

## **GUIDE TO THE PROVINCE OF BC SOLAR HOT WATER READY REGULATION**

This guideline is intended to clarify the application of BC Regulation 101/2011. The guideline does not form part of the regulation, but is intended to provide further information on the installation of rough-ins for solar domestic hot water systems (SDHWS). Some information is also provided related to installation of a SDHWS.

Subsections 1 and 2 of the regulation require no further explanation.

Subsection 3 of the regulation describes the requirement to provide for the future installation of a SDHWS:

### **Solar collectors for a solar domestic hot water system**

- 3** (1) Subject to subsection (2), a conduit run and an area that
- (a) is not less than 9.3 square meters,
  - (b) has no dimension less than 2.7 meters, and
  - (c) is designated for future installation of solar collectors for a solar domestic hot water system in compliance with CAN/CSA-F383-87

This is the requirement to allocate an area on or near the building that will be the area designated for the future installation of a solar hot water collector (panel). Solar hot water collectors may be installed on a roof, wall, on a building lot, or on an accessory building. This section also requires a conduit run as described in section 5.

must be incorporated in construction of new *buildings of residential occupancy* that contain

- (a) *one dwelling unit, or*
- (b) *one dwelling unit and one secondary suite.*

The regulation applies only to detached single family homes, and detached single family homes containing a secondary suite.

- (2) Subsection (1) does not apply with respect to a new construction referred to in that subsection if the local government of the jurisdiction to which this regulation applies and within which the new construction is to occur is satisfied that *building site conditions do not permit effective use of solar hot water heating.*

If a building site is unsuitable for a solar hot water installation, and it is therefore not anticipated that a rough in will be used in future, a building owner may apply to the local government having jurisdiction for an exemption to this regulation. This is intended for buildings that are in permanent shade, for example from a tall building adjacent to the south side, or tall trees. It is not the intent of this regulation to require removal of objects that may shade a potential area designated for installation of a solar collector. All options for alternate placement of the area designated for installation of a solar collector should be examined prior to applying for an exemption. Note that a home's roof slope and orientation may not necessarily need to be altered to accommodate installation of a solar hot water panel as rack mounting systems are available.

### Structural requirements

- 4 Structural members of areas referred to in section 3 (1) must be designed to accommodate the greater of the following:
  - (a) the anticipated load;
  - (b) a load of 0.2 kpa in addition to design loads required by the British Columbia Building Code.

This section describes the additional loading implications to the roof framing system that must be included in its design and construction. Note that the specifications are a starting point only and are designed to accommodate a typical solar collector. Depending on installation methods, panel size and configuration, etc., there may be a need to re-examine the loading implications at the time of installation of solar collectors.

### Conduit runs

- 5 (1) Two straight, continuous, conduit runs must be provided that extend from the area directly adjacent to the *building's primary service water heater* to

This is the requirement for the rough in piping (conduit) that will later accommodate the solar hot water tubing. The piping should be as straight as possible, as any elbows or bends will impair the ability to retrofit the solar hot water tubing. The rough in pipe or pipes should begin as near as possible to the home's primary hot water heater. The rough in piping should terminate in one of the three areas described in (a) through (c).

- (a) an accessible attic space adjacent to the roof area designated for installation of solar collectors for a solar domestic hot water system,



If the attic is accessible, the termination for the rough in piping is best left in the attic, just above the level of the insulation, so it can easily be seen and identified at the installation stage.

(b) the roof area designated for installation of solar collectors for a solar domestic hot water system, or

Option (b) is to terminate the conduit on the roof itself. This option would be appropriate for an attic with limited access, such as a low slope or flat roof.

(c) the exterior wall surface directly adjacent to the area designated for installation of solar collectors for a solar domestic hot water system.

Some installations will be designed for a wall area or perhaps a back yard installation, or installation on an accessory building. In cases such as these, the conduit should terminate at the outside wall nearest to the area designated for the solar hot water panel.

(2) Conduit runs described in subsection (1) must

- (a) be accessible at both ends,
- (b) be capped or sealed at both ends to prevent water ingress and air leakage,
- (c) be identified by markings that are permanent, distinct and easily recognized,
- (d) have a minimum inside diameter of 50mm, and
- (e) be able to accommodate the installation of insulated plumbing services for a solar domestic hot water system in compliance with CAN/CSA-F383, Installation Code for Solar Domestic Hot Water Systems, as referred to in the British Columbia Building Code.

This section describes the requirements for the rough in conduit itself.

More information on solar hot water rough in, as well as best practice guides can be found at the following links:

<http://www.cansia.ca/government-regulatory-issues/provincial/solar-ready>

[http://canmetenergy-canmetenergie.nrcan-rncan.gc.ca/eng/renewables/solar\\_thermal.html](http://canmetenergy-canmetenergie.nrcan-rncan.gc.ca/eng/renewables/solar_thermal.html)

These best practice guides are NOT compliance documents for the Province of BC's Solar Hot Water Ready Regulation. Links are included for information only.