solids pH	2.26 2.29 70.8 7.87 23.8 48.8 (1)	$1.19 \\ 1.51 \\ 31.4 \\ 4.07 \\ 14.3 \\ 23.2 \\ (1)$

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

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For	Table 5-3 Refractory Metals ging Contact Cooling	Water
I	3PT Effluent Limitat	ions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe forged refractory me	er million off-pounds) of tals cooled with water
Copper	0.614	0.323
Nickel	0.620	0.410
Fluoride	19.2	8.53
Molybdenum	2.14	1.11
Oil and grease	6.46	3,88
Total suspended solids	13,3	6.30
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 5-4	
T .	Refractory Metals	3
Equ	ipment Cleaning Was	stewater
]	BPT Effluent Limitat	ions
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds p refractory metals for	er million off-pounds) of rmed
Copper	2.59	1.36
Nickel	2.61	1.73
Fluoride	80.9	35.9
Molybdenum	8.99	4.65
Oil and grease	27.2	16.3
Total suspended solids	55.8	26.5
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 5-5	
	Refractory Metal	S
Metal	Powder Production V	Vastewater
	BPT Effluent Limitat	tions
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds p refractory metals po	er million off-pounds) of owder produced
Copper	0.534	0.281
Nickel	0.540	0.357
Fluoride	16.70	7.42
Molybdenum	1,86	0.961
Oil and grease	5.62	3.37
Total suspended solids	11.5	5.48
pH	(1)	(1)
(1) Within the range of 7.5 to	o 10.0 at all times	
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Sur	Table 5-6 Refractory Met face Treatment Sp	als ent Baths	
]	BPT Effluent Limit	tations	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals surface treated		
Copper Nickel Fluoride Molybdenum	0.739 0.747 23.2 2.57	0.389 0.494 10.3 1.33	
Oil and grease Total suspended solids pH	16.0 (1)	4.88 7.59 (1)	
(1) Within the range of 7.5 to	10.0 at all times		
	Table 5-7 Refractory Met Surface Treatment	als Rinse	
	BPT Elluent Limi	tations	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals surface treated		
Copper Nickel Fluoride Molybdenum Oil and grease Total suspended solids pH (1) Within the range of 7.5 to	230 232 7,200 800 2,420 4,960 (1) 10.0 at all times	$121 \\ 154 \\ 3,200 \\ 414 \\ 1,450 \\ 2,360 \\ (1)$	
Al	Table 5-8 Refractory Met kaline Cleaning Spo	tals ent Baths	
····	BPT Effluent Limi	tations	
· · · · · · · · · · · · · · · · · · ·	Maximum for any 1 day	Maximum for monthly average	
Dollatont on	maloff ba (nound	a nor million off-pounde) of	

Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals alkaline cleaned	
Copper	0.635	0.334
Nickel	0.641	0.424
Fluoride	19,9	8.82
Molybdenum	2.21	1.14
Oil and grease	6.68	4.01
Total suspended solids	13.7	6.51
pH	(1)	(1)

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

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Table 5-9Refractory MetalsAlkaline Cleaning Rinse			
j	BPT Effluent Limitatio	ons	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per refractory metals alka	r million off-pounds) of aline cleaned	
Copper Nickel	1,550 1,570	816 1,040	
Fluoride Molybdenum	48,600 5,400	21,600 2,790	
Oil and grease Total suspended solids	16,300 33,500	9,790 15,900	
(1) Within the range of 7.5 to	(1) 10.0 at all times	(1)	
Table 5-10 Refractory Metals Molten Salt Rinse			
	BPT Effluent Limitatio	ons	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or mg/off-kg (pounds per million off-pounds) of refractory metals treated with molten salt			
Copper	12.1	6.33	
Nickel	12.2	8.04	
Fluoride Molyhdonym	377	107	
Oil and grosso	197	76.0	
Total suspanded solids	260	10:0	
nH	(1)	(1)	
(1) Within the range of 7.5 to 10.0 at all times		()	
Table 5-11 Refractory Metals Tumbling or Burnishing Wastewater			
	BPT Effluent Limitati	ons	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds pe refractory metals tun	r million off-pounds) of abled or burnished	
Copper	23.8	12.5	
Nickel	24.0	15.9	
Fluoride	744	880	
Molybdenum	82.7	42.8	
Ull and grease	200	100	
n Utal suspended Sonds	010 (1)	(1)	
h11	(±)	(1)	

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

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Gauia	Table 5-12 Refractory Metals	alaiona
	BPT Effluent Limitation	s
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per 1 refractory metals sawed sions	nillion off-pounds) of I or ground with emul-
Copper Nickel Fluoride	0.565 0.570 17.7	0.297 0.377 7.84
Molybdenum Oil and grease Total suspended solids	1.97 5.94 12.2	1.02 3.57 5.79
pH (1) Within the range of 7.5 to	(1) 10.0 at all times	(1)
	Table 5-13 Refractory Metals Sawing or Grinding Contact Cooling Water	
	BPT Effluent Limitation	S
· · · ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals sawed or ground with con- tact cooling water	
Copper Nickel	46.2 46.7	24.3 30.9
Fluoride Molybdenum Oil and grease	1450 161 486	642 83.1 292
Total suspended solids	997 (1)	474 (1)

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

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\$	Table 5-14 Refractory Meta Sawing or Grinding 3	ls Rinse		
	BPT Effluent Limita	tions		
	Maximum for Maximum for any 1 day monthly average			
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of sawed or ground refractory metals rinsed			
Copper Nickel Fluoride	0.257 0.259 8.03	0.135 0.172 3.57		
Molybdenum Oil and grease Total suspended solids pH	$ \begin{array}{r} 0.893 \\ 2.70 \\ 5.54 \\ (1) \end{array} $	$ \begin{array}{c} 0.462 \\ 1.62 \\ 2.63 \\ (1) \end{array} $		

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

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Refractory Metals				
Wet Air	Pollution	Control	Scrubber	Blowdown

	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-poun refractory metals sawed, ground, surfa coated, or surface treated	
Copper	1.50	0.787
Nickel	1.51	1.00
Fluoride	46.8	20.8
Molybdenum	5.20	2.69
Oil and grease	15.8 9.45	
Total suspended solids	32.3	15.4
pH	(1)	(1)

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

Table 5-16 Refractory Metals Miscellaneous Wastewater Sources

BPT Effluent Limitations			
2 20 4 10.000 C 4.000	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	or mg/off-kg (pounds per million off property refractory metals formed		
Copper	0.656	0.345	
Nickel	0.663	0.438	
Fluoride	20.6	9.11	
Molybdenum	2.28	1.18	
Oil and grease	6.9	4.14	
Total suspended solids	14.2	6.73	
pH .	(1)	(1)	

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

Dye	Table 5-17 Refractory Meta Penetrant Testing W	ls Vastewater
¥	BPT Effluent Limita	tions
· · · · · · · · · · · · · · · · · · ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals tested	
Copper Nickel Fluoride Molybdenum Oil and grease	$\begin{array}{c} 0.150 \\ 0.150 \\ 4.60 \\ 0.513 \\ 1.60 \end{array}$	0.078 0.099 2.00 0.266 0.930
Total suspended solids	3.20	1.50 (1)

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

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History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.053 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 C.F.R. ss. 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:

۰.	Table 5-18 Refractory Metal Rolling Spent Emuls	s ions
	BAT Effluent Limitat	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals rolled with emulsions	
Copper Nickel Fluoride Molybdenum	0.549 0.236 25.5 2.16	0.262 0.157 11.3 0.957

Table 5-19
Refractory Metals
Extrusion Press Hydraulic Fuel Leakage

BAT Effluent Limitations		
<u> </u>	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals extruded	
Copper Nickel	1.5 0.730 0.650 0.440	
Fluoride Molybdenum	71.000 31.0 5.99 2.66	

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F	Table 5-20 Refractory Meta orging Contact Coolir	ls ng Water	
	BAT Effluent Limita	ations	
я _{на} (тур ⁴) т	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds forged refractory n	per million off-pounds) of netals cooled with water	
Copper Nickel Fluoride Molybdenum	0.041 0.018 1.92 0.163	0.020 0.012 0.853 0.072	
Eq	Table 5-21 Refractory Meta Juipment Cleaning Wa	lls astewater	
	BAT Effluent Limita	ations	
•	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals formed		
Copper Nickel Fluoride Molybdenum	0.174 0.075 8.09 0.684	0,083 0,051 3,59 0,303	
Meta	Table 5-22 Refractory Meta I Powder Production	ls Wastewater	
	BAT Effluent Limita	ations	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals powder produced		
Copper Nickel Fluoride Molybdenum	0.360 0.155 16.7 1.42	0.172 0.104 7.42 0.627	

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	Table 5-23 Refractory Meta	le
	Surface Treatment Spen	nt Baths
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds) refractory metals s	per million off-pounds) of urface treated
Copper Nickel Fluoride Molybdenum	0.498 0.214 23.2 1.96	0.237 0.144 10.3 0.868
	Table 5-24 Refractory Meta Surface Treatment 1	ls Rinse
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals surface treated	
Copper Nickel Fluoride Molybdenum	15.5 6.66 720 60.9	7.38 4.48 320 27.0
	Table 5-25 Refractory Meta Alkaline Cleaning Sper	ls It Baths
···	BAT Effluent Limita	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals alkaline cleaned	
Copper Nickel Fluoride Molybdenum	$0.428 \\ 0.184 \\ 19.9 \\ 1.68$	0.204 0.124 8.82 0.745

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	Table 5-26 Refractory Meta Alkaline Cleaning F	ls Rinse
	BAT Effluent Limita	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds refractory metals a	per million off-pounds) of Ikaline cleaned
Copper Nickel Fluoride Mołybdenum	$10.5 \\ 4.49 \\ 486 \\ 41.1$	4.98 3.02 216 18.2
	Table 5-27 Refractory Meta Molten Salt Rin	ls se
	BAT Effluent Limita	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals treated with molten salt	
Copper Nickel Fluoride Molybdenum	0.810 0.348 37.7 3.19	$\begin{array}{c} 0.386 \\ 0.234 \\ 16.7 \\ 1.41 \end{array}$
Tum	Table 5-28 Refractory Meta bling or Burnishing V	ıls Wastewater
	BAT Effluent Limits	ations
· ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals tumbled or burnished	
Copper Nickel Fluoride Molyhdenum	$1.60 \\ 0.688 \\ 74.4 \\ 6 29$	0.763 0.463 33.0 2.79

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	Saw	Table 5-29 Refractory Metals ving or Grinding Spent Ex	mulsions
		BAT Effluent Limitatio	ons
		Maximum for any 1 day	Maximum for monthly average
()	Pollutant or pollutant property	mg/off-kg (pounds per refractory metals saw sions	r million off-pounds) of ed or ground with emul-
	Copper Nickel Fluoride Molybdenum	$\begin{array}{r} 0.380 \\ 0.164 \\ 17.7 \\ 1.50 \end{array}$	0.181 0.110 7.84 0.663
		Table 5-30 Refractory Metals Sawing or Grinding Contact Cooling Wate	6 1.
		BAT Effluent Limitatio	ons
		Maximum for any 1 day	Maximum for monthly average
	Pollutant or pollutant property	mg/off-kg (pounds per refractory metals saw tact cooling water	r million off-pounds) of ed or ground with con-
	Copper Nickel Fluoride Molybdenum	3.11 1.34 145.0 12.2	$1.48 \\ 0.899 \\ 64.2 \\ 5.42$
		Table 5-31 Refractory Metals Sawing or Grinding Ri	nse
		BAT Effluent Limitation	ons
	· ·	Maximum for any 1 day	Maximum for monthly average
	Pollutant or pollutant property	mg/off-kg (pounds sawed or groun	per million off-pounds) of d refractory metals rinsed
	Copper Nickel Fluoride Molybdenum	0.018 0.008 0.803 0.068	0.009 0.005 0.357 0.030
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Wet Air	Table 5-32 Refractory Meta Pollution Control Scru	ls bber Blowdown	
	BAT Effluent Limita	tions	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds) refractory metals sa coated, or surface t	mg/off-kg (pounds per million off-pounds) of refractory metals sawed, ground, surface coated, or surface treated	
Copper Nickel Fluoride Molybdenum	$1.01 \\ 0.433 \\ 46.8 \\ 3.96$	0.480 0.291 20.8 1.76	
Mi	Table 5-33 Refractory Meta scellaneous Wastewate	ls er Sources	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals formed		
Copper Nickel Fluoride Molybdenum	0.442 0.190 20.6 1.74	0.211 0.128 9.11 0.770	
Dy	Table 5-34 Refractory Meta e Penetrant Testing W	ls Vastewater	
-	BAT Effluent Limita	ations	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds refractory metals t	per million off-pounds) of ested	

Copper	0.100	0.048
Nickel	0.043	0.029
Fluoride	4.62	2.05
Molybdenum	0.391	0.173

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.054 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

	Table 5-35 Refractory Metal Rolling Spent Emuls	s ions
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals rolled with emulsions	
Copper Nickel Fluoride	0.549 0.236 25.5	0.262 0.159 11,3
Molybdenum Oil and grease	$\begin{array}{c} 2.16 \\ 4.29 \end{array}$	0.957 4.29
Total suspended solids pH	6.44 (1)	5.15 (1)
(1) Within the range of 7.5 to	10.0 at all times	
Extrusi	Table 5-36 Refractory Metal on Press Hydraulic F	s 'uel Leakage
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or	mg/off-kg (pounds p	er million off-pounds) of

pollutant or pollutant property	refractory metals extruded	
Copper	1.53	0.726
Nickel	0.655	0.441
Fluoride	70.8	31.4
Molybdenum	5.99	2.66
Oil and grease	11.9	11.9
Total suspended solids	17.9	14.3
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	

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Table 5-37 Refractory Metals Forging Contact Cooling Water

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of forged refractory metals cooled with water	
Copper	0.041	0,020
Nickel	0.018	0.012
Fluoride	1.92	0.853
Molybdenum	0.163	0.072
Oil and grease	0.323	0.323
Total suspended solids	0.485	0,388
pH	(1)	(1)

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

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Table 5-38 Betractory Matals				
Equipment Cleaning Wastewater				
NSPS				
	Maximum for	Maximum for		
	any 1 day	monthly average		
Pollutant or pollutant property	mg/off-kg (pounds per refractory metals form	million off-pounds) of ed		
Copper	0.174	0.083		
Nickel	0.075	0.051		
Fluoride	8.09	3.59		
Molybdenum	0.684	0.303		
Oil and grease	1.36	1.36		
Total suspended solids	2.04	1.63		
pH	(1)	(1)		
(1) Within the range of 7.5 to	10.0 at all times			
	Table 5-39			
	Refractory Metals			
Metal	Powder Production Wa	stewater		
<u> </u>	NSPS			
	Maximum for	Maximum for		
	any 1 day	monthly average		
Dellutent en maleff he (neunde neu million off nounde) of :				
pollutant or mg/off-kg (pounds per million off-pounds) of refractory metals powder produced				
Copper	0.360	0.172		
Nickel	0.155	0.104		
Fluoride	16.7	7.42		
Molybdenum	1.42	0.627		
Oil and grease	2.81	2.81		
Total suspended solids	4.22	3.37		
pH	(1)	(1)		
(1) Within the range of 7.5 to 10.0 at all times				
	Table 5-40			
	Refractory Metals			
Sur	face Treatment Sport F	lathe		
Surface Treatment Spent Datins				
	NSPS			
	Maximum for	Maximum for		
	any I day	monthly average		
Pollutant or	mg/off-kg (pounds per	million off-pounds) of		
pollutant property	refractory metals surfa	ice treated		
Copper	0.498	0.237		
Nickel	0.214	0.144		
Fluoride	23.2	10 3		
Molyhdenum	1 96	0.868		
Ail and grassa	3 80	3 80		
Total evenandad solida	0.03 5 94	0.00 1 67		
nH	0.04 /1\	4,07		
<u>htt</u>	(1)	(1)		
(1) Within the range of 7.5 to	10.0 at all times			

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\$	Table 5-41 Refractory Metals Surface Treatment Ri	nse	
	NSPS		
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals surface treated		
Copper Niekol	15.5	7.38	
Fluorido	720	320	
Molyhdonum	69.9	27.0	
Oil and grosso	191	121	
Total susponded solids	182	145	
nH	(1)	(1)	
$\frac{\mathbf{p}\mathbf{n}}{(1)}$ Within the sense of 7.5 to	(1) 10.0 at all times	(1)	
(1) within the range of 7.5 to	io.o at an times		
All	Table 5-42 Refractory Metals aline Cleaning Spent	Baths	
	NSPS		
· · · ·	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals alkaline cleaned		
Conner	0.428	0.204	
Nickel	0.184	0.124	
Fluoride	19.9	8.82	
Molybdenum	1.68	0.745	
Oil and grease	3.34	3.34	
Total suspended solids	5.01	4.01	
pH	(1)	(1)	
(1) Within the range of 7.5 to 10.0 at all times			
	Table 5-43 Refractory Metals Alkaline Cleaning Ri	s nse	
	NSPS		
• • •	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals alkaline cleaned		
Copper	10.5	4.98	
Nickel	4.49	3.02	
Fluoride	486	216	
Molybdenum	41.1	- <u>1</u> 8.2	
Oil and grease	81.6	81.6	
Total suspended solids	123	97.9	
pH	(1)	(1)	
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(1) Within the range of 7.5 to 10.0 at all times

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	Table 5-44 Refractory Metals Molten Salt Rinse		
	NSPS		
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals treated with molten salt		
Copper Nickel Fluoride Molybdenum Oil and grease Total suspended solids pH	$\begin{array}{c} 0.810 \\ 0.348 \\ 37.7 \\ 3.19 \\ 6.33 \\ 9.5 \\ (1) \end{array}$	$\begin{array}{c} 0.386\\ 0.234\\ 16.7\\ 1.41\\ 6.33\\ 7.6\\ (1)\end{array}$	

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

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Refractory Metals Tumbling or Burnishing Wastewater

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or mg/off-kg (pounds per million off-pounds per million off-pounds refractory metals tumbled or burnished		
Copper	1.60	0.763
Nickel	0.688	0.463
Fluoride	74.4	33.0
Molybdenum	6.29	2.79
Oil and grease	12.5	12.5
Total suspended solids	18.8	15.0
pH -	(1)	(1)

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

Table 5-46 Refractory Metals Sawing or Grinding Spent Emulsions

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	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pound ty refractory metals sawed or ground with sions	
Copper	0.380	0.181
Nickel	0.164	0,110
Fluoride	17.7	7.84
Molybdenum	1.5	0.663
Oil and grease	2.97	2.97
Total suspended solids	4.46	3,57
pH	(1)	(1)

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

	Table 5-47 Refractory Metals Sawing or Grinding Contact Cooling Water	
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per r refractory metals sawed tact cooling water	nillion off-pounds) of l or ground with con-
Copper	3.11	1.48
Nickel	1.34	0.899
Fluoride	145.0	64.2
Molybdenum	12.2	5.4 2
Oil and grease	24,3 96 5	24.3
Total suspended solids	30.0	29,2
рн	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
5	Table 5-48 Refractory Metals Sawing or Grinding Rins	ę
· · · · ·	NSPS	
•	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of sawed or ground refractory metals rinsed	
Copper	0.018	0.009
Nickel	0.008	0.005
Fluoride	0.803	0.357
Molybdenum	0.068	0.030
Oil and grease	0.135	0.135
Total suspended solids	0,203	0.162
pH	(1)	. (1)

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

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	Table 5-49		
	Refractory Metals		
Wet Air Po	Ilution Control Scrub	ber Blowdown	
	NSPS		
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals sawed, ground, surface coated, or surface treated		
Copper Nickel Floreside	1.01 0.433	0.480 0.291	
Molybdenum Oil and grease	40.8 3.96 7.87	20.8 1,76 7,87	
Total suspended solids pH	11.8 (1)	9.45 (1)	
(1) Within the range of 7.5 to 10.0 at all times			
Table 5-50 Refractory Metals Miscellaneous Wastewater Sources			
NSPS			
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals formed		
Copper Nickel	0.442 0.190	0.211 0.128	
Fluoride Molybdenum Oil and grease	20.6 1.74 3.45	9.11 0.770 3.45	
Total suspended solids pH	5.18 (1)	4.14 (1)	

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

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Refractory Metals Dye Penetrant Testing Wastewater				
	NSPS			
	Maximum for any 1 day	Maximum for monthly average		
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of refractory metals tested			
Copper Nickel Fluoride Molybdenum Oil and grease Total suspended solids	$\begin{array}{c} 0.100 \\ 0.043 \\ 4.62 \\ 0.391 \\ 0.776 \\ 1.17 \end{array}$	0.048 0.029 2.05 0.173 0.776 0.931		
Ha	$\overline{(1)}$	(1)		

Table 5-51

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

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.055 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 273.053.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.056 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 limitations set forth in s. NR 273.053.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

Subchapter VI — Titanium

NR 273.06 Applicability; description of the titanium subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from titanium forming.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.061 Discharge prohibitions. Any facility subject to this subchapter may not discharge process wastewater pollutants from the following sources:

(1) Rolling spent neat oils;

(2) Drawing spent neat oils;

(3) Extrusion spent neat oils;

(4) Forging spent lubricants;

(5) Tube reducing spent lubricants;

(6) Heat treatment contact cooling water;

(7) Sawing or grinding spent neat oils; and

(8) Degreasing spent solvents.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.062 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 C.F.R. ss. 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 6-1 Titanium		
Rol	ling Contact Cooling	Water	
	BPT Effluent Limitation	ons	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of titanium rolled with contact cooling water		
Cyanide Lead Zinc	1.4 2.05 7.13	0,586 0.976 2.98	
Ammonia Fluoride Oil and grease Total suspended solids	651 291 97.0 200.0	280 129 58.0 95.0	
pH (1) Within the range of 7.5 to	(1)	(1)	
E	Table 6-2 Titanium xtrusion Spent Emuls	ions	
]	BPT Effluent Limitation	ons	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of titanium extruded		
Cyanide Lead Zinc	0.021 0.030 0.105	0.009 0.015 0.044	
Ammonia Fluoride Oil and grease	$9.59 \\ 4.28 \\ 1.44$	4.22 1.9 0.863	
Total suspended solids pH	2.95 (1)	1.4 (1)	

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

Table 6-3 Titanium Extrusion Press Hydraulic Fuel Leakage			
I	3PT Effluent Limitatio	ns	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per titanium extruded	million off-pounds) of	
Cyanide Lead Zinc Ammonia Fluoride Oil and grease Total suspended solids pH (1) Within the range of 7.5 to	0.052 0.075 0.260 23.7 10.6 3.56 7.30 (1) 10.0 at all times Table 6-4	$\begin{array}{c} 0.022\\ 0.036\\ 0.109\\ 10.5\\ 4.70\\ 2.14\\ 3.47\\ (1)\end{array}$	
For	Titanium ging Contact Cooling V	Water	
	BPT Effluent Limitatio	ons	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of forged titanium cooled with water		
Cyanide Lead Zinc Ammonia	0.580 0.840 2.92 267	0.240 0.400 1.22 117	
Fluoride Oil and grease Total suspended solids pH	119 40.0 82.0 (1)	52.8 24.0 39.0 (1)	

 $[\]mathbf{pH}$

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

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Forging	Table 6-5 Titanium Equipment Cleanin	g Wastewater
J	3PT Effluent Limit	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds forged titanium	per million off-pounds) of
Cyanide Lead Zinc Ammonia Fluoride Oil and grease Total suspended solids pH (1) Within the range of 7.5 to	0.012 0.017 0.059 5.33 2.38 0.800 1.64 (1) 10.0 at all times Table 6-6 Titanium	0.005 0.008 0.025 2.35 1.06 0.480 0.780 (1)
]	BPT Effluent Limit	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds forged titanium	per million off-pounds) of
Cyanide Lead Zinc Ammonia	0.293 0.424 1.48 135	0.121 0.202 0.616 59.2
Fluoride Oil and grease Total suspended solids pH	60.1 20.2 41.4 (1)	26.7 12.1 19.7 (1)

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

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Sur	Table 6-7 Titanium face Treatment Spent	Baths
]	3PT Effluent Limitati	ons
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe titanium surface trea	er million off-pounds) of ited
Cyanide Lead Zinc Ammonia Fluoride Oil and grease Total suspended solids pH (1) Within the range of 7.5 to	0.061 0.088 0.304 27.7 12.4 4.16 8.53 (1) 10.0 at all times	$\begin{array}{c} 0.025\\ 0.042\\ 0.127\\ 12.2\\ 5.49\\ 2.50\\ 4.06\\ (1)\end{array}$
	Table 6-8 Titanium Surface Treatment Ri	nse
	BPT Effluent Limitati	ions
•	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe titanium surface trea	er million off-pounds) of ated
Cyanide Lead Zinc	8.47 12.3 42.7	3.51 5.84 17.8
Ammonia Fluoride Oil and grease	3,890 1,740 584	1,710 771 351
Total suspended solids pH	1,200 (1)	570 (1)

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

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	Table 6-9 Titanium	
Wet Air Po	llution Control Scr	ubber Blowdown
I	3PT Effluent Limit	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds titanium surface ti	per million off-pounds) of reated or forged
Cyanide Lead Zinc Ammonia	0.621 0.899 3.13 285 198	$\begin{array}{c} 0.257 \\ 0.428 \\ 1.31 \\ 126 \\ E_{0} \\ E_$
Oil and grease Total suspended solids pH	42.8 87.8 (1)	25.7 41.8 (1)
Alk	Table 6-10 Titanium aline Cleaning Spe	nt Baths
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds titanium alkaline o	per million off-pounds) of cleaned
Cyanide Lead Zinc Ammonia	0.070 0.101 0.351 32.0	0.029 0.048 0.147 14.1
Fluoride Oil and grease Total suspended solids pH	14.3 4.80 9.84 (1)	6.34 2.88 4.68 (1)

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

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	Table 6-11 Titanium Alkaline Cleaning Rins	;e
]	BPT Effluent Limitatio	ns
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per titanium alkaline clear	million off-pounds) of ned
Cyanide Lead Zinc Ammonia Fluoride Oil and grease Total suspended solids	$\begin{array}{r} 0.801 \\ 1.16 \\ 4.03 \\ 370 \\ 164 \\ 55.2 \\ 113 \end{array}$	$\begin{array}{r} 0.331 \\ 0.552 \\ 1.69 \\ 160 \\ 72.9 \\ 33.1 \\ 53.8 \end{array}$
pH (1) Within the range of 7.5 to	(1) 10.0 at all times	(1)
	Table 6-12 Titanium Molten Salt Rinse	
]	BPT Effluent Limitatio	ns
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per titanium treated with	million off-pounds) of molten salt
Cyanide Lead Zinc	0.277 0.401 1.40	0.115 0.191 0.583
Ammonia Fluoride Oil and grease Total guageanded collida	$128 \\ 56.8 \\ 19.1 \\ 20.2$	56.0 25.2 11.5
pH	00.2 (1)	(1)

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

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	Table 6-13	
	Titanium	
	Tumbling Wastewater	
]	BPT Effluent Limitation	S
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per r titanium tumbled	nillion off-pounds) of
Cyanide	0.229	0.095
Lead	0.332	0.158
Zine	1.16	0.482
Ammonia	110	46
Fluoride	47.0	20.9
Oil and grease	15.8	9.48
Total suspended solids	32.4	15.4
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
Sawin	Table 6-14 Titanium g or Grinding Spent Em	ulsions
	BPT Effluent Limitation	S
· · · ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per r titanium sawed or grou	nillion off-pounds) of nd with an emulsion
Cyanide	0.053	0.022
Lead	0.077	0.037
Zinc	0.267	0.112
Ammonia	24.4	10.7
Fluoride	10.9	4.83
Uil and grease	3.66	2.20
Total suspended solids	7.51	8.57
рн	(1)	(1)

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

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	Table 6-15 Titanium Sawing or Grir Contact Cooling	o nding Water
]	3PT Effluent Lim	itations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of titanium sawed or ground with contact cooling water	
Cyanide	1.38	0.571
Lead	2.00	0.952
Zine	6.95	2.91
Ammonia	635	279
Fluoride	283	126
Oil and grease	95.2	57.1
Total suspended solids	195	92.8
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
Dye 1	Table 6-16 Titanium Penetrant Testing	5 g Wastewater
	BPT Effluent Lin	nitations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (poun titanium tested	ds per million off-pounds) of with dye penetrant methods
Cvanide	0.325	0.135
Lead	0.471	0.224
Zinc	1.64	0.683
Ammonia	149	65.7
Fluoride	66.7	29.6
Oil and grease	22.4	13.5
Total suspended solids	45.9	21.9
pH	(1)	(1)

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

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Misc	Table 6-17 Titanium ellaneous Wastewater	· Sources
]	BPT Effluent Limitat	ions
· · · · ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of titanium formed	
Cyanide Lead Zinc Ammonia Fluoride Oil and grease Total suspended solids pH	$\begin{array}{c} 0.010\\ 0.014\\ 0.048\\ 4.32\\ 1.93\\ 0.648\\ 1.33\\ (1)\end{array}$	$\begin{array}{c} 0.004 \\ 0.007 \\ 0.020 \\ 1.90 \\ 0.856 \\ 0.389 \\ 0.632 \\ (1) \end{array}$

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

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.063 Effluent limitations representing the degree of effluent reduc-tion attainable by the application of the best available technology economi-cally achievable. Except as provided in 40 C.F.R. ss. 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the fol-lowing effluent limitations representing the degree of effluent reduction attainable by application of BAT:

· · · · · · · · · · · · · · · · · · ·	Table 6-18 Titanium Rolling Contact Coolin	g Water
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of titanium rolled with contact cooling water	
Cyanide Lead	0.142 0.205	0.059 0.098
Ammonia Fluoride	$ \begin{array}{r} 0.713 \\ 65.1 \\ 29.1 \end{array} $	0.298 28.6 12.90

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	Table 6-19	
	Titanium Extrusion Sport Emu	leione
· · · · · · · · · · · · · · · · · · ·	DATE TRANSpent Lineits	1310115
	BAT Enuent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p titanium extruded	per million off-pounds) of
Cyanide	0.021	0.009
Lead	0,030	0.015
Zinc	0.105	0.044
Ammonia	9.59	4.22
Fluoride	4.28	1.90
Extru	Table 6-20 Titanium sion Press Hydraulic F	ruel Leakage
	BAT Effluent Limita	tions
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds) titanium extruded	per million off-pounds) of
Cvanide	0,052	0.022
Lead	0.075	0.036
Zinc	0.260	0.109
Ammonia	23.7	10.5
Fluoride	10.6	4.70
	Table 6-21 Titanium	a Watar
	BAT Effuent Limite	tions
	Maximum for	Maximum for
<u></u>	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds) forged titanium coc	per million off-pounds) of bled with water
Cyanide	0.029	0.012
Lead	0.042	0.020
Zinc	0.146	0.061
Ammonia	13.3	5.86
Fluoride	5.95	2.64

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	Table 6-22	
Forgin	g Equipment Cleaning	Wastewater
O	BAT Effluent Limitati	ions
·	Maximum for	Maximum for
1	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe forged titanium	er million off-pounds) of
Cyanide	0.012	0.005
Lead	0.017	0.008
Zine	0.059	0.025
Ammonia	5.33	2.35
Fluoride	2.38	1.06
Forgi	Table 6-23 Titanium ng Press Hydraulic Flui	id Leakage
	BAT Effluent Limitati	ions
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe forged titanium	er million off-pounds) of
Cvanide	0.293	0.121
Lead	0.424	0.202
Zinc	1.48	0.616
Ammonia	135	59.2
Fluoride	60.1	26.7
s	Table 6-24 Titanium urface Treatment Spent	Baths
	BAT Effluent Limitati	ions
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe titanium surface trea	er million off-pounds) of ated
a		
Cyanide	0.061	0.025
Cyanide Lead	$0.061 \\ 0.088$	0.025 0.042
Cyanide Lead Zinc	0.061 0.088 0.304	0.025 0.042 0.127
Cyanide Lead Zinc Ammonia	0.061 0.088 0.304 27.7	0.025 0.042 0.127 12.2

	Table 6-25 Titanium Surface Treatment 1	Rinse
	BAT Effluent Limita	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of titanium surface treated	
Cyanide Lead Zinc Ammonia Fluoride	$0.847 \\ 1.23 \\ 4.27 \\ 389 \\ 174$	$0.351 \\ 0.584 \\ 1.78 \\ 171 \\ 77.1$

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	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of titanium surface treated or forged	
Cyanide Lead Zinc Ammonia	0.062 0.090 0.313 28.5 19.8	0.026 0.043 0.131 12.6 5.68

. A A A A A A A A A A A A A A A A A A A	Ikaline Cleaning Spent	Baths
	BAT Effluent Limitat	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of titanium alkaline cleaned	
Cyanide Lead	0.070 0.029 0.101 0.048	
Zine	0.351	0.147
Ammonia	32.0	14.1
Fluoride	14.3	6.34

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	Table 6-28	
	Alkaline Cleaning Rin	se
	BAT Effluent Limitatio	ons
• • • •	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per titanium alkaline clea	million off-pounds) of ned
Cyanide Lead Zinc Ammonia Fluoride	$\begin{array}{c} 0.080\\ 0.116\\ 0.403\\ 36.8\\ 16.4 \end{array}$	0.033 0.055 0.169 16.2 7.29
	Table 6-29 Titanium Molten Salt Rinse	
	BAT Effluent Limitatio	ons
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of titanium treated with molten salt	
Cyanide Lead Zinc Ammonia Fluoride	$\begin{array}{c} 0.277\\ 0.401\\ 1.40\\ 128\\ 56.8\end{array}$	0.115 0.191 0.583 56.0 25.2
	Table 6-30 Titanium Tumbling Wastewate	r
	BAT Effluent Limitatio	ons
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per titanium tumbled	million off-pounds) of
Cyanide Lead Zinc Ammonia Fluoride	0.022 0.033 0.116 11.0 4.70	0.010 0.016 0.048 4.60 2.09

Sourin	Table 6-31 Titanium g on Crinding Sport Emi	ulaiana
Sawin	g or Grinding Spent Em BAT Effluent Limitation	s ·
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per r titanium sawed or grou	nillion off-pounds) of nd with an emulsion
Cyanide Lead Zinc Ammonia	0.053 0.077 0.267 24 4	0.022 0.037 0.112 10 7
Fluoride	10.9	4.83
· .	Table 6-32 Titanium Sawing or Grinding Contact Cooling Water	
	BAT Effluent Limitation	S
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per r titanium sawed or grou water	nillion off-pounds) of nd with contact cooling
Cyanide Lead Zinc Ammonia Fluoride	0.138 0.200 0.695 63.5 28.3	0.057 0.095 0.291 27.9 12.6
Dye	Table 6-33 Titanium Penetrant Testing Waste	ewater
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per r titanium tested with dy	nillion off-pounds) of ve penetrant methods
Cyanide Lead Zinc Ammonia Fluoride	$\begin{array}{r} 0.325 \\ 0.471 \\ 1.64 \\ 149 \\ 66.7 \end{array}$	0.135 0.224 0.683 65.7 29.6

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Mi	Table 6-34 Titanium scellaneous Wastewate	er Sources
	BAT Effluent Limita	itions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of titanium formed	
Cyanide Lead Zinc Ammonia Fluoride	$\begin{array}{c} 0.010 \\ 0.014 \\ 0.048 \\ 4.32 \\ 1.93 \end{array}$	0.004 0.007 0.020 1.90 0.856

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History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.064 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 6-35	
Titanium	
Contact Cooling	Wot

Rol	ling Contact Cooling	g Water	
	NSPS		
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of titanium rolled with contact cooling water		
Cyanide Lead Zinc Ammonia Fluoride Oil and grease Total suspended solids pH	$\begin{array}{c} 0.142\\ 0.205\\ 0.713\\ 65.1\\ 29.1\\ 9.76\\ 20.0\\ (1)\end{array}$	$\begin{array}{c} 0.059\\ 0.098\\ 0.298\\ 28.6\\ 12.90\\ 5.86\\ 9.52\\ (1)\end{array}$	

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

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E	Table 6-36 Titanium xtrusion Spent Emulsi	ons
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per titanium extruded	million off-pounds) of
Cyanide Lead Zinc Ammonia Fluoride Oil and grease Total suspended solids pH (1) Within the range of 7.5 to	0.021 0.030 0.105 9.59 4.28 1.44 2.95 (1) 10.0 at all times	$\begin{array}{c} 0.009\\ 0.015\\ 0.044\\ 4.22\\ 1.90\\ 0.863\\ 1.40\\ (1)\end{array}$
Extrusio	Table 6-37 Titanium on Press Hydraulic Fue	el Leakage
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per titanium extruded	million off-pounds) of
Cyanide Lead Zinc Ammonia Fluoride Oil and grease Total suspended solids	$\begin{array}{r} 0.052 \\ 0.075 \\ 0.260 \\ 23.7 \\ 10.6 \\ 3.56 \\ 7.30 \end{array}$	$\begin{array}{c} 0.022 \\ 0.036 \\ 0.109 \\ 10.5 \\ 4.70 \\ 2.14 \\ 3.47 \end{array}$
pH	(1)	(1)

 $\frac{\text{pH}}{(1) \text{ Within the range of 7.5 to 10.0 at all times}}$

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	Table 6-38	
For	Titanium ging Contact Coolin	a Water
101	NSPS	8 11 4001
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of forged titanium cooled with water	
Cyanide Lead Zinc Ammonia Fluoride Oil and grease Total suspended solids pH (1) Within the range of 7.5 to	0.029 0.042 0.146 13.3 5.95 2.00 4.10 (1) 10.0 at all times Table 6-39	$\begin{array}{c} 0.012\\ 0.020\\ 0.061\\ 5.86\\ 2.64\\ 1.20\\ 1.95\\ (1)\end{array}$
Forging	Titanium Equipment Cleaning	g Wastewater
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds) forged titanium	per million off-pounds) of
Cyanide Lead Zinc Ammonia Fluoride Oil and grease Total suspended solids	$\begin{array}{c} 0.012 \\ 0.017 \\ 0.059 \\ 5.33 \\ 2.38 \\ 0.800 \\ 1.64 \end{array}$	$\begin{array}{c} 0.005\\ 0.008\\ 0.025\\ 2.35\\ 1.06\\ 0.490\\ 0.780\end{array}$
pH	(1)	(1)

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

e s) of		
e s) of		
e 3) of		
s) of		
mg/off-kg (pounds per million off-pounds) of forged titanium		
e		
mg/off-kg (pounds per million off-pounds) of titanium surface treated		

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

Table 6-42 Titanium Surface Treatment Binse				
NSPS				
Maximum for any 1 day	Maximum for monthly average			
mg/off-kg (pounds per million off-pounds) of titanium surface treated				
0.847 1.23 4.27 389	0.351 0.584 1.78 171			
174 58.4 120 (1)	77.1 35.1 57.0 (1)			
	Table 6-42 Titanium Surface Treatment 1 NSPS Maximum for any 1 day mg/off-kg (pounds titanium surface tr 0.847 1.23 4.27 389 174 58.4 120 (1)			

Table 6-43

Wet Air	Pollution Control Seri	ıbber Blowdown	
	NSPS		
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of titanium surface treated or forged		
Cuanida	0.069	0.006	

Cyanide	0.062	0.026
Lead	0.090	0.043
Zine	0.313	0.131
Ammonia	28.5	12.6
Fluoride	12.8	5.65 🗠
Oil and grease	4.28	2.57
Total suspended solids	8,78	4.18
pH .	(1)	(1)

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(1) Within the range of 7.5 to 10.0 at all times
	Table 6-44	
	Titanium	
Alk	aline Cleaning Spent Ba	ths
	NSPS	
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per r titanium alkaline cleane	nillion off-pounds) of ed
Cvanide	0.070	0.029
Lead	0.101	0.048
Zinc	0.351	0.147
Ammonia	32.0	1 4.1
Fluoride	14.3	6.34
Oil and grease	4.80	2.88
Total suspended solids	9.84	4.68
υΗ	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 6-45 Titanium	
	Alkaline Cleaning Rinse)
	NSPS	
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per i titanium alkaline clean	million off-pounds) of ed
Cvanide	0.080	0.033
Lead	0.116	0.055
Zinc	0.403	0.169
Ammonia	36.8	16.2
Fluoride	16.4	7.29
Oil and grease	5.52	3.31
Total suspended solids	11.3	5.38
nH	(1)	(1)

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

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	Table 6-46 Titanium Molten Salt Rinse	
	NSPS	
· ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per t titanium treated with r	million off-pounds) of nolten salt
Cyanide Lead Zinc Ammonia Fluoride Oil and grease Total suspended solids pH (1) Within the range of 7.5 to	0.277 0.401 1.40 128 56.8 19.1 39.2 (1) 10.0 at all times Table 6-47 Titanium	0.115 0.191 0.583 56.0 25.2 11.5 18.6 (1)
	Tumbling Wastewater	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per : titanium tumbled	million off-pounds) of
Cyanide Lead Zinc Ammonia	0.023 0.033 0.116 10.6	0.010 0.016 0.048 4.63
Fluoride Oil and grease Total suspended solids pH	4.70 1.58 3.24 (1)	2.09 0.948 1.54 (1)

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

	Table 6-48	
Sawin	Titanium a or Grinding Spont Em	ulsions
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of titanium sawed or ground with an emulsion 0.053 0.022 0.077 0.037 0.267 0.112 24.4 10.7 10.9 4.83 3.66 2.20 .5 7.51 (1) (1)	
Cyanide Lead Zinc Ammonia Fluoride Oil and grease Total suspended solids pH (1) Within the range of 7.5 to		
	Table 6-49 Titanium Sawing or Grinding Contact Cooling Water NSPS	r
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per titanium sawed or grou water	million off-pounds) of and with contact cooling
Cyanide Lead Zinc Ammonia Fluoride Oil ond crosse	0.138 0.200 0.695 63.5 28.3 0.52	0,057 0,095 0,291 27.9 12.6 5.71
Total suspended solids pH	19.5 (1)	9.28 (1)

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

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Dye I	Table 6-50 Titanium Penetrant Testing W	astewater
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of titanium tested with dye penetrant methods	
Cyanide Lead Zinc Ammonia Fluoride Oil and grease Total suspended solids pH	$\begin{array}{r} 0.325\\ 0.471\\ 1.64\\ 149\\ 66.7\\ 22.4\\ 45.9\\ (1)\\ \end{array}$	$\begin{array}{c} 0.135\\ 0.224\\ 0.683\\ 65.7\\ 29.6\\ 13.5\\ 21.9\\ (1)\end{array}$
Misc	Table 6-51 Titanium ellaneous Wastewate	r Sources
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of titanium formed	
Cyanide Lead Zinc Ammonia Fluoride Oil and grease	$\begin{array}{c} 0.010 \\ 0.014 \\ 0.048 \\ 4.32 \\ 1.93 \\ 0.648 \end{array}$	0.004 0.007 0.020 1.90 0.856 0.389
Total suspended solids pH	$\begin{array}{c} 1.33 \\ (1) \end{array}$	0.63 (1)

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

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.065 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 273.063.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.066 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 273.063.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90. Register, September, 1990, No. 417

Subchapter VII — Uranium

NR 273.07 Applicability; description of the uranium subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from uranium forming.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.071 Discharge prohibitions. Any facility subject to this subchapter may not discharge process wastewater pollutants from the following sources:

(1) Extrusion spent lubricants;

(2) Forging spent lubricants; and

(3) Degreasing spent solvents.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.072 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 C.F.R. ss. 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:

Dutnuci	Table 7-1 Uranium on Tool Contact Cooli	ng Water
19711 181	DI IOI Contact Coom	
	SPT Emuent Limitatio	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per uranium extruded	million off-pounds of
Cadmium	0.117	0.052
Chromium	0.152	0.062
Copper	0.654	0.344
Lead	0.145	0.069
Nickel	0,661	0.437
Fluoride	20.5	9.08
Molybdenum	2,28	1.18
Oil and grease	6.88	4.13
Total suspended solids	14.1	6.71
pH	(1)	(1)

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

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Heat Tr	Table 7-2 Uranium eatment Contact Co	ooling Water	
BPT Effluent Limitations			
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of extruded or forged uranium heat treated		
Cadmium Chromium Copper Lead Nickel Fluoride Molybdenum Oil and grease Total suspended solids pH	$\begin{array}{c} 0.646\\ 0.836\\ 3.61\\ 0.798\\ 3.65\\ 113\\ 12.6\\ 38\\ 77.9\\ (1)\end{array}$	$\begin{array}{c} 0.285\\ 0.342\\ 1.90\\ 0.380\\ 2.42\\ 50.2\\ 6.5\\ 22.8\\ 37.1\\ (1)\end{array}$	
(1) Within the range of 7.5 to	10.0 at all times Table 7-3 Uranium	·. :	

Surface Treatment Spent Baths **BPT Effluent Limitations** Maximum for Maximum for any 1 day monthly average mg/off-kg (pounds per million off-pounds) of uranium surface treated Pollutant or pollutant property Cadmium 0.010 0.004 Chromium Copper Lead Nickel 0.012 0.005 0.0520.027 0.012 0.006 0.0520.035 Fluoride Molybdenum 1.620.7180.093 0.327 0.180 Oil and grease 0.544Total suspended solids 1.12 0.531 pН (1)(1)

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

ş	Table 7-4 Uranium Surface Treatment Rinse	
Ι	3PT Effluent Limitations	3
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per n uranium surface treated	nillion off-pounds) of
Cadmium Chromium	0.115	0.050 0.061
Copper	0.641	0.337
Nickel	0.647	0.428
Fluoride Molybdenum	$\begin{array}{c} 20.1 \\ 2.23 \end{array}$	8.90 1.16
Oil and grease Total suspended solids	6.74 13.8	4.05 6.57
pH	(1)	(1)
Wet Air Po	Table 7-5 Uranium Ilution Control Scrubber	Blowdown
J	BPT Effluent Limitation	S
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per r uranium surface treated	nillion off-pounds) of l
Cadmium Chromium	0.0012 0.002	0.0006 0.0007
Copper Lead	0.007 0.002	0.004
Nickel Fluoride	0.007 0.208	0.092
Molybdenum Oil and grease	0.023 0.070	0.012 0.042
Total suspended solids pH	$\begin{array}{c} 0.143 \\ (1) \end{array}$	0.068 (1)

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

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	Table 7-6	
Sawing	g or Grinding Spent Em	ulsions
I	BPT Effluent Limitation	S
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of uranium sawed or ground with emulsions	
Cadmium Chromium Copper Lead	0.002 0.003 0.011 0.003	0.0009 0.001 0.006 0.001
Nickel Fluoride Molybdenum Oil and grease	0.011 0.338 0.038 0.114	0.007 0.150 0.020 0.068
Total suspended solids pH (1) Within the range of 7.5 to	(1) 10.0 at all times	(1)
	Table 7-7 Uranium Sawing or Grinding Contact Cooling Water	
	BPT Effluent Limitation	IS
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per) uranium sawed or grou water	millionoff-pounds) of nd with contact cooling
Cadmium Chromium Copper	$0.561 \\ 0.726 \\ 3.14 \\ 0.602$	0.248 0.297 1.65 0.220
Lead Nickel Fluoride Molybdenum	0.695 3.17 98.2 10.9	2.1 43.6 5.65
Oil and grease Total suspended solids pH	33.0 67.7 (1)	19.8 32.2 (1)

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

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	Table 7-8	
ç	Uranium Sawing or Grinding R	inse
~~ I	3PT Effluent Limitat	ions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p sawed or ground ura	er million off-pounds) of mium rinsed
Cadmium Chromium Copper Lead Nickel Fluoride Molybdenum Oil and grease Total suspended solids pH	0.002 0.002 0.009 0.002 0.009 0.277 0.031 0.093 0.191 (1)	$\begin{array}{c} 0.0007\\ 0.0009\\ 0.005\\ 0.001\\ 0.006\\ 0.123\\ 0.016\\ 0.056\\ 0.091\\ (1)\end{array}$
	Table 7-9 Uranium Area Cleaning Rin	se
	BPT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p uranium formed	per million off-pounds) of
Cadmium Chromium Copper Lead Nickel Fluoride Molybdenum	0.015 0.019 0.082 0.018 0.083 2.56 0.284 0.025	0.007 0.008 0.043 0.009 0.055 1.14 0.147 0.515
Total suspended solids pH	1.76 (1)	0.837 (1)

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

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	Table 7-10 Uranium Drum Washwater	
]	BPT Effluent Limitation	\$
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per r uranium formed	nillion off-pounds) of
Cadmium Chromium Copper Lead Nickel Fluoride Molybdenum Oil and grease	$\begin{array}{c} 0.015\\ 0.020\\ 0.084\\ 0.019\\ 0.085\\ 2.64\\ 0.293\\ 0.886\end{array}$	0.007 0.008 0.045 0.009 0.057 1.17 0.152 0.532
Total suspended solids pH	1.82 (1)	0.864 (1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 7-11 Uranium Laundry Washwater	
	BPT Effluent Limitation	S
	Maximum for any 1 day	Maximum for monthly average
Dollutant on	malamptona day	

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Pollutant or pollutant property	mg/employe-day	
Cadmium	17.8	7.86
Chromium	23.1	9.43
Copper	99.6	52.4
Lead	22.0	10.5
Nickel	101	66.6
Fluoride	3,120	1,390
Molybdenum	347	179
Oil and grease	1.050	629
Total suspended solids	2.150	1.020
рН	(1)	(1)

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

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.073 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 C.F.R. ss. 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:

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	Table 7-12 Uranium	
Extru	ision Tool Contact Coo	oling Water
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p uranium extruded	per million off-pounds of
Cadmium Chromium Copper Lead Nickel Fluoride Molybdenum	$\begin{array}{c} 0.007\\ 0.013\\ 0.044\\ 0.010\\ 0.019\\ 2.05\\ 0.173\end{array}$	0.003 0.005 0.021 0.005 0.013 0.908 0.077
Heat	Table 7-13 Uranium Treatment Contact Co	oling Water
Illat	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds r extruded or forged u	per million off-pounds) of uranium heat treated
Cadmium Chromium Copper Lead Nickel Fluoride Molybdenum	$\begin{array}{c} 0.006\\ 0.012\\ 0.040\\ 0.009\\ 0.017\\ 1.86\\ 0.158\end{array}$	0.003 0.005 0.019 0.004 0.012 0.827 0.070
S	Table 7-14 Uranium urface Treatment Sper	it Baths
-	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p uranium surface tre	per million off-pounds) of ated
Cadmium Chromium Copper Lead Nickel Fluoride Molybdenum	$\begin{array}{c} 0.006\\ 0.010\\ 0.035\\ 0.008\\ 0.015\\ 1.62\\ 0.137\end{array}$	0.002 0.004 0.017 0.004 0.010 0.718 0.061

Table 7-15 Uranium Surface Treatment Rinse			
<u></u>	BAT Effluent Limita	ations	
· ·	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of uranium surface treated		
Cadmium Chromium Copper	0.068 0.125 0.432	0.027 0.051 0.260	
Lead Nickel	0.095 0.186	0.044 0.125	
Fluoride Molvbdenum	$\begin{array}{c} 20.1 \\ 1.70 \end{array}$	8.90 0.752	

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Wet Air I	Table 7-16 Uranium Pollution Control Scru	bber Blowdown
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of uranium surface treated	
Cadmium Chromium Copper Lead Nickel Fluoride Molybdenum	0.0007 0.001 0.005 0.001 0.002 0.208 0.018	0.0003 0.0005 0.002 0.0005 0.001 0.092 0.008

Table 7-17	
Uranium	

ing or Grinding Spent	Emulsions
BAT Effluent Limita	tions
Maximum for any 1 dayMaximum for monthly averagemg/off-kg (pounds per million off-pounds) of uranium sawed or ground with emulsions	
	ing or Grinding Spent BAT Effluent Limita Maximum for any 1 day mg/off-kg (pounds uranium sawed or 4 0,001 0.002 0.007 0.002 0.003 0.338 0.338 0.029

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	Table 7-18 Uranium Sawing or Grinding Contact Cooling Wat	ç ter
	BAT Effluent Limitati	ons
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe uranium sawed or gr water	er million off-pounds) of ound with contact cooling
Cadmium Chromium Copper Lead Nickel Fluoride Molybdenum	0.033 0.061 0.211 0.046 0.091 9.82 0.830	$\begin{array}{c} 0.013\\ 0.025\\ 0.101\\ 0.022\\ 0.061\\ 4.36\\ 0.368\end{array}$
	Table 7-19 Uranium Sawing or Grinding R	inse
	Manimum for	Maulimum fau
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds po sawed or ground ura	er million off-pounds) of nium rinsed
Cadmium Chromium Copper Lead Nickel Fluoride Molybdenum	0.001 0.002 0.006 0.002 0.003 0.277 0.024	0.0004 0.0007 0.003 0.0006 0.002 0.123 0.011
	Table 7-20 Uranium Area Cleaning Rins	50
	BAT Effluent Limitat	ions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p uranium formed	er million off-pounds) of
Cadmium Chromium Copper Lead Nickel Eluoride	0.009 0.016 0.055 0.012 0.024 2.56	0.004 0.007 0.026 0.006 0.016 1.14
Molybdenum	0.216	0.096

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	Table 7-21 Uranium Drum Washwater	
	BAT Effluent Limitati	ons
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of uranium formed	
Cadmium Chromium Copper	0.009 0.017 0.057	0.004 0.007 0.027
Lead Nickel Fluoride	0.013 0.025 2.64	0.006 0.017 1.17
	Table 7-22 Uranium Laundry Washwate	r
· · · · · · · · · · · · · · · · · · ·	BAT Effluent Limitati	ons
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/employe-day	
Cadmium Chromium Copper	5.24 9.70 33.6	2.10 3.93 16.0
Lead Nickel Fluoride	7.34 14,4 1.560	3.41 9.70 692
Molybdenum	132	58.4

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

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NR 273.074 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

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	Table 7-23	
	Uranium	
Extrus	ion Tool Contact Cool	ing Water
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe uranium extruded	r million off-pounds of
Cadmium	0.007	0.003
Chromium	0.013	0.005
Copper	0.044	0.021
Lead	0.010	0.005
Nickel	0.019	0.013
Fluoride	2,05	0.908
Molybdenum	0.173	0.077
Oil and grease	0.344	0.344
Total suspened solids	0.516	0.413
pH	(1)	(1)
(1) Within the range of 7.5 to	o 10.0 at all times	
	Table 7-24	
	Uranium	
Heat T	reatment Contact Coo	ling Water
	NSPS	
	Maximum for	Maximum for

	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of extruded or forged uranium heat treated	
Cadmium	0.006	0.003
Chromium	0.012	0.005
Copper	0.040	0.019
Lead	0.009	0.004
Nickel	0.017	0.012
Fluoride	1.86	0.827
Molybdenum	0.158	0.070
Oil and grease	0.313	0.313
Total suspened solids	0.470	0.376
рН	(1)	(1)

 $\frac{1}{(1)}$ Within the range of 7.5 to 10.0 at all times

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Su	Table 7-25 Uranium rface Treatment Spent Ba	ths
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per n uranium surface treated	nillion off-pounds) of
Cadmium Chromium Copper Lead	0.006 0.010 0.035 0.008	0.002 0.004 0.017 0.004
Nickel Fluoride Molybdenum Oil and grease	0.015 1.62 0.137 0.272	0.010 0.718 0.061 0.272
Total suspened solids pH (1) Within the range of 7.5 to	0.408 (1)	0.327 (1)
· · ·	Table 7-26 Uranium Surface Treatment Rinse	l .
······	NSPS Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per n uranium surface treated	nillion off-pounds) of
Cadmium Chromium Copper	0.068 0.125 0.432	0.027 0.051 0.260
Lead Nickel Fluoride Molybdenum	0.095 0.186 20.1 1.70	0.044 0.125 8.90 0.752
Oil and grease Total suspened solids pH	3.37 5.06 (1)	3.37 4.05 (1)

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

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	Table 7-27	
TTT / 11 TS	Uranium	
Wet Air Pe	ollution Control Seru	bber Blowdown
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of uranium surface treated	
Cadmium	0.0007	0.0003
Chromium	0.001	0.0005
Copper	0.005	0.002
Lead	0.001	0.0005
Nickel	0.002	0.001
Fluoride	0.208	0.092
Molybdenum	0.018	0.008
Oil and grease	0.035	0.035
Total suspened solids	0.053	0.042
pH	(1)	(1)
(1) Within the range of 7.5 to	> 10.0 at all times	
· · ·	Table // 00	
	Table 7-20	
Sawin	oranium or Grinding Spent	Emulsions
	NSPS	Emulaiona
6	The second second	Maniana tan
	Maximum for	Maximum for
	any I day	monuny average
Pollutant or	mg/off-kg (pounds)	per million off-pounds) of
pollutant property	uranium sawed or g	ground with emulsions
Cadmium	0.001	0.0005
Chromium	0.002	0.0009
Copper	0.007	0.004
Lead	0.002	0.0008
Nickel	0.003	0.002
Fluoride	0.338	0.150
Molybdenum	0.029	0.013
Oil and grease	0.057	0.057
Total suspened solids	0,085	0.068
pH	(1)	(1)

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

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	Table 7-29 Uranium Sawing or Grinding	
	NODO	MOSTANIA
	Noro	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per u uranium sawed or grou water	nillion off-pounds) of nd with contact cooling
Cadmium	0.033	0.013
Chromium	0.061	0.025
Copper	0.211	0.101
Lead	0.046	0.022
Nickel	0.091	0.061
Fluoride	9.82	4.36
Molybdenum	0.830	0.368
Oil and grease	1.65	1.65
Total suspened solids	2.48	1.98
pH	. (1)	(1)
(1) Within the range of 7.5 to	> 10.0 at all times	
	Table 7-30	
	Uranium	
· .	Sawing or Grinding Rins	e
•	NSPS	
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per sawed or ground uraniu	million off-pounds) of am rinsed
Cadmium	0.001	0.0004
Chromium	0.002	0.0007
Copper	0.006	0.003
Lead	0.002	0.0006
Nickel	0.003	0.002
Fluoride	0.277	0.123
Molybdenum	0.024	0.011
Oil and grease	0.047	0.047
Total suspened solids	0.070	0.056
pH	(1)	(1)

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

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	Table 7-31 Uranium Area Cleaning Rinse	
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per : uranium formed	million off-pounds) of
Cadmium Chromium Copper Lead Nickel Fluoride Molybdenum Oil and grease Total suspened solids pH (1) Within the range of 7.5 to	0.009 0.016 0.055 0.012 0.024 2.56 0.216 0.429 0.644 (1) 0 10.0 at all times Table 7-32 Uranium Drum Wachwatar	$\begin{array}{c} 0.004\\ 0.007\\ 0.026\\ 0.006\\ 0.016\\ 1.14\\ 0.096\\ 0.429\\ 0.515\\ (1)\end{array}$
	NSPS	,uj.t.
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per uranium formed	million off-pounds) of
Cadmium Chromium Copper Lead Nickel Fluoride Molybdenum Oil and grease Total suspened solids pH	$\begin{array}{c} 0.009\\ 0.017\\ 0.057\\ 0.013\\ 0.025\\ 2.64\\ 0.223\\ 0.443\\ 0.665\\ (1)\end{array}$	$\begin{array}{c} 0.004 \\ 0.007 \\ 0.027 \\ 0.006 \\ 0.017 \\ 1.17 \\ 0.099 \\ 0.443 \\ 0.532 \\ (1) \end{array}$

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

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Table 7-33 Uranium Laundry Washwater NSPS		
Pollutant or pollutant property	mg/employe-day	
Cadmium Chromium Copper Lead Nickel Fluoride	5.24 9.70 33.6 7.34 14.4 1,560	2.10 3.93 16.0 3.41 9.70 692
Molybdenum Oil and grease Total suspened solids pH	132 262 393 (1)	58.4 262 315 (1)

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

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.076 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 limitations set forth in s. NR 273.073.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

Subchapter VIII — Zinc

NR 273.08 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 zinc forming.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.081 Discharge prohibitions. Any facility subject to this subchapter may not discharge process wastewater pollutants from the following sources:

(1) Rolling spent neat oils;

(2) Stationary casting contact cooling water; and

(3) Degreasing spent solvents.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.082 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 C.F.R. ss. 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:

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	Table 8-1	
	Zinc	
	Rolling Spent Emulsions	
I	3PT Effluent Limitation	5
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or	mg/off-kg (pounds per n	nillion off-pounds) of
pollutant property	zinc rolled with emulsio	ns
Chromium	0.0006	0.0003
Copper	0.003	0.002
Cvanide	0.0004	0.0002
Zinc	0.002	0.0009
Oil and grease	0.028	0.017
Total suspended solids	0.057	0.027
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 9.9	
	Zine	
Ro	ling Contact Cooling W:	ater
	DDT Filluant Limitation	a
	DI I Imuent Imutation	35
	Maximum for	Maximum Ior
	any I day	montiny average
Pollutant or	mg/off-kg (pounds per r	nillion off-pounds) of
pollutant property	zinc rolled with contact	cooling water
Chromium	0.236	0.0097
Copper	1.02	0.536
Cyanide	0.156	0.065
Zine	0.783	0.327
Oil and grease	10.7	6,43
Total suspended solids	22.0	10.5
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	·.
	Table 8-3	
	Zine	
	Drawing Spent Emulsion	S
	BPT Effluent Limitation	S
	Maximum for	Maximum for
,	anv 1 dav	monthly average
Pollutant or	ma/off_ka (nounda non a	nillion off-nounds) of
nollutant property	zine drawn with emulsi	ons
Channelium		0 A A A A
Unromium	0.003	0.001
Copper	0.011	0.000
Cyanide	0.002	0.0007
Zine	0.009	0.004
Un and grease	0.116	0.070
Total suspended solids	0.238	V.113
pH	(1)	(1)

 $\frac{\text{pH}}{\text{(1) Within the range of 7.5 to 10.0 at all times}}$

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	Table 8-4	
Direct Chi	Zine Ill Casting Contact Ce	ooling Water
1	3PT Effluent Limitati	ons
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe zinc cast by the direc	r million off-pounds) of t chill method
Chromium	0.222	0.091
Copper	0.960	0.505
Cyanide	0.147	0.061
Zine	0.738	0.308
Oil and grease	10.1	0.UD
Total suspended solids	20.7	9.80
рн	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 8-5	
TT 1 (11)	Zine	1 117. /
Heat Tr	eatment Contact Coo	ling water
	BPT Effluent Limitati	ons
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of zinc heat treated	
Chromium	0.336	0.138
Copper	1.45	0.763
Cyanide	0.221	0.092
Zinc	1.12	0.466
Oil and grease	15.3	9.16
Total suspended solids	31.3	14.9
рН	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 8-6 Zinc	
Sur	face Treatment Spent	: Baths
]	BPT Effluent Limitat	ions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of zinc surface treated	
Chromium	0.039	0.016
Copper	0.169	0.089
Cyanide	0.026	0.011
Zine	0.130	0.054
Oil and grease	1.78	1.07
Total suspended solids	3.64	1.73
рН	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	

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	Table 8-7	
	Zine	
£	Surface Treatment Rinse	
E	PT Effluent Limitations	5
	Maximum for	Maximum for
•	any 1 day	monthly average
Pollutant or	mg/off-kg (pounds per m	uillion off-pounds) of
pollutant property	zinc surface treated	innon on poundo, or
Chromium	1 58	0.645
Copper	6.80	3 58
Cyanida	1 04	0.430
Zina	5 23	2.19
Oil and groase	71.6	43.0
Total suspended solids	147	60.0
nU	(1)	(1)
		(1)
(1) Within the range of 7.5 to	tu.u at all times	
	Table 8-8	
	Zinc	
Alk	aline Cleaning Spent Ba	ths
I	3PT Effluent Limitation	5
	Maximum for	Maximum for
	any 1 day	monthly average
Dollutant or	maloff ka (nounds per n	nillion off-pounds) of
nollutent property	zine alkaline cleaned	minon on-pounds) or
	0.000	A 0007
Chromium	0.002	0.0007
Copper	0.007	0.004
Cyanide	0.001	0.0004
Zinc	0.000	0.002
Oil and grease	0.071	0.040
Total suspended solids	0.146	0.069
рн	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 8-9	
	Zine	
	Alkaline Cleaning Rinse	
	BPT Effluent Limitation	S
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or	maloff-ka (nounds por r	million off-nounde) of
ronulant or	ring offering (pounds per 1	minor on-pounda) of
ponduane property	and aranne cleaned	0.004
Chromium	0.744	0.304
Copper	3.21	1.69
Cyanide	0.490	0.203
Zinc	2.47	1.03
Oil and grease	33.8	20.3
Total suspended solids	69.3	33.0
pH	(1)	(1)

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Total suspended solids 69.3 pH (1) (1) Within the range of 7.5 to 10.0 at all times

	Table 8-10	
Comin	Zinc a an Cuinding Spont Pm	ulaiona
oawiii	g or Grinding Spent Em	
L	3PT Effluent Limitation	8
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per i zinc sawed or ground w	nillion off-pounds) of ith emulsions
Chromium	0.011	0.005
Copper	0.045	0.024
Cvanide	0.007	0.003
Zine	0.035	0.015
Oil and grease	0.476	0.286
Total suspended solids	0.976	0.464
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	ТаЫа 8-11	
	Zinc	
	Electrocoating Rinse	
	BPT Effluent Limitation	IS
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per a zinc electrocoated	million off-pounds) of
Chromium	1.01	0.412
Copper	4.35	2.29
Cyanide	0.664	0.275
Zínc	3.35	1.40
Oil and grease	45.8	27.5
Total suspended solids	93.9	44.7
рН	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	

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

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.083 Effluent limitations representing the degree of effluent reduc-tion attainable by the application of the best available technology economi-cally achievable. Except as provided in 40 C.F.R. ss. 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the fol-lowing effluent limitations representing the degree of effluent reduction attainable by application of BAT:

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	Table 8-12	
	Rolling Spent Emuls	ions
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p zinc rolled with emu	per million off-pounds) of alsions
Chromium Copper Cyanide Zinc	0.0005 0.002 0.0003 0.002	0.0002 0.0009 0.0001 0.0006
я	Table 8-13 Zinc colling Contact Cooling	g Water
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Poliutant or pollutant property	mg/off-kg (pounds g zinc rolled with con	per million off-pounds) of tact cooling water
Chromium Copper Cyanide Zinc	0.020 0.069 0.011 0.055	0.009 0.033 0.004 0.023
	Table 8-14 Zinc Drawing Spent Emul	sions
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p zinc drawn with em	per million off-pounds) of sulsions
Chromium Copper Cyanide Zinc	0.002 0.008 0.001 0.006	0.0009 0.004 0.0005 0.003

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Direct (Table 8-15 Zinc Chill Casting Contact C	Cooling Water
	BAT Effluent Limitat	ions
· · · ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p zinc cast by the dire	er million off-pounds) of ct chill method
Chromium Copper Cyanide Zinc	0.019 0.065 0.010 0.052	0.008 0.031 0.004 0.021

Table 8-16 Zinc Heat Treatment Contact Cooling Water		
	BAT Effluent Limitatio	ns
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per zinc heat treated	million off-pounds) of
Chromium	0.029	0.012
Copper	0.098	0.047
Cyanide	0.016	0.006
Zíne	0.078	0.032

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Zinc Surface Treatment Spent Baths

BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) ty zinc surface treated	
Chromium Copper	0.033 0.114	0.014 0.054
Cyanide Zinc	0.018 0.091	0.007 0.038

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	Table 8-18 Zinc	
	Surface Treatment Ri	nse
	BAT Effluent Limitati	ons
- 4 ₂	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe zinc surface treated	er million off-pounds) of
Chromium Copper Cyanide Zinc	0.133 0.457 0.072 0.365	0.054 0.219 0.029 0.151
	Table 8-19 Zinc Alkaline Cleaning Spent	Baths
	BAT Effluent Limitati	ons
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe zinc alkaline cleaned	er million off-pounds) of
Chromium Copper Cyanide Zinc	0.002 0.005 0.0007 0.004	0.0006 0.002 0.0003 0.002
	Table 8-20 Zinc Alkaline Cleaning Rin	nse
	BAT Effluent Limitati	ions
	Maximum for any 1 day	Maximum for monthly average
Poilutant or pollutant property	mg/off-kg (pounds pe zinc alkaline cleaned	er million off-pounds) of
Chromium Copper Cyanide Zinc	0.626 2.17 0.338 1.73	0.254 1.03 0.135 0.710

	Table 8-21 Zinc	
Saw	ing or Grinding Spent	Emulsions
, , , , , , , , , , , , , , , , , , ,	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pound zinc sawe	ls per million off-pounds) of ed or ground with emulsions
Chromium Copper Cyanide Zinc	0.009 0.031 0.005 0.025	0.004 0.015 0.002 0.010
	Table 8-22 Zinc Electrocoating Rir	180
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BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or mg/off-kg (pounds pe pollutant property zinc electrocoated		per million off-pounds) of
Chromium	0.085	0.035
Copper	0.293	0.140
Cyanide	0.046	0.019
Zinc	0.234	0.096

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.084 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

	Table 8-23	
	Zinc	
	Roning Spent Emuls	ions
	NSPS	- 5 *
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p zinc rolled with emu	er million off-pounds) of Isions
Chromium Copper Cvanide	0.0005 0.002 0.0003	0.0002 0.0009 0.0001
Zinc Oil and grease	0.002 0.014	0.0006 0.014
Total suspended solids pH	0.021 (1)	0.017 (1)

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

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	Table 8-24	
Rol	lling Contact Cooling	Water
	NSPS	
-	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe zinc rolled with conta	r million off-pounds) of act cooling water
Chromium	0.020	0.009
Copper	0.069	0.037
Cyanide	0.011	0.004
Zine	0.055	0.023
Ull and grease	0.536	0.536
Total suspended solids	0.804	0.643
рн	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 8-25	
-	Zinc	
·	Drawing Spent Emuls	lons
	NSPS	
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of ty zinc drawn with emulsions	
Chromium	0.002	0,0009
Copper	0.008	0.004
Cyanide	0.001	0,0005
Zine	0.006	0.003
Oil and grease	0.058	0.058
Total suspended solids	0.087	0.070
рн	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 8-26 Zinc	
Direct Ch	ill Casting Contact Co	ooling Water
	NSPS	
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe zinc cast by the direc	r million off-pounds) of t chill method
Chromium	0.019	0.008
Copper	0.065	0.031
Cyanide	0.010	0.004
Zíne	0.052	0.021
Oil and grease	0.505	0.505
Total suspended solids	0.758	0.606
рН	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	

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	Table 8-27	
TT (7)	Zine	1. 117 /
Heat Tr	eatment Contact Coo	bling water
-	NSPS	
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds p zinc heat treated	er million off-pounds) of
Chromium	0.029	0.012
Copper	0.098	0.047
Cyanide	0.016	0.006
Zinc	0.078	0.032
Oil and grease	0.763	0.763
Total suspended solids	1.15	U.916
рН	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 8-28	
G	Zinc face Treatment Speni	+ Dotho
Sur	lace Treatment Spen	t Baths
	NSPS	
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds p zinc surface treated	er million off-pounds) of
Chromium	0.033	0.014
Copper	0.114	0.054
Cyanide	0.018	0.007
Zine	0.091	0.038
Oil and grease	0.887	0.887
Total suspended solids	1.33	1.07
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 8-29	
	Zinc	•
	Surface Treatment R	Inse
	NSPS	
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of zinc surface treated	
Chromium	0.133	0.054
Copper	0.459	0.219
Cyanide	0.072	0.029
Zínc	0.365	0.151
Oil and grease	3.58	3.58
Total suspended solids	5.37	4.30
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	

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	Table 8-30	
A 11-	Zinc aline Cleaning Spent B	aths
	NSPS	
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or	mg/off-kg (pounds per 1	million off-pounds) of
pollutant property	zinc alkaline cleaned	
Chromium	0.002	0.0006
Conner	0.005	0.002
Cyanide	0.0007	0.0003
Zine	0 004	0 002
Oil and grease	0.036	0.036
Total sugnanded solids	0.050	0.043
nH	(1)	(1)
$\frac{1}{(1)} \frac{1}{(1)} \frac{1}$	10.0 -1 -11 41	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 8-31	
	Zinc	
	Alkaline Cleaning Rinse	9
	NODO	
	NSPS	
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or	mg/off-kg (pounds per i	million off-pounds) of
pollutant property	zinc alkaline cleaned	,,,,,,, _
Chromium	0.696	0.954
Connon	0.020	0.204
Copper	4.17	0.195
Zino	0.000	V.100 0 010
Oll and manage	100	100
On and grease	10.9	10.9
1 otal suspended solids	20.4	20.3
рн	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 8-32	
	Zinc	
Sawing	g or Grinding Spent Em	ulsions
······	NSPS	
		34 4 4
	Maximum for	Maximum for
	any I day	monthly average
Pollutant or	mg/off-kg (pounds per :	million off-pounds) of
pollutant property	zinc sawed or ground w	ith emulsions
Chromium	0.000	0.004
Corpor	0.009	0.004
Cupper	0.031	0.010
Oyanide	0.005	0.002
	0.025	0.010
Oil and grease	0.235	0.235
Total suspended solids	0.357	0.286
pH	(1)	(1)

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

	Table 8-33 Zinc Electrocoating Rinse	3
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe zinc electrocoated	r million off-pounds) of
Chromium Copper Cyanide Zinc Oil and grease	0.085 0.293 0.046 0.234 2.29	0.035 0.140 0.019 0.096 2.29
Total suspended solids nH	3.44 (1)	2.75 (1)

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

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.086 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 limitations set forth in s. NR 273.083.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

Subchapter IX — Zirconium-Hafnium

NR 273.09 Applicability; description of the zirconium-hafnium subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from zirconium-hafnium forming.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.091 Discharge prohibitions. (1) Any facility subject to this subchapter may not discharge process wastewater pollutants from the following sources:

- (a) Rolling spent neat oils;
- (b) Drawing spent lubricants;
- (c) Extrusion spent emulsions;
- (d) Swaging spent neat oils;
- (e) Wet air pollution control scrubber blowdown;
- (f) Degreasing spent solvents;
- (g) Degreasing rinse; and
- (h) Swaging or grinding spent neat oils.

(2) TUBE REDUCING SPENT LUBRICANTS. (a) Tube reducing spent lubricant process wastewater pollutants may not be discharged, except as provided in par. (b).

(b) Tube reducing spent lubricant process wastewater pollutants may be discharged, with no allowance for any pollutants discharged, if the facility owner or operator demonstrates according to pars. (c), (d), (e), and (f) that the concentrations of nitrosamine compounds in the discharged wastewater do not exceed the following levels:

Maximum Concentration
0.050 mg/l
0.020 mg/l
0.020 mg/l

(c) For the demonstration required by par. (b), the facility owner or operator shall use the analytical methods approved by ch. NR 219, Table C.

(d) The demonstration required by par. (b) shall be made once per month until the demonstration has been made for all 3 nitrosamine compounds for 6 consecutive months. After this time, the demonstration may be made once per quarter. If a sample is found to contain any of the 3 nitrosamine compounds at concentrations greater than those specified in par. (b), the actions set forth in par. (e) shall be taken and the demonstration required by par. (b) shall be made once per month until it has been made for all 3 nitrosamine compounds for 6 consecutive months.

(e) If sampling results show that any of the 3 nitrosamine compounds is present in the process wastewater at concentrations greater than those set forth in par. (b), the facility owner or operator shall ensure that starting within 30 days of receiving written notification of the sampling results no tube reducing spent lubricant wastewater is discharged until one of the following conditions is met:

1. The owner or operator performs a subsequent analysis which demonstrates that the concentrations of 3 regulated nitrosamine compounds do not exceed the levels set forth in par. (b); or

2. The owner or operator substitutes a new tube reducing lubricant and thereafter complies with the requirements of par. (d); or

3. Determines the source of the pollutants whose concentration exceeded the level set forth in par. (b) and demonstrates to the satisfaction of the permit issuing authority that the source has been eliminated.

(f) The concentration limits specified in par. (b) apply at the point of discharge from the tube reducing process. However, sampling after the tube reducing wastewater has been commingled with other wastewaters is permitted if 2 conditions are met:

1. Any dilution caused by the other wastewaters is accounted for when determining the appropriate allowable discharge concentration; and

2. An analytical method of sufficient sensitivity is used to measure the levels of each of the 3 nitrosamine compounds in the wastewater being sampled.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

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NR 273.092 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 C.F.R. ss. 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 Zirconium-Hafnium Extrusion Press Hydraulic Fluid Leakage BPT Effluent Limitations				
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of zirconium-hafnium extruded			
Chromium Cyanide Nickel Ammonia Fluoride Oil and grease Total suspended solids pH	$\begin{array}{c} 0.104 \\ 0.069 \\ 0.455 \\ 31.6 \\ 14.1 \\ 4.74 \\ 9.72 \\ (1) \end{array}$	$\begin{array}{c} 0.043 \\ 0.029 \\ 0.301 \\ 13.9 \\ 6.26 \\ 2.85 \\ 4.62 \\ (1) \end{array}$		

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

Table 9-2 Zirconium-Hafnium Heat Treatment Contact Cooling Water **BPT Effluent Limitations** Maximum for Maximum for any 1 day monthly average Pollutant or mg/off-kg (pounds per million off-pounds) of zirconium-hafnium heat treated pollutant property Chromium 0.0620.151 Cyanide Nickel 0.1000.041 0.659 0.436Ammonia 45.7 20.1Fluoride 20.4 9.06 Oil and grease 6.86 4,12 Total suspended solids 6.69 14.1 pН (1)(1)

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

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Suri	Table 9-3 Zirconium-Hafniu face Treatment Spen	m t Baths
I	3PT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of zirconium-hafnium surface treated	
Chromium Cyanide Nickel Ammonia Fluoride Oil and grease Total suspended solids pH (1) Within the range of 7.5 to	0.150 0.099 0.653 45.3 20.3 6.80 14 (1) 10.0 at all times	$\begin{array}{c} 0.061 \\ 0.041 \\ 0.432 \\ 20 \\ 8.98 \\ 4.08 \\ 6.63 \\ (1) \end{array}$
٤	Table 9-4 Zirconium-Hafniu: Surface Treatment R	m Linse
I	BPT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of zirconium-hafnium surface treated	
Chromium Cyanide Nickel Ammonia	3.91 2.58 17.1 1,190	$ 1.60 \\ 1.07 \\ 11.3 \\ 521 $
Fluoride Oil and grease Total suspended solids pH	529 178 364 (1)	235 107 173 (1)

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

pH

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Table 9-5 Zirconium-Hafnium Alkaline Cleaning Spent Baths				
BPT Effluent Limitations				
	Maximum for any 1 day	Maximum for monthly average		
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of zirconium-hafnium alkaline cleaned			
Chromium Cyanide Nickel Ammonia Fluoride Oil and grease Total suspended solids pH (1) Within the range of 7.5 to	0.704 0.464 3.07 214 95.2 32 65.6 (1) 10.0 at all times Table 9-6	$\begin{array}{c} 0.288\\ 0.192\\ 2.03\\ 93.8\\ 42.3\\ 19.2\\ 31.2\\ (1)\end{array}$		
Table 9-6 Zirconium-Hafnium Alkaline Cleaning Rinse				
BPT Effluent Limitations				
	Maximum for any 1 day	Maximum for monthly average		
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of zirconium-hafnium alkaline cleaned			
Chromium Cyanide Nickel Ammonia Fluoride	$13.8 \\ 9.11 \\ 60.3 \\ 4,190 \\ 1,870 \\ 600 \\ 1,870 \\ 1$	5.65 3.77 39.9 1,840 829 977		
Total suspended solids pH	628 1,290 (1)	613 (1)		

(1) Within the range of 7.5 to 10.0 at all times
	Table 9-7 Zirconium-Hafnium	
Sawin	g or Grinding Spent Em	ulsions
]	BPT Effluent Limitation	s
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per 1 zirconium-hafnium saw emulsions	nillion off-pounds) of ed or ground with
Chromium	0.124	0.051
Njekol	0.082	0.034
Ammonia	37.5	16.5
Fluoride	16.7	7.42
Oil and grease	5.62	3.37
Total suspended solids	11.5	5.48
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 9-8 Zirconium-Hafnium Molten Salt Rinse	
]	BPT Effluent Limitation	S
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per i zirconium-hafnium trea	million off-pounds) of ated with molten salt
Chromium	3,33	1.360
Cyanide	2,20	0.907
Nickel	14.5	9.60
Ammonia	1,010	443
Fluoride	450	200
Ull and grease	101	9U.7 140
nH	(1)	(1)
hu	(1)	(1)

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

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	Table 9-9 Zirconium-Hafnium Sawing or Grinding Contact Cooling Water	
.]	BPT Effluent Limitation	18
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per zirconium-hafnium saw tact cooling water	million off-pounds) of ved or ground with con-
Chromium Cyanide	0.142 0.093	0.058 0.039
Nickel Ammonia Eluorido	0.617 42.8 6.49	0.408 18.8
Oil and grease Total suspended solids	13.2 9.72	3.85 6.26
pH (1) Within the range of 7.5 to	(1) 10.0 at all times	(1)

Table 9-10
Zirconium-Hafnium
Sawing or Grinding Rinse

X	sawing or or monig r	WHDE .
BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p sawed or ground zir	per million off-pounds) of conium-hafnium rinsed
Chromium Cyanide	0.792 0.522	0.324 0.216
Nickel Ammonia Fluoride	8.46 240 107	2.29 106 47.5
Oil and grease Total suspended solids	36 73.8	21.6 35.1
ъH	(1)	(1)

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

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Table 9-11 Zirconium-Hafnium Inspection and Testing Wastewater		
	BPT Effluent Limita	itions
· · ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds) zirconium-hafnium	per million off-pounds) of tested
Chromium Cyanide Nickel Ammonia Fluoride Oil and grease Total suspended solids pH	$\begin{array}{c} 0.007 \\ 0.005 \\ 0.030 \\ 2.06 \\ 0.917 \\ 0.308 \\ 0.632 \\ (1) \end{array}$	$\begin{array}{c} 0.003 \\ 0.002 \\ 0.020 \\ 0.903 \\ 0.407 \\ 0.185 \\ 0.301 \\ (1) \end{array}$

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

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History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.093 Effluent limitations representing the degree of effluent reduc-tion attainable by the application of the best available technology economi-cally achievable. Except as provided in 40 C.F.R. ss. 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the fol-lowing effluent limitations representing the degree of effluent reduction attainable by application of BAT:

Table 9-12 Zirconium-Hafnium Extrusion Press Hydraulic Fluid Leakage		
BAT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds) zirconium-hafnium	per million off-pounds) of extruded
Chromium Cvanide	0.104	0.043
Nickel	0.455	0.301
Fluoride	14.1	6.26

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Heat	Table 9-13 Zirconium-Hafnia Treatment Contact C	um ooling Wotor
	BAT Effluent Limita	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds zirconium-hafnium	per million off-pounds) of heat treated
Chromium Cyanide Nickel Ammonia Fluoride	0.015 0.010 0.066 4.57 2.04	0.006 0.004 0.044 2.01 0.906
ŝ	Table 9-14 Zirconium-Hafnig Surface Treatment Spe	um nt Baths
	BAT Effluent Limits	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of zirconium-hafnium surface treated	
Chromium Cyanide Nickel Ammonia Fluoride	0.150 0.099 0.653 45.3 20.3	0.061 0.041 0.432 20.0 8.98
	Table 9-15 Zirconium-Hafniy Surface Treatment	um Rinse
	BAT Effluent Limits	ations
£1144	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds zirconium-hafnium	per million off-pounds) of surface treated
Chromium Cyanide Nickel Ammonia Fluoride	$\begin{array}{r} 0.391 \\ 0.258 \\ 1.71 \\ 119 \\ 52.9 \end{array}$	0.160 0.107 1.13 52.1 23.5

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l	Table 9-16 Zirconium-Hafniu Alkaline Cleaning Sper	ım at Baths
	BAT Effluent Limita	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of zirconium-hafnium alkaline cleaned	
Chromium Cyanide Nickel Ammonia	0.704 0.464 3.07 214 25 2	0.288 0.192 2.03 93.8
Fluoride	95.2	42.3

	Table 9-17 Zirconium-Hafnir Alkaline Cleaning F	ım Linse
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of zirconium-hafnium alkaline cleaned	
Chromium Cyanide Nickel	1.38 0.911 6.03	0.565 0.377 3.99
Ammonia Fluoride	419 187	184 82.9

Table 9-18 Zirconium-Hafnium Sawing or Grinding Spent Emulsions

	BAT Effluent Limita	ations
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of zirconium-hafnium sawed or ground with emulsions	
Chromium	0.124	0.051
Cyanide	0,082	0.034
Nickel	0.540	0.357
Ammonia	37.5	16.50
Fluoride	16.7	7.42

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	Table 9-19 Zirconium-Hafniu	m
	Molten Salt Rins	e
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds 1 zirconium-hafnium	per million off-pounds) of treated with molten salt
Chromium Cyanide Nickel Ammonia Fluoride	0.333 0.220 1.45 101 45.0	0.136 0.091 0.960 44.3 20.0
	Table 9-20 Zirconium-Hafniu Sawing or Grindir Contact Cooling Wi	m 1g ater
	BAT Effluent Limita	tions
J	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p zirconium-hafnium tact cooling water	per million off-pounds) of sawed or ground with con-
Chromium Cyanide Nickel Ammonia Fluoride	0.142 0.093 0.617 42.8 19.1	0.058 0.039 0.408 18.8 8.48
	Table 9-21 Zirconium-Hafniu Sawing or Grinding I	m Rinse
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds I sawed or ground zir	per million off-pounds) of conium-hafnium rinsed
Chromium Cyanide Nickel Ammonia Fluoride	0.079 0.052 0.346 24.0 10.7	0.033 0.022 0.229 10.6 4.75

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Table 9-22 Zirconium-Hafnium Inspection Testing Wastewater		
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of zirconium-hafnium tested	
Chromium Cyanide Nickel Ammonia Fluoride	0.007 0.005 0.030 2.06 0.917	0.003 0.002 0.020 0.903 0.407

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

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NR 273.094 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Table 9-23 Zirconium-Hafnium Extrusion Press Hydraulic Fluid Leakage			
	NSPS		
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of zirconium-hafnium extruded		
Chromium Cyanide Nickel Ammonia Fluoride Oil and grease Total suspended solids pH	$\begin{array}{c} 0.104\\ 0.069\\ 0.455\\ 31.6\\ 14.1\\ 4.74\\ 9.72\\ (1)\end{array}$	$\begin{array}{c} 0.043 \\ 0.029 \\ 0.301 \\ 13.9 \\ 6.26 \\ 2.85 \\ 4.62 \\ (1) \end{array}$	

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

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Heat Tr	Table 9-24 Zirconium-Hafniur reatment Contact Co	m oling Water
	NSPS	
· · ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of zirconium-hafnium heat treated	
Chromium	0.015	0,006
Cyanide	0.010	0.004
Nickel	0.066	0.044
Ammonia	4.57	2.01
Fluoride	2.04	0.906
Oil and grease	0.686	0.412
Total suspended solids	1.41	0.669
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
Sur	Table 9-25 Zirconium-Hafniui face Treatment Spen	m t Baths

	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or mg/off-kg (pounds per million off-pounds pollutant property zirconium-hafnium surface treated		per million off-pounds) of surface treated
Chromium Cyanide Nickel Ammonia Fluoride Oil and grease Total suspended solids	$\begin{array}{c} 0.150 \\ 0.099 \\ 0.653 \\ 45.3 \\ 20.0 \\ 6.80 \\ 14.0 \\ 14.0 \end{array}$	$\begin{array}{c} 0.061 \\ 0.041 \\ 0.432 \\ 20.0 \\ 8.98 \\ 4.08 \\ 6.63 \\ (1) \end{array}$

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

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ş	Table 9-26 Zirconium-Hafniu Surface Treatment F	m Linse
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p zirconium-hafnium	per million off-pounds) of surface treated
Chromium Cyanide Nickel Ammonia Fluoride Oil and grease Total suspended solids pH	$\begin{array}{r} 0.391 \\ 0.258 \\ 1.71 \\ 119 \\ 52.9 \\ 17.8 \\ 36.4 \\ (1) \end{array}$	$\begin{array}{c} 0.160\\ 0.107\\ 1.13\\ 52.1\\ 23.5\\ 10.7\\ 17.3\\ (1)\end{array}$
Alk	Table 9-27 Zirconium-Hafniu aline Cleaning Spen	m t Baths
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of zirconium-hafnium alkaline cleaned	
Chromium Cyanide Nickel Ammonia	0.704 0.464 3.07 214	0.288 0.192 2.03 93.8
Fluoride Oil and grease Total suspended solids pH	$95.2 \\ 32.0 \\ 65.6 \\ (1)$	42.3 19.2 31.2 (1)

Tot pH

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

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	Table 9-28 Zirconium-Hafniu Alkaline Cleaning R	m inse
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p zirconium-hafnium	per million off-pounds) of alkaline cleaned
Chromium Cyanide Nickel Ammonia Fluoride Oil and grease Total suspended solids pH (1) Within the range of 7.5 to	1.38 0.911 6.03 419 187 62.8 129 (1) 10.0 at all times Table 9-29	$\begin{array}{c} 0.565\\ 0.377\\ 3.99\\ 184\\ 82.9\\ 37.7\\ 61.3\\ (1)\end{array}$
Sawin	Zirconium-Hafniu g or Grinding Spent	m Emulsions
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds g zirconium-hafnium emulsions	per million off-pounds) of sawed or ground with
Chromium Cyanide Nickel Ammonia	0.124 0.082 0.540 37.5	$\begin{array}{c} 0.051 \\ 0.034 \\ 0.357 \\ 16.50 \end{array}$
Fluoride Oil and grease Total suspended solids pH	$16.7 \\ 5.62 \\ 11.5 \\ (1)$	7.42 3.37 5.48 (1)

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

250-255 NR 273

	Table 9-30 Zirconium-Hafnium Molten Salt Rinse	
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per i zirconium-hafnium trea	million off-pounds) of sted with molten salt
Chromium Cyanide Nickel Ammonia Fluoride	0.333 0.220 1.45 101 45.0	0.136 0.091 0.960 44.3 20.0
Oil and grease Total suspended solids pH	15.1 31.0 (1)	9.07 14.8 (1)
	Table 9-31 Zirconium-Hafnium Sawing or Grinding Contact Cooling Water	
·	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per 1 zirconium-hafnium saw tact cooling water	million off-pounds) of ed or ground with con-
Chromium Cyanide Nickel Ammonia Fluoride	0.142 0.093 0.617 42.8 19.1	0.058 0.039 0.408 18.8 8.48
Oil and grease Total suspended solids pH	6.42 13.2 (1)	3.85 6.26 (1)

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

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Table 9-32 Zirconium-Hafnium Sawing or Grinding Rinse		
· · · · · · · · · · · · · · · · · · ·	NSPS	
• • • • • • • • • • • • • • • • • • •	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of sawed or ground zirconium-hafnium rinsed	
Chromium Cyanide Nickel Ammonia Fluoride Oil and grease Total suspended solids pH	$\begin{array}{c} 0.079\\ 0.052\\ 0.346\\ 24.0\\ 10.7\\ 3.60\\ 7.38\\ (1)\end{array}$	$\begin{array}{c} 0.033\\ 0.022\\ 0.229\\ 10.6\\ 4.75\\ 2.16\\ 3.51\\ (1)\end{array}$

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

Table 9-33	
Zirconium-Hafnium	1

Inspection Testing Wastewater

	NSPS		
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds zirconium-hafnium	g (pounds per million off-pounds) of m-hafnium tested	
Chromium	0.007	0.003	
Cyanide	0.005	0.002	
Nickel	0.030	0,020	
Ammonia	2.06	0.903	
Fluoride	0.917	0.407	
Oil and grease	0,308	0.185	
Total suspended solids	0.632	0.301	
pH	(1)	(1)	

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

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.095 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 273.093.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.096 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 273.093.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90. Register, September, 1990, No. 417

250-257 NR 273

Subchapter X — The Metal Powders

NR 273.10 Applicability; description of the metal powders subcategory. This subchapter applies to the discharge of pollutants to waters of the state and the introduction of pollutants into POTWs from metal powders forming.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.101 Discharge prohibitions. Any facility subject to this subchapter may not discharge process wastewater pollutants from the following sources:

(1) Oil-resin impregnation wastewater;

(2) Sawing or grinding spent neat oils; and

(3) Degreasing spent solvents.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.102 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 C.F.R. ss. 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

Metal Powde	Metal Powders r Production Atomizati	on Wastewater
	BPT Effluent Limitation	ns
· ·	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of powder wet atomized	
Copper Cyanide Lead Oil and grease Total suspended solids pH	9.58 1.46 2.12 101 207 (1)	5.04 0.605 1,01 60.5 98.3 (1)

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

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NR 273		
	Table 10-2 Metal Powders Sizing Spent Emulsio	ns
	3PT Effluent Limitati	ons
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe powder sized	r million off-pounds) of
Copper Cyanide Lead Oil and grease Total suspended solids pH	0.028 0.004 0.006 0.292 0.599 (1)	$\begin{array}{c} 0.015\\ 0.002\\ 0.003\\ 0.175\\ 0.285\\ (1)\end{array}$
Wet Air Po	Table 10-3 Metal Powders Steam Treatment Illution Control Scrub BPT Effluent Limitati	ber Blowdown ons
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds pe powder metallurgy p	er million off-pounds) of arts steam treated
Copper Cyanide Lead Oil and grease Total suspended solids pH	$\begin{array}{c} 1.51 \\ 0.230 \\ 0.333 \\ 15.9 \\ 32.5 \\ (1) \end{array}$	$\begin{array}{c} 0.792 \\ 0.095 \\ 0.159 \\ 9.51 \\ 15.5 \\ (1) \end{array}$
(1) Within the range of 7.5 to Tumbling, I	10.0 at all times Table 10-4 Metal Powders Burnishing, and Clean	ing Wastewater
	BPT Effluent Limitat	ions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds po powder metallurgy p or cleaned	er million off-pounds) of parts tumbled, burnished,
Copper Cyanide Lead Oil and grease Total suspended solids pH	8.36 1.28 1.85 88.0 181 (1)	4.40 0.528 0.880 52.800 85.8 (1)

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

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		NR 210
	Table 10-5	
Sourin	Metal Powders a or Crinding Sport Emi	alaiona
Samin	DT Effuent Limitation	
	BF1 Emuent Limitation	<u>s</u>
	any 1 day	monthly average
Pollutant or	mg/off-kg (nounds per r	nillion off-nounds) of
pollutant property	powder metallurgy part emulsion	s sawed or ground with
Copper	0.035	0.018
Cyanide	0.005	0.002
Lead	0.008	0.004
Oil and grease	0.362	0.217
Total suspended solids	0.742	0.358
рн	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 10-6 Metal Powders Sawing or Grinding	
	Contact Cooling Water	
]	BPT Effluent Limitation	8 .
	Maximum for	Maximum for
	any 1 day	monthly average
Pollutant or pollutant property	mg/off-kg (pounds per r powder metallurgy part contact cooling water	nillion off-pounds) of s sawed or ground with
Copper	3.08	1.62
Cvanide	0.470	0.195
Lead	0.681	0.324
Oil and grease	32.4	19.5
Total suspended solids	66.4	31.6
pH	(1)	(1)
(1) Within the range of 7.5 to	10.0 at all times	
	Table 10-7 Metal Powders Hot Pressing Contact Cooling Water	
]	BPT Effluent Limitation	S
Santa Anna an	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per r powder cooled after pre	nillion off-pounds) of ssing
Copper	16.7	8.80
Cyanide	2.55	1.06
Lead	3.70	1.76
Oil and grease	176	106
Total suspended solids	361	172
pH	(1)	(1)

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

Table 10-8 Metal Powders Mixing Wet Air Pollution Control Scrubber Blowdown		
BPT Effluent Limitations		
Maximum for any 1 day	Maximum for monthly average	
mg/off-kg (pounds powder mixed	per million off-pounds) of	
15.0 2.29 3.32 158 324	7.90 0.948 1.58 94.8 154	
	Table 10-8 Metal Powders Mixing Ilution Control Scru BPT Effluent Limita Maximum for any 1 day mg/off-kg (pounds powder mixed 15.0 2.29 3.32 158 324 (1)	

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

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.103 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 C.F.R. ss. 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	e 10-9
Metal I	Powders

Metal Pow	der Production Atomiz	ation Wastewater
	BAT Effluent Limita	tions
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds) powder wet atomiz	per million off-pounds) of ed
Copper Cyanide Lead	9.58 1.46 2,12	5.04 0.605 1.01
	Table 10-10 Metal Powders Sizing Spent Emuls	ions
	BAT Effluent Limita	tions
	36 1 4 .	36.1.6

	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds p powder sized	per million off-pounds) of
Copper	0.028	0.015
Cyanide	0.004	0.002
Lead	0.006	0.003

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Wet Air	Table 10-11 Metal Powders Steam Treatmer Pollution Control Scru	nt abber Blowdown	
	BAT Effluent Limita	ations	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds powder metallurgy	mg/off-kg (pounds per million off-pounds) of powder metallurgy parts steam treated	
Copper Cyanide Lead	1,51 0.230 0,333	0.792 0.095 0.159	
Tumbling	Table 10-12 Metal Powders Burnishing, and Clea	ning Wastewater	
	BAT Effluent Limita	ations	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds powder metallurgy or cleaned	per million off-pounds) of parts tumbled, burnished,	
Copper Cyanide Lead	8.36 1.28 1.85	4.40 0.528 0.880	
Saw	Table 10-13 Metal Powders ing or Grinding Spent	Emulsions	
	BAT Effluent Limita	ations	
	Maximum for any 1 day	Maximum for monthly average	
Pollutant or pollutant property	mg/off-kg (pounds powder metallurgy emulsion	per million off-pounds) of parts sawed or ground with	
Copper Cyanide Lead	0.035 0.005 0.008	0.018 0.002 0.004	

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	Table 10-14 Metal Powders Sawing or Grinding	
	BAT Effluent Limitatio	ר פמ
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per powder metallurgy par contact cooling water	million off-pounds) of ts sawed or ground with
Copper Cyanide Lead	3.08 0.470 0.681	1.62 0.195 0.324
	Table 10-15 Metal Powders Hot Pressing Contact Cooling Wate	r
	BAT Effluent Limitatio	ns
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per powder cooled after pr	million off-pounds) of essing
Copper Cyanide Lead	16.7 2.55 3.70	8.80 1.06 1.76
Wet Ain	Table 10-16 Metal Powders Mixing	n Blaudaun
wet Air	BAT Effluent Limitatio	ne ne
<u> </u>	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per powder mixed	million off-pounds) of
Copper Cyanide Lead	15.0 2.29 3.32	7.90 0.948 1.58

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.104 New source performance standards. Any new source subject to this subchapter shall achieve the following standards:

Metal Powder	Table 10-17 Metal Powders Production Atomizat	ion Wastewater
	NSPS	
Service of the Service Se	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per powder wet atomized	million off-pounds) of
Copper Cyanide Lead Oil and grease Total suspended solids pH	9.58 1.46 2.12 101 207 (1)	5.04 0.605 1.01 60.5 98.3 (1)
(1) Within the range of 7.5 to	10.0 at all times Table 10-18 Metal Powders Sizing Spent Emulsior	18
····	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per powder sized	million off-pounds) of
Copper Cyanide Lead Oil and grease Total suspended solids pH	$\begin{array}{c} 0.028 \\ 0.004 \\ 0.006 \\ 0.292 \\ 0.599 \\ (1) \end{array}$	$\begin{array}{c} 0.015\\ 0.002\\ 0.003\\ 0.175\\ 0.285\\ (1)\end{array}$
(1) Within the range of 7.5 to	10.0 at all times	
Wet Air Po	Table 10-19 Metal Powders Steam Treatment Ilution Control Scrubb	er Blowdown
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per powder metallurgy pa	r million off-pounds) of arts steam treated
Copper Cyanide Lead Oil and grease Total suspended solids pH	$\begin{array}{c} 0.151 \\ 0.023 \\ 0.038 \\ 1.59 \\ 3.25 \\ (1) \end{array}$	0.079 0.010 0.016 0.951 1.55 (1)

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

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	Table 10-20	
	Metal Powders	777
Tumbling, B	urnishing, and Cleaning	Wastewater
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per r powder metallurgy part or cleaned	nillion off-pounds) of is tumbled, burnished,
Copper Cyanide Lead Oil and grease Total suspended solids pH	0.836 0.128 0.185 8.80 18.1 (1)	$\begin{array}{c} 0.440 \\ 0.053 \\ 0.088 \\ 5.28 \\ 8.58 \\ (1) \end{array}$
(1) Within the range of 7.5 to	10.0 at all times	· · · · · · · · · · · · · · · · · · ·
Sawin	Table 10-21 Metal Powders g or Grinding Spent Em	ulsions
	Noro	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per 1 powder metallurgy part emulsion	nillion off-pounds) of is sawed or ground with
Copper Cyanide Lead Oil and grease Total suspended solids pH	0.035 0.005 0.008 0.362 0.742 (1)	$\begin{array}{c} 0.018 \\ 0.002 \\ 0.004 \\ 0.217 \\ 0.353 \\ (1) \end{array}$
$\frac{r}{(1)}$ Within the range of 7.5 to	10.0 at all times	<u></u>
	Table 10-22 Metal Powders Sawing or Grinding Contact Cooling Water	
	NSPS	
-	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (pounds per 1 powder metallurgy par contact cooling water	million off-pounds) of ts sawed or ground with
Copper Cyanide Lead Oil and grease Total suspended solids pH	$\begin{array}{r} 3.08 \\ 0.470 \\ 0.681 \\ 32.4 \\ 66.4 \\ (1) \end{array}$	$1.62 \\ 0.195 \\ 0.324 \\ 19.5 \\ 31.6 \\ (1)$

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

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· .	Table 10-2 Metal Powe Hot Pressi Contact Cooling	23 lers ng 5 Water
	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg/off-kg (poun powder cooled a	ds per million off-pounds) of fter pressing
Copper Cyanide Lead Oil and grease Total suspended solids pH	$\begin{array}{c} 1.67\\ 0.255\\ 0.370\\ 17.6\\ 36.1\\ (1)\end{array}$	0.880 0.106 0.176 10.6 17.2 (1)
(1) Within the range of 7.5 to	10.0 at all times	
Mixing Wet Ai	Table 10-2 Metal Powe r Pollution Cont	24 Jers rol Scrubber Blowdown
· · · · · · · · · · · · · · · · · · ·	NSPS	
	Maximum for any 1 day	Maximum for monthly average
TS 11 ()	1 6 1 1	1

Pollutant or pollutant property	mg/off-kg (pounds per million off-pounds) of powder mixed	
Copper	15.0	7.90
Cyanide	2.29	0.948
Lead	3.32	1.58
Oil and grease	158	94.8
Total suspended solids	324	154
pH	(1)	(1)

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

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History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.105 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 273.103.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

NR 273.106 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 273.103.

History: Cr. Register, September, 1990, No. 417, eff. 10-1-90.

Note: The Wisconsin administrative code corresponds to the code of federal regulations as cross referenced in the following table:

State Code	Corresponding Federal Regulation
s. NR 205.03	40 C.F.R. s. 401.11
s. NR 205.04	40 C.F.R. s. 401.11
ch. NR 211	40 C.F.R. Part 403
s. NR 211.03	40 C.F.R. s. 403.3
s. NR 211.13	40 C.F.R. s. 403.7
s. NR 211.14	40 C.F.R. s. 403.13
ch. NR 219	40 C.F.R. Part 136
ch, NR 256	40 C.F.R. Part 464
ch. NR 260	40 C.F.R. Part 413
ch. NR 261	40 C.F.R. Part 433
ch. NR 273	40 C.F.R. Part 471
ch. NR 274	40 C.F.R. Part 421