3.16 Secondary Water Chemistry

Applicability

Objective

To maintain steam generator feedwater chemistry within values without potential for degradation of steam generator tube walls.

Specification

3.16.1 The reactor shall not be taken or maintained above hot shutdown conditions unless the total cation conductivity limits of Table 3.16-1 are met except as provided below.

3.16.2 If the total cation conductivity of the steam generator feedwater is found to exceed the Steady State Limit of Table 3.16-1 but is within the Transient Limit of Table 3.16-1, it shall be verified at least once per 24 hours that the pH and maximum total solids in the steam generator feedwater are within the limits of Table 3.16-1 and the conductivity shall be restored to within its Steady State Limit within 7 days; or the reactor shall be placed in the hot shutdown condition within 12 hours.

3.16.3 If, during the conditions described in 3.16.1 requiring surveillance of steam generator feedwater pH and/or maximum total dissolved solids, said pH and/or maximum total dissolved solids are found to exceed the limits of Table 3.16-1 they shall be restored within the limits of Table 3.16-1 within 72 hours or the reactor shall be placed in the hot shutdown condition within 12 hours.

3.16.4 If the total cation conductivity of the steam generator feedwater is found to exceed the Transient Limit of Table 3.16-1 it shall be restored to within the Transient Limit of Table 3.16-1 within 72 hours or the reactor shall be placed in the hot shutdown condition within 12 hours.

3.16.5 No report per specification 6.12.3.2 will be required unless the above requirements necessitate placing the reactor in the hot shutdown condition.

Bases

Maintaining the steam generator feedwater within the limits of this specification will control the introduction of potentially corrosive impurities into the steam generators and minimize tube degradation.

TABLE 3.16-1

Steam Generator Feedwater Chemistry Limits

Total Cation Conductivity µmhos/cm2 @ 25° C		pH @ 25°C	Maximum Total Solids ppb
Steady State Limits	Transient Limits	Limits	Limits
≤0.5	≤1.0*	8.5≤ pH≤9.5	≤50**

*May be increased to 2.0 for the first 8 hours during startup from Hot Shutdown.

**May be increased to 100 for the first 8 hours during startup from Hot Shutdown.

4.18 Secondary Water Chemistry Surveillance

Applicability

Applies to the surveillance of steam generator feedwater chemistry.

Objective

To verify that secondary water chemistry is within the limits of specification 3.16.

Specification

At least 5 times per week determine that steam generator feedwater chemistry is within the total cation conductivity limits of specification 3.16, Table 3.16-1.

Bases

This monitoring provides reasonable assurance that the potential for undue steam generator tube degradation has been minimized.