

The registration is effective on the date on which the form is sent. The mailed form is presumed to be sent on the date of the postmark. The registration fee is not refundable.

The amount is adjusted on 1 April of each year, as of 1 April 2007, based on the percentage change in the general Consumer Price Index for Canada for the period ending on 30 September of the preceding year, as determined by Statistics Canada.

The Minister is to inform the public of the adjustment under the third paragraph through the *Gazette officielle du Québec* or by such other means as the Minister considers appropriate.

4. Beekeepers must maintain and keep at their principal establishment in Québec or, if they have no establishment in Québec, at their domicile, a record containing the following information:

(1) for every purchase, rental or loan of bees: the date, quantity and place of origin of the bees and the name and address of the person from whom they were obtained;

(2) for every disposal, rental or loan of bees: the date, quantity, place of destination of the bees and the name and address of the recipient; and

(3) for every movement of occupied hives: the date, number of hives moved and a description making it possible to locate the places of departure and destination of the hives.

The owner must keep a copy of the form that was sent to the Minister with the record. The owner must also keep the record for at least five years from the date of the last entry and make it available to any person referred to in section 55.10 of the Animal Health Protection Act (R.S.Q., c. P-42).

5. Registration is renewed between 1 April and 1 June of each year in the manner prescribed by sections 2 and 3.

6. Every beekeeper on the date of coming into force of this Regulation has two months to register with the Minister in accordance with section 2.

7. This Regulation comes into force on 1 April 2005, except section 3 which comes into force on 1 April 2006.

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Gouvernement du Québec

O.C. 451-2005, 11 May 2005

Environment Quality Act
(R.S.Q., c. Q-2; 1999, c. 75)

Landfilling and incineration of residual materials

Regulation respecting the landfilling and incineration of residual materials

WHEREAS, under paragraphs *a* to *h*, *h.1*, *h.2* and *m* of section 31, sections 31.69, 57 and 64.1, paragraphs 1, 2 and 4 to 7 of section 70 and sections 109.1, 124.0.1 and 124.1 of the Environment Quality Act (R.S.Q., c. Q-2) and section 48 of chapter 75 of the Statutes of 1999, the Government may make regulations on the matters set forth therein;

WHEREAS, in accordance with sections 10 and 11 of the Regulations Act (R.S.Q., c. R-18.1) and section 124 of the Environment Quality Act, a draft of the Regulation respecting the elimination of residual materials was published in Part 2 of the *Gazette officielle du Québec* of 25 October 2000 with a notice that it could be made by the Government on the expiry of 60 days following that publication;

WHEREAS since that publication, the draft Regulation has been amended and its title modified;

WHEREAS it is expedient to make the Regulation respecting the landfilling and incineration of residual materials;

WHEREAS consequential amendments are made by the Regulation respecting the landfilling and incineration of residual materials to the following regulations:

— the Regulation respecting the application of the Environment Quality Act, made by Order in Council 1529-93 dated 3 November 1993;

— the Regulation respecting pits and quarries (R.R.Q., 1981, c. Q-2, r.2);

— the Regulation respecting sanitary conditions in industrial or other camps (R.R.Q., 1981, c. Q-2, r.3);

— the Regulation respecting biomedical waste, made by Order in Council 583-92 dated 15 April 1992;

— the Regulation respecting the burial of contaminated soils, made by Order in Council 843-2001 dated 27 June 2001;

— the Regulation respecting environmental impact assessment and review (R.R.Q., 1981, c. Q-2, r.9);

— the Regulation respecting pulp and paper mills, made by Order in Council 1353-92 dated 16 September 1992;

— the Regulation respecting hazardous materials and amending various regulatory provisions, made by Order in Council 1310-97 dated 8 October 1997;

— the Regulation respecting the quality of the atmosphere (R.R.Q., 1981, c. Q-2, r.20);

IT IS ORDERED, therefore, on the recommendation of the Minister of Sustainable Development, Environment and Parks:

THAT the Regulation respecting the landfilling and incineration of residual materials, attached to this Order in Council, be made.

ANDRÉ DICAIRE,
Clerk of the Conseil exécutif

Regulation respecting the landfilling and incineration of residual materials

Environment Quality Act
(R.S.Q., c. Q-2, s. 31, pars. a to h, h.1, h.2 and m,
ss. 31.69, 57, 64.1, 70, pars. 1, 2 and 4 to 7, ss. 109.1,
124.0.1 and 124.1; 1999, c. 75, s. 48)

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Schedule I

Schedule II

CHAPTER I DEFINITIONS, SCOPE OF APPLICATION AND PURPOSE

1. For the purposes of this Regulation,

(1) “fly ash” means particulate matter entrained in and carried by the combustion gases from a residual materials incineration facility and collected by a flue gas

cleaning system or an energy recovery system, and includes residue generated by those systems that contains fly ash;

(2) “landfilling” means the final deposit of residual materials onto or into land;

(3) “operator” includes a person having the charge, management or control of a disposal facility;

(4) “watercourse or body of water” includes ponds, marshes and swamps, but excludes intermittent watercourses, peat bogs and ditches. The relative distance to a watercourse or body of water is measured from the high-water mark as defined in the Protection Policy for Lakeshores, Riverbanks, Littoral Zones and Floodplains adopted pursuant to section 2.1 of the Environment Quality Act (R.S.Q., c. Q-2).

2. This Regulation applies to the following residual materials disposal facilities:

(1) landfills in the following classes, governed respectively by Divisions 2 to 6 of Chapter II:

- engineered landfills;
- trench landfills;
- northern landfills;
- construction or demolition waste landfills;
- remote landfills;

(2) incineration facilities governed by Chapter III.

Residual materials transfer stations are governed by Chapter IV of this Regulation.

3. The purpose of this Regulation is to prescribe which residual materials may be accepted at the facilities referred to in section 2, the conditions subject to which the facilities are to be sited and operated and the conditions that apply to their closure and post-closure management.

CHAPTER II LANDFILLS

DIVISION 1 GENERAL

4. The following may not be disposed of in a landfill to which this Chapter applies:

(1) residual materials generated outside Québec;

(2) hazardous materials within the meaning of paragraph 21 of section 1 of the Environment Quality Act;

(3) residual materials in a liquid state at 20 °C, except residual materials from household waste;

(4) residual materials which, when tested by a laboratory accredited by the Minister of Sustainable Development, Environment and Parks under section 118.6 of the Environment Quality Act, contain a free liquid, except in a remote landfill to which Division 6 applies;

(5) livestock waste within the meaning of the Agricultural Operations Regulation made by Order in Council 695-2002 dated 12 June 2002;

(6) residual materials consisting in whole or in part of pesticides governed by the Pesticides Act (R.S.Q., c. P-9.3);

(7) biomedical waste to which the Regulation respecting biomedical waste made by Order in Council 583-92 dated 15 April 1992 applies, that is not treated by disinfection;

(8) sludge with a dryness lower than 15%, except in a remote landfill to which Division 6 applies;

(9) soils that, because of human activity, contain one or more contaminants in concentrations exceeding the limit values set out in Schedule I to the Land Protection and Rehabilitation Regulation made by Order in Council 216-2003 dated 26 February 2003, and any product resulting from the treatment of such soils by a stabilization, fixation or solidification process;

(10) derelict motor vehicles;

(11) mill waste within the meaning of section 93 of the Regulation respecting pulp and paper mills made by Order in Council 1353-92 dated 16 September 1992 with a dryness lower than 25%, other than

— sludge from the biological treatment of process water, which may be disposed of by landfilling as soon as its dryness is 15% or greater; or

— lime sludge and residue from lime slaking, which may be disposed of by landfilling only if its dryness is 55% or greater;

(12) used tires within the meaning of the Regulation respecting used tire storage made by Order in Council 29-92 dated 15 January 1992, except in a northern landfill and in a remote landfill to which Divisions 4 and 6 apply respectively.

5. Inedible meat within the meaning of the Regulation respecting food (R.R.Q., 1981, c. P-29, r.1) may be disposed of by landfilling only under the conditions prescribed by the Food Products Act (R.S.Q., c. P-29) and the regulations made under that Act.

6. With the exception of the other landfills authorized by this Regulation or any other regulation, the engineered landfills governed by Division 2 are the only landfills in which residual materials to which Division VII of Chapter I of the Environment Quality Act applies may be deposited permanently onto or into land.

Despite the first paragraph, fibrous waste from sawmills as well as ash and soils or sludge from sawmills that contain such waste may be disposed of in a landfill authorized for that purpose by the Minister under section 22 of the Environment Quality Act.

DIVISION 2 **ENGINEERED LANDFILLS**

§1. General

7. For the purposes of this Regulation, “ENGINEERED LANDFILL” means any landfill developed and operated in accordance with this Division.

8. The following residual materials may be landfilled only in engineered landfills:

(1) residue from the shredding of derelict motor vehicles;

(2) residue from any residual materials incineration facility, including biomedical waste incinerators, in particular bottom ash and fly ash. This provision does not apply to bottom ash generated by a facility incinerating residual materials produced in a territory referred to in section 87, which may also be landfilled in a trench landfill or northern landfill to which Divisions 3 and 4 apply respectively;

(3) subject to the second paragraph of section 6 of this Regulation and Division VI of the Regulation respecting pulp and paper mills, mill waste within the meaning of section 93 of that Regulation and fibrous waste from sawmills as well as ash and soils or sludge from sawmills that contain fibrous waste;

(4) oil refinery sludge; and

(5) inedible meat that, under the Food Products Act and the regulations made under that Act, may be disposed of in a landfill and that consists of animal carcasses or

animal parts in respect of which a disposal order has been made under section 3.4, 11.1 or 11.2 of the Animal Health Protection Act (R.S.Q., c. P-42) or section 114 of the Health of Animals Regulations (C.R.C. c. 296; SOR/91-525 dated 5 September 1991, (1991) 20 Can. Gaz. II, 3084).

9. Fly ash and incineration residue that contains fly ash must be landfilled in separate disposal areas reserved exclusively for that type of residual material and sited as provided by the applicable provisions of sections 20 to 24.

That requirement does not apply to ash or residue that has been decontaminated by means of a contaminant extraction process and that presents a risk to the environment no greater than that for other residual materials that may be accepted at the landfill.

10. The operator of an engineered landfill must accept the eligible residual materials that are generated

(1) in the territory of the regional county municipality in which the landfill is situated;

(2) in the territory of the city or town in which the landfill is situated, in the case of a city or town constituted on or after 1 January 2002 and whose territory is not within the territory of a regional county municipality;

(3) in the territory of any local municipality of fewer than 2,000 inhabitants if no other engineered landfill accessible by a road open year-round is situated closer to the municipality. For the purposes of this subparagraph, the population of a municipality is the number of inhabitants determined in the order made under section 29 of the Act respecting municipal territorial organization (R.S.Q., c. O-9); and

(4) in any territory that is not organized into a local municipality.

11. The operator of an engineered landfill must also accept inedible meat referred to in paragraph 5 of section 8 from the administrative region in which the landfill is situated. “Administrative region” means any region established by Order in Council 2000-87 dated 22 December 1987.

12. The operator of an engineered landfill is required, however, to accept residual materials as provided in sections 10 and 11 only if the tariffs payable are paid and all other conditions, if any, in the certificate of authorization are complied with.

The requirement to accept residual materials does not apply to landfills reserved exclusively for the use of an industrial, commercial or other establishment or in respect of the following residual materials :

- (1) mill waste within the meaning of section 93 of the Regulation respecting pulp and paper mills ;
- (2) fibrous waste from sawmills with an annual production capacity of 10,000 m³ or more and ash and soils or sludge from such sawmills that contain such waste ;
- (3) sludge that is not from municipal water or sludge treatment or collection works, other sanitary wastewater collection or treatment works or treatment works for sludge from such works, or from sewer cleaning ;
- (4) residue from residual materials incineration facilities including biomedical waste incinerators, in particular bottom ash and fly ash ;
- (5) residual materials from an industrial process, except waste referred to in subparagraph 2 from sawmills with an annual production capacity of less than 10,000 m³.

§2. *Siting*

General siting conditions

13. The disposal areas in an engineered landfill and the treatment system for leachate or water from those areas, other than surface water sediment basins, must be sited at a minimum distance of one kilometre from any surface water or groundwater collection facility if the facility is used for the production of spring water or mineral water within the meaning of the Regulation respecting bottled water (R.R.Q., 1981, c. Q-2, r.5) or for the supply of a waterworks authorized under the Environment Quality Act.

The foregoing does not apply if the disposal areas or treatment system are not likely to alter the quality of the water.

14. The siting of an engineered landfill in the flood zone of a watercourse or body of water situated within the 100-year flood plain is prohibited.

“100-year flood plain” means the line that corresponds to the limit line of a flood likely to occur once every one hundred years.

15. The siting of an engineered landfill in an area where ground movement is likely to occur is prohibited.

16. The siting of an engineered landfill on land underneath which there is free groundwater having a high potential aquifer is prohibited.

For the purposes of this section, a “high potential aquifer” exists where at least 25 m³ of water per hour may be drawn on a permanent basis from the same well.

17. An engineered landfill must integrate into the surrounding landscape. To that end, the following must be taken into account :

- (1) the physical characteristics of the landscape within a radius of one kilometre, among other things its topography and the shape, surface area and height of its landforms ;
- (2) the visual characteristics of the landscape, also within a radius of one kilometre, including its visual accessibility and recreational and tourist interest (visibility, landscape organization and structure, aesthetic value, integrity, etc.) ;
- (3) the ability of the landscape to integrate or accommodate an engineered landfill ;
- (4) the effectiveness of measures to mitigate visual impacts (screen, buffer zone, revegetation, reforestation, etc.).

18. In order to mitigate the nuisances that an engineered landfill may generate and to allow for the carrying out of any necessary remedial measures, a buffer zone at least 50 m wide must be maintained on the perimeter of the landfill or the disposal areas and the leachate or water treatment system sites, other than surface water sediment basins, and if present, the biogas gas pumping system and removal facility. The buffer zone must be an integral part of the engineered landfill.

A buffer zone must not have any watercourse or body of water within it. Its interior and exterior boundaries must be maintained so that they are capable of being located at all times.

Only activities necessary to access and monitor the facilities, and activities consistent with the purposes referred to in the first paragraph are permitted in a buffer zone. That restriction does not prevent the establishment of all or part of a buffer zone on an existing landfill, so long as the achievement of those purposes is not compromised.

19. The siting of an engineered landfill must take into account the inherent geotechnical constraints of the natural materials present and the synthetic materials used as well as the prevailing hydrogeological conditions that may be altered as a consequence of the proposed landfill siting.

Containment protection

20. In order to protect the soil and groundwater from leachate contamination, engineered landfills may be sited only on land where the unconsolidated deposits on which the residual materials will be deposited form a natural homogenous layer with a constant hydraulic conductivity of 1×10^{-6} cm/s or less to a minimum depth of 6 m, the hydraulic conductivity to be established *in situ*.

The surface of the natural layer must be graded to an inclination of at least 2% to allow leachate to flow by gravity towards the drains.

21. Despite section 20, an engineered landfill may be sited on land where the underlying unconsolidated deposits meeting the requirements of that section are at a greater depth, provided that the disposal areas have

(1) an impermeable sideslope liner system

— consisting of materials with a constant hydraulic conductivity of 1×10^{-6} cm/s or less;

— at least one metre thick;

— extending upwards to ground level;

— the base of which extends at least one metre into the unconsolidated deposits meeting the requirements of section 20; or

(2) an alternative sideslope liner system if the alternative liner system is at least as effective as the liner system described in subparagraph 1.

Excavation in a disposal area that has an impermeable sideslope liner system must in no case compromise compliance with the requirements of the first paragraph of section 20.

22. An engineered landfill may also be sited on land where the unconsolidated deposits do not meet the impermeability requirements of section 20, provided that the disposal areas have a double liner system on the bottom and sideslopes that is composed of

(1) a lower composite liner consisting of

(a) a layer of clayey materials at least 60 cm thick after compaction

— that consists of at least 50% by weight of particles 0.08 mm or finer in diameter and at least 25% by weight of particles 0.005 mm or finer in diameter;

— with a constant hydraulic conductivity of 1×10^{-7} cm/s or less throughout its thickness;

— the base of which is at least 1.5 m above bedrock; and

(b) a geomembrane at least 1.5 mm thick placed over the layer of clayey materials; and

(2) an upper liner consisting of a second geomembrane 1.5 mm thick.

The geomembranes must be of the high-density polyethylene (HDPE) type or have equivalent properties; they must be installed with an inclination of at least 2% to allow leachate to flow by gravity towards the drains.

An alternative double liner system may also be used in the case referred to in the first paragraph if it is at least as effective as the system required by the first paragraph and the base of the lower liner is at least 1.5 m above bedrock.

23. The base of the lower composite liner of an engineered landfill with a double liner system installed as provided in section 22 must be situated above the groundwater level. The lowering of the groundwater level by pumping, drainage or otherwise is permitted only on land where the unconsolidated deposits form a natural homogenous layer with a constant hydraulic conductivity of 5×10^{-5} cm/s or less through a minimum thickness of 3 m, the hydraulic conductivity to be established *in situ*.

Where the unconsolidated deposits meeting the requirements of the first paragraph are at a greater depth, the disposal areas must also have an impermeable sideslope liner system that complies with the requirements of the first paragraph of section 21; excavation in those disposal areas must not compromise compliance with the requirements of the first paragraph as regards the unconsolidated deposits.

24. An engineered landfill may also be sited in a rock quarry or a mine so long as

(1) the quarry or mine is an open pit;

(2) the quarry or mine floor is situated below the groundwater level; and

(3) the average groundwater infiltration rate, calculated on an annual basis, is 5×10^{-4} m³ or less of water per square metre of quarry or mine wall situated below the groundwater level.

Leachate and water collection and treatment

25. An engineered landfill must have a system capable of collecting leachate and conveying it towards a treatment or discharge site. The collection system must incorporate the following components:

(1) a drainage layer placed across the base and sideslopes of the disposal areas over the soil liner or the geomembrane, as the case may be, and which, to a minimum depth of 50 cm,

— consists of materials having less than 5% by weight of particles 0.08 mm or finer in diameter;

— has a constant minimum hydraulic conductivity of 1×10^{-2} cm/s.

The drainage layer must not impair the integrity of the underlying geomembrane, if any;

(2) a network of drainage pipes and collectors embedded within the drainage layer on the bottom of the disposal areas. The pipes must

— have a smooth interior and a minimum diameter of 150 mm;

— have no synthetic filter sock;

— have a minimum slope of 0.5%;

— have cleanout ports.

Despite the foregoing, if, pursuant to section 21, an engineered landfill has an impermeable sideslope liner system, the leachate may be collected and removed by means of another system if the system ensures compliance with the requirements of section 27.

If any portion of the collection system used to convey the leachate to the treatment site is situated outside the landfill disposal areas, the pipes in that portion must be leakproof.

26. An engineered landfill which under this Regulation must have a double liner system must also have, in addition to the leachate collection system to be installed pursuant to section 25 over the upper geomembrane, a secondary leachate collection system placed between the two geomembranes and that consists of

(1) a system that incorporates the components prescribed by subparagraphs 1 and 2 of the first paragraph of section 25, except that

— the minimum thickness of the drainage layer must be 30 cm;

— the minimum diameter of the pipes must be 100 mm; or

(2) any other system if the system is at least as effective as the system referred to in subparagraph 1.

The secondary collection system must be designed to be monitored independently from the other collection systems on the site.

27. The leachate collection systems prescribed by this Regulation must be designed and installed so that the leachate head likely to accumulate at the base of the disposal areas cannot reach the level of the residual materials.

In addition, in the case of landfills sited as provided in section 22, the leachate head likely to accumulate over the upper liner must not exceed 30 cm, except at the sump pump.

28. Every component of a treatment system for leachate or water from an engineered landfill must be leakproof, except surface water sediment basins.

Every pond or basin that receives such leachate or water must, if sited on land where the unconsolidated deposits do not meet the requirements of the first paragraph of section 20, have a containment liner system on its bottom and sides consisting of the components described in subparagraphs *a* and *b* of subparagraph 1 of the first paragraph of section 22, or an alternative system if the alternative system is at least as effective.

29. Access to the leachate or water treatment system must be restricted by having the system situated inside a building or surrounded by a fence. The system must be accessible at all times by a road open to vehicular traffic. This section does not apply to surface water sediment basins.

30. An engineered landfill must be built so that surface water cannot flow into the disposal areas, in particular by the use of perimeter trenches or any other collection system.

31. If the liner containment system for the disposal areas and the components of the leachate or water treatment system are below groundwater level, the disposal

areas must, if the pressure exerted by the groundwater is likely to impair the integrity of the containment system, have a system that collects and evacuates the groundwater so as to reduce the pressure.

The groundwater collection system must

(1) incorporate all the components prescribed by section 25, except that

— the minimum thickness of the drainage layer must be 30 cm ;

— the minimum diameter of the pipes must be 100 mm ;
or

(2) incorporate other components if the components are at least as effective as the components referred to in subparagraph 1.

The system must be designed to be monitored independently from the other collection systems on the site.

The operation of the groundwater collection system may be halted if the hydraulic pressure exerted by the groundwater is offset by the weight of the landfilled residual materials or by the liquid accumulated in the disposal areas and in the ponds or basins forming part of the leachate or water treatment system.

Collection and removal of biogas

32. An engineered landfill must have a system capable of collecting all biogas produced in the disposal areas and of releasing it into the environment or of directing it towards a reclamation or removal facility, so as among other things to ensure compliance with the limit values prescribed by section 60.

In the case of landfills having a maximum capacity greater than 1,500,000 m³ or sited as provided in section 24, or as soon as a landfill receives 50,000 tonnes or more of residual materials per year, the biogas collection system must have a gas pumping device except if such a device is not warranted because of the nature of the residual materials accepted and the low quantity of biogas likely to be produced.

In addition, the biogas collected in engineered landfills referred to in the second paragraph must be removed by means of thermal destruction equipment capable of destroying at least 98% of the organic compounds other than methane, or capable of reducing the concentration of those compounds to less than 20 ppm hexane equivalent, by volume, measured on a dry basis at 3% oxygen. The destruction equipment must be designed for a mini-

mum retention time of 0.3 seconds at a minimum temperature of 760 °C. The biogas removal requirements are mandatory as long as the concentration of methane generated by the residual materials exceeds 25% by volume.

Biogas may also be removed as provided in the third paragraph using any other destruction equipment if the destruction equipment is at least as efficient as the equipment required by that paragraph and allows for continuous monitoring of its operation and for annual testing of its efficiency in destroying organic compounds other than methane.

33. Access to the gas pumping device and biogas removal facility, if any, must be restricted by having them situated inside a building or surrounded by a fence. The device and facility must be accessible at all times by a road open to vehicular traffic.

Quality assurance and control

34. The size, choice and placement of materials must be such that the landfill containment liner system, leachate and water collection and treatment systems, the biogas collection and removal system and network of groundwater observation wells referred to in section 65 and which are present in an engineered landfill pursuant to this Regulation will operate properly, even on a long-term basis, considering the physical, chemical and biological processes that may take place in the landfill during the development, operation and post-closure management periods.

The systems must also be designed to be monitored, maintained and cleaned throughout the entire period.

35. All the materials and equipment to be used in the development of an engineered landfill, whether for containment purposes or for the installation of a system referred to in section 34, must be verified by independent experts before and during the development or installation and by laboratory or *in situ* tests to ensure that the materials or equipment comply with the applicable standards.

36. The landfill development work must be performed under the supervision of independent experts who must among other things verify the qualifications of the workers assigned to performing the work, as well as the quality of the techniques used and the systems installed.

As and when the development work is completed, the independent experts in charge of verifying and supervising the work as required by section 35 and this section

must send a report to the Minister confirming compliance of the installation with the applicable standards, or indicating cases of non-compliance with those standards and remedial measures to be taken.

§3. Operation

General operating conditions

37. The operator of an engineered landfill must verify whether the residual materials received may be landfilled, in particular by a visual inspection.

38. Residual materials received for landfilling in an engineered landfill must be weighed and undergo radiological testing by devices capable of detecting the presence of radioactive materials.

The devices for weighing the residual materials and for testing the residual materials for radioactivity must be installed at the entrance to the site, be used and maintained so as to provide reliable data and be calibrated at least once a year.

The provisions of this section regarding the weighing of residual materials do not apply to a landfill reserved exclusively for the use of an industrial, commercial or other establishment if the data relating to the quantity of residual materials (in weight) that are landfilled may be obtained otherwise and under the same conditions of accessibility and conservation as those set out in section 39.

Similarly, the provisions of this section regarding the testing of residual materials for radioactivity do not apply to the landfill referred to in the third paragraph if, by reason of the nature of the activities of the establishment using the landfill and the composition of the residual materials landfilled, the residual materials cannot contain any radioactive material.

39. For every load of residual materials brought to an engineered landfill, the operator must enter in an annual log

(1) the name of the carrier and the licence plate of the vehicle;

(2) the nature of the residual materials and, in the case of decontaminated sludge, fly ash or soil, or soil from land rehabilitation work, the results of the analyses or measures establishing that they may be landfilled;

(3) the source of the residual materials and, if they result from an industrial process, the name of the producer;

(4) the quantity of residual materials, expressed in weight; and

(5) the date on which they were landfilled.

In the case of residual materials from a transfer station, all the information and documents relating to the materials that have been entered in the transfer station log pursuant to section 139 must also be entered in the landfill log.

The annual logs and their appendices must be kept on the premises of the landfill site for the duration of its operation and be made available to the Minister. Following closure of the site, the logs must be kept by the operator until the operator is released under section 85 from all obligations.

40. The nature and quantity of the materials referred to in the second and third paragraphs of section 42 and in the third and fourth paragraphs of section 50 that are received at an engineered landfill to cover the residual materials landfilled in the disposal areas must also be entered in the annual log.

If the materials consist of the soils referred to in subparagraph 2 of the first paragraph of section 39, the operator may accept them only after receipt of the results of the analyses or measures showing they comply with the requirements of the above sections. Those results must also be entered in the annual log.

41. As soon as they are deposited in a disposal area, residual materials must be spread and compacted except in the case of sludge, residual materials that are baled and animal carcasses or animal parts.

In order to minimize the release of odours, the spread of fires, the proliferation of animals or insects, and blowing litter, the residual materials must be covered at the end of each day of operation with a layer of soil or other materials referred to in section 42, or be covered in another manner enabling the above purposes to be accomplished.

The daily cover requirement does not apply to a landfill reserved exclusively for the use of an industrial, commercial or other establishment if the residual materials received are not likely to generate the nuisances referred to above.

Residual materials containing asbestos or that are likely to release dust into the atmosphere, and animal carcasses or animal parts, must be covered with other materials as soon as they are deposited in the disposal area, even before being compacted. For the purposes of

this paragraph, “containing asbestos” has the meaning assigned by section 1.1 of the Safety Code for the construction industry (R.R.Q., 1981, c. S-2.1, r.6).

Residual materials at a temperature likely to create fires, in particular bottom ash, fly ash and any other incineration residue, is to be landfilled only once it has cooled sufficiently to prevent any risk of fire.

42. The soil used for the daily cover of the residual materials must have a constant minimum hydraulic conductivity of 1×10^{-4} cm/s and less than 20% by weight of particles 0.08 mm or finer in diameter.

The soil may also contain contaminants in a concentration equal to or lower than the limit values set out in Schedule I to the Land Protection and Rehabilitation Regulation for volatile organic compounds and in Schedule II to that Regulation for other contaminants. Those limit values do not apply to contaminants that do not originate from human activity. The thickness of the cover layer consisting of such contaminated soil must not exceed 60 cm.

Other material may be used to cover the residual materials if the other material meets the requirements of the first paragraph, does not contain substances that are not accepted at the landfill, and is capable of accomplishing the purposes referred to in the second paragraph of section 41.

The operator must periodically verify, at the frequency specified in the authorization obtained pursuant to section 22 or 31.5 of the Environment Quality Act, whether the soils or other materials used to cover the residual materials meet the requirements of this section. For that purpose, the operator must have representative samples of the soils or materials analyzed and the results of the analyses must appear in the annual report prepared pursuant to section 52.

Despite the foregoing, residual materials may be covered temporarily using soil or material that does not meet the requirements of the first paragraph. In such a case, no residual materials may be subsequently deposited until the temporary cover has been removed or brought into conformity with that paragraph.

Contaminated soil or residual materials to be used as cover material may be stockpiled at an engineered landfill only in areas that meet the containment requirements set out in this Regulation and that have not received the final cover prescribed by section 50.

43. Residual materials must be landfilled in limited disposal areas which, as they successively fill up, allow for progressive redevelopment of the landfill in compliance with sections 50 and 51.

44. The leachate or water collection and treatment systems, the biogas collection and removal systems and the network of groundwater observation wells referred to in section 65 must at all times be maintained in proper working order. For that purpose, they must be periodically inspected and maintained or cleaned at the frequency specified in the authorization obtained pursuant to section 22 or 31.5 of the Environment Quality Act. In addition, the leachate collection systems must function in such manner as to comply with the requirements of section 27.

45. Every engineered landfill must have, at the landfill entrance,

(1) a conspicuous sign indicating the type of landfill, the name, address and telephone number of the operator and any other person in charge of the landfill, as well as the business hours; and

(2) a barrier or other device restricting access to the landfill after business hours or in the absence of the personnel in charge of overseeing the acceptance of residual materials or their compaction and covering.

46. The landfilling operations in an engineered landfill must not be visible from a public area or from the ground floor of a dwelling located within a radius of one kilometre, that distance to be measured from the disposal areas.

47. The burning of residual materials is prohibited in every engineered landfill.

48. The operator of an engineered landfill must take the necessary measures to minimize the release of odours that cause odour nuisances beyond the limits of the landfill and to prevent wind dispersal or scattering of residual materials and the emission of dust visible in the atmosphere more than two metres from the emission source.

As needed, the operator must clean on-site roads, the entrances and devices installed to contain the residual materials in the disposal areas and the immediate surroundings so that no residual materials remain in those areas.

49. The operator of an engineered landfill must take the necessary measures to prevent or eliminate any infestation of pests on the landfill site and in the immediate surroundings.

50. The residual materials landfilled in the disposal areas of an engineered landfill must, once they have reached the maximum authorized height or landfilling operations are terminated, be covered with a final cover as soon as climatic conditions permit.

The final cover system must have, from the bottom up,

(1) a drainage layer consisting of soil with a constant minimum hydraulic conductivity of 1×10^{-3} cm/s through a minimum thickness of 30 cm, designed to collect landfill gas while allowing the circulation of liquids;

(2) an impermeable soil layer with a constant maximum hydraulic conductivity of 1×10^{-5} cm/s through a minimum thickness of 45 cm after compaction, or a geomembrane at least 1 mm thick;

(3) a barrier soil layer at least 45 cm thick, having characteristics that preserve the integrity of the impermeable layer; and

(4) a soil layer at least 15 cm thick, suitable for vegetation.

The soil referred to in subparagraph 1 of the second paragraph may contain contaminants in a concentration equal to or lower than the limit values set out in Schedule I to the Land Protection and Rehabilitation Regulation for volatile organic compounds and in Schedule II to that Regulation for other contaminants. The soils referred to in subparagraphs 2 and 3 of the second paragraph may also contain such contaminants in a concentration equal to or lower than the limit values set out in Schedule I to that Regulation. The limit values prescribed by this paragraph do not apply to contaminants that do not originate from human activity.

The layers referred to in subparagraphs 1 to 4 of the second paragraph may consist of another material if the material will achieve protection efficiency at least equivalent to that of the materials prescribed in those subparagraphs, the material meets where applicable the requirements of the third paragraph and the minimum thickness of the layers is as prescribed in those subparagraphs.

The final cover slope must be of at least 2% and no more than 30% to allow water to flow away from the disposal areas and limit soil erosion. In addition, in the case of disposal areas that have an impermeable sideslope liner system pursuant to section 21, surface water infiltration into the disposal areas must be reduced by extending the layers referred to in subparagraphs 2, 3

and 4 of the second paragraph beyond the liner perimeter, or by another cover procedure that reduces water infiltration into the disposal areas.

51. Not later than one year after installation of the final cover, the final layer must be given a vegetative layer consisting of species not likely to impair the impermeability of the cover.

Damage such as holes, fissures or subsidence that may occur in the final cover must be repaired immediately to prevent water from pooling over or infiltrating into the disposal areas, until the areas have been fully stabilized.

52. The operator of an engineered landfill must prepare, for each year of operation, a report containing

(1) a compilation of the data collected pursuant to sections 39 and 40 relating to the nature and quantity of residual materials landfilled and materials received for cover purposes;

(2) a plan and data showing the progression on the site of the landfilling operations, including filled disposal areas, areas in operation and current available landfill capacity;

(3) the results of the testing or measurements performed pursuant to sections 63, 64, 66 and 68, other than results sent to the Minister pursuant to section 71, and a summary of the data from the sampling and analyses required under other provisions of this Regulation;

(4) a certificate stating that the measurements and samples prescribed by this Regulation were taken in compliance with best practices and the provisions of this Regulation, as the case may be;

(5) any information or document indicating the places where the measurements or samples were taken, in particular the number and location of the monitoring points, the methods and devices used and the names of the laboratories or persons taking the measurements or samples; and

(6) a summary of the work carried out pursuant to this Regulation.

The report must be sent to the Minister within 90 days following the end of each year of operation and include any other information the Minister may require under section 68.1 of the Environment Quality Act.

Leachate and water

53. The leachate and water collected by a collection system in an engineered landfill may be discharged into the environment only if there is compliance with the following limit values :

| Parameters - Substances | Limit values | Average monthly limit values* |
|---|-------------------------------------|-------------------------------|
| Ammoniacal nitrogen (expressed as N) | 25 mg/l | 10 mg/l |
| Fecal coliforms | 275 CFU/100 ml | 100 CFU/100 ml |
| Phenolic compounds | 0.085 mg/l | 0.030 mg/l |
| 5-day biochemical oxygen demand (BOD ₅) | 150 mg/l | 65 mg/l |
| Suspended solids | 90 mg/l | 35 mg/l |
| Zinc (Zn) | 0.17 mg/l | 0.07 mg/l |
| pH | greater than 6.0 but lower than 9.5 | |

* The average monthly limit values apply only to water or leachate discharged after treatment. They are established using an arithmetic average, except for the limit value relating to fecal coliforms which is established using a geometric average.

In addition, the Minister may determine parameters to be measured or substances to be analyzed according to the composition of the materials received for disposal, and set the limit values to be complied with for those parameters or substances. The limit values may be in addition to or in substitution for the limit values previously set.

A batch discharge is prohibited.

For the purposes of this Regulation, a discharge into the environment includes a discharge into a sewer system that does not convey wastewater to a treatment facility established and operated in accordance with an authorization issued under the Environment Quality Act.

54. The limit values prescribed by section 53 do not apply to surface water collected within the perimeter of a buffer zone established pursuant to section 18 if an analysis of the surface water shows that there is no compliance with the limit values before the surface water enters the buffer zone.

In that case, the quality of the surface water must not, in relation to the parameters or substances listed in section 53, be deteriorated in any manner before it reaches the outside perimeter of a buffer zone established pursuant to section 18.

55. Leachate and water collected by a collection system that does not comply with the limit values prescribed by section 53 must not be diluted in any manner before being discharged into the environment, other than dilution caused by precipitation.

56. Artificial infiltration of leachate or water into disposal areas is permitted only in engineered landfills for the purpose of accelerating the degradation of the residual materials, subject to the following conditions :

(1) prior authorization under the Environment Quality Act;

(2) the infiltration must take place in areas where there has been a deposit of a minimum thickness of four metres of residual materials ;

(3) if the infiltration is the result of surface spraying or sprinkling techniques, it can take place only in disposal areas that do not have a final cover and those techniques must not cause surface pooling or aerosol formation.

Groundwater

57. Subject to section 59, groundwater migrating into the soil where disposal areas or a leachate or water treatment system are sited must comply with the following limit values at the observation wells installed pursuant to section 65 :

| Parameters - Substances | Limit values* |
|---|---------------|
| Ammoniacal nitrogen (expressed as N) | 1.5 mg/l |
| Benzene | 0.005 mg/l |
| Boron (B) | 5 mg/l |
| Cadmium (Cd) | 0.005 mg/l |
| Chlorides (expressed as Cl ⁻) | 250 mg/l |
| Chromium (Cr) | 0.05 mg/l |
| Fecal coliforms | 0 CFU/100 ml |
| Total cyanides (expressed as CN) | 0.2 mg/l |

| Parameters - Substances | Limit values* |
|--|---------------|
| Ethylbenzene | 0.0024 mg/l |
| Iron (Fe) | 0.3 mg/l |
| Manganese (Mn) | 0.05 mg/l |
| Mercury (Hg) | 0.001 mg/l |
| Nickel (Ni) | 0.02 mg/l |
| Nitrates + nitrites (expressed as N) | 10 mg/l |
| Lead (Pb) | 0.01 mg/l |
| Sodium (Na) | 200 mg/l |
| Total sulphates (SO ₄ ²⁻) | 500 mg/l |
| Total sulphides (expressed as S ²⁻) | 0.05 mg/l |
| Toluene | 0.024 mg/l |
| Xylene (o, m, p) | 0.3 mg/l |
| Zinc (Zn) | 5 mg/l |

* The limit values correspond to the limit values that apply to water intended for human consumption.

In addition, the Minister may determine the parameters to be measured or substances to be analyzed on the basis of the composition of the residual materials received for disposal, and set the limit values to be complied with for those parameters or substances. The limit values may be in addition to or in substitution for the limit values set out in the first paragraph.

58. The limit values listed in section 57 do not apply if an analysis of the groundwater shows that there is no compliance with those limit values before the groundwater migrates into the soil where the disposal areas or the leachate or water treatment system are situated.

In that case, the quality of the groundwater must not, in relation to the parameters or substances listed in section 57, be deteriorated in any manner as a result of its migration into that soil.

59. Groundwater that re-emerges within the monitoring perimeter established under section 65 is subject to section 53, except as regards suspended solids.

The same applies to any groundwater that is collected in the perimeter and discharged on the surface.

Biogas

60. The concentration of methane in biogas produced by the residual materials disposed of in an engineered landfill must not exceed 25% of its lower explosive limit, or 1.25% by volume, if it is emitted or migrates into and accumulates in the soil and the buildings or facilities (other than the leachate, water and biogas collection or treatment systems) situated at a maximum distance of 150 m from the disposal areas without exceeding the outside perimeter of any buffer zone established under section 18.

For the purposes of this section, “lower explosive limit” means the lowest concentration, by volume, of a gas in a gas mixture above which a flare may sustain itself at a temperature of 25 °C and a pressure of 101.325 kPa.

61. The operation of the biogas collection system in an engineered landfill must begin not later than one year after a disposal area has received a final cover.

However, in the case of landfills referred to in the second paragraph of section 32, the biogas collection system and the biogas removal equipment must be designed to operate so that the collection and removal of any biogas produced by the landfilled residual materials may begin, even though the disposal area has not yet received a final cover, not later than five years after the landfilling in the case of landfills receiving 100,000 tonnes or less of residual materials per year or, in the case of landfills receiving more than 100,000 tonnes per year, not later than one year after the landfilling.

The operation of a biogas collection system must not result in an increase in temperature likely to cause a fire in a disposal area.

62. During the operating period of a biogas collection system that has a gas pumping device pursuant to the second paragraph of section 32, the concentration of nitrogen or oxygen must be respectively less than 20% and 5% by volume in each drain and wet well in the system situated in every section of disposal areas that have received a final cover.

In addition, the concentration of methane at the surface of the disposal areas served by the system must be less than 500 ppm, in volume, in that operating period regardless of whether or not the areas have received a final cover.

The operation of a gas pumping device for the biogas produced in all or part of a disposal area may be halted if, throughout a period of five years, all the measurements of the methane generated by the residual materials in the disposal area show a concentration of less than 25% by volume.

Monitoring and supervision measures

63. The operator of an engineered landfill must, at the frequency indicated below, take or have a sample taken of the leachate or water collected by each collection system in the landfill and in resurgent water within the groundwater monitoring perimeter established under section 65, and have the samples analyzed

(1) at least once a year, for the purpose of measuring the parameters or substances referred to in sections 53, 57 and 66; or

(2) at least three times a year, in the spring, summer and fall, if the leachate or water is not conveyed to a treatment system, for the purpose of measuring the parameters or substances listed in section 53.

The leachate and water to be sampled pursuant to the first paragraph must be sampled before being discharged into the environment or, if applicable, before being treated. For the purposes of this section, there is a discharge of surface water into the environment if the water flows out of a buffer zone established under section 18.

If the surface water does not comply with the limit values listed in section 53 before flowing into the buffer zone established under section 18, the water must also be sampled and analyzed as provided in subparagraph 2 of the first paragraph before entering the buffer zone.

The operator must also take or have a weekly sample taken of the discharges from any leachate or water treatment system in the landfill and have the samples analyzed to measure the parameters or substances listed in section 53.

Each of the samples must be a single sample (grab sample). In the case of resurgent water, the sampling must be carried out at the resurgence point.

The flow of the leachate and water collected by each collection system and the flow of the discharges from the treatment system in the landfill, except for water collected by the surface water collection system, must be separately and continuously measured and the results recorded.

64. At least once a year, the operator of an engineered landfill must leak test or have the pipes in the leachate or water collection system that are situated outside the disposal areas leak tested.

Before being put into service and every three years thereafter, each component of the leachate or water treatment system likely to release leachate or water must be leak tested.

65. In order to monitor the quality of the groundwater migrating into the soil where the disposal areas or a leachate or water treatment system are sited, the operator must install one or more networks of observation wells in accordance with the following provisions.

If the leachate or water treatment system is situated entirely within 150 m of the disposal areas, a single network of observation wells is required, otherwise the disposal areas and the treatment system location must each have its own network.

The number of wells in a network of observation wells depends on the surface area occupied by the disposal areas and the treatment system. The location of the wells and the number of sampling points required depends on the hydrogeological conditions of the sites, subject to the following:

(1) no observation well is to be situated beyond the outside perimeter of a buffer zone established pursuant to section 18;

(2) the observation wells must be situated at a maximum distance of 150 m hydraulically downgradient from the disposal areas or location of the treatment system so that the groundwater at that distance can be monitored. If all or part of a buffer zone has been established on an existing landfill, the monitoring perimeter may be extended to include the landfill, but without exceeding the distance of 150 m from the disposal areas or related treatment system;

(3) a network of observation wells must consist of at least three wells for the first eight hectares of land and one well for each additional eight-hectare portion of land or remaining portion of less than eight hectares;

(4) at least one additional observation well to monitor the quality of groundwater before its migration into the soil where the disposal areas or treatment system are situated must be installed hydraulically upgradient, or if the hydraulic upgrade cannot be determined because of hydrogeological conditions, at any other location making it possible to ascertain the quality of the groundwater representative of the groundwater migrating into the monitoring perimeter established under this section.

For the purposes of this section, a pond, basin or reservoir, except surface water sediment basins, in which water accumulates that does not comply with the limit values set out in section 53 is considered to form an integral part of the water treatment system.

66. At least three times a year, in the spring, summer and fall, the operator of an engineered landfill must take or have a groundwater sample taken at each sampling point of the observation wells installed pursuant to section 65, and have the samples analyzed to monitor the parameters or substances listed in section 57 and compliance with section 58, and to measure the following indicative parameters or substances:

- (1) electrical conductivity;
- (2) phenolic compounds;
- (3) 5-day biochemical oxygen demand (BOD₅);
- (4) chemical oxygen demand (COD);
- (5) iron.

During sampling, the groundwater piezometric level must also be measured.

After a minimum two-year monitoring period, the samples taken need no longer be analyzed for the parameters or substances whose concentration measured in the leachate before treatment, if any, has consistently been lower than the limit values listed in section 57, except in the case of indicative parameters or substances. The reduction in the number of parameters or substances to be analyzed applies as long as the annual analyses of leachate, before treatment, show that that condition is met. In addition, the analysis for two of the three required annual samplings may pertain only to the indicative parameters or substances listed in the first paragraph.

The Minister may establish a different list of indicative parameters or substances according to the composition of the residual materials received for disposal, in which case the parameters or substances may be in addition to or in substitution for the parameters or substances listed above.

Despite the foregoing, as soon as the analysis of a sample shows significant fluctuation for a parameter or substance or that a limit value has been exceeded, all the subsequent samples taken at the sampling point concerned must undergo a comprehensive analysis of the parameters or substances listed in section 57 until the situation is remedied.

67. At least four times a year, at intervals spread evenly throughout the year, the operator of an engineered landfill must monitor or have the concentration of methane in the soil and inside the buildings and facilities monitored in order to ensure compliance with the requirements of section 60. The operator is, however, exempt from that monitoring requirement if the landfilled residual materials are not likely to generate methane.

The number and location on the site of the methane monitoring points are determined according to the geological and hydrogeological conditions and the siting features, subject to the following:

- (1) the measurements in the soil must be taken at a minimum of four monitoring points distributed evenly around the disposal areas;
- (2) if the disposal areas exceed eight hectares, a monitoring point must be added for each additional eight-hectare portion of land or remaining portion of less than eight hectares.

The date, time, temperature and barometric pressure must be recorded every time a measurement is taken pursuant to the second paragraph.

68. During the operating period of a biogas collection system that has a gas pumping device pursuant to the second paragraph of section 32, the flow of biogas must be continuously measured and the results recorded. For the purpose of ensuring compliance with the requirements of section 62, the operator must also monitor or have the following monitored:

- (1) at least every three months:
 - the concentration of methane generated by the residual materials;
 - the concentration of nitrogen or oxygen and the temperature in each drain and wet well;
- (2) at least once a year, the concentration of methane at the surface of the disposal areas of an engineered landfill that receives 100,000 tonnes or less of residual materials per year; or
- (3) at least three times a year, in the spring, summer and fall, the concentration of methane at the surface of the disposal areas of an engineered landfill that receives more than 100,000 tonnes of residual materials per year. The frequency may, however, be reduced to once a year for all or part of a disposal area that has received a final

cover if, after a minimum two-year monitoring period of that area or part of area, none of the measurements has shown that the limit value set out in the second paragraph of section 62 has been exceeded. The reduction applies as long as the annual monitoring shows compliance with the limit value, otherwise the frequency of the measurements is three times a year until the situation is remedied for that area or part of area.

Where thermal destruction equipment for biogas is required pursuant to the second paragraph of section 32, the destruction temperature and flow rate of the biogas must be continuously measured and recorded and the destruction efficiency for the organic compounds other than methane must be verified at least once a year.

69. The leachate or water samples taken pursuant to this Regulation must not be filtered in any manner during sampling or prior to analysis.

The groundwater samples taken for analysis of metals and metalloids may be filtered during sampling as long as they are filtered at all sampling points.

70. The samples taken pursuant to this Regulation must be sent for analysis to laboratories accredited by the Minister under section 118.6 of the Environment Quality Act.

The analysis reports prepared by the laboratories must be kept by the operator for a minimum of five years after the date on which they were prepared.

71. The operator must, within 60 days of the sampling, send the results of the analyses of the samples taken pursuant to this Regulation to the Minister in a computer medium using the technology-based documents prescribed by the Minister.

If limit values prescribed by this Regulation have been exceeded, the operator must, within 15 days after being so informed, report to the Minister on the measures taken or to be taken to remedy the situation.

The operator must also, within 30 days after being so informed, send to the Minister the results of the measures taken pursuant to section 67 and the results of the measurements of the methane concentration at the surface of the disposal areas and the destruction efficiency verification for organic compounds carried out pursuant to section 68.

Watchdog committee

72. The operator of an engineered landfill must form a committee within six months after landfilling operations commence that is to exercise the function provided for in section 57 of the Environment Quality Act.

To that end, the operator is to invite in writing the following bodies and groups to designate a representative on the committee :

- (1) the local municipality in which the landfill is situated;
- (2) the metropolitan community and the regional county municipality in which the landfill is situated;
- (3) the persons residing in the vicinity of the landfill;
- (4) a local or regional environmental protection group or body;
- (5) a local or regional group or body likely to be affected by the landfill.

The operator's representative designated by the operator is also to sit on the committee.

Any vacancy on the committee is to be filled in keeping with the procedure described in the second paragraph.

Failure by one or more bodies or groups to designate a representative does not prevent the committee from operating; the committee is to exercise its functions even though one or more members have yet to be designated.

73. The committee may, if the majority of the members agree, invite other bodies or groups to sit on the committee and designate a representative.

74. The members of the committee designate a chair and a secretary from among their number; if the majority of the members agree, a person who is not a member of the committee may be designated as secretary.

75. The members of the committee must meet at least once a year.

Unless a majority of the members decide otherwise, the meetings of the committee are held in the territory of the local municipality in which the landfill is situated.

76. The secretary must post the agenda of every committee meeting at least ten days prior to the meeting in the places indicated by the municipal bodies referred to in the second paragraph of section 72.

The secretary must also post the minutes of the meeting in the same places within 30 days following the meeting and send a copy of the minutes to the Minister.

The minutes of the committee meetings are available to any person on request to the secretary.

77. The operator must inform the committee of any application for authorization pertaining to the landfill made under the Environment Quality Act, and of any change in management responsibility for the landfill.

The operator must also, in a timely manner, make available to or provide the committee with all the documents or information necessary for the exercise of its functions, in particular the certificates of authorization pertaining to the landfill, the annual logs after removing the names of the residual materials carriers and producers, the annual reports, the results of the analyses, monitoring or measurements required by this Regulation, the closure report prepared under section 81 and the status report prepared under section 84.

78. All operating expenses of the committee, including the costs of the meeting room and the material resources necessary for the committee to exercise its functions, are payable by the operator.

The expenses incurred for the meetings of the committee are payable by the operator for a maximum of four meetings per year.

79. The operator must allow committee members free access during the landfill's business hours to the landfill and to any equipment or facility at the landfill.

§4. Closure

80. The operator must permanently close the engineered landfill when it has reached its maximum capacity or landfilling operations are terminated. The operator must immediately notify the Minister in writing of the date of closure.

81. Within six months following the date on which the engineered landfill is closed, the operator must send to the Minister a closure report prepared by independent experts, attesting to

(1) the working order, effectiveness and reliability of the landfill liner system, the leachate or water collection and treatment systems, the biogas collection and evacuation or removal system and the network of groundwater observation wells installed at the landfill in accordance with this Regulation;

(2) compliance with the limit values that apply to discharges of leachate or water, to emissions of biogas and to groundwater; and

(3) compliance with the requirements of this Regulation or with the certificate of authorization as regards the final landfill cover and the integration of the landfill into the surrounding landscape.

The closure report must specify any instances of non-compliance with this Regulation or the certificate of authorization and indicate the remedial measures to be taken.

82. A conspicuous sign must be posted at the entrance to an engineered landfill that has been permanently closed stating that the landfill is closed and that the disposal of residual materials is prohibited.

§5. Post-closure management

83. The requirements of this Division continue to apply, with the necessary modifications, to a permanently closed engineered landfill, for as long as the landfill is likely to be a source of contamination.

Once a landfill is closed, the owner is responsible, in particular,

(1) for maintaining the integrity of the final cover over the landfilled residual materials;

(2) for monitoring and maintaining the leachate or water collection and treatment systems, the biogas collection and evacuation or removal system and the network of groundwater observation wells;

(3) for the carrying out of samplings, analyses and measurements of leachate, water and biogas; and

(4) for leak testing the leachate or water collection pipes situated outside the landfill disposal areas and every component in the leachate or water treatment system.

84. The operator of an engineered landfill may apply to the Minister to be released from any environmental monitoring or maintenance obligation under this Regulation if, during a post-closure monitoring period of a minimum duration of five years,

(1) none of the parameters or substances analyzed in the leachate or water samples taken before treatment has exceeded the limit values set out in section 53;

(2) none of the parameters or substances analyzed in the groundwater samples has contravened sections 57 to 59; and

(3) the concentration of methane has been measured in the components of the biogas collection system at a frequency of at least four times per year at intervals spread evenly throughout the year, and all the measurements have indicated a concentration of methane less than 1.25% by volume.

To that end, the operator must have a status report pertaining to the state of the landfill and, where applicable, its environmental impacts, prepared by independent experts; the operator must send the status report to the Minister.

85. If it is established, particularly in the light of the status report prepared pursuant to section 84, that there is compliance with the conditions referred to in the first paragraph of that section, that the landfill complies in every respect with the applicable standards and that it is no longer likely to be a source of contamination, the applicant operator is to be released by the Minister from the environmental monitoring and maintenance obligations under this Regulation.

DIVISION 3 TRENCH LANDFILLS

86. Trench landfills may be established in the territories enumerated in section 87, in which only residual materials generated in the territories are accepted, including sludge which, although generated elsewhere, is treated in the territories.

Trench landfills must be sited and operated in accordance with this Division, which also prescribes the conditions that apply to their closure and post-closure management.

87. Trench landfills are permitted in the following territories only:

(1) in the North, as defined in section 94;

(2) in any part of territory that is not organized into a local municipality and that is situated more than 100 km by a road open year-round from an engineered landfill site that is not reserved exclusively for the use of an industrial, commercial or other establishment;

(3) in the James Bay territory, as described in section 133 of the Environment Quality Act, excluding the municipalities of Chibougamau and Chapais;

(4) in any territory inaccessible by a road open year-round, including every island that is not connected to the mainland by a bridge or a boat service operational year-round;

(5) in the regional county municipalities of Minganie and Caniapiscau;

(6) in the part of the territory of Ville de la Tuque situated west of the 73rd meridian.

88. Subject to the conditions set out in the second paragraph, sections 13 to 16, 18, 19, 28 to 30 and 34 to 36 apply, with the necessary modifications, to the siting of a trench landfill.

The siting is also subject to the following conditions:

(1) the minimum distance between the trench area and any watercourse or body of water must be 150 m;

(2) the minimum distance between the trench area and any catchment installation for surface water or groundwater intended for human consumption must be 500 m. That requirement does not apply if the landfill is not likely to alter the quality of the water;

(3) the bottom of the trenches must be at least one metre above the rock and the groundwater level. Any lowering of the groundwater level by pumping, draining or otherwise is prohibited.

89. Sections 37, 39, 40, 43 to 49, 52 to 55, 57 to 59, 63 to 66 and 69 to 71 apply to the operation of a trench landfill, with the necessary modifications, in particular as follows: the quantity of residual materials referred to in subparagraph 4 of the first paragraph of section 39 may be expressed in volume, and the maximum distance authorized by subparagraph 2 of the third paragraph of section 65 for the installation of groundwater quality monitoring wells is extended to 300 m from the trench area.

90. The operation of a trench landfill is also subject to the following conditions:

(1) in order to minimize the release of odours, the spread of fires, the proliferation of animals or insects, and blowing litter, the residual materials deposited in the trenches must, at least once a week from May to October, be covered with a layer of soil or other material

referred to in paragraph 4, or be covered in another manner if the above purposes are accomplished. The weekly cover requirement does not apply to a landfill reserved exclusively for the use of an industrial, commercial or other establishment if the residual materials received are not likely to generate the nuisances referred to above;

(2) residual materials containing asbestos, sludge and animal carcasses or animal parts must be covered with other materials as soon as they are deposited. That requirement does not apply if the residual materials deposited are covered in another manner as provided for in paragraph 1. The words “containing asbestos” have the same meaning as in the fourth paragraph of section 41;

(3) the soil used to cover the residual materials may contain contaminants in a concentration equal to or lower than the limit values set out in Schedule I to the Land Protection and Rehabilitation Regulation for volatile organic compounds and in Schedule II to that Regulation for other contaminants. Those limit values do not apply to contaminants that do not originate from human activity. The thickness of the cover layer consisting of such contaminated soil may not exceed 60 cm;

(4) other material may be used to cover the residual materials deposited in trenches if the other material does not contain any substance that is not accepted in a trench landfill and is capable of accomplishing the purposes referred to in paragraph 1.

91. When the height of the residual materials deposited in a trench reaches the ground surface at the perimeter of the trench area, the trench area must be covered with a soil layer at least 60 cm thick including, in its upper portion, a layer at least 15 cm thick that is suitable for vegetation. The latter layer may also consist of a layer not more than 30 cm thick of another material that is suitable for vegetation.

With the exception of the layer of soil or other material suitable for vegetation, the trench cover may also consist of soils containing contaminants in a concentration equal to or lower than the limit values set out in Schedule I to the Land Protection and Rehabilitation Regulation. Those limit values do not apply to contaminants that do not originate from human activity.

In order to allow the water to flow away from the trench area and limit soil erosion, the final cover must also be graded to a slope of at least 2% without exceeding

(1) 5%, if the slope at the perimeter of the trench area does not exceed that percentage; or

(2) the percentage of the slope at the perimeter of the trench area, if that slope is greater than 5%.

Not later than one year after installation of the final cover, the final layer must be given a vegetative layer. Damage such as holes, fissures or subsidence that may occur in the final cover must be repaired immediately to prevent water from pooling, until the trench area has been fully stabilized.

92. If all or part of a trench landfill is temporarily closed for a period of three months or more, and subject to the second paragraph, the residual materials deposited in a trench must be covered with at least 30 cm of soil at the latest by the expiry of the third month.

Any trench that is unused for a period of six months must be filled in as provided in section 91 at the latest by the expiry of the sixth month.

93. Sections 80 to 85 apply, with the necessary modifications, to the closure of a trench landfill and to its post-closure management.

DIVISION 4 **NORTHERN LANDFILLS**

94. Landfills may be established in the North, in which only residual materials generated in the North are accepted, including sludge which, although generated elsewhere, is treated in the North.

Northern landfills must be sited and operated in accordance with this Division.

For the purposes of this Division, “the North” means the territories listed below:

(1) the territory situated north of the 55th parallel, except Category I and II lands for the Crees of Great Whale River;

(2) Municipalité de Côte-Nord-du-Golfe-du-Saint-Laurent, the municipalities of Blanc-Sablon, Bonne-Espérance, Gros-Mécatina and Saint-Augustin and any other municipality constituted under the Act respecting the municipal reorganization of the territory of Municipalité de Côte-Nord-du-Golfe-du-Saint-Laurent (1988, c. 55; 1996, c. 2).

95. Northern landfills must be sited at a minimum distance of

(1) 150 m from any watercourse or body of water; and

(2) 500 m from any catchment installation for surface water or groundwater intended for human consumption.

The first paragraph does not apply if the landfill is not likely to alter the quality of the water referred to in that paragraph.

96. Northern landfills must be surrounded by a fence or any other device so as

(1) to prevent wind dispersal of the residual materials and contain them in the disposal areas;

(2) to prevent animals from entering the landfill; and

(3) to prevent access to the landfill after business hours.

The landfills must also be surrounded by a fire barrier at least 15 m wide devoid of all vegetation.

A conspicuous sign must be posted at the landfills indicating the type of landfill, the name and address of the operator and any other person in charge of the landfill, as well as the business hours.

97. The bottom of the disposal areas of a northern landfill must be above the permafrost line at a minimum distance of 30 cm above the groundwater level. Any lowering of the groundwater level by pumping, draining or otherwise is prohibited.

The removed materials must be stockpiled on the perimeter of the site to be used to cover the residual materials.

Sludge must be deposited in an area separate from the area in which other residual materials are deposited so as to facilitate the burning of the residual materials.

98. Northern landfills must have a surface water collection system to prevent the surface water from being contaminated by residual materials or from penetrating into the disposal areas. Once collected, the surface water must be discharged outside the landfill site.

99. Combustible residual materials deposited in northern landfills must be burned at least once a week, weather conditions permitting.

Residual materials containing asbestos, and animal carcasses or animal parts must be covered with soil or other residual materials as soon as they are deposited. The words “containing asbestos” have the same meaning as in the fourth paragraph of section 41.

100. If all or part of a northern landfill is closed or unused for a period of six months or more, the residual materials deposited in the landfill must be covered after being burned with a layer of soil at least 30 cm thick at the latest by the expiry of the sixth month.

DIVISION 5 **CONSTRUCTION OR DEMOLITION** **WASTE LANDFILLS**

101. For the purposes of this Division, “construction or demolition waste” means any material from the construction, renovation or demolition of immovables, bridges, roads or other structures, and includes stone, debris or rubble, fragments of concrete, masonry or asphalt, siding materials, wood, metal, glass, textile materials and plastics, but excludes

(1) materials rendered unrecognizable by burning, crushing, shredding or otherwise, containers of paint, solvent, sealant, adhesive or other similar materials, wood treated to prevent the presence of mould or to increase resistance to decay, yard waste such as grass, leaves and woodchips, and materials, other than bituminous coated material, containing asbestos. The words “containing asbestos” have the same meaning as in the fourth paragraph of section 41; and

(2) any material mingled with household garbage, materials from an industrial process or any of the materials referred to in subparagraph 1.

Trees, branches and stumps removed to allow for construction work, soil excavated from land including soil containing one or more contaminants in a concentration lower than or equal to the limit values set out in Schedule I to the Land Protection and Rehabilitation Regulation, and residual materials from a facility that recovers or reclaims construction or demolition waste or from another recovery or reclamation facility authorized under the Environment Quality Act are considered to be construction or demolition waste to which this Division applies insofar as in all cases the materials, although of a composition similar to that of construction or demolition waste, were unable to be recovered or reclaimed. The limit values referred to in this paragraph for contaminants do not apply to contaminants that do not originate from human activity.

102. Any establishment or enlargement of construction or demolition waste landfills is prohibited. The term “enlargement” includes any alteration that results in an increase in landfill capacity.

That prohibition does not apply to projects to establish or enlarge a dry materials disposal site within the meaning of the Regulation respecting solid waste (R.R.Q., 1981, c. Q-2, r.14), replaced by this Regulation, in respect of which, before 1 December 1995, a notice required under section 31.2 of the Environment Quality Act or an application for a certificate was filed with the Minister and, on the date of coming into force of this Regulation, no decision has been made by the Government or the Minister granting or refusing the authorization or certificate applied for. Those projects may be continued as projects to establish or enlarge a construction or demolition waste landfill and are subject to the provisions of this Division.

103. Construction or demolition waste landfills referred to in the second paragraph of section 102 may be established or enlarged only for the purpose of filling a pit or quarry within the meaning of the Regulation respecting pits and quarries (R.R.Q., 1981, c. Q-2, r.2) if the depth of the pit or quarry allows for waste to be landfilled to an average thickness of at least 3 m.

Only construction or demolition waste within the meaning of section 101 of this Regulation may be disposed of in a landfill referred to in the first paragraph.

104. Subject to the conditions set out in the second paragraph, sections 13 to 16, 19, 28 to 30 and 34 to 36 apply, with the necessary modifications, to the siting of construction or demolition waste landfills.

The siting is also subject to the following conditions:

(1) the minimum distance between the disposal areas and any watercourse or body of water must be 150 m;

(2) the bottom of the disposal areas must be at least one metre above the groundwater level. The lowering of the groundwater level by pumping, draining or otherwise is prohibited. That prohibition does not apply to landfills in operation on the date of coming into force of this Regulation if their siting complies with the provisions of this Regulation that apply to containment and the collection of leachate in engineered landfills. In such a case, the leachate collection system must be designed and installed so that the hydraulic head at the base of the disposal areas cannot reach the level of the residual materials deposited in the disposal areas.

The minimum distances prescribed by the second paragraph are measured from the disposal areas in the pit or quarry.

105. Sections 37 to 40, 43 to 46, 48, 49, 52 to 55, 57 to 60 and 63 to 79 apply to the operation of construction or demolition waste landfills, with the necessary modifications and in particular as follows: the maximum distance authorized under subparagraph 2 of the third paragraph of section 65 for the installation of groundwater quality monitoring wells must not exceed the perimeter of the landfills.

The operation of the landfills is also subject to the following conditions:

(1) subject to subparagraph 2, construction or demolition waste deposited in the landfills must, at least once a month during the operation period, be graded and covered with a layer of soil or material that

— consists of less than 20% by weight of particles 0.08 mm or finer in diameter;

— has a constant minimum hydraulic conductivity of 1×10^{-4} cm/s;

— does not contain material that is not accepted in such a landfill;

— accomplishes the purposes referred to in the second paragraph of section 41;

(2) bituminous coated material containing asbestos must be covered with other materials on being unloaded in a disposal area. The words “containing asbestos” have the same meaning as in the fourth paragraph of section 41;

(3) the burning of construction or demolition waste is prohibited.

The soil used to cover construction or demolition waste may also contain contaminants in a concentration equal to or lower than the limit values set out in Schedule I to the Land Protection and Rehabilitation Regulation. Those limit values do not apply to contaminants that do not originate from human activity.

106. When the height of landfilled construction or demolition waste reaches a level that is 90 cm below the ground surface at the perimeter of a disposal area, the area must receive a final cover consisting of, from the bottom up,

(1) an impermeable soil layer with a constant maximum hydraulic conductivity of 1×10^{-5} cm/s, through a minimum thickness of 45 cm after compaction, or a geomembrane at least 1 mm thick placed on a soil layer at least 30 cm thick having characteristics that preserve the integrity of the geomembrane; and

(2) a barrier soil layer at least 45 cm thick if the above-mentioned impermeable layer is a soil layer, or 60 cm thick if the impermeable layer is a geomembrane. The upper portion of the layer prescribed by this subparagraph must also, to a depth of between 15 and 30 cm, consist of soil or materials suitable for vegetation. The characteristics of the soil or other materials used must be such as to preserve the integrity of the impermeable layer.

In addition, any raising of the ground surface at the perimeter of a disposal area is prohibited.

With the exception of the layer of soil or material suitable for vegetation, the layers referred to in subparagraphs 1 and 2 of the first paragraph may also consist of soils containing contaminants in a concentration equal to or lower than the limit values set out in Schedule I to the Land Protection and Rehabilitation Regulation. Those limit values do not apply to contaminants that do not originate from human activity. The layers may also consist of other material if the material meets where applicable the requirements of this paragraph and the minimum thickness of the layers is as prescribed in those subparagraphs.

In order to allow the water to flow away from the disposal area and limit soil erosion, the final cover must also be graded

(1) to a slope of 2%, if the slope at the perimeter of the disposal area does not exceed that percentage; or

(2) to a slope that equals the slope percentage at the perimeter of the disposal area, if that perimeter slope is greater than 2%.

Not later than one year after installation of the final cover, the final layer must be given a vegetative layer. Damage such as holes, fissures or subsidence that may occur in the final cover must be repaired immediately to prevent water from pooling over or infiltrating into the disposal area, until the disposal area has been fully stabilized.

107. Every construction or demolition waste landfill must have a system that collects and removes the biogas produced in the landfill.

The system must be in operation not later than one year after a disposal area has received a final cover.

108. The final profile of filled construction or demolition waste landfills including the final cover must not exceed the ground surface at the perimeter of the disposal areas, except to the extent that the raising of the

surface of the disposal areas relative to the ground is necessary to meet the requirements of the fourth paragraph of section 106, in which case the height of the landfilled residual materials may exceed the limit prescribed by that section.

109. Residual materials in a construction or demolition waste landfill that has been unused for a period of 12 months or more must, at the latest by the expiry of the twelfth month, be covered as required by sections 106 and 108 which apply with the necessary modifications.

110. Sections 80 to 85 apply, with the necessary modifications, to the closure of construction or demolition waste landfills and to their post-closure management.

DIVISION 6 REMOTE LANDFILLS

111. Landfills may be established in the territories referred to in section 112, in which only residual materials generated in those territories are accepted.

The landfills, referred to as “remote landfills”, must be sited and operated in accordance with this Division, which also prescribes the conditions that apply to their closure.

112. Remote landfills may not serve more than 50 persons, on a yearly basis or the equivalent, and are permitted in the following territories only:

- (1) territories that are not organized into local municipalities;
- (2) territories inaccessible by road;
- (3) the James Bay territory, as described in section 133 of the Environment Quality Act;
- (4) the territory situated north of the 55th parallel;
- (5) the territory of the municipalities referred to in subparagraph 2 of the third paragraph of section 94.

In addition, in the territories referred to in subparagraphs 1 and 3 of the first paragraph, only the following persons or municipalities may establish and operate a remote landfill:

- (1) the Minister of Natural Resources and Wildlife or another authority responsible under the Act for the management of lands in the domain of the State;
- (2) a regional county municipality;

(3) the manager of an outfitting operation or of a controlled territory within the meaning of the Act respecting the conservation and development of wildlife (R.S.Q., c. C-61.1);

(4) the person responsible for an industrial camp governed by the Regulation respecting sanitary conditions in industrial or other camps (R.R.Q., 1981, c. Q-2, r.3);

(5) Municipalité de Baie-James;

(6) the person appointed under section 166 of the Environment Quality Act to exercise the functions, duties and powers of the Minister of Sustainable Development, Environment and Parks on Category I land in the territory referred to in section 133 of that Act.

113. A remote landfill may not accept residual materials from

(1) a dwelling or an establishment served by a residual materials collection service or situated 100 km or nearer by road from an engineered landfill that is not reserved exclusively for the use of an industrial, commercial or other establishment, or from an incineration facility referred to in section 121, as long as those disposal facilities remain accessible by road; or

(2) an establishment in which more than 50 people are lodged, on a yearly basis or the equivalent.

114. Remote landfills must be sited at a minimum distance of

(1) 150 m from any watercourse or body of water; and

(2) 500 m from any catchment installation for surface water or groundwater intended for human consumption. That requirement does not apply if the landfill is not likely to alter the quality of the water.

115. The burning of residual materials in a remote landfill is prohibited, except in a northern landfill as defined in section 94 that has a fire barrier at least 15 m wide and devoid of all vegetation extending outward from the burning area.

116. The bottom of the disposal areas of every remote landfill must be a minimum distance of 30 cm above bedrock and the groundwater level. Any lowering of the groundwater level by pumping, draining or otherwise is prohibited.

117. From May to October, the residual materials deposited in a remote landfill must be covered at the end of each day of use with a layer of soil at least 15 cm thick or with a layer of lime, or be covered in another manner that minimizes the release of odours, the spread of fires, the proliferation of animals or insects, and blowing litter.

Residual materials containing asbestos, and animal carcasses or animal parts must be covered with other residual materials as soon as they are deposited. That requirement does not apply if the residual materials deposited in the remote landfill are covered in another manner as provided for in the first paragraph. The words “containing asbestos” have the same meaning as in the fourth paragraph of section 41.

118. Sludge with a dryness lower than 15% to be landfilled in a remote landfill must be landfilled in a separate pit reserved exclusively for that type of residual material.

119. When the height of the residual materials reaches the ground surface at the perimeter of the landfill, the remote landfill must be covered with a layer of materials at least 30 cm thick consisting of soil including a layer at least 15 cm thick that is suitable for vegetation, or consisting of a layer of another material not more than 30 cm thick that is suitable for vegetation. Any raising of the ground surface at the perimeter of the landfill is prohibited.

In order to allow water to flow away from the landfill and limit soil erosion, the final cover must also be graded to a slope of at least 2% without exceeding

(1) 5%, if the slope at the perimeter of the remote landfill does not exceed that percentage; or

(2) the percentage of the slope at the perimeter of the remote landfill if that slope is greater than 5%.

120. If a remote landfill is temporarily closed for a period of three months or more, and subject to the second paragraph, the residual materials deposited in the landfill must be covered with at least 30 cm of soil at the latest by the expiry of the third month.

A remote landfill that is unused for a period of 12 months must be filled in at the latest by the expiry of that period and section 119 applies, with the necessary modifications.

CHAPTER III RESIDUAL MATERIALS INCINERATION FACILITIES

DIVISION 1 GENERAL

121. This Chapter applies to incineration facilities that incinerate at least one of the following types of residual materials:

(1) household garbage collected by or for a municipality;

(2) sludge from municipal water or sludge treatment or collection works, other sanitary wastewater collection or treatment works or treatment works for sludge from such works, or from sewer cleaning.

122. The provisions of the Regulation respecting biomedical waste and the Regulation respecting the quality of the atmosphere (R.R.Q., 1981, c. Q-2, r.20) that apply to biomedical waste incineration facilities also apply to the residual materials incineration facilities governed by this Chapter that receive biomedical waste referred to in section 1 of the Regulation respecting biomedical waste.

Where this Regulation is inconsistent with the above regulations, the provisions that ensure greater environmental protection prevail.

123. Residual materials that, under paragraphs 1 to 6, 8 to 10 and 12 of section 4, may not be disposed of in an engineered landfill may not be disposed of in an incineration facility governed by this Chapter.

In addition, inedible meat within the meaning of the Regulation respecting food may be disposed of in such an incineration facility only under the conditions prescribed by the Food Products Act and the regulations made under that Act.

DIVISION 2 SITING AND OPERATION

124. The incineration facilities governed by this Chapter must have a handling area or pit where the residual materials are received and that must be situated inside a building.

The handling area and pit must be impermeable and have a fire extinguishing system.

The handling area must be cleaned at the end of each day of operation.

No non-incinerated residual material or incinerator ash may be stored outside the incineration facility buildings; no truck containing residual materials, including ash, may be parked on the premises of the facility for a period of more than one hour.

125. An incineration facility governed by this Chapter that receives biomedical waste referred to in paragraphs 1 to 3 of section 1 of the Regulation respecting biomedical waste, or animal carcasses or animal parts, must be laid out so that the residual materials are unloaded in an area separate from the area where the other types of residual materials are deposited, and are conveyed to the combustion chamber or chambers by means of an independent feed system.

The requirements of the first paragraph do not apply in the case of animal carcasses or animal parts of domestic pets that are not from establishments that breed or sell domestic pets or that shelter, care for or protect them.

126. An incineration facility governed by this Chapter that has a rated capacity of less than one tonne per hour must have at least two combustion chambers.

Gases from the primary combustion chamber must be brought to a temperature greater than 1,000 °C for at least one second when they reach the final combustion chamber.

In addition, no residual materials may be fed into the primary combustion chamber during the preheating of the final combustion chamber, or be ignited until the temperature of the gases in the final combustion chamber has been maintained at a temperature of at least 1,000 °C for a minimum of 15 minutes.

The facility must have auxiliary gas or liquid fossil fuel burners.

127. An incineration facility governed by this Chapter must have a sampling system that continuously measures and records the concentration of carbon monoxide, carbon dioxide and oxygen in the combustion gases emitted into the atmosphere. It must also have a system that continuously measures and records the gas temperature at the outlet of the final combustion chamber.

If the incineration facility has a rated capacity of one tonne or more per hour, it must also have a sampling system that continuously measures and records the opacity of the combustion gases or the concentration of the particles emitted into the atmosphere.

In addition, if an incineration facility has a rated capacity of two tonnes or more per hour and burns halogenated materials, it must have a sampling system that continuously measures and records the concentration of hydrogen chloride in the combustion gases emitted into the atmosphere.

All measurements must be kept by the operator for a minimum of four years and be made available to the Minister.

128. Sections 37 to 39, paragraph 1 of section 45, sections 48, 52 and 72 to 79 apply, with the necessary modifications, to the operation of every incineration facility governed by this Chapter.

Sections 38 and 72 to 79 do not apply to an incineration facility that disposes of residual materials generated in any of the territories referred to in section 87 or 94.

DIVISION 3 GAS EMISSIONS

129. The opacity of grey or black combustion gas emitted into the atmosphere by an incineration facility governed by this Chapter must not exceed 20% except

(1) for a maximum of four minutes per hour at which time the opacity of the emissions may attain a maximum of 40%; or

(2) on igniting a combustion chamber or blowing tubes at which time the opacity of the emissions may attain a maximum of 60% for a maximum of four minutes.

The opacity of the emissions is measured using the Micro-Ringelmann Chart in the manner set out in Schedule I.

130. Subject to section 133, the incineration facilities governed by this Chapter must not emit combustion gases into the atmosphere that contain

(1) more than 20 mg/m³ of particles if the facilities have a rated capacity equal to or greater than one tonne per hour, or more than 50 mg/m³ of particles if the rated capacity is lower. "Particle" means any substance, except chemically uncombined water, which exists in a finely divided liquid or solid state in suspension in a gaseous environment;

(2) more than 50 mg/m³ of hydrogen chloride. That limit value may be exceeded without, however, exceeding 100 mg/m³, in the case of a facility that has a rated capacity of less than one tonne per hour;

(3) more than 57 mg/m³ of carbon monoxide calculated as the arithmetic average of all measurements taken during a 4-hour period;

(4) more than 0.08 ng/m³ of polychlorinated dibenzofurans and polychlorinated dibenzo [*b, e*] [1, 4] dioxins. That contaminant concentration is calculated by adding the concentrations of each of the congeners listed in Schedule II and multiplying the sum obtained by the corresponding toxicity equivalency factor determined in that Schedule; or

(5) more than 20 µg/m³ of mercury or, if the facility incinerates only sludge referred to in paragraph 2 of section 121, more than 70 µg/m³ of mercury.

DIVISION 4 GAS EMISSIONS MONITORING

131. The measurements taken to monitor compliance with the limit values set out in section 130 are expressed as units of mass per cubic metre of dry combustion gas, at a reference temperature of 25 °C and pressure of 101.3 kPa, corrected to 11% oxygen according to the following formula:

$$E = E_a \times \frac{9.9}{20.9 - A}$$

where

"E" is the corrected concentration;

"E_a" is the dry concentration at the above temperature and pressure; and

"A" is the percentage of oxygen, on a dry basis, in the combustion gases at the sampling point.

132. The operator of an incineration facility governed by this Chapter that has a rated capacity equal to or greater than one tonne per hour must, at least once a year, perform source emissions testing of the combustion gases emitted into the atmosphere or have such testing performed for the purpose of measuring the parameters mentioned in section 130, with three samples per run for the parameters referred to in paragraphs 1, 2, 4 and 5 of that section. If the rated capacity of the incineration facility is less than one tonne per hour, that testing requirement is reduced to at least once every three years.

133. A limit value set out in paragraphs 1, 2, 4 and 5 of section 130 is considered to be complied with if the following conditions are met:

(1) the arithmetic average of the three sampling results from the same sampling run performed pursuant to section 132 is lower than or equal to the limit value;

(2) at least two of the results are lower than the limit value;

(3) none of the three results exceeds the limit value by more than 20%.

134. The emissions testing of the gas required by section 132 must be performed using the methods described in Book 4 of the Guide d'échantillonnage à des fins d'analyses environnementales published by the Ministère de du Développement durable, de l'Environnement et des Parcs. A report of the testing performed as provided in that Book must be sent to the Minister within 120 days after the end of each sampling run. The report must contain a statement by its author certifying that the testing was performed in accordance with the methods described in that Book.

The gas samples must be sent for analysis to laboratories accredited by the Minister under section 118.6 of Environment Quality Act.

DIVISION 5

PROCESS WATER AND OTHER LIQUID

135. Sections 29, 53, 55, 63 and 69 to 71 apply, with the necessary modifications, to process water used in an incineration facility governed by this Chapter to cool the incineration residue or to reduce the emissions of contaminants into the atmosphere, and to liquid from the handling area or pit where the residual materials are received.

CHAPTER IV

RESIDUAL MATERIALS TRANSFER STATIONS

136. This Chapter applies to residual materials transfer stations, except transfer stations that receive only construction or demolition waste within the meaning of section 101.

“Transfer station” means any facility where residual materials are unloaded to be prepared for further transport to another place for disposal.

137. The only residual materials that may be accepted at a transfer station are those authorized by this Regulation to be disposed of in an engineered landfill or an incineration facility to which Chapters II and III apply respectively.

Despite the foregoing, the following types of residual materials may not be accepted at a transfer station:

(1) sludge with a dryness lower than 25%;

(2) animal carcasses and animal parts, unless they constitute inedible meat within the meaning of the Regulation respecting food, in which case they may be accepted.

138. The operations at a transfer station involving the loading and unloading of residual materials must be carried out inside a building. No residual material may be stockpiled outside the building. No truck containing residual materials may be parked on the premises of the transfer station for a period of more than one hour.

When transfer activities cease for a period of more than 12 hours, all the residual materials received must be conveyed to their destination so that no residual materials remain inside the building or on the premises of the transfer station. That requirement does not apply if the building referred to in the first paragraph has an air collection and treatment system that prevents any nuisance odour caused by the residual materials remaining in the building for a period of more than 12 hours.

139. Sections 37 to 39, paragraph 1 of section 45, sections 48, 49 and the second and third paragraphs of section 124 apply, with the necessary modifications, to residual materials transfer stations.

The operations logs maintained by a transfer station must also indicate the destination of the transferred residual materials. The logs are not required to be kept after a transfer station is closed if the information entered in them has been transferred into the operations logs of the disposal facilities that received the residual materials.

In addition, section 29, subparagraph 4 of the first paragraph and the second paragraph of section 52, sections 53, 55, 63 and 69 to 71 apply, with the necessary modifications, to liquid from the residual materials handling area.

CHAPTER V

FINANCIAL GUARANTEE

140. The operation of the facilities to which Divisions 2, 3 and 5 of Chapter II and Chapters III and IV apply is subject to the provision of a financial guarantee by the operator or by a third party on the operator's behalf to guarantee, during the operation and on closure, the performance of the operator's obligations under the Environment Quality Act, the regulations, an order or an authorization.

The amount of the financial guarantee is established as follows:

| Class of facility | Guarantee |
|---|---|
| Engineered landfill and construction or demolition waste landfill | |
| • receiving less than 20,000 tonnes per year | \$100,000 |
| • receiving from 20,000 to 100,000 tonnes per year | \$300,000 |
| • receiving more than 100,000 tonnes per year without exceeding 300,000 tonnes per year | \$500,000 |
| • receiving more than 300,000 tonnes per year | \$1,000,000 |
| Trench landfill | \$50,000 per landfill, maximum \$250,000 for the operator of more than one landfill |
| Incineration facility | 1% of capital cost, minimum \$100,000 maximum \$2,000,000 |
| Transfer station | \$100,000 |

141. The financial guarantee must be in one of the following forms:

(1) cash, a bank money order or a certified cheque made out to the Minister of Finance;

(2) bearer bonds issued or guaranteed by Québec, Canada or a Canadian province, the United States of America or one of its member States, the International Bank for Reconstruction and Development, a municipality or a school board in Canada or a fabrique in Québec;

(3) a security or guarantee policy, with a stipulation of solidarity and renunciation of the benefits of discussion and division, issued by a legal person authorized to give guarantees under the Bank Act (S.C. 1991, c. 46), the Act respecting trust companies and savings companies (R.S.Q., c. S-29.01), the Act respecting insurance (R.S.Q., c. A-32) or the Act respecting financial services cooperatives (R.S.Q., c. C-67.3);

(4) an irrevocable letter of credit issued by a bank or a financial services cooperative.

142. The sums of money, orders, cheques or bonds provided as a guarantee must be deposited with the Minister of Finance pursuant to the Deposit Act (R.S.Q.,

c. D-5) for the operational period of the facility and for a period of 12 months following the closure of the facility or the revocation or transfer of the certificate of authorization, whichever occurs first.

143. A financial guarantee provided in the form of security, a financial guarantee policy or a letter of credit must have a term of not less than 12 months. At least 60 days before the expiry of the financial guarantee, the proponent must send renewal of the financial guarantee or any other financial guarantee that meets the requirements of sections 140 and 141 to the Minister of Sustainable Development, Environment and Parks.

The financial guarantee must also contain a clause setting the time period for filing a claim based on a failure by the operator to perform obligations at not less than 12 months after expiry of the financial guarantee or, as the case may be, its revocation, rescission or cancellation.

A clause of revocation, rescission or cancellation of a financial guarantee may take effect only if prior notice of at least 60 days is sent to the Minister by registered or certified mail.

144. If the operator fails to perform an obligation and the default persists after a notice from the Minister to remedy the failure, the Minister may use the financial guarantee provided pursuant to section 140 to pay expenses necessary for performance of the obligation. In such a case, the sums required to fulfil a financial guarantee provided under this Chapter become payable.

CHAPTER VI CERTIFICATE OF AUTHORIZATION

145. No person may establish or enlarge an engineered landfill or a construction or demolition waste landfill referred to in the second paragraph of section 102 without being the owner of the land on which the landfill is to be established or enlarged, including the land on which any system necessary to its operation is to be situated if the land is not the land on which the disposal areas and other landfill equipment or facilities are to be situated.

After its establishment or enlargement, the landfill and the land on which the landfill or any system necessary to its operation is situated must continue to be owned by the same person or municipality, including after a transfer of the disposal facility.

146. Section 55 of the Environment Quality Act relating to the authorization requirement set out in section 22 of the Act does not apply to remote landfills to

which Division 6 of Chapter II applies. Despite the foregoing, the operator is required, before establishing or altering such a landfill, to give notice in writing of the establishment or alteration to the Minister and the regional county municipality in which the landfill is situated, or the local municipality in which the landfill is situated if the territory of the local municipality is not within the territory of a regional county municipality. The notice must specify where the landfill is situated and indicate the number of persons the landfill is to serve on a yearly basis or provide the data necessary to enable the equivalent of that number to be determined.

147. An application for an authorization under section 22 of the Environment Quality Act relating to the establishment or alteration of a residual materials disposal facility referred to below must be accompanied by the following information and documents, in addition to those required under section 22 of the Act or under the Regulation respecting the application of the Environment Quality Act made by Order in Council 1529-93 dated 3 November 1993:

(1) in the case of an engineered landfill or a construction or demolition waste landfill subject to the environmental impact assessment and review procedure provided for in Division IV.1 of Chapter I of the Environment Quality Act,

(a) a copy of the titles confirming the applicant's ownership of the lots or parts of lots covered by the application, and the location certificate for each lot or part of lot;

(b) the plans and specifications of any facility required for the establishment and operation of the landfill, including any equipment or works to reduce, control, contain or prevent the deposit, release, emission or discharge of contaminants into the environment;

(c) all documents and information required under the conditions specified in the authorization granted pursuant to section 31.5 of that Act;

(d) any document or information showing compliance with the conditions set out in this Regulation if the application involves for the landfill or any of its components an exemption from a requirement of this Regulation or the use of an alternative system, technique or material, to the extent that a provision of this Regulation gives entitlement to such an exemption or use;

(2) in the case of any other engineered landfill,

(a) a copy of the titles confirming the applicant's ownership of the lots or parts of lots covered by the application, and the location certificate for each lot or part of lot;

(b) the general characteristics of the disposal facility, including information regarding the user community to be served by the project, and the nature and quantity of the residual materials to be landfilled;

(c) the capacity and life of the landfill, the project schedule for the various phases, the estimated costs for the siting, operation, closure and post-closure management of the landfill, in particular for the monitoring and follow-up measures;

(d) a general plan of the disposal facility showing

— the location and dimensions of the facility, including the buffer zone, with geographic coordinates or, where applicable, the numbers of the lots or parts of lots covered by the application;

— the current land use and zoning within a radius of two kilometres;

— the location of any airport within a radius of eight kilometres;

— the public thoroughfares, access roads, watercourses or bodies of water, wetlands (marshes, swamps, peat bogs), flood plains and mapped 100-year flood plains or flood zones identified by the municipalities, and wooded sectors, dwellings and any other construction within a radius of one kilometre;

— the current drainage pattern and general topography of the land within a radius of one kilometre;

— the location of every catchment site or works for surface water or groundwater for human or animal consumption, and of the protection areas around the site or works;

(e) a description of the local geology including, for the land covered by the application, a detailed stratigraphy, a geological survey performed using a representative number of stratigraphic borings (a minimum of four borings for the first five hectares of land and an additional boring for each additional five hectares or five-hectare portion), a soil characterization using a representative number of samples, and an estimate of the volumes of materials available for the establishment and operation of the landfill;

(f) a description of the local hydrogeology including, for the land covered by the application, a piezometric map, the levels of observation wells and other water points (resurgences, streams, outcrops of the water table), groundwater characteristics including location and depth, hydraulic conductivity determined from *in-situ* tests, direction of flow, migration velocity, the relationship between the various hydrostratigraphic units and with the surface hydrographic network, and groundwater susceptibility to pollution determined from a representative number of observation wells or piezometers (a minimum of four wells or piezometers for the first five hectares of land and an additional well or piezometer for each additional five hectares or five-hectare portion);

(g) a map showing, within a radius of one kilometre, the location of the geological and hydrogeological observation points used, rock outcrops and unconsolidated deposits, areas sensitive to erosion and ground movement and land where, because of current or past use, contaminants could be potentially present in concentrations equal to or greater than the limit values set out in Schedule I to the Land Protection and Rehabilitation Regulation;

(h) the results of the groundwater samples taken on the land covered by the application for the purpose of verifying the parameters and substances listed in sections 57 and 66, using a representative number of samples (a minimum of one sample per piezometer);

(i) a description of the physico-chemical and bacteriological characteristics of the surface water near any points of discharge into the environment, and the uses of the surface water;

(j) a study showing the integration of the landfill into the surrounding landscape;

(k) the plans and specifications of any facility required for the establishment and operation of the landfill, including any equipment or works to reduce, control, contain or prevent the deposit, release, emission or discharge of contaminants into the environment, including

— a topographical survey of the land showing the contour lines at intervals of not more than one metre;

— a survey of the servitudes encumbering the land and of the surface and underground equipment present;

— a land development plan (scale between 1:1,000 and 1:1,500) showing among other things natural screens, the features to ensure integration into the landscape, the areas reserved for the removal or stockpiling of cover

materials, the location of the buildings to be used by employees and for storing equipment, deforestation areas, vehicle traffic areas, weighing equipment, fences and gates, surface water, groundwater and biogas monitoring points and longitudinal and cross sections of the land showing its original and final contours;

— the plans and profiles of the drainage systems with cross sections of the various components, their description and location of the points of discharge into the environment;

— a description of the impermeable liner system for the disposal areas and of the leachate and water treatment system;

— a description of the final cover for the disposal areas, with cross sections of the components;

— a description of the equipment and works to be used to collect and treat leachate, with an estimate of the quality and quantity of leachate treated having regard to the variability of its characteristics, how the equipment and works are to be managed, how the leachate is to be characterized and treated and how the treatment waste is to be disposed of, as well as the location of the points of discharge into the environment;

— a description of the equipment and works to be used to prevent or control migration into the soil or emission into the atmosphere of the gas produced by the decomposition of landfilled residual materials, including biogas detection, combustion or treatment equipment and the composition of the gas;

(l) the quality assurance and quality control programs to ensure the application of sections 34 to 36;

(m) the operational specifications for the landfill, including

— assignment of the personnel required for the operation;

— the measures to be taken to ensure the maintenance and repair of the machinery and its replacement if required;

— the control measures for the residual materials accepted (nature, quality, origin) and the measures to be applied when the materials are unacceptable;

— the control measures for the daily cover materials to ensure compliance with section 42;

— the systems inspection, maintenance and cleaning program to be implemented to ensure the application of section 44;

— the programs to be implemented to monitor and supervise surface water, groundwater and biogas quality to ensure the application of sections 63 to 71, indicating in particular the location of the observation wells and the particulars of their installation;

(n) where required, any document or information referred to in subparagraph *d* of paragraph 1;

(3) in the case of a trench landfill,

(a) a copy of every document confirming the applicant's rights on the lots or parts of lots covered by the application and the location certificate for each lot or part of lot;

(b) the documents and information referred to in subparagraphs *b* to *i* and *k* to *n* of subparagraph 2, which apply with the necessary modifications;

(4) in the case of a northern landfill,

(a) the documents and information referred to in subparagraphs *b* and *d* of subparagraph 1, subparagraphs *b* to *d* of subparagraph 2 and subparagraph *a* of subparagraph 3, which apply with the necessary modifications;

(b) a survey of the servitudes encumbering the land and of the surface and underground equipment present;

(c) the plans and profiles of the drainage system;

(d) a description of the soil at the landfill site to a minimum depth of 30 cm below the residual materials floor level;

(e) the operational specifications for the landfill; and

(5) in the case of a residual materials transfer station or a residual materials incineration facility,

— the documents and information referred to in subparagraph *b* of subparagraph 1, subparagraphs *b* to *d* of subparagraph 2, subparagraph *a* of subparagraph 3 and subparagraph *e* of subparagraph 4, which apply with the necessary modifications.

The plans and specifications required under this section must be approved by an engineer who is a member of the Ordre des ingénieurs du Québec.

148. If the information or documents required under section 147 have been provided to the Minister in connection with a preceding application, they need not be sent again if the applicant attests to their accuracy.

149. The applications for authorization under section 22 of the Environment Quality Act relating to the establishment or alteration of a residual materials disposal facility referred to below must be accompanied by payment, in cash or by certified cheque made out to the Minister of Finance, of the fees set out in the following table:

| Class of facility | Establishment | Alteration with increase in capacity | Alteration without increase in capacity |
|--|---------------|--------------------------------------|---|
| Engineered landfill, construction or demolition waste landfill and incineration facility | \$5,000 | \$ 2,500 | \$1,000 |
| Trench landfill | \$2,500 | \$1,250 | \$1,000 |
| Northern landfill and transfer station | \$1,000 | \$500 | \$500 |

The fees are adjusted on 1 January of each year on the basis of the percentage change in the consumer price indexes for Canada, as published by Statistics Canada; the change is calculated by determining the difference between the average of the monthly indexes for the 12-month period ending on 30 September of the preceding year and the average of the monthly indexes for the same period of the second preceding year. The Minister of Sustainable Development, Environment and Parks is to inform the public of the indexing through the *Gazette officielle du Québec* before 1 January of each year and, if the Minister considers it appropriate, by any other means.

CHAPTER VII OFFENCES

150. Every offence against sections 10, 11, 29, 33, 37, 39, 40, 45, 46, 48, 49, 52, the first paragraph of section 72, sections 77 to 82, 90 to 92, 96, 98 to 100, 117 to 120, 146, the second paragraph of section 155, paragraphs 1, 2, 5 and 6 of section 157, section 158 and subparagraphs 1 and 2 of the first paragraph of section 163 concerning the application of the first paragraph of section 72 and sections 77 to 79 renders the offender liable to a fine of

(1) \$500 to \$5,000, in the case of a natural person;
and

(2) \$1,000 to \$20,000, in the case of a legal person.

Every offence against the first paragraph of section 88 concerning the application of section 29, section 89 concerning the application of sections 37, 39, 40, 45, 46, 48, 49 and 52, section 93 concerning the application of sections 80 to 82, the first paragraph of section 104 concerning the application of section 29, the first paragraph of section 105 concerning the application of sections 37, 39, 40, 45, 46, 48, 49 and 52, the first paragraph of section 72 and sections 77 to 79, section 110 concerning the application of sections 80 to 82, section 128 concerning the application of sections 37 and 39, paragraph 1 of section 45, sections 48 and 52, the first paragraph of section 72 and sections 77 to 79, section 135 concerning the application of section 29 and section 139 concerning the application of sections 29, 37 and 39, paragraph 1 of section 45, sections 48 and 49 and subparagraph 4 of the first paragraph and the second paragraph of section 52 renders the offender liable to the fine provided for in the first paragraph.

151. Every offence against sections 6, 9, 18, 27, 30, 31, 34 to 36, 38, 41 to 44, 50, 51, 55, 56 and 63 to 71, the second paragraph of section 88, sections 95 and 97, the second paragraph of section 104, subparagraphs 1 and 2 of the second paragraph and the third paragraph of section 105, sections 106, 109, 111 to 114, 116, 124 to 127, 129, 132, 138, 140 to 144, the second paragraph of section 145, paragraphs 3 and 9 of section 157, section 159 and subparagraph 4 of the first paragraph of section 163 renders the offender liable to a fine of

(1) \$2,000 to \$15,000, in the case of a natural person;
and

(2) \$5,000 to \$100,000, in the case of a legal person.

Every offence against the first paragraph of section 88 concerning the application of sections 18, 30 and 34 to 36, section 89 concerning the application of sections 43, 44, 55, 63 to 66 and 69 to 71, the first paragraph of section 104 concerning the application of sections 30 and 34 to 36, the first paragraph of section 105 concerning the application of sections 38, 43, 44, 55 and 63 to 71, section 128 concerning the application of section 38, section 134, section 135 concerning the application of sections 55, 63 and 69 to 71 and section 139 concerning the application of sections 38, 55, 63, 69 to 71 and the second and third paragraphs of section 124 renders the offender liable to the fine provided for in the first paragraph.

152. Every offence against sections 4, 8, 20 to 26, 28, 32, 47, 53, 54, 57 to 62, 86, 87, 94, 102, 103, subparagraph 3 of the second paragraph of section 105, sections 107, 108, 115, 123, 130, 137, paragraphs 4 and 7 of section 157, the second, third and fourth paragraphs of section 161, subparagraph 3 of the first paragraph of section 163 and section 166 renders the offender liable to a fine of

(1) \$5,000 to \$25,000, in the case of a natural person;
and

(2) \$10,000 to \$500,000, in the case of a legal person.

Every offence against the first paragraph of section 88 concerning the application of section 28, section 89 concerning the application of sections 47, 53, 54 and 57 to 59, the first paragraph of section 104 concerning the application of section 28, the first paragraph of section 105 concerning the application of sections 53, 54 and 57 to 60, section 135 concerning the application of section 53 and section 139 concerning the application of section 53 renders the offender liable to the fine provided for in the first paragraph.

153. Every offence against the provisions of this Regulation made applicable pursuant to section 83 to a residual materials disposal facility, where the offence occurs after the date of closure of the facility, renders the offender liable to the penalty provided for in section 150 to 152, as the case may be.

154. In the case of a second or subsequent offence, the fines prescribed by sections 150 to 153 are doubled.

CHAPTER VIII TRANSITIONAL, AMENDING AND MISCELLANEOUS

155. In addition to the remote landfills that are exempt from the application of section 55 of the Environment Quality Act under section 146, the following sites are also exempt from the application of that section 55:

(1) sites where compost only is landfilled in accordance with section 72 of the Regulation respecting waste water disposal systems for remote dwellings (R.R.Q., 1981, c. Q-2, r.8);

(2) sites where inedible meat only is landfilled in accordance with the fourth paragraph of section 7.3.1 of the Regulation respecting food (R.R.Q., 1981, c. P-29, r.1);

(3) incineration facilities that have a rated capacity of less than one tonne per hour in which only inedible meat is incinerated in accordance with the Regulation respecting food.

Despite the foregoing, in the case of a project to establish or alter an incineration facility referred to in subparagraph 3 of the first paragraph, at least 30 days before carrying out the project the operator is required to so notify the Minister in writing by means of a project notice showing the location of the facility and describing its technical and operating characteristics. The project notice must be accompanied by a statement from an engineer certifying that the project conforms to the Environment Quality Act and its regulations.

The sites referred to in subparagraphs 1 and 2 of the first paragraph are also exempt from the application of section 65 of the Environment Quality Act.

156. This Regulation replaces the Regulation respecting solid waste (R.R.Q., 1981, c. Q-2, r.14), except to the extent that that Regulation continues to apply as provided in the following provisions.

157. For a three-year period beginning on the coming into force of this Regulation, the sanitary landfill sites, in-trench disposal sites for solid waste and dry materials disposal sites governed by the Regulation respecting solid waste that are in operation on that date continue to be governed by the Regulation respecting solid waste and the certificates of authorization or conformity issued before that date, subject to section 159 and to the following:

(1) sections 10 to 12 relating to the requirement to accept residual materials apply, with the necessary modifications, to those sanitary landfill sites as of the date of coming into force of this Regulation;

(2) sections 39 and 40 relating to the annual log apply, with the necessary modifications, to those sanitary landfill sites and dry materials disposal sites as of the date of coming into force of this Regulation;

(3) the daily and final coverings of the residual materials deposited in the disposal areas of those sanitary landfill sites may be done using materials different from those prescribed by the Regulation respecting solid waste, provided there is compliance with the requirements of the first paragraph of section 32 and sections 42 and 50, which apply with the necessary modifications; the daily covering of the residual materials must, however, be done in compliance with section 41 as of the date of coming into force of this Regulation;

(4) section 47 relating to the prohibition on the burning of residual materials applies, with the necessary modifications, to those in-trench disposal sites for solid waste as of the date of coming into force of this Regulation;

(5) subparagraphs 1 and 2 of the first paragraph and the second paragraph of section 52 relating to the annual report apply, with the necessary modifications, to those sanitary landfill sites and dry materials disposal sites as of the date of coming into force of this Regulation;

(6) sections 80 to 82 relating to site closure apply, with the necessary modifications, to those sanitary landfill sites, in-trench disposal sites for solid waste and dry materials disposal sites as of the date of coming into force of this Regulation;

(7) as of the date of coming into force of this Regulation, only construction or demolition waste within the meaning of section 101 may be landfilled in those dry materials disposal sites; in addition, the prohibition on enlargement set out in section 102 applies to those dry materials disposal sites as of the date of coming into force of this Regulation, except for the cases provided for in the second paragraph of that section. The covering of the residual materials deposited in dry materials disposal areas may be done using materials different from those prescribed by the Regulation respecting solid waste, provided there is compliance with the requirements of the second and third paragraphs of section 105 and sections 106 and 107, as the case may be, which apply with the necessary modifications;

(8) as of the date of coming into force of this Regulation, an enlargement of a sanitary landfill site or in-trench disposal site for solid waste is considered to be a project to establish an engineered landfill or trench landfill governed by this Regulation. For the purposes of this paragraph, enlargement includes any alteration that results in an increase in landfill capacity;

(9) the provisions of Chapter V relating to the provision of a financial guarantee that apply to engineered landfills, trench landfills and construction or demolition waste landfills apply respectively, with the necessary modifications, to those sanitary landfill sites, in-trench disposal sites for solid waste and dry materials disposal sites as of the sixth month following the month of coming into force of this Regulation.

158. Not later than at the end of the thirtieth month following the month of coming into force of this Regulation, the operator of a site referred to in section 157 must send a notice to the Minister informing the Minister that the operator intends to

(1) permanently cease the operation of the site on or before the expiry date of the three-year period provided for in that section; or

(2) continue to operate the site after the three-year period.

If the operator chooses to continue the operations, the notice must be sent with a report of an independent expert establishing that the disposal areas or trenches in which residual materials will be landfilled after the expiry date of the three-year period comply with the provisions of this Regulation that apply to those areas or trenches under section 161. The report must contain certification by the expert of that compliance.

159. In sanitary landfill sites in operation on the date of coming into force of this Regulation, disposal areas that do not meet the containment protection requirements of section 20, 21, 22 or 24 and that received a final cover before that date may in no case receive other residual materials after that date.

As for disposal areas that meet the containment protection requirements of section 20, 21, 22 or 24 but do not meet the other requirements of Division 2 of Chapter II, and disposal areas that do not meet those containment protection requirements and have not received a final cover before the date of coming into force of this Regulation, the height of the residual materials layers relative to the surrounding landform may not exceed the following limits:

(1) the height of the outboard sideslopes, which consist of the above-grade layers of residual materials, may not exceed four metres, that height being measured from the ground surface at the perimeter of the disposal area, excluding the final cover. Any raising of the ground surface at that perimeter is prohibited;

(2) the disposal area must in addition be graded so that the final profile of the residual materials layers, excluding the final cover, is as follows:

(a) the inclination of the sideslopes referred to above must not exceed 30%; and

(b) the inclination of the cover deck from the crest to the sideslopes must not exceed

— 5%, if the ground slope at the perimeter of the disposal area is equal to or lower than that percentage; or

— the percentage of the ground slope at the perimeter of the disposal area, if that slope is greater than 5%.

Disposal areas that comply with all of the provisions of Division 2 of Chapter II are, with respect to the height of the layers of residual materials, exempt from the limits set out in the second paragraph and are governed by the landscape integration rule set out in section 17.

160. The following continue to be governed by the Regulation respecting solid waste and by their certificates of authorization or conformity, as long as they remain closed:

(1) disposal sites that were permanently closed before the date of coming into force of this Regulation;

(2) disposal areas in the disposal sites in operation on the date of coming into force of this Regulation that received a final cover before that date or, pursuant to section 157, receive residual materials in the three-year period following that date and receive a final cover at the latest on the expiry of that period.

161. As of the expiry date of the three-year period following the coming into force of this Regulation, and subject to the second, third and fourth paragraphs, the sanitary landfill sites, in-trench disposal sites for solid waste and dry materials disposal sites referred to in section 157 are, except with respect to siting standards, governed by the provisions of this Regulation that apply respectively to engineered landfills, trench landfills and construction or demolition waste landfills as regards the acceptance of residual materials and the conditions for the development, operation, closure and post-closure management of the disposal areas or trenches in which residual materials will be landfilled as of the date mentioned above. The first paragraph of section 18 requiring the creation of a buffer zone does not apply to leachate or water treatment systems, gas pumping devices or biogas removal facilities in existence on the date of coming into force of this Regulation.

In addition, after the expiry of the three-year period following the coming into force of this Regulation, residual materials may be accepted in in-trench disposal sites for solid waste existing on 1 May 2000 (date of coming into force of section 48 of chapter 75 of the Statutes of 1999) only if the sites are located in a territory described in section 87 which at all times meets the requirements of subparagraphs 2 and 4 of that section, and the landfilling is done in trenches that meet the siting standards prescribed by section 88.

Similarly, after the expiry of the three-year period mentioned above, construction or demolition waste may be accepted at dry materials disposal sites existing on 1 May 2000 only if the sites meet the requirements of section 103 and the landfilling is done in disposal areas that meet the siting standards prescribed by section 104.

A landfill referred to in the second or third paragraph, or a disposal area or a trench in such a landfill, must be permanently closed as soon as residual materials may no longer be accepted owing to non-compliance with those paragraphs.

162. As of the date of coming into force of this Regulation, waste disposal sites in the North and outfitters' waste-pits governed by the Regulation respecting solid waste that are in operation on that date are governed by the provisions of this Regulation that apply respectively to northern landfills and remote landfills.

163. For a three-year period beginning on the coming into force of this Regulation, the incinerators governed by the Regulation respecting solid waste that are in operation on that date continue to be governed by that Regulation, the Regulation respecting the quality of the atmosphere and the certificates of authorization or conformity issued before that date, subject to the following :

(1) the provisions of section 128 concerning the application of section 39 and of subparagraph 1 of the first paragraph and the second paragraph of section 52 apply, with the necessary modifications, to those incinerators as of the date of coming into force of this Regulation ;

(2) the provisions of section 128 concerning the application of sections 72 to 79 apply to those incinerators as of the expiry of the sixth month following the month of coming into force of this Regulation ;

(3) paragraphs 4 and 5 of section 130 apply to those incinerators as of the expiry of the twelfth month following the month of coming into force of this Regulation ;

(4) the provisions of Chapter V concerning the provision of a financial guarantee that apply to incineration facilities governed by Chapter III apply to those incinerators, with the necessary modifications, as of the sixth month following the month of coming into force of this Regulation ;

(5) as of the date of coming into force of this Regulation, any increase in the incinerator capacity of those incinerators is governed by the provisions of this Regulation that apply to incineration facilities governed by Chapter III.

As of the expiry date of the three-year period following the coming into force of this Regulation, the incinerators referred to in the first paragraph are governed by the provisions of this Regulation that apply to incineration facilities governed by Chapter III.

164. Residual materials disposal sites not governed by the Regulation respecting solid waste that were permanently closed before the date of coming into force of this Regulation are exempt from the application of this Regulation as long as they remain closed.

If the disposal sites referred to in the first paragraph are in operation on the date of coming into force of this Regulation, they are also exempt from the application of the Regulation but only for the three-year period following that date, except for any enlargement of the landfills or increase in incinerator capacity, which is governed by the third paragraph ; enlargement includes any alteration that results in an increase in landfill capacity.

On the expiry of the three-year period, those disposal sites are, except with respect to the siting standards, governed in the case of landfills by Chapter II as regards acceptance of residual materials and the conditions for the development, operation, closure and post-closure management of the disposal areas or trenches in which residual materials will be landfilled after the expiry of the three-year period, and in the case of incinerators that receive residual materials referred to in section 121, by Chapter III.

In addition, section 158 applies, with the necessary modifications, to the operator of a landfill referred to in this section.

165. Sections 157, 163 and 164 may not operate to prevent this Regulation from applying to an existing disposal site within a time period shorter than the time period provided for in those sections if the operator chooses to bring the site into compliance with those provisions earlier than required.

166. Despite sections 157 to 165, the limit values set out in section 53 apply to the leachate or water from a disposal site to which those sections apply as soon as it is conveyed for treatment to a facility where the leachate or water from disposal areas governed by this Regulation is also treated.

The same applies to the biogas removal requirements in the third paragraph of section 32 that apply to biogas from a disposal site to which those sections apply as soon as it is conveyed for removal to a facility where biogas from disposal areas governed by this Regulation is also removed.

167. As of the date of coming into force of this Regulation, the mixed waste transfer stations governed by the Regulation respecting solid waste that are in operation on that date are governed by the provisions of Chapter IV that apply to residual materials transfer stations.

The operators of those facilities have a six-month period to provide a financial guarantee that meets the requirements of sections 140 to 144.

168. The siting standards in the Regulation respecting solid waste that apply to sanitary landfills, in-trench disposal sites for solid waste, dry materials disposal sites, waste disposal sites in the North, transfer stations, outfitters' waste-pits, and incinerators, continue to apply as long as they are not incompatible with a siting standard prescribed by this Regulation, to any project to establish or alter an engineered landfill, trench landfill, construction or demolition waste landfill, northern landfill, transfer station, remote landfill or incinerator facility governed by this Regulation for which an application for authorization under the Environment Quality Act has been made.

This section ceases to have effect on the expiry of the twelfth month following the month of coming into force of this Regulation.

169. Section 13 of the Regulation respecting the application of the Environment Quality Act¹ is revoked.

170. Sections 47 and 48 of the Regulation respecting pits and quarries² are replaced by the following:

“47. Residual materials management : The operator of a pit or quarry may also restore the site by establishing a landfill in the pit or quarry in compliance with the Act and regulations made under the Act.

The application for authorization to establish such a landfill must be filed with the Minister or the Government, as the case may be, not less than one year before total or partial cessation of the operation of the pit or quarry. In addition, the landfilling must begin at the latest one year after the pit or quarry operations have ceased.

If granted, the authorization operates as an amendment to the restoration plan and sections 38, 39, 41 and 42 do not apply to the plan so amended or to the restoration.”.

171. Section 7 of the Regulation respecting sanitary conditions in industrial or other camps³ is replaced by the following:

“7. Residual materials : Residual materials produced by an industrial camp must be disposed of in accordance with the Regulation respecting the landfilling and incineration of residual materials made by Order in Council 451-2005 dated 11 May 2005.”.

172. Section 15 of that Regulation is amended by replacing “waste-pits” in paragraph *k* by “residual materials”.

173. Section 16 of that Regulation is amended by replacing “waste-pits” in paragraph *c* by “residual materials”.

174. Section 36 of the Regulation respecting biomedical waste⁴ is amended by inserting “the Regulation respecting the landfilling and incineration of residual materials made by Order in Council 451-2005 dated 11 May 2005 and, to the extent that that Regulation maintains their application,” after “sections 24 and 25,” in paragraph 2.

175. Section 56 of that Regulation is amended by inserting “under Chapter V of the Regulation respecting the landfilling and incineration of residual materials or, to the extent that that Regulation maintains its application,” after “required” in the third paragraph.

176. Section 1 of the Regulation respecting the burial of contaminated soils⁵ is amended by inserting the following after the first paragraph:

¹ The Regulation respecting the application of the Environment Quality Act, made by Order in Council 1529-93 dated 3 November 1993 (1993, *G.O.* 2, 5996), was last amended by the regulation made by Order in Council 1091-2004 dated 23 November 2004 (2004, *G.O.* 2, 3275). For previous amendments, refer to the *Tableau des modifications et Index sommaire*, Québec Official Publisher, 2005, updated to 1 March 2005.

² The Regulation respecting pits and quarries (R.R.Q., 1981, c. Q-2, r.2) was last amended by the regulation made by Order in Council 85-2002 dated 6 February 2002 (2002, *G.O.* 2, 1390). For previous amendments, refer to the *Tableau des modifications et Index sommaire*, Québec Official Publisher, 2005, updated to 1 March 2005.

³ The Regulation respecting sanitary conditions in industrial or other camps (R.R.Q., 1981, c. Q-2, r.3) has never been amended.

⁴ The Regulation respecting biomedical waste, made by Order in Council 583-92 dated 15 April 1992 (1992, *G.O.* 2, 2503), was last amended by the regulation made by Order in Council 492-2000 dated 19 April 2000 (2000, *G.O.* 2, 2090). For previous amendments, refer to the *Tableau des modifications et Index sommaire*, Québec Official Publisher, 2005, updated to 1 March 2005.

⁵ The Regulation respecting the burial of contaminated soils, made by Order in Council 843-2001 dated 27 June 2001 (2001, *G.O.* 2, 3518), has been amended once, by the regulation made by Order in Council 1553-2001 dated 19 December 2001 (2001, *G.O.* 2, 248).

“Despite the foregoing, it does not apply to landfills governed by Chapter II of the Regulation respecting the landfilling and incineration of residual materials made by Order in Council 451-2005 dated 11 May 2005.”

177. Section 2 of the Regulation respecting environmental impact assessment and review⁶ is amended by replacing “of a city waste incinerator” in subparagraph *r* of the first paragraph by “of an incineration facility governed by Chapter III of the Regulation respecting the landfilling and incineration of residual materials made by Order in Council 451-2005 dated 11 May 2005”, by replacing “of such an incinerator” in that subparagraph by “of such a facility” and by replacing “a modification to an incinerator” in that subparagraph by “an alteration to such an incineration facility”.

178. Section 95 of the Regulation respecting pulp and paper mills⁷ is amended by replacing “or” after “this Division” by “, the provisions of Division 2 of Chapter II or Chapter III of the Regulation respecting the landfilling and incineration of residual materials made by Order in Council 451-2005 dated 11 May 2005 or, to the extent that that Regulation maintains their application,” and by striking out “as amended.”

179. Section 101 of that Regulation is amended by replacing “or” after “in Subdivision 4” by “, in an engineered landfill complying with Division 2 of Chapter II of the Regulation respecting the landfilling and incineration of residual materials or, to the extent authorized by that Regulation,” and by striking out “as amended.”

180. Section 107 of that Regulation is amended by replacing “or” after “Subdivision 4” by “, in an engineered landfill complying with Division 2 of Chapter II of the Regulation respecting the landfilling and incineration of residual materials or, to the extent authorized by that Regulation,” and by striking out “, as amended”.

⁶ The Regulation respecting environmental impact assessment and review (R.R.Q., 1981, c. Q-2, r.9) was last amended by the regulation made by Order in Council 119-2002 dated 13 February 2002 (2002, *G.O.* 2, 1449). For previous amendments, refer to the *Tableau des modifications et Index sommaire*, Québec Official Publisher, 2005, updated to 1 March 2005.

⁷ The Regulation respecting pulp and paper mills, made by Order in Council 1353-92 dated 16 September 1992 (1992, *G.O.* 2, 4453), was last amended by the regulation made by Order in Council 492-2000 dated 19 April 2000 (2000, *G.O.* 2, 2090). For previous amendments, refer to the *Tableau des modifications et Index sommaire*, Québec Official Publisher, 2005, updated to 1 March 2005.

181. Schedule X to that Regulation is amended

(1) by replacing “landfill site for elimination of municipal waste” in the Table by “landfill complying with Division IV of the Regulation respecting solid waste or Division 2 of Chapter II of the Regulation respecting the landfilling and incineration of residual materials”;

(2) by replacing “solid waste” in the note below the Table by “residual materials”.

182. Section 2 of the Regulation respecting hazardous materials and amending various regulatory provisions⁸ is amended

(1) by inserting “, an engineered landfill” after “sanitary landfill site” in paragraph 13;

(2) by adding the following paragraph after paragraph 20:

“(21) ash and other residue from an incineration facility governed by Chapter III of the Regulation respecting the landfilling and incineration of residual materials, made by Order in Council 451-2005 dated 11 May 2005, or a biomedical waste incineration facility.”

183. Section 22 of the Regulation respecting the quality of the atmosphere⁹ is amended

(1) by replacing the first sentence of the third paragraph by the following:

“This section does not apply to the landfills to which Divisions 4 and 6 of Chapter II of the Regulation respecting the landfilling and incineration of residual materials made by Order in Council 451-2005 dated 11 May 2005 apply.”;

⁸ The Regulation respecting hazardous materials and amending various regulatory provisions, made by Order in Council 1310-97 dated 8 October 1997 (1997, *G.O.* 2, 5199), was last amended by the regulation made by Order in Council 1091-2004 dated 23 November 2004 (2004, *G.O.* 2, 3275). For previous amendments, refer to the *Tableau des modifications et Index sommaire*, Québec Official Publisher, 2005, updated to 1 March 2005.

⁹ The Regulation respecting the quality of the atmosphere (R.R.Q., 1981, c. Q-2, r.20) was last amended by the regulation made by Order in Council 174-2003 dated 19 February 2003 (2003, *G.O.* 2, 1098). For previous amendments, refer to the *Tableau des modifications et Index sommaire*, Québec Official Publisher, 2005, updated to 1 March 2005.

(2) by replacing “a solid waste disposal site” in the second sentence of the third paragraph by “a landfill”.

184. Section 66.1 of that Regulation is amended by adding the following paragraph:

“This section ceases to have effect on the date on which, pursuant to section 163 of the Regulation respecting the landfilling and incineration of residual materials, an incinerator referred to in the first paragraph becomes governed by Chapter III of that Regulation.”.

185. Section 67 of that Regulation is amended

(1) by inserting “Subject to subparagraph 3 of the first paragraph of section 163 of the Regulation respecting the landfilling and incineration of residual materials,” at the beginning of the first paragraph;

(2) by adding the following after the second paragraph:

“This section ceases to have effect on the date on which, pursuant to section 163 of the Regulation respecting the landfilling and incineration of residual materials, an incinerator referred to in the first paragraph becomes governed by Chapter III of that Regulation.”.

186. This Regulation applies to the immovables in a reserved area or an agricultural zone established under the Act respecting the preservation of agricultural land and agricultural activities (R.S.Q., c. P-41.1).

187. This Regulation will take effect on the date of coming into force of the Regulation that may be made by the Government after the expiry of the 60-day period following publication in the *Gazette officielle du Québec* of the draft Regulation to amend the Regulation respecting environmental impact assessment and review (2005, G.O. 2, 1399).

SCHEDULE I

(s. 129)

CHART TO MEASURE OPACITY OF GREY OR BLACK EMISSIONS

Opacity is evaluated using a chart in good condition, printed within the last five years, that complies with the following specifications:

The Micro Ringelmann Chart is printed on a card 12.8 cm long by 8.6 cm wide on which opacities of 20%, 40%, 60% and 80% (No. 1, No. 2, No. 3 and No. 4 respectively) are represented in order, in an alignment of vertical rectangles 24 mm by 58 mm (± 1 mm), within

which a 13-mm (± 1 mm) slit is made (see figure below). Each degree of opacity is represented by an ultra fine grid of black lines on a white background, according to the following specifications:

For opacity No. 1: Black grid lines measuring 0.055 mm that are 0.555 mm apart with white spaces 0.5 mm by 0.5 mm.

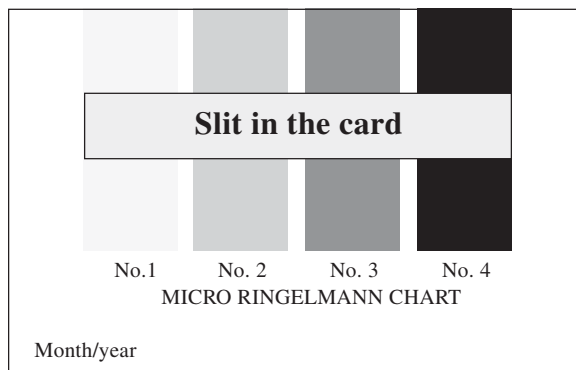
For opacity No. 2: Black grid lines measuring 0.128 mm that are 0.555 mm apart with white spaces 0.427 mm by 0.427 mm.

For opacity No. 3: Black grid lines measuring 0.205 mm that are 0.555 mm apart with white spaces 0.35 mm by 0.35 mm.

For opacity No. 4: Black grid lines measuring 0.305 mm that are 0.555 mm apart with white spaces 0.25 mm by 0.25 mm.

The month and year the chart was printed must be indicated in the lower left-hand corner.

CHART SPECIMEN



Opacity is measured from an observation point between 30 and 400 metres from the emission point. The observation point must allow full view of the emissions. The sun must be oriented in the 140° sector to the observer’s back. The observer must make observations using a line of vision that is perpendicular to the direction of the plume.

The observer holds the chart at arm’s length and looks at the emission through the slit in the card. The observer notes the scale number (No. 1, 2, 3 or 4) that best suits the opacity observed. No. 0 is used to indicate that no emission is visible and No. 4 applies to an opacity of 100%.

Opacity evaluation must be carried out where the opacity is maximum, in a part of the plume where there is no condensed water vapour. The observer must not look continually at the plume but rather must observe the plume momentarily every 15 seconds. Opacity evaluation is carried out over a 60-minute period without interruption between each period (240 observations in 60 minutes) or two 30-minute periods with an interruption at half time (120 observations in 30 minutes, twice).

Where water vapour condenses and becomes visible at a certain distance from the emission point, the opacity must be evaluated between the emission point and the condensation point of the water vapour.

When condensed water vapour is present in the plume, at its emission point, the opacity of the plume must be observed at the point where the vapour is no longer visible.

The following formula is used to establish emission opacity:

$$P = \frac{\text{NEU at opacity No. 1} \times 20\%}{\text{number of observations}}$$

where P is the percentage of emission opacity and NEU is the number of equivalent units.

Each number on the chart represents as many equivalent units.

A single observation may suffice for the application of section 129.

SCHEDULE II

(s. 130)

INTERNATIONAL TOXICITY EQUIVALENCY
FACTORS FOR SPECIFIC PCDD
(POLYCHLORODIBENZO-P-DIOXINS) AND PCDF
(POLYCHLORODIBENZOFURANS) CONGENERS
(NATO, 1988)

| Congeners | Toxicity equivalency factors |
|----------------------------------|------------------------------|
| 2,3,7,8-T ₄ CDD | 1 |
| 1,2,3,7,8-P ₅ CDD | 1 |
| 1,2,3,4,7,8-H ₆ CDD | 0.1 |
| 1,2,3,6,7,8-H ₆ CDD | 0.1 |
| 1,2,3,7,8,9-H ₆ CDD | 0.1 |
| 1,2,3,4,6,7,8-H ₇ CDD | 0.01 |
| OCDD | 0.0001 |

| Congeners | Toxicity equivalency factors |
|----------------------------------|------------------------------|
| 2,3,7,8-T ₄ CDF | 0.1 |
| 2,3,4,7,8-P ₅ CDF | 0.5 |
| 1,2,3,7,8-P ₅ CDF | 0.05 |
| 1,2,3,4,7,8-H ₆ CDF | 0.1 |
| 1,2,3,7,8,9-H ₆ CDF | 0.1 |
| 1,2,3,6,7,8-H ₆ CDF | 0.1 |
| 2,3,4,6,7,8-H ₆ CDF | 0.1 |
| 1,2,3,4,6,7,8-H ₇ CDF | 0.01 |
| 1,2,3,4,7,8,9-H ₇ CDF | 0.01 |
| OCDF 0.0001 | |

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Gouvernement du Québec

O.C. 454-2005, 11 May 2005

Forest Act
(R.S.Q., c. F-4.1)

Forestry fund

— Contribution of holders of certain contracts and agreements

— Amendments

Regulation to amend the Regulation respecting the contribution of holders of certain contracts and agreements to the forestry fund

WHEREAS, under the first paragraph of section 73.4 of the Forest Act (R.S.Q., c. F-4.1), every holder of a timber supply and forest management agreement must, at such intervals as are determined by regulation of the Government, pay to the Minister of Natural Resources, Wildlife and Parks a contribution for the financing of activities related to forest management;

WHEREAS, under the second paragraph of that section, the contribution, paid into the forestry fund under section 73.5 of the Forest Act, shall be established by the Minister on the basis of a rate per cubic metre of timber, fixed by regulation of the Government, that is applicable to the volume of timber allotted to the agreement holder in his agreement and is determined on the date or dates fixed by the regulation;