SAFETY VALVES

LIMITING CONDITION FOR OPERATION

3.4.2 All pressurizer code safety valves shall be OPERABLE with a lift setting* of 2500 PSIA ± 3%.**

APPLICABILITY: MODES 1, 2, 3, and 4 with all RCS cold leg temperatures > 275°F

ACTION:

With one inoperable pressurizer code safety valve, restore the inoperable valve to OPERABLE status within 15 minutes. If the inoperable valve is not restored to OPERABLE status within 15 minutes, or if two pressurizer code safety valves are inoperable, be in MODE 3 within 6 hours and in MODE 4 with any RCS cold leg temperature ≤ 275°F within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.2 Each pressurizer code safety valve shall be demonstrated OPERABLE with a lift setting of 2500 PSIA ± 1%, in accordance with Specification 4.0.5.

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* The lift setting pressure shall correspond to ambient conditions of the valve(s) at nominal operating temperature and pressure.

** The lift setting shall be within ± 1% following pressurizer code safety valve testing.

3/4.7.6 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

ACTION (continued)

MODES 5 and 6, and all other times:*

c. With one Control Room Emergency Ventilation Train inoperable, restore the inoperable train to OPERABLE status within 7 days. After 7 days, either initiate and maintain operation of the remaining OPERABLE Control Room Emergency Ventilation Train in the recirculation mode of operation, or immediately suspend CORE ALTERATIONS, the movement of fuel assemblies, and the movement of shielded casks over the spent fuel pool cask laydown area.

d. With both Control Room Emergency Ventilation Trains inoperable, or with the OPERABLE Control Room Emergency Ventilation Train required to be in the recirculation mode by ACTION (c.) not capable of being powered by an OPERABLE normal and emergency power source, immediately suspend CORE ALTERATIONS, the movement of fuel assemblies, and the movement of shielded casks over the spent fuel pool cask laydown area.

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* In MODES 5 and 6, when a Control Room Emergency Ventilation Train is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of 3.7.6.1 Limiting Condition for Operation, provided: (1) its corresponding normal <u>or</u> emergency power source is OPERABLE; and (2) all of its redundant system (s), subsystem (s), train (s), component (s) and device(s) are OPERABLE, or likewise satisfy the requirements of the specification. Unless both conditions (1) and (2) are satisfied within 2 hours, then ACTION 3.7.6.1.c or 3.7.6.1.d shall be invoked as applicable.

3/4.1.2 BORATION SYSTEMS (Continued)

The analysis to determine the boration requirements assumed that the Reactor Coolant System is borated concurrently with cooldown. In the limiting situation when letdown is not available, the cooldown is assumed to be initiated within 26 hours and cooldown to 220°F, is completed in the next 28 hours.

With the RCS temperature below 200°F, one injection system is acceptable without single failure consideration on the basis of the stable reactivity condition of the reactor and the additional restrictions prohibiting CORE ALTERATIONS and positive reactivity change in the event the single injection system becomes inoperable. The MODES 5 and 6 action requirement to suspend positive reactivity additions does not preclude completion of actions to establish a safe conservative plant condition, or to maintain or increase reactor vessel inventory provided the boron concentration of the makeup water source is greater than or equal to the boron concentration for the required SHUTDOWN MARGIN.

The boron capability required below 200°F is based upon providing a SHUTDOWN MARGIN within the limit specified in the CORE OPERATING LIMITS REPORT at 140°F after xenon decay. This condition requires either 3750 gallons of 2.5% boric acid solution from the boric acid tanks or 57,300 gallons of 1720 ppm borated water from the refueling water storage tank.

The maximum boron concentration requirement (3.5%) and the minimum temperature requirement (55°F) for the Boric Acid Storage Tank ensures that boron does not precipitate in the Boric Acid System. The daily surveillance requirement provides sufficient assurance that the temperature of the tank will be maintained higher than 55°F at all times.

A minimum boron concentration of 1720 ppm is required in the RWST at all times in order to satisfy safety analysis assumptions for boron dilution incidents and other transients using the RWST as a borated water source as well as the analysis assumption to determine the boration requirement to ensure adequate shutdown margin.

A maximum of two charging pumps capable of injecting into the RCS when RCS temperature is less than 300°F, ensures that the maximum inadvertent dilution flow rate as assumed in the boron dilution analysis is 88 gallons per minute.

A charging pump can be considered to be not capable of injecting into the RCS by use of any of the following methods and the appropriate administrative controls.

1. Placing the motor circuit breaker in the open position.

2. Removing the charging pump motor overload heaters from the charging pump circuit.

3. Removing the charging pump motor controller from the motor control center.

3/4.4.1 COOLANT LOOPS AND COOLANT CIRCULATION (continued)

generator pressure. If there is no indicated steam generator pressure, the steam generator shell temperature indicators can be used. If these indications are not available, other appropriate instrumentation can be used.

The RCP starting criteria values for pressurizer water level, pressurizer pressure, and primary to secondary delta-T contained in Technical Specification 3.4.1.3 have not been adjusted for instrument uncertainty. The values for these parameters contained in the procedures that will be used to start an RCP have been adjusted to compensate for instrument uncertainty.

The value of RCS cold leg temperature ($\leq$ 275 °F) used to determine if the RCP start criteria applies, will be obtained from SDC return temperature if SDC is in service. If SDC is not in service, or natural circulation is occurring, RCS cold leg temperature will be used.

3/4.4.2 SAFETY VALVES

The pressurizer code safety valves operate to prevent the RCS from being pressurized above its Safety Limit of 2750 psia. Each safety valve is designed to relieve 296,000 lbs per hour of saturated steam at the valve setpoint. The relief capacity of a single safety valve is adequate to relieve any overpressure condition which could occur during shutdown. If any pressurizer code safety valve is inoperable, and cannot be restored to OPERABLE status, the action statement requires the plant to be shut down and cooled down such that Technical Specification 3.4.9.3 will become applicable and require the Low Temperature Overpressure Protection System to be placed in service to provide overpressure protection.

3/4.7.6 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)

The OPERABILITY of this system in conjunction with control room design provisions is based on limiting the radiation exposure to personnel occupying the control room to 5 rem or less whole body, or its equivalent. This limitation is consistent with the requirements of General Design Criteria 19 of Appendix "A", 10 CFR 50.

The control room radiological dose calculations use the conservative minimum acceptable flow of 2250 cfm based on the flowrate surveillance requirement of 2500 cfm ± 10%.

Currently there are some situations where the CREV System may not automatically start on an accident signal, without operator action. Under most situations, the emergency filtration fans will start and the CREV System will be in the accident lineup. However, a failure of a supply fan (F21A or B) or an exhaust fan (F31A or B), operator action will be required to return to a full train lineup. Also, if a single emergency bus does not power up for one train of the CREV System, the opposite train filter fan will automatically start, but the required supply and exhaust fans will not automatically start. Therefore, operator action is required to establish the whole train lineup. This action is specified in the Emergency Operating Procedures. The radiological dose calculations do not take credit for CREV System cleanup action until 10 minutes into the accident to allow for operator action.

When the CREV System is checked to shift to the recirculation mode of operation, this will be performed from the normal mode of operation, and from the smoke purge mode of operation.

The ACTION requirements to immediately suspend various activities (CORE ALTERATIONS, fuel movement, shielded cask movement, etc.) do not preclude completion of the movement of a component to a safe position.

3. An independently testable component with no potential common mode failure for the remaining diesel generator.

During performance of Surveillance Requirements 4.8.1.1.2.a.2 and 4.8.1.1.2.d.2, the diesel generators shall be started by using one of the following signals:

1. Manual;

2. Simulated loss of offsite power in conjunction with a safety injection actuation signal;

3. Simulated safety injection actuation signal alone; or

4. Simulated loss of power alone.

The diesel generator surveillance requirements specify that the diesel generators are started from a standby condition. Standby conditions for a diesel generator means the diesel engine coolant and oil are being circulated and temperature is being maintained consistent with manufacturer recommendations.

Surveillance Requirement (SR) 4.8.1.1.2.d.1 verifies that the diesel generators will reach ≥ 90% of rated speed and ≥ 97% of rated voltage within 15 seconds after a start signal is generated. Diesel generator voltage and speed will continue to increase to rated values, and then should stabilize. The time for voltage and speed (frequency) to stabilize is periodically monitored and the trend evaluated to identify degradation of governor or voltage regulator performance when testing in accordance with the requirements of SR 4.8.1.1.2.d.1.

The OPERABILITY of the minimum specified A.C.and D.C. power sources and associated distribution systems during shutdown and refueling ensures that 1) the facility can be maintained in the shutdown or refueling condition for extended time periods and 2) sufficient instrumentation and control capability is available for monitoring and maintaining the facility status. If the required power sources or distribution systems are not OPERABLE in MODES 5 and 6, operations involving CORE ALTERATIONS, positive reactivity changes, or movement of irradiated fuel assemblies are required to be suspended. The required action to suspend positive - reactivity additions does not preclude actions to maintain or increase reactor vessel inventory provided the boron concentration of the makeup water source is greater than or equal to the boron concentration for the required SHUTDOWN MARGIN. In addition, suspension of these activities does not preclude completion of actions to establish a safe conservative plant condition.

The non-safety grade 125V D.C. Turbine Battery is required for accident mitigation for a main steam line break within containment with a coincident loss of a vital D.C. bus. The Turbine Battery provides the alternate source of power for Inverters 1 & 2 respectively via non-safety grade Inverters 5 & 6. For the loss of a D.C. event with a coincident steam line break within containment, the feedwater regulating valves are required to close to ensure containment design pressure is not exceeded.

The feedwater regulating valves require power to close. On loss of a vital D.C. bus, the alternate source of power to the vital A.C. bus via the Turbine Battery ensures power is available to the affected feedwater regulating valve such that the valve will isolate feed flow into the faulted generator. The Turbine Battery is considered inoperable when bus voltage is less than 125 volts D.C, thereby ensuring adequate capacity for isolation functions via the feedwater regulating valves during the onset of a steam line break.

The Turbine Battery Charger is not required to be included in Technical Specifications even though the Turbine Battery is needed to power backup Inverters 5 & 6 for a main steam line break inside containment coincident with a loss of a Class 1E D.C. bus. This is due to the fact that feedwater isolation occurs within seconds from the onset of the event.