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| HPwES horizontal bw.jpg |  | **Trade Ally Solutions Assessment Data**  **BPI ASSESSOR: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **ASSESSMENT DATE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |

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| Section 1: General Information | | | | | | |
| Trade Ally Contractor: | | Trade Ally Phone: | | Trade Ally Email: | | |
| BPI Certified Assessor Name /Company: | | Assessor Phone: | | Assessor Email: | | |
| Home Owner Name: | Home Owner Phone: | Home Owner Email: | | | | |
| Billing Address: | | City: | State: | | Zip Code: | Renter  or  Owner? |
| Site Address: | | City: | State:  WI | | Zip Code (WI): | |
| NOTES: | | | | | | |

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| Section 2: Building Information | | | | | | | | | | | | | |
| Type of Home:  Single Family Condo Attached | | | | Year Built: | | Orientation: | | House Length: | | House Width: | | Flrs Above Grade: | Wall Height: |
| A Inc. Basement? | Conditioned Area | | # Occupants: | | # Bedrooms: | | | | # Units: | Shielding:  Well Exposed Normal | | | Cantilevers  SF/R Value |
| Electric Utility Provider: | | Account#: | | | | | Gas Utility Provider: | | | | Account# | | |
| NOTES: | | | | | | | | | | | | | |
| Gas Leak Detector Present? | | CO Detector? Basement | | | | | Ground Floor | | | | 1rst Floor | | |

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| Section 3: Homeowner Concern (Reasons they called) |
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| NOTES: |

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| Section 4: Heating & Cooling | | | | | | | | | | | | | |
| **System 1: Heating Equipment Type:**  **Furnace:** with Central AC with Stand Alone Ducts Boiler  Central Heat Pump Electric Resistance Direct Heater | | | | **Upgrade Action:**  Install New System Keep As Is  Replace with Newer Model | | | | | | **Is Condensing:**  Yes No | | | |
| Fuel Type:  NG Elec Propane Fuel Oil | Load %: | Model Year: | | | Output Capacity (BTU/h): | Manufacturer & Model #: | | | | | System Efficiency | | |
| **System 1: Cooling Equipment Type:**  Central AC/Stand Alone Ducts Room AC  Evaporative Cooler Direct In-Direct | | | | | **Upgrade Action:**    Replace with Newer Model Keep As Is  Install New System Remove Permanently | | | | | | | | |
| Fuel Type:  Electric Other\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Load %: | Model Year: | | | Output Capacity (BTU/h): | Manufacturer & Model #: | | | | | | | SEER |
| **DUCTS**  Duct Location: Conditioned Unconditioned Basement Attic Crawlspace Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | | | | |
| Duct Leakage: 30% 15% 6% 3% Measured CFM25: \_\_\_\_\_\_\_\_\_\_\_  \*May submit only 1 level of improvement unless a duct blaster is used to test results. (i.e., 30% to 15% OK. 30% to 6% not OK unless duct blasted.) | | | | | | | | | | | | | |
| Duct Insulation: Duct Board Inches: \_\_\_\_\_ Fiberglass Inches: \_\_\_\_\_ Thermal/Bubble Wrap Inches: \_\_\_\_\_ Other: \_\_\_\_\_\_\_\_ R Value: \_\_\_\_\_\_\_    \*All duct sealing must be completed with R8 insulation. | | | | | | | | | | | | | |
| **System 1: Heating Equipment Type:**  **Furnace:** with Central AC with Stand Alone Ducts Boiler  Central Heat Pump Electric Resistance Direct Heater | | | | **Upgrade Action:**  Install New System Keep As Is  Replace with Newer Model | | | | | **Is Condensing:**  Yes No | | | | |
| Fuel Type:  NG LPN Electric Other\_\_\_\_\_\_\_\_\_\_\_\_ | Load %: | Model Year: | | | Output Capacity (BTU/h): | | | Manufacturer & Model #: | | | System Efficiency | | |
| **System 2: Cooling Equipment Type:**  Central AC/Stand Alone Ducts Room AC  Evaporative Cooler Direct In-Direct | | | | | **Upgrade Action:**    Replace with Newer Model Keep As Is  Install New System Remove Permanently | | | | | | | | |
| Fuel Type:  NG LPN Electric Other\_\_\_\_\_\_\_\_\_\_\_\_ | Load %: | | Model Year: | | Output Capacity (BTU/h): | | Manufacturer & Model #: | | | | | SEER: | |
| **DUCTS**  Duct Location: Conditioned Unconditioned Basement Attic Crawlspace Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | | | | |
| Duct Leakage: 30% 15% 6% 3% M Measured CFM25: \_\_\_\_\_\_\_\_\_\_\_  \*May only submit 1 level of improvement unless a duct blaster is used to test results. | | | | | | | | | | | | | |
| Duct Insulation: Duct Board Inches: \_\_\_\_\_\_\_\_ Fiberglass Inches: \_\_\_\_\_\_\_\_\_ Thermal/Bubble Wrap Inches: \_\_\_\_\_\_\_\_\_\_ R Value: \_\_\_\_\_\_\_\_    \*All duct sealing must be completed with R8 insulation. (may be wrapped and taped, buried in blown-in or spray foamed). | | | | | | | | | | | | | |
| Notes: | | | | | | | | | | | | | |

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| Section 5: Appliances/Refrigerators/Bulbs/Doors | | | | | | | | | | | | |
| Range Fuel Type:  NG Elec Prop | | Oven Fuel Type:  NG Elec Prop | | Dryer Fuel Type:  NG Elec Prop | | Clothes Washer Type:    Front Top None | | Energy Star?  Yes No | | Dishwasher:  Yes No | | Energy Star?  Yes No |
| Freezer Usage: kWh/Yr | | Manufacturer: | | | Model #: | | | | Model Year: | | Energy Star?  Yes No | |
| Dishwasher Energy Factor: | | Manufacturer: | | | Model #: | | | | Model Year: | | Improved?  Yes No | |
| Clothes Washer IMEF: | | Manufacturer: | | | Model #: | | | | Model Year: | | Improved?  Yes No | |
| Refrigerator 1 Age:  0-14 15-21  22-24 | Size:  13-15 1 6-18  19-21 22+ | | Energy Star?    Yes No | | Refrigerator 2 Age:  0-14 15-21  22-24 | | Size:  1-5 5-12 13-15  16-18 19-21 22+ | | | | Energy Star?    Yes No | |
| Refrig Usage kWh/yr | | Manufacturer: | | | Model #: | | | | Model Year: | | Improved?  Yes No | |
| Lighting CFL’s or LED’s:  0% 1-25% 26-50% 51-75% 75-99% 100% | | | | | Total # Light Bulbs:  CFL\_\_\_\_\_\_\_\_\_ LED\_\_\_\_\_\_\_\_\_ Incandescent\_\_\_\_\_\_\_\_ Total: \_\_\_\_\_\_\_ | | | | | | | |
| Door 1 Type:    Steel Wood Fiberglass Hollow Storm Insulated | | | | | Door 2 Type:  Steel Wood Fiberglass Hollow Storm Insulated | | | | | | | |
| Notes: | | | | | | | | | | | | |

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| Section 6: Walls | | | | | | | | | | | | | | |
| Shared (multi-family only):  Includes attic spaces over multiple condos/apartments | | | | Shared Basement  or  Shared Attic | | Front Wall %: | | | Back Wall %: | Right Wall %: | | | Left Wall %: | |
| Wall 1 Insulated?  Well Poorly No | | | Siding:  Brick Veneer Metal/Vinyl Shingle Stone Stucco Wood/Fiber/Cement | | | | | | | | | Construction:  Block Brick Frame Log | | |
| Area 1 (ft²): | R-Value:  Cavity    Continuous | | | | Area 2 (ft²): | R-Value:  Cavity  Continuous | Area 3 (ft²): | R-Value:  Cavity  Continuous | | | Area 4 (ft²): | | | R-Value:  Cavity  Continuous |
| Wall 2 Insulated?  Well Poorly No | | | Siding:  Brick Veneer Metal/Vinyl Shingle Stone Stucco Wood/Fiber/Cement | | | | | | | | | Construction:  Block Brick Frame Log | | |
| Area 1 (ft²): | | R-Value:  Cavity  Continuous | | | Area 2 (ft²): | R-Value:  Cavity  Continuous | Area 3 (ft²): | R-Value:  Cavity  Continuous | | | Area 3 (ft²): | | | R-Value:  Cavity  Continuous |
| Notes: | | | | | | | | | | | | | | |

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| Section 7: Attics/Vaults | | | | | | | | | | | | | | | | | | | | | |
| Insulation Depth: | Insulation Type: | | Area SF | | R-Value: | | Radiant Barrier:  Yes No | | | Kneewall:  Yes No | | | Area SF | | | R-Value: | | | Cool Roof\*:  Yes No  \*bright white | | |
| Insulation Depth: | Insulation Type: | | Area SF | | R-Value: | | Radiant Barrier:  Yes No | | | Kneewall:  Yes No | | | Area SF | | | R-Value: | | | Cool Roof:  Yes No | | |
| Vault Area: | | Cavity Insulation R-Value: | | | | | Continuous Insulation R-Value: | | | | | | | Cool Roof: | | | |  | | | |
| Vault Area: | | Cavity Insulation R-Value: | | | | | Continuous Insulation R-Value: | | | | | | | Cool Roof: | | | |  | | | |
| Exterior Exhaust Vents:    Kitchen Dryer Bath 2 | | | | Roof Venting:  Soffit Ridge Gable Pods Power | | | | | | | | Attic Access:  Scuttle Drop Down Wall Panel | | | | | | | | | |
| Notes:  Attic %:    Vault %: | | | | | | | | | | | | | | | | | | | | | |
| Section 8: Foundation | | | | | | | | | | | | | | | | | | | | | |
| Foundation Type:  % Basement\_\_\_\_\_\_\_\_% Crawl\_\_\_\_\_\_\_\_\_% Slab\_\_\_\_\_\_\_\_ | | | | | | | Ft Above Grade: | | Basement Heating Model:  Intentional Intentional w/continuous circ    Incidental Desired Undesired | | | | | | | | | | | Basement Floor Area: | |
| Basement Cooling Model:  Intentional Intentional w/continuous circulation    Incidental - desired None/Undesired Incidental | | | | | | | | Wall Insulation: | | | Wall R-Value | | | | Perimeter Length | | | | | | Rim Joist Length |
| Crawlspace: | | Wall Insulation: | | | | Rim Joist Insulation: | | | | | Rim Joist ft2: | | | | | | Floor:  Slab Soil Gravel | | | | |
| Notes: | | | | | | | | | | | | | | | | | | | | | |

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| Section 9: Windows | | | | | | | | |
| Window Type 1:  Single Single w/storm  Double Triple Low-e | | Window Frame Type 1:  Wood Vinyl Metal | | Window Type 2:  Single Single w/storm  Double Triple Low-e | | Window Frame Type 2:  Wood Vinyl Metal | | Skylight Area  (ft2): |
| Window Area divided by  Wall Area  \*be accurate | North % | | South % | | East% | | West % | |
| Overhang Depth 1  \*width of the soffit/eve’s/roof overhang | North | | South | | East | | West | |

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| Section 10: Air Leakage | | | | | |
| Blower Door  CFM@50  PRE-TEST: | \_\_\_\_\_\_\_\_\_\_\_\_CFM | Blower Door CFM@50  POST TEST: | \_\_\_\_\_\_\_\_\_\_\_\_CFM | \*Estimate homes with vermiculite/ asbestos by asking your Regional Manager. DO NOT TEST | |
| FANS  Measured (CFM)  Pre-Test: | Kitchen 1:  Operable Window? | Bath 1:  Operable Window? | Bath 2 | Bath 3: | Bath 4: |
| Measured (CFM)  Post-Test: | Kitchen 1:  Operable Window? | Bath 1:  Operable Window? | Bath 2: | Bath 3: | Bath 4: |
| Notes: | | | | | |

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| Section 11: Domestic Hot Water Equipment | | | | | | | | | |
| Primary Fuel:  Nat. Gas Electricity Other | | DHW Type:  Atmospheric Power Vented  Indirect Tank Tank-less | | Age: | | Location: | | Temp Settings:  Low (120-130) Medium (130-140)    High (140-150) Very High (150+) | |
| Recovery Efficiency | | \*Must be .67 or higher to qualify for water heater incentive. Natural draft, natural gas units replaced with natural gas power vented or On Demand units only. | | | | | | | |
| Swimming Pool:  Yes No | Hot Tub?  Yes No | Solar Array?  Yes No | Size (kW) | | Array Slope | | Orientation | | Module Year |
| Notes: | | | | | | | | | |

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| Section 12: Combustion Safety Testing | | | | | | | | | | | | |
|  | | | | | Exterior Reading | | | | | Interior Reading | | |
| Highest Ambient Carbon Monoxide Observed: | | | | | \_\_\_\_\_\_\_\_\_ ppm | | | | | \_\_\_\_\_\_\_\_\_\_ ppm | | |
| CAZ Worst Case Scenario  \*Not required for Power Vented/On Demand water heaters WITH sealed combustion/condensing furnaces. | | | | | | | | | | | | |
| CAZ Location | | | Basement Attic Garage Crawlspace Other\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | |
| Combustion Safety Tests (Fire smallest BTUh appliance first, then larger BTUh appliances, then combined) | | | | | | | | | | | | |
| Appliance | Spillage  Warm Vent  Pre-Test (2 min) | | | Warm Vent  Spillage  Post Test (2 min) | | | | Steady State  Air Free CO  Pre-Test | Steady State  Air Free CO  Post Test | | CAZ CO  Pre-Test | CAZ CO  Post Test |
|  | Pass | Fail | | Pass | | Fail | |  |  | |  |  |
| DHW |  |  | |  | |  | |  |  | |  |  |
|  | Spillage  Cold Vent  Pre-Test (5 min) | | | Spillage  Cold Vent  Post-Test (5 min) | | | |  |  | |  |  |
| Heating System 1: |  |  | |  | |  | |  |  | |  |  |
| Heating System 2: |  |  | |  | |  | |  |  | |  |  |
| Spillage Time:  (Seconds) |  |  | |  | |  | | Oven CO  (as measured,  225 ppm limit) | | |  | |
| \_\_\_\_\_\_\_Power Vented/On Demand Water Heater Present \_\_\_\_\_\_Sealed Combustion/Condensing Furnace Present | | | | | | | | | | | | |
| Commonly Vented Appliances  \*If any of the appliances fail spillage under worst case conditions, re-test under natural conditions  and record the results below. Re-test draft and CO, as well. | | | | | | | | | | | | |
| CO Detectors? (Required by the State)  Yes No | | | | | | | Ground Floor Upper Floor Lower Floor | | | | | |
| Notes:  \*Any safety failures must be presented to the homeowners using a signed Combustion Safety Form. | | | | | | | | | | | | |

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| HPwES horizontal bw.jpg |  | **Snugg Pro  DATA COLLECTION FORM Reference Material** |

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| Combustion Safety  Carbon Monoxide & Spillage Reference  ActionLevels (BPI-1200-S-201x Standard Practice for Basic Analysis of Buildings | |
| **Annex D | Action Levels for Spillage and Carbon Monoxide in Combustion Appliances (Normative)**  **D.1 Spillage assessment and CO measurement results shall be based on the following criteria:**  • CO measured at 5 minutes of main burner operation  • Spillage assessed at 2 minutes of main burner operation for warm vent  • Spillage assessed at 5 minutes of main burner operation for cold vent  • CO level at or below threshold in Section 7.9.5, Table 1 for the appliance being tested is ACCEPTABLE  • CO level exceeding threshold in Section 7.9.5, Table 1 for the appliance being tested is UNACCEPTABLE | |
| **Table 7.9.5.1** **Air Free** **CO Thresholds for Fossil-Fuel Fired Combustion Appliances** | |
| Appliance | Threshold Limit |
| Central Furnace (all categories) | 400 ppm air free |
| Boiler | 400 ppm air free |
| Floor Furnace | 400 ppm air free |
| Gravity Furnace | 400 ppm air free |
| Wall Furnace (BIV) | 200 ppm air free |
| Wall Furnace (Direct Vent) | 400 ppm air free |
| Vented Room Heater | 200 ppm air free |
| Unvented Room Heater | 200 ppm air free |
| Water Heater | 200 ppm air free |
| Oven/Broiler | 225 ppm as measured |
| Clothes Dryer | 400 ppm air free |
| Refrigerator | 25 ppm as measured |
| Gas Log (gas fireplace) | 25 ppm as measured in vent |
| Gas Log (installed in wood burning fireplace) | 400 ppm air free in firebox |
| Did you:   * Completely fill out the Whole Home Application (for assessments and installations submissions. * Turn on the required pages in Snugg Pro * Fill out the HES and Certificate of Completion and turn them On * Send an email to home performance to let them know the job is submitted * Contact Snugg Pro to assist with alerts | |

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| CAZ Worst Case Depressurization Worksheet (optional) | | | | | |
| Table D.1.A ACTION LEVELS FOR SPILLAGE IN COMBUSTION APPLIANCES  The following actions shall be taken when spillage occurs under the specific circumstances detailed below. | | | | | |
| TEST RESULT | | | ACTION REQUIRED | | |
| Greatest CAZ depressurization occurs with the air handler on\* | | | Conduct further analysis of the distribution system to determine if leaky ducts or other HVAC-induced imbalances are the cause of the spillage. If so, recommend distribution system repairs that will reduce or eliminate the CAZ depressurization. | | |
| Greatest CAZ depressurization occurs with door to CAZ closed, but is alleviated when door to CAZ is open\* | | | Recommend measures to improve air transfer between the CAZ and the core of the house | | |
| The cause of spillage has been traced to excessive exhaust\*\* independent of CAZ door position, air handler, or a problem with the flue† | | | Verify that sufficient combustion air is available per ANSI Z223.1/NFPA 54 for gas-fired appliances and NFPA 31 for oil-fired appliances or recommend verification by a qualified professional  and/or  Recommend further evaluation/service by a qualified professional to address the venting/combustion air issues | | |
| \*In the case where both spillage and excessive CO are present, in addition to the specific actions required above, recommend that the appliance be shut down until it can be serviced by a qualified professional.  **\*\*** Refers to exhaust caused by mechanical ventilation and/or other means of exfiltration.  †When a recommendation to replace atmospherically-vented combustion equipment inside the pressure boundary is made, and when cost-effective, recommend replacement with direct-vented, or power-vented equipment (or non-combustion equipment, such as a heat pump), which is ENERGY STAR® - labeled. | | | | | |
| Ranges and Ovens (continually monitor ambient CO levels during test) | | | | | |
| **1** | Remove any items/foil in or on oven/range top. | | | |  |
| **2** | Turn to bake at 500°. Make sure self-cleaning features are not achieved. | | | |
| **3** | Test oven in throat of oven exhaust, before dilution air. | | | |
| **4** | Unacceptable CO Level -Advise the homeowner/occupant that the appliance should be serviced immediately by a qualified professional. | | | |
| Acceptable CO Level -No Action Required | | | |
| Acceptable Appliance Spillage Periods | | | | | |
| Appliance Type | | Cold Vent Spillage Test Period  (minutes) | | Warm Spillage Test Period (minutes) | |
| Water Heater, Gravity Furnace, Boiler  \* Always test water heaters as warm | | 5.0 | | 2.0 | |
| Space Heater | | 5.0 | | 2.0 | |
| Forced Air Furnace | | 5.0 | | 2.0 | |
| Ambient CO Action Levels:  **70 ppm or greater**: Terminate the inspection, notify all building occupants to evacuate the building. Notify emergency services.  **36 ppm - 69 ppm**: Advise homeowner that elevated levels were detected, windows and doors opened, turn off CO source immediately.  **9 ppm - 35 ppm**: Advise homeowner that CO has been detected and recommend all CO sources be checked and windows/doors opened. | | | | | |