2.5.11 12-Hour Uninterruptible Power Supply System

1.0 Description

The 12-hour uninterruptible power supply system (12UPS) provides non-Class 1E uninterruptible power during normal and abnormal operations to Nuclear Island and Turbine Island loads including alternate ac support features.

2.0 Arrangement

2.1 The functional arrangement of 12UPS equipment is shown in Figure 2.5.11-1—12-Hour Uninterruptible Power Supply System Functional Arrangement.

3.0 Electrical Considerations

3.1 Each 12UPS battery is able to provide power for starting and operating design loads for a minimum of 12 hours when the ac supply to the battery charger is lost.

3.2 Each 12UPS battery charger supplies assigned 12UPS loads while maintaining the respective EUPS battery charged.

3.3 Each 12UPS inverters are sized to power the 12UPS loads assigned to the respective supplied motor control center (MCC).

4.0 Inspection, Tests, Analyses and Acceptance Criteria

Table 2.5.11-1 lists the 12UPS ITAAC.

Table 2.5.11-1—12-Hour Uninterruptible Power Supply System ITAAC

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
2.1	The functional arrangement of the 12UPS is as shown on Figure 2.5.11-1.	An inspection will be performed.	The as-built 12UPS conforms to the functional arrangement as shown in Figure 2.5.11-1.
3.1	Each 12UPS battery is able to provide power for starting and operating design loads for a minimum of 12 hours when the ac supply to the battery charger is lost.	a. An analysis will be performed. b. A test will be performed.	a. Analysis concludes the as-built 12UPS battery is able to provide power for starting and operating analyzed design loads for a minimum time of 12 hours while battery terminal voltage remains above minimum voltage required for the design loads. b. The capacity of the as-built 12UPS battery is equal to or greater than the analyzed battery design duty cycle capacity.
3.2	Each 12UPS battery charger supplies assigned 12UPS loads while maintaining the respective 12UPS battery charged.	A test will be performed.	Each 12UPS battery charger can maintain an output current that can supply the assigned 12UPS loads while maintaining the respective 12UPS battery charged.
3.3	The 12UPS inverters are sized to power the loads assigned to the respective supplied MCC.	An analysis will be performed.	Analysis concludes each 12UPS inverter rating is greater than the analyzed load requirements.

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