Air Source & Water to Air -- Geothermal High Efficiency Application

ATTENTION -- No incentive will be paid if the verification test is not completed! It is the homeowner's responsibility to ensure the contractor completes the performance testing. Contact Roger Hunt (402-239-9406); Steve Walker (308-535-5324); or Kelly Beiermann (402-563-5415), with any questions.

☐ **Direct Incentive -OR-** ☐ **Low Interest Loan --- Apply for one!**

1. **Name of HVAC Contractor:** _____ Tax ID #: _____

   Address & City: _____ Phone Number: _____

2. **Homeowner's Name:** _____ Electric Utility: _____

   Homeowner's Address & City: _____ Daytime Phone: _____

   Installation Address & City*: _____ Acct or Meter #* _____

3. **Equipment Information:** Tonnage: _____ Equipment Mfr.: _____ Heat Pump Model #: _____

   Air Source HP: SEER _____ EER_____ HSPF_____; Backup Heat: Electric_____ (kW), or Fossil Fuel _____ (Btuh)

   Ground Source HP: Full Load EER _____ COP _____; or Partial Load (if Variable Capacity) EER _____ COP _____

   Type of Installation: New Construction _____, A/C to a Heat Pump _____, or Existing Heat Pump to New Heat Pump _____

Verification Tip! Having the manufacturer's performance data, on site and at the time of verification testing, will be helpful. Test installation with hot water generator off. See Heat Pump Performance Verification Tips on www.nppd.com for steps below!

4. **Determine CFM: (Complete section A or B)**

   A) Total External Static Pressure (ESP) _____ inches of W.C.; Equivalent CFM (per mfr's specifications @ measured ESP) _____

   B) Airflow check – temperature rise method with electric furnace (test in emergency heat mode)

   1) _____ Volts x _____ Amps = _____ Watts x 3.414 = _____ Btuh

   2) _____ Supply Air °F (minus) _____ Return Air °F = _____ Temp. Difference (TD) °F

   3) _____ Btuh (divided by) 1.08 (divided by) _____ (TD) °F = _____ CFM

5. **Measured Heat Pump Capacity Calculation (Complete section A or B for air side)(test w/water heater generator off)**

   A) **Heating cycle** (test in heat pump only mode)

   1) _____ Supply Air °F (minus) _____ Return Air °F = _____ (TD) °F

   2) 1.08 x _____ (TD) °F x _____ CFM (section 4) = _____ Btuh

   B) **Cooling Cycle** (run at least ten minutes prior to testing)

   1) Return wet bulb temp. _____ = Enthalpy_____ ; Supply wet bulb temp. _____ = Enthalpy _____

   2) 4.5 x _____ CFM (section 4) x _____ Enthalpy Difference = _____ Btuh

6. **Quality Assurance Inspection Results:**

   A) Measured Total CFM (section 4): _____ Measured Heat Pump Capacity (section 5): _____ Btuh

   B) Mfr's. Rated Capacity (Heating Capacity or Total Capacity): _____ Btuh

   C) Difference between rated and measured capacity (rated-measured)/rated) = _____ % Passed (within 10%) or Failed

   D) If failed - reason _____?

   E) HE or HR = _____ gpm X _____ TD X 485 (glycol) or 500 (water) =_____Btuh (pressure difference needed to get gpm)

   F) Mfr's. Rated Heat of Extraction (HE) or Heat of Rejection (HR): _____ Btuh

   G) Difference between rated and measured capacity (rated-measured)/rated) = _____ % Passed (within 10%) or Failed

   H) If failed - reason _____?

7. ☐ **Check box to signify that AHRI Certificate is attached** (required for all installations) AHRI Cert. # _____

8. **I acknowledge that this installation is in compliance with the program guidelines.**

   Homeowner: _____ (Print Name) _____ (Signature) _____ (Date)

   Inspection by: _____ (Print Name) _____ (Signature) _____ (Date)

   NATE Certification #_____ (NATE Certification is requested, but not mandatory for this application process)

9. **Submit this application to your local utility for approval and processing for payment**