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ONTARIO REGULATION 560/94

EFFLUENT MONITORING AND EFFLUENT LIMITS — METAL MINING SECTOR

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PART I  
GENERAL

Interpretation

**1.**(1)  In this Regulation,

“assessment parameter” means a parameter that is listed in Schedule 2 or 3;

“blowdown water” means water that is discharged from a recirculating cooling water system or a boiler system for the purpose of controlling the level of water in the system or for the purpose of discharging from the system materials contained in the system the further build-up of which would impair the operation of the system;

“cooling water effluent” means water and associated material that is used in an industrial process for the purpose of removing heat and that has not, by design, come into contact with process materials, but does not include blowdown water;

“cooling water effluent monitoring stream” means a cooling water effluent stream on which a sampling point is established under section 8;

“cooling water effluent sampling point” means a sampling point established on a cooling water effluent stream under section 8;

“Director”, in relation to obligations of a discharger, means a Director appointed under section 5 of the Act and responsible for the region in which the discharger’s plant is located and includes an alternate named by the Director;

“discharger” means an owner or person in occupation or having the charge, management or control of a plant to which this Regulation applies;

“eight-hour period” means all or part of any period between,

(a) midnight and 8 a.m.,

(b) 8 a.m. and 4 p.m.,

(c) 4 p.m. and midnight;

“existing plant” means a plant that produced metal, metal concentrates or metal-bearing substances before this Regulation comes into force;

“limited parameter” means a parameter for which a limit is specified in Column 3 or 4 of Schedule 1;

“metal” means antimony, bismuth, cadmium, chromium, cobalt, copper, gold, iron, lead, manganese, mercury, molybdenum, niobium, nickel, palladium, platinum, silver, tantalum, tellurium, thorium, tin, titanium, tungsten, uranium, vanadium or zinc, or any combination thereof;

“metal mining plant” means any opening or excavation in, or working of, the ground for the purpose of winning any metal, metal concentrate or metal-bearing substance and includes all associated,

(a) ways, works, machinery, buildings or premises below or above the ground,

(b) waste disposal sites, wastewater treatment facilities, and

(c) roasting or smelting furnaces, refineries, concentrators or mills, wherever located, that are used in connection with washing, crushing, grinding, sifting, reducing, leaching, roasting, smelting, refining or treating of any metal, metal concentrate or metal-bearing substance;

“minewater effluent monitoring stream” means a process effluent monitoring stream,

(a) that flows from any opening or excavation in, or working of, the ground at the plant for the purpose of winning any metal, and

(b) that does not flow from a tailings area or other wastewater treatment facility associated with a tailings area;

“new plant” means a plant that begins production of metal, metal concentrates or metal-bearing substances on or after the day on which this Regulation comes into force;

“overflow effluent” means effluent discharged from a tailings area through a spillway or other engineered structure designed to protect the tailings area from failure in the event of an extraordinary thaw or storm event;

“overflow effluent monitoring stream” means an overflow effluent stream on which a sampling point is established under section 8;

“overflow effluent sampling point” means a sampling point established on an overflow effluent stream under section 8;

“pick-up”, in relation to a sample, means pick-up for the purpose of storage, including storage within an automatic sampling device, and transportation to and analysis at a laboratory;

“process change“ means a change in equipment, production processes, process materials or treatment processes;

“process effluent” means,

(a) effluent that, by design, has come into contact with process materials other than process materials stored in a materials storage site, including but not limited to a waste rock storage site or a slag storage site,

(b) blowdown water,

(c) effluent that results from cleaning or maintenance operations at a plant during a period when all or part of the plant is shut down, and

(d) any effluent described in clauses (a) to (c) combined with cooling water effluent or storm water effluent;

“process effluent monitoring stream” means a process effluent stream on which a sampling point is established under section 8;

“process effluent sampling point” means a sampling point established on a process effluent stream under section 8;

“process materials”, in relation to a discharger’s plant, means raw materials for use in an industrial process at the plant, manufacturing intermediates produced at the plant, or products or by-products of an industrial process at the plant, but does not include chemicals added to cooling water for the purpose of controlling organisms, fouling and corrosion;

“quarter” means all or part of a period of three consecutive months beginning on the first day of January, April, July or October;

“Schedule 2 assessment parameter” means a parameter that is listed in Schedule 2;

“Schedule 3 assessment parameter” means a parameter that is listed in Schedule 3;

“semi-annual period” means all or part of a period of six months beginning on the first day of January or July;

“storm water effluent” means run-off from a storm event or thaw that is not used in any industrial process;

“tailings area” means an area that is confined by artificial or natural structures or both and that is used for the disposal of finely divided solid waste materials produced as a result of the processing of metal, metal concentrates or metal-bearing substances;

“wastewater treatment facility” includes a tailings area. O. Reg. 560/94, s. 1 (1); O. Reg. 169/96, s. 1.

(2)  For greater certainty, this Regulation applies both to effluent streams that discharge continuously and to effluent streams that discharge intermittently.

(3)  An obligation on a discharger to do a thing under this Regulation is discharged if another person has done it on the discharger’s behalf. O. Reg. 560/94, s. 1 (2, 3).

Purpose

**2.**The purpose of this Regulation is to monitor and control the quality of effluent discharged from the plants to which this Regulation applies. O. Reg. 560/94, s. 2.

Application

**3.**(1)  This Regulation applies with respect to every plant that is a metal mining plant and that, on or after August 25, 1994, discharges a total volume of process effluent, cooling water effluent and overflow effluent of more than 50 cubic metres.

(2)  Subject to subsection (4), this Regulation continues to apply to a plant described in subsection (1) even if,

(a) production at the plant is interrupted; or

(b) the total volume of process effluent, cooling water effluent and overflow effluent discharged from the plant is subsequently reduced to less than 50 cubic metres.

(3)  Despite subsection (1), as of May 2, 1996 this Regulation does not apply to a plant that,

(a) ceased production permanently before August 26, 1994; or

(b) “closed out” as defined in subsection 139 (1) of the Mining Act before May 2, 1996.

(4)  This Regulation ceases to apply to a plant described in subsection (1) on the day on which the plant begins “temporary suspension” as defined in subsection 139 (1) of the Mining Act and begins to apply to the plant again 30 days after production resumes.

(5)  This Regulation ceases to apply to a plant described in subsection (1) 10 days after the day on which production at the plant ceases permanently.

(6)  In the case of a planned permanent cessation, each discharger shall provide notice of the cessation to the Director before the cessation.

(7)  A notice under subsection (6) shall include the date on which the discharger plans to cease production.

(8)  In the case of an unplanned permanent cessation, each discharger shall provide notice of the cessation within 10 days of the cessation.

(9)  A notice under subsection (8) shall include the date of the cessation.

(10)  This Regulation does not apply with respect to the discharge of effluent to a municipal sanitary sewer or municipal storm sewer. O. Reg. 169/96, s. 2.

Requirements under Approvals, Orders, etc.

**4.**For greater certainty, subject to subsection 186 (4) of the Act, the requirements of this Regulation are in addition to and independent of requirements in an approval, order, direction or other instrument issued under any Act. O. Reg. 169/96, s. 2.

Non-application of General Effluent Monitoring Regulation

**5.**This Regulation is not a Sectoral Effluent Monitoring Regulation within the meaning of Ontario Regulation 695/88. O. Reg. 560/94, s. 5.

By-passes

**6.**(1)  Beginning on August 26, 1997, a discharger shall not permit effluent that would ordinarily flow past a sampling point established under this Regulation to be discharged from the discharger’s plant without flowing past that sampling point, regardless of whether it would be convenient to do so because of a maintenance operation, a breakdown in equipment or any scheduled or unscheduled event. O. Reg. 169/96, s. 3.

(2)  A discharger shall not permit overflow effluent to be discharged from the discharger’s plant unless it is unavoidable as a result of an extraordinary thaw or storm event. O. Reg. 560/94, s. 6 (2).

Sampling and Analytical Procedures — General

**7.**(1)  Subject to section 21, each discharger shall carry out the establishment of sampling point obligations of this Regulation and the sampling and analysis obligations of this Regulation, including quality control sampling and analysis obligations, in accordance with the procedures described in the Ministry of the Environment publication entitled “Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater”, as amended from time to time. O. Reg. 234/07, s. 1.

(2)  Each discharger shall maintain the sampling equipment used at the discharger’s plant for sampling required by this Regulation in a way that ensures that the samples collected at the plant under this Regulation accurately reflect the level of discharge of each limited parameter and assessment parameter from the plant. O. Reg. 560/94, s. 7 (2).

PART II  
SAMPLING POINTS

Establishment and Elimination of Sampling Points

**8.**(1)  Each discharger shall establish, within the time requirements specified in subsections (7) and (8), a sampling point on each process effluent, cooling water effluent and overflow effluent stream at the discharger’s plant, as necessary so that the plant loadings calculated under sections 12, 13 and 14 for each limited parameter and assessment parameter and the concentrations determined under sections 15, 16 and 17 for each limited parameter and assessment parameter accurately reflect the level of discharge of each such parameter from the plant.

(2)  Despite subsection (1), a discharger need not establish a sampling point on a by-pass.

(3)  If circumstances change so that a new sampling point is necessary at a discharger’s plant in order to permit the calculation of plant loadings under sections 12, 13 and 14 for each limited parameter and assessment parameter and the determination of concentrations under sections 15, 16 and 17 for each limited parameter and assessment parameter that accurately reflect the level of discharge of each such parameter from the plant, the discharger shall, within 30 days of the change, establish the new sampling point.

(4)  A discharger may eliminate a sampling point established under subsection (1) or (3) if the sampling point is no longer necessary to permit the calculation of plant loadings under sections 12, 13 and 14 for each limited parameter and assessment parameter and the determination of concentrations under sections 15, 16 and 17 for each limited parameter and assessment parameter that accurately reflect the level of discharge of each such parameter from the plant.

(5)  A plant loading for a parameter or a concentration for a parameter that is based on analytical results that are significantly affected by dilution or masking due to the merging of streams upstream of a sampling point at a plant is not a loading or a concentration that accurately reflects the level of discharge of the parameter from the plant.

(6)  In determining what is necessary to meet a discharger’s obligations to establish sampling points under this section, the discharger shall consider both which streams should have sampling points and where on a stream a sampling point should be located.

(7)  Each discharger for an existing plant shall comply with subsection (1) within 90 days after the date on which this Regulation begins to apply to it.

(8)  Each discharger for a new plant shall comply with subsection (1) before discharging a total volume of process effluent, cooling water effluent and overflow effluent of more than 50 cubic metres from the plant. O. Reg. 560/94, s. 8.

Reports on Sampling Points

**9.**(1)  Within 10 days after establishing sampling points under subsection 8 (1), the discharger shall submit to the Director a list and plot plan showing the sampling points.

(2)  Within 30 days after establishing a sampling point under this Regulation that is not shown on a list and plot plan submitted under this section, the discharger shall give the Director a written notice describing the location of the sampling point, together with a revised list and plot plan showing the sampling point.

(3)  Within 30 days after eliminating a sampling point under this Regulation that is shown on a list and plot plan submitted under this section, the discharger shall give the Director a written notice describing where the sampling point used to be, together with a revised list and plot plan without the sampling point. O. Reg. 560/94, s. 9.

Use of Sampling Points Established under this Part

**10.**Subject to section 25, each discharger shall use the sampling points established under this Part for all sampling required by this Regulation. O. Reg. 560/94, s. 10.

PART III  
CALCULATION OF LOADINGS AND CONCENTRATIONS

Calculations under this Part — General

**11.**(1)  For the purposes of performing a calculation under sections 12 to 17, a discharger shall use the actual analytical result obtained by the laboratory. O. Reg. 560/94, s. 11 (1).

(2)  Despite subsection (1), where the actual analytical result is less than one-tenth of the analytical method detection limit set out in the Ministry of the Environment publication entitled “Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater”, as amended from time to time, the discharger shall use the value zero for the purpose of performing a calculation under sections 12 to 17. O. Reg. 234/07, s. 2.

(3)  Each discharger shall ensure that each calculation of a process effluent loading required by section 12 and each calculation of a process effluent concentration required by section 15 is performed as soon as reasonably possible after the analytical results on which the calculation is based become available to the discharger. O. Reg. 560/94, s. 11 (3).

(4)  Each discharger shall ensure that each calculation of a cooling water effluent loading required by section 13 is performed in time to comply with subsection 38 (4) and each calculation of a cooling water effluent concentration required by section 16 is performed in time to comply with subsection 38 (7). O. Reg. 560/94, s. 11 (4).

(5)  Each discharger shall ensure that each calculation of an overflow effluent loading required by section 14 is performed in time to comply with subsection 38 (5) and each calculation of an overflow effluent concentration required by section 17 is performed in time to comply with subsection 38 (8). O. Reg. 560/94, s. 11 (5).

Calculation of Loadings — Process Effluent

**12.**(1)  Each discharger shall calculate, in kilograms, a daily process effluent stream loading for each limited parameter in each process effluent monitoring stream of the discharger for each day on which a sample is collected under this Regulation from the stream for analysis for the parameter.

(2)  When calculating a daily stream loading under subsection (1), the discharger shall multiply, with the necessary adjustment of units to yield a result in kilograms, the analytical result obtained from the sample for the parameter by the daily volume of effluent, as determined under section 31, for the stream for the day.

(3)  Each discharger shall calculate, in kilograms, a daily process effluent plant loading for each limited parameter for each day for which the discharger is required to calculate a daily process effluent stream loading for the parameter under subsection (1).

(4)  For the purposes of subsection (3), a daily process effluent plant loading for a parameter for a day is the sum, in kilograms, of the daily process effluent stream loadings for the parameter calculated under subsection (1) for the day.

(5)  Where a discharger calculates only one daily process effluent stream loading for a parameter for a day under subsection (1), the daily process effluent plant loading for the parameter for the day for the purposes of subsection (3) is the single daily process effluent stream loading for the parameter for the day.

(6)  Each discharger shall calculate, in kilograms, a monthly average process effluent plant loading for each limited parameter for each month in which a sample is collected under this Regulation more than once from a process effluent monitoring stream at the discharger’s plant for analysis for the parameter.

(7)  For the purposes of subsection (6), a monthly average process effluent plant loading for a parameter for a month is the arithmetic mean of the daily process effluent plant loadings for the parameter calculated under subsection (3) for the month. O. Reg. 560/94, s. 12.

Calculation of Loadings — Cooling Water Effluent

**13.**(1)  Each discharger shall calculate, in kilograms, a daily cooling water effluent stream loading for each Schedule 2 assessment parameter in each cooling water effluent monitoring stream of the discharger for each day on which a sample is collected under this Regulation from the stream for analysis for the parameter.

(2)  When calculating a daily stream loading under subsection (1), the discharger shall multiply, with the necessary adjustment of units to yield a result in kilograms, the analytical result obtained from the sample for the parameter by the daily volume of effluent, as determined under section 31, for the stream for the day.

(3)  Each discharger shall calculate, in kilograms, a daily cooling water effluent plant loading for each Schedule 2 assessment parameter for each day for which the discharger is required to calculate a daily cooling water effluent stream loading for the parameter under subsection (1).

(4)  For the purposes of subsection (3), a daily cooling water effluent plant loading for a parameter for a day is the sum, in kilograms, of the daily cooling water effluent stream loadings for the parameter calculated under subsection (1) for the day.

(5)  Where a discharger calculates only one daily cooling water effluent stream loading for a parameter for a day under subsection (1), the daily cooling water effluent plant loading for the parameter for the day for the purposes of subsection (3) is the single daily cooling water effluent stream loading for the parameter for the day.

(6)  Each discharger shall calculate, in kilograms, a monthly average cooling water effluent plant loading for each Schedule 2 assessment parameter for each month in which a sample is collected under this Regulation more than once from a cooling water effluent monitoring stream at the discharger’s plant for analysis for the parameter.

(7)  For the purposes of subsection (6), a monthly average cooling water effluent plant loading for a parameter for a month is the arithmetic mean of the daily cooling water effluent plant loadings for the parameter calculated under subsection (3) for the month. O. Reg. 560/94, s. 13.

Calculation of Loadings — Overflow Effluent

**14.**(1)  Each discharger shall calculate, in kilograms, an overflow effluent stream loading for each Schedule 3 assessment parameter in each overflow effluent monitoring stream of the discharger for each eight-hour period during which a sample is collected under this Regulation from the stream for analysis for the parameter.

(2)  When calculating a stream loading under subsection (1), the discharger shall multiply, with the necessary adjustment of units to yield a result in kilograms, the analytical result obtained from the sample for the parameter by the volume of effluent, as determined under section 31, for the stream for the eight-hour period.

(3)  Each discharger shall calculate, in kilograms, a daily overflow effluent stream loading for each Schedule 3 assessment parameter in each overflow effluent monitoring stream of the discharger for each day for which the discharger is required to calculate an overflow effluent stream loading for the parameter under subsection (1).

(4)  For the purposes of subsection (3), a daily overflow effluent stream loading for a parameter for a day is the sum, in kilograms, of all the eight-hour period overflow effluent stream loadings for the parameter calculated under subsection (1) for the day.

(5)  Where a discharger calculates only one overflow effluent stream loading for a parameter under subsection (1) for a stream for a day, the daily overflow effluent stream loading for the parameter for the day for the purposes of subsection (3) is the single overflow effluent stream loading calculated for the parameter under subsection (1). O. Reg. 560/94, s. 14.

Calculation of Concentrations — Process Effluent

**15.**(1)  Each discharger shall calculate, in milligrams per litre, a monthly average concentration for each limited parameter in each process effluent monitoring stream of the discharger for each month.

(2)  For the purposes of subsection (1), a monthly average concentration for a parameter for a month is the arithmetic mean of the analytical results obtained for the parameter from the samples collected under section 22 or 23, as the case may be, from the stream for the month. O. Reg. 560/94, s. 15.

Calculation of Concentrations — Cooling Water Effluent

**16.**(1)  Each discharger shall calculate, in milligrams per litre, a monthly average concentration for each Schedule 2 assessment parameter in each cooling water effluent monitoring stream of the discharger for each month.

(2)  For the purposes of subsection (1), a monthly average concentration for a parameter for a month is the arithmetic mean of the analytical results obtained for the parameter from the samples collected under section 29 from the stream for the month. O. Reg. 560/94, s. 16.

Calculation of Concentrations — Overflow Effluent

**17.**(1)  Each discharger shall calculate, in milligrams per litre, a daily concentration for each Schedule 3 assessment parameter in each overflow effluent monitoring stream of the discharger for each day on which a sample is collected under this Regulation from the stream for analysis for the parameter.

(2)  For the purposes of subsection (1), a daily concentration for a parameter for a stream for a day is the arithmetic mean of the analytical results obtained for the parameter from the samples collected under section 30 from the stream for the day.

(3)  Where there is only one analytical result obtained for a parameter from the stream for a day, the daily concentration for the parameter for the stream for the day for the purposes of subsection (1) is the single analytical result obtained for the parameter. O. Reg. 560/94, s. 17.

PART IV  
PARAMETER AND LETHALITY LIMITS

Parameter Limits

**18.**(1)  Each discharger shall ensure that each analytical result obtained for each limited parameter from each sample collected from a process effluent monitoring stream at the discharger’s plant does not exceed the daily concentration limit specified for the parameter in Column 3 of Schedule 1.

(2)  Each discharger shall ensure that each monthly average concentration calculated for a limited parameter under section 15 in connection with the discharger’s plant does not exceed the monthly average concentration limit specified for the parameter in Column 4 of Schedule 1.

(3)  Subject to subsection (4), each discharger shall control the quality of each process effluent monitoring stream at the discharger’s plant to ensure that the pH value of any sample collected at a process effluent sampling point at the plant is within the range of 6.0 to 9.5.

(4)  Throughout any day on which a discharger has used an alternate sampling point on a process effluent monitoring stream for sampling required by section 25, as permitted by subsections 25 (7) and (8), the discharger,

(a) shall control the quality of the stream to ensure that the pH value of any sample collected at the alternate sampling point on the stream is within the range of 6.0 to 9.5; and

(b) need not comply with subsection (3) with respect to the stream. O. Reg. 560/94, s. 18.

Lethality Limits

**19.**Each discharger shall control the quality of each process effluent monitoring stream and each cooling water effluent monitoring stream at the discharger’s plant to ensure that each rainbow trout acute lethality test and each Daphnia magna acute lethality test performed on any grab sample collected at a process effluent sampling point or cooling water effluent sampling point at the plant results in mortality for no more than 50 per cent of the test organisms in 100 per cent effluent. O. Reg. 560/94, s. 19.

PART V  
MONITORING

Monitoring — General

**20.**(1)  Despite sections 22 to 30, a discharger need not collect samples from any stream at the discharger’s plant on a day on which process effluent is not being discharged from the plant. O. Reg. 560/94, s. 20 (1).

(2)  Despite sections 22, 24 and 30, a discharger need not collect or analyze samples for total cyanide if cyanide is not used at the discharger’s plant.

(3)  Despite sections 22 and 24, a discharger need not collect or analyze samples for total cyanide from a minewater effluent monitoring stream. O. Reg. 169/96, s. 4.

(4)  Where a discharger is required by this Regulation to pick up a set of samples and analyze it for certain parameters, the discharger shall pick up a set of samples sufficient to allow all the analyses to be performed.

(5)  A discharger shall use all reasonable efforts to ensure that all analyses required by this Regulation are completed as soon as reasonably possible and that the results of those analyses are made available to the discharger as soon as reasonably possible.

(6)  Subject to subsection (7), each discharger shall pick up all samples required to be picked up at the discharger’s plant under sections 22, 23 and 29 between the hours of 7 a.m. and 10 a.m.

(7)  If the Director is satisfied, on the basis of written submissions from a discharger, that the circumstances at the discharger’s plant are such that it would be impractical to pick up samples from each process effluent and cooling water effluent sampling point established at the plant under this Regulation within the time period specified in subsection (6), the Director may give the discharger a written notice in respect of the plant, varying the time period specified in subsection (6).

(8)  Subject to subsections (9) and (10), where a discharger is required by section 22, 23 or 29 to pick up samples, the discharger shall pick up samples collected over the 24-hour period immediately preceding the pick-up.

(9)  The 24-hour period referred to in subsection (8) may be shortened or enlarged by up to three hours to permit a discharger to take advantage of the three-hour range specified in subsection (6) or of a different three-hour period specified in a notice under subsection (7).

(10)  Where a notice has been given under subsection (7) in respect of a plant specifying a time period longer than three hours, the 24-hour period referred to in subsection (8) may be shortened or enlarged by up to that longer amount of time to permit the discharger to take advantage of the time period specified in the notice.

(11)  If the circumstances at a plant change so that the Director is satisfied that the circumstances described in subsection (7) no longer apply at the plant, the Director may revoke a notice given in respect of a plant under subsection (7) by giving a notice of revocation in writing to a discharger for the plant. O. Reg. 560/94, s. 20 (4-11).

Alternate Sampling Procedures

**21.**(1)  Where a discharger is, by virtue of subsection 7 (1), required by the Ministry of the Environment publication entitled “Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater”, as amended from time to time, to collect a composite sample for any sample required to be picked up at a stream at the discharger’s plant under this Regulation, the discharger may collect the composite sample by collecting three equal volume grab samples from the stream at intervals of at least two hours and combining them. O. Reg. 234/07, s. 3.

(2)  A discharger who is required to collect a composite sample from a process effluent monitoring stream under section 22 or 23 may instead collect a single grab sample from the stream if,

(a) the process effluent monitoring stream flows from a tailings area or any other wastewater treatment facility associated with a tailings area and the retention time calculated under subsection (3) in relation to the stream is 30 days or more; or

(b) the process effluent monitoring stream does not flow from a tailings area or any other wastewater treatment facility associated with a tailings area and the retention time calculated under subsection (3) in relation to the stream is five days or more. O. Reg. 560/94, s. 21 (2).

(3)  Retention time in relation to a process effluent monitoring stream is the period of time in days that results from dividing the total available volume, expressed in cubic metres, of the wastewater treatment facilities on the stream by the average daily flow, expressed in cubic metres, of the stream. O. Reg. 560/94, s. 21 (3).

(4)  For the purposes of subsection (3), the total available volume of the wastewater treatment facilities on the process effluent monitoring stream is the volume of the wastewater treatment facilities that may be occupied by water on any day within the 90-day period preceding the date of the calculation of the retention time, taking into account,

(a) any requirements that apply in respect of the operation of those facilities in any Act or in any approval, order, direction or other instrument issued under any Act; and

(b) any solid waste or sludge contained within those facilities on the day of the calculation of the total available volume of those facilities. O. Reg. 560/94, s. 21 (4).

(5)  For the purposes of subsection (3), the average daily flow of the process effluent monitoring stream is the arithmetic mean of the 30 highest daily volumes calculated under section 31 in relation to the stream within the 90-day period preceding the date of the calculation of the retention time. O. Reg. 560/94, s. 21 (5).

(6)  The discharger of an existing plant to which Ontario Regulation 491/89 applies may include the days of flow calculated under section 5 of that Regulation in relation to the stream between August 26, 1994 and November 23, 1994 for the purposes of calculating the average daily flow of the process effluent monitoring stream. O. Reg. 560/94, s. 21 (6).

(7)  A discharger may sample at a process effluent monitoring stream in the manner described in subsection (2) for the period of time during which the retention time calculated in relation to the stream is in effect. O. Reg. 560/94, s. 21 (7).

(8)  A retention time calculated under this section expires 365 days after the date on which the calculation is made or on the date that a new retention time is calculated under this section, whichever date is sooner. O. Reg. 560/94, s. 21 (8).

Monitoring — Process Effluent — Thrice Weekly

**22.**(1)  Each discharger shall, on three days in each week, pick up a set of samples collected at each process effluent sampling point at the discharger’s plant and shall analyze each set of samples for the parameters for which the frequency of monitoring, as set out in Column 2 of Schedule 1, is thrice weekly.

(2)  There shall be an interval of at least 24 hours between successive pick-up days at the plant under subsection (1).

(3)  All samples picked up under subsection (1) in a week shall be picked up on the same three days in the week. O. Reg. 560/94, s. 22.

Monitoring — Process Effluent — Weekly

**23.**(1)  Each discharger shall, on one day in each week, pick up a set of samples collected at each process effluent sampling point at the discharger’s plant and shall analyze each set of samples for the parameters for which the frequency of monitoring, as set out in Column 2 of Schedule 1, is weekly.

(2)  There shall be an interval of at least four days between successive pick-up days at the plant under subsection (1).

(3)  All samples picked up under subsection (1) in a week shall be picked up on the same day in the week. O. Reg. 560/94, s. 23.

Monitoring — Process Effluent — Quality Control

**24.**(1)  On one day in each year after 1994, on a day on which samples are picked up at the plant under subsection 22 (1), each discharger shall collect and pick up a duplicate sample for each sample picked up on that day under subsection 22 (1) at one process effluent sampling point at the discharger’s plant and shall analyze each duplicate sample for the parameters for which the frequency of monitoring, as set out in Column 2 of Schedule 1, is thrice weekly. O. Reg. 560/94, s. 24 (1).

(2)  On one day in each year after 1994, on a day on which samples are picked up at the plant under subsection 23 (1), each discharger shall collect and pick up a duplicate sample for each sample picked up on that day under subsection 23 (1) at one process effluent sampling point at the discharger’s plant and shall analyze each duplicate sample for the parameters for which the frequency of monitoring, as set out in Column 2 of Schedule 1, is weekly. O. Reg. 560/94, s. 24 (2).

(3)  Each discharger shall ensure that the same process effluent sampling point is used at the discharger’s plant for the purposes of sampling under subsections (1) and (2) in a year. O. Reg. 560/94, s. 24 (3).

(4)  Each discharger shall prepare a travelling blank and travelling spiked blank sample for each sample for which a duplicate sample is picked up at the plant under subsection (1) or (2) and shall analyze the travelling blank and travelling spiked blank samples in accordance with the directions set out in the Ministry of the Environment publication entitled “Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater”, as amended from time to time. O. Reg. 234/07, s. 4.

(5)  There shall be an interval of at least six months between successive pick-up days at the plant under subsections (1) and (2). O. Reg. 560/94, s. 24 (5).

Monitoring — Process Effluent — pH Measurement

**25.**(1)  Each discharger shall, on three days in each week, during the time period applicable to the plant under subsection 20 (6) or (7), collect a grab sample from each process effluent monitoring stream at the discharger’s plant and shall analyze each sample for the parameter pH.

(2)  There shall be an interval of at least 24 hours between each of the three collections at a stream under subsection (1) in each week.

(3)  All samples collected under this section shall be collected at the same time as samples collected under section 22.

(4)  Each grab sample collected under subsection (1) shall be picked up within four hours of when it was collected.

(5)  All samples picked up under subsection (1) in a week shall be picked up on the same three days in the week.

(6)  Each discharger shall ensure that each grab sample picked up under subsection (1) is analyzed within four hours of when it is picked up.

(7)  Instead of collecting a grab sample under subsection (1) from a stream, a discharger may use an on-line analyzer at the sampling point on the stream and analyze the effluent at the sampling point for the parameter pH once on each of three days in each week during the time period applicable to the plant under subsection 20 (6) or (7).

(8)  For the purposes of this section, a discharger shall use either the sampling point established under section 8 on the stream or an alternate sampling point located downstream of the sampling point but before the point of discharge of the stream to surface water or to an industrial sewer used in common with another plant.

(9)  Before using an alternate sampling point under subsection (8), a discharger shall give the Director a written notice describing the location of the alternate sampling point, together with a revised version of the list and plot plan submitted under section 9 showing the alternate sampling point. O. Reg. 560/94, s. 25.

Monitoring — Acute Lethality Testing — Rainbow Trout

**26.**(1)  Where a discharger is required by this section to perform a rainbow trout acute lethality test, the discharger shall perform the test according to the procedures described in the Environment Canada publication entitled “Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout”, as amended from time to time. O. Reg. 234/07, s. 5.

(2)  Each rainbow trout acute lethality test required by this section shall be carried out as a single concentration test using 100 per cent effluent. O. Reg. 560/94, s. 26 (2).

(3)  On one day in each month, on a day on which samples are picked up at the plant under subsection 23 (1), each discharger shall collect and immediately pick up a grab sample at each process effluent sampling point at the discharger’s plant and shall perform a rainbow trout acute lethality test on each sample. O. Reg. 560/94, s. 26 (3).

(4)  There shall be an interval of at least 15 days between successive pick-up days at the plant under subsection (3). O. Reg. 560/94, s. 26 (4).

(5)  All samples picked up under subsection (3) in a month shall be picked up on the same day in the month. O. Reg. 560/94, s. 26 (5).

(6)  Where a discharger has performed tests under subsection (3) for 12 consecutive months on samples collected from the same sampling point and the mortality of the rainbow trout in each test did not exceed 50 per cent, the discharger is relieved of the obligations under subsection (3) relating to the sampling point and shall instead collect and immediately pick up a grab sample at the sampling point on one day in each quarter and perform a rainbow trout acute lethality test on each sample. O. Reg. 560/94, s. 26 (6).

(7)  Samples picked up at a plant under subsection (6) shall be picked up on a day on which samples are picked up at the plant under subsection (3). O. Reg. 560/94, s. 26 (7).

(8)  If no samples are being picked up at a plant under subsection (3) during a quarter, samples picked up at the plant during the quarter under subsection (6) shall be picked up on a day on which samples are picked up at the plant under subsection 23 (1). O. Reg. 560/94, s. 26 (8).

(9)  There shall be an interval of at least 45 days between successive pick-up days at the plant under subsection (6). O. Reg. 560/94, s. 26 (9).

(10)  All samples picked up under subsection (6) in a quarter shall be picked up on the same day in the quarter. O. Reg. 560/94, s. 26 (10).

(11)  If a rainbow trout acute lethality test performed under subsection (6) on any sample from a sampling point results in mortality of more than 50 per cent of the test rainbow trout, subsections (6) to (10) cease to apply in respect to samples from that sampling point, and a discharger shall instead comply with the requirements of subsection (3) relating to the sampling point, until the tests performed under subsection (3) on all samples collected from the sampling point for a further 12 consecutive months result in mortality for no more than 50 per cent of the rainbow trout for each test. O. Reg. 560/94, s. 26 (11).

(12)  A discharger shall notify the Director in writing of any change in the frequency of acute lethality testing under this Regulation at the discharger’s plant, within 30 days after the day on which the change begins. O. Reg. 560/94, s. 26 (12).

(13), (14)  Revoked: O. Reg. 560/94, s. 26 (15).

(15)  Spent: O. Reg. 560/94, s. 26 (15).

(16)  Subsections (2) to (15) apply with necessary modifications to each cooling water effluent sampling point and, for the purpose, the reference in subsection (3) to each process effluent sampling point shall be deemed to be a reference to each cooling water effluent sampling point and the reference in subsections (3) and (8) to subsection 23 (1) shall be deemed to be a reference to subsection 29 (1). O. Reg. 560/94, s. 26 (16).

Monitoring — Acute Lethality Testing — *Daphnia magna*

**27.**(1)  Where a discharger is required by this section to perform a Daphnia magna acute lethality test, the discharger shall perform the test according to the procedures described the Environment Canada publication entitled “Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Daphnia magna”, as amended from time to time. O. Reg. 234/07, s. 6.

(2)  Subsections 26 (2) to (16) apply with necessary modifications to Daphnia magna acute lethality tests and, for the purpose, a reference to rainbow trout shall be deemed to be a reference to Daphnia magna. O. Reg. 560/94, s. 27 (2); O. Reg. 169/96, s. 5.

(3)  Each discharger shall pick up each set of samples required to be collected from a sampling point at the discharger’s plant under this section on a day on which the discharger collects a sample from the sampling point under section 26, to the extent possible having regard to the frequency of monitoring required at the sampling point under this section and section 26. O. Reg. 560/94, s. 27 (3).

Monitoring — Chronic Toxicity Testing — Fathead Minnow and *Ceriodaphnia dubia*

**28.**(1)  Where a discharger is required to perform a seven-day fathead minnow growth inhibition test, the discharger shall perform the test according to the procedure described in the Environment Canada publication entitled “Biological Test Method: Test of Larval Growth and Survival Using Fathead Minnows”, as amended from time to time. O. Reg. 234/07, s. 7.

(2)  Where a discharger is required to perform a seven-day *Ceriodaphnia dubia* reproduction inhibition and survivability test, the discharger shall perform the test according to the procedure described in the Environment Canada publication entitled “Biological Test Method: Test of Reproduction and Survival Using the Cladoceran *Ceriodaphnia dubia*”, as amended from time to time. O. Reg. 234/07, s. 7.

(3)  On one day in each semi-annual period, on a day on which samples are picked up at the plant under subsection 23 (1), each discharger shall collect and immediately pick up a grab sample from each process effluent sampling point at the discharger’s plant, and shall perform a seven-day fathead minnow growth inhibition test and a seven-day Ceriodaphnia dubia reproduction inhibition and survivability test on each sample. O. Reg. 560/94, s. 28 (3).

(4)  There shall be an interval of at least 90 days between successive pick-up days at the plant under subsection (3). O. Reg. 560/94, s. 28 (4).

(5)  All samples picked up under subsection (3) in a semi-annual period shall be picked up on the same day in the semi-annual period. O. Reg. 560/94, s. 28 (5).

(6)  A discharger need not collect a sample from a sampling point in accordance with subsection (3) until 12 consecutive monthly rainbow trout acute lethality tests and 12 consecutive monthly Daphnia magna acute lethality tests performed on samples collected at the sampling point at a discharger’s plant result in mortality for no more than 50 per cent of the test organisms in 100 per cent effluent. O. Reg. 560/94, s. 28 (6).

Monitoring — Cooling Water Effluent — Weekly Assessment

**29.**(1)  Each discharger shall, on one day in each week, pick up a set of samples collected at each cooling water effluent sampling point at the discharger’s plant and shall analyze each set of samples for each Schedule 2 assessment parameter.

(2)  There shall be an interval of at least four days between successive pick-up days at the plant under subsection (1).

(3)  All samples picked up under subsection (1) in a week shall be picked up on the same day in the week. O. Reg. 560/94, s. 29.

Monitoring — Overflow Effluent — Assessment

**30.**(1)  Each discharger shall, during each eight-hour period in which overflow effluent is discharged from the plant, collect a grab sample at each overflow effluent sampling point at the discharger’s plant and shall analyze each sample for each Schedule 3 assessment parameter.

(2)  Each grab sample collected under subsection (1) shall be picked up within four hours of when it was collected. O. Reg. 560/94, s. 30.

PART VI  
EFFLUENT VOLUME

Flow Measurement

**31.**(1)  Subject to subsection (7), for the purposes of this section, a volume of effluent for a stream for a day is the volume that flowed past the sampling point established under Part II on the stream during the 24-hour period preceding the pick-up of the first sample picked up from the stream for the day.

(2)  Each discharger shall determine in cubic metres a daily volume of effluent for each process effluent stream at the discharger’s plant for each day on which a sample is collected under this Regulation from the stream.

(3)  Each discharger shall use flow measurement methods that allow the daily volumes for process effluent streams to be determined to an accuracy of within plus or minus 15 per cent.

(4)  Each discharger shall determine in cubic metres a daily volume of effluent for each cooling water effluent stream at the discharger’s plant for each day on which a sample is collected under this Regulation from the stream.

(5)  Each discharger shall use flow measurement methods that allow the daily volumes for cooling water effluent streams to be determined to an accuracy of within plus or minus 20 per cent.

(6)  Each discharger shall determine in cubic metres a volume of effluent for each overflow effluent monitoring stream at the discharger’s plant for each eight-hour period for which a sample is collected under this Regulation from the stream.

(7)  For the purposes of subsection (6), a volume of effluent for an overflow effluent monitoring stream is the volume that flowed past the overflow effluent sampling point on the stream during the eight-hour period.

(8)  Each discharger shall use flow measurement methods that allow the volumes for overflow effluent streams to be determined to an accuracy of within plus or minus 20 per cent.

(9)  Each discharger shall, no later than the day that is 90 days after the date on which this Regulation begins to apply to the plant, determine by calibration or confirm by means of a certified report of a registered professional engineer of the Province of Ontario that each flow measurement method used under subsection (2) meets the accuracy requirements of subsection (3), that each flow measurement method used under subsection (4) meets the accuracy requirements of subsection (5), and that each flow measurement method used under subsection (6) meets the accuracy requirements of subsection (8).

(10)  Where a discharger uses a new flow measurement method or alters an existing flow measurement method, the discharger shall determine by calibration or confirm by means of a certified report of a registered professional engineer of the Province of Ontario that each new or altered flow measurement method meets the accuracy requirements of subsection (3), (5) or (8), as the case may be, within two weeks after the day on which the new or altered method or system is used.

(11)  Each discharger shall develop and implement a maintenance schedule and a calibration schedule for each flow measurement system installed at the discharger’s plant and shall maintain each flow measurement system according to good operating practices.

(12)  Each discharger shall use reasonable efforts to set up each flow measurement system used for the purposes of this section in a way that permits inspection by a provincial officer. O. Reg. 560/94, s. 31.

Calculation of Plant Volumes

**32.**(1)  Each discharger shall calculate, in cubic metres, a daily process effluent plant volume for each day.

(2)  For the purposes of subsection (1), a process effluent plant volume for a day is the sum of the daily process effluent volumes determined under section 31 for the day.

(3)  Each discharger shall calculate, in cubic metres, a monthly average process effluent plant volume for each month, by taking the arithmetic mean of the daily process effluent plant volumes calculated under subsection (1) for the month.

(4)  Each discharger shall calculate, in cubic metres, a daily cooling water effluent plant volume for each day.

(5)  For the purposes of subsection (4), a cooling water effluent plant volume for a day is the sum of the daily cooling water volumes determined under section 31 for the day.

(6)  Each discharger shall calculate, in cubic metres, a monthly average cooling water effluent plant volume for each month, by taking the arithmetic mean of the daily cooling water effluent plant volumes calculated under subsection (4) for the month. O. Reg. 560/94, s. 32.

PART VII  
STORM WATER CONTROL STUDY

Storm Water Control Study

**33.**(1)  Each discharger shall complete a storm water control study in respect of the discharger’s plant, in accordance with the requirements of the Ministry of Environment and Energy publication entitled “Protocol for Conducting a Storm Water Control Study”, dated August, 1994.

(2)  A discharger need not comply with subsection (1) in respect of the discharger’s plant if,

(a) the plant meets the exemption criteria set out in the Ministry of Environment and Energy publication entitled “Protocol for Conducting a Storm Water Control Study”, dated August, 1994; and

(b) the discharger notifies the Director in writing, within 12 months after the date on which this Regulation begins to apply to the plant, that the plant meets the exemption criteria referred to in clause (a).

(3)  Subject to subsection (4), a discharger shall complete the storm water control study in respect of the discharger’s plant within 24 months after the date on which this Regulation begins to apply to the plant.

(4)  A discharger may postpone completion of the storm water control study in respect of the discharger’s plant until 48 months after the date on which this Regulation begins to apply to the plant if,

(a) in order to meet the requirements of Part IV, the discharger plans to make process changes, install wastewater treatment facilities, implement management practices, or make any other changes at the plant that would likely alter the quantity or quality of storm water discharged from the plant; and

(b) the discharger notifies the Director in writing, within 24 months after the date on which this Regulation begins to apply to the plant, of the plans referred to in clause (a).

(5)  Each discharger shall ensure that a copy of each study completed under this section is available to Ministry staff at the discharger’s plant, on request, during the plant’s normal office hours. O. Reg. 560/94, s. 33.

PART VIII  
RECORDS AND REPORTS

Record Keeping

**34.**(1)  Each discharger shall keep records, in an electronic format acceptable to the Director, of all analytical results obtained under sections 22, 23, 25, 29 and 30, all calculations performed under sections 12, 13, 14, 15, 16 and 17 and all determinations and calculations made or performed under sections 31 and 32.

(2)  Each discharger shall keep records of all sampling and analytical procedures used in meeting the requirements of section 7, including, for each sample, the date, the time of pick-up, the sampling procedures used, and any incidents likely to affect the analytical results.

(3)  Each discharger shall keep records of all retention times calculated under section 21.

(4)  Each discharger shall keep records of the results of all monitoring performed under sections 24 and 26 to 30.

(5)  Each discharger shall keep records of all maintenance and calibration procedures performed under section 31.

(6)  Each discharger shall keep records of all problems or malfunctions, including those related to sampling, analysis, acute lethality testing, chronic toxicity testing or flow measurement, that result or are likely to result in a failure to comply with a requirement of this Regulation, stating the date, duration and cause of each malfunction, and including a description of any remedial action taken.

(7)  Each discharger shall keep records of any incident in which process effluent is discharged from the discharger’s plant without flowing past a sampling point established on a process effluent stream in accordance with this Regulation before being discharged, stating the date, duration, cause and nature of each incident.

(8)  Each discharger shall keep records of any incident in which overflow effluent is discharged from the discharger’s plant stating the date, duration, cause and nature of each incident.

(9)  Each discharger shall keep records of all process changes and redirections of or changes in the character of effluent streams that affect the quality of effluent at any sampling point established under this Regulation at the discharger’s plant.

(10)  Each discharger shall keep records of the location of each sampling point established at the discharger’s plant under Part II.

(11)  Each discharger shall make each record required by this section as soon as reasonably possible and shall keep each such record for a period of three years.

(12)  Each discharger shall ensure that all records kept under this section are available to Ministry staff at the discharger’s plant, on request, during the plant’s normal office hours. O. Reg. 560/94, s. 34.

Reports Available to the Public

**35.**(1)  On or before June 1 in each year, each discharger shall prepare a report relating to the previous calendar year and including,

(a) a summary of plant loadings calculated under sections 12, 13 and 14;

(b) a summary of concentrations determined under sections 15, 16 and 17;

(c) a summary of retention times calculated under section 21;

(d) a summary of the results of monitoring performed under sections 22, 23 and 25 to 30;

(e) a summary of calculations performed under subsections 31 (6), 32 (1) and 32 (4);

(f) a summary of the concentrations or other results that exceeded a limit prescribed by section 18 or 19;

(g) a summary of the incidents in which process effluent was discharged from the discharger’s plant without flowing past a sampling point established on a process effluent stream in accordance with this Regulation before being discharged; and

(h) a summary of the incidents in which overflow effluent was discharged from the discharger’s plant.

(2)  Each discharger shall ensure that each report prepared under subsection (1) is available to any person at the discharger’s plant, on request during the plant’s normal office hours.

(3)  Each discharger shall provide the Director, upon request, with a copy of any report that the discharger has prepared under subsection (1). O. Reg. 560/94, s. 35.

Reports to the Director — General

**36.**(1)  Each discharger shall notify the Director in writing of any change of name or ownership of the discharger’s plant occurring after this Regulation begins to apply to the plant, within 30 days after the end of the month in which the change occurs.

(2)  Each discharger shall notify the Director in writing of any process change or redirection of or change in the character of an effluent stream that affects the quality of effluent at any sampling point established under this Regulation at the discharger’s plant, within 30 days of the change or redirection.

(3)  A discharger need not comply with subsection (2) where the effect of the change or redirection on effluent quality is of less than one week’s duration. O. Reg. 560/94, s. 36.

Reports to the Director on Compliance with Section 6 and Part IV

**37.**(1)  Each discharger shall report any incident in which process effluent is discharged from the discharger’s plant without flowing past a sampling point established on a process effluent stream in accordance with this Regulation before being discharged.

(2)  Each discharger shall report any incident in which overflow effluent is discharged from the discharger’s plant.

(3)  Each discharger shall report any concentration or other result that exceeds a limit prescribed by section 18 or 19.

(4)  A report required under subsection (1), (2) or (3) shall be given orally, as soon as reasonably possible, and in writing, as soon as reasonably possible. O. Reg. 560/94, s. 37.

Quarterly Reports to the Director

**38.**(1)  No later than 45 days after the end of each quarter, each discharger shall submit a report to the Director containing information relating to the discharger’s plant throughout the quarter as required by subsections (3) to (13).

(2)  A report under this section shall be submitted both in an electronic format acceptable to the Director and in hard copy generated from the electronic format acceptable to the Director and signed by the discharger.

(3)  A report under this section shall include all information included in a report given under section 37 during the quarter.

(4)  Each discharger shall report, for each month in the quarter, the monthly average plant loadings and the highest and lowest daily plant loadings calculated under sections 12 and 13 for each limited parameter and each Schedule 2 assessment parameter.

(5)  Each discharger shall report, for each day in the quarter, each daily overflow effluent stream loading calculated under section 14 for each Schedule 3 assessment parameter.

(6)  Each discharger shall report, for each month in the quarter, the monthly average concentrations calculated under section 15 and the highest and lowest analytical results obtained under sections 22 and 23 for each limited parameter in each process effluent monitoring stream at the discharger’s plant.

(7)  Each discharger shall report, for each month in the quarter, the monthly average concentrations calculated under section 16 and the highest and lowest analytical results obtained under section 29 for each Schedule 2 assessment parameter in each cooling water effluent monitoring stream at the discharger’s plant.

(8)  Each discharger shall report, for each day in the quarter, the daily concentrations calculated under section 17 and the highest and lowest analytical results obtained under section 30 for each Schedule 3 assessment parameter in each overflow effluent monitoring stream at the discharger’s plant.

(9)  Each discharger shall report, for each month in the quarter, the monthly average process effluent plant volume and the highest and lowest daily process effluent plant volumes calculated under section 32.

(10)  Each discharger shall report, for each month in the quarter, the monthly average cooling water effluent plant volume and the highest and lowest daily cooling water effluent plant volumes calculated under section 32.

(11)  Each discharger shall report, for each day in the quarter, the daily overflow effluent stream volumes calculated under section 31.

(12)  Each discharger shall report the number of days in each month in the quarter on which process effluent or overflow effluent was discharged from the discharger’s plant.

(13)  Each discharger shall report, for each month in the quarter, the highest and lowest pH results obtained under section 25 for each process effluent monitoring stream at the discharger’s plant. O. Reg. 560/94, s. 38.

Reports to the Director on Chronic Toxicity Testing

**39.**(1)  Each discharger shall report to the Director the results of all monitoring performed under section 28, together with the date on which each sample was picked up, no later than 60 days after the end of each semi-annual period in which the monitoring was performed.

(2)  A report under subsection (1) shall include a plot of percentage reduction in growth or reproduction against the logarithm of test concentration and shall include a calculation of the concentration at which a 25 per cent reduction in growth or reproduction would occur. O. Reg. 560/94, s. 39.

PART IX  
COMPLIANCE

Compliance — Existing and New Plants

**40.**(1)  A discharger for an existing plant with respect to which this Regulation applies need not comply with,

(a) Part IV before August 26, 1997; and

(b) Parts V and VI before November 24, 1994. O. Reg. 560/94, s. 40.

(2)  A discharger for a new plant with respect to which this Regulation applies need not comply with section 19 before August 26, 1997. O. Reg. 169/96, s. 6 (2).

41.  Omitted (revokes other Regulations). O. Reg. 560/94, s. 41.

Schedule 1  
Process Effluent Limits and Monitoring Frequency (All existing and new plants)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Item | Column 0.1  Analytical test group | Column 1  Parameter | Column 2  Monitoring frequency | Column 3  Daily concentration limit (mg/L) | Column 4  Monthly average concentration limit |
| 1. | 2 | Total Cyanide | Thrice weekly | 2 | 1 |
| 2. | 8 | Total Suspended Solids (TSS) | Thrice weekly | 30 | 15 |
| 3. | 9 | Copper | Weekly | 0.6 | 0.3 |
| 4. | 9 | Lead | Weekly | 0.4 | 0.2 |
| 5. | 9 | Nickel | Weekly | 1 | 0.5 |
| 6. | 9 | Zinc | Weekly | 1 | 0.5 |
| 7. | 10 | Arsenic | Weekly | 1 | 0.5 |

O. Reg. 306/17, s. 1.

SCHEDULE 2  
Cooling Water Effluent Assessment Monitoring (All existing and new Plants)

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Column 0.1  Analytical test group | Column 1  Parameter | Column 2  Monitoring frequency |
| 1. | 8 | Total Suspended Solids (TSS) | Weekly |

O. Reg. 306/17, s. 1.

Schedule 3  
Overflow Effluent Assessment Monitoring (All Existing and New Plants)

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Column 0.1  Analytical test group | Column 1  Parameter | Column 2  Monitoring frequency |
| 1. | 2 | Total Cyanide | Every eight-hour period |
| 2. | 8 | Total Suspended Solids (TSS) | Every eight-hour period |
| 3. | 9 | Copper | Every eight-hour period |
| 4. | 9 | Lead | Every eight-hour period |
| 5. | 9 | Nickel | Every eight-hour period |
| 6. | 9 | Zinc | Every eight-hour period |
| 7. | 10. | Arsenic | Every eight-hour period |

O. Reg. 306/17, s. 1.

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