

## Audit Event - Energy Audit Diagnostic Tests

- *The MN Weatherization Reference Guide- Saturn Resource Management* can be found in Appendix B.
- CAZ Depressurization tests are not required in dwellings where all space and water heating plants are electric.

- **General Tests**

- Blower Door @ 50 Pa – A pressurized blower test will be performed if a home contains vermiculite (*BPI 1200 - 2017, 10.2*)
- Attic Zonal Pressures (with respect to outside) – Optional if needed to guide air sealing activities
- Test Existing Smoke & CO Detectors – replace units that are non-functional, or over 5 years old (manufacturers date) (*1.3 MN Weatherization Reference Guide*)
- Pressure Pan Test (ducts outside thermal envelope) (*8.13 MN Weatherization Reference Guide*)
- Gas Cookstove CO Tests (oven) (*BPI 1200 - 2017, 7.9, Table 1*)
- Gas Cookstove Test for Fuel Leaks (accessible lines) (*BPI 1200 - 2017, 7.5*)
- Ambient CO test in kitchen and living area (*BPI 1200 - 2017, 7.3.3*)
- Exhaust Fan Flow Test (CFM) (*BPI 1200 - 2017, 1.3*)

- **Water Heater**

- Test for Fuel Leaks (*BPI 1200 - 2017, 7.5*)
- Water Heater Combustion Analysis/CO in Flue (*8.3 MN Weatherization Reference Guide, BPI 1200 - 2017, Table 1 for CO thresholds, or AHJ whichever is more stringent*)
  - PVC test holes must be plugged with threaded, gnarled screws to create a tight seal
- CAZ Depressurization Test (*BPI 1200 - 2017, 7.9*)
- Combustion Spillage Test (*BPI 1200 - 2017, 7.9*)
- Hot Water Temperature (*10.4 MN Weatherization Reference Guide*)

- **Heating Plant**

- Test for Fuel Leaks (*BPI 1200 - 2017, 7.5*)
- Heating Plant Combustion Analysis/CO in Flue (*8.3 MN Weatherization Reference Guide, PI 1200 - 2017, Table 1 for CO thresholds or AHJ whichever is more stringent*)
  - PVC test holes must be plugged with threaded, gnarled screws to create a tight seal
  - When a heating system manufacturer does not allow drilling of a metal flue, use a combustion analyzer to test ambient CO at the front of the heating system cabinet and in the closest supply register.
- Test Furnace Shutoff Switch (*8.5 MN Weatherization Reference Guide*)
- Heat Rise Test on Furnace (*8.3.1 MN Weatherization Reference Guide*)
- CAZ Depressurization/Combustion Spillage Test. This test required on natural draft appliances equipped with a barometric draft control or Category I appliances equipped with a draft hood or connected to a natural draft venting system. (*BPI 1200 - 2017, 7.9*)
- Ambient CO Test in Mechanical Room and Living Space (*BPI 1200 - 2017, 7.3.3*)
- Smoke Test on Oil Furnace/Oil Water Heater (*8.6 MN Weatherization Field Guide*)
- Heat Exchanger Integrity - Visual Inspection (*8.7 MN Weatherization Field Guide*)
- Heat Exchanger Integrity - Oxygen Concentration Test (*8.7 #4 MN Weatherization Field Guide*)

- **Space Heater (including gas fireplaces)**

- Test for Fuel Leaks (*BPI 1200- 2017, 7.5*)
- Combustion Analysis/CO in Flue (As feasible) (*8.1 MN Weatherization Reference Guide, BPI 1200 - 2017, Table 1 for CO thresholds, or AHJ whichever is more stringent*)
- CAZ Depressurization/Combustion Spillage Test. (As feasible) This test required on natural draft appliances equipped with a barometric draft control or Category I appliances equipped with a draft hood or connected to a natural draft venting system. (*BPI 1200- 2017, 7.9*)