

Chapter NR 260

ELECTROPLATING

(Interim Effluent Limitations)

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Note: Pursuant to chapter 147, Wis. Stats. and under the procedure of section 227.027, Wis. Stats., the department of natural resources has promulgated interim effluent limitations which were in effect for one year. These interim effluent limitations will be periodically replaced by permanent effluent limitations.

NR 260.01 Purpose. The purpose of this chapter is to establish effluent limitations, standards of performance, and pretreatment standards for discharges from the electroplating industry category of point sources and subcategories thereof.

Note: The authority for promulgation of this chapter is set forth in Wis. Adm. Code chapter NR 205.

History: Cr. eff. 2-28-75.

NR 260.02 Applicability. The effluent limitations, standards of performance, pretreatment standards, and other provisions of this chapter are applicable as specified to pollutants in discharges resulting from the process in which a ferrous or nonferrous base material is rack or barrel electroplated with copper, nickel, chromium, zinc, or any combination thereof.

History: Cr. eff. 2-28-75.

NR 260.03 Definitions. The following special definitions and abbreviations are applicable to terms used in this chapter. Definitions of other terms and meanings of other abbreviations are set forth in Wis. Adm. Code chapter NR 205.

(1) "Sq. m." shall mean the area plated with copper, nickel, chromium, zinc, or treated by chromatizing expressed in square meters.

(2) "Sq. ft." shall mean the area plated with copper, nickel, chromium, zinc, or treated by chromatizing expressed in square feet.

(3) "Operation" shall mean any step in the plating process in which copper, nickel, chromium, or zinc metal or chromate is deposited on a base material followed by a rinse.

(4) "CN_A" shall mean those cyanides amenable to chlorination as described in the 1972 Annual Book of ASTM Standards, Standard D 2036-72, Method B, page 558. Copies of the 1972 Annual Book of ASTM Standards are available for inspection at the office of the Department of Natural Resources, the Secretary of State's Office and the Office of the Revisor of Statutes, and may be obtained for

personal use from the American Society for Testing Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

History: Cr. eff. 2-28-75.

NR 260.04 Compliance with effluent limitations and standards. Discharge of pollutants from facilities subject to the provisions of this chapter shall not exceed, as appropriate:

(1) By July 1, 1977 effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available;

(2) By July 1, 1977 pretreatment standards for existing discharges to publicly-owned treatment works;

(3) By July 1, 1983 effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable;

(4) Standards of performance for new sources; or

(5) Pretreatment standards for new sources discharging to publicly-owned treatment works.

History: Cr. eff. 2-28-75.

NR 260.05 Modification of effluent limitations. (1) Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available may be modified in accordance with this section.

(2) An individual discharger or other interested person may submit evidence to the Department that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the effluent limitations. On the basis of such evidence or other available information, the Department will make a written determination that such factors are or are not fundamentally different for that facility compared to those specified in the Copper, Nickel, Chromium and Zinc Development Document, EPA 440/1-74-003-a. If such fundamentally different factors are found to exist, the Department shall establish for the discharge effluent limitations in the WPDES permit either more or less stringent than the limitations in this chapter, to the extent dictated by such fundamentally different factors. Such limitations must be approved by EPA which may approve, disapprove, or specify other limitations.

(3) Copies of the Development Document, "Copper, Nickel, Chromium and Zinc Segment of the Electroplating Point Source Category," EPA 440/1-74-003-a, published March, 1974, are available for inspection at the office of the Department of Natural Resources, the Secretary of State's Office, and the Office of the Revisor of Statutes, and may be obtained for personal use from the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20460.

History: Cr. eff. 2-28-75.

NR 260.06 Application of effluent limitations. (1) The effluent limitations and standards set forth in this chapter shall be used in accordance with this section to establish the quantity or quality of pollutants or pollutant properties which may be discharged by point sources subject to the provisions of this chapter, except as;

(a) They may be modified in accordance with section NR 260.05,

(b) They may be superseded by more stringent limitations and standards necessary to achieve water quality standards or meet other legal requirements, or

(c) They may be supplemented or superseded by standards or prohibitions for toxic pollutants or by additional limitations for other pollutants required to achieve water quality.

(2) The basis for application of the limitations and standards set forth in this chapter shall be the daily average for a maximum month of production in square meters or million square feet per day subject to the provisions of this chapter.

(3) Discharge limitations for facilities subject to the provisions of this chapter shall be, except where no discharge is specified, the sum of discharges allowable for the area plated in each operation as defined in section NR 260.03.

History: Cr. eff. 2-28-75.

NR 260.07 Record maintenance. Facilities subject to the provisions of this chapter shall maintain records of production expressed in sq. m. or sq. ft. as defined in section NR 260.03 for the purpose of determining compliance with section NR 260.10 or NR 260.13. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating according to the formula: $S = \frac{EIT}{100kt}$ where:

S is the area plated, in sq. m. or million square feet,

t is average thickness deposited, in mm or mils (thousandths of an inch) respectively,

T is the time in hours,

I is the current used in amperes,

E is the cathode current efficiency, and

k is a constant for each metal

Values of E and k are set forth in Table 1.

Type of Operation	E (%)	Table 1	
		k for sq. m.	k for millions sq. ft.
Cyanide Copper	50	3.75×10^3	8.84
Noncyanide Copper	100	7.49×10^3	17.68
Nickel	100	8.05×10^3	19.00
Chromium	13	21.95×10^3	51.80
Cyanide Zinc	60	5.80×10^3	13.70
Noncyanide Zinc	100	5.80×10^3	13.70

History: Cr. eff. 2-28-75.

NR 260.10 Effluent limitations, best practicable treatment. The following effluent limitations unless modified in accordance with section NR 260.05 establish the quantity or quality of pollutants or pollutant properties which may be discharged by a facility subject to the provisions of this chapter after application to process wastes of the best practicable control technology currently available.

(1) For any facility subject to the provisions of this chapter with a production less than 33 square meters per hour or an installed direct current capacity less than 2,000 amperes limitations of section NR 260.10(2) are not applicable and the best practicable control technology currently available shall be cyanide destruction, to or below concentrations of 0.5 mg/l total and 0.05 CN,A, if any, equalization and pH adjustment to a range of 6.0 to 9.0 prior to discharge.

(2) For facilities subject to the provisions of this chapter except those subject to section NR 260.10(1), the applicable limitations are set forth in Table 2.

Table 2

Effluent Characteristic pH	BPT Effluent Limitation within the range of 6.0 to 9.5			
	Metric Units (A)		English Units (B)	
	30-day ave.	daily max.	30-day ave.	daily max.
Copper	80	160	16.4	32.7
Nickel	80	160	16.4	32.7
Chromium, hexavalent	8	16	1.6	3.3
Chromium, total	80	160	16.4	32.7
Zinc	80	160	16.4	32.7
Cyanide, CN,A	8	16	1.6	3.3
Cyanide, total	80	160	16.4	32.7
Total Suspended Solids	3,200	4,800	654.0	982.0

Note: (A) Limitations are in milligrams per square meter per operation. (B) Limitations are in pounds per million square feet per operation.

History: Cr. eff. 2-28-75.

NR 260.11 Effluent limitations, best available treatment. The following effluent limitations when applied in accordance with NR 260.06 establish the quantity or quality of pollutants or pollutant properties which may be discharged by a facility subject to the provisions of this chapter after application to process wastes of the best available control technology economically achievable. There shall be no discharge of process wastewater pollutants to surface waters except that for a facility having a production less than 120 sq. m. (1,290 sq. ft.) per hour where variance is determined to be necessary the discharge limitations shall be based on the effluent limitations of section NR 260.11.

History: Cr. eff. 2-28-75.

NR 260.12 Standards of performance. The standards of performance in Table 3 when applied in accordance with section NR 260.06 establish the quantity or quality of pollutants or pollutant properties which may be discharged by a new source subject to the provisions of this chapter.

Table 3

Effluent Characteristic pH	Standards of Performance Effluent Limitation within the range of 6.0 to 9.5			
	Metric Units (A)		English Units (B)	
	30-day ave.	daily max.	30-day ave.	daily max.
Copper	40	80	8.2	16.4
Nickel	40	80	8.2	16.4
Chromium, hexavalent	4	8	.8	1.6
Chromium, total	40	80	8.2	16.4
Zinc	40	80	8.2	16.4
Cyanide, CN,A	4	8	.8	1.6
Cyanide, total	40	80	8.2	16.4
Total Suspended Solids	1,600	2,400	327.0	491.0

Note: (A) Limitations are in milligrams per square meter per day per operation.

(B) Limitations are in pounds per million square feet per day per operation.

History: Cr. eff.2-28-75.

NR 260.13 Pretreatment standards for new sources. The pretreatment standards for discharges to publicly owned treatment works from new sources subject to the provisions of this chapter shall be as set forth in Wis. Adm. Code chapter NR 211. In addition, the limitations for incompatible pollutants shall be those set forth in section NR 260.12, except as provided in Wis. Adm. Code section NR 211.30 (2). Wastewaters from such new sources may not be discharged to publicly owned treatment works except in compliance with this section.

History: Cr. eff. 2-28-75.