PULP MILL AND PULP AND PAPER MILL LIQUID EFFLUENT CONTROL REGULATION

published by Quickscribe Services Ltd.

DISCLAIMER: These documents are provided for private study or research purposes only. Every effort has been made to ensure the accuracy and completeness of the material; however, Quickscribe Services Ltd. cannot guarantee its legal accuracy and does not accept responsibility for loss or inconvenience suffered by users as a result of inaccuracies. The material is not admissible in a court of law in accordance with the Evidence Act of British Columbia. For such purposes official Queen’s Printer copies of Acts and regulations must be obtained.
PULP MILL AND PULP AND PAPER MILL LIQUID EFFLUENT

CONTROL REGULATION

B.C. Reg. 470/90

[includes B.C. Reg. 188/2002 amendments (effective Dec. 31, 2002)]

Contents

1. Interpretation
2. Prohibitions
3. Sampling methods for compliance determination
4. Scientific sampling method evaluation
5. Sampling and reporting schedule
6. Waiver
7. Compliance
8. Repealed
8.1 Repealed
9. Offence and penalty
10. Fees

SCHEDULE 1
SCHEDULE 2
SCHEDULE 3

[Provisions of the Waste Management Act, RSBC 1996, c. 482, relevant to the enactment of this regulation: section 57]
Interpretation

1. (1.) In this regulation:

“96 h LC50 toxicity” means the calculated concentration of effluent that is lethal to 50% of the test fish (rainbow trout (Oncorhynchus mykiss)) during a 96 hour exposure;

“Act” means the Waste Management Act;

“ADt” means an air dry tonne of pulp product where the weight of the pulp product is corrected to reflect the weight that the pulp product would be if the pulp were composed of 10% water and 90% fibre;

“AOX” means halogenated organic compounds that are adsorbable by activated carbon;

“CBPROD” means, subject to subsection (2), the 90th percentile of the daily production rate of bleached pulp produced from an on-site bleach plant with the use of chlorine or chlorine compounds, or both chlorine and chlorine compounds, expressed as ADt, determined by the use of statistical methods, and using a period of time approved by the manager for determination of the 90th percentile of the rate of chlorine or chlorine compound bleached pulp production;

“compliance sampling method” means the technique used to collect samples which are subsequently analyzed to determine if the effluent satisfies the quality standards established under sections 2, 3, 4 and 6;

“EFF” means, subject to subsection (2), the 90th percentile of the rate of effluent, expressed as m³/day, including any sanitary effluent combined with process effluent, discharged from a pulp or paper or pulp and paper mill, determined by the use of statistical methods, and using a period of time approved by the manager for determination of the 90th percentile of the rate of discharge of effluent;

“permittee” means a person who holds a permit issued under section 10 of the Act;

“phase I” means a compliance sampling period commencing on the date this regulation comes into force and expiring on the date that phase II commences;

“phase II” means a compliance sampling period commencing on a date specified in writing by the director;

“PROD” means, subject to subsection (2), the 90th percentile of the daily production rate of a pulp or paper or pulp and paper mill, expressed as ADt, determined by the use of statistical methods, and using a period of time approved by the manager for determination of the 90th percentile of the rate of production.

(2.) If there is an insufficient number of days of production to perform a valid 90th percentile calculation of CBPROD, EFF or PROD, the manager may use the mill’s chlorine or chlorine compound bleached pulp production design figure, effluent flow design figure or production design figure respectively as values for CBPROD, EFF or PROD until such time as these parameters may be calculated in accordance with subsection (1).
Prohibitions

2. (1.) A permittee that operates a bleached kraft pulp mill that uses chlorine or chlorine compounds to bleach the pulp shall not discharge effluent into the environment if the amount of AOX in the effluent exceeds the lesser of
   (a) a monthly average of 0.6 kg of AOX/ADt of pulp produced in the bleach plant, or
   (b) the maximum AOX discharge rate, expressed in kg/ADt, authorized by a permit issued under section 10 of the Act.

   (1.1) A permittee that operates a bleached sulphite pulp mill or pulp and paper mill that uses chlorine or chlorine compounds to bleach the pulp shall not discharge effluent into the environment if the amount of AOX in the effluent exceeds the lesser of
   (a) a monthly average of 1.0 kg of AOX/ADt of pulp produced in the bleach plant, or
   (b) the maximum AOX discharge rate, expressed in kg/ADt, authorized by a permit issued under section 10 of the Act.

(2.) No permittee at a location specified in Column 1 of Schedule 1 shall, on and after the date specified in Column 3 opposite that permittee and location, discharge effluent into the environment from an operation that produces pulp or paper, or both pulp and paper, unless construction of secondary effluent treatment works has been completed by that date.

(3.) Subject to subsection (4), no permittee at a location specified in Column 1 of Schedule 1 shall, on and after the date specified in Column 4 opposite that permittee and location, discharge effluent into the environment from an operation that produces pulp or paper, or both pulp and paper, unless the effluent is equal to or better than the quality requirement specified in Column 3 of Schedule 2.

(4.) Subsection (3) does not apply to the existing pulp and paper mill operations of MacMillan Bloedel Ltd. located at Port Alberni and the existing pulp mill operation of Western Pulp Inc. located at Port Alice.

(5.) The existing pulp and paper mill operations of MacMillan Bloedel Ltd. located at Port Alberni shall not, on and after the date specified in Column 4 of Schedule 1 opposite that permittee and location, discharge effluent into the environment from its pulp and paper operation unless the effluent is equal to or better than the quality requirement specified in Column 4 of Schedule 2.

(6.) The existing pulp mill operation of Western Pulp Inc. located at Port Alice shall not, on and after the date specified in Column 4 of Schedule 1 opposite that permittee and location, discharge effluent into the environment from its pulp mill operation unless the effluent is equal to or better than the quality requirement specified in Column 5 of Schedule 2.

(7.) to (9) Repealed. [B.C. Reg. 188/2002]
   [am. B.C.Regs. 13/92; 188/2002.]

Sampling methods for compliance determination

3. (1.) The compliance sampling method used to determine the effluent flow rate and temperature shall be as specified in writing by the manager.

(2.) The compliance sampling method used to provide an effluent sample for determination of the 96 h LC50 toxicity shall consist of a grab sample.

(3.) The compliance sampling method used to provide effluent samples for determination of the 5 day biochemical oxygen demand (BOD5), the total suspended solids (TSS) and the AOX during phase I shall consist of collecting an effluent sample during a period of 24 hours by taking
(a) a continuous sample of the effluent being discharged from each effluent outfall,
(b) a composite of equal samples from each effluent outfall at least every 15 minutes, or
(c) a composite of samples from each effluent outfall at least every 15 minutes in an amount proportionate to the amount of the effluent.

(4.) The compliance sampling method used to provide effluent samples for determination of BOD5, TSS and AOX during phase II shall be as specified in writing by the director.

Scientific sampling method evaluation

4. (1.) Subject to subsections (4) and (5), for the purpose of collecting samples for BOD5, TSS and AOX determination, each permittee at a location specified in Column 1 of Schedule 1 must,
(a) commencing within 90 days following the date specified in Column 4 of Schedule 1, or
(b) where no date is specified in Column 4 of Schedule 1, commencing within 90 days after this subsection comes into force,
collect data for 13 consecutive months for a scientific evaluation to determine the relationship between the 3 sampling methods described in subsection (2).

(2.) The 3 sampling methods referred to in subsection (1) are
(a) the compliance sampling method specified in section 3 (3),
(b) the collection of an effluent sample for 6 hours using one of the techniques described in section 3 (3) (a), (b) or (c), and
(c) the grab sampling method for determination of BOD5, TSS and AOX.

(3.) For the purpose of establishing the sampling method to be used for phase II compliance sampling referred to in section 3 (4) at a location specified in Column 1 of Schedule 1, the director may establish multipliers to relate the sampling methods under subsection (2) (a), (b) and (c).

(4.) Where the words “Not Applicable” appear in Column 2 of Schedule 1 opposite a permittee at a location in Column 1, that permittee is not required to collect samples for AOX.

(5.) A permittee is exempt from the requirement to conduct an evaluation under this section if the director has specified a commencement date for phase II compliance sampling and has established the compliance sampling method under section 3 (4).

[am. B.C.Reg. 13/92.]

Sampling and reporting schedule

5. (1.) Pursuant to sections 3 and 4, each permittee listed in Column 1 of Schedule 1 shall sample each effluent outfall at the following minimum frequencies:
(a) 5 times per week for TSS;
(b) 3 times per week for BOD5;
(c) for a pulp mill that bleaches pulp with chlorine or a chlorine compound, once a week for AOX;
(d) once per month for toxicity;
(e) continuous or daily grab for temperature;
(f) daily for flow.

(2.) Grab samples collected during the 13 month scientific evaluation described in section 4 for BOD5, TSS and AOX shall be collected by each permittee during the collection of the 6 hour duration sample described under section 4 (2) (b).
(3.) The 6 hour duration samples collected during the 13 month scientific evaluation described in section 4 shall be collected by each permittee during the collection of the phase I compliance sample described under section 3 (3).

(4.) A manager may specify an alternate sampling schedule for non-process effluent outfalls to replace the requirements outlined in subsections (1), (2) and (3).

(5.) Each permittee must submit to a manager monitoring data collected under subsections (1) to (4) within 30 days of the end of the month in which the data is collected.

[am. B.C.Regs. 13/92; 188/2002.]

Waiver

6. (1.) Notwithstanding the terms and conditions of a permit issued under section 10 of the Act, a permittee at a location specified in Column 1 of Schedule 3 shall not, from the day this subsection comes into force to the expiry date specified in Column 3 opposite that permittee and location, discharge effluent into the environment where

(a) the flow, BOD5, TSS or temperature of the effluent is greater than the requirements specified in Column 2 opposite that permittee,

(b) the 96 h LC50 toxicity or dissolved oxygen (DO) concentration of the effluent is less than the quality requirement specified in Column 2 opposite that permittee, or

(c) the pH range of the effluent is outside the range specified in Column 2 opposite that permittee.

(2.) Repealed. [B.C. Reg. 13/92]

(3.) If a permittee is implementing water conservation measures which will result in the actual effluent flow being less than the allowable flow shown in Column 2 of Schedule 3 for that permittee, a manager may allow an increase in the concentration of BOD5 or TSS shown in Column 2 provided that at no time will the actual loading of BOD5 and TSS, calculated by multiplying the actual daily flow by the actual concentration of BOD5 or TSS in the effluent, exceed the equivalent allowable loading determined by multiplying the flow by BOD5 or TSS on Schedule 3.

(4.) If, in the opinion of a manager, a permittee at a location specified in Column 1 of Schedule 1 is unable to comply with a requirement of this regulation because of

(a) an act of God or natural disaster,

(b) an act of war, terrorism or vandalism,

(c) a labour dispute or work stoppage, or

(d) an unforeseen mechanical breakdown,

the manager may, in writing, grant a waiver from all or part of this regulation for a period not exceeding 90 days.

(5.) The power under subsection (4) may be exercised only once in respect of the same incident.

[am. B.C.Reg. 13/92.]

Compliance

7. Analytical and arithmetic methods used to evaluate compliance with the requirements of this regulation shall be approved by the director.

Repealed

8. Repealed. [B.C. Reg. 188/2002]
Repealed 8.1  Repealed. [B.C. Reg. 188/2002]

Offence and penalty
9. (1.) A person who contravenes section 3, 4 or 5 (1) to (4) commits an offence and is liable to a penalty not exceeding $200,000.

(2.) A person who, with intent to mislead, submits false monitoring data under section 5 (5) commits an offence and is liable to a penalty not exceeding $200,000.

[am. B.C.Reg. 188/2002.]

Fees
10. For the purpose of calculating the annual fee under the Waste Management Permit Fees Regulation, B.C. Reg. 299/92, the maximum authorized discharge rate and concentration is the following:

(a) for a bleached kraft pulp mill, the lesser of
   (i) 0.6 kg of AOX/ADt, or
   (ii) the maximum AOX discharge rate, expressed in kg/ADt, authorized by a permit issued under section 10 of the Act;

(b) for a bleached sulphite pulp mill, the lesser of
   (i) 1.0 kg of AOX/ADt, or
   (ii) the maximum AOX discharge rate, expressed in kg/ADt, authorized by a permit issued under section 10 of the Act.

[en. B.C.Reg. 188/2002.]
### SCHEDULE 1

[en. B.C.Reg. 265/91; am. B.C.Reg. 13/92.]

(Sections 2 and 4)

<table>
<thead>
<tr>
<th>COLUMN 1</th>
<th>COLUMN 2</th>
<th>COLUMN 3</th>
<th>COLUMN 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permittee</td>
<td>Location</td>
<td>Date to comply with the AOX requirement under section 2</td>
<td>Date to comply with completion of construction of secondary treatment works</td>
</tr>
<tr>
<td>Daishowa Canada Co. Limited and West Fraser Timber Limited doing business under the firm name and style of Quesnel River Pulp Company</td>
<td>Quesnel</td>
<td>Not Applicable*</td>
<td>Dec. 13, 1990</td>
</tr>
</tbody>
</table>

* Chlorine not used to bleach the pulp.
++ Exempt from secondary effluent treatment requirement of section 2 (2).
+++ BOD₃, TSS and acute toxicity requirements specified in Column 3 of Schedule 2 do not apply to effluent discharged to the Rapid Infiltration System.
## SCHEDULE 2

[en. B.C.Reg. 518/95.]

(Section 2)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TSS</td>
<td>mg/l</td>
<td>$11.25 \times \frac{\text{PROD}}{\text{EFF}} \times 1000$</td>
<td>$18.75 \times \frac{\text{PROD}}{\text{EFF}} \times 1000$</td>
<td>$6092 \frac{\text{EFF}}{1000}$</td>
<td>$10154 \frac{\text{EFF}}{1000}$</td>
<td>$16200 \frac{\text{EFF}}{1000}$</td>
<td>$27300 \frac{\text{EFF}}{1000}$</td>
</tr>
<tr>
<td>BOD₅</td>
<td>mg/l</td>
<td>$7.5 \times \frac{\text{PROD}}{\text{EFF}} \times 1000$</td>
<td>$7.5 \times \frac{\text{PROD}}{\text{EFF}} \times 1000$</td>
<td>$3385 \frac{\text{EFF}}{1000}$</td>
<td>$5641 \frac{\text{EFF}}{1000}$</td>
<td>$3635 \frac{\text{EFF}}{1000}$</td>
<td>$7270 \frac{\text{EFF}}{1000}$</td>
</tr>
</tbody>
</table>

Acute Toxicity: 96 h LC50 toxicity

| % effluent volume | 100% | 100% | 100% | 100% | 100% | 100% |

* Monthly average value is the arithmetic average of the test values collected during the calendar month.
<table>
<thead>
<tr>
<th>Permittee</th>
<th>Location</th>
<th>Flow (m³/day)</th>
<th>96 h LC50 Toxicity (%)</th>
<th>BOD₅ (mg/l) daily max.</th>
<th>TSS (mg/l) daily max.</th>
<th>Temp. °C</th>
<th>DO (mg/l)</th>
<th>pH</th>
<th>Expiry Date</th>
</tr>
</thead>
</table>
| 1. MacMillan Bloedel Limited | Powell River | 115 000 | 10 | 250 | 65 | ** | ** | ** | Oct. 21/92 Outfall 1
| | | 190 000 | 30 | 230 | 75 | ** | ** | ** | Oct. 21/92 Outfall 2
| | | 61 000 | 100 | 5 | 10 | ** | ** | ** | Oct. 21/92 Outfall 3
| | | 41 000 | 100 | 30 | 200 | ** | ** | ** | Oct. 21/92 Outfall 4
| 2. Western Pulp Inc. | Squamish | ** | 7 | 400 | ** | 48 | ** | ** | Dec. 31/92
| 3. Weldwood of Canada Limited and Daishowa Marubeni International, doing business under the firm name and style of Cariboo Pulp and Paper Company | Quesnel | ** | ** | ** | 200 | ** | ** | ** | Mar. 31/92
| 4. Canadian Pacific Forest Products Limited | Gold River | ** | ** | 243 | 199* | ** | ** | ** | Mar. 31/93 phase b
| 5. MacMillan Bloedel Limited | Port Alberni | ** | ** | 78 | 78 | ** | ** | ** | Mar. 31/93 Summer (Mar. 1 to Oct. 31)
| | | ** | ** | 93 | 137 | ** | ** | ** | Mar. 31/93 Winter (Nov. 1 to Feb. 28)
| 6. Fletcher Challenge Canada Limited | Crofton | ** | 19 | 508 | 230 | 50 | ** | ** | Mar. 31/92
| 7. MacMillan Bloedel Limited | Nanaimo (Harmac) | ** | ** | 196 | 73 | ** | ** | ** | Dec. 31/93
| 8. Fletcher Challenge Canada Limited | Campbell River | ** | 10 | 418 | 277 | 43 | ** | ** | Dec. 31/91
| 9. Western Pulp Inc. | Port Alice | 150 000 | 11 | 1 200 | 70 | 35 | ** | ** | Dec. 31/95

* Excluding biosolids
** Terms of the permit applicable

[Provisions of the Waste Management Act, RSBC 1996, c. 482, relevant to the enactment of this regulation: section 57]