Switch Requirements for Compliance with NEC 445.19 Emergency Shutdown of Prime Mover

1. NEC 445.19(A)(1) requires the means of shutdown (a switch) to be connected in a way that allows it to disable the generator start control circuits and render the generator incapable of starting. The switch should be capable of connecting to the generator shutdown circuit at the generator or remotely from the generator transfer switch to comply with this requirement.
2. NEC 445.19(A)(2) requires the means of shutdown (a switch) to have a mechanical reset. A switch that has the ability to latch when actuated and require manual intervention to unlatch the switch, will satisfy this requirement.
3. The switch should have evidence of a mark of conformity such as CE or CCC, or a Declaration of Conformity citing compliance with appropriate standards. This ensures that it has been evaluated and tested to a standard for control circuit devices such as UL 508 or IEC/UL 60947-5-1 or IEC/UL 60947-55. A certification mark such as UL, VDE or TUV indicating third-party compliance would be helpful, but not necessary.
4. The switch should have a minimum electrical rating of 10 amps, 24 volts ac to be compatible with the generator transfer switch circuitry.
5. The switch should have a mushroom-shaped head so that it can be easily activated with the palm of a hand. The actuator should be red in color so that it is clearly identifiable.
6. NEC 445.19(C) requires the emergency shutdown device (a switch) to be located outside the dwelling unit at a readily accessible location. The preferred location is on the outside of the generator cabinet for ease of installation. However, for the benefit of first responders, an AHJ may require the shutdown device to be at a remote location such as the transfer switch enclosure which is normally located at the service equipment. The switch would normally be installed through an opening in the generator transfer switch enclosure to comply with this requirement. If the transfer switch is located inside the dwelling unit, such as in the basement or garage, the switch would need to be installed in its own enclosure and the enclosure would need to be located outside of the dwelling unit near its service equipment.
7. If the transfer switch enclosure is installed outdoors (outside the dwelling unit), the emergency shutdown switch will need to have an enclosure Type rating to support the Type rating of the transfer switch enclosure. The transfer switch enclosure will normally be rated Type 3R or Type 4. This will require the switch to be rated Type 3R, Type 4 or Type 4X if installed on a Type 3R enclosure or rated Type 4 or Type 4X if installed on a Type 4 enclosure. The emergency shutdown switch and transfer switch enclosure may also have Ingress Protection (IP) ratings such as IP65 which is similar to Type 4. If relying on IP ratings to satisfy the conditions of application, the plastic materials of the switch exposed to the outdoor environment should be ultraviolet (UV) rated. IP ratings do not include UV protection. If the emergency shutdown switch is installed in its own enclosure, the combination of switch and enclosure will need to be rated Type 3R, Type 4 or Type 4X or IP65 as the switch enclosure will be installed on the outside of the dwelling unit.

property arising from the improper installation of this product, installation by non-qualified persons or the use of products for applications other than as specified. The information provided is for guidance only. Please consult with a licensed electrician or local building inspector regarding applicability, use and proper installation of all products.