Heat Pumps

Did You Know?

Heat pumps technology has advanced considerably making it possible to use them as the main heating source in cold climates. However, heat pumps, like other electrical loads, might increase the electrical load demand within a building.

Background:

There are different types of heat pump technologies in the market, and some technologies require supplemental heat. If supplemental heat is electric, it would lead to simultaneous operation of all electric heating sources. Likely this would increase the load demand on feeders and service conductors.

- For example, air-source heat pumps enter defrost mode cycle during cold seasons. This could be one of the reasons why some systems require supplementary heating.

There can be other situations where heat pumps might lead to significant additional electrical loads within a building, some examples below:

- No interlocks between heat pump and other electrical heating sources to prevent simultaneous operation.
- Shifting heating loads from gas to electric.

All the above scenarios might lead to overload on service and feeder conductors, leading to fire hazards.

Heat pump for space heating/cooling


Heat pump for pool heating

Information You Need to Know

Heat pumps are similar technology to air-conditioners and as such, the Ontario Electrical Safety Code (OESC) has several requirements that are applicable to this technology, including overcurrent protection, disconnecting means, and wiring requirements. Additionally, Bulletin 8-3-* was updated to include a section about heat pumps load demand calculations.

Refer to bulletin 8-3-* Section 7 for more detailed information. This bulletin can also be found within a sample list of bulletins in the link below.

https://esasafe.com/electrical-products/bulletins/