

A.9.3.2 A reliable power source possesses the following characteristics:

(1) The source power plant has not experienced any shutdowns of longer than 4 continuous hours in the year prior to plan submittal. NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*, begins to require special undertakings (i.e., fire watches) when a water-based fire protection system is taken out of service for longer than 4 hours. If the normal source power plant has been intentionally shut down for longer than 4 hours in the past, it is reasonable to require a back-up source of power.

(2) No power outages have been experienced in the area of the protected facility caused by failures in the power grid that were not due to natural disasters or electric grid management failure. The standard does not require that the normal source of power is infallible. NFPA 20 does not intend to require a back-up source of power for every installation using an electric motor-driven fire pump. Should the normal source of power fail due to a natural disaster (hurricane) or due to a problem with electric grid management (regional blackout), the fire protection system could be supplied through the fire department connection. However, if the power grid is known to have had problems in the past (i.e., switch failures or animals shorting a substation), it is reasonable to require a back-up source of power.

(3) The normal source of power is not supplied by overhead conductors outside the protected facility. Fire departments responding to an incident at the protected facility will not operate aerial apparatus near live overhead power lines, without exception. A back-up source of power is required in case this scenario occurs and the normal source of power must be shut off. Additionally, many utility providers will remove power to the protected facility by physically cutting the overhead conductors. If the normal source of power is provided by overhead conductors, which will not be identified, the utility provider could mistakenly cut the overhead conductor supplying the fire pump.

(4) Only the disconnect switches and overcurrent protection devices permitted by 9.2.3 are installed in the normal source of power. Power disconnection and activated overcurrent protection should only occur in the fire pump controller. The provisions of 9.2.2 for the disconnect switch and overcurrent protection essentially require disconnection and overcurrent protection to occur in the fire pump controller. If unanticipated disconnect switches or overcurrent protection devices are installed in the normal source of power that do not meet the requirements of 9.2.2, the normal source of power must be considered not reliable and a back-up source of power is necessary.