

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

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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 remote or emergency shutdown circuit of 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 be UL Listed to ensure that it has been evaluated and tested to a standard for control circuit devices such as UL 508 or UL 60947-5-1.
4. The switch should have a minimum electrical rating of 10 amps, 24 volts ac in order 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 most logical location for the switch is on the outside of the generator transfer switch enclosure as the transfer switch is normally located on the outside of the dwelling unit near the service equipment. The switch is 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 the service entrance equipment for the dwelling.
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 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. 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 as the switch enclosure will be installed on the outside of the dwelling unit.

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