ATTACHMENT 2

PROPOSED TECHNICAL

SPECIFICATION CHANGES

Amendment No. 33 by the Nuclear Regulatory Commission.

ISI Criterion C: The surveillance requirement shall be implemented before the beginning of fuel cycle 5.

ISI Criterion D: The surveillance requirement shall be implemented in the existing schedule of surveillance tests, following 90 days from the formal approval date of Amendment No. 33 by the Nuclear Regulatory Commission.

| ISI Criterion E: Same as ISI Criterion A but applicable to Amendment No.___.

| ISI Criterion F: Same as ISI Criterion B but applicable to fuel cycle 5 and Amendment No.___.

| ISI Criterion G: Same as ISI Criterion D but applicable to Amendment No.___.

5.2 PRIMARY COOLANT SYSTEM - SURVEILLANCE REQUIREMENTS

Applicability

Applies to the surveillance of the primary (helium) reactor coolant system, excluding the steam generators, and to the surveillance of the reactor auxiliary systems.

Objective

To ensure the capability of the components of the primary reactor coolant system to maintain the primary reactor coolant envelope as a fission product barrier and to ensure the capability to cool the core under all modes of operation.

Specification SR 5.2.1 - PCRV and PCRV Penetration Overpressure Protection Surveillance

a) Each of the two overpressure protection assemblies protecting the PCRV shall be tested at intervals not to exceed five years, on an alternating basis, with one overpressure protection assembly tested during each refueling cycle.

The PCRV safety valve containment tank closure bolting shall be visually examined for absence of surface defects when the tank is opened for the above testing. Tank closure flange leak tightness shall be determined following tank closure. SR 5.2.1.a shall be implemented per ISI Criterion C.

Specification SR 5.2.7 - Water Turbine Drive Surveillance

Components of the helium circulator water turbine drive system shall be tested as follows:

a) One circulator and the associated water supply valving in each loop will be functionally tested by operation on water turbine drive using feedwater, condensate, and boosted condensate (supplied to the firewater booster pumps at fire pump discharge pressure), annually, or at the next scheduled plant shutdown if the test was not performed during the previous year provided that the surveillance interval does not exceed 18 months. SR 5.2.7a shall be implemented per ISI Criterion G.

b) Safety valves (V-21522, V-21523, V-21542, and V-21543), located in the water turbine supply lines, will be tested for relieving pressure annually, or at the next scheduled plant shutdown if the test was not performed during the previous year provided that the surveillance interval does not exceed 18 months. SR 5.2.7b shall be implemented per ISI Criterion G.

c) Both turbine water removal pumps and the turbine water drain tank overflow to the reactor building sump shall be functionally tested once per 92 days. SR 5.2.7c shall be implemented per ISI Criterion G.

d) The instrumentation and controls associated with c) shall be functionally tested in conjunction with

and at the same intervals as the turbine water removal pumps and shall be calibrated annually.

Basis for Specification SR 5.2.7

The circulator water turbine drives are normally operated during an extended shutdown. Therefore the specified surveillance requirements are adequate to ensure water turbine operability.

Specification SR 5.2.8 - Circulator Bearing Water Pumps And Makeup Pump Surveillance

The circulator bearing water pumps, bearing water makeup pumps, and associated instruments and controls shall be tested as follows:

a) The Normal Makeup Pump shall be operated in the recycle mode every 92 days.

   SR 5.2.8a shall be implemented per ISI Criterion G.

b) The Emergency Makeup Pump shall be functionally tested every 92 days.

   SR 5.2.8b shall be implemented per ISI Criterion G.

c) The associated instruments and controls shall be functionally tested in conjunction with and at the intervals specified in parts a) and b) above, and calibrated annually.

d) Each Bearing Water Pump, and the associated instruments and controls shall be functionally tested at each scheduled plant shutdown. In addition, the instruments shall be calibrated annually, or at the next scheduled plant shutdown if they were not calibrated during the previous year provided that the surveillance interval does not exceed 18 months.

SR 5.2.8d shall be implemented per ISI Criterion F.

Basis for Specification SR 5.2.8

The bearing water pumps and bearing water makeup pumps are required to operate for safe shutdown cooling of the reactor under accident conditions described in FSAR Section 10.3.9. The specified tests and testing intervals are sufficient to ensure adequate pump operation for the performance of their required safety functions.

Performance capability of the bearing water pumps is verified by normal operation. Performance capability of the normal bearing water makeup pump is verified when operating the pump in the recycle mode. Performance capability of the emergency bearing water makeup pump is verified when testing the associated check valves as required per SR 5.3.4.

Specification SR 5.2.9 - Helium Circulator Bearing Water Accumulators Surveillance

The helium circulator bearing water accumulators, instrumentation, and controls shall be functionally tested every 92 days and calibrated annually.

SR 5.2.9 shall be implemented per ISI Criterion E.

Basis for Specification SR 5.2.9

Helium Circulator bearing water is normally supplied from the bearing water system and is backed up by the backup bearing water system supplied from the Emergency Feedwater

Header. In the event of a failure in both of these systems, the water stored in the bearing water accumulators is adequate to safely shut down both helium circulators in a loop. The specified tests and testing intervals are sufficient to ensure operability of the accumulator controls, should they be called upon to perform their required function.

Specification SR 5.2.10 - Fire Water System/Fire Suppression Water System Surveillace

a) The fire water system shall be verified operable as follows:

1) The motor driven and engine driven fire pumps shall be functionally tested monthly. The associated instruments and controls shall be functionally tested monthly and calibrated annually.

2) The diesel engine fuel shall be inventoried monthly and sampled and tested quarterly.

3) The diesel engine shall be inspected during each refueling shutdown.

4) The diesel engine starting battery and charger shall be inspected weekly for proper electrolyte level and overall battery voltage. The battery electrolyte shall be tested quarterly for proper specific gravity.

5) The batteries, cell plates, and battery racks, shall be inspected each refueling cycle for evidence of physical damage or abnormal degradation. The battery-to-battery and terminal connections shall be verified to be clean, tight, free of corrosion, and coated with anti-corrosion material each refueling cycle.

b) The fire suppression water system shall be verified operable as follows:

1) Monthly by verifying that each valve (manual, power operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

2) Semi-annually by performance of a fire suppression water system flush.

3) Annually by cycling each testable valve in the fire suppression water system flow path through at least one complete cycle of full travel.

4) Each refueling cycle by performing a fire suppression water system functional test which includes simulated automatic actuation of the system throughout its operating sequence, and:

(a) Verifying that each automatic valve in the flow path actuates to its correct position.

(b) Verifying that each fire water pump develops at least 1,425 gpm at a system head no less than 119 psig. SR 5.2.10.b4b shall be implemented per ISI Criterion G.

(c) Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel.

(d) Verifying that each fire water pump starts sequentially to maintain the fire suppression water system pressure at greater than or equal to 275 feet water gauge.

5) Each three years by performing a flow test.

Basis for Specification SR 5.2.10

The fire water pumps are required to supply water for fire suppression and safe shutdown cooling. The specified testing interval is sufficient to ensure proper operation of the pumps and controls. The motor driven pump routinely operates intermittently.

The operability of the fire suppression water system ensures that adequate fire suppression and emergency safe shutdown cooling capability is available. The specified testing interval is sufficient to ensure proper operation of the system when required.

shutdown if these valves have not been tested during the previous year.

SR 5.2.16.d shall be implemented per ISI Criterion B.

e) The check valves on the HTFA purge lines shall be tested at five calendar year intervals.

SR 5.2.16.e shall be implemented per ISI Criterion B.

f) The check valves which are part of the HTFA or refueling penetrations shall only be tested when such a penetration is open for refueling or maintenance, if the check valves have not been tested in the last five years.

SR 5.2.16.f shall be implemented per ISI Criterion B.

g) Each helium purification cooler well closure shall be leak tested, and the well pressure monitoring instruments shall be calibrated, once during each refueling cycle. In addition, the instruments and controls used to automatically isolate the purification system shall be functionally tested at the same frequency.

SR 5.2.16g shall be implemented per ISI Criterion F.

Basis for Specification SR 5.2.16

The interval specified for determining the actual primary and secondary closure leakage is adequate to assure compliance with LCO 4.2.9.

In the determination of closure leakage at the reference differential pressure, laminar leakage flow shall be conservatively assumed, therefore in correcting the determined closure leakage to reference differential pressure, the ratio of the reference differential pressure, and test differential pressure shall be used.

The interval specified for functional testing and calibration of the instrumentation and alarms monitoring the penetration closure interspace pressurization gas flow will assure sensing and alarming any change in pressurization gas flow.

The interval specified for functional test and calibration of the instrumentation and alarms monitoring the core support floor and columns will assure sensing and alarming any change in their structural integrity.

The interval specified for valve testing is adequate to assure proper valve operation when isolation of the closure auxiliary piping is required.

The interval specified for testing the helium purification cooler wells is adequate to verify the well integrity, as well as that of primary coolant boundary components located therein.

Specification SR 5.2.17 - Helium Circulator Pelton Wheels

DELETE SPECIFICATION SR 5.2.17 IN ITS ENTIRETY

Specification SR 5.2.18 - Helium Circulators Surveillance

a) At the time of the first main turbine generator overhaul, one helium circulator unit shall be removed in its entirety from the PCRV and thoroughly inspected for signs of abnormal wear or component degradation.

1) Such inspection shall include examination of bearing surfaces, seal surfaces, brake system, buffer seal system, and labyrinth seals.

Specification SR 5.2.21 - ACM Transfer Switches, Valves, and Instruments Surveillance

a) Those valves and transfer switches that must be manually positioned for actuation of the Alternate Cooling Method (ACM) mode of operation shall be tested for operability by partial stroking of the valve twice annually at an interval between tests to be not less than four (4) months, nor greater than eight (8) months. A full functional test shall be performed annually, or at the next scheduled plant shutdown if such test was not performed during the previous year provided that the surveillance interval does not exceed 18 months. SR 5.2.21a shall be implemented per ISI Criterion F.

b) Local indicators for the helium purification dryer inlet temperature, for the helium purification pumpdown line pressure and for the reactor plant cooling water surge tank cover gas pressure shall be calibrated at each plant shutdown for refueling. SR 5.2.21b shall be implemented per ISI Criterion F.

Basis for Specification SR 5.2.21

In the event that the ACM mode of operation must be implemented, it is necessary to manually position valves (manual valves as well as valves which would normally be pneumatically or electrically operated) and to manually reposition electrical transfer switches. Local instruments allow system monitoring during the depressurization phase of the PCRV and during the subsequent cooling phase of the reactor. The specified tests and testing intervals are sufficient to assure

operability of these components should they be called upon for performance of their required safety functions.

Specification SR 5.2.22 - PGX Graphite Surveillance

PGX graphite surveillance specimens shall be installed into five (5) bottom transition reflector elements of the Fort St. Vrain core to provide a means for assessing the condition of the PGX graphite support blocks during operation of the reactor. These specimens (16 per reflector element) will be installed in reflector elements as indicated in Table 1 and will be removed at subsequent refueling intervals, as indicated in Table 1, unless the progressive examination of the specimens dictate otherwise.

Upon removal, these specimens will be subjected to examination, and compared with laboratory control specimens in evaluating oxidation rates, oxidation profiles, and general dimensional characteristics.

The results of these tests and examinations shall be utilized to assess the condition of the PGX core support blocks in the reactor and shall also be utilized to modify, as necessary, the planned removal of subsequent PGX surveillance specimens.

The results of these examinations shall be submitted to the NRC staff for review.

Basis for Specification SR 5.2.22

The PGX graphite specimens will be placed in modified coolant channels in five (5) transition reflector elements in the hottest columns of regions 22, 24, 25, 27, and 30. The surveillance test specimens will be subjected to the primary coolant conditions, as well as other reactor parameters that are normally seen by the PGX core support blocks. Examination and tests of the surveillance test specimens at regular intervals can readily be utilized to assess oxidation rates, oxidation profiles, as well as general degradation of the PGX core support blocks to adequately predict the structural integrity of the core support blocks over the operating life of the reactor.

Specification SR 5.2.23 - Firewater Booster Pump Surveillance

Each firewater booster pump shall be tested annually by providing motive power to one water turbine drive in conjunction with the performance of SR 5.2.7. In addition each pump shall be functionally tested quarterly. The associated instruments and controls shall functionally be tested quarterly and calibrated annually.

Basis for Specification SR 5.2.23

During accident conditions described in Final Safety Analysis Report, Section 14.4.2.1, one of the firewater booster pumps and one firewater pump are required to provide adequate core cooling. The specified testing interval is sufficient to ensure proper operation of the pump and associated controls.

Specification SR 5.2.24 - Reactor Auxiliary Cooling Water Systems Surveillance

The reactor auxiliary cooling water systems shall be tested as follows:

a) The circulating water makeup pond minimum inventory shall be verified daily. The pond level instrumentation shall be functionally tested monthly and calibrated annually.

b) Each circulating water makeup pump and the associated instruments and controls (including firewater pump pit instruments and controls) shall be functionally tested monthly. In addition, the instruments shall be calibrated, and the pump performance capability (flow and head) and mechanical condition (vibration amplitude and bearing temperature) shall be verified, annually or at the next scheduled plant shutdown if this was not performed during the previous year.

SR 5.2.24b shall be implemented per ISI Criterion F.

c) The valve lineup of the flow path between the circulating water storage ponds and the fire water pump pits shall be verified correct monthly.

d) Alignment and settlement of the circulating water makeup pond embankments shall be verified at five calendar year intervals. The embankments and the water structures shall be examined at the same intervals for abnormal erosion, cracks, seepage, leakage, accumulation of silt or debris (as applicable) which might indicate a deterioration of structural safety or operational adequacy of the storage ponds. SR 5.2.24d shall be implemented per ISI Criterion F.

e) Each service water pump and the associated instruments and controls shall be functionally tested monthly. In addition, the instruments shall be calibrated, and the pump performance (flow and head) and mechanical condition (vibration amplitude and bearing temperature) shall be verified, annually or at the next scheduled plant shutdown if this was not performed during the previous year. SR 5.2.24e shall be implemented per ISI Criterion F.

f) Each reactor plant cooling water pump and the associated instruments and controls shall be functionally tested monthly. In addition, the instruments shall be calibrated, and the pump performance (flow and head) and mechanical condition (vibration amplitude and bearing temperature) shall be verified, annually or at the next scheduled plant shutdown if this was not performed during the previous year. SR 5.2.24f shall be implemented per ISI Criterion F.

g) Each purification cooling water pump and the associated instruments and controls shall be functionally tested monthly. In addition, the instruments shall be calibrated, and the pump performance (flow and head) shall be verified, annually or at the next scheduled plant shutdown if this was not performed during the previous year. SR 5.2.24g shall be implemented per ISI Criterion F.

h) Instruments and valves, used for automatic isolation of portions of the purification cooling water system and the reactor plant cooling water system, that may be required for confinement of reactor coolant and that are capable of being tested, shall be tested for operability by partial stroking or full stroking of the valves, as appropriate, twice annually at an interval between tests to be not less than four (4) months, nor greater than eight (8) months. Additionally, these instruments and valves shall be functionally tested annually or at the next scheduled plant shutdown if such test was not performed during the previous year, provided that the surveillance interval does not exceed 18 months. SR 5.2.24h shall be implemented per ISI Criterion F.

Basis for Specification SR 5.2.24

The reactor auxiliary cooling water systems (including water makeup system, service water system, reactor plant cooling water system, and purification cooling water system) are required to operate for reactor cooling under

| postulated loss of forced circulation cooling accident conditions. Except for the purification cooling water system, they are also required for safe shutdown cooling of the reactor under other postulated accident conditions. The circulating water makeup system also supplies water for fire suppression. These systems routinely operate during normal plant operation. Routine operation in conjunction with the specified tests and testing intervals are sufficient to ensure adequate system and/or component operation for the performance of their required safety functions.

| Measuring the position of survey markers and evaluating the changes in position of these markers will allow changes in embankment alignment and settlement to be determined, as well as their possible impact on the structural integrity of the storage pond. Examination of the embankments and of the water structures will provide for an additional verification that no phenomenon occurs which might be detrimental to the ability of the storage pond to perform its safety function. Measurement of the silt accumulation in the storage pond will allow a verification that the minimum water inventory required by LCO 4.3.5 is available for Safe Shutdown Cooling of the reactor.

| The interval specified for instruments and valves is adequate to assure their automatic isolation function, if degradation were to occur in the integrity of the reactor coolant boundary, resulting in primary coolant leakage into the system.

Specification SR 5.2.25 - Core Support Block Surveillance

The top surface of the core support block for fuel regions fitted with PGX graphite specimens shall be visually examined by remote TV for indication of cracks, in particular in areas where analysis shows the highest tensile stresses exist, at the refueling shutdown when the PGX graphite specimens are scheduled to be removed from the core in accordance with Technical Specification SR 5.2.22.

SR 5.2.25 shall be implemented per ISI Criterion D.

The main steam bypass valves divert up to 77% steam flow (via desuperheaters) to the bypass flash tank on turbine trip or loop isolation, so that the steam is available for driving helium circulators, boiler feedpump turbines, etc. The main steam power operated relief valves divert the remaining steam flow to atmosphere.

The six hot reheat steam bypass valves and the power operated pressure relief valves ensure a continuous steam flow path from the helium circulators for decay heat removal.

The tests required on the above valves will demonstrate that each valve will function properly. Test frequency is considered adequate for assuring valve operability at all times.

Specification SR 5.[illegible] - Safe Shutdown Cooling Valves Surveillance

The following valves shall be tested for operability by partial stroking every 92 days unless they cannot be operated during normal plant operation.* A full functional test shall be performed annually, or at the next scheduled plant shutdown if such test was not performed during the previous year provided that the surveillance interval does not exceed 18 months:

- Pneumatically, hydraulically, or electrically operated valves that are required to operate for actuation of the safe shutdown cooling mode of operation

  (implemented per ISI Criterion B);

- Normally closed check valves that are required to open for actuation of the safe shutdown cooling mode of operation

  (implemented per ISI Criterion B); and

- Valves (including normally power operated valves) that must be manually positioned for actuation of the safe shutdown cooling mode of operation

  (implemented per ISI Criterion G).

* (implemented per ISI Criterion F)

Basis for Specification SR 5.3.4

The Safe Shutdown Cooling mode of operation utilizes systems or portions of systems that are in use during normal plant operation. In many cases, those valves required to initiate Safe Shutdown Cooling are not called upon to function during normal operation of the plant, except to stand fully closed or open.

Testing of these valves will assure their operation if called upon to initiate the Safe Shutdown Cooling mode of operation.

During reactor operation, the instrumentation required to monitor and control the Safe Shutdown mode of cooling is normally in use and any malfunction would be immediately brought to the attention of the operator. That instrumentation not normally in use is tested at intervals specified by other surveillance requirements in this Technical Specification.

Safe Shutdown Cooling, the systems or portions of systems involved, are discussed in Sections 10.3.9 and 10.3.10 of the FSAR and are represented in FSAR, Figure 10.3-4.

Valve testing will include, as applicable, full stroking each valve, or an observation that the valve stem or disc travels from the valve normal operating position to the position required to perform the safety function, an

observation that the remote position indicators accurately reflect actual valve position, and a measurement of the full stroke time for the hydraulically actuated automatic valves.

Specification SR 5.3.5 - Hydraulic Power System Surveillance

The pressure indicators and low pressure alarms on the hydraulic oil accumulators pressurizing gas and on the hydraulic power supply lines shall be functionally tested once every three months and calibrated once per year.

Basis for Specification SR 5.3.5

The hydraulic power system is a normally operating system. Malfunctions in this system will normally be detected by failure of the hydraulic oil pumps or hydraulic oil accumulators to maintain a supply of hydraulic oil at or above 2500 psig. Functional tests and calibrations of the pressure indicators and low pressure alarms on the above basis will assure the actuation of these alarms upon a malfunction of the hydraulic power system which may compromise the capability of operating critical valves.

to verify proper piston movement, lock-up, and bleed. The number of each type of snubber represented by use of either plan presented in Section 5.3.8.c) of this specification is an adequate sample for such tests. Observed failures on these samples should require testing of additional units.

The required surveillance program will assure a higher degree of snubber functional reliability.

Specification SR 5.3.9 - Safety Valves Surveillance

The steam generator superheater and reheater safety valves and the steam/water dump tank safety valves shall be tested at five calendar year intervals to verify their setpoints.

SR 5.3.9 shall be implemented per ISI Criterion F.

Basis for Specification SR 5.3.9

Safety valves protect the integrity of the plant components which are part of the primary or secondary reactor coolant boundary, and also the integrity of systems required to safely shutdown and cool the reactor under accident conditions. Testing the safety valve setpoints will assure that the pressure within the equipment remains within design limits.

When practical, testing of the safety valves will be scheduled during the surveillance interval so that testing

Specification SR 5.4.4 - PCRV Cooling Water System Temperature Instruments Surveillance

The PCRV cooling water system temperature instruments shall be tested as follows:

a) Once a month during plant operation at power a scanner reading shall be taken of the inlet header and tube outlet temperatures. The inlet temperature readings shall be compared to the corresponding temperature indicators. The associated temperature alarms shall also be functionally tested at the same frequency.

SR 5.4.4a shall be implemented per ISI Criterion G.

b) The scanner, the inlet and outlet header temperature indicators, and the outlet subheader temperature indicators shall be calibrated annually.

SR 5.4.4b shall be implemented per ISI Criterion G.

c) The inlet header and tube outlet thermocouples, which provide input to the scanner, shall be calibrated at five calendar year intervals.

SR 5.4.4c shall be implemented per ISI Criterion G.

Basis for Specification SR 5.4.4

A scanner is used for monitoring the PCRV cooling system water inlet temperature and individual tube water outlet temperatures, and for alarming high outlet temperatures.

Periodic scanner readout provides the information necessary to evaluate the water temperature increase in individual tubes. A comparison of inlet temperature scanner reading to corresponding inlet temperature indicators assures that unacceptable drift in the scanner electronics does not occur.

Calibration of the scanner and temperature indicators assures the accuracy of temperature measurements, in particular for verifying compliance with LCO 4.2.15.

To the extent practical, thermocouples in individual subheaders will be calibrated at various times during the interval, to assure that unacceptable thermocouple drift does not occur.

The specified intervals for checks and calibrations are sufficient to provide accurate temperature measurements to adequately protect the PCRV concrete and to monitor the integrity of the thermal barrier.

Specification SR 5.4.5 - PCRV Cooling Water System Flow Instruments Surveillance

A PCRV Cooling System scanner flow readout shall be taken and normal mode alarms functionally checked monthly. The scanner and alarms, and six (6) subheader flowmeters shall be calibrated annually, or at the next scheduled plant shutdown if they were not calibrated during the previous year provided that the surveillance interval does not exceed 18 months.

SR 5.4.5 shall be implemented per ISI Criterion G.

Basis for Specification SR 5.4.5

Flow scanning acts as a backup to temperature scanning and initiates no automatic protective actions, only an alarm. Because a restriction or a leak in the system would develop over a period of time, the specified interval for comparing flow readouts is sufficient to detect any long term change in the system.

Specification SR 5.4.6 - Core Delta P Indicator - Surveillance Requirement

The core Delta P instrumentation shall be calibrated on a once per refueling cycle interval.

Basis for Specification SR 5.4.6

Core differential pressure is an indication of gross blockage of flow in the core.

Specification SR 5.4.7 - Control Room Temperature - Surveillance Requirement

The control room temperature control thermostat shall be functionally tested monthly and calibrated annually.

Basis for Specification SR 5.4.7

The surveillance interval specified for functional testing and calibration of the control room thermostat will assure its ability to not only control the room temperature as desired, but to also indicate the correct room temperature within the accuracy of the instrument.

Specification SR 5.4.8 - Power to Flow Instrumentation - Surveillance Requirement

The power to flow indication shall be verified daily and shall be calibrated once per refueling cycle.

Basis for Specification SR 5.5.2

The reactor building pressure relief device is designed to protect the building in the event that pressure in the reactor building exceeds the turbine building pressure by 3 inches of water. The device consists of louvers installed in a number of individual modules operated by mechanical linkages to pneumatic actuators (see FSAR Section 6.1.3.4). The specified test frequency shall ensure the operability of the reactor building relief system.

Specification SR 5.5.3 - Reactor Building Exhaust System Surveillance

The exhaust filters and fans in the reactor building ventilation system shall be tested as follows:

a) A laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shall be performed after each 4400 hours of operation of the unit, or following painting, fire or chemical* release in any ventilation zone communicating with the unit. The results of laboratory carbon sample analysis from the unit shall show $\geq$ 90% radioactive methyl iodide removed when tested in accordance with ANSI N510-1975 (130 degrees C, 95% R.H.).

*Defined as any material which could reasonably be expected to interfere with the charcoal to adsorb methyl iodide.

b) A halogenated hydrocarbon test shall be performed once per calendar year or after each replacement of a charcoal adsorber bank or after structural maintenance on the filter housing. Halogenated hydrocarbon removal by the charcoal filters shall be $\geq$ 99% when conducted at normal flow conditions in accordance with the applicable portions of ANSI N510-1975.

c) The HEPA filters shall be leak tested in place once per calendar year, after each complete or partial replacement of a HEPA filter bank, or after any structural maintenance on the filter housing, using cold DOP. Cold DOP removal by the HEPA filters shall be $\geq$ 99% when tested in accordance with the applicable portions of ANSI N510-1975.

d) Flow distribution across the HEPA and charcoal filters will be tested with initial operation of the system and following any structural modification to the filter housings. Air distribution shall be demonstrated within $\pm$ 20% across the HEPA and charcoal filters when tested in accordance with ANSI N510-1975.

e) Verify a minimum flow rate of 15,390 cfm per train during system operation when tested in accordance with ANSI N510-1975 at least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting with other than low solvent paints, fire, or chemical release in any ventilation zone communicating with the system. SR 5.5.3e shall be implemented per ISI Criterion G.

f) The performance capability (capacity and total pressure) and mechanical condition (vibration amplitude) of each reactor plant ventilation exhaust fan shall be verified annually, or at the next scheduled shutdown if such verification was not performed during the previous year provided that the surveillance interval does not exceed 18 months. SR 5.5.3f shall be implemented per ISI Criterion F.

g) Instrumentation associated with the above filters and fans shall be calibrated annually, or at the next scheduled shutdown if calibration was not performed during the previous year provided that the calibration interval does not exceed 18 months. SR 5.5.3g shall be implemented per ISI Criterion F.

Basis for Specification SR 5.5.3

The reactor building exhaust filter system is designed to filter the reactor building atmosphere prior to release to the facility vent stack during both normal and accident conditions of operation. The system consists of three 50%

capacity units, two of which are in continuous operation, with the third on standby.

High efficiency particulate air (HEPA) filters are installed before the charcoal adsorbers to remove particulate matter from the air stream to prevent clogging of the iodine adsorbers. The charcoal adsorbers are installed to reduce the potential release of radioiodine to the atmosphere. Bypass leakage for the charcoal adsorbers and particulate removal efficiency for HEPA filters are determined by halogenated hydrocarbon and DOP respectively. The laboratory carbon sample test results indicate a radioactive methyl iodide removal efficiency for expected accident conditions. The surveillance test frequencies specified establish system performance capabilities. If system conditions are as specified, the calculated doses will be less than the guidelines stated in 10 CFR 100 for the accidents analyzed, as indicated in Sections 14.8 and 14.12 of the FSAR.

The activated carbon adsorber in the affected unit should be replaced if a representative sample fails to pass the iodine removal efficiency test. Any HEPA filters found defective should be replaced.

If painting, fire, or chemical release occurs such that the HEPA filter or charcoal adsorber could become contaminated from the fumes, chemicals, or foreign materials, the same tests and sample analysis should be performed, as required, for operational surveillance.

In addition to routine operation, each reactor plant ventilation exhaust fan is functionally tested, and its capacity verified, when performing the required filter tests. The specified performance test and testing interval is sufficient to ensure adequate fan operation for the performance of their required safety functions under postulated loss of forced circulation cooling accident conditions.

5.7 FUEL HANDLING AND STORAGE SYSTEMS - SURVEILLANCE REQUIREMENTS

Applicability

Applies to surveillance of the fuel handling and fuel storage systems during irradiated fuel handling and storage.

Objective

To ensure the prevention of any uncontrolled release of radioactivity during fuel handling and fuel storage by establishing the minimum frequency and type of surveillance on the equipment for the fuel handling and storage systems.

Specification SR 5.7.1 - Fuel Handling Machine Surveillance

The surveillance of the fuel handling machine will be as follows:

a) Prior to refueling, the fuel handling machine cooling water leak detector will be functionally tested.

b) A functional test of the Fuel Handling Machine and Isolation Valve movements, interlocks, limit switches, and alarms will be performed or simulated prior to annual refueling periods.

Basis for Specification SR 5.7.1

The fuel handling machine provides for the safe refueling of the reactor. To assure the reliability of the fuel handling machine during the refueling operation, the machine and its associated interlocks, limit switches and alarms will be tested prior to refueling. All motions of the machine should be cycled, including the pick-up and release of a dummy element. A test of the helium system and the cooling system will be made. These checks will assure the capability to maintain the proper atmosphere environment within the machine to prevent any uncontrollable release of activity, proper purging and back filling capabilities, and the capability to maintain temperature of fuel elements within the machine below 750 degrees F.

Specification SR 5.7.2 - Fuel Storage Facility Surveillance

The cooling water, purge, and ventilation systems for each Fuel Storage Well containing Irradiated Fuel shall be demonstrated Operable:

a. At least once per 24 hours by:

1. Verifying that the outlet cooling water temperature of operating cooling coil(s) is 150 degrees F or less, with a flow rate of greater than 7 gpm, and either:

a) Both cooling water coils are Operable with at least one coil in operation, or

b) One cooling water coil is Operable and in operation, and the Fuel Storage Well Emergency Booster Fan is Operable.

2. Verifying that the pressure within the well is at atmospheric pressure or slightly below. SR 5.7.2a shall be implemented per ISI Criterion E.

b. At least once per 31 days by verifying that the Fuel Storage Well Emergency Booster Fan operates upon manual initiation. SR 5.7.2b shall be implemented per ISI Criterion E.

c. At least once per 18 months by:

1. Performing a Channel Calibration of the Fuel Storage Facility helium pressure indicators and alarms.

2. Performing a Channel Calibration of the Fuel Storage Facility cooling water system flow indicators, and flow and temperature alarms.

3. Verifying the capability of the Fuel Storage Well Emergency Booster Fan to draw a minimum of 9000 cfm of air through the Fuel Storage Facility. SR 5.7.2c shall be implemented per ISI Criterion E.

d. Verifying during fuel handling that no Irradiated Fuel elements are inserted into the central position of Fuel Storage Wells. SR 5.7.2d shall be implemented per ISI Criterion E.

Basis for Specification SR 5.7.2

The storage well cooling water system is designed with two 100% capacity cooling coils supplied from independent water sources (See FSAR Section 9.1.2).

The accident conditions described in the FSAR postulate the total loss of water cooling to one of the nine Fuel Storage Wells. If this were to occur, adequate cooling could be achieved by an increase in the normal ventilation air flow to cool the well by convection on the external surface. The increase in air flow is supplied by the Fuel Storage Well Emergency Booster Fan. This Specification is based on the analysis in FSAR Section 14.6.3.2 which uses the conservative assumption that a total flow of only 9000 cfm would be drawn (equally divided) through all three vault compartments of the Fuel Storage Facility, thus adequately protecting the affected storage well and fuel within it from damaging temperatures. (There are three Fuel Storage Wells in each of the three Fuel Storage Vaults). The specified test and testing frequency are sufficient to demonstrate the operability of the Fuel Storage Well Emergency Booster Fan, should it be called upon for performance of its required safety function.

To prevent significant oxidation of the irradiated fuel, the Fuel Storage Wells are designed to maintain the irradiated fuel cool and under a nominally dry atmosphere of helium. All conditions connected with this requirement are monitored by pressure, temperature, and flow sensitive devices. The

temperature and flow detecting devices maintain surveillance of the wells' two independent cooling water systems and are set to alarm at previously determined maximum or minimum values. The 150 degrees F or less outlet temperature of water from a single cooling coil assures the hottest irradiated fuel elements will be maintained below 750 degrees F, preventing any significant graphite oxidation in the event of air inleakage into the storage well.

The Helium Storage System provides purified helium for this service, giving sufficient protection against a moist atmosphere. Over-pressurization of a storage well is alarmed to the reactor operator and additional protection is provided by relief valves. The specified surveillance intervals are sufficient to ensure proper operation of the instrumentation and to verify adequate fuel storage conditions.

The Action Statements provide for corrective actions within an adequate time to prevent the hottest stored fuel element from reaching 750 degrees F, thus obviating any significant oxidation in the unlikely combined events of air inleakage plus loss of normal cooling.

ATTACHMENT 3

SIGNIFICANT HAZARDS CONSIDERATION FOR THE FSV INSERVICE INSPECTION AND TESTING PROGRAM UPDATE

SIGNIFICANT HAZARDS CONSIDERATION FOR THE FSV INSERVICE INSPECTION AND TESTING PROGRAM UPDATE

1. BACKGROUND

The Fort St. Vrain Inservice Inspection and Testing Program is specified by the Plant Technical Specification Surveillance Requirements (Ref. 1).

In response to a commitment in the 1972 Safety Evaluation Report (Ref. 2) Public Service Company has been reviewing, as a continuing effort, the Inservice Inspection and Testing Program for Fort St. Vrain to feedback the acquired operating experience with the plant, and to update the program in light of more recent rules and regulations.

The original 1972 Safety Evaluation Report (Ref. 2) included a commitment to review the Inservice Inspection Program for the primary coolant system after five years of reactor operation.

The status of the review effort was originally described by Public Service Company, together with the planned approach to follow in conforming with the 1972 Safety Evaluation Report commitment (Ref. 3). A review of Public Service Company plans was performed by the Nuclear Regulatory Commission, who also identified priority items to be addressed beyond the scope of the original Safety Evaluation Report commitment (Ref. 4). The general Inservice Inspection and Testing Program review plan and the priority items were further discussed in letters and at meetings between the Nuclear Regulatory Commission and Public Service Company until a basic agreement was reached between both parties (Ref. 5 through 10). A schedule was established for the review of surveillance requirements for all major plant systems and equipment by subdividing them in priority categories as requested by the Nuclear Regulatory Commission (Ref. 11).

In the first phase of the program review and update, implemented by Amendment No. 33 to the Operating License (Ref. 12), the surveillance requirements pertaining to plant systems and equipment identified as priority category I were addressed (namely the prestressed concrete reactor vessel (PCRV), the reactor internals, the reactor primary and secondary coolant systems, and the PCRV auxiliary system).

Public Service Company's plan to proceed with a review and update of the surveillance requirements for other reactor auxiliary process systems and equipment important to safety were outlined in a letter to NRC (Ref. 13).

2. METHODOLOGY AND REVIEW PROCESS

The adequacy of the surveillance requirements for individual systems and components was reviewed in light of the importance of their safety functions to prevent or mitigate the consequences of postulated accidents that could cause undue risks to the health and safety of the public.

The highest importance to safety was assigned to those systems and components which are critical for the mitigation of a postulated permanent loss of forced circulation cooling accident where potential for fuel damage exists (Design Basis Accident No. 1), under the PCRV liner Cooling mode of operation.

Following were those systems and components which are critical for the mitigation of postulated loss of normal forced circulation cooling accidents, under the Safe Shutdown Cooling mode of operation. This cooling method applies to accidents initiated by environmental disturbances (earthquake, tornado) or by equipment failures such as feedwater or steam pipe rupture.

Next those systems and components required to mitigate the consequences of a PCRV depressurization accident were considered (Maximum Credible Accident and Design Basis Accident No. 2).

Finally, the review included those systems and components required to mitigate the consequences of a loss of normal cooling of a spent fuel storage well.

For each accident outlined above, the various auxiliary systems and components were systematically evaluated for identification of their critical safety functions. Existing Technical Specification Surveillance Requirements were then reviewed to assess their adequacy for ensuring operability of these identified systems and components, should they be called upon for the performance of their required safety functions. Credit was taken, as appropriate, for routine operation of systems and components during normal plant operation as a factor in the demonstration of their operability. System operational readiness as well as operability of pumps, compressors, fans, valves, controls and instrumentation were all addressed.

In addition, systems and components with a primary or secondary reactor coolant pressure boundary function, or with a containment isolation function, were also reviewed for adequacy of the related surveillance requirements. As previously indicated in Amendment No. 33 to the Operating License, the emphasis was placed on monitoring the structural integrity of the reactor coolant pressure boundaries wherever practical.

3. EVALUATIONS AND CONCLUSIONS

The proposed changes to the Technical Specification Surveillance Requirements generally expand the scope of inservice examination and testing that is currently performed at the Fort St. Vrain Nuclear Generating Station. These proposed changes were initially submitted to the NRC in December, 1983, (Ref. 14). Additional information was requested by the NRC in August, 1985, (Ref. 15) and many of the NRC comments have been incorporated in the Inservice Examination and Testing Program. This, in essence, provides greater assurance of plant safety and reliability.

Individual surveillance requirements have been evaluated in detail by Public Service Company. The results of these reviews revealed that existing surveillance requirements generally were adequate in light of plant operating experience, importance to safety, unique design features and limitations, and ASME Code development for large HTGR designs. Minor modifications to surveillance intervals were made to reflect operating experience, and to provide operating flexibility. Additional tests were included to assure the operability and accuracy of instrumentation which can be used for monitoring the structural integrity of major plant equipment. Additional component testing was recommended, as a result of detailed reviews of plant systems, either when components important to safe plant shutdown and cooling were not in the scope of the current Technical Specifications, or when the testing method could be improved to provide additional assurance of component reliability.

Since the proposed changes to the Technical Specifications do not result from modifications to plant equipment, instead they reflect additional surveillances as required by inservice inspection and testing, it can be concluded that the proposed amendment will not:

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

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

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

Therefore, no significant hazards consideration is raised.

4. REFERENCES

1. Plant Technical Specifications

2. Safety Evaluation Report of January 20, 1972, Section 3.3

3. Public Service Company letter dated October 13, 1978 (P-78169), Inservice Inspection - Fort St. Vrain

4. Nuclear Regulatory Commission letter dated January 15, 1979, Inservice Inspection and Testing Program for Fort St. Vrain.

5. Public Service Company letter dated March 15, 1979 (P-79058), Inservice Inspection Program for Fort St. Vrain.

6. Nuclear Regulatory Commission letter dated June 5, 1979, Summary of Meeting Held on May 2, 1979, to Discuss Inservice Inspection.

7. Public Service Company Progress Report. Meeting held on August 20, 1979, between the Nuclear Regulatory Commission and Public Service Company.

8. Public Service Company letter dated August 22, 1979 (P-79176), Fort St. Vrain Inservice Inspection and Testing Program.

9. Nuclear Regulatory Commission letter dated October 5, 1979, Proposed Plan of Inservice Inspection and Testing for Fort St. Vrain.

10. Public Service Company Progress Report. Meeting held on November 1, 1979, between the Nuclear Regulatory Commission and Public Service Company.

11. Public Service Company letter dated November 30, 1979 (P-79289), Fort St. Vrain Inservice Inspection and Testing Program.

12. Fort St. Vrain Nuclear Generating Station, Amendment No. 33 to Facility Operating License DPR-34, dated March 8, 1983.

13. Public Service Company letter dated June 1, 1983 (P-83195) Inservice Inspection and Testing Status Update.

14. Public Service Company letter dated December 30, 1983 (P-83416) Proposed Technical Specification Changes - Inservice Inspection and Testing Requirements.

15. Nuclear Regulatory Commission letter dated August 27, 1985 (G-85361) Inservice Inspection and Testing Requirements.

ATTACHMENT 4

ITEMIZED RESPONSES
TO THE NRC COMMENTS
PROVIDED IN (G-85361) - 8/27/85

COMMENT #1

1. SR 5.2.7 - Water Turbine Drive Surveillance

a) The proposed change would extend the annual test interval for one circulator and the associated water supply valving in each loop to the next scheduled plant shutdown if the test was not performed during the previous year. We find this proposed change acceptable provided that the surveillance interval does not exceed 18 months on the basis that (1) operating experience has illustrated sufficiently satisfactory performance of this system such that no significant hazard is created by an extension of this test interval, (2) potential hazards from an additional shutdown and startup transients would be avoided and (3) decay heat can still be removed via steam driven circulators or the Liner Cooling System. The provision to not have the surveillance interval exceed 18 months is consistent with NRC Standard Technical Specifications for LWRs and ensures a minimum surveillance interval.

b) The proposed change would extend the annual test interval for safety valves in the water turbine supply lines to the next scheduled plant shutdown if the test was not performed during the previous year. We find this proposed change acceptable, provided that the surveillance interval does not exceed 18 months, based on the same reasons as given in comment 1 (a) above.

c) The phrase "every three months" has been changed to read "quarterly" for the functional testing of both turbine water removal pumps and the turbine removal tank overflow to the reactor building sump. We recommend that the standard technical specification terminology of 92 days be used rather than that proposed.

RESPONSE TO COMMENT #1

PSC concurs with the NRC comment(s) and will implement the above requirement(s) in applicable Surveillance Procedures and their associated schedules.

COMMENT #2

2. SR 5.2.8 - Bearing Water Pump and Makeup Pump Surveillance

The bearing water makeup pumps have been added to this surveillance. We recommend that circulating bearing water pumps be added to the title for consistency.

a) The phrase "every three months" has been changed to read "quarterly" for the operation of the Normal Makeup Pump in the recycle mode. We recommend that the terminology of STS of 92 days be used rather than that proposed.

c) No NRC comment.

b) The phrase "every three months" has been changed to read "quarterly" for the functional testing of the Emergency Makeup Pump. We recommend that the terminology of STS of 92 days be used rather than that proposed.

d) The proposed surveillance for the bearing pumps would provide for a functional test of the pumps and associated instruments and controls at each scheduled plant shutdown, or at the next scheduled plant shutdown if less than a year has elapsed from the previous test. This schedule would not disrupt normal plant operation and provides a test not previously required. We find this surveillance acceptable as it is consistent with current practice in the application of the ASME Code to current plant, provided the surveillance interval does not exceed 18 months.

RESPONSE TO COMMENT #2

PSC concurs with the NRC comment(s) and will implement the above requirement(s) in applicable Surveillance Procedures and their associated schedules.

COMMENT #3

3. SR 5.2.9 - Helium Circulator Bearing Water Accumulators

The proposed test interval for testing of the helium circulator bearing water accumulators, instruments and controls would be extended from montnly to quarterly. The licensee justifies this change on a review of prior test results which shows satisfactory performance. Based on this justification we find the proposed change acceptable. We recommend that the quarterly interval be stated as 92 days.

RESPONSE TO COMMENT #3

PSC concurs with the NRC comment(s) and will implement the above requirement(s) in applicable Surveillance Procedures and their associated schedules.

COMMENT #4

4. SR 5.2.10 - Fire Water System/Fire Suppression Water System Surveillance

a) No NRC comment.

b)4)(b) A reduction by 5 percent in the flow and head testing requirements for the firewater pumps has been proposed to account for pump degradation. Degradation to this degree is acceptable under the ASME Code and the pump performance continues to exceed the minimum perfomance requirements by a sufficient margin. We find the proposed changes acceptable.

b)4)(d) The fire suppression water system pressure is changed to read "275 feet water gauge" from "125 psig." This is an acceptable change.

RESPONSE TO COMMENT #4

The above requirements will be incorporated into applicable Surveillance Procedures and their associated schedules.

COMMENT #5

5. SR 5.2.16 - PCRV Closure Leakage Surveillance Requirements

a)-f) No NRC comments.

g) The proposed change would require once during each refueling cycle a leakage test and for each helium purification cooler well, a calibration of the well pressure monitoring instruments and a functional test of the instruments and controls used to automatically isolate the purification system. The addition of this surveillance requirement verifies the operability of instruments used to monitor containment integrity. To make a judgement on the acceptability of the proposed leakage test a description of how this requirement meets the intent of the ASME Code, Article IGB, "Examination and Inspection," should be provided.

RESPONSE TO COMMENT #5

The proposed leakage test is in accordance with ASME Section XI Article IGB-2000 "Examination and Testing". IGB-2510 in this article requires conformance with IGA-5000 and IGB-5000. Conditions required by IGA-5320, "Pneumatic Testing Procedures", will be included in the test procedures issued to perform the leak test. IGB-5300 requires testing at or near the end of each inspection interval as defined either in Table IGB-2411-1 or Table IGB-2412-1. The inspection interval specified in proposed SR 5.2.16 (g) i.e., "once during each refueling cycle" is well within the requirements of Section XI.

COMMENT #6

6. SR 5.2.21 - ACM Transfer Switches, Valves, and Instrument Surveillance.

The surveillance requirement has been retitled from the previous title of SR 5.2.21 - Handvalve and Transfer Switch Surveillance.

a) For those valves and transfer switches that must be manually positioned for actuation of the Alternate Cooling Method (ACM) mode of operation, the licensee proposes to change the surveillance interval to annually or at the next scheduled plant shutdown if such a test was not performed during the previous year. While we understand that full operation of these valves and switches is not possible during plant operation, we nevertheless believe that it is necessary to demonstrate operability of these components more frequently. Thus we do not find this proposed change acceptable and recommend that the original surveillance interval for an operability check of this equipment be maintained (4 to 8 months) and a full functional test be performed at annual or at refueling intervals not to exceed 18 months.

b) A new surveillance requirement for calibration at each refueling interval has been proposed for local indicators for the helium purification dryer inlet temperature, for the helium purification pumpdown line pressure and for the reactor plant cooling water surge tank cover gas pressure. From the information provided it is not clear that: (1) these proposed surveillances are sufficient to assure operational readiness of these components, and (2) the components to be given surveillance provide a complete set to assure operational readiness of the systems they serve. Therefore, information needs to be provided addressing the above.

RESPONSE TO COMMENT #6

a) PSC concurs with the NRC comment(s) and will implement the above requirement(s) in applicable Surveillance Procedures and associated schedules.

RESPONSE TO COMMENT #6 (Cont'd)

b.1) A new surveillance requirement for calibration at each refueling interval for the helium purification dryer inlet temperature, the helium purification pumpdown line pressure and for the reactor plant cooling water surge tank cover gas pressure has been proposed by PSC. These proposed surveillances assure operational readiness of the components. Temperature instruments are supplied with ACM electrical power to monitor helium purification dryer inlet temperature and provide information about the adequacy of cooling for processing of reactor coolant by the purification system. The pressure instruments in the helium purification system pumpdown line allow monitoring of the progress of PCRV depressurization and also monitors PCRV pressure subsequently. Each PCRV liner cooling outlet subheader is equipped with a local temperature indicator to indicate the potential need to increase system pressure to prevent boiling; that pressure is monitored at the surge tanks where the cover gas pressure can be adjusted as required.

b.2) The new proposed surveillances concerning the aforementioned instruments provide information to assure operational readiness of the systems they serve. Procedure SR-RE-80-X, (10-18-85), ACM INSTRUMENTS CALIBRATION, is utilized to calibrate local indicators for the helium purification dryer inlet temperature (TI-23157), pumpdown line pressure (PI-23162 and PI-23163), and system 46 surge tank cover gas pressure (PI-4665 and PI-4666). These calibrations are performed annually and are consistent with the Standard Technical Specifications.

The functions to be monitored by these instruments include the progress of PCRV depressurization, cooling for adequate operation of the helium purification system, prevention of boiling in the PCRV liner cooling water system, and radioactivity of gaseous effluents.

COMMENT #7

7. SR 5.2.24 - Reactor Auxiliary Cooling Water Systems Surveillance.

The title of this surveillance requirement has been changed from Circulating Water Makeup System Surveillance. We find this acceptable.

a) and c) No NRC comments.

b) The surveillance interval for functionally testing each circulating water pump is proposed to be extended to monthly from weekly. As the monthly interval is in accordance with the ASME Code and surveillance requirements have been added to the proposed change regarding instrument calibration, pump performance capability and mechanical condition, we find the proposed change acceptable.

d) The proposed surveillance requirement would be a new requirement pertaining to the integrity of the circulating water makeup pond embankments. The proposed addition is consistent with LWR service water requirements and is considered acceptable.

e) The proposed surveillance requirement would be a new requirement pertaining to the testing of each service water pump and the associated instruments. We have reviewed these requirements and have found them in partial accord with the ASME Code. We would find them acceptable if the licensee either conforms to the detailed requirements of the ASME Code or provides an acceptable alternative.

f) The proposed surveillance requirement would be a new requirement pertaining to the testing of each reactor plant cooling water pump and the associated instruments. We have reviewed these requirements and have found them in partial accord with the ASME Code. We would find them acceptable if the licensee either conforms to the detailed requirements of the ASME Code or provides an acceptable alternative.

g) The proposed surveillance requirement would be a new requirement pertaining to the testing of each purification cooling water pump and the associated instruments. We have reviewed these requirements and have found them in partial accord with the ASME Code. We would find them acceptable if the licensee either conforms to the detailed requirements in accordance with the ASME Code or provides an acceptable alternative.

h) The proposed surveillance requirement would be a new requirement pertaining to the testing and calibration of instruments and valves used for automatic isolation of portions of the reactor plant cooling water system. We find that an interval of each refueling cycle not to exceed 18 months for a full stroke test of each valve is acceptable for those valves that cannot be tested during plant operation. However, the interval for a functional check of those valves and instruments capable of being tested by a partial stroke should be performed semi-annually in accordance with the precedent of SR 5.2.21 or quarterly in accordance with the guidance of the ASME Code.

RESPONSE TO COMMENT #7

SR 5.2.24 b) and d) The above requirements will be incorporated into existing Surveillance Procedures and their associated schedules.

e), f) and g): The major pump parameters, as your review indicates, are in agreement with the ASME Code Subsection IGP and are pertinent for inclusion into the Technical Specifications. However, there are many other detailed requirements listed in the ASME Code which will be included in existing plant surveillance procedures, but are too detailed for inclusion in the Technical Specifications. It is PSC's practice to use Section XI Code requirements in the appropriate plant surveillance procedure.

h) PSC concurs with the NRC comment to limit the time between full functional tests to no more than 18 months. Partial stroking and full stroking of the valves used for automatic isolation of portions of the reactor plant cooling water system and the purification cooling water system will be performed twice annually as recommended by the NRC.

COMMENT #8

8. SR 5.3.4 - Safe Shutdown Cooling Valves Surveillance

The licensee proposes to test valves used for safe shutdown cooling on an annual basis or following scheduled plant shutdown. This is not acceptable except for cases where it is not physically possible to perform a more frequent surveillance. For those valves that can be tested during reactor operation, are required to initiate and function during safe shutdown cooling, and which are not called upon to operate during normal plant operation, the licensee should provide testing requirements and intervals in conformance with the ASME Code.

RESPONSE TO COMMENT #8

PSC concurs with the NRC comment which limits time between tests to 18 months and requires partial stroking in accordance with Paragraphs IGV-3411 and IGV-3412 of Section XI, Division 2 of the ASME Pressure Vessel Code. The above requirement will be implemented in applicable Surveillance Procedures and their associated schedules.

COMMENT #9

9. SR 5.3.9 - Safety Valves Surveillance

a) This proposed surveillance would require verification of safety valve setpoints at five year intervals for the steam generator superheater, reheater and steam/water dump tank. The requirement is satisfactory provided 1) that a schedule for additional testing is developed for any valve in a system that fails to function on a regular test and 2) that an acceptable test procedure is developed or referenced. Conformance to the ASME Code (Subsection IGV) for Class C valve testing would meet the above requirements and simplify the development of an acceptable technical specification requirement.

b) The licensee proposed that all other Class I safety valves not covered by other surveillance requirements shall be setpoint tested at 10 year intervals. This is unacceptable. The licensee should conform with the ASME Code in this matter.

RESPONSE TO COMMENT #9

General - Please note that Amendment #39, which was approved 1/25/84, superseded the text of SR 5.3.9 which the NRC reviewed. Responses are based on the current text.

a) A schedule for additional testing reflected in IGV-3513 of ASME Code Section XI, Division 2 will be incorporated in appropriate procedures and schedules.

Following are PSC Surveillance Procedures developed for Safety Valve surveillances:

1. Steam Generator Superheater Safety valve Test (Main Steam) SR 5.3.9.1-2.5Y (Issue 3) Effective Date 1-4-85.

2. Steam-Generator Reheater Safety Valve Test, SR 5.3.9.2-2.5Y (Issue 4) Effective Date 12-14-84.

3. Dump Tank Safety Valve Test SR 5.3.9.3-2.5Y (Issue 4) Effective Date 1-11-85.

RESPONSE TO COMMENT #9 (CONTINUED)

b) All other Class I safety valves not covered by Technical Specification Surveillance Requirements are tested at 5 year intervals per the ASME Code. Therefore, this paragraph has been deleted from the 12/30/83 amendment application. Furthermore, these other safety valves are not relied upon to prevent or mitigate any accident that is analyzed in the FSAR. They are provided for pressure boundary integrity only. All Class I safety valves are presently tested according to applicable Code requirements and will be included in the separate ISIT Program for FSV.

COMMENT #10

10. SR 5.4.4 - PCRV Cooling Water System Temperature Instrument Surveillance

a) The proposed surveillance requirement clarifies the monthly monitoring of the PCRV cooling system water inlet temperature, individual tube water outlet temperatures, and the associated outlet temperature alarms. We find the proposed clarification acceptable.

b) The proposed surveillance requirement clarifies requirements for annual calibration of the temperature monitoring scanner, the inlet and outlet header temperature indicators, and the outlet subheader temperature indicators. We find the proposed clarification acceptable.

c) The proposed surveillance requirement would extend calibration of the inlet header and tube outlet thermocouples from an annual interval to a five year interval. We do not find this surveillance interval extension acceptable since no justification has been provided.

RESPONSE TO COMMENT #10

SR 5.4.4 a) and b) - The above requirements will be incorporated into existing Surveillance Procedures and their associated schedules.

SR 5.4.4 c) - Lack of direct accessibility to certain thermocouples during operation makes it impractical to calibrate on a yearly basis the percentage of instruments currently specified in SR 5.4.4. Because all instruments are of similar design, and because operating conditions are not severe, it is not anticipated, as confirmed by experience to date, that any substantial differences in instrument behavior will occur over time between the various subheaders. SR 5.4.4 was therefore changed to provide more flexibility in the selection of thermocouples to be calibrated in any particular year, while specifying a five year calibration cycle for all the thermocouples which provide input to the scanner. Currently, the thermocouples are calibrated on a six year cycle. The remaining requirements of SR 5.4.4 (monthly scanner temperature alarm check and annual calibration of subheader outlet temperature indicators) were found to be adequate.

RESPONSE TO COMMENT #10 (CONTINUED)

Technical Specification SR 5.4.5 currently includes requirements for a monthly readout of flow, a monthly check of the alarms, and an annual calibration of the flow scanner and alarms. It also requires an annual calibration for six of the thirty-six subheader flow transmitters. Since the reactor may have to be shut down (to comply with LCO 4.2.14) to remove and replace the flow meters, SR 5.4.5 has been changed to allow the calibration interval to extend to the next scheduled shutdown.

These existing surveillance requirements, as modified above, are sufficient to assure that heat loads can be accurately determined and that abnormal flow and temperature conditions are alarmed.

COMMENT #11

11. SR 5.4.5 - PCRV Cooling Water System Flow Instruments Surveillance

The proposed surveillance would extend annual calibration of the flow scanner instruments and alarms and the six subheader flowmeters to the next scheduled plant shutdown if they were not calibrated during the previous year. We find this extension acceptable up to a surveillance interval not exceeding 18 months since the potentials for additional plant transients are reduced and since the LWR-STS, in general, specifies surveillance intervals not to exceed 18 months when utilizing intervals of shutdown or refueling.

RESPONSE TO COMMENT #11

SR 5.4.5 - PSC concurs with the NRC comment and will implement the above requirement in the applicable Surveillance Procedure and associated schedule.

COMMENT #12

12. SR 5.5.3 - Reactor Building Exhaust Surveillance

a)-d) No NRC comments.

e) The proposed surveillance requirement would verify at weekly intervals that the total pressure drop across the HEPA filter and charcoal absorber banks to be less than six inches of water at filter design flow ± 10 percent. Subsequent to this proposal the Draft Upgrade Technical Specifications have been issued and it is our opinion that appropriate portions of Draft Item 4.6.5.2.c.3, "Reactor Building Exhaust System," which generally specifies the testing requirements given in the Standard Technical Specifications, should be utilized in lieu of PSC's proposal.

f) The proposed surveillance requirement would verify annually the performance capability and mechanical condition of each exhaust fan or at the next scheduled shutdown if such verification was not performed during the previous year. We find this surveillance requirement acceptable provided that the surveillance interval does not exceed 18 months, since the LWR-STS, in general, specifies surveillance intervals not to exceed 18 months when utilizing intervals of shutdown or refueling.

g) The proposed surveillance would require calibration of the instrumentation associated with the filters and fans at annual intervals or at the next scheduled shutdown if calibration was not performed during the previous year. We find these surveillance requirements are acceptable up to a surveillance interval not exceeding 18 months since the potentials for additional plant transients are reduced and since the LWR-STS, in general, specifies surveillance intervals not to exceed 18 months when utilizing intervals of shutdown or refueling.

RESPONSE TO COMMENT #12

SR 5.5.3 e), f) and g) - PSC agrees with the NRC comment(s) and will implement the above requirement(s) in applicable Surveillance Procedures and associated schedules.

COMMENT #13

13. SR 5.7.2a - Fuel Storage Facility Surveillance

The proposed surveillance would require an annual functional test of the emergency ventilation system. This surveillance, together with parts a and b of SR 5.7.2c, have been substantially revised in Draft Item 4.9.3, "Fuel Storage Well. We believe action on this item should be deferred until discussions on comment 13U below are completed.

13U. Draft Item 4.9.3 - Fuel Storage Well

The material in this Draft Item appears to represent an improved and better developed surveillance than that described in SR 5.7.2 and should be considered for inclusion in SR 5.7.2a.

RESPONSE TO COMMENT #13 and #13U

PSC concurs with the NRC comment(s) and will implement the above requirement(s) in applicable Surveillance Procedures and associated schedules.