

**SOLAR DOMESTIC HOT WATER SYSTEMS PLUMBING
PERMIT GUIDELINES**

Background

The National Plumbing Code of Canada 2005 (NPC) includes provisions in Division B for the installation of systems for solar heating of potable water systems. Specifically, articles 2.2.10.13 (Solar Domestic Hot Water) and 2.6.1.8 (Solar Domestic Hot Water Systems) deal with the equipment and installation for such systems. There are four main scenarios that come to play when dealing with these systems and they are:

1. Using solar heat as a supplemental heat source for potable water only.
2. Using solar heat as a supplemental heat source for a potable water system with a downstream connection to building heat or for water used in a process such as a car wash.
3. Using solar heat as a supplemental heat source for building heat or for water used in a process such as a car wash with no connection to a potable water system.
4. A combination system where solar heat is used as a supplemental heat source for both a potable water system and building heat or processes system together.

The following are plumbing permit application guidelines for each of these scenarios.

1. Solar Heat for Potable Water Only

A plumbing permit is required and one of the following three options may be used:

1. The installation and equipment used in this system shall comply with the standards referenced in the Saskatchewan Plumbing Regulations, or
2. An engineer is involved in the design and inspection as outlined in point 4. below, or
3. There is a simple installation of a heat exchanger that is approved for use with a potable water system.

2. Solar Heat for Potable Water with a Connection to Building Heating or Processes System.

A plumbing permit is required where solar heat is used as a supplemental heat source for a potable water system and there is a downstream connection to a building heating system or a process system.

In such cases, a reduced pressure principal backflow preventer must be installed at the interface between the potable water system and the building heating system and/or process system to avoid the contamination of the potable water system.

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3. Solar Heat for Building Heating or Processes Only

A plumbing permit is not required where solar heat is used as a supplemental heat source for a building heating system or a process system only (or a combination of these two) and there is no connection to the potable water system.

4. Solar Heat for Combination Potable Water and Building Heat or Processes

A plumbing permit is required for a system that consists of a combination of supplemental solar heat for both the potable water system and building heating or process systems. The system must be designed by an engineer licensed to practise in the province of Saskatchewan. The plumbing permit application must include a minimum of the following:

- System design drawings that are signed and sealed by the designing engineer. These drawings may be a schematic of the system.
- A description of how the system is intended to function. Also signed and sealed by the designing engineer.
- A Commitment for Field Review letter must be submitted at the application stage for the plumbing permit
- An Assurance of Field Review letter must be submitted at the completion of the project. If this letter is not received, then the permit may be closed with this deficiency.

Please Note:

There may be other situations that require an engineer to be involved and these must be reviewed on a case by case basis.

A building permit may be required if there is an opportunity for excessive structural loading imposed on a roof by either the weight of the solar collection equipment or by the creation of new snow drifting patterns.

Other permits such as gas or electrical permits may be required and the applicant should check with the appropriate authorities to determine their requirements in this regard.