



## HVAC Guidelines

The Building Performance Institute, Inc. (BPI) recognizes that some instances of work conducted by HVAC contracting companies may not fall under the requirements of BPI national standards for Heating and AC/Heat Pump Professionals. This notice will clarify which tasks do not necessarily pertain to these standards and as such, will not be subject to BPI quality assurance oversight.

Page 5 of *BPI Accreditation Policies and Procedures Manual* states the following:

### Company/Organization Obligations

A BPI accredited company or organization shall:

1. Participate in the BPI Quality Assurance Program.
2. Follow applicable BPI Standards and protocols and record essential project information for all residential projects that involve BPI established standards. These records shall be maintained and be accessible for review during the BPI QA review process.

This clarification addresses #2 above. The tasks to be excluded from the requirements of the Heating and AC/Heat Pump Professional standards typically fall under two categories:

1. Maintenance/General Upkeep
2. Service/General Repairs

BPI has defined each of these categories below and included a list of specific tasks within each category. BPI is providing guidance with the description below for BPI accredited HVAC companies to determine if the work being completed needs to comply with relevant BPI standards. The HVAC company and its employees should always use their best judgment when determining if the work needs to comply with BPI standards and any related combustion safety testing. In some instances service or maintenance may lead to a situation where modification to the system and/or replacement of equipment is necessary, and therefore may require additional work that involves BPI standards and any related combustion safety testing.

### Definitions

**Maintenance/General Upkeep:** An annually scheduled onsite visit that maintains the proper condition and upkeep of pre-existing appliances and does not change the equipment design or dynamics of the home. A maintenance onsite visit will typically include, but is not limited to: an annual inspection and cleaning of heating/cooling appliances and replacement of filters on forced-air systems, fan motor service, condensate drain cleaning, and condenser/evaporator coil cleaning.

**Service/General Repairs:** A customer generated onsite visit that repairs and re-establishes the proper condition of pre-existing appliances and does not change the equipment design or dynamics of the home. An onsite service visit will typically include, but is not limited to: no heat/no cooling due to open circuits or faulty control/transformer, dirty condenser/evaporator coil, low refrigerant charge, excessive noise or vibration, water leaks, no domestic hot water, unusual odors.

**Changes to the building envelope and/or heating/cooling system:** Air sealing and insulation installed to the building envelope representing more than 15% or more of the total building shell, modifications to or replacement of the distribution system, replacement of the heating/cooling system or parts that have a direct impact on the dynamics of the home, combustion process or combustion appliance zone (CAZ).

The following is generally not considered to be changing the dynamics of the home: minor adjustment, upkeep, repair or replacement of components as a part of service or maintenance to an already existing piece of equipment to reinstate the proper condition it was in before a service or maintenance occurred.

## **Minimum Health and Safety (H&S) Testing**

BPI will require minimum Health and Safety (H&S) testing on all work of HVAC contractors. This includes annual maintenance and service work. Below is the minimum H&S testing that will be required to be conducted and documented to ensure the safety of the occupants of the home. If testing reveals that an H&S issue exists and further action to correct a potential problem is needed, it is the responsibility of the HVAC contractor to alert the occupants of the problem and take appropriate actions to remedy the issue completely with the occupant's concurrence.

## **Minimum H &S Testing required at all times in Excluded Work**

Monitoring ambient levels of carbon monoxide (CO), monitoring ambient levels of natural gas/propane of residential buildings that have combustion equipment utilizing these gases, visual inspection of oil lines of residential buildings that have combustion equipment utilizing oil-fired equipment must be performed whenever a BPI accredited firm enters a home for service, maintenance, auditing, or upkeep purposes. Test results must be acted on appropriately according to BPI standards.

## **Excluded Work (Tasks) from the BPI Standards**

### **Oil**

**Service/General Repairs** – No heat or inadequate heat of oil-fired equipment

- Nozzle replacement
- Filter replacement
- Oil viscosity issues due to low temperatures
- Plugged heat exchanger
- Plugged vent
- Electrical (repair/replace the following: open circuits, faulty ignition components, relays, burner motor, oil delay valve)

**Maintenance/General Upkeep** – Oil fired equipment

- Replace oil line filter
- Nozzle replacement
- Electrode replacement
- Cleaning heat exchanger

## **Gas**

**Service/General Repairs** – No heat or inadequate heat of gas-fired equipment

- Clean heat exchanger
- Adjustment/replacement of limit controls
- Adjustment/replacement of thermostats
- Electrical (repair/replace the following: open circuits, faulty ignition components, inducer motors, relays, fuses, transformers)
- Gas valve replacement

**Maintenance/General Upkeep** – Gas fired equipment

- Check gas pressure
- Check safety/limit controls
- Check heat exchanger
- Check operating controls
- General cleaning of equipment

## **Hydronic**

**Service/General Repairs** – No heat or inadequate heat of hydronic systems

- Circulator- repaired/replaced
- Hydronic piping and associated components – check for leaks, condition and repair/replace
- Pressure relief valve - repair/replace
- Expansion tank - repair/replace
- Zone valves - repair/replace
- Boiler water feed valve - repair/adjust/replace
- Excessive noise or vibration
- Leaks from fittings and/or valves

**Maintenance/General Upkeep** – Hydronic systems

- Circulator motor lubrication
- Circulator replacement/repair
- System pressure check
- Adding Antifreeze
- Blow down of steam boilers
- Valve replacement/repair

## **Air Flow Air Handling**

**Service/General Repairs** – No heat or inadequate air flow of air handling - all systems

- Fan control - adjustment/replacement
- Blower motor - repaired/replaced
- Blower fan - repaired/replace
- Blower motor belt - adjustment/replacement (if equipped)
- Air filter - cleaned or replaced

**Maintenance/General Upkeep – Air handling systems**

- Electrical (repair/adjust/replace the following: relays, transformers, thermostats, contactors, all wiring, switches and breakers/fuses)
- Replace filters  
Adjustments to air flow (heat rise and static pressure checks)
- Replace fan blade
- General cleaning of unit

**A/C and Heat Pumps****Service/General Repairs – No heat or inadequate cooling or heating of A/C & heat pumps**

- Compressor, condenser, evaporator - repair
- Fan blade and motor repair
- Electrical (repair/adjust/replace the following: relays, transformers, thermostats, all wiring, switches and breakers/fuses)
- Check and adjust operating controls
- Check and adjust limit controls
- Icing of evaporator
- Repair broken air handler drive belt
- Faulty condensate pump
- Plugged condensate drain
- Excessive noise or vibration
- Physical damage to outdoor coil or refrigerant lines
- Unusual odor
- Vibration and noise, loose panels

**Maintenance/General Upkeep – A/C & heat pump**

- Check refrigerant charge (super heat/sub cooling) add/remove as needed.
- Electrical (repair/adjust/replace the following: relays, defrost timer, transformers, thermostats, contactors, all wiring, switches and breakers/fuses)
- Checking safety/limit controls
- Checking operating controls
- General cleaning of equipment

If there are additional tasks you feel should be added to this list, please forward a description of them together with a clear reason and justification to Carol Ohnsman, BPI Manager of Accreditation at 877-274-1274, ext. 109, or by email at [cohnsman@bpi.org](mailto:cohnsman@bpi.org). BPI will be pleased to consider them for addition.