

## **2.5.5 Preferred (Offsite) Power Supply System**

### **1.0 Description**

The preferred (offsite) power system provides the preferred power to the Class 1E emergency power supply system (EPSS) via the emergency auxiliary transformers (EAT) and offsite power to the normal power supply system (NPSS) via the normal auxiliary transformers (NAT) during normal and abnormal operation.

### **2.0 Arrangement**

**2.1** EATs are separated from each other and the NATs and main step-up transformers (MSU).

### **3.0 Mechanical Design Features**

**3.1** Each EAT and NAT has an oil containment system.

**3.2** Each EAT and NAT has a deluge fire protection system.

### **4.0 Electrical Considerations**

**4.1** Each EAT is connected to the four EPSS divisions.

**4.2** EAT power cables and instrumentation and control circuits are routed separately from NAT power cables and instrumentation and control circuits.

**4.3** Each EAT and associated power cables are sized to power the EPSS safety-related and non-safety-related loads.

### **5.0 Interface Requirements**

**5.1** At least two independent circuits shall be supplied to the station switchyard by the offsite power transmission system.

**5.2** Each offsite power circuit shall be sized to supply the station safety-related and non-safety-related loads during normal and off normal operation.

**5.3** Each EAT shall be connected to the switchyard via an independent circuit, sized to supply the four EPSS divisions.

**5.4** The transmission system will not subject the reactor coolant pumps to a sustained frequency decay of greater than 3.5 Hz/second.

**5.5** The EATs and NATs switchyard circuit breakers shall be sized to supply their load requirements.



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**6.0 Inspection, Tests, Analyses and Acceptance Criteria**

**6.1** Table 2.5.5-1—Preferred (Offsite) Power Supply System Inspections, Tests, Analyses, and Acceptance Criteria, provides the ITAAC for the preferred (offsite) power supply system.

**Table 2.5.5-1—Preferred (Offsite) Power Supply System Inspections, Tests, Analyses, and Acceptance Criteria**

	<b>Commitment</b>	<b>Inspection, Test or Analysis</b>	<b>Acceptance Criteria</b>
2.1	EATs are separated from each other and the NATs and MSUs.	An inspection will be performed.	Each as-built EAT is separated from the other EAT, MSUs, and NATs by distance or a fire barrier.
3.1	Each EAT and NAT has an oil containment system.	An inspection will be performed.	Each EAT and NAT has an oil containment system.
3.2	Each EAT and NAT has a deluge fire protection system.	An inspection will be performed.	Each EAT and NAT has a deluge fire protection system.
4.1	Each EAT is connected to the four EPSS divisions.	An inspection will be performed.	Each EAT is connected to the four EPSS divisions.
4.2	EAT power cables and instrumentation and control circuits are routed separately from NAT power cables and instrumentation and control circuits.	An inspection will be performed.	The EAT power cables and instrumentation and control circuits are routed separately from NAT power cables and instrumentation and control circuits.
4.3	Each EAT and associated power cables are sized to power the EPSS safety-related and non-safety-related loads.	An inspection will be performed.	Each EAT is sized greater than the load requirements of the EPSS during normal operation and design basis events. The EAT power cables from the EAT to the EPSS buses are rated to supply load requirements of the EPSS during normal operation and design basis events.