POTATO PROCESSING PLANT LIQUID EFFLUENT REGULATIONS [FEDERAL]

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(s. 5)

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(s. 9)
1. These Regulations may be cited as the *Potato Processing Plant Liquid Effluent Regulations*. 
INTERPRETATION

Definitions

2. (1) In these Regulations,

"Act" means the Fisheries Act;

"biochemical oxygen demanding matter" means the substance contained in the effluent from a plant that results from the operation of a plant and that will exert a biochemical oxygen demand;

"canned potato products plant" includes any plant where raw potatoes are peeled and shaped for distribution in a canned and preserved condition;

"composite sample" means a sample obtained in accordance with section 7;

"dehydrated potato products plant" includes any plant where raw potatoes are processed to remove moisture by heat, vacuum or air drying, with the finished product distributed as granules, flakes or slices;

"deposit" means to deposit or to permit the deposit into water frequented by fish;

"effluent" means all wastewaters deposited by a plant and includes process water, wash water, tank drainage, storm water and wastes from water and wastewater treatment facilities, but does not include

(a) storm water that is protected from contamination by a deleterious substance prescribed by section 4 originating from the plant, where the average concentration of biochemical oxygen demanding matter in at least 3 samples of the storm water, taken at intervals of 15 minutes, does not exceed 50 mg/L, or

(b) wastewater from the plant that, prior to being deposited, is treated at a site outside a plant for the purpose of controlling the pH of the wastewater and removing from the wastewater the deleterious substances prescribed by section 4, in such a manner that

(i) the pH of the wastewater, determined in accordance with subsection 9(3), is between 6.0 and 9.0, and

(ii) the quantity of deleterious substances remaining in that wastewater after the treatment, when added to the quantity of deleterious substances deposited directly, does not exceed the deposit of deleterious substances authorized under section 5;

"existing plant" means a plant that commenced commercial production before June 27, 1977;

"expanded plant" means any plant in which the total quantity of raw potatoes processed during any year exceeds 2.5 times the total quantity of raw potatoes processed in that plant during the 1976 calendar year;

"frozen potato products plant" includes any plant where raw potatoes are processed and the final potato product is distributed in a frozen condition;

"Minister" Repealed. [SOR/95-426.]

"new plant" means a plant that did not commence commercial production before June 27, 1977 and that commences commercial production on or after that date;

"owner" of a plant means the owner or operator or his authorized representative;
"plant" includes facilities intended primarily for the conversion of raw potatoes and potato derivatives into products such as frozen potato products, potato chips, dehydrated potato products, canned potato products and potato starch and includes storage, processing, shipping and packaging facilities on the plant site and all properties used for the operation of those facilities;

"potato chip plant" includes any plant where raw potatoes are processed and the final potato product is distributed as a snack food in a ready-to-eat condition;

"process water" means water that comes into contact with potatoes at any stage in the processing and includes water used for can washing and clean-up;

"processing day" means a period of 24 consecutive hours or any part thereof during which the plant is in operation;

"raw potatoes processed" means the net quantity, in tonnes, of raw potatoes that are received at the beginning of the processing line after the raw potato washing operation;

"starch plant" includes any plant processing raw potatoes into potato starch;

"storm water" means water run off that results from precipitation of any kind that falls on a plant or that passes over or through the plant;

"total suspended matter" means the non-filterable residue that results from the operation of a plant, that is contained in the effluent from that plant.

(2) and (3) Repealed. [SOR/95-426.]
APPLICATION

Application

3. (1) Subject to subsection (2), these Regulations apply to every new plant and every expanded plant.
    (2) Where a plant becomes an expanded plant, these Regulations apply to the expanded plant on the first day of the month following the month in which the plant becomes an expanded plant.
4. For the purpose of the definition "deleterious substance" in subsection 34(1) of the Act, the following substances resulting from the operations of a plant to which these Regulations apply are hereby prescribed as deleterious substances:
   (a) biochemical oxygen demanding matter; and
   (b) total suspended matter.

SOR/95-426.
AUTHORIZED DEPOSIT OF DELETERIOUS SUBSTANCES

Authorized deposit of deleterious substances

5. Subject to these Regulations, the owner of a plant of a class set out in Column I of Schedule I may deposit a deleterious substance prescribed by section 4 if
   (a) the actual daily deposit of each deleterious substance, determined in accordance with subsection 11(1), does not exceed the authorized daily deposit of that substance for that class of plant as set out in Column III of that Schedule;
   (b) the average daily deposit of each deleterious substance during a month, determined in accordance with subsection 11(2), does not exceed the authorized average daily deposit of that substance for that class of plant as set out in Column IV of that Schedule; and
   (c) the pH of each composite sample of effluent, determined in accordance with subsection 9(3), is between 6.0 and 9.0.

Additional Conditions of Authorization

General

6. The owner of a plant shall, for each type of effluent deposited by the plant,
   (a) install and maintain facilities, including sampling connections and flow measuring devices, of such type as the Minister may in writing approve for sampling and analysing effluents for the purpose of enabling the Minister to determine whether the owner is complying with the limits of authorized deposits prescribed by section 5;
   (b) take a composite sample on the regular basis prescribed by section 8;
   (c) analyse the sample referred to in paragraph (b) in accordance with section 9;
   (d) measure the flow in accordance with section 10; and
   (e) determine the actual and average daily deposits of each deleterious substance in accordance with section 11.
METHOD OF COLLECTING COMPOSITE SAMPLES

Method of collecting composite samples

7. A composite sample shall be obtained by collecting effluent discharged from a plant during a processing day
   (a) continually during a sampling period of 24 hours at a rate in proportion to the flow rate of the effluent discharged; or
   (b) in such a manner that equal volumes of effluent are delivered into a receptacle at equal intervals not longer than one hour during a sampling period of 24 hours.
FREQUENCY OF SAMPLING AND ANALYSIS

Frequency of sampling and analysis

8. The sampling referred to in paragraph 6(b) shall be made
   (a) in the case of a plant where the weekly quantity of raw potatoes processed
       is less than 400 tonnes, on one processing day each week; and
   (b) in the case of a plant where the weekly quantity of raw potatoes processed
       is 400 tonnes or more, on two processing days each week.
ANALYTICAL AND OTHER TEST METHODS

Analytical and other test methods

9. (1) For the purposes of paragraph 6(c), the concentration in milligrams per litre of a substance described in an item of Schedule II, in each composite sample, shall be determined using
   (a) the test method set out in Column I and modified in Column II of that item; or
   (b) any other method, approved in writing by the Minister, the results of which can be confirmed by the method referred to in paragraph (a).

(2) For the purposes of paragraph 6(c), procedures pertaining to sampling, preservation and storage of samples and prevention of interference relating to the test methods referred to in paragraph (1)(a), as outlined in the general sections of the publication Standard Methods for the Examination of Water and Waste Water, 14th edition (1975), published jointly by the American Public Health Association, American Water Works Association and the Water Pollution Control Federation, shall be adhered to.

(3) For the purposes of paragraph 6(c), the pH of a composite sample shall be determined using
   (a) the test method prescribed by section 424 of the publication referred to in subsection (2); or
   (b) any other method, approved in writing by the Minister, the results of which can be confirmed by the method referred to in paragraph (a).
FLOW MEASUREMENT

Flow measurement

10. For the purpose of paragraph 6(d), the flow of each type of effluent deposited by a plant shall be measured continuously and recorded.
CALCULATION OF ACTUAL DEPOSIT

Calculation of actual deposit

11. (1) For the purposes of paragraph 6(e), the actual daily deposit per unit of production of each deleterious substance prescribed by section 4 shall be determined using the data obtained under subsection 9(1) and section 10 and shall be expressed in terms of kilograms per tonne of raw potatoes processed per day.

(2) For the purposes of paragraph 6(e), the average daily deposit per unit of production during a month of each deleterious substance prescribed by section 4 shall be determined by calculating the average of the results obtained under subsection (1) and shall be expressed in the terms set out in that subsection.
REPORTING AND RECORDS

Reporting and records

12. (1) The owner of a plant shall, within 30 days after the end of each month, sign, date and forward to the Minister a report, in such form as the Minister may in writing approve, showing for that month

(a) the actual daily deposit of deleterious substances deposited by the plant on each day that samples were taken, determined and expressed in accordance with subsection 11(1);

(b) the average daily deposit of deleterious substances deposited by the plant, determined and expressed in accordance with subsection 11(2);

(c) the pH of composite samples, determined in accordance with subsection 9(3);

(d) the daily production of the plant for each day that samples were taken expressed in terms of tonnes of raw potatoes processed;

(e) the weekly production of the plant for each week during the month, expressed in terms of tonnes of raw potatoes processed;

(f) the number of operating days; and

(g) the total daily flow, in litres, of each type of effluent discharged on each day that samples were taken.

(2) The owner of a new plant shall, before he deposits any deleterious substance prescribed by section 4, and the owner of an expanded plant shall, within 30 days of becoming subject to these Regulations, sign, date and forward to the Minister a declaration, in such form as the Minister may in writing approve,

(a) showing the projected weekly production of the plant expressed in terms of tonnes of raw potatoes processed;

(b) showing the projected annual production of the plant expressed in terms of tonnes of raw potatoes processed; and

(c) listing the major products produced.

(3) The owner of a plant shall, within 30 days after the end of each calendar year, sign, date and forward to the Minister a declaration, in such form as the Minister may in writing approve, showing the actual production of the plant for the previous year in terms of tonnes of raw potatoes processed.
PERMITTED VARIATION IN ADDITIONAL CONDITIONS

Permitted variation in additional conditions

13. Where the owner of a plant establishes to the satisfaction of the Minister that for scientific and technical reasons a scheme of sampling and analysis, measurement or reporting referred to in sections 7, 9, 10 and 12 other than at the regular time interval frequencies required by section 8 is sufficient to enable the Minister to determine whether the owner is complying with the limits of authorized deposits prescribed by section 5, the Minister may, in writing, permit the owner to
(a) take and analyse samples of each effluent in accordance with the scheme on a regular basis specified in the letter of permission,
(b) measure the volume of each effluent in accordance with the scheme on a regular basis specified in the letter of permission, or
(c) report to the Minister in accordance with the scheme on a regular basis specified in the letter of permission
and sections 7, 8, 9, 10 and 12 do not apply to the owner if he complies with the scheme on the regular basis specified in the letter of permission.
### SCHEDULE I

**AUTHORIZED DEPOSITS OF DELETERIOUS SUBSTANCES**

*(s. 5)*

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<th>Column IV Authorized average daily deposit</th>
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</thead>
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<tr>
<td>Potato Chip Plant</td>
<td>Biochemical Oxygen Demanding Matter</td>
<td>1.5 kg/tonne of raw potatoes processed</td>
<td>0.5 kg/tonne of raw potatoes processed</td>
</tr>
<tr>
<td></td>
<td>Total Suspended Matter</td>
<td>2.1 kg/tonne of raw potatoes processed</td>
<td>0.7 kg/tonne of raw potatoes processed</td>
</tr>
<tr>
<td>Other Potato Products Plants*</td>
<td>Biochemical Oxygen Demanding Matter</td>
<td>2.7 kg/tonne of raw potatoes processed</td>
<td>0.9 kg/tonne of raw potatoes processed</td>
</tr>
<tr>
<td></td>
<td>Total Suspended Matter</td>
<td>2.4 kg/tonne of raw potatoes processed</td>
<td>0.8 kg/tonne of raw potatoes processed</td>
</tr>
</tbody>
</table>

*NOTE:* Other Potato Products Plants include plants that produce canned potato products, dehydrated potato products, frozen potato products and potato starch.
### SCHEDULE II

**ANALYTICAL TEST METHODS FOR DETERMINING PRESENCE AND CONCENTRATIONS OF DELETERIOUS SUBSTANCES IN EFFLUENTS (s. 9)**

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<th>Column II Modifications</th>
</tr>
</thead>
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<tr>
<td>1</td>
<td>Biochemical Oxygen Demanding Matter (BOD)</td>
<td>APHA* Section 507</td>
<td>For determining dissolved oxygen the following tests are recommended: Section 422 B APHA* or Section 422 F APHA*, the probe must be standardized against Winkler-Azide method (Section 422 B, APHA*)</td>
</tr>
<tr>
<td>2</td>
<td>Total Suspended Matter</td>
<td>APHA* Section 208 D</td>
<td></td>
</tr>
</tbody>
</table>

* Refers to the publication Standard Methods for the Examination of Water and Waste Water, 14th Edition (1975), published jointly by the American Public Health Association, American Water Works Association and the Water Pollution Control Federation.