# RANCHO SECO UNIT 1 TECHNICAL SPECIFICATIONS

### Limiting Conditions for Operation

The requirement that one BWST isolation valve shall be open assures a static head to the injection pump not lined up to the makeup tank.

The post accident Reactor Building cooling may be accomplished by two spray units or by a combination of two emergency cooling units and one spray unit. The specified requirements assure that the required post accident components are available.

The spray system utilizes common suction lines with the decay heat removal system. If a single train of equipment is removed from either system, the other train must be assured to be operable in each system.

When the reactor is critical, maintenance is allowed per Specification 3.3.2 provided requirements in Specification 3.3.3 are met which assure operability of the duplicate components. Operability of the specified components shall be based on the results of testing as required by Technical Specification 4.5.

In the event that the need for emergency core cooling should occur, functioning of one train (one high pressure injection pump, one decay heat removal pump and both core flooding tanks) will protect the core and in the event of a main coolant loop severance, limit the peak clad temperature to less than 2,200°F and the metal-water reaction to less than 1 percent of the clad.

The nuclear service cooling water system consists of two independent, full capacity, 100 percent redundant systems, to ensure continuous heat removal.(3)

The requirements of Specification 3.3.4 assure that the decay heat removal system will not be overpressurized, resulting in a LOCA that bypasses containment. Two in-series check valves function as a pressure isolation barrier between the high pressure reactor coolant system and the lower pressure decay heat removal system extending beyond containment. Valve leakage limits provide assurance that the valves are performing their intended isolation.

The requirements of Specification 3.3.5 assure that, should all trains of a Safety Features equipment or system specified in this section 3.3 become inoperable as defined in Specification 1.3, the reactor will be placed in a cold shutdown condition. It is necessary for a component or system to have available its normal and emergency sources of power. When a system or component is determined to be inoperable solely because its normal or emergency power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable Limiting Conditions for Operation provided its redundant system or component is OPERABLE with an OPERABLE normal and emergency power source.

#### REFERENCES

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(1)	FSAR,	paragraph	6.2.1
(2)	FSAR,	paragraph	9.5.2
(3)	FSAR.	paragraph	9.4.1

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# RANCHO SECO UNIT 1 TECHNICAL SPECIFICATIONS

Limiting Conditions for Operation

# 3.7 AUXILIARY ELECTRICAL SYSTEMS

### Applicability

Applies to the availability of off-site and on-site electrical power for station operation and for operation of station auxiliaries.

# Objective

To define those conditions of electrical power availability necessary to provide for safe reactor operation and to provide for continuing availability of engineered safety features in an unrestricted manner.

### Specification

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- 3.7.1 The reactor shall not be brought critical unless the following conditions are met:
  - A. All nuclear service buses, nuclear service switchgear, and nuclear service load shedding systems are operable.
  - B. Two 220 KV lines are in service.

buses SOA. SOB. SOC. and SOD.

- C. One 6900 volt reactor coolant pump motors bus is energized.
- D. Emergency diesel generators A and B are operable and at least 35,000 gallons of fuel are in each storage tank.
- E. Nuclear Service batteries BA, BB, BC, BD, BA2 and BB2, which
  supply vital 125 VDC buses SOA, SOB, SOC, SOD, SOA2 and SOB2, are charged and in service.

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- G. One out of two battery chargers are operable for each 125 VDC bus SOA2 and SOB2.

Two out of three battery chargers are operable for 125 volt DC

- H. Three out of four inverters S1A, S1B, S1C, and S1D, and both inverters S1A2 and S1B2 are operable for 120 volt AC vital bus power.
- I. Both startup transformers, No. 1 and No. 2, are in service.
- J. The switchyard voltage is 215 KV or above.
- K. The interconnections between 480 volt switchgear 3A and 3A2, and 3B and 3B2 are operable.
- 3.7.2 The reactor shall not remain critical unless all of the following requirements are satisfied:
  - A. One 220 KV line shall be fully operational and capable of carrying nuclear service and auxiliary power except as specified in D below.

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# RANCHO SECO UNIT 1 TECHNICAL SPECIFICATIONS

# Limiting Conditions for Operation

- B. Both startup transformers shall be in service except that one will be sufficient if during the time one startup transformer is inoperable, the associated diesel generator is started and run continuously.
- C. Both diesel generators shall be operable except that from and after the date that one of the diesel generators is made or found to be inoperable for any reason, reactor operation is permissible for the succeeding 15 days provided that during such 15 days the operable diesel generator shall be load tested daily and both startup transformers are available. If the diesel is not returned to service at the end of 15 days, the other diesel will be started and run with at least minimum load continuously for an additional 15 days. If at the end of the second 15 days the diesel is not returned to service, the reactor shall be brought to the cold shutdown condition within an additional 24 hours.
- D. If the plant is separated from the system while carrying its own auxiliaries, or if all 220 KV lines are lost, continued reactor operation is permissible provided that one emergency diesel generator is started and run continously until a transmission line is restored.
- E. The essential nuclear service electrical buses, switchgear, load shedding, and automatic diesel start systems shall be operable except as provided in C above and as required for surveillance testing.
- F. Nuclear service batteries identified in Section 3.7.1E are charged and in service except that one nuclear service battery may be removed from service for not more than 24 hours.
  - G. Both sets of nuclear services buses 4A, 4A2 and 4B, 4B2 are operable except that one set of nuclear service buses (4A, 4A2 or 4B, 4B2) may be removed from service for not more than 24 hours provided that all equipment on the other set of nuclear service buses is operable.
  - H. If the switchyard voltage goes below 219KV, positive actions, within the District's procedures, will be implemented in an attempt to return the voltage to 219KV. If the switchyard voltage goes below 217KV or remains below 219KV for 8 hours, one electrical division will be operated on its diesel generator independent of off-site power. The other electrical division will be operated on off-site power with its associated diesel generator on standby status. The switchyard voltage must be returned to 219KV within the next 24 hours. Switchyard voltage above 219KV will allow unrestricted plant operation.

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