

1 Q. (Response to CA-NLH-56)

2 *"It is required that controls and protections do not trip for low-voltage conditions up*  
3 *to one second in duration."*

4 Please identify the auxiliary power load(s) that require the converter station to be  
5 tripped if the supply voltage to the auxiliary power load is interrupted for more  
6 than one second?

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9 A. There are no auxiliary power load(s) that require the converter station to be tripped  
10 if the supply voltage to the auxiliary power load is interrupted for more than one  
11 second. The HVdc control and protection systems are supplied via low voltage dc  
12 systems (including redundant batteries) and will not be affected by an interruption  
13 to the ac station service.

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15 The ac station service supplies the critical HVdc converter systems including the  
16 valve cooling systems, building heating-ventilation and air conditioning systems,  
17 and converter transformer cooling systems. To ensure continued operation of the  
18 converter station following an interruption to ac station service, each converter  
19 station is equipped with backup diesel generation such that there is no requirement  
20 for the immediate trip of the HVdc system on loss of the ac station service supply.

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22 The detailed design of the low voltage ac system is not complete at this stage and  
23 parameters such as time delays before the start-up of backup diesel generation and  
24 requirements for uninterruptible power supplied have not yet been determined. As  
25 stated above, the auxiliary system is designed to ensure that the HVdc scheme is  
26 not affected for sudden loss of ac station service supply.