TABLE 3.7-2 (Continued)
ENGINEERED SAFEGUARDS ACTION
INSTRUMENT OPERATING CONDITIONS

Functional Unit	Total Number Of Channels	Minimum OPERABLE Channels	Channels To Trip	Permissible Bypass Conditions	Operator Actions
3. AUXILIARY FEEDWATER (continued)					
e. Trip of main feedwater pumps - start motor driven pumps	2/MFW pump	1/MFW pump	2-1 each MFW pump		21
f. Automatic actuation logic	2	2	1		22
4. LOSS OF POWER					
a. 4.16 kv emergency bus undervoltage (loss of voltage)	3/bus	2/bus	2/bus		20
b. 4.16 kv emergency bus undervoltage (degraded voltage)	3/bus	2/bus	2/bus		20
5. NON-ESSENTIAL SERVICE WATER ISOLATION					
a. Low intake canal level - Note A	4	3	3		20
b. Automatic actuation logic	2	2	1		14
6. ENGINEERED SAFEGAURDS ACTUATION INTERLOCKS - Note B					
a. Pressurizer pressure, P-11	3	2	2		23
b. Low-low T_{avg}, P-12	3	2	2		23
c. Reactor trip, P-4	2	2	1		24
7. RECIRCULATION MODE TRANSFER					
a. RWST Level - Low	4	3	2		25
b. Automatic Actuation Logic and Actuation Relays	2	2	1		14

Note A - When the temporary Service Water supply jumper to the CCHXs is in service in accordance with the footnote to TS 3.14.A.2.b, two low intake canal level probes will be permitted to be in the tripped condition. In this condition, two operable channels are required with one channel to trip. If one of the two operable channels becomes inoperable, the operating Unit must be in HOT SHUTDOWN within the following 6 hours and in COLD SHUTDOWN within the following 30 hours.

Note B - Engineered Safeguards Actuation Interlocks are described in Table 4.1-A

Amendment Nos.

3.14 CIRCULATING AND SERVICE WATER SYSTEMS

Applicability

Applies to the operational status of the Circulating and Service Water Systems.

Objective

To define those limiting conditions of the Circulating and Service Water Systems necessary to assure safe station operation.

Specification

A. The Reactor Coolant System temperature or pressure of a reactor unit shall not exceed 350° F or 450 psig, respectively, or the reactor shall not be critical unless:

1. The high level intake canal is filled to at least elevation +23.0 feet at the high level intake structure.

2. Unit subsystems, including piping and valves, shall be operable to the extent of being able to establish the following:

   a. Flow to and from one bearing cooling water heat exchanger.

   b. Flow to and from the component cooling heat exchangers required by Specification 3.13. *

3. At least two circulating water pumps are operating or are operable.

4. Three emergency service water pumps are operable; these pumps will service both units simultaneously.

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* For the purpose of performing inspections, cleaning and repairs associated with the SW supply piping to the component cooling water heat exchangers (CCHXs), a temporary 30" seismic, non-missile protected pipe jumper will be provided to supply SW flow to the CCHXs required by TS 3.13. The basis for using the temporary jumper is provided in the licensee's submittal dated June 19, 1998 (Serial No. 98-327). The use of the temporary jumper as the sole SW supply to the CCHXs is permitted two times only for a duration of up to 35 days during each of two Unit 1 refueling outages. If non-essential SW isolation is required during the pipe repair activities, it will be accomplished consistent with design basis requirements by using operator (manual) action to close the SW isolation valve in the temporary jumper within the time constraints established by the Station Abnormal Procedures. If the temporary jumper becomes inoperable as the sole SW supply to the CCHXs during either 35-day period, the requirements of Specification 3.0.1 shall apply. Upon completion of the work associated with the second 35-day period, this footnote will no longer be applicable.

including replacement of an Emergency Service Water pump without forcing dual unit outages, yet limits the amount of operating time without the specified number of pumps.

When one Unit is in Cold Shutdown and the heat load from the shutdown unit and spent fuel pool drops to less than 25 million BTU/HR, then one Emergency Service Water pump may be removed from service for the subsequent time that the unit remains in Cold Shutdown due to the reduced residual heat removal and hence component cooling requirements.

A minimum level of +17.2 feet in the High Level Intake canal is required to provide design flow of Service Water through the Recirculation Spray heat exchangers during a loss-of-coolant accident for the first 24 hours. If the water level falls below +23' 6", signals are generated to trip both unit's turbines and to close the nonessential Circulating and Service Water valves. A High Level Intake canal level of +23' 6" ensures actuation prior to canal level falling to elevation +23'. The Circulating Water and Service Water isolation valves which are required to close to conserve Intake Canal inventory are periodically verified to limit total leakage flow out of the Intake Canal. In addition, passive vacuum breakers are installed on the Circulating Water pump discharge lines to assure that a reverse siphon is not continued for canal levels less than +23 feet when Circulating Water pumps are de-energized. The remaining six feet of canal level is provided coincident with ESW pump operation as the required source of Service Water for heat loads following the Design Basis Accident.

To facilitate inspection, cleaning and repair of the SW supply line to the CCHXs, a temporary, seismic, non-missile protected SW supply line (jumper) will be used as discussed in the temporary footnote to TS 3.14.A.2.b. The temporary jumper is required since service water is supplied to the CCHXs by a single concrete-encased line. To remove the SW supply line from service for extended maintenance, an alternate temporary SW supply path is required to support the operation of the CCHXs during the maintenance activities. The basis for using the temporary SW supply jumper to the CCHXs is provided in the licensee's submittal dated June 19, 1998 (Serial No. 98-327). The use of the

temporary jumper as the sole SW supply to the CCHXs is only permitted for a duration of up to 35 days during each of two Unit 1 refueling outages and shall be operated in accordance with the compensatory measures (including a Contingency Action Plan) provided in the letter referenced above and in the Operating License. The only automatic function in the normal supply line when Unit 1 is in COLD SHUTDOWN or REFUELING SHUTDOWN is provided by the SW supply MOVs which close on low Intake Canal level. If non-essential SW isolation is required during the time the jumper is in service, it will be accomplished consistent with design and licensing bases requirements by using operator (manual) action to close the SW isolation valve in the temporary jumper within the time constraints established by the Station Abnormal Procedures.

References:

UFSAR Section 9.9	Service Water System
UFSAR Section 10.3.4	Circulating Water System
UFSAR Section 14.5	Loss-of-Coolant Accidents, Including the Design Basis Accident

Attachment 4

Significant Hazards Consideration

Significant Hazards Consideration

Virginia Electric and Power Company has reviewed the proposed changes against the criteria of 10 CFR 50.92 and has concluded that the changes do not pose a significant safety hazards consideration as defined therein. The proposed Operating License and Technical Specifications and Bases changes are necessary to allow the use of a temporary, seismic, non-missile protected jumper to provide service water (SW) to the Component Cooling Heat Exchangers (CCHXs) while maintenance work is performed on the existing SW supply line to the CCHXs. Since there is only one SW supply line to the CCHXs, an alternate SW supply must be provided whenever the line is removed from service. The temporary jumper provides this function. The jumper will only be used for a 35-day period during each of two Unit 1 refueling outages.

The use of the temporary jumper has been thoroughly evaluated, and appropriate constraints and compensatory measures (including a Contingency Action Plan) have been developed to ensure that the temporary jumper is reliable, safe, and suitable for its intended purpose. A complete and immediate loss of SW supply to the operating CCHXs is not considered credible, given the project constraints and the unlikely probability of a generated missile or heavy load drop. Existing station abnormal procedures already address a loss of component cooling, and the use of alternate cooling for a loss of decay heat removal, in the unlikely event that they are required. Furthermore, appropriate mitigative measures have been identified to address potential flooding concerns. The minor administrative changes merely correct a table format inconsistency and update Basis section references.

Consequently, the operation of Surry Power Station with the proposed amendment and license condition will not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated.

   The SW and CC Systems will function as designed under the Unit operating constraints specified by this project (i.e., Unit 2 in operation and Unit 1 in a refueling outage), and the potential for a loss of component cooling is already addressed by Station Abnormal Procedures. Therefore, there is no increase in the probability of an accident previously evaluated. The possibility of flooding due to failure of the temporary SW supply jumper in the Turbine Building basement has been evaluated and dispositioned by the implementation of appropriate precautions and compensatory measures to preclude damage to the temporary jumper and to respond to a postulated flooding event. A flood watch will be present around-the-clock with authority and procedural guidance to isolate the jumper, if required. Furthermore, the CCHXs serve no design basis accident mitigating function. Therefore, the consequences of an accident previously evaluated are not increased.

2. Create the possibility of a new or different kind of accident from any accident previously evaluated.

The SW and CC Systems' design functions and basic configurations are not being altered as a result of using a temporary SW supply jumper. The temporary jumper is designed to be safety-related and seismic with all of the design attributes of the normal SW supply line, except for the automatic isolation function and complete missile and heavy load drop protection. The design functions of the SW and CC systems are unchanged as a result of the proposed changes due to 1) required plant conditions, 2) compensatory measures, 3) a Contingency Action Plan for restoration of the normal SW supply if required, and 4) strict administrative control of the temporary SW isolation valve to preclude flooding or to isolate non-essential SW within the design basis assumed time limits. Unit 1 will be in a plant condition which will provide adequate time to restore the normal SW supply, if required. Therefore, since the SW and CC systems will basically function as designed and will be operated in their basic configuration, the possibility of a new or different type of accident than previously evaluated in the UFSAR is not created.

3. Involve a significant reduction in a margin of safety.

The margin of safety as defined in the Technical Specifications is not reduced since an operable SW flowpath to the required number of CCHXs is provided, and Unit operating constraints, compensatory measures and contingencies will be implemented as required to ensure the integrity and the capability of the SW flowpath. The use of the temporary jumper will be limited to the time period when missile producing weather is not expected, and Unit 1 meets specified Unit conditions. Therefore, the temporary SW jumper, under the imposed project constraints and compensatory measures, provides the same reliability as the normal SW supply line. Furthermore, the Probabilistic Safety Assessment for Surry Power Station has been reviewed relative to the use of the temporary SW jumper. It has been determined that due to the SW restoration project's compensatory and contingency measures, as well as the configuration restrictions that will be imposed by the Maintenance Rule online risk matrix, the impact on core damage frequency is negligible.