CR 85-205

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Carroll D. Besadny
Secretary

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STATE OF WISCONSIN)
) ss
DEPARTMENT OF NATURAL RESOURCES)

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TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETINGS:

I, Bruce B. Braun, Deputy Secretary of the Department of Natural Resources and custodian of the official records of said Department, do hereby certify that the annexed copy of Natural Resources Board Order No. WW-7-86 was duly approved and adopted by this Department on May 29, 1986. I further certify that said copy has been compared by me with the original on file in this Department and that the same is a true copy thereof, and of the whole of such original.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the official seal of the Department at General Executive Facility #2 in the City of Madison, this 16th day of July, 1986.

Bruce B. Braun

Bruce B. Braun, Deputy Secretary

(SEAL)

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ORDER OF THE STATE OF WISCONSIN
NATURAL RESOURCES BOARD REPEALING
AND RECREATING RULES

IN THE MATTER of creating ch. NR 270 of the Wisconsin Administrative Code pertaining to the effluent limitations and pretreatment standards for the ore mining and dressing industry.	WW-7-86

Analysis Prepared by Department of Natural Resources

The Federal Water Pollution Control Act Amendments of 1972 established a comprehensive program to "restore and maintain the chemical, physical and biological integrity of the Nation's waters" (Section 101(a)). To implement the Act, the U.S. Environmental Protection Agency issued effluent limitations guidelines, pretreatment standards, and new source performance standards for industrial dischargers. The Clean Water Act of 1977 expanded on the federal program of pollution control by setting different types of effluent limitations, "best practicable technology" (BPT), "best available technology" (BAT), "best conventional technology" (BCT), "new source performance standards" (NSPS), "pretreatment standards for existing sources" (PSES), and "pretreatment standards for new sources" (PSNS). The Clean Water Act stressed control of toxic pollutants, including 65 "priority" pollutants and classes of pollutants in 21 major industries.

The state of Wisconsin department of natural resources instituted the Wisconsin Pollutant Discharge Elimination System in 1976. This system included regulation of effluent discharges in various industries. The provisions of this chapter were based on the regulations of the Environmental Protection Agency in 40 C.F.R. Part 440.

The purpose of the creation of this rule is to specify effluent limitations for BPT, BAT, BCT, NSPS for direct dischargers. The effect of the creation of ch. NR 270, Wis. Adm. Code will be to clarify standards and provisions of effluent limitations in the ore mining and dressing industry. This will reflect changes made by the Environmental Protection Agency under the authority of Sections 301, 304, 306, 307, 308 and 501 of the Clean Water Act.

The ore mining and dressing category includes facilities that mine ores to produce metallic products and mills that process the ore in dressing and beneficiating operations. Mining is defined as the extraction of metal ores from natural deposits, and includes the recovery of metal ores from refuse and storage piles derived from the actual mining or concentration of metal ores. The four principal methods of mining metal ores are underground chamber mining, open cut or surface mining, in situ or leaching solution mining, and placer or dredge mining. The metal ore is processed in dressing and beneficiating operations which separate the metal bearing minerals from gangue, rock waste product, by crushing the metal ore and recovering a concentrate higher in metal content.

Subcategorization in the ore mining and dressing category is on the basis of the type of ore, which is further subdivided into mine and mill point sources and, in some cases, according to the type of beneficiation process employed. The ore mineralogy often determines the beneficiation process used, and both of these factors often determine the characteristics of the waste stream, the treatment technologies to be employed, and the effectiveness of a particular treatment method. Therefore, subcategorization is based on ore mineralogy and the type of beneficiation processes. Where metals are found in the ore in conjunction with one another and are recovered through similar beneficiation processes, the metal ores are grouped into one subcategory. Each subcategory is subdivided based on whether the discharger is a mine or a mill, because mine water flow varies considerably and contains less pollutants than mill process water. Where the mill beneficiation process used, such as floatation processes, significantly changes the character of the effluent, the subcategories are further subdivided according to the type of beneficiation process. Four subcategories are also subdivided based on whether more or less than 5,000 tons of ore per year is processed.

Pretreatment standards are not being issued for the ore mining and dressing category since no known indirect dischargers exist, and there are not any known to be planned. Complexes, facilities where mine or mill wastewater is combined with smelter or refinery wastewater and treated in common, are regulated by the EPA regional offices rather than under this chapter because of the individuality of the systems. This rule provides for a storm exemption which grants relief from excess discharges which occur during and immediately after any precipitation or snowmelt. It is a limited exception to the requirements applicable to mines and mills under normal operating conditions.

Technical information and more detailed analysis may be located in 4 federal publications. Costs and economic impacts of the technology options considered for new sources are discussed in detail in Economic Analysis of New Source Performance Standards for the Ore Mining and Dressing Industry. The economic analysis for existing sources is discussed in the Economic Impact Analysis of Promulgated BAT Effluent Limitations Guidelines for the Ore Mining and Dressing Point Source Category. A description of the EPA's study methodology, data gathering efforts and analytical procedures supporting the rule may be found in the Development Document for Final Effluent Limitations Guidelines and New Source Performance Standards for the Ore Mining and Dressing Point Source Category (EPA 440/1-82/061, November 1982). Copies of the Economic Impact Analysis and the Development Document are available for inspection at the central office of the Department of Natural Resources, the Secretary of State's office, and the office of the Revisor of Statutes. Analytical methods are discussed in Sampling and Analysis Procedures for Screening of Industrial Effluent for Priority Pollutants. Copies of all 4 federal technical publications may be obtained for personal use from the National Technical Information Service, Springfield, Virginia 22161, (703)487-4600.

The proposed rule is identical to 40 C.F.R. Part 466 under s. 227.024(1m), Stats. The rule uses the format and language of the federal regulations. The new format coincides with the Environmental Protection Agency regulations and makes the rule more readily usable and understood by regulating authorities, the industry, and the public. References to sections of the Code of Federal

Regulations can be cross-referenced to the proper state code in the table at the end of the rule. Through this method, both the federal and state references will be readily available, and the fewest changes possible are made to the federal code. Several changes have been made to this code as required by the Administrative Rules Procedures Manual: notes of approval by the Office of Management and Budget, the authority section, reserved sections, notes on discharge to other media, cross-references in s. NR 270.02(3) and (4), the term "10" in s. NR 270.02(9), and subpart divisions were deleted; a cross-reference section, definitions for new sources, navigable waters and existing source, and a purpose section were added; citation and definition formats and the numbering system were revised; s. NR 270.02(10) was redrafted as a definition; and ss. NR 270.102(5), 270.103(5), and 270.104(5) were redrafted as notes.

Pursuant to the authority vested in the State of Wisconsin Natural Resources Board by ss. 147.01, 147.035, 147.04, 147.06, 147.07, 227.11 and 227.14, Stats., the State of Wisconsin Natural Resources Board hereby repeals and recreates rules interpreting ss. 147.035, 147.04, 147.06 and 147.07, Stats., as follows:

SECTION 1. Chapter NR 270 is created to read:

Chapter NR 270

ORE MINING AND DRESSING

NR 270.001 PURPOSE. The purpose of this chapter is to establish effluent limitations and standards of performance for discharges of process wastes from the ore mining and dressing category of point sources and its subcategories.

NR 270.0015 APPLICABILITY. Abbreviations and methods of analysis set forth in 40 C.F.R. Part 401 shall apply to this chapter except as provided in ss. NR 270.002 and 270.003. The general provisions and definitions apply to all subcategories of this chapter unless otherwise noted.

NR 270.002 GENERAL DEFINITIONS. In addition to the definitions set forth in 40 C.F.R. Part 401, the following definitions apply to this chapter:

(1) "Active mining area" is a place where work or other activity related to the extraction, removal, or recovery of metal ore is being conducted, except, with respect to surface mines, any area of land on or in which grading has been completed to return the earth to desired contour and reclamation work has begun.

(2) "Annual precipitation" and "annual evaporation" are the mean annual precipitation and mean annual lake evaporation, respectively, as established by the U.S. Department of Commerce, Environmental Science Services Administration, Environmental Data Services, or equivalent regional rainfall and evaporation data.

(3) "Appropriate treatment of the recycle water" includes, but is not limited to pH adjustment, settling and pH adjustment, settling, and mixed media filtration.

(4) Existing source" means any source that is not a new source.

(5) "Groundwater infiltration" means that water which enters the treatment facility as a result of the interception of natural springs, aquifers, or run-off which percolates into the ground and seeps into the treatment facility's tailings pond or wastewater holding facility and that cannot be diverted by ditching or grouting the tailings pond or wastewater holding facility.

(6) "In-situ leach methods" means the processes involving the purposeful introduction of suitable leaching solutions into a uranium ore body to dissolve the valuable minerals in place and the purposeful leaching of uranium ore in a static or semistatic condition either by gravity through an open pile, or by flooding a confined ore pile. It does not include the natural dissolution of uranium by groundwaters, the incidental leaching of uranium by mine drainage, nor the rehabilitation of aquifers and the monitoring of these aquifers.

(7) "Mill" means a preparation facility within which the metal ore is cleaned, concentrated, or otherwise processed before it is shipped to the customer, refiner, smelter, or manufacturer. A mill includes all ancillary operations and structures necessary to clean, concentrate, or otherwise process metal ore, such as ore and gangue storage areas and loading facilities.

(8) "Mine" is an active mining area, including all land and property placed under, or above the surface of such land, used in or resulting from the work of extracting metal ore or minerals from their natural deposits by any means or method, including secondary recovery of metal ore from refuse or other storage piles, wastes, or rock dumps and mill tailings derived from the mining, cleaning or concentration of metal ores.

(9) "Mine drainage" means any water drained, pumped, or siphoned from a mine.

(10) "Navigable water" has the meaning designated in s. 144.26(2)(d), Stats.

(11) "New source," as defined for BPT, BAT, BCT, and NSPS, means any point source the construction of which commenced after January 17, 1983.

(12) "Ten year, 24-hour precipitation event" is the maximum 24-hour precipitation event with a probable recurrence interval of once in 10 years as established by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, or equivalent regional or rainfall probability information.

(13) "U" means uranium as measured by the procedure discussed in 40 C.F.R. s. 141.25(b)(2), or an equivalent method.

NR 270.003 GENERAL PROVISIONS. (1) COMBINED WASTE STREAMS. In the event that waste streams from various subcategories or segments of subcategories in this chapter are combined for treatment and discharge, the quantity and concentration of each pollutant or pollutant property in the combined discharge that is subject to effluent limitations may not exceed the quantity and concentration of each pollutant or pollutant property that could have been discharged had each waste stream been treated separately. In addition, the discharge flow from the combined discharge may not exceed the volume that could have been discharged had each waste stream been treated separately.

(2) STORM EXEMPTION FOR FACILITIES PERMITTED TO DISCHARGE. If, as a result of precipitation or snowmelt, a source with an allowable discharge under this chapter has an overflow or excess discharge of effluent which does

not meet the limitations of this chapter, the source may qualify for an exemption from such limitations with respect to such discharge if the following conditions are met:

(a) The facility is designed, constructed and maintained to contain the maximum volume of wastewater which would be generated by the facility during a 24-hour period without an increase in volume from precipitation and the maximum volume of wastewater resulting from a 10-year, 24-hour precipitation event or treat the maximum flow associated with these volumes. In computing the maximum volume of wastewater which would result from a 10-year, 24-hour precipitation event, the facility shall include the volume which would result from all areas contributing runoff to the individual treatment facility, i.e., all runoff that is not diverted from the active mining area and runoff which is not diverted from the mill area.

(b) The facility takes all reasonable steps to maintain treatment of the wastewater and minimize the amount of overflow.

(c) The facility complies with the notification requirements of 40 C.F.R. s. 122.41(m) and (n). The storm exemption is designed to provide an affirmative defense to an enforcement action. Therefore, the operator has the burden of demonstrating to the appropriate authority that the conditions have been met.

(3) STORM EXEMPTION FOR FACILITIES NOT PERMITTED TO DISCHARGE. If, as a result of precipitation (rainfall or snowmelt), a source which is not permitted to discharge under this chapter, has an overflow or discharge which violates the limitations of this chapter, the source may qualify for an exemption from such limitations with respect to such discharge if the following conditions are met:

(a) The facility is designed, constructed, and maintained to contain the maximum volume of wastewater stored and contained by the facility during normal operating conditions without an increase in volume from precipitation and the maximum volume of wastewater resulting from a 10-year, 24-hour precipitation event. In computing the maximum volume of wastewater which would result from a 10-year, 24-hour precipitation event, the facility shall include the volume which would result from all areas contributing runoff to the individual treatment facility, i.e., all runoff that is not diverted from the area or process subject to zero discharge, and other runoff that is allowed to commingle with the influent to the treatment system.

(b) The facility takes all reasonable steps to minimize the overflow or excess discharge.

(c) The facility complies with the notification requirements of 40 C.F.R. s. 122.41(m) and (n). The storm exemption is designed to provide an affirmative defense to an enforcement action. Therefore, the operator has the burden of demonstrating to the appropriate authority that the conditions have been met.

(4) pH ADJUSTMENT. (a) Where the application of neutralization and sedimentation technology to comply with relevant metal limitations results in an inability to comply with the pH range of 6.0 to 9.0, the permit issuer may allow the pH level in the final effluent to slightly exceed 9.0 so that the copper, lead, zinc, mercury and cadmium limitations will be achieved.

(b) In the case of a discharge into natural receiving waters for which the pH, if unaltered by human activities, is or would be less than 6.0 and approved water quality standards authorize such lower pH, the pH limitations for the discharge may be adjusted downward to the pH water quality criterion for the receiving waters provided the other effluent limitations for the discharge are met. In no case may a pH limitation below 5.0 be permitted.

(5) GROUNDWATER INFILTRATION PROVISION. In the event a new source subject to a no discharge requirement can demonstrate that groundwater infiltration contributes a substantial amount of water to the tailing impoundment or wastewater holding facility, the department may allow the discharge of a volume of water equivalent to the amount of groundwater infiltration. This discharge shall be subject to the limitations for mine drainage applicable to the new source subcategory.

NR 270.01 APPLICABILITY: DESCRIPTION OF THE IRON ORE SUBCATEGORY. The provisions of this subcategory are applicable to discharges from:

(1) Mines operated to obtain iron ore, regardless of the type of ore or its mode of occurrence; and

(2) Mills beneficiating iron ores by physical (magnetic and nonmagnetic) or chemical separation, or both.

NR 270.12 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST PRACTICABLE CONTROL TECHNOLOGY CURRENTLY AVAILABLE (BPT). Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 C.F.R. ss. 125.30-125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable after application of the best practicable control technology currently available (BPT):

(1) The concentration of pollutants discharged in mine drainage from mines operated to obtain iron ore may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Fe (dissolved)	2.0	1.0
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(2) The concentration of pollutants discharged from mills that employ physical (magnetic and nonmagnetic) or chemical methods, or both, to beneficiate iron ore may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Fe (dissolved)	2.0	1.0
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

NR 270.013 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST AVAILABLE TECHNOLOGY ECONOMICALLY ACHIEVABLE (BAT). Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 C.F.R. ss. 125.30 - 125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT):

(1) The concentration of pollutants discharged in mine drainage from mines operated to obtain iron ore may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
Fe (dissolved)	2.0	1.0

(2) The concentration of pollutants discharge from mills that employ physical (magnetic and nonmagnetic) or chemical methods, or both, to beneficiate iron ore may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
Fe (dissolved)	2.0	1.0

NR 270.014 NEW SOURCE PERFORMANCE STANDARDS (NSPS). Except as provided in ss. NR 270.0015, 270.002 and 270.003, any new source subject to this subcategory shall achieve the following NSPS representing the degree of effluent reduction attainable by the application of the best available demonstrated technology (BADT):

(1) The concentration of pollutants discharged in mine drainage from mines operated to obtain iron ore may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Fe (dissolved)	2.0	1.0
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(2) The concentration of pollutants discharged from mills that employ physical (magnetic and nonmagnetic) or chemical methods, or both, to beneficiate iron ore may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Fe (dissolved)	2.0	1.0
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

NR 270.02 APPLICABILITY: DESCRIPTION OF THE ALUMINUM ORE SUBCATEGORY. The provisions of this subcategory are applicable to discharges from facilities engaged in the mining of bauxite as an aluminum ore.

NR 270.022 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST PRACTICABLE CONTROL TECHNOLOGY CURRENTLY AVAILABLE (BPT). Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 C.F.R. ss. 125.30-125.32, any existing source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT). The concentration of pollutants discharged in mine drainage from mines producing bauxite ores may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Fe (total)	1.0	0.5
Al	2.0	1.0
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

NR 270.023 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST AVAILABLE TECHNOLOGY ECONOMICALLY ACHIEVABLE (BAT). Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 C.F.R. ss. 125.30-125.32, any existing point source subject to this subcategory shall achieve the following limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT). The concentration of pollutants discharged in mine drainage from mines producing bauxite ores may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
Fe (total)	1.0	0.5
Al	2.0	1.0

NR 270.024 NEW SOURCE PERFORMANCE STANDARDS. Except as provided in ss. NR 270.0015, 270.002 and 270.003, any new source subject to this subcategory shall achieve the following NSPS representing the degree of effluent reduction attainable by the application of the best available demonstrated technology (BADT). The concentration of pollutants discharged in mine drainage from mines producing bauxite ores may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Fe (total)	1.0	0.5
Al	2.0	1.0
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

NR 270.03 APPLICABILITY: DESCRIPTION OF THE URANIUM, RADIUM AND VANDIUM ORES SUBCATEGORY. The provisions of this subcategory are applicable to discharges from:

(1) Mines either open-pit or underground, from which uranium, radium and vanadium ores are produced; and

(2) Mills using the acid leach, alkaline leach, or combined acid and alkaline leach process for extraction of uranium, radium and vanadium. Only vanadium byproduct production from uranium ores is covered under this subcategory .

NR 270.032 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST PRACTICABLE CONTROL TECHNOLOGY CURRENTLY AVAILABLE (BPT). Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 C.F.R. 125.30-125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable after application of the best practicable control technology currently available (BPT):

(1) The concentration of pollutants discharged in mine drainage from mines either open-pit or underground, from which uranium, radium and vanadium ores are produced excluding mines using in-situ leach methods may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
COD	200.0	100.0
Zn	1.0	0.5
Ra226[1] (dissolved)	10.0	3.0
Ra226[1] (total)	30.0	10.0
U	4.0	2.0
pH	(2)	(2)

[1] Values in piocuries per liter (pCi/l).
[2] Within the range 6.0 to 9.0.

(2) The concentrations of pollutants discharged from mills using the acid leach, alkaline leach or combined acid and alkaline leach process for the extraction of uranium, radium and vanadium including mill-mine facilities and mines using in-situ leach methods may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
COD	------	500.0
As	1.0	0.5
Zn	1.0	0.5
Ra226[1] (dissolved)	10.0	3.0
Ra226[1] (total)	30.0	10.0
NH_3	------	100.0
pH	(2)	(2)

[1] Values in piocuries per liter (pCi/l).
[2] Within the range 6.0 to 9.0.

NR 270.033 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST AVAILABLE TECHNOLOGY ECONOMICALLY ACHIEVABLE (BAT). Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 C.F.R. ss. 125.30-125.32, any existing point source subject to this subcategory shall achieve the following limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT):

(1) The concentration of pollutants discharged in mine drainage from mines either open-pit or underground, that produce uranium ore, including mines using in-situ leach methods, may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
COD	200.0	100.0
Zn	1.0	0.5
Ra226[1] (dissolved)	10.0	3.0
Ra226[1] (total)	30.0	10.0
U	4.0	2.0

[1] Values in piocuries per liter (pCi/l).

NR 270.034 NEW SOURCE PERFORMANCE STANDARDS (NSPS). Except as provided in ss. NR 270.0015, 270.002 and 270.003, any new source subject to this subcategory shall achieve the following NSPS representing the degree of effluent reduction attainable by the application of the best available demonstrated technology (BADT):

(1) The concentration of pollutants discharged in mine drainage from mines, either open-pit or underground, that produce uranium ore, excluding mines using in-situ leach methods, may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
COD	200.0	100.0
Zn	1.0	0.5
Ra226[1] (dissolved)	10.0	3.0
Ra226[1] (total)	30.0	10.0
U	4.0	2.0
pH	(2)	(2)

[1] Values in piocuries per liter (pCi/l).
[2] Within the range 6.0 to 9.0.

(2)(a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable waters from mills using the acid leach, alkaline leach or combined acid and alkaline leach process for the extraction of uranium or from mines and mills using in-situ leach methods.

(b) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equivalent to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in sub. (1).

NR 270.04 APPLICABILITY: DESCRIPTION OF THE MERCURY ORE SUBCATEGORY. The provisions of this subcategory are applicable to discharges from:

(1) Mines, either open-pit or underground, that produce mercury ores; and

(2) Mills beneficiating mercury ores by gravity separation methods or by froth-flotation methods.

NR 270.042 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST PRACTICABLE CONTROL TECHNOLOGY CURRENTLY AVAILABLE (BPT). Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 C.F.R. ss. 125.30-125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable after application of the best practicable control technology currently available (BPT):

(1) The concentration of pollutants discharged in mine drainage from mines, either open-pit or underground, operated for the production of mercury ores may not exceed the following limitations:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Hg	0.002	0.001
Ni	0.2	0.1
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(2)(a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable waters from mills beneficiating mercury ores by gravity separation methods or by froth flotation methods.

(b) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equivalent to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in par. (a).

NR 270.043 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST AVAILABLE TECHNOLOGY ECONOMICALLY ACHIEVABLE (BAT). Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 C.F.R. ss. 125.30-125.32, any existing point source subject to this subcategory shall achieve the following limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT):

(1) The concentration of pollutants discharged in mine drainage from mines either open pit or underground, that produce mercury ores may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
Hg	0.002	0.001

(2)(a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable waters from mills beneficiating mercury ores by gravity separation methods or by froth-flotation methods.

(b) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equal to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in sub. (1).

NR 270.044 NEW SOURCE PERFORMANCE STANDARDS (NSPS). Except as provided in ss. NR 270.0015, 270.002 and 270.003, any new source subject to this subcategory shall achieve the following NSPS representing the degree of effluent reduction attainable by the application of the best available demonstrated technology (BADT):

(1) The concentration of pollutants discharged in mine drainage from mines either open pit or underground, that produce mercury ores may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Hg	0.002	0.001
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(2)(a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable waters from mills beneficiating mercury ores by gravity separation methods or by froth-flotation methods.

(b) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equal to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in sub. (1).

NR 270.05 APPLICABILITY: DESCRIPTION OF THE TITANIUM ORE SUBCATEGORY. The provisions of this subcategory are applicable to discharges from:

(1) Mines obtaining titanium ores from lode deposits,

(2) Mills beneficiating titanium ores by electrostatic methods, magnetic and physical methods, or flotation methods; and

(3) Mines engaged in the dredge mining of placer deposits of sands containing rutile, ilmenite, leucoxene, monazite, zircon, and other heavy metals, and the milling techniques employed in conjunction with the dredge mining activity (milling techniques employed include the use of wet gravity methods in conjunction with electrostatic or magnetic methods).

NR 270.052 EFFLUENT LIMITATIONS GUIDELINES REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST PRACTICABLE CONTROL TECHNOLOGY CURRENTLY AVAILABLE (BPT). Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 C.F.R. ss. 125.30-125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable after application of the best practicable control technology currently available (BPT):

(1) The concentration of pollutants discharged in mine drainage from mines obtaining titanium ores from lode deposits may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Fe	2.0	1.0
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(2) The concentration of pollutants discharged from mills beneficiating titanium ores by electrostatic methods, magnetic and physical methods, or flotation methods may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Zn	1.0	0.5
Ni	0.2	0.1
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(3) The concentration of pollutants discharged in mine drainage from mines engaged in the dredge mining of placer deposits of sands containing rutile, ilmenite, leucoxene, monazite, zircon, or other heavy methods, and the milling techniques employed in conjunction with the dredge mining activity (milling techniques employed include the use of wet gravity methods in conjunction with electrostatic or magnetic methods) may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Fe	2.0	1.0
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

NR 270.053 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST AVAILABLE TECHNOLOGY ECONOMICALLY ACHIEVABLE (BAT). Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 C.F.R. ss. 125.30-125.32, any existing point source subject to this subcategory shall achieve the following limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT):

(1) The concentration of pollutants discharged in mine drainage from mines obtaining titanium ores from lode deposits may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
Fe	2.0	1.0

(2) The concentration of pollutants discharged from mills beneficiating titanium ores by electrostatic methods, magnetic and physical methods, or flotation methods may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
Zn	1.0	0.5

(3) The concentration of pollutants discharged in mine drainage from mines engaged in the dredge mining of placer deposits of sands containing rutile, ilmenite, leucoxene, monazite, or zircon and the milling techniques employed in conjunction with the dredge mining activity (milling techniques employed include the use of wet gravity methods in conjunction with electrostatic or magnetic methods) may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
Fe	2.0	1.0

NR 270.054 NEW SOURCE PERFORMANCE STANDARDS (NSPS). Except as provided in ss. NR 270.0015, 270.002 and 270.003, any new source subject to this subcategory shall achieve the following NSPS representing the degree of effluent reduction attainable by the applications of the best available demonstrated technology (BADT):

(1) The concentration of pollutants discharged in mine drainage from mines obtaining titanium ores from lode deposits may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Fe	2.0	1.0
pH	(1)	(1)

[1] Within the range 6.0 to 9.1.

(2) The concentration of pollutants discharged from mills beneficiating titanium ores by electrostatic methods, magnetic and physical methods, or flotation methods may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Zn	1.0	0.5
pH	(1)	(1)

[1] Within the range 6.0 to 9.1.

(3) The concentration of pollutants discharged in mine drainage from mines engaged in the dredge mining of placer deposits of sands containing rutile, ilmenite, leucoxene, monazite, or zircon and the milling techniques employed in conjunction with the dredge mining activity (milling techniques employed include the use of wet gravity methods in conjunction with electrostatic or magnetic methods) may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Fe	2.0	1.0
pH	(1)	(1)

[1] Within the range 6.0 to 9.1.

NR 270.06 APPLICABILITY: DESCRIPTION OF THE TUNGSTEN ORE SUBCATEGORY. The provisions of this subcategory are applicable to discharges from:

(1) Mines that produce tungsten ore; and

(2) Mills that process tungsten ore by either the gravity separation or froth-flotation methods.

NR 270.062 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST PRACTICABLE CONTROL TECHNOLOGY CURRENTLY AVAILABLE (BPT). Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 C.F.R. ss. 125.30-125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

(1) The concentration of pollutants discharged in mine drainage from mines producing 5000 metric tons (5512 short tons) or more of tungsten bearing ores per year may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Cd	0.1	0.05
Cu	0.3	0.15
Zn	1.0	0.5
Pb	0.6	0.3
As	1.0	0.5
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(2) The concentration of pollutants discharged in mine drainage from mines producing less than 5000 metric tons (5512 short tons) or discharged from mills processing less than 5000 metric tons (5512 short tons) of tungsten ores per year by methods other than ore leaching may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	50.0	30.0
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(3) The concentration of pollutants discharged from mills processing 5000 metric tons (5512 short tons) or more of tungsten ores per year by purely physical methods including ore crushing, washing, jigging, heavy media separation, and magnetic and electrostatic separation may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Cd	0.1	0.05
Cu	0.3	0.15
Zn	1.0	0.5
As	1.0	0.5
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(4) The concentration of pollutants discharged from mills processing 5000 metric tons (5512 short tons) or more of tungsten ores per year by froth flotation methods may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Cd	0.1	0.05
Cu	0.3	0.15
Zn	1.0	0.5
As	1.0	0.5
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

NR 270.063 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST AVAILABLE TECHNOLOGY ECONOMICALLY ACHIEVABLE (BAT). Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 C.F.R. ss. 125.30-125.32, any existing point source subject

to this subcategory shall achieve the following limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT):

(1) The concentration of pollutants discharged in mine drainage from tungsten mines may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
Cd	0.1	0.05
Cu	0.3	0.15
Zn	1.0	0.5

(2) The concentration of pollutants discharged from mills may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
Cd	0.1	0.05
Cu	0.3	0.15
Zn	1.0	0.5

NR 270.064 NEW SOURCE PERFORMANCE STANDARDS (NSPS). Except as provided in ss. NR 270.0015, 270.002 and 270.003, any new source subject to this subcategory shall achieve the following NSPS representing the degree of effluent reduction attainable by the application of the best available demonstrated technology (BADT):

(1) The concentration of pollutants discharged in mine drainage from tungsten mines may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Cd	0.1	0.05
Cu	0.3	0.15
Zn	1.0	0.5
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(2) The concentration of pollutants discharged from mills may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Cd	0.1	0.05
Cu	0.3	0.15
Zn	1.0	0.5
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

NR 270.07 APPLICABILITY: DESCRIPTION OF THE NICKEL ORE SUBCATEGORY.

The provisions of this subcategory are applicable to discharges from:

(1) Mines that produce nickel ore; and

(2) Mills that process nickel ore.

NR 270.072 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST PRACTICABLE CONTROL TECHNOLOGY CURRENTLY AVAILABLE (BPT). Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 C.F.R. ss. 125.30-125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

(1) The concentration of pollutants discharged in mine drainage from mines producing 5000 metric tons (5512 short tons) or more of nickel bearing ores per year may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Cd	0.1	0.05
Cu	0.3	0.15
Zn	1.0	0.5
Pb	0.6	0.3
As	1.0	0.5
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(2) The concentration of pollutants discharged in mine drainage from mines producing less than 5000 metric tons (5512 short tons) or discharged from mills processing less than 5000 metric tons (5512 short tons) of nickel ores per year by methods other than ore leaching may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	50.0	30.0
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(3) The concentration of pollutants discharged from mills processing 5000 metric tons (5512 short tons) or more of nickel ores per year by purely physical methods including ore crushing, washing, jigging, heavy media separation, and magnetic and electrostatic separation may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Cd	0.1	0.05
Cu	0.3	0.15
Zn	1.0	0.5
As	1.0	0.5
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(4) The concentration of pollutants discharged from mills processing 5000 metric tons (5512 short tons) or more of nickel ore per year by froth flotation methods may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Cd	0.1	0.05
Cu	0.3	0.15
Zn	1.0	0.5
As	1.0	0.5
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

NR 270.08 APPLICABILITY: DESCRIPTION OF THE VANADIUM ORE SUBCATEGORY.

The provisions of this subcategory are applicable to discharge from:

(1) Mines that produce vanadium ore (recovered alone and not as a by-product of uranium mining and mills); and

(2) Mills that process vandium ore (recovered alone, not as a byproduct of uranium mining and mills).

NR 270.082 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST PRACTICABLE CONTROL TECHNOLOGY CURRENTLY AVAILABLE (BPT). Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 C.F.R. ss. 125.30-125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

(1) The concentration of pollutants discharged in mine drainage from mines producing 5000 metric tons (5512 short tons) or more of vanadium bearing ores per year may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Cd	0.1	0.05
Cu	0.3	0.15
Zn	1.0	0.5
Pb	0.6	0.3
As	1.0	0.5
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(2) The concentration of pollutants discharged in mine drainage from mines producing less than 5000 metric tons (5512 short tons) or discharged from mills processing less than 5000 metric tons (5512 short tons) of vanadium ore per year by methods other than ore leaching may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	50.0	30.0
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(3) The concentration of pollutants discharged from mills processing 5000 metric tons (5512 short tons) or more of vanadium ores per year by purely physical methods including ore crushing, washing, jigging, heavy media separation, and magnetic and electrostatic separation may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Cd	0.1	0.05
Cu	0.3	0.15
Zn	1.0	0.5
As	1.0	0.5
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(4) The concentration of pollutants discharged from mills processing 5000 metric tons (5512 short tons) or more of vanadium ores per year by froth flotation methods may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Cd	0.1	0.05
Cu	0.3	0.15
Zn	1.0	0.5
As	1.0	0.5
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

NR 270.09 APPLICABILITY: DESCRIPTION OF THE ANTIMONY ORE SUBCATEGORY. The provisions of this subcategory are applicable to discharges from:

(1) Mines that produce antimony ore; and

(2) Mills that process antimony ore.

NR 270.10 APPLICABILITY: DESCRIPTION OF THE COPPER, LEAD, ZINC, GOLD, SILVER, AND MOLYBDENUM ORES SUBCATEGORY. The provisions of this subcategory are applicable to discharges from:

(1) Mines that produce copper, lead, zinc, gold silver, or molybdenum bearing ores, or any combination of these ores from open-pit or underground operations other than placer deposits;

(2) Mills that use the froth-flotation process alone or in conjunction with other processes, for the beneficiation of copper, lead, zinc, gold, silver, or molybdenum ores, or any combination of these ores;

(3) Mines and mills that use dump, heap, in-situ leach or vat-leach processes to extract copper from ores or ore waste materials;

(4) Mills that use the cyanidation process to extract gold or silver; and

(5) Mines or mines and mills that use gravity separation methods (including placer or dredge mining or concentrating operations, and hydraulic mining operations) to extract gold ores or silver ores.

NR 270.102 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST PRACTICABLE CONTROL TECHNOLOGY (BPT). Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 C.F.R. ss. 125.30-125.32, any existing point source subject to this

subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

(1) The concentration of pollutants discharged in mine drainage from mines operated to obtain copper bearing ores, lead bearing ores, zinc bearing ores, gold bearing ores, or silver bearing ores, or any combination of these ores open-pit or underground operations other than placer deposits may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Cu	0.3	0.15
Zn	1.5	0.75
Pb	0.6	0.3
Hg	0.002	0.001
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(2) The concentration of pollutants discharged from mills which employ the froth flotation process alone or in conjunction with other processes, for the beneficiation of copper ores, lead ores, zinc ores, gold ores, or silver ores, or any combination of these ores may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Cu	0.3	0.15
Zn	1.0	0.5
Pb	0.6	0.3
Hg	0.002	0.001
Cd	0.1	0.05
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(3)(a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable water from mines and mills which employ dump, heap, in-situ leach or vat leach processes for the extraction of copper from ores or ore waste materials.

(b) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equivalent to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in sub. (1).

(4)(a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable waters from mills which extract gold or silver by use of the cyanidation process.

(b) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equivalent to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in sub. (1).

Note: The concentration of pollutants discharged in mine drainage from mines or discharged from mine and mill complexes beneficiating gold ores or silver ores by gravity separation methods including mining of placer deposits, dredge mining and hydraulic mining operations will be proposed and promulgated at a later date.

(6) The concentration of pollutants discharged in mine drainage from mines producing 5,000 metric tons metric tons (5,512 short tons) or more of molybdenum bearing ores per year may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Cd	0.10	0.05
Cu	0.3	0.15
Zn	1.0	0.5
Pb	0.6	0.3
As	1.0	0.5
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(7) The concentration of pollutants discharged in mine drainage from mines producing less than 5,000 metric tons (5,512 short tons) or discharged from mills processing less than 5,000 metric tons (5,512 short tons) of molybdenum ores per year by methods other than ore leaching may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	50.0	30.0
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(8) The concentration of pollutants discharged from mills processing 5,000 metric tons (5,512 short tons) or more of molybdenum ores per year by purely physical methods including ore crushing, washing, jigging, and heavy media separation may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Cd	0.1	0.05
Cu	0.3	0.15
Zn	1.0	0.5
As	1.0	0.5
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(9) The concentration of pollutants discharged from mills processing 5000 metric tons (5512 short tons) or more of molybdenum ores per year by froth flotation methods may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Cd	0.1	0.05
Cu	0.3	0.15
Zn	1.0	0.5
As	1.0	0.5
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

NR 270.103 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST AVAILABLE TECHNOLOGY ECONOMICALLY ACHIEVABLE (BAT). Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 C.F.R. ss. 125.30-125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT):

(1) The concentration of pollutants discharged in mine drainage from mines that produce copper, lead, zinc, gold, silver, or molybdenum bearing ores or any combination of these ores from open-pit or underground operations other than placer deposits may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
Cu	0.3	0.15
Zn	1.5	0.75
Pb	0.6	0.3
Hg	0.002	0.001
Cd	0.1	0.05

(2) The concentration of pollutants discharged from mills that use the froth flotation process alone, or in conjunction with other processes, for the beneficiation of copper, lead, zinc, gold, silver, or molybdenum ores or any combination of these ores may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
Cu	0.3	0.15
Zn	1.0	0.5
Pb	0.6	0.3
Hg	0.002	0.001
Cd	0.1	0.05

(3)(a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable waters from mine areas and mill processes and areas that use dump, heap, in-situ leach or vat-leach processes to extract copper from ores or ore waste materials.

(b) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equal to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in sub. (1).

(4)(a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable waters from mills that use the cyanidation process to extract gold or silver.

(b) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equal to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in sub. (1).

Note: The concentration of pollutants discharged in mine drainage or discharged from mines and mills beneficiating gold or silver ores by gravity separation methods including mining of placer deposits, dredge mining and hydraulic mining operations will be proposed and promulgated at a later date.

NR 270.104 NEW SOURCE PERFORMANCE STANDARDS (NSPS). Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 C.F.R. ss. 125.30-125.32, any new source subject to this subcategory shall achieve the following NSPS representing the degree of effluent reduction attainable by the application of the best available demonstrated technology (BADT):

(1) The concentration of pollutants discharged in mine drainage from mines that produce copper, lead, zinc, gold, silver, or molybdenum bearing ores or any combination of these ores from open-pit or underground operations other than placer deposits may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30.0	20.0
Cu	0.3	0.15
Zn	1.5	0.75
Pb	0.6	0.3
Hg	0.002	0.001
Cd	0.1	0.05
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

(2)(a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable waters from mills that use the froth-flotation process alone, or in conjunction with other processes, for the beneficiation of copper, lead, zinc, gold, silver, or molybdenum ores or any combination of these ores.

(b)1. In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equal to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in sub. (1).

2. In the event there is a build up of contaminants in the recycle water which significantly interferes with the ore recovery process and this interference cannot be eliminated through appropriate treatment of the recycle water, the permitting authority may allow a discharge of process wastewater in an amount necessary to correct the interference problem after installation of appropriate treatment. This discharge shall be subject to the limitations of sub. (1). The facility shall have the burden of demonstrating to the department that that discharge is necessary to eliminate interference in the ore recovery process and that the interference could not be eliminated through appropriate treatment of the recycle water.

(3)(a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable waters from mine areas and mill processes and areas that use dump, heap, in-situ leach or vat-leach processes to extract copper from ores or ore waste materials.

(b) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equal to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in sub. (1).

(4)(a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable waters from mills that use the cyanidation process to extract gold or silver.

(b) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equal to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in sub. (1).

Note: The concentration of pollutants discharged in mine drainage or discharged from mines and mills beneficiating gold or silver ores by gravity separation methods including mining of placer deposits, dredge mining and hydraulic mining operations will be proposed and promulgated at a later date.

NR 270.11 APPLICABILITY: DESCRIPTION OF THE PLATINUM ORE SUBCATEGORY. The provisions of this subcategory are applicable to discharges from:

(1) Mines that produce platinum ore; and

(2) Mills that process platinum ore.

NR 270.113 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST AVAILABLE TECHNOLOGY ECONOMICALLY ACHIEVABLE (BAT). Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 C.F.R. ss. 125.30-125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT):

(1) The concentration of pollutants discharged in mine drainage from mines that produce platinum bearing ores from open-pit or underground operations other than placer deposits may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
Cu	0.3	0.15
Zn	1.5	0.75
Pb	0.8	0.3
Hg	0.002	0.001
Cd	0.1	0.06

(2) The concentration of pollutants discharged from mills that use the froth-flotation process alone, or in conjunction with other processes, for the beneficiation of platinum ores may not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
Cu	0.3	0.15
Zn	1.0	0.5
Pb	0.6	0.3
Hg	0.002	0.001
Cd	0.1	0.05

NR 270.12 CROSS-REFERENCES.

The federal citations in this chapter correspond to provisions of the Wisconsin Administrative Code and Wisconsin Statutes. The federal citations may be cross-referenced in the following table:

Code of Federal Regulations	Corresponding state code section
40 C.F.R. Part 440	ch. NR 270
40 C.F.R. s. 122.41(m)	s. NR 205.07(3)
40 C.F.R. s. 122.41(n)	s. NR 205.03(41)
40 C.F.R. s. 125.30 - 125.32	s. NR 211.14, s. 147.04(3), Stats.
40 C.F.R. Part 401	chs. NR 205, 215, 219

The foregoing rules were approved and adopted by the State of Wisconsin Natural Resources Board on May 29, 1986.

The rules contained herein shall take effect a provided in s. 227.22(1)(intro.), Stats.

Dated at Madison, Wisconsin July 18, 1986

STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES

BY Carroll D. Besadny
Carroll D. Besadny, Secretary

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