**Building Science Education Solution Center – Electrical Panels**

Proficiency Level 1: Remember

**Learning Objective 1.1:**

* What are electrical panels and what role do they play in switching from fossil fuel to electric heat pump heating?

**Lecture Notes 1.1:**

Electrical panels, also known as breaker boxes or distribution boards, are electric components of a building that divides incoming power from the utility into a number of circuits that feed power to the building’s electrical appliances, such as lighting, outlets, and heating and cooling.

When switching heating systems from fossil furnaces to heat pumps, it is recommended that a thorough electrical panel assessment be conducted. The assessment should include an evaluation of the existing panel condition and size, a whole house electrical load calculation including the consideration of any new or future electric loads and a determination of adequate physical space within the panel. The assessment can help determine if any panel or service upgrades are needed, including whether a subpanel may be beneficial for the new heat pump.

**Problem Set 1.1:**

1. An electrical panel’s \_\_\_ should be evaluated before installing a heat pump
   1. Age
   2. Size
   3. Type
2. When switching from fossil fuel heating system to electric heat pumps, the required electrical panel assessment includes which of the following?
   1. Evaluation of the existing panel size
   2. Whole house electrical load calculation
   3. Determination of adequate space within the panel
   4. All of the above