



# **Guide to the Residential Project**

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## **1 INTRODUCTION**

The ecoEnergy for Renewable Heat program's Residential Solar Hot Water Pilot Initiative was set up by the Department of Natural Resources Canada ("NRCan") to increase the residential use of solar thermal energy and the capacity of the solar supply industry. It is expected to lead to the creation of a sustainable market for residential solar thermal technologies and, thereby, contribute to a long term reduction in air emissions and also improve Canada's clean energy supply. NRCan has selected 13 projects for a \$9 million pilot program that will test various strategies for deploying solar water heating systems in the Canadian residential sector. The goal of the program is to determine the most efficient and effective ways to market solar water heaters to homeowners.

In partnership, BC Sustainable Energy Association ("BCSEA") and eaga Canada Services Inc ("eaga") were selected by NRCan, as one of 13 pilot projects under the initiative. Named the SolarBC Residential Project ("SolarBC"), funding will be used to provide incentives for solar hot water installations in residential homes and will also incorporate best practice and training and education initiatives to ensure suitably qualified installer capacity is in place to help transform the solar hot water market in British Columbia.

The SolarBC residential project is part of the larger SolarBC program which is funded by the Government of British Columbia to support provincial objectives of improved energy security and the reduction of greenhouse gas emissions. In addition to the residential project, the SolarBC program will provide rebates for the installation of solar hot water systems in First Nations communities, social housing, local government and schools.

### **1.1 2010 Objectives of SolarBC Residential Project**

- Transform the market for solar hot water ("SHW"), building confidence and sustainable growth;
- Improve the accessibility and affordability of solar hot water systems;
- Increase consumer awareness of SHW as a viable energy solution;
- Develop 5 solar communities that are easily replicable throughout B.C.;
- Reduce the barriers to market transformation for solar hot water;
- Reduce the complexity of solar hot water through integrated programs and ease of access to information, education, and resources;
- Advance regulations for SHW systems through engaging governments, builders, developers and other stakeholders;
- Motivate the buildings industry to install SHW systems in new housing projects; and
- Increase the capacity of the industry to provide high quality SHW systems through targeted training programs;

### **1.2 2010 Deliverables of SolarBC Residential Project**

- Install 2,000 high quality residential SHW systems across B.C.;
- Produce estimated annual savings of 20,275 GJ of natural gas and 1,761 GWh of electricity;
- Produce estimated annual savings of 1,648 tonnes CO<sub>2</sub> equivalent;

- Provide a list of registered system suppliers and installation contractors;
- Provide access to incentives of up to \$1,625 in value for existing residential homes. This is made up of \$1,000 point of sale discount from SolarBC, plus a further \$500 from the ecoENERGY Retrofit program and \$125 from the provincial Livesmart Program. Remaining costs will be covered by the householder.
- SolarBC will aim to introduce low or zero cost loans as a payment option.
- Implement at least 10 installer training programs and certify at least 20 installers;
- Integrate solar training into plumbing programs in at least 3 colleges;
- Implement at least 10 inspector and general public education seminars;
- Create 5 model Solar Communities which could be replicable;
- Provide 'one-stop-shop' access through the SolarBC website and office;
- Produce standard marketing materials to be used in all communications and marketing initiatives.
- Carry out on-site system inspections to ensure compliance with CSA F838-79 installation standards for SHW and install meters in at least 25 homes;
- Carry out customer satisfaction surveys with all participants; and
- Produce regular quarterly progress reports of program performance.

An Oversight Committee is in place to provide direction, guidance and expertise. This Committee will meet at least quarterly throughout the program to review progress towards the deliverables and to help identify and overcome any barriers to success. Details of committee members are available on the SolarBC website.

SolarBC requires that all works carried out under the project shall comply with such standards (including customer care, systems and workmanship) as may be laid down from time to time in consultation with NRCan, the Canadian Standards Association (CSA), the Canadian Solar Industries Association (CanSIA) or the European Solar Thermal Industry Federation (EDTIF).

This manual sets out the minimum standards expected of contractors at all times. Contractors are required to comply with the policies outlined in this manual under the terms of their registration and must encourage compliance by bringing this manual to the attention of all staff working with SolarBC customers. **Consistent failure to adhere to this manual in spirit or practice will lead to removal from the program.**

## **2 INSTALLATION AND SYSTEM REQUIREMENTS**

Registered SolarBC contractors are the only organisations permitted to carry out work under the project and may only use systems that have been registered with SolarBC to complete eligible installations. In order to achieve and maintain the highest standards of service, taking into account the needs of all SolarBC customers, the guidelines in this manual are designed to ensure the proper conduct, and efficient, safe working of all registered contractors and systems.

Potential contractors must apply to SolarBC for registration by completing the Contractor Application document accompanying this document, and understanding and agreeing to the terms and conditions of SolarBC.

The minimum certification requirements for systems registration are factory packaged or factory add-on packaged systems that are certified to any one of the following standards: CSA F379.1-88, SRCC OG300, EN 12976 or Solar Keymark. Where certification has not yet been achieved, but has been applied for, installers will need to submit drawing stamped by a licensed professional engineer, which will then be reviewed by a SolarBC technical committee. All systems must include NRCan approved collectors as detailed on their website:

<http://www.ecoaction.gc.ca/ecoenergy-ecoenergie/heat-chauffage/collectors-capteurs-eng.cfm>

Please note: SolarBC is not bound to register all systems onto the program. In addition, one of our main goals is to drive cost efficiencies whilst maintaining high quality, to make solar hot water technology an accessible and easy choice for consumers. SolarBC is part of a Canada-wide buyers group and we reserve the right to seek expressions of interest directly from manufacturers.

As part of the terms of registration, contractors are expected to:

- 1 Adhere to this manual as a minimum;
- 2 Deliver service excellence in all dealings with customers;
- 3 Have full regard, awareness and sensitivity to customer needs;
- 4 Ensure at least one member of staff is certified under CanSIA's Canadian Solar Hot Water System Installer Certification Program (Level 1) training program;
- 5 Ensure all solar hot water systems are installed according to CSA F383-87 Installation Code for Solar Domestic Hot Water Systems
- 6 Manage health and safety performance in accordance with legal requirements and best practice standards.

The Oversight Committee will be responsible for the selection of registered contractors and systems. SolarBC is aiming to have initial registrations completed by end of June 2008. However, the registration process will remain permanently open for potential new entrants to apply for registration at any time.

All registered contractors and systems will be listed on the SolarBC website and customers will be invited to provide feedback on their experience.

### **3 CUSTOMER REQUIREMENTS**

The customer eligibility requirements for the SolarBC project are as follows:

- The incentives will be targeted towards existing low rise residential properties. Funding will also be made available for new low rise residential properties. Low rise properties include single family, row and town houses

and buildings with 3 stories or less<sup>1</sup>. All other building types will be reviewed on a case-by-case basis;

- SolarBC is available across BC. However, marketing activities will focus in 5 pre-selected solar communities, in partnership with local governments;
- The customer should read and be familiar with this manual, which will be made available on the SolarBC website;
- The customer will be requested to allow SolarBC to make public case study details of the project, including photographs, to promote the program through the media, the SolarBC website or other marketing materials. This is not a mandatory requirement however SolarBC will actively be seeking case study participants and photographs;
- The customer must agree to allow SolarBC, NRCan or their representatives' access to the property in order to inspect, evaluate and monitor the operation of the installation for a period of 3 years following the installation;
- The customer must consent to being surveyed by SolarBC to determine levels of customer satisfaction;
- If the customer is not the owner of the building, they must obtain permission from the owner to carry out work, prior to commencement of any work; and
- The customer must sign all relevant parts of the Installation Agreement to accept the terms of the installation and confirm that the work has been completed satisfactorily.

## 4 CUSTOMER CARE

### 4.1 Standards of Care

Focus on SolarBC customers is paramount. Under the project, customer service standards are considered to be equal to system quality and installation standards. Service standards define customer expectations and should remind contractors about the challenges and obligations that they face.

Contractors are the public face of SolarBC and as such must conduct themselves at all times as ambassadors for the project. We expect contractors to have the health and safety of their employees and customers as their highest priority and to avoid bringing SolarBC into disrepute at any time. Poor health and safety performance and inappropriate conduct will not be tolerated. **Consistently poor conduct will result in removal of the contractor from the program.**

### 4.2 Contractor Personnel

Contractors must adopt a suitable dress code that is acceptable and non-threatening to the customer. This should be kept clean and in good order and should include identity badges that prominently display the contractor's

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<sup>1</sup> SolarBC aligns with the ecoENERGY Retrofit Program for low-rise residential properties defined as dwellings under Parts 2 and 9 of the National Building Code of Canada. These include single detached and attached homes (e.g. row housing, duplexes and triplexes), small multi-unit residential buildings including some small apartment buildings of three storeys or less built on a maximum footprint area of 600 square metres or less, and mobile homes on a permanent foundation.

company name and/or logo for identification purposes. Contractors should remove footwear when entering a customer's home.

### **4.3 Vehicles**

Contractor vehicles must be clean and of a high standard and condition that does not bring SolarBC into question. Contractors' vehicles must identify their company name, address and telephone number. The SolarBC logo may also be placed on vehicles subject to approval by SolarBC.

### **4.4 Courtesy & Behaviour**

Contractors must introduce themselves when they first meet the customer, in a polite and respectful manner to put the customer at ease. Contractors must be positive, cheerful and upbeat in all of their dealings with the customer. No eating, drinking or smoking is allowed anywhere on the customer's premises.

Contractors who enter customers' premises must be trained and aware of how their behaviour impacts on the customer's perceptions of the SolarBC program. The following is not acceptable behaviour:

- Rudeness;
- Lack of respect for customers or their property;
- Excessive noise, e.g. do not use radios;
- Over familiarity;
- Arguments or controversy of any kind;
- Racism;
- Sexism; and
- Open criticism of the SolarBC program or their employer.

To encourage a positive experience for SolarBC customers and confidence in solar hot water technology, contractors must at all times:

- Be calm, courteous, and encouraging;
- Consider the best way to offer customer assistance;
- Allow as much time as needed to read information and fill in paperwork;
- Allow customers to ask questions and be prepared to respond;
- Be helpful and knowledgeable about the services and products they are providing; and
- Communicate with the customer during every stage of the process.

### **4.5 Criminal Record Checks**

Contractors must not be a threat to a customer's security. Contractors must carry out criminal record checks for every employee who may enter a customer's home. Contractors must retain a completed criminal record check for all staff on file.

### **4.6 Appointments**

Contractors must always let the customer know in advance of a visit to the home, preferably in writing. This is not only a minimum standard of customer care and practice, but reduces the likelihood of bogus callers. Allowance must be made for estimated traveling time when booking appointments.

Appointments should be made at least 24 hours in advance to give the customer time to organize their affairs. Appointments must be made at a mutually convenient time, except in emergencies, and should not be broken except in exceptional circumstances.

Standard working hours are expected to be between 9.00am and 5.00pm Monday to Friday during Winter/Autumn and 8.00am and 6.00pm during Summer/Spring. Weekend or evening work must be requested or agreed to by the customer before hand.

#### **4.7 Broken Appointments**

Please see section 9.6 relating to extensions and cancellations for more information. If it becomes unavoidable to break an appointment, customers must always be kept informed. In such instances, the contractor must:

- Contact the customer as soon as possible;
- Provide the customer with a full explanation; and
- Make a new appointment where possible.

#### **4.8 Communication**

Communication with customers is of paramount importance to promote understanding and to prevent complaints. Contractors must ensure that the customer has full understanding of the work prior to commencement. Post-Installation, full details of how to operate and maintain equipment must be provided, including all manufacturers literature and contact details in the event of a query or emergency.

Before starting the work the contractor must explain the following to all customers:

- The nature of the work to be installed;
- The benefits of the solar hot water system;
- How and when the solar hot water system will be installed;
- Any potential hazards and preventative measures to avoid injury;
- How the solar hot water system will cosmetically appear on the property; (Use of 'props' such as photographs would be useful at this stage) and
- If any fixtures and fittings will be affected by the installation.

A telephone contact number must be available during working hours and must be advised to customers at the first point of contact. Installation teams must have a mobile telephone with them at all times during working hours.

An emergency contact telephone number must be available out of hours at all times, including evenings, weekends and Statutory Holidays. The emergency number must be advised to customers on completion of the work.

#### **4.9 Customers Property And Personal Belongings**

Care must be taken at all times to ensure that the customer's premises, property and personal belongings come to no harm. Taking the time to implement preventative measures will reduce the likely incidence of re-visits, complaints or warranty claims.

Permission must be obtained before entering a customer's property, including the garden. This also applies where consent is required from a neighbour to gain access. In addition, permission must be obtained prior to the use of the customer's facilities, such as the washroom. If power is required a generator should be used or agreement reached with the customer regarding the use of power.

If the contractor needs to erect scaffolding on or make use of the adjoining property in any way, permission from the owner must be obtained. Upon completion of the work, all scaffolding and other materials and equipment must be cleared away to the owner's satisfaction.

At a minimum, the property must be left as clean as it was prior to starting the work and all redundant or excess materials must be removed on completion of the work. If there is any damage, this will be made good by the contractor at their expense and to the owner's satisfaction.

#### **4.10 Incomplete Work**

If it is not possible to complete the work in one day the contractor must make appropriate arrangements with the customer for the completion of the work. Contractors must ensure that the property is safe, habitable and that all services are available overnight and at weekends.

#### **4.11 Private Work**

From time to time the customer may request additional work that is not covered by the program. SolarBC has a duty of care to protect the customer and the reputation of the project, as a result of encouraging the relationship between the contractor and customer. SolarBC would therefore expect the requirements detailed in this manual to extend to any private work generated through association with SolarBC. In addition, SolarBC would expect the following:

- Customers must receive a written quotation for private work and must accept and agree to the quotation before the work starts;
- Upon payment for private work, the customer should receive a receipt and details of the additional work completed;
- Private work must be charged at reasonable and competitive rates; and
- Private work completed in conjunction with SolarBC work must carry at least the same warranty from the contractor as the SolarBC work.

### **5 TRAINING**

All registered contractors will be required to attend a one-day SolarBC orientation workshop. The contractor staff required to attend this include the contractor's SolarBC manager, office administrator and a certified technical / field / operations manager or team leader. The purpose of this day will be to

explain the program in detail, allow questions to be answered, allow contractor's staff to meet SolarBC staff and see first hand how the SolarBC processes will operate.

It is a mandatory pre-requisite for registration on SolarBC that contractors have at least one member of staff certified under CanSIA's **Canadian Solar Hot Water System Installer Certification Program (Level 1)** training program and are qualified to carry out solar hot water installations. The certification grants recognition to individuals who have met predetermined qualifications as set out by CanSIA and have met the skill requirements to install SHW systems according to CSA F383-87 Installation Code for Solar Domestic Hot Water Systems. It is expected that all work must comply with this Installation Code and monitoring will take place to ensure compliance.

CanSIA offers regular training workshops across Canada for solar hot water installers, and also administers the certification exam as well as accredits education institutes who offer courses on the installation of Solar DHW systems. Information on the Canadian Solar Hot Water System Installer Certification program can be found at <http://www.cansia.ca/certification.asp>.

Contractors must have at least one fully certified employee to gain registration on the SolarBC program. A certified installer must be present at all installations and must sign the SolarBC Installation Agreement with the customer on completion of the work as detailed in section 7. The Installation Agreement includes testing, commissioning and consumer awareness declarations on behalf of the contractor.

SolarBC will be working with CanSIA to ensure that all solar hot water installation personnel can be fully certified within a time period not yet determined.

SolarBC will implement additional training programs to encourage deeper knowledge of solar hot water technology. New training programs will be made available throughout the duration of the program. Contractors will be notified and encouraged to participate in more detailed and advanced training programs.

## **6 AREAS AND COVERAGE**

British Columbia has been divided into five zones: Northern BC, Vancouver Island, Lower Mainland, Central Interior and East/West Kootenay. These areas align with zones identified by the Plumbing Officials Association of BC on their website. <http://www.bcplumbingofficials.com/>

Sub-contractors will be required to cover the entire operational area in which they are appointed and complete installations as directed anywhere within that area boundary. Multiple contractors will be registered to operate within each area.

## **7 HEALTH AND SAFETY**

One main goal of this manual is to promote the safety, health and welfare at work of all contractors and members of the public. At all times proper attention to the requirements of this manual must be a prime consideration, irrespective of pressure for speedy completion of the work.

Nothing stated or implied in this manual shall relieve the contractors from any obligations or responsibilities placed on them by contract or by law.

Contractors will be appointed in accordance with specified health and safety criteria developed from current legal and best practice regulations and guidelines for general residential construction as required by WorkSafe BC. Contractor health and safety systems will be subject to audit and are expected to meet these requirements. **Consistently inadequate health and safety management and performance will result in removal of the contractor from the program.**

All work must be completed in accordance with an essential understanding of and must meet the minimum requirements for occupational health and safety in B.C as follows:

- Workers Compensation Act (B.C.) Excerpts and Summaries (WCA);
- Hazardous Products Act (Canada) Summaries (HPA);
- Occupational Health and Safety Regulation (OHS Regulation);
- Prevention Manual (policies); and
- Guidelines, to help interpret and apply the OHS Regulation and WCA.

SolarBC expects that arrangements are in place to ensure that site risk assessment is completed and responsibility for site safety is assigned. Contractors are reminded that a customer's home will be considered to be a place of work and that all the requirements of the aforementioned regulations apply.

## **8 MARKETING AND PUBLICITY**

Contractors may call themselves a "registered SolarBC Installer" or a "registered SolarBC contractor". Other descriptions of the relationship with SolarBC, such as "Approved", "Authorised", "Official" are unacceptable, and must not be used.

Cold calling is not permitted under any circumstances on the SolarBC program. Therefore, telephone sales are is not permitted.

Whenever initial contact is made, contractors must ensure that the customer is immediately aware of:

- The identity of the personnel;
- The exact purpose of the visit or other communication;
- The main elements of the SolarBC project including incentives and warranties;
- What financial contribution and arrangements for any payments is required of them along with any terms; and

- What will happen next?

It is important that the customer is given accurate information about any waiting times that may be involved.

Contractors must give clear and unambiguous information about SolarBC and their organization to the customer, including an explanation of how the incentive will be provided and the financial contribution the customer will be expected to pay. They must leave their name, address, and telephone number (e.g. in the form of a business card or leaflet) so that the customer knows who has called upon them, e.g. in the form of a business card or leaflet.

It is unacceptable to exert any pressure upon customers to 'sign up' for the SolarBC program or services. If the customer appears unwilling to participate, literature and a business card should be left as a matter of course.

### **8.1 Approval of Marketing Literature**

SolarBC customers must be supplied with information that is accurate, clear and consistent. All SolarBC marketing literature, including website content, **MUST** be approved and signed off by SolarBC prior to use.

Advert templates and a copy of the SolarBC logo will be made available for use by registered contractors.

It is essential that a copy of the contractor's planned marketing literature is either faxed or emailed for approval before use. SolarBC is aware that deadlines are usually tight, and therefore will turn round all requests as quickly as possible.

## **9 APPLICATION PROCESS**

The following processes have been developed by SolarBC to ensure a common understanding by all parties of how to access the program and how the program will operate. The processes detailed here are also provided graphically and are available on the SolarBC website to accompany this document.

### **9.1 Referral Generation & Pre-Qualification**

Contractors will be invited to generate referrals in areas where they are appointed to carry out work. Referrals will also come into the program from a number of other sources including direct enquiries from customers, from LiveSmartBC auditors, from BCSEA or from other organizations that may promote the program from time to time.

In order to qualify for the program, customers will be encouraged to complete an online solar assessment questionnaire to help establish if their home is suitable for SHW installations before they go any further into the program. Contractors may complete the assessment with and on behalf of customers if this presents an easier solution. This process will help to avoid

disappointment at a later stage if a customer's home is simply not suitable for a SHW installation.

A residential energy efficiency assessment by an energy advisor licensed by Natural Resources Canada under the LiveSmartBC retrofit program is a **mandatory requirement** for participation in the SolarBC program. A list of qualified advisors will be provided to customers through the SolarBC website.

The energy efficiency assessment will include a rating of the home which must be provided to SolarBC at the next stage (Installation Agreement).

This process will ensure that the customer is eligible to receive government rebates on completion of a second post installation energy assessment. The customer will also be made aware of any additional rebates relating to a variety of potential energy efficiency improvements to their homes.

## **9.2 Installation Agreement**

Following the energy assessment, customers will be advised to contact a registered solar contractor as listed on the SolarBC website, if they haven't already done so. Customers will be advised to obtain more than one quote for the work and will be able to access all information relating to the program on the SolarBC website.

Once the customer has selected a registered SolarBC contractor, they must complete Part 1 of the standard SolarBC Installation Agreement with the contractor. Pre-printed triplicate copies, SolarBC Installation Agreement forms will be provided to all contractors and will form the contract between the contractor and the customer under the SolarBC program. The Agreements are currently under development and a copy will be released on the SolarBC website as soon as it is available.

Part 1 of the Installation Agreement includes details of the customer, the registered SolarBC contractor, an assessment of the home, including details of the energy assessment rating, and details of the SHW system to be installed. The Agreement will also show a breakdown of the cost components of the work, less the point of sale SolarBC incentive of \$1,000. No other form of contractual agreement will be accepted.

All customers should be allowed a 10-day waiting period following the completion of an Installation Agreement. Contractors must provide signed copies of completed Part 1 Installation Agreements to SolarBC by fax or email **BEFORE ANY WORK IS CARRIED OUT**.

## **9.3 Registration and Approval**

All applications must be approved by SolarBC **BEFORE** they become qualified and are registered onto the program. Upon receipt of copies of Part 1 Installation Agreements, SolarBC will approve applications for inclusion onto the project, subject to the Installation Agreement meeting all the eligibility requirements and subject to available funding.

SolarBC will notify each contractor of the volume of approved applications that can be accepted on a rolling period basis as work in progress. This will be based upon the contractor's capacity to service approved applications and carry out work with the agreed timelines. SolarBC reserves the right to accept or reject any applications over the agreed volumes. The purpose of this is to ensure that customers can be serviced within the timelines of the program and to help plan capacity building training programs for contractors as required.

On approval, each application will be issued with a unique number and a 3 month expiry date. Funding will be allocated at this time and the application will be considered to be live and approved for the SolarBC project. SolarBC will review and confirm all approvals with the contractor and the customer. The contractor will contact the customer, re-confirm the installation date and make necessary arrangements to commence work.

For the avoidance of doubt, approved applications are only those where SolarBC has issued an approval number to the contractor and to the customer to confirm that the application is eligible for an incentive, that funding has been allocated and that the contractor can commence work.

#### **9.4 Installation**

Prior to installation of the SHW system, the contractor will obtain any local building or plumbing permits necessary for the installation. On completion of the work, the contractor will complete Part 2 of the Installation Agreement with the consumer. Part 2 includes important declarations that apply to both the customer and to the contractor

The customer named on Part 1 of the Installation Agreement must sign Part 2 to confirm that work is completed to their satisfaction and that they are content to have their home inspected if selected. In addition the customer must also confirm that they will provide access to their premises to representatives of SolarBC or NRCan for a period of 3 years following installation. If the customer named is not available, their partner or spouse can sign.

Only a certified solar hot water installer may sign Part 2 of the Installation Agreement on behalf of the contractor. This section of the Installation Agreement includes important declarations relating to testing and commissioning of the system, that the installation meets the CSA F383-87 Installation Code and that consumer awareness has been provided.

Contractors must leave one copy of the completed Installation Agreement with the customer, retain one copy for their own records and will return the third copy to SolarBC.

#### **9.5 Customer Awareness**

Following installation of a solar hot water system, the contractor must ensure that the customer fully understands how the equipment works and any routine maintenance that may be required. They must also provide contact information in case of an emergency and advise the customer about who to contact if the system fails or breaks down.

Contractors shall ensure that they leave all installation and manufacturers operating and maintenance instructions and warranties with the customer for all components installed, e.g. collector, pump etc.

### **9.6 Extensions and Cancellations**

From time to time it may not be possible to complete an installation within the 3-month installation requirement. In such cases, the contractor must fully demonstrate and explain to the customer and SolarBC the reason why the proposed work cannot be completed within the agreed time.

From time to time it may also be necessary to cancel an approved application, such as in situations where a customer changes their mind about the installation within the allowable 10-day cooling off period.

If, due to unforeseen circumstances, it is not possible for the work to be completed within contractual timelines or work must be cancelled completely, it is the contractor's responsibility to ensure that SolarBC is informed at the earliest opportunity. In both situations, the Extension Request and Cancellation form provided in Appendix 4 should be faxed or emailed to SolarBC at the earliest opportunity.

In the case of extension requests, SolarBC will consider the circumstances on an individual basis and may allow an extension to the 3 month expiry date to ensure funding remains allocated and to allow time to complete the work. It is the contractor's responsibility to agree and communicate a new date for completion with the customer. Where contractors exceed the 3-month expiry time without the necessary authorisation, SolarBC reserves the right to cancel the approved application and reallocate funding to the next person in the waiting list.

In the case of cancellations, SolarBC will remove the approved application from the program and allocate the funding to the next person in the waiting list.

### **9.7 Documentation Retention**

The contractor will be required to retain their copy of the signed Installation Agreement and all other relevant documentation, for a period of 3 years from the date of payment. These documents may be audited by SolarBC.

Contractors must ensure that Installation Agreements contain all relevant information. Contractors who cease to work under the SolarBC program, for whatever reason, will be required to return all customer documentation to SolarBC. A final audit will be carried out to close out the contractor's account, including the management and run down of any work in progress and remedial work.

## 9.8 Payment Claims & Accountability Statements

It is important that both the customer and the contractor retain signed copies of the Installation Agreement before the claim is submitted. Any Installation Agreement that is incomplete **WILL NOT** be paid.

Valid claims (SolarBC copy of the Installation Agreement) may be submitted every two weeks to SolarBC and if approved, will be paid to contractors within 30 days of receipt. A minimum of 5% of claims for payment will be selected for inspection as detailed in section 9, and payment will be withheld until the work has been released from the inspection process. Such release will occur on receipt of a satisfactory inspection report including any remedial work and secondary inspection that may be required.

Contractors are required to submit a monthly reconciliation statement to the SolarBC office including details of all approved applications, less completed work and claims made, and a balance of all outstanding jobs. This will be reconciled with SolarBC records. Standard reporting frameworks will be provided by SolarBC and maintained and updated by contractors.

## 10 QUALITY ASSURANCE

Quality assurance will be determined throughout the project through on-site inspections of systems, through a monitoring program to meter actual energy savings and through customer satisfaction surveys.

### 10.1 On-Site Inspections

SolarBC requires that work carried out by contractors be subject to on-site inspections of a minimum of 5% of all work carried out. The purpose of these inspections is to ensure that:

- Installations meet the requirements of the CSA F383-87 Installation Code for Solar Hot Water Systems;
- High standards of customer care are provided;
- That SolarBC funding is utilized in an effective and efficient way;
- The customer is satisfied with the service provided by the contractor;
- Management information can be gathered on the standards of work; and
- Any remedial work is carried out promptly and effectively.

It is important that **ALL** work detailed on the Installation Agreement is completed to the required CSA F383-87 Installation Code and to the client's satisfaction before the claim is submitted for payment. All work will be subject to 5% technical inspections.

Installations selected for inspection will have payments withheld until the work has been released from the inspection process, **including completion of any remedial work required and any secondary inspection that may be required**. This will be on receipt of a satisfactory inspection report from the technical inspector. Any work found not to meet the CSA F383-87 Installation Code required by SolarBC, must be corrected and a report confirming the rectification of faults sent to SolarBC within 28 days of notification of the

failure. Any contractor queries with respect to a technical inspection may also delay payment until any dispute has been resolved.

If a contractor consistently fails inspections, they may have more work selected for inspection. The contractor will cover the costs of any such inspections and may be removed from the project if standards are found to be consistently poor.

### **10.2 Monitoring**

Performance monitoring is required to help determine actual energy savings generated by solar hot water systems. A minimum of 25 installations will be monitored for 1 to 2 years to determine if the systems do perform to the expected energy savings. The variety of systems deployed will be metered and the monitoring program will be deployed in a variety of geographic locations throughout B.C.

If a home is selected as a monitoring site, the contractor will be asked to install the monitoring equipment at the time of installation of the system. The contractor will be paid \$50 for the material costs and installation of the pipe tees and caps for the flow meter and temperature sensors. SolarBC will cover the cost of the metering equipment and the data collection costs.

### **10.3 Customer Satisfaction**

Customer satisfaction is a key measurement of the successful delivery of SolarBC. SolarBC will undertake satisfaction surveys to measure customer opinions and will also include an installer rating mechanism on the SolarBC website for participants to record their experiences with the project.

Customer satisfaction audits will be used for the purposes of contractor rating. Each contractor will receive a quarterly report detailing the level of satisfaction achieved. Any failed customer satisfaction audits may be treated as customer complaints and will be handled as outlined in section 12.

## **11 TIMELINES**

All work should be completed within 3 months from the date of issue of the application approval by SolarBC. Each approved application will be allocated incentive funding and a 3 month expiry date.

Failure to complete the work within 3 months will result in expiry of the application and incentive funding will be reallocated to the next application in line on the waiting list.

SolarBC will monitor contractor performance on timelines to ensure contractual compliance. For contractor rating purposes, SolarBC will measure the time between the approval date of issue and the claim submission date. It is, therefore, in the contractor's interest to ensure that claims are submitted as soon as possible after completion of the work.

## **12 AFTERCARE**

### **12.1 Customer Complaints**

Contractors shall at all times preserve and maintain the reputation and good name of the SolarBC Project. The contractor shall ensure they do nothing to jeopardize customer confidence in the program.

If the contractor receives a complaint from a customer with the warranty period, SolarBC must be notified in writing within 24 hours of receipt of the complaint. The information provided must include the customer's details, the nature of the complaint and what actions have been implemented or are proposed to rectify the complaint.

The following procedure must be adopted if a complaint is received:

- The contractor must contact the complainant within 24 hours;
- SolarBC must be notified of the complaint within 24 hours;
- A written record of all communications, including verbal and telephone communications, must be kept;
- A response to any problems or remedial works identified must be prepared by the contractor, advised to the customer and SolarBC, and implemented within 3 working days from receipt of the complaint;
- The complaint should be resolved to the customer's reasonable satisfaction within a period of 10 working days from the date of receipt; and
- SolarBC must be notified of the resolution.

If it is not possible to resolve the complaint within the above timescales, the contractor must contact the customer and SolarBC to advise of any problems and also to provide an anticipated completion date.

The customer will receive a courtesy telephone call from SolarBC within ten working days from receipt of their complaint to ensure that they are satisfied with the remedial action taken.

### **12.2 Reclaimable Complaint Costs**

Where a complaint against a contractor is upheld, costs incurred in resolution of the complaint will be borne by the contractor. Reclaimable complaint costs may include the following:

- Inspection costs – Where an unplanned or additional inspection is required, the contractor will be charged for each occasion where a specific visit to the property is made; and
- Alternative contractor costs – In instances where the contractor does not adhere to the complaint process outlined, or where the contractor is unwilling to revisit the property to complete the remedial works required, SolarBC reserves the right to appoint another contractor to enable the complaint to be closed to the customer's reasonable satisfaction. Any costs associated with this will be passed on to the original contractor in full.

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It is vitally important that all customer queries and complaints are dealt with in a proactive manner and are resolved as quickly as possible.

### 12.3 Warranty Requirements

All installations must include the following warranties as a minimum:

- Solar Collectors – 10-year manufacturers warranty;
- Hot Water Tanks – 5-year manufacturers warranty;
- All other system components - 1-year parts warranty; and
- Labour and Workmanship – 1-year installation warranty.

All warranty documents must be left with the customer and must clearly explain the coverage period, the type of warranty and the process for making a warranty claim.

Where a contractor establishes that the nature of the breakdown is due to a manufacturing fault to the solar hot water system, they shall report the breakdown directly to the appropriate manufacturer the same day by e-mail or telephone and inform SolarBC. The contractor must keep records of all warranty claims and report them to SolarBC.

### 13 CONTRACTOR RATING

The purpose of contractor rating is to improve the quality of workmanship and customer care by measuring various criteria for each contractor and identifying areas for improvement. SolarBC has developed a contractor rating system that will monitor the performance of each contractor. The rating system will be one of the tools used by SolarBC on a quarterly basis to assess capacity for the allocation of work. **Consistently poor performance will result in removal of the contractor from the program.**

Contractor ratings will be calculated on performance against four criteria as follows:

- Timelines;
- Inspection pass rates;
- Complaints;
- Customer satisfaction surveys; and
- Customer online feedback.

#### 13.1 Timelines

A timeline score will be calculated for each purchase order from the date of issue of the order to the date of receipt of the electronic claim. Timeline scores are based on how quickly jobs have been completed. Individual order timeline scores are added and the average score is used for the rating.

Working Days from Approval to Claim Receipt	Timelines Score
1 – 90	10
91 and above	0

### 13.2 Inspections

Inspection scores are based on pass or fail inspection. Individual inspection scores are added and the average score is used for the rating.

Inspection Result	Score
Pass	10
Fail	0

### 13.3 Complaints

Complaints scores are based on the percentage of installations that receive complaints. The project target is to reduce complaints to less than 1% of completed installations. To this end, scores will be based on the following ranges.

% Complaints	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	>= 1.0
Score	10	9	8	7	6	5	4	3	2	1	0

### 13.4 Customer Satisfaction Surveys

Customer satisfaction survey scores are based on the results of a quarterly survey of customers for each contractor and recording their responses to the survey questionnaire.

## 14 ACCOMPANYING DOCUMENTS (available at [www.SolarBC.ca](http://www.SolarBC.ca))

- Contractor Registration Application Form
- Sample Contribution Agreement for Registered Contractors
- SolarBC Process Chart
- Installation Agreement (currently under development)
- Extension or Cancellation Request Form