

**4725.1831 GROUNDWATER THERMAL EXCHANGE DEVICE PERMITS.**

This part applies to the construction of a groundwater thermal exchange device (heat pump) with reinjection to an aquifer.

A. A groundwater thermal exchange device with reinjection to an aquifer must not be constructed until a permit has been issued by the commissioner to the property owner.

B. The property owner or the property owner's agent must submit to the commissioner a permit application on a form provided by the commissioner, or in a format approved by the commissioner. The application must be legible and must contain:

(1) the name, license number, and signature of the well contractor constructing the wells;

(2) the name, address, and signature of the owner of the property on which the device will be installed;

(3) the township number, range number, section, and one quartile, and the property street address if assigned, of the proposed device location;

(4) a description of existing wells and any wells proposed to be constructed including the unique well numbers, locations, well depth, diameters of bore holes and casing, depth of casing, grouting methods and materials, and dates of construction;

(5) a description of the heat pump unit including the manufacturer's name, model number, maximum water flow rate in gallons per minute, name of proposed installer, and proposed installation date;

(6) water withdrawal information, pumping schedule with rates in gallons per minute, times and duration, and the total amount of water to be injected into the aquifer;

(7) the specifications for piping including the materials to be used for piping, the flow control valve setting, the provisions for pressure testing the system, and the provisions for disinfection of the completed system; and

(8) a diagram of the proposed piping system.

C. The diagram must show that the proposed piping system includes:

(1) a 15 psi pressure valve at the discharge well;

(2) a solenoid valve on the discharge side of heat pump unit;

(3) a pressure gauge in-line between the pressure valve and solenoid valve;

(4) a device to provide automatic shutdown of the system if the discharge line pressure is below 15 psi;

(5) an in-line thermometer in the heat pump inlet and outlet lines;

- (6) a check valve in-line from the supply well;
- (7) unthreaded taps and shutoff valves in the supply and discharge lines;
- (8) a filter in the discharge line from the heat pump;
- (9) a flow control valve and flow meter in the supply line;
- (10) air release valves; and
- (11) any other devices to be installed such as pressure tanks or isolation valves.

D. The system must comply with chapter 4715.

E. The groundwater thermal exchange device must be constructed within 18 months of the date the permit is issued.

**Statutory Authority:** *MS s 103I.101; 103I.111; 103I.205; 103I.221; 103I.301; 103I.401; 103I.451; 103I.501; 103I.525; 103I.531; 103I.535; 103I.541; 103I.621; 144.05; 144.12; 144.122; 144.383; 157.04; 157.08; 157.09; 157.13*

**History:** *17 SR 2773; 18 SR 1222; 33 SR 211*

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