

TABLE 3-4

MINIMUM FREQUENCIES FOR SAMPLING TESTS

<u>Type of Measurement and Analysis</u>		<u>Sample and Analysis Frequency</u>
1. Reactor Coolant		
(a) Power Operation (Operating Mode 1)	(1) Gross Radioactivity (Gamma emitters)	1 per 3 days
	(2) Isotopic Analysis for DOSE EQUIVALENT I-131	(i) 1 per 14 days
		(ii) 1 per 8 hours (1) whenever the radioactivity exceeds $1.0 \mu\text{Ci/gm}$ / DOSE EQUIVALENT I-131.
		(iii) 1 sample between 2-8 hours following a thermal power change exceeding 15% of the rated thermal power change exceeding 15% of the rated thermal power within a 1-hour period.
	(3) $\bar{E}$ Determination	1 per 6 months (2)
	(4) Dissolved oxygen and chloride	1 per 3 days
(b) Hot Standby (Operating Mode 2)	(1) Gross Radioactivity (Gamma emitters)	1 per 3 days
	(2) Isotopic analysis for DOSE EQUIVALENT I-131	(i) 1 per hours (1) whenever the radio- activity exceeds $1.0 \mu\text{Ci/gm}$ / DOSE EQUIVALENT I-131.
		(ii) 1 sample between 2-8 hours following a thermal power change exceeding 15% of the rated thermal power within a 1-hour period.
Hot Shutdown (Operating Mode 3)	(3) Dissolved oxygen and chloride	1 per 3 days

TABLE 3-4 (Continued)  
MINIMUM FREQUENCIES FOR SAMPLING TEST

<u>Type of Measurement and Analysis</u>		
1. Reactor Coolant (Continued)		
(c) Cold Shutdown (Operating Mode 4)	(1) Chloride	1 per 3 days
(d) Refueling Shutdown (Operating Mode 5)	(1) Chloride	1 per 3 days (3)
	(2) Boron Concentration	1 per 3 days (3)
(e) Refueling Operation	(1) Chloride	1 per 3 days (3) /
	(2) Boron Concentration	1 per shift (3) /
2. SIRW Tank	Boron Concentration	1 per 31 days
3. Concentrated Boric Acid Tanks	Boron Concentration	1 per 31 days
4. SI Tanks	Boron Concentration	1 per 31 days
5. Spent Fuel Pool	Boron Concentration	1 per 31 days
(1) Until the radioactivity of the reactor coolant is restored to $\leq 1\mu\text{Ci/gm}$ / DOSE EQUIVALENT I-131.		
(2) Sample to be taken after a minimum of 2 EFPD and 20 days of power operation have elapsed since reactor was subcritical for 48 hours or longer.		
(3) Boron and Chloride sampling/analyses are not required when the core has been off-loaded. Reinitiate boron and chloride sampling/analyses one / shift prior to reloading fuel into the cavity to assure adequate shutdown / margin and allowable chloride levels are met. /		

## ATTACHMENT B



## DISCUSSION OF CHANGE

The proposed amendment to the Technical Specification allows for suspension of boron and chloride sampling in the reactor vessel when all fuel has been removed and corrects an administrative error made in a previous amendment. Sampling will be reinitiated prior to reintroduction of the fuel into the reactor vessel to insure adequate shutdown margin and chloride chemistry levels are met.

Suspension of boron and chloride sampling of the reactor vessel coolant when all fuel is removed will not affect the plant safety since no fuel is present.

The reactor vessel coolant boron concentration requirement is based on the need for adequate shutdown margin when fuel is present. When all the fuel is removed, the need for boron is eliminated and hence the need for sampling is eliminated. Elimination of the sampling requirement for the reactor vessel head removal will not adversely impact the safe operation since the shutdown margin calculations do not credit the CEA's. The intent of the reactor vessel head removal would be to ensure CEA's were not inadvertently withdrawn causing a criticality excursion, however since the refueling shutdown calculations include an all rods out assumption, then the deletion of the boron shift sampling requirements will not change the safety analyses.

The deletion of the chloride sampling will not adversely impact the fuel since the purpose of maintaining the chloride chemistry level is to meet warranty obligations of the fuel vendor and reduce the possibility of intergranular stress corrosion cracking in the fuel assembly material. The chloride chemistry level is established to prevent any potential degradation of the fuel mechanical design properties or RCS piping. The chloride chemistry level of the fuel assemblies is met by sampling of the Spent Fuel Pool.

Amendment 124 deleted  $\mu$  in error from the Ci/gm values on pages 3-18 and 3-19. This amendment is re-adding the  $\mu$ .

## JUSTIFICATION

The suspension of reactor vessel coolant boron sampling or chloride sampling when all fuel is removed from the vessel does not compromise or affect the safety of the plant operation.

Re-adding  $\mu$  is corrective and is making the Technical Specification read as it was approved by Amendment 124.

## NO SIGNIFICANT EFFECT

The proposed amendment to the Technical Specification allows for suspension of boron and chloride sampling in the reactor vessel when all fuel has been removed and correct an administrative error.

The Technical Specification document changes required are contained in pages 2-37, 2-38, 3-18, and 3-19 of Sections 2.8 and 3.2.

The reactor vessel coolant boron concentration requirement is based on the need for adequate shutdown margin when fuel is present. When all the fuel is removed, the need for boron is eliminated and hence the need for sampling is eliminated. Elimination of the sampling requirement for the reactor vessel head removal will not adversely impact the safe operation since the shutdown margin calculations do not credit the CEAs. The intent of the reactor vessel head removal would be to ensure CEAs were not inadvertently withdrawn causing a criticality excursion, however since the refueling shutdown calculations include an all rods out assumption, then the deletion of the boron shift sampling requirements will not change the safety analyses.

The deletion of the chloride sampling will not adversely impact the fuel since the purpose of maintaining the chloride chemistry level is to meet warranty obligations of the fuel vendor and reduce the possibility of intergranular stress corrosion cracking in the fuel assembly material. The chloride chemistry level is established to prevent any potential degradation of the fuel mechanical design properties or RCS piping. The chloride chemistry level of the fuel assemblies is met by sampling of the Spent Fuel Pool.

#### BASIS FOR NO SIGNIFICANT HAZARDS DETERMINATION

This proposed amendment does not involve a significant hazards consideration because the operation of Fort Calhoun Station in accordance with this amendment would not:

- 1) Involve a significant increase in the probability or consequences of an accident previously evaluated. This change allows for the suspension of boron and chloride sampling during the time the fuel is removed from the reactor vessel with no changes in specification and corrects an error made in a previous amendment. Since the fuel source is removed, shutdown margin in the reactor vessel is not required and hence boron sampling is not required and the mechanical design properties of the fuel or RCS piping are not subject to potential degradation due to intergranular stress corrosion cracking potentially induced by a high chloride level. Therefore, this change does not increase the probability or consequences of a previously evaluated accident.
- 2) Create the possibility of a new or different kind of accident from any accident previously evaluated. It has been determined that a new or different kind of accident is not created because no new or different modes of operation are proposed for the plant. The use of the proposed revised Technical Specification controls will not result in the possibility of a new or different kind of accident.
- 3) Involve a significant reduction in a margin of safety. Specifications involving the boron sampling ensure that the shutdown margin conforms to current plant conditions and, therefore, preserves the margin of safety. Since the fuel source is removed, shutdown margin in the reactor vessel is not required and hence boron sampling is not required. The fuel manufacturer's chloride chemistry requirements are met by sampling of the Spent Fuel Pool during the period of core is off loaded. This maintains the mechanical design properties of the fuel. Consolidation of all the boron and chloride sampling requirements in one location in the Technical Specifications ensures compliance of sampling requirements and, therefore, will introduce the margin of safety.

Based on the above considerations, OPPD does not believe that this amendment involves a significant hazard consideration.