

ENCLOSURE 1

PROPOSED TECHNICAL SPECIFICATION
SEQUOYAH NUCLEAR PLANT
UNITS 1 AND 2

TVA-SQN-TS-43

TEMPORARY CHANGE IN THE LIMITING CONDITION
FOR OPERATION, 3.8.2.1.a, FOR THE ONSITE POWER DISTRIBUTION SYSTEM

ELECTRICAL POWER SYSTEMS

3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS

A.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.1 The following A.C. electrical boards shall be OPERABLE and energized with tie breakers open between redundant boards:

6900	Volt Shutdown Board	1A-A
6900	Volt Shutdown Board	1B-B
6900	Volt Shutdown Board	2A-A
6900	Volt Shutdown Board	2B-B
480	Volt Shutdown Board	1A1-A
480	Volt Shutdown Board	1A2-A
480	Volt Shutdown Board	1B1-B
480	Volt Shutdown Board	1B2-B
480	Volt Shutdown Board	2A1-A
480	Volt Shutdown Board	2A2-A
480	Volt Shutdown Board	2B1-B
480	Volt Shutdown Board	2B2-B
120	Volt A.C. Vital Instrument Power Board Channels 1-I and 2-I energized from inverters 1-I and 2-I connected to D.C. Channel I*.	
120	Volt A.C. Vital Instrument Power Board Channels 1-II and 2-II energized from inverters 1-II and 2-II connected to D.C. Channel II*.	
120	Volt A.C. Vital Instrument Power Board Channels 1-III and 2-III energized from inverters 1-III and 2-III connected to D.C. Channel III*.	
120	Volt A.C. Vital Instrument Power Board Channels 1-IV and 2-IV energized from inverters 1-IV and 2-IV connected to D.C. Channel IV*.	

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- ** a. With less than the above complement of A.C. boards OPERABLE and energized, restore the inoperable boards to OPERABLE status within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With one inverter inoperable, energize the associated Vital Instrument Power Board within 8 hours; restore the inoperable inverter to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.1 The specified A.C. boards and inverters shall be determined OPERABLE and energized with tie breakers open between redundant boards at least once per 7 days by verifying correct breaker alignment and indicated voltage on the busses.

*Two inverters may be disconnected from their D.C. source for up to 24 hours for the purpose of performing an equalizing charge on their associated battery bank provide (1) the vital instrument power board is OPERABLE and energized, and (2) the vital instrument power boards associated with the other battery banks are OPERABLE and energized from their respective inverters connected to their respective D.C. source.

**One (1) 6900-volt shutdown board and its associated 480-volt shutdown board may be inoperable for up to 16 hours only while the degraded voltage modification is being implemented. This temporary change is effective from the date of approval until startup from the first refueling outage for unit 2.

ELECTRICAL POWER SYSTEMS

3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS

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480	Volt Shutdown Board	2A2-A
480	Volt Shutdown Board	2B1-B
480	Volt Shutdown Board	2B2-B
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120	Volt A.C. Vital Instrument Power Board Channels 1-II and 2-II energized from inverters 1-II and 2-II connected to D.C. Channel II*.	
120	Volt A.C. Vital Instrument Power Board Channels 1-III and 2-III energized from inverters 1-III and 2-III connected to D.C. Channel III*.	
120	Volt A.C. Vital Instrument Power Board Channels 1-IV and 2-IV energized from inverters 1-IV and 2-IV connected to D.C. Channel IV*.	

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- ** a. With less than the above complement of A.C. boards OPERABLE and energized, restore the inoperable boards to OPERABLE status within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With one inverter inoperable, energize the associated Vital Instrument Power Board within 8 hours; restore the inoperable inverter to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.1 The specified A.C. boards and inverters shall be determined OPERABLE and energized with tie breakers open between redundant boards at least once per 7 days by verifying correct breaker alignment and indicated voltage on the busses.

*Two inverters may be disconnected from their D.C. source for up to 24 hours for the purpose of performing an equalizing charge on their associated battery bank provide (1) the vital instrument power board is OPERABLE and energized, and (2) the vital instrument power boards associated with the other battery banks are OPERABLE and energized from their respective inverters connected to their respective D.C. source.

**One (1) 6900-volt shutdown board and its associated 480-volt shutdown board may be inoperable for up to 16 hours only while the degraded voltage modification is being implemented. This temporary change is effective from the date of approval until startup from the first refueling outage for unit 2.

ENCLOSURE 2

JUSTIFICATION FOR PROPOSED TECHNICAL SPECIFICATION CHANGE
SEQUOYAH NUCLEAR PLANT
UNITS 1 AND 2

TVA-SQN-TS-43

The Sequoyah Nuclear Plant operating license conditions 2.C.(18).C, for unit 1, and 2.C.(11).b, for unit 2, require TVA to install degraded voltage protection to the 6900 volt shutdown boards. At present, this modification is required to be installed before startup after the first refueling outage for unit 2 and before startup after the second refueling outage for unit 1. The modification is presently scheduled for completion before startup from the first refueling outage for unit 2 while unit 1 is operating in mode 1. Installation of the modification and testing of each board will take approximately sixteen (16) hours. Therefore, in order to satisfy this NRC requirement without causing a two-unit outage, we request that the current action requirement of technical specification 3.8.2.1.a be extended from eight hours to 16 hours.

The following preliminary efforts will be made to minimize the actual time each board is inoperable. Initially, all wire pulls, hardware mounting, and labeling will be done before unit 2 shutting down for its refueling outage. This will leave the final connection and post modification testing to be completed during the time the board is declared inoperable. Before declaring each board inoperable, all essential and nonessential loads necessary for plant operation will be identified and transferred to the opposite train board, thus minimizing any operational inconveniences when the board is deenergized for testing. At the start, the supply power will be transferred from the normal feeder breaker to the alternate. The power will then be removed from the control circuit of the normal feeder breaker, and also from the 125 volt DC normal control bus for the 6900 volt shutdown board logic relays associated with the inoperable board. The alternate feeder breaker will still be supplying power to the board, and the DC emergency bus will be supplying power to its associated logic relaying.

The degraded voltage modification involves adding several contacts in parallel with the undervoltage and loss of voltage contacts and changes the relay contacts for the auto transfer (normal feeder to the alternate feeder breaker upon loss of voltage). At the same time as the breaker controls are being modified, the normal control bus logic relays will have several contacts added in parallel to the existing contacts to activate the load tripping relays. A function check will be made to verify that the relays operate and there are no short circuits or unterminated wires.

The second phase will be to reenergize the normal feeder breaker and deenergize the alternate feeder breaker. Power will be returned to the 125 volt DC normal control bus and removed from the emergency bus. Basically, the same modifications will be made to the alternate feeder breaker as the normal with the exception of not having the auto transfer contacts. The emergency control logic relays will be modified the same as the normal bus. Again, a function test will be run to verify the installation. During the major portion of the modification period, the 6900-volt board will be energized with only the degree of redundancy of power availability reduced. The boards will be deenergized only during post-modification testing.

The third and final step will be the post modification testing. A comprehensive test has been written to verify the operability of the newly installed equipment. This test will include verification of the plus or minus five (5) percent degraded voltage trips, and will also retest the originally installed loss-of-voltage relaying scheme.

As previously stated, TVA is requesting temporary extension in the action requirement for the 6900-volt shutdown boards to allow the board to be inoperable for an additional eight hours. This requested change has been evaluated pursuant to 10 CFR Part 50.92, and no significant hazards considerations are involved because the change does not:

- (1) involve an increase in the probability or consequences of an accident previously evaluated
- (2) create the possibility of a new or different kind of accident from any accident previously evaluated
- (3) involve a reduction in the margin of safety

This determination is based on the following:

- (1) Only one 6900-volt board at a time will be modified.
- (2) The modification will be made in parallel to existing proven logic.
- (3) While each 6900-volt board is being modified, the board will still be able to shed the load and sequence onto the diesel generator.
- (4) The plant is designed and analyzed to shut down with only one train.
- (5) A functional test will be performed immediately after installation of the modification.