Environmental Protection Act  
Loi sur la protection de l’environnement

ONTARIO REGULATION 98/12

ground source heat pumps

**Consolidation Period:** From May 18, 2012 to the [e-Laws currency date](http://www.e-laws.gov.on.ca/navigation?file=currencyDates&lang=en).

No amendments.

This Regulation is made in English only.

Definitions

**1.**  In this Regulation,

“ground source heat pump” means a system that is designed to heat and cool a building or structure by using a heat-transfer fluid to exchange heat with the ground or ground water;

“hazardous gas” means a gas or mixture of gases that,

(a) contains hydrocarbons (including methane), hydrogen sulphide or both,

(b) originates from the natural environment, and

(c) is present in an atmospheric concentration that may be explosive or flammable, may cause asphyxia or is otherwise hazardous;

“licensed engineering practitioner” means a person who holds a licence, limited licence or temporary licence under the Professional Engineers Act;

“professional geoscientist” means a person who holds a certificate of registration under the Professional Geoscientists Act, 2000 and is a practising member, temporary member or limited member of the Association of Professional Geoscientists of Ontario;

“vertical closed loop ground source heat pump” means a ground source heat pump that uses a continuous, sealed, underground heat exchanger consisting of subsurface tubing through which the heat-transfer fluid passes. O. Reg. 98/12, s. 1.

Exemption, exceptions and transition

**2.**(1)  The use, operation, construction, alteration, extension and replacement of a ground source heat pump is exempted from section 9 of the Act, except for the following:

1. The use, operation, construction, alteration, extension and replacement of a ground source heat pump that uses methanol as a heat-transfer fluid.

2. The construction, alteration, extension and replacement of the portion of a vertical closed loop ground source heat pump that extends or will extend more than 5.0 metres below the level of the original ground surface. O. Reg. 98/12, s. 2 (1).

(2)  If, on the day this Regulation comes into force, the construction of one or more holes for a vertical closed loop ground source heat pump has commenced, paragraph 2 of subsection (1) does not apply to the construction, alteration, extension or replacement of the heat pump. O. Reg. 98/12, s. 2 (2).

Application for environmental compliance approval

**3.**(1)  With respect to applications for environmental compliance approvals relating to the construction, alteration, extension or replacement of vertical closed loop ground source heat pumps, the requirements set out in subsections (3) and (4) are prescribed for the purposes of subsections 20.2 (4) and 20.14 (2) of the Act. O. Reg. 98/12, s. 3 (1).

(2)  Subsections (3) and (4) apply in addition to Ontario Regulation 255/11 (Applications for Environmental Compliance Approvals) made under the Act. O. Reg. 98/12, s. 3 (2).

(3)  The application must contain a work plan that,

(a) is prepared by a licensed engineering practitioner or professional geoscientist;

(b) identifies equipment and procedures to be used to monitor for the presence and migration of hazardous gas;

(c) identifies measures to be taken to prevent or reduce the likelihood of the migration of hazardous gas, whether through the hole or otherwise, during construction, alteration, extension or replacement of the vertical closed loop ground source heat pump, including detailed requirements for,

(i) ensuring that any space around the underground heat exchanger is sealed to prevent any movement of hazardous gas between subsurface formations or between a subsurface formation and the ground surface, or otherwise managing the gas in a way that removes any potential hazard, and

(ii) decommissioning the heat pump if measures under subclause (i) are not taken, or are taken but do not remove all potential hazard;

(d) identifies measures to be taken to prevent an adverse effect if hazardous gas is encountered;

(e) identifies a standard of protection that is at least equal to what is required in similar circumstances by “Oil, Gas and Salt Resources of Ontario - Provincial Operating Standards”, version 2.0, dated January 24, 2002 and published by the Ministry of Natural Resources, as amended from time to time; and

(f) includes a health and safety plan. O. Reg. 98/12, s. 3 (3).

(4)  In preparing the work plan, the licensed engineering practitioner or professional geoscientist shall consider,

(a) the Oil, Gas and Salt Resources Act;

(b) Ontario Regulation 245/97 (Exploration, Drilling and Production) made under that Act;

(c) the standards mentioned in clause (3) (e);

(d) Annex A (Environmental Guidelines for Earth Energy Heat Pumps and Underground Thermal Energy Storage (UTES) Systems) of CAN/CSA-C448.1-02 (Design and Installation of Earth Energy Systems), dated October 2009 and published by the Canadian Standards Association, as amended from time to time; and

(e) “Water Supply Wells - Requirements and Best Management Practices”, dated December 2009 and published by the Ministry, as amended from time to time. O. Reg. 98/12, s. 3 (4).

Requirements relating to hazardous gas

**4.**(1)  If hazardous gas is encountered during the construction, alteration, extension or replacement of a vertical closed loop ground source heat pump, the person doing the work shall, immediately and in accordance with any environmental compliance approval,

(a) ensure that any space around the underground heat exchanger is sealed to prevent any movement of hazardous gas between subsurface formations or between a subsurface formation and the ground surface, or otherwise manage the gas in a way that removes any potential hazard; and

(b) decommission the heat pump if measures under clause (a) are not taken, or are taken but do not remove all potential hazard. O. Reg. 98/12, s. 4 (1).

(2)  If hazardous gas is encountered during the construction, alteration, extension or replacement of a vertical closed loop ground source heat pump, the person doing the work shall immediately give notice of the condition to,

(a) the local fire department;

(b) the occupant of the building served or to be served by the heat pump;

(c) the Ministry’s Spills Action Centre;

(d) the clerk of each municipality where the building described in clause (b) is located;

(e) the owner of the land on which the building described in clause (b) is located, if different from the person described in that clause; and

(f) the purchaser of the heat pump, if different from the person described in clause (b). O. Reg. 98/12, s. 4 (2).

Prohibition

**5.**(1)  No ground source heat pump that uses methanol as a heat-transfer fluid shall be used or operated unless it was put into operation before June 1, 1998. O. Reg. 98/12, s. 5 (1).

(2)  No ground source heat pump that uses methanol as a heat-transfer fluid shall be constructed, altered, extended or replaced. O. Reg. 98/12, s. 5 (2).

(3)  Subsection (1) does not apply to routine maintenance carried out on any plant, structure, equipment, apparatus, mechanism or thing. O. Reg. 98/12, s. 5 (3).

6.  Omitted (revokes other Regulations). O. Reg. 98/12, s. 6.

7.  Omitted (provides for coming into force of provisions of this Regulation). O. Reg. 98/12, s. 7.

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