



Commonwealth Solar Hot Water Program Inspection Summary Report

Project ID	Installer	Project Address	Performance Monitoring (Y/N)

Inspection Summary:

System Component	Minor Infraction	Major Infraction	Commendable Work
System			
Collector			
Circuit / Piping			
Storage Tank			
Controls			
Monitoring			
Roof			
Contractor Service			
Other Comments			



**Commonwealth Solar Hot Water Program
Inspection Checklist**

NOTE: NOT ALL ITEMS APPLY TO ALL PROJECTS

System Inspection

Potential sources of inspection, design, or fault detection that may apply to multiple parts of the solar hot water system include:

System Inspection, Design, or Fault Detection	Acceptable (Y/N)
Owner's Manual Provided	
System Components match MassCEC Application	
Drain Back Systems	
Buried Components	
Thermal Expansion	
Building Penetrations	
Operating Limits - Overheating	
Freeze Protection Measure	

Collector Inspection and Fault Detection

Potential sources of collector inspection, design, or fault detection may include:

Collector Inspection, Design, or Fault Detection	Acceptable (Y/N)
Collector shading	
Collector temperature sensor	

Top vent not installed, resulting in incomplete bleeding of air from system	
External thermal insulation not UV resistant	
Feed and return lines labeled incorrectly	
Oversizing of collector area resulting in frequent reaching of stagnation temperature	
Installation location of collectors makes maintenance, cleaning and repair difficult or impossible	
Must have a certification that is consistent with the application.	
Must have stagnation control measures	
Collector Flow Rate	
Water Damage	
Rain and Snow on Collector	

Solar Circuit, Piping, and Fluid Fault Detection

Potential inspection, design, or fault detection items to verify may include:

Solar Circuit, Piping, and Fluid Inspection, Design, or Fault Detection	Acceptable (Y/N)
Volumetric flow rate too low, resulting in low heat transfer	
Poor bleeding process, resulting in air bubbles which reduce or block heat transfer	

Protection from UV Radiation	
Pump is damaged by temperature of solar circuit fluid	
Level of glycol / water mixture is too high, resulting in decreased heat transfer	
Fluid was filled during a time of full sunshine which results in vapor formation and full filling is not possible	
Insulation gaps or poor installation	
System pressure is too low	
Expansion vessel	
Glycol systems: pressure gauge - A pressure gauge showing minimum acceptable collector loop pressure shall be provided.	
Drainback: water level gauge	
Back Thermosiphon Prevention	
Protection from Leaks	
Collector Circulation Control	
Temperature Control/Mixing Valve	
Insulation	
Solar Loop Isolation	

Entrapped Air	
Pressure Relief	
Fluid Safety Labeling	
Expansion tanks	
Water Shut-Off	
Service Connections and Permanent Maintenance Accessories	
Pipe and Component Supports	
Pitch or Angle of Piping Installation	

Storage Tank Inspection and Fault Detection

Potential storage tank related inspection, design, or fault detection items to verify may include:

Storage Tank Inspection, Design, or Fault Detection	Acceptable (Y/N)
Temperature level is attached too high or too low on the solar storage tank, resulting in sending erroneous data to controller	
Feed and return lines are erroneously piped into tank	
Storage tank is oversized, resulting in low storage temperature and frequent need for additional heat to be input by existing heating system	

Storage tank is undersized, resulting in the circulation pump switching off frequently once the maximum storage tank temperature has been reached	
Capacity, make, and model must be in compliance with SRCC guidelines.	
Solar Tank	
Waterproofing	
Operating Indicators	

Control, Sensors, and Metering Inspection and Fault Detection

Potential system control related inspection, design, or fault detection items to verify may include:

Control, Sensors, and Metering Inspection, Design, or Fault Detection	Acceptable (Y/N)
Settings for controller are erroneous, resulting in the circulation pump starting / stopping when not optimal or not to design conditions	
The meter's make, model and serial number will be compared to what was submitted on the application	
Meter location and proper installation will also be verified.	
Pumps and controllers shall be those listed in the Installation Manual.	
Control Line and Sensors	

Roofing Inspection and Fault Detection

Potential roofing related inspection, design, or fault detection items to verify may include:

Roofing Inspection, Design, or Fault Detection	Acceptable (Y/N)
Use of different materials on the roof which may lead to corrosion (dissimilar metals)	
Minimum overlap of roof tiles/covering not met, resulting in leaks in roofing structure	
Required roof penetrations shall be made in accordance with applicable codes and also practices recommended by the National Roofing Contractor's Association.	

Contractor Service Inspection and Fault Detection

Potential contractor service related inspection or fault detection items to verify may include:

Contractor Service	Acceptable (Y/N)
Arrived on-time and project completed on-schedule	
Explained how system worked	
Left house clean and in similar condition as prior to installation	