CONTAINMENT SYSTEMS

CHEMICAL ADDITION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.3 The chemical addition system shall be OPERABLE with:

a. A chemical addition tank containing at least 4700 gallons of between 19.5 and 20 percent by weight NaOH solution, and

b. ~~Four chemical injection pumps~~ Two chemical injection subsystems each capable of adding NaOH solution from the chemical addition tank to a containment quench spray system pump flow.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With ~~the~~ one chemical addition ~~system~~ subsystem inoperable, restore the ~~system~~ to OPERABLE status within 72 hours or be in HOT STANDBY within the next 6 hours; restore the chemical addition ~~system~~ to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the next 36 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.3 The chemical addition system shall be demonstrated OPERABLE:

a. At least once per 31 days 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.

b. By verifying, that on recirculation flow, each pump develops a flow between ~~31~~ 25 and ~~35~~ 35 gpm when tested pursuant to Specification 4.0.5.

PROPOSED

SURVEILLANCE REQUIREMENTS (Continued)

c. At least once per 6 months by:

1. Verifying the contained solution volume in the tank, and

2. Verifying the concentration of the NaOH solution by chemical analysis.

d. At least once per 18 months, during shutdown, by:

1. Cycling each valve in the chemical addition system flow path that is not testable during plant operation, through at least one complete cycle of full travel.

2. Verifying that each automatic valve in the flow path actuates to its correct position on a test signal.

3. Verifying that each chemical injection pump starts automatically on a test signal.

4. Verifying that in each subsystem with two chemical injection pumps operating, one pump will stop following closure of the cut back control valve.

3/4.4.6.1 LEAKAGE DETECTION SYSTEMS

The RCS leakage detection systems required by this specification are provided to monitor and detect leakage from the Reactor Coolant Pressure Boundary. These detection systems are consistent with the recommendations of Regulatory Guide 1.45, "Reactor Coolant Pressure Boundary Leakage Detection Systems."

3/4.4.6.2 OPERATIONAL LEAKAGE

Industry experience has shown that while a limited amount of leakage is expected from the RCS, the unidentified portion of this leakage can be reduced to a threshold value of less than 1 gpm. This threshold value is sufficiently low to ensure early detection of additional leakage.

The 10 gpm IDENTIFIED LEAKAGE limitation provides allowance for a limited amount of leakage from known sources whose presence will not interfere with the detection of UNIDENTIFIED LEAKAGE by the leakage detection systems.

The CONTROLLED LEAKAGE limitation restricts operation when the total flow supplied to the reactor coolant pump seals exceeds 28 gpm with the modulating valve in the supply line fully open at RCS pressures in excess of 2,000 psig. This limitation ensures that in the event of a LOCA, the safety injection flow will not be less than assumed in the accident analyses.

The total steam generator tube leakage limit of 1 gpm for all steam generators not isolated from the RCS ensures that the dosage contribution from the tube leakage will be limited to a small fraction of Part 100 limits in the event of either a steam generator tube rupture or steam line break. The 1 gpm limit is consistent with the assumptions used in the analysis of these accidents. The 500 gpd leakage limit per steam generator ensures that steam generator tube integrity is maintained in the event of a main steam line rupture or under LOCA conditions.

PRESSURE BOUNDARY LEAKAGE of any magnitude is unacceptable since it may be indicative of an impending gross failure of the pressure boundary. Should PRESSURE BOUNDARY LEAKAGE occur through a component which can be isolated from the balance of the Reactor Coolant System, plant operation may continue provided the leaking component is promptly isolated from the Reactor Coolant System since isolation removes the source of potential failure.

PROPOSED

3/4.4.6.3 PRESSURE ISOLATION VALVE LEAKAGE

The leakage from any RCS pressure isolation valve is sufficiently low to ensure early detection of possible in-series valve failure. It is apparent that when pressure isolation is provided by two in-series valves and when failure of one valve in the pair can go undetected for a substantial length of time, verification of valve integrity is required. Since these valves are important in preventing overpressurization and rupture of the ECCS low pressure piping which could result in a LOCA, these valves should be tested periodically to ensure low probability of gross failure.

The Surveillance Requirements for RCS pressure isolation valves provide added assurance of valve integrity thereby reducing the probability of gross valve failure and consequent intersystem LOCA. Leakage from the RCS pressure isolation valve is IDENTIFIED LEAKAGE and will be considered as a portion of the allowed limit.

3/4.4.7 CHEMISTRY

The limitations on Reactor Coolant System chemistry ensure that corrosion of the Reactor Coolant System is minimized and reduces the potential for Reactor Coolant System leakage or failure due to stress corrosion. Maintaining the chemistry within the Steady State Limits provides adequate corrosion protection to ensure the structural integrity of the Reactor Coolant System over the life of the plant. The associated effects of exceeding the oxygen, chloride and fluoride limits are time and temperature dependent. Corrosion studies show that operation may be continued with contaminant concentration levels in excess of the Steady State Limits, up to the Transient Limits, for the specified limited time intervals without having a significant effect on the structural integrity of the Reactor Coolant System. The time interval permitting continued operation within the restrictions of the Transient Limits provides time for taking corrective actions to restore the contaminant concentrations to within the Steady State Limits.

The surveillance requirements provide adequate assurance that concentrations in excess of the limits will be detected in sufficient time to take corrective action.

3/4.4.8 SPECIFIC ACTIVITY

The limitations on the specific activity of the primary coolant ensure that the resulting 2 hour doses at the site boundary will not exceed an appropriately small fraction of Part 100 limits following a steam generator tube rupture accident in conjunction with an assumed steady state primary-to-secondary steam generator leakage rate of 1.0 GPM.

ATTACHMENT A-2

Beaver Valley Power Station, Unit No. 2
Proposed Technical Specification Change No. 50

Revise the Technical Specifications as follows:

Remove Page	Insert Page
3/4 6-14	3/4 6-14

CONTAINMENT SYSTEMS

CHEMICAL ADDITION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.3 The chemical addition system shall be OPERABLE with:

a. A chemical addition tank containing at least 8500 gallons of between 23 and 25 percent by weight NaOH solution, and

b. Two chemical injection ~~pumps~~ subsystems each capable of adding NaOH solution from the chemical addition tank to a containment quench spray system pump flow.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With ~~the~~ one chemical addition ~~system~~ subsystem inoperable, restore the ~~system~~ to OPERABLE status within 72 hours or be in HOT STANDBY within the next 6 hours; restore the chemical addition ~~system~~ to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the next 36 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.3 The chemical addition system shall be demonstrated OPERABLE:

a. At least once per 31 days 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.

b. By verifying that on recirculation flow, each injection pump develops a flow between 40 and 60 gpm when tested pursuant to Specification 4.0.5.

c. At least once per 6 months by:

1. Verifying the contained solution volume in the tank, and

2. Verifying the concentration of the NaOH solution by chemical analysis.

d. At least once per 18 months, during shutdown, by:

1. Cycling each valve in the chemical addition system flow path that is not testable during plant operation, through at least one complete cycle of full travel.

2. Verifying that each automatic valve in the flow path actuates to its correct position on a test signal.

3. Verifying that each chemical injection pump starts automatically on a test signal.

PROPOSED

ATTACHMENT B

Beaver Valley Power Station, Unit No. 1 and 2
Proposed Technical Specification Change No. 186 and 50
REVISION OF 3.6.2.3 AND ADDITION OF BASES 3/4.4.6.3

A. DESCRIPTION OF AMENDMENT REQUEST

The proposed amendment would modify the BV-1 and BV-2 Limiting Condition for Operation (LCO) and Action statement of Specification 3.6.2.3, Chemical Addition System (CAS), to address respective engineered safety feature (ESF) subsystems. The surveillance requirements include a revision to address chemical injection pump automatic actuation testing. The BV-1 chemical injection pump flow requirements have been changed to incorporate the results of a new analysis. A change, unrelated to the above, adds Bases 3/4.4.6.3, Pressure Isolation Valve Leakage, to the BV-1 Bases.

B. BACKGROUND

Previously the NRC Resident Inspector performed a review of the BV-1 CAS including Technical Specification (TS) 3.6.2.3 and the UFSAR. It was determined that the surveillance testing was appropriate for the CAS, however, the surveillance requirements of the Technical Specifications did not address the level of testing performed. Some potential enhancements for future TS changes were identified at that time. Our resolution of this concern included an evaluation of a new system [Tri Sodium Phosphate (TSP)] for replacement of the CAS. The TSP system has been under review by our Engineering Department to determine if replacing the CAS is appropriate. We have since been informed that the CAS will not be replaced by the TSP system. Therefore, in reviewing the previous course of action, we have determined that the changes proposed herein are appropriate for inclusion in the TS. We have also determined that similar changes are appropriate for the BV-2 TS.

The BV-1 Bases Section 3/4.4.6.3 is being added to be consistent with the BV-2 Bases. At the time the BV-1 TS were changed to incorporate NRC concerns there did not exist a proposed wording for the Bases section.

The BV-1 changes consist of:

1. Change 3.6.2.3.b to address "Two chemical injection subsystems" in lieu of "Four chemical injection pumps".

2. Change the action statement to address one inoperable subsystem.

3. Add Surveillance Requirement 4.6.2.3.d.3 to verify each chemical injection pump starts automatically on a test signal, and 4.6.2.3.d.4 to verify one chemical injection pump per subsystem will automatically stop on a signal from the cutback control valve.

4. Change the chemical injection pump flow requirements of Surveillance Requirement 4.6.2.3.b from between "31 and 34" to "25 and 35".

5. Move the end paragraph of Bases 3/4.4.6.2 Operational Leakage from page B 3/4 4-4 to page B 3/4 4-3. Add Bases 3/4.4.6.3 Pressure Isolation Valve Leakage to page B 3/4 4-4.

The BV-2 changes consist of:

1. Change 3.6.2.3.b to address "Two chemical injection subsystems" in lieu of "Two chemical injection pumps".

2. Change the action statement to address one inoperable subsystem.

3. Add Surveillance Requirement 4.6.2.3.d.3 to verify each chemical injection pump starts automatically on a test signal.

C. JUSTIFICATION

BV-1 TS 3.6.2.3 requires 4700 gallons of between 19.5 and 20.0% by weight of NaOH solution and four chemical injection pumps capable of adding the solution to the quench spray pump flow. The surveillance requirements verify pump operability on a 31 day frequency by manually running each pump and measuring flow. The TS action statement allows the CAS to be inoperable for up to 72 hours before plant shutdown is required. This TS does not provide a distinction between the two redundant subsystems (ESF trains powered by independent emergency electrical sources), nor does it require verification that each pump will start automatically on a test signal at least once per 18 months during shutdown consistent with other ESF pump testing.

The Standard Technical Specifications (STS) address the chemical additive tank volume and concentration requirements with respect to operability of two spray additive eductors which are passive devices that add NaOH solution to the quench spray pump suction piping by gravity feed. The STS surveillance requirements parallel the BV-1 TS with the exception of a five year test of the solution flow rate by gravity feed which is not applicable to a system using chemical injection pumps. No reference is made in the STS to the chemical injection pumps because this is not a standard design feature. BV-1 TS Amendment No. 28 incorporated the current requirements of Specification 3.6.2.3 to assure that a metered amount of caustic solution was added to the quench spray for iodine scrubbing and sump pH control. The system was evaluated for consideration of the effects of a single failure to assume that at least one spray path with a pH of 8.5 to 11 would be provided during an accident. The current BV-1 TS action statement allows this entire system to be out of service for up to 72 hours. In comparing this action statement to the philosophy applied to the other ESF systems with redundant trains, such as the quench spray requirements of Specification 3.6.2.1, the other action statements address the inoperability of one subsystem and Specification 3.0.3 is then applied when both

trains are inoperable. Therefore, changing the BV-1 TS 3.6.2.3 LCO and action requirements to address two independent subsystems is consistent with the requirements of other ESF systems with redundant trains. The BV-2 chemical addition system consists of one chemical injection pump in each of two independent subsystems and is designed to ensure the single failure criteria is adequately addressed. Therefore, the BV-2 LCO and action requirements have been revised to address subsystem operability for consistency with the BV-1 requirements.

Surveillance Requirement (SR) 4.6.2.3.d.3 has been added to both unit's TS to verify the chemical injection pumps start automatically on a test signal at least once per 18 months during shutdown. This testing is consistent with the accident analysis and is verified by current surveillance procedures.

SR 4.6.2.3.d.4 has been added to the BV-1 TS to verify that in each subsystem with two chemical injection pumps operating, one pump will stop following closure of the cutback control valve. Testing of this design feature is consistent with the accident analysis and is verified by current surveillance procedures. This SR has not been added to the BV-2 TS. The BV-2 system design only uses one chemical injection pump per subsystem, therefore, this SR is not applicable.

BV-1 SR 4.6.2.3.b has been modified by changing the chemical injection pump flow requirements to reflect the results of a new analysis performed to ensure the containment sump and spray pH are maintained in accordance with the criteria specified in the UFSAR. The analysis was updated to incorporate changes in applicable setpoints provided in TS Amendment No. 155 and to incorporate the BV-2 reference curve for determining pH based on the boric acid and NaOH concentrations.

The last paragraph of BV-1 Bases section 3/4.4.6.2, Operational Leakage, has been moved from page B 3/4 4-4 to page B 3/4 4-3 to make room on page B 3/4 4-4 to add Bases section 3/4.4.6.3, Pressure Isolation Valve Leakage. TS Section 3.4.6.3, Pressure Isolation Valves, was added by NRC Order dated April 20, 1981 and a Bases section had not been added at that time. To correct that inconsistency, a Bases similar to BV-2 Bases 3/4.4.6.3, Pressure Isolation Valve Leakage, is added here to describe the basis for the specification requirements.

D. SAFETY ANALYSIS

Changing the LCO and action statement of Specification 3.6.2.3 to address "subsystems" in lieu of "pumps" is consistent with the BV-1 UFSAR Section 6.4 and BV-2 UFSAR Section 6.2 system description and conforms with the safety philosophy applied to other ESF systems with redundant trains. Adding SR 4.6.2.3.d.3 to both units TS requires verification that the chemical injection pumps start automatically on a test signal at least once per 18 months during shutdown. This is consistent with the testing requirements applied to other ESF systems to ensure systems are capable of performing the required design function. Adding SR 4.6.2.3.d.4 to the BV-1 TS requires testing a design feature specific to this plant and ensures that in each subsystem when two chemical injection pumps are operating, one pump will stop following closure of the cutback control valve. This is consistent with the design of the system described in UFSAR Section 6.4 and is provided to ensure the pH of the quench spray is maintained within required limits.

The new containment sump and spray pH analysis evaluates the potential circumstances imposed during DBA conditions and demonstrates that the new chemical injection pump flow requirements will satisfy the containment spray and sump pH requirements stated in the BV-1 UFSAR. Therefore, SR 4.6.2.3.b has been modified to incorporate new chemical injection pump flow requirements of between 25 and 35 gpm. This is consistent with the LOCA analysis of UFSAR Section 14.3 and ensures adequate sump and spray pH for iodine removal and corrosion control.

The BV-1 Bases have been modified by incorporating a Bases section similar to BV-2 Bases 3/4.4.6.3, Pressure Isolation Valve Leakage. This corrects an inconsistency where Specification 3.4.6.3, Pressure Isolation Valves, was added to the TS without also adding the appropriate Bases section.

These changes will improve the consistency of the TS by modifying the LCO, action statement and SR to reflect the safety philosophy applied to the other ESF systems with redundant trains. These changes are consistent with the UFSAR system description and accident analysis and provide appropriate testing requirements to ensure equipment operability. Therefore, the proposed changes are considered to be safe and will not reduce the safety of the plant.

E. NO SIGNIFICANT HAZARDS EVALUATION

The no significant hazard considerations involved with the proposed amendment have been evaluated, focusing on the three standards set forth in 10 CFR 50.92(c) as quoted below:

> The Commission may make a final determination, pursuant to the procedures in paragraph 50.91, that a proposed amendment to an operating license for a facility licensed under paragraph 50.21(b) or paragraph 50.22 or for a testing facility involves no significant hazards consideration, if operation of the facility in accordance with the proposed amendment would 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.

The following evaluation is provided for the no significant hazards consideration standards.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The proposed changes conform with the safety philosophy applied to other ESF systems with redundant trains. The LCO and action statements of Specification 3.6.2.3, Chemical Addition System, have been revised to differentiate between the redundant subsystems and provide action requirements in a manner consistent with action requirements specified for other ESF systems. Surveillance requirements have been added to provide for additional testing appropriate for the system design to ensure the respective design features are operable. New BV-1 chemical injection pump flow requirements have been incorporated to reflect new analysis results. These changes are consistent with the UFSAR system description and LOCA analysis, no UFSAR changes are required, therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The chemical addition system will continue to be operated and tested in accordance with applicable procedures. These procedures currently reflect the TS surveillance testing requirements along with the UFSAR testing requirements. This proposed change incorporates those UFSAR testing requirements not currently addressed by the TS into the TS to ensure all testing requirements are satisfied. Therefore, no new or different procedures are involved. Changing the LCO and action requirements to specify "subsystem" in lieu of "pumps" provides clarification of the train operability requirements and reflects the UFSAR system design description. An analysis has been performed to determine the limiting range of chemical injection pump flow requirements during all phases of containment spray following a LOCA. The new range bounds the current range to ensure the containment sump and spray pH requirements are met during all phases of chemical addition system operation. Therefore the proposed changes will not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the change involve a significant reduction in a margin of safety?

   The accident analyses assume at least one chemical addition subsystem will operate following a LOCA. The current TS allows both subsystems to be inoperable for up to 72 hours. The proposed change will modify this to only allow one inoperable subsystem for a 72 hour period and then Specification 3.0.3 will be applied when both subsystems are inoperable. The current pump testing requirements will continue to be performed, they have been added to the TS surveillance requirements for completeness. The BV-1 pump flow requirements have been reanalyzed to provide the maximum and minimum limits in a manner consistent with the UFSAR system description and accident analysis assumptions. The BV-1 Bases have been modified by incorporating a Bases section similar to BV-2 Bases 3/4.4.6.3, Pressure Isolation Valve Leakage. This corrects an inconsistency where Specification 3.4.6.3, Pressure Isolation Valves, was added to the TS without also adding the appropriate Bases section. These changes are consistent with the UFSAR system descriptions and accident analysis, therefore, the proposed changes do not involve a significant reduction in a margin of safety.

F. NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

Based on the considerations expressed above, it is concluded that the activities associated with this license amendment request satisfies the no significant hazards consideration standards of 10 CFR 50.92(c) and, accordingly, a no significant hazards consideration finding is justified.

G. ENVIRONMENTAL EVALUATION

The proposed changes have been evaluated and it has been determined that the changes do not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed changes meet the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22 (b), an environmental assessment of the proposed changes is not required.

ATTACHMENT C-1

Beaver Valley Power Station, Unit No. 1
Proposed Technical Specification Change No. 186

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3/4 6-16
B 3/4 4-3
B 3/4 4-4

CONTAINMENT SYSTEMS

CHEMICAL ADDITION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.3 The chemical addition system shall be OPERABLE with:

a. A chemical addition tank containing at least 4700 gallons of between 19.5 and 20 percent by weight NaOH solution, and

b. Two chemical injection subsystems each capable of adding NaOH solution from the chemical addition tank to a containment quench spray system pump flow.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTIONS:

With one chemical addition subsystem inoperable, restore the subsystem to OPERABLE status within 72 hours or be in HOT STANDBY within the next 6 hours; restore the chemical addition subsystem to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the next 36 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.3 The chemical addition system shall be demonstrated OPERABLE:

a. At least once per 31 days 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.

b. By verifying, that on recirculation flow, each pump develops a flow between 25 and 35 gpm when tested pursuant to Specification 4.0.5.

SURVEILLANCE REQUIREMENTS (Continued)

c. At least once per 6 months by:

1. Verifying the contained solution volume in the tank, and

2. Verifying the concentration of the NaOH solution by chemical analysis.

d. At least once per 18 months, during shutdown, by:

1. Cycling each valve in the chemical addition system flow path that is not testable during plant operation, through at least one complete cycle of full travel.

2. Verifying that each automatic valve in the flow path actuates to its correct position on a test signal.

3. Verifying that each chemical injection pump starts automatically on a test signal.

4. Verifying that in each subsystem with two chemical injection pumps operating, one pump will stop following closure of the cut back control valve.

3/4.4.6.1 LEAKAGE DETECTION SYSTEMS

The RCS leakage detection systems required by this specification are provided to monitor and detect leakage from the Reactor Coolant Pressure Boundary. These detection systems are consistent with the recommendations of Regulatory Guide 1.45, "Reactor Coolant Pressure Boundary Leakage Detection Systems."

3/4.4.6.2 OPERATIONAL LEAKAGE

Industry experience has shown that while a limited amount of leakage is expected from the RCS, the unidentified portion of this leakage can be reduced to a threshold value of less than 1 gpm. This threshold value is sufficiently low to ensure early detection of additional leakage.

The 10 gpm IDENTIFIED LEAKAGE limitation provides allowance for a limited amount of leakage from known sources whose presence will not interfere with the detection of UNIDENTIFIED LEAKAGE by the leakage detection systems.

The CONTROLLED LEAKAGE limitation restricts operation when the total flow supplied to the reactor coolant pump seals exceeds 28 gpm with the modulating valve in the supply line fully open at RCS pressures in excess of 2,000 psig. This limitation ensures that in the event of a LOCA, the safety injection flow will not be less than assumed in the accident analyses.

The total steam generator tube leakage limit of 1 gpm for all steam generators not isolated from the RCS ensures that the dosage contribution from the tube leakage will be limited to a small fraction of Part 100 limits in the event of either a steam generator tube rupture or steam line break. The 1 gpm limit is consistent with the assumptions used in the analysis of these accidents. The 500 gpd leakage limit per steam generator ensures that steam generator tube integrity is maintained in the event of a main steam line rupture or under LOCA conditions.

PRESSURE BOUNDARY LEAKAGE of any magnitude is unacceptable since it may be indicative of an impending gross failure of the pressure boundary. Should PRESSURE BOUNDARY LEAKAGE occur through a component which can be isolated from the balance of the Reactor Coolant System, plant operation may continue provided the leaking component is promptly isolated from the Reactor Coolant System since isolation removes the source of potential failure.

3/4.4.6.3 PRESSURE ISOLATION VALVE LEAKAGE

The leakage from any RCS pressure isolation valve is sufficiently low to ensure early detection of possible in-series valve failure. It is apparent that when pressure isolation is provided by two in-series valves and when failure of one valve in the pair can go undetected for a substantial length of time, verification of valve integrity is required. Since these valves are important in preventing overpressurization and rupture of the ECCS low pressure piping which could result in a LOCA, these valves should be tested periodically to ensure low probability of gross failure.

The Surveillance Requirments for RCS pressure isolation valves provide added assurance of valve integrity thereby reducing the probability of gross valve failure and consequent intersystem LOCA. Leakage from the RCS pressure isolation valve is IDENTIFIED LEAKAGE and will be considered as a portion of the allowed limit.

3/4.4.7 CHEMISTRY

The limitations on Reactor Coolant System chemistry ensure that corrosion of the Reactor Coolant System is minimized and reduces the potential for Reactor Coolant System leakage or failure due to stress corrosion. Maintaining the chmistry within the Steady State Limits provides adequate corrosion protection to ensure the structural integrity of the Reactor Coolant system over the life of the plant. The associated effects of exceeding the oxygen, chloride and fluoride limits are time and temperature dependent. Corrosion studies show that operation may be continued with contaminant concentration levels in excess of the Steady State Limits, up to the Transient Limits, for the specified limited time intervals without having a significant effect on the structural integrity of the Reactor Coolant System. The time interval permitting continued operation within the restrictions of the Transient Limits provides time for taking corrective actions to restore the contaminant concentrations to within the Steady State Limits.

The surveillance requirements provide adequate assurance that concentrations in excess of the limits will be detected in sufficient time to take corrective action.

3/4.4.8 SPECIFIC ACTIVITY

The limitations on the specific activity of the primary coolant ensure that the resulting 2 hour doses at the site boundary will not exceed an appropriately small fraction of Part 100 limits following a steam generator tube rupture accident in conjunction with an assumed steady state primary-to-secondary steam generator leakage rate of 1.0 GPM.

ATTACHMENT C-2

Beaver Valley Power Station, Unit No. 2
Proposed Technical Specification Change No. 50

Typed Pages: 3/4 6-14

CONTAINMENT SYSTEMS

CHEMICAL ADDITION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.3 The chemical addition system shall be OPERABLE with:

a. A chemical addition tank containing at least 8500 gallons of between 23 and 25 percent by weight NaOH solution, and

b. Two chemical injection subsystems each capable of adding NaOH solution from the chemical addition tank to a containment quench spray system pump flow.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one chemical addition subsystem inoperable, restore the subsystem to OPERABLE status within 72 hours or be in HOT STANDBY within the next 6 hours; restore the chemical addition subsystem to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the next 36 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.3 The chemical addition system shall be demonstrated OPERABLE:

a. At least once per 31 days 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.

b. By verifying that on recirculation flow, each injection pump develops a flow between 40 and 60 gpm when tested pursuant to Specification 4.0.5.

c. At least once per 6 months by:

1. Verifying the contained solution volume in the tank, and
2. Verifying the concentration of the NaOH solution by chemical analysis.

d. At least once per 18 months, during shutdown, by:

1. Cycling each valve in the chemical addition system flow path that is not testable during plant operation, through at least one complete cycle of full travel.

2. Verifying that each automatic valve in the flow path actuates to its correct postiion on a test signal.

3. Verifying that each chemical injection pump starts automtically on a test signal.