

PTCS™ Commissioned Ground/Water Source Heat Pump Form

All sections must be filled out by an IGSHPA and PTCS-certified Technician at the time of installation. A copy of the completed form must be promptly submitted to the utility and homeowner in accordance with utility policy. Please enter online at www.ptcsnw.com or fax to 877-848-4074.

Questions? Call 800-941-3867 or email reshvac@bpa.gov. Last updated: 2 May 2012.

Site Information

PTCS #	IGHSPA#	Installation Company	Electric Utility		
Customer Name			Street Address		
Site Address 2 (unit#/Mailing Address)		City	State	Zip Code	Phone Number
Site Built <input type="checkbox"/> Existing <input type="checkbox"/> New Construction			Manufactured Home <input type="checkbox"/> Y <input type="checkbox"/> N		
Year Built _____			Sections <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3		
Energy Star? <input type="checkbox"/> Y <input type="checkbox"/> N			Energy Star? <input type="checkbox"/> Y <input type="checkbox"/> N		
Foundation: <input type="checkbox"/> Half Basement <input type="checkbox"/> Full Basement <input type="checkbox"/> Crawl Space <input type="checkbox"/> Slab			Super Good Cents? <input type="checkbox"/> Y <input type="checkbox"/> N		
Old heating system being replaced: <input type="checkbox"/> Elec. Furnace <input type="checkbox"/> Heat Pump			Heated Area (sq ft.)		
<input type="checkbox"/> Gas Furnace <input type="checkbox"/> Other (specify): _____					

New Heat Pump Equipment Data

AHRI #	COP	System Type <input type="checkbox"/> Close Loop <input type="checkbox"/> Vertical Loop <input type="checkbox"/> Forced Air Furn.
		<input type="checkbox"/> Open Loop <input type="checkbox"/> Pond <input type="checkbox"/> Horizontal Loop <input type="checkbox"/> Hydronic
For Closed Loop Systems:		For Horizontal ground loop:
Total external length loop length: _____ ft.		Average in-ground loop depth: _____ ft.
For Open loop systems:		
Supply side depth (elevation difference between water source and heat pump): _____ ft.		
Is the return water: <input type="checkbox"/> Re-injected into ground <input type="checkbox"/> Discharged onto the surface. Specify surface: _____		
Re-injection depth (elevation difference between heat pump and re-injection point): _____ ft.		
Unit Make	Unit Mod. #	_____ # Compressor stages or <input type="checkbox"/> Inverter driven heat pump

True Flow Test (not necessary for water to water systems)

Unit Tested in <input type="checkbox"/> Heating <input type="checkbox"/> Cooling	Filter Size(s) _____	Tons _____	Filter Location: <input type="checkbox"/> Air Handler <input type="checkbox"/> Return Grille <input type="checkbox"/> Other(specify): _____			Units <input type="checkbox"/> Pa <input type="checkbox"/> H ₂ O
Plate Size	Plate 1 <input type="checkbox"/> 14 <input type="checkbox"/> 20	Plate 2 <input type="checkbox"/> 14 <input type="checkbox"/> 20	Plate 3 <input type="checkbox"/> 14 <input type="checkbox"/> 20	Flow		
NSOP						
TFSOP						
Plate Pressure						
Correction Factor [CF] from table or square root of $\sqrt{(NSOP/TFSOP)}$						
Raw Flow CFM from tables [A]						
Corrected Flow CFM = [CF] x [A]				Final CFM/ton		



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Auxiliary Heating System

Auxiliary (strip) heat lockout > <input type="checkbox"/> 35°F <input type="checkbox"/> 40°F Other (specify):		Flow Rate in GPM
Loop in Pressure (a)	Loop Out Pressure (b)	Pressure Drop (a – b)
GPM flow rate from table*	Calculate GPM/ton	GPM/ton Requirement Met <input type="checkbox"/> Y <input type="checkbox"/> N

* Use manufactures startup instructions or numbers in PTCS specs or measure directly.

PTCS™ Commissioned Ground Source Heat Pump Installation Checklist

Temperature Rise/Drop across Ground Loop (Tests to be performed with desuperheater disconnected) Check after 15 minutes of continuous operation.					
Existing Condition	As Found in Cooling	As Found in Heating	Adjusted Cond. (If necessary)	As Found in Cooling	As Found in Heating
Loop in Temp.	°F	°F	Loop in Temp.	°F	°F
Loop out Temp.	°F	°F	Loop out Temp.	°F	°F
Temp. Diff.	°F	°F	Temp. Diff.	°F	°F
Target Diff.**	°F	°F	Target Diff.**	°F	°F
Temperature Rise/Drop across Air Coil Check after 15 minutes of continuous operation.					
Existing Condition	As Found in Cooling	As Found in Heating	Adjusted Cond. (If necessary)	As Found in Cooling	As Found in Heating
Supply Air Temp.	°F	°F	Supply Air Temp.	°F	°F
Return Air Temp.	°F	°F	Return Air Temp.	°F	°F
Temp. Diff.	°F	°F	Temp. Diff.	°F	°F
Target Diff.**	°F	°F	Target Diff.**	°F	°F

** Refer to manufacture installation guide for target loop and air-side temp. splits. If measured splits do not meet manufactures specifications, repair and re-test until specs are met.

Operating Amps/Volts Check after 15 minutes of continuous operation.					
Existing Condition	As Found in Cooling	As Found in Heating	Adjusted Cond. (If necessary)	As Found in Cooling	As Found in Heating
Voltage			Voltage		
Compressor Amps			Compressor Amps		
Air Handler Amps			Air Handler Amps		
Circulating Pump(s) Amps			Circulating Pump(s) Amps		

Notes

[continued on next page]



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Required Customer and Technician Signatures

To be filled out by the electrical utility account holder. This form must be signed by the person whose name appears on the electric utility account. **ENERGY INFORMATION RELEASE:** The undersigned utility customer requests and authorizes the specified utility to release billing and usage information for the account listed below to the PTCS program. With this authorization, the PTCS program can request billing information for up to two years pre-installation and two years post-installation. The utility customer also hereby releases the utility company from any and all liability arising from or connected with providing this information.

Electric Utility:	Account #:
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Account holder name:

Account holder signature:	Date:
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By signing below, technician certifies that this form and any accompanying documentation are complete and accurate, and that all measures associated with this project were completed as of the signature date below.

Technician name:

Technician signature:	Date:
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PRIVACY ACT STATEMENT

Basic authority for collecting this information is authorized by 16 U.S.C. §§ 832 et. seq., and 838 et. seq., pursuant to Bonneville Power Administration's Conservation Program system of records established in 46 FR 31700.

This information is primarily intended to further, but is incidental to the performance of, BPA's overall Energy Efficiency Program, the objective of which is to acquire energy resources through energy efficiency, to determine what cost-effective conservation and direct application renewable resources measures should be installed or adopted under different circumstances, and to provide incentives for the installation of such measures.

Other routine uses of this information include: aggregation into a public database on energy efficiency; furnished to authorized personnel for installation/repair of equipment; aggregated into a database for program publicity; and in some instances information regarding buildings will be made available to subsequent purchasers of the buildings. Your disclosure of the requested information is voluntary, however failure to provide requested information means that it will not be possible for you to participate in this BPA Energy Efficiency program.

