

BASIS FOR CHANGE

Per AP&L's commitment in our November 6, 1980 letter we are submitting the attached Technical Specification change to cover similar surveillance and chlorination procedures on the Reactor Building coolers as already exist on ANO-2. With the addition of flow instrumentation in the service water lines to the Reactor Building coolers this change is possible.

systems which will not remove more than one train of each system from service. Maintenance shall not be performed on components which would make the affected system train inoperable for more than 24 consecutive hours. Prior to initiating maintenance on any component of a train in any system, the redundant component of that system shall be demonstrated to be operable within 24 hours prior to the maintenance.

- 3.3.6 If the conditions of Specifications 3.3.1, 3.3.2, 3.3.3, 3.3.4 and 3.3.5 cannot be met except as noted in 3.3.7 below, reactor shutdown shall be initiated and the reactor shall be in hot shutdown condition within 36 hours, and, if not corrected, in cold shutdown condition within an additional 72 hours.
- 3.3.7 Exceptions to 3.3.6 shall be as follows:
- (A) If the conditions of Specification 3.3.1(F) cannot be met, reactor operation is permissible only during the succeeding seven days unless such components are sooner made operable, provided that during such seven days the other BWST level instrument channel shall be operable.
 - (B) If the conditions of Specification 3.3.3(D) cannot be met, reactor operation is permissible only during the succeeding seven days unless such components are sooner made operable, provided that during such seven days the other CFT instrument channel (pressure or level) shall be operable.
 - (C) If the conditions of Specification 3.3.4(A) cannot be met because one group of the required reactor building emergency cooling units is inoperable but both reactor building spray systems are operable, restore the inoperable group of cooling units to operable status within 7 days or be in at least hot standby within the next 6 hours and in cold shutdown within the following 30 hours.
 - (D) If the conditions of Specification 3.3.4(A) cannot be met because two groups of the required reactor building emergency cooling units are inoperable but both reactor building spray systems are operable, restore at least one group of cooling units to operable status within 72 hours or be in at least hot standby within the next 6 hours and in cold shutdown within the following 30 hours. Restore both above required groups of cooling units to operable status within 7 days of initial loss or be in at least hot standby within the next 6 hours and in cold shutdown within the following 30 hours.

- (E) If the conditions of Specification 3.3.4(A) cannot be met because one group of the required reactor building emergency cooling units are inoperable and one reactor building spray system is inoperable, restore the inoperable spray system to operable status within 72 hours or be in at least hot standby within the next 6 hours and in cold shutdown within the following 30 hours. Restore the inoperable group of reactor building emergency cooling units to operable status within 7 days of initial loss or be in at least hot standby within the next 6 hours and in cold shutdown within the following 30 hours.
- (F) If the conditions of Specification 3.3.4(A) cannot be met because any cooling units of the required groups is inoperable because its associated fan is inoperable, verify that the operable cooling unit in that group has a service water flow rate \geq 1200 gpm through its cooling coils or restore the inoperable cooling unit to operable status within 72 hours or be in at least hot standby within the next 6 hours and in cold shutdown within the following 30 hours.

Bases

The requirements of Specification 3.3.1 assure that below 350F, adequate long term core cooling is provided. Two low pressure injection pumps are specified. However, only one is necessary to supply emergency coolant to the reactor in the event of a loss-of-coolant accident.

The post-accident reactor building cooling and long-term pressure reduction may be accomplished by four cooling units, by two spray units or by a combination of one cooling unit and one spray unit. Post-accident iodine removal may be accomplished by one of the two spray system strings. The specified requirements assure that the required post-accident components are available for both reactor building cooling and iodine removal. Specification 3.3.1 assures that the required equipment is operational.

The borated water storage tank is used for three purposes:

- (A) As a supply of borated water for accident conditions.
- (B) As an alternate supply of borated water for reaching cold shutdown.(2)
- (C) As a supply of borated water for flooding the fuel transfer canal during refueling operation.(3)

4.5.2 Reactor Building Cooling Systems

Applicability

Applies to testing of the reactor building cooling systems.

Objective

To verify that the reactor building cooling systems are operable.

Specification

4.5.2.1 System Tests

4.5.2.1.1 Reactor Building Spray System

- (a) Once every 18 months, a system test shall be conducted to demonstrate proper operation of the system. A test signal will be applied to demonstrate actuation of the reactor building spray system (except for reactor building inlet valves to prevent water entering nozzles).
- (b) Station compressed air or smoke will be introduced into the spray headers to verify the availability of the headers and spray nozzles at least every five years.
- (c) The test will be considered satisfactory if visual observation and control board indication verifies that all components have responded to the actuation signal properly.

4.5.2.1.2 Reactor Building Cooling System

- (a) At least once per 14 days, each reactor building cooling group shall be tested to demonstrate proper operation of the system. The test shall be performed in accordance with the procedure summarized below:
 - (1) Verifying a service water flow rate of \geq 1200 gpm to each group of cooling units.
 - (2) Chlorinating the service water during the surveillance in 4.5.2.1.2.a.1 above, whenever service water temperature is between 60F and 80F.
- (b) At least once per 31 days, each reactor building cooling group shall be tested to demonstrate proper operation of the system. The test shall be performed in accordance with the procedure summarized below:
 - (1) Starting (unless already operating) each operational cooling unit from the control room.

- (2) Verifying that each operational cooling unit operates for at least 15 minutes.
- (c) Once every 18 months, a system test shall be conducted to demonstrate proper operation of the system. The test shall be performed in accordance with the procedure summarized below:
- (1) A test signal will be applied to actuate the reactor building cooling operation.
 - (2) Verification of the engineered safety features function of the service water system which supplies the reactor building coolers shall be made to demonstrate operability of the coolers.
 - (3) The test will be considered satisfactory if control board indication verifies that all components have responded to the actuation signal properly.

4.5.2.2 Component Tests

4.5.2.2.1 Pumps

At intervals not to exceed 3 months the reactor building spray pumps shall be started and operated to verify proper operation. Acceptable performance will be indicated if the pump starts, operates for fifteen minutes, and the discharge pressure and flow are within +10% of a point on the pump head curve.

4.5.2.2.2 Valves

At intervals not to exceed three months each engineered safety features valve in the reactor building spray and reactor building cooling system and each engineered safety features valve associated with reactor building cooling in the service water system shall be tested to verify that it is operable.

Bases

The reactor building cooling system and the reactor building spray system are redundant to each other in providing post-accident cooling of the reactor building atmosphere to prevent the building pressure from exceeding the design pressure. As a result of this redundancy in cooling capability, the allowable out of service time requirements for the reactor building cooling system have been appropriately adjusted. However, the allowable out of service time requirements for the reactor building spray system have been maintained consistent with that assigned other inoperable engineered safeguard equipment since the reactor building spray system also provides a mechanism for removing iodine from the reactor building atmosphere.

Service water chlorination is performed during reactor building cooler surveillance to prevent buildup of Asian clams in the coolers when service water is pumped through the cooling coils. This is performed when service water temperature is between 60F and 80F since in this water temperature range Asian clams can spawn and produce larva which could pass through service water system strainers.

The delivery capability of one reactor building spray pump at a time can be tested by opening the valve in the line from the borated water storage tank, opening the corresponding valve in the test line, and starting the corresponding pump. Pump discharge pressure and flow indication demonstrate performance.

With the pumps shut down and the borated water storage tank outlet closed, the reactor building spray injection valves can each be opened and closed by operator action. With the reactor building spray inlet valves closed, low pressure air or smoke can be blown through the test connections of the reactor building spray nozzles to demonstrate that the flow paths are open.

The equipment, piping, valves, and instrumentation of the reactor building cooling system are arranged so that they can be visually inspected. The cooling units and associated piping are located outside the secondary concrete shield. Personnel can enter the reactor building during power operations to inspect and maintain this equipment. The service water piping and valves outside the reactor building are inspectable at all times. Operational tests and inspections will be performed prior to initial startup.