

4. Concentrations of contaminants in the reactor coolant shall not exceed the following maximum limits when the reactor coolant temperature is below 250 degrees F:

| <u>Contaminant</u> | <u>Normal Concentration (PPM)</u> | <u>Transients not to exceed 24 hours (PPM)</u> |
|--------------------|-----------------------------------|--|
| a. Chloride | 0.15 | 1.5 |
| b. Fluoride | 0.15 | 1.5 |

If the limits above are exceeded, the reactor shall be immediately brought to COLD SHUTDOWN and the cause of the out-of-specification condition shall be ascertained and corrected.

5. For the purposes of correcting the contaminant concentrations to meet Technical Specifications 3.1.F.1 and 3.1.F.4 above, increase in coolant temperature consistent with operation of primary coolant pumps for a short period of time to assure mixing of the coolant shall be permitted. This increase in temperature to assure mixing shall in no case cause the coolant temperature to exceed 250 degrees F.
6. For conditions above COLD SHUTDOWN, if more than one contaminant or contaminants transient, which results in contaminant levels exceeding any of the normal steady state operation limits specified in 3.1.F.1 or 3.1.F.4, is experienced in any seven consecutive day period, the reactor shall be placed in COLD SHUTDOWN until the cause of the out-of-specification operation is ascertained and corrected.

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TABLE 4.1-2B
MINIMUM FREQUENCIES FOR SAMPLING TESTS

| <u>DESCRIPTION</u> | <u>TEST</u> | <u>FREQUENCY</u> | <u>FSAR SECTION REFERENCE</u> |
|--|--|---|---------------------------------------|
| 1. Reactor Coolant Liquid Samples | Radio-Chemical Analysis ⁽¹⁾ | Monthly ⁽⁵⁾ | |
| | Gross Activity ⁽²⁾ | 5 days/week ⁽⁵⁾ | 9.1 |
| | Tritium Activity | Weekly (5) | 9.1 |
| | * Chemistry (CL, F & O ₂) | 5 days/week ⁽⁹⁾ | 4 |
| | * Boron Concentration | Twice/week | 9.1 |
| | \bar{E} Determination | Semiannually ⁽³⁾ | |
| | DOSE EQUIVALENT I-131 | Once/2 weeks ⁽⁵⁾ | |
| | Radio-iodine Analysis (including I-131, I-133 & I-135) | Once/4 hours ⁽⁶⁾ and (7) below | |
| 2. Refueling Water Storage | Chemistry (Cl & F) | Weekly | 6 |
| 3. Boric Acid Tanks | * Boron Concentration | Twice/Week | 9.1 |
| 4. Chemical Additive Tank | NaOH Concentration | Monthly | 6 |
| 5. Spent Fuel Pit | * Boron Concentration | Monthly | 9.5 |
| 6. Secondary Coolant | Fifteen minute degassed b and q activity DOSE EQUIVALENT I-131 | Once/72 hours | 10.3 |
| | | Monthly ⁽⁴⁾ Semiannually ⁽⁸⁾ | |
| 7. Stack Gas Iodine and Particulate Samples | * I-131 and particulate radioactive releases | Weekly | |

* See Specification 4.1.D

- (1) A radiochemical analysis will be made to evaluate the following corrosion products: Cr-51, Fe-59, Mn-54, Co-58, and Co-60.
- (2) A gross beta-gamma degassed activity analysis shall consist of the quantitative measurement of the total radioactivity of the primary coolant in units of $\mu\text{Ci/cc}$.

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- (3) \bar{E} determination will be started when the gross gamma degassed activity of radionuclides with half-lives greater than 15 minutes analysis indicates $\geq 10 \mu\text{Ci/cc}$. Routine sample(s) for \bar{E} analyses shall only be taken after a minimum of 2 EFPD and 20 days of power operation have elapsed since reactor was last subcritical for 48 hours or longer.
- (4) If the fifteen minute degassed beta and gamma activity is 10% or more of the limit given in Specification 3.6.E, a DOSE EQUIVALENT I-131 analysis will be performed.
- (5) When reactor is critical and average primary coolant temperature $\geq 350^\circ\text{F}$.
- (6) Whenever the specific activity exceeds $1.0 \mu\text{Ci/cc}$ DOSE EQUIVALENT I-131 or $100/\bar{E} \mu\text{Ci/cc}$ and until the specific activity of the Reactor Coolant System is restored within its limits.
- (7) One sample between 2 & 6 hours following a THERMAL POWER change exceeding 15 percent of throated POWER within a one hour period provided the average primary coolant temperature $\geq 350^\circ\text{F}$.
- (8) When the fifteen minute degassed beta and gamma activity is less than 10% of the limit given in Specification 3.6.E.
- (9) Sampling for chloride and fluoride concentrations is not required when fuel is removed from the reactor vessel and the reactor coolant inventory is drained below the reactor vessel flange, whether the upper internals and/or the vessel head are in place or not. Sampling for oxygen concentration is not required when the reactor coolant temperature is below 250 degrees F.

Attachment 3

Significant Hazards Consideration Determination

Surry Power Station

10 CFR 50.92 SIGNIFICANT HAZARDS CONSIDERATION REVIEW

Virginia Electric and Power Company has reviewed the proposed Technical Specifications change against the criteria of 10 CFR 50.92 and has concluded that the Technical Specifications change as proposed does not pose a significant hazards consideration. The proposed Technical Specifications change will delete the requirement that oxygen concentrations for both normal and transient conditions not exceed saturation when the reactor coolant is below 250 degrees F. The Technical Specifications change will also eliminate the surveillance requirement for reactor coolant chemistry sampling of chloride, fluoride, and oxygen concentrations during maintenance activities when fuel is removed from the reactor vessel and the Reactor Coolant System (RCS) is drained below the reactor vessel flange regardless of whether the upper internals and / or vessel head are in place or not. Administrative changes are included which re-order the list of reactor coolant contaminants as a result of the changes being made, capitalize Technical Specifications defined terms to maintain consistency within the Technical Specifications, and the word "degrees" is spelled-out when referring to the Fahrenheit temperature, rather than using the symbol. Specifically, operation of Surry Power Station in accordance with the proposed changes will not:

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

Since the RCS and the RHR System are drained when the RCS inventory is reduced below the reactor vessel flange for maintenance or refueling activities, the concentrations of chlorides and fluorides will not change. During these maintenance or refueling activities, only controlled makeup to the RCS is planned, and any planned or unplanned makeup to the RCS would be detected by available level indication. Sampling for chloride and fluoride concentrations in the RCS will be performed prior to draining the system. Sampling of the reactor coolant for chloride and fluoride concentrations will resume when the RCS is refilled. The chloride and fluoride concentrations will be known and will be maintained consistent with the Technical Specification Limiting Condition for Operation and Action Statements. Also, when the RCS inventory is drained below the reactor vessel flange, the RCS is vented and open to the containment building atmosphere with the reactor coolant liquid considered oxygen saturated. Technical Specification 3.1.F.4 allows normal and off-normal "saturated" oxygen concentrations when reactor coolant temperature is below 250 degrees F. Consequently, sampling the reactor coolant for oxygen concentration under these conditions is not required and the Technical Specifications Table 4.1-2B specified sampling frequency of five (5) times per week is not necessary since the oxygen concentration continues to remain in compliance with the Technical Specification allowed limit. Because of the time dependent nature of any adverse affects from chloride, fluoride, and oxygen concentrations in excess of the Technical Specification limits, measures are available and action can be taken to correct the condition prior to any deleterious effect.

Surry Technical Specifications 3.1.F.1 prohibits reactor coolant temperature from exceeding 250 degrees F unless chloride, fluoride, and oxygen concentrations are within specified limits. Therefore a significant increase in the probability or consequences of an accident previously evaluated does not exist.

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

The materials that are exposed to reactor coolant are corrosion resistant. They were chosen for specific applications within the system and for their compatibility with the reactor coolant. The chemical composition of the reactor coolant will be maintained within the specifications given within Technical Specification 3.1.F, Updated Final Safety Analysis Report Table 4.2-2, and Technical Specification Table 4.1-2B. Because of the time dependent nature of any adverse effects from chloride, fluoride, and oxygen concentrations in excess of the Technical Specifications limits, measures are available and can be taken to correct the condition while the reactor is in a safe shutdown condition, prior to any deleterious effect. No hardware modifications are involved. System configuration and plant operations are not being changed. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated has not been created.

- (3) Involve a significant reduction in the margin of safety.

This change does not involve a significant reduction in the margin of safety since the chloride and fluoride concentrations are maintained within their specified values prior to RCS drain down and following refill. The time period during which the RCS inventory is reduced below the reactor vessel flange and fuel is removed from the vessel, is short and insignificant in terms of the parameters necessary to initiate a corrosion concern. Existing Technical Specifications Action Statements and Allowed Outage Times control any off-normal concentrations that may be encountered. The Technical Specifications values for normal and off-normal concentrations of chlorides and fluorides are not being changed. No hardware modifications are involved. System configuration and plant operations are not being changed. Surry Technical Specification 3.1.F.1 remains unaffected by this change and continues to prohibit reactor coolant temperature from exceeding 250 degrees F unless chloride, fluoride, and oxygen concentrations are within specified limits.