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TABLE 3.7-2

ENGINEERED SAFEGUARDS ACTION  
INSTRUMENT OPERATING CONDITIONS

	1	2	3	4
<u>FUNCTIONAL UNIT</u>	<u>MIN. OPERABLE CHANNELS</u>	<u>DEGREE OF REDUNDANCY</u>	<u>PERMISSIBLE BYPASS CONDITIONS</u>	<u>OPERATOR ACTION IF CONDITIONS OF COLUMN 1 OR 2 EXCEPT AS CONDITIONED BY COLUMN 3 CANNOT BE MET</u>
d. Station Blackout Start Motor Driven Pump	2	0		Restore inoperable channel within 48 hours or be in hot shutdown within next 6 hours and in cold shutdown within the following 30 hours.
e. Trip of Main Feedwater Pumps Start Motor Pumps	1/Pump	1/Pump		Restore inoperable channel within 48 hours or be in hot shutdown within next 6 hours and in cold shutdown within the following 30 hours.
4. LOSS OF POWER				
a. 4.16 KV Emergency Bus Undervoltage (Loss of Voltage)	2/Bus	1/Bus		Place inoperable channel in tripped condition within one hour.
b. 4.16 KV Emergency Bus Undervoltage (Grid Degraded Voltage)	2/Bus	1/Bus		Place inoperable channel in tripped condition within one hour.

TABLE 3.7-4

## ENGINEERED SAFETY FEATURE SYSTEM INITIATION LIMITS INSTRUMENT SETTING

<u>NO.</u>	<u>FUNCTIONAL UNIT</u>	<u>CHANNEL ACTION</u>	<u>SETTING LIMIT</u>
6.	AUXILIARY FEEDWATER		
a.	Steam Generator Water Level Low-Low	Aux. Feedwater Initiation S/G Blowdown Isolation	$\geq 5\%$ narrow range
b.	RCP Undervoltage	Aux. Feedwater Initiation	$\geq 70\%$ nominal
c.	Safety Injection	Aux. Feedwater Initiation	All S.I. setpoints
d.	Station Blackout	Aux. Feedwater Initiation	$\geq 46.7\%$ nominal
e.	Main Feedwater Pump Trip	Aux. Feedwater Initiation	N.A.
7.	LOSS OF POWER		
a.	4.16 KV Emergency Bus Undervoltage (Loss of Voltage)	Emergency Bus Separation and Diesel start	$75^{+1}_{-1}\%$ volts with a 2+5,-0.1 second time delay
b.	4.16 KV Emergency Bus Undervoltage (Degraded Voltage)	Emergency Bus Separation and Diesel start	$90^{+1.0}_{-1.0}\%$ volts with a 60+3.0 second time delay (Non CLS, Non SI) 7+.35 second time delay (CLS or SI Conditions)

TABLE 4.1-1 (Continued)

<u>CHANNEL DESCRIPTION</u>	<u>CHECK</u>	<u>CALIBRATE</u>	<u>TEST</u>	<u>REMARKS</u>
35. LOSS OF POWER				
a. 4.16 KV Emergency Bus undervoltage (Loss of voltage)	N.A.	R	M	
b. 4.16 KV Emergency Bus undervoltage (Degraded voltage)	N.A.	R	M	

- b. Automatic start of each diesel generator, load shedding, and restoration to operation of particular vital equipment, initiated by a simulated loss of off-site power together with a simulated safety injection signal. Testing will also demonstrate that the loss of voltage and degraded voltage protection is defeated whenever the emergency diesel is the sole source of power to an emergency bus and that this protection is automatically reinstated when the diesel output breaker is opened. This test will be conducted during reactor shutdown for refueling to assure that the diesel generator will start within 10 sec and assume load in less than 30 sec after the engine starting signal.
- c. Availability of the fuel oil transfer system shall be verified by operating the system in conjunction with the monthly test.
- d. Each diesel generator shall be given a thorough inspection during each refueling interval utilizing the manufacturer's recommendations for this class of stand-by service.

## 2. Acceptance Criteria

The above tests will be considered satisfactory if all applicable equipment operates as designed.

### B. Fuel Oil Storage Tanks for Diesel Generators

1. A minimum fuel oil storage of 35,000 gal shall be maintained on-site to assure full power operation of one diesel generator for seven days.