

ATTACHMENT A-1

Beaver Valley Power Station, Unit No. 1
Proposed Technical Specification Change No. 199

Revise the Technical Specification as follows:

Remove Pages

3/4 6-5

3/4 6-5a

Insert Pages

3/4 6-5

3/4 6-5a

CONTAINMENT SYSTEMSCONTAINMENT AIR LOCKSLIMITING CONDITION FOR OPERATION

3.6.1.3 Each containment air lock shall be OPERABLE with:

- a. Both doors closed except when the air lock is being used for normal transit entry and exit through the containment, then at least one air lock door shall be closed and
- b. An overall air lock leakage rate of less than or equal to $0.05 L_a$ at P_a (40.0 psig).

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- a. With one containment air lock door inoperable
 1. Maintain the associated OPERABLE air lock door closed and either restore the associated inoperable air lock door to OPERABLE status within 24 hours or lock the associated OPERABLE air lock door closed. (1)
 2. Operation may then continue until performance of the next required overall air lock leakage test provided that the associated OPERABLE air lock door is verified to be locked closed at least once per 31 days.
 3. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
 4. The provisions of Specification 3.0.4 are not applicable.
- b. With ~~a containment air lock~~ inoperable, except as the result of an inoperable air lock door, maintain at least one air lock door closed; restore the inoperable air lock to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

one or more containment air locks

c. ADD INSERT "A"

ADD

(1) Entry and exit is permissible to perform repair of the inner air lock door.

Attachment to "Containment Air Locks"

Insert "A"

- c. With the containment air lock interlock mechanism inoperable in one or more containment air locks:
1. Verify an OPERABLE door is closed in each affected air lock, within 1 hour.
 2. Lock an OPERABLE door closed⁽²⁾ in each affected air lock within 24 hours.
 3. Verify an OPERABLE door is locked closed in each affected air lock at least once per 31 days.
 4. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
 5. The provisions of Specification 3.0.4 are not applicable.

(2) Entry and exit of containment is permissible under control of a dedicated individual.

CONTAINMENT SYSTEMSSURVEILLANCE REQUIREMENTS

4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

- a. Within 72 hours following each containment entry, except when the air lock is being used for multiple entries, then at least once per 72 hours, by verifying no detectable seal leakage when the gap between the door seals is pressurized for at least 2 minutes to:
1. Personnel airlock ≥ 40.0 psig
 2. Emergency air lock ≥ 10.0 psig
- or, by quantifying the total air lock leakage to ensure the requirements of 3.6.1.3.b are met.
- b. By conducting overall air lock leakage tests, at not less than P_a (40.0 psig), and verifying the overall air lock leakage rate is within its limit:
1. At least once per 6 months, ~~and~~ (3)
 2. Upon completion of maintenance which has been performed on the air lock that could affect the air lock sealing capability. (4)
- c. At least once per 18 months during shutdown by verifying:
1. Only one door in each air lock can be opened at a time, and
 2. No detectable seal leakage when the volume between the emergency air lock shaft seals is pressurized to greater than or equal to 40.0 psig for at least 2 minutes.

(3) _____
The provisions of Specification 4.0.2 are not applicable.
(4) Exemption to Appendix J of 10 CFR 50, dated November 19, 1984.

ATTACHMENT A-2

Beaver Valley Power Station, Unit No. 2
Proposed Technical Specification Change No. 66

Revise the Technical Specification as follows:

Remove Pages

3/4 6-4

3/4 6-5

Insert Pages

3/4 6-4

3/4 6-5

CONTAINMENT SYSTEMSCONTAINMENT AIR LOCKSLIMITING CONDITION FOR OPERATION

3.6.1.3 Each containment air lock shall be OPERABLE with:

- a. Both doors closed except when the air lock is being used for normal transit entry and exit through the containment, then at least one air lock door shall be closed, and
- b. An overall air lock leakage rate of less than or equal to $0.05 L_a$ at P_a (44.7 psig).

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- a. With one containment air lock door inoperable
 1. Maintain the associated OPERABLE air lock door closed and either restore the associated inoperable air lock door to OPERABLE status within 24 hours or lock the associated OPERABLE air lock door closed. (1)
 2. Operation may then continue until performance of the next required overall air lock leakage test provided that the associated OPERABLE air lock door is verified to be locked closed at least once per 31 days.
 3. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
 4. The provisions of Specification 3.0.4 are not applicable.
- b. With ~~one~~ containment air lock inoperable, except as a result of an inoperable air lock door, maintain at least one air lock door closed; restore the inoperable air lock to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

one or more containment air locks

c. ADD INSERT "B"

ADD

(1) Entry and exit is permissible to perform repairs of the inner air lock door.

Attachment to "Containment Air Locks"

Insert "B"

c. With the containment air lock interlock mechanism inoperable in one or more containment air locks:

1. Verify an OPERABLE door is closed in each affected air lock, within 1 hour.
2. Lock an OPERABLE door closed⁽²⁾ in each affected air lock within 24 hours.
3. Verify an OPERABLE door is locked closed in each affected air lock at least once per 31 days.
4. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
5. The provisions of Specification 3.0.4 are not applicable.

(2) Entry and exit of containment is permissible under control of a dedicated individual.

CONTAINMENT SYSTEMSSURVEILLANCE REQUIREMENTS

4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

- a. Within 72 hours following each containment entry, except when the air lock is being used for multiple entries, then at least once per 72 hours, by verifying no detectable seal leakage when the gap between the door seals is pressurized for at least 2 minutes to:
 1. Personnel airlock \geq 44.7 psig
 2. Emergency air lock \geq 10.0 psig

or, by quantifying the total air lock leakage to insure the requirements of 3.6.1.3.b are met.
- b. By conducting overall air lock leakage tests, at not less than P_a (44.7 psig), and verifying the overall air lock leakage rate is within its limit:
 1. At least once per 6 months, ~~X~~ and (3) →
 2. Upon completion of maintenance which has been performed on the air lock that could affect the air lock sealing capability. ~~X~~ (4)
- c. At least once per 18 months during shutdown verifying:
 1. Only one door in each air lock can be opened at a time, and
 2. No detectable seal leakage when the volume between the emergency air lock shaft seals is pressurized to greater than or equal to 44.7 psig for at least 2 minutes.

(3) → ~~X~~ The provisions of Specification 4.0.2 are not applicable.

(4) → ~~X~~ Exemption of Appendix J of 10 CFR 50

ATTACHMENT B

Beaver Valley Power Station, Unit Nos. 1 and 2 Proposed Technical Specification Change No. 199 and 66 REVISION OF Specification 3.6.1.3 Titled "Containment Air Locks"

A. DESCRIPTION OF AMENDMENT REQUEST

The proposed change would revise Limiting Condition For Operation (L.C.O.) 3.6.1.3 titled "Containment Air Locks." The L.C.O. action statements would be revised to reflect the condition when one or more air locks are affected by inoperable components. A new action statement "c" would be added to provide guidance for the condition where the containment air lock interlock mechanism is inoperable. Two footnotes would be added to the L.C.O. action statements. The first footnote would apply to action statement "a" and would allow entry and exit through the outer operable air lock door to perform repairs on the inner inoperable air lock door. The second footnote would apply to action statement "c" and would allow entry and exit of containment through the air lock provided a dedicated individual ensures that only one air lock door is opened at a time. The proposed and existing footnotes would be designated by numbers instead of symbols to ensure correct application of each footnote.

B. BACKGROUND

Both Beaver Valley Power Station (BVPS) Unit 1 and 2 have two separate containment air locks. Each air lock is a circular cylinder with doors at each end which are interlocked to prevent simultaneous opening. Each air lock door has been designed and tested to certify its ability to withstand a pressure in excess of the maximum expected pressure following a design basis accident (DBA) in containment. As such, closure of a single door assures that the containment is operable. Each of the doors contain double o-ring seals and local leakage testing capability to ensure pressure integrity. For an air lock to be considered operable, the air lock interlock mechanism must be operable, the air lock must be in compliance with Type B leakage limits, and both air lock doors must be operable.

C. JUSTIFICATION

The proposed revision to L.C.O. 3.6.1.3 action statements would reflect that BVPS Unit 1 and 2 each have two containment air locks, (i.e., personnel air lock and emergency air lock). The current wording of L.C.O. 3.6.1.3 action statements only pertains to a single component being inoperable. A condition where two doors on two separate air locks are inoperable is not addressed by the present L.C.O. wording. The proposed change will clarify this configuration. Containment integrity will continue to be maintained with a single operable door in the closed position.

A footnote would be added to L.C.O. 3.6.1.3 action "a" to clarify that entry and exit is permissible through a maintained closed or locked closed operable door for the purpose of repairing the inoperable inner door. The L.C.O. action statement requires that the remaining operable air lock door be maintained closed and locked closed after a 24 hour period has elapsed. If the inner air lock door is inoperable, then the outer door must be maintained locked closed and the strict interpretation of this action statement would not permit the outer door to be opened at any time while under the guidance of this action statement. Without the clarification provided by the proposed footnote, repair of the inner door on the personnel air lock would pose additional safety risks and increased radiation exposure to maintenance personnel attempting a containment entry via the emergency air lock. The emergency air lock was added for safety concerns to provide a second means of egress from containment. Ingress through the emergency air lock is possible, however, its function is to provide an emergency exit route. Under a emergency condition, rapid egress is required to facilitate medical treatment of injured personnel, if required. Therefore, the emergency air lock is designed to quickly equalize the differential pressure between the inside of the air lock and the outside atmosphere. This rapid equalization has resulted in ruptured ear drums and general personnel discomfort. Also, personnel using the emergency air lock are exposed to higher radiation fields due to the lack of a shield wall between the air lock and the reactor vessel area. The containment crane wall, which provides shielding for the personnel air lock, is open in the area of the emergency air lock. A similar footnote was approved for Virginia Electric and Power Company for North Anna Power Station, Unit Nos. 1 and 2 under amendment nos. 75 and 62 respectively.

A new action statement "c" would be added to L.C.O. 3.6.1.3. This action item would provide compensatory measures in the event an air lock interlock mechanism is inoperable. Action statement "c" compensates for the interlock mechanism being inoperable by precluding any situation where the interlock would be required to operate. Administrative controls would be substituted for the design feature of the interlock. The administrative controls consist of locking closed one operable door and the use of a dedicated individual to ensure that at least one operable air lock door is maintained closed should passage through the air lock be required. A condition where the containment air lock interlock is inoperable is not addressed by the present L.C.O. wording. Since the plant is in a safe condition with the air lock interlock inoperable, passage through the air lock utilizing administrative controls ensures that one air lock door is maintained closed and that containment integrity will continue to be maintained with a single operable door in the closed position.

The two existing footnotes would be designated by numbers instead of symbols to ensure correct application of each footnote. This change is administrative in nature and does not change the intent or application of the footnotes.

D. SAFETY ANALYSIS

The proposed revisions to L.C.O. 3.6.1.3 will continue to ensure that each containment air lock will perform its safety function as part of the containment to control offsite radiation exposures resulting from a design bases accident (DBA). The structural integrity and leak tightness will not be changed as a result of this proposed revision. The addition of the wording "in one or more containment air locks" is administrative in nature and does not affect plant safety. The addition of the footnote, to action statement "a" to allow entry and exit to perform repairs of the inner air lock door, will not significantly reduce the level of plant safety. During the period of time when the outer air lock door is open, for entry or exit, the remaining inoperable door may not provide the degree of leak tightness as required by technical specifications. Due to the subatmospheric design of BVPS containment building(s), the inner air lock door must be closed and in-leakage limited in order to allow the outer door to be opened. A differential pressure of approximately 5 psid exists between the containment and outside plant areas. Also, the design of the inner door is such that the containment pressure resulting from a DBA will tend to improve the door leak tightness during the period of time when an inner air lock door is inoperable and the outer door is open. The probability for an event requiring containment integrity occurring during the limited time when at least one operable door is not closed is sufficiently low to justify limited access for short durations when required. Therefore, based on the above, the addition of the footnote to action "a" will not significantly affect the ability of the air lock to perform its intended function.

The addition of action statement "c" will ensure that at least one operable door is maintained closed should the air lock interlock mechanism be inoperable. This action compensates for the interlock mechanism being inoperable by precluding any situation where the interlock would be required to operate. Administrative controls are substituted for the design feature of the interlock. Therefore, the compensatory measures provided by the proposed action statement "c" will continue to ensure that containment integrity is being maintained while the air lock is being used. With one operable door maintained closed, the containment will function, as assumed, to prevent the release of radioactive materials under the maximum post accident containment pressure.

Therefore, this change is considered safe based on 1) the continued ability of the containment air locks to provide a leak tight barrier, under maximum post accident containment pressure, to prevent the release of radioactive materials from a DBA to ensure the limits established by 10 CFR 100 are not exceeded, or 2) the low probability of a DBA occurring during momentary opening of outer air lock door to facilitate repairs to the inner door.

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 margin of safety.

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

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

The probability of occurrence of a previously evaluated accident is not increased because the containment air locks do not effect the initiation of any design basis accident. The consequences of an accident are also not significantly increased because the proposed revisions to the action statements will continue to ensure that at least one door in each air lock is maintained closed. A single door in each air lock is capable of withstanding a pressure in excess of the maximum expected pressure following a DBA. The structural integrity and leak tightness of the containment will not be changed by this proposed revision. For the brief period of time that an outer air lock door is open and the inoperable inner door is providing the single containment barrier, the consequences of accident may be increased. However, the probability of an event occurring requiring containment integrity is sufficiently remote to justify limited access when required to repair the inner door.

Therefore, based on the continued ability of the containment air locks to provide a barrier to limit leakage from containment during a DBA, this proposed change does 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?

Air lock operation does not interface with the reactor coolant pressure boundary or any other mechanical or electrical controls which could impact the operations of the reactor or its direct support systems.

Containment air locks are designed for the purpose of containment entry and exit. During this operation, the air lock maintains containment integrity by providing at least one door which is capable of providing a leak tight barrier during a DBA.

The proposed changes will continue to ensure that air lock operation is performed as assumed in the original design of the plant. During the period when the outer door is open and the inner door is inoperable, at least one door is being maintained closed as designed. This condition is ensured due to the subatmospheric conditions that exists during plant operation. The outer air lock door can not be opened unless the inner door is closed due to the 5 psi pressure differential that exists. The outer air lock door would only be opened long enough to allow personnel to enter the air lock.

Therefore, this proposed change does 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 applicable margin of safety consists of maintaining the primary containment leak rates within the assumptions of the DBA analysis. These leak rates are maintained provided at least one operable air lock door remains closed during the event.

The proposed revisions will continue to ensure that at least one air lock door is maintained closed. During the brief period of time that an outer air lock door is open and the inoperable inner door is providing the single containment barrier, the margin of safety is decreased. The inoperable inner door may not limit containment leak rates within the assumptions of the DBA analysis. However, the probability of an event requiring the inner air lock door to limit containment leakage occurring during this time period is sufficiently low and the overall margin of safety would not be decreased by a significant amount.

Therefore, this proposed change does 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.

ATTACHMENT C-1

Beaver Valley Power Station, Unit No. 1
Proposed Technical Specification Change No. 199

Typed Pages:

3/4 6-5

3/4 6-5a

3/4 6-5b

CONTAINMENT SYSTEMSCONTAINMENT AIR LOCKSLIMITING CONDITION FOR OPERATION

3.6.1.3 Each containment air lock shall be OPERABLE with:

- a. Both doors closed except when the air lock is being used for normal transit entry and exit through the containment, then at least one air lock door shall be closed and
- b. An overall air lock leakage rate of less than or equal to $0.05 L_a$ at P_a (40.0 psig).

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- a. With one containment air lock door inoperable in one or more containment air locks:
 1. Maintain the associated OPERABLE air lock door closed in each affected air lock and either restore the associated inoperable air lock door to OPERABLE status within 24 hours or lock the associated OPERABLE air lock door closed. (1)
 2. Operation may then continue until performance of the next required overall air lock leakage test provided that the associated OPERABLE air lock door is verified to be locked closed at least once per 31 days.
 3. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
 4. The provisions of Specification 3.0.4 are not applicable.
- b. With one or more containment air locks inoperable, except as the result of an inoperable air lock door, maintain at least one air lock door closed; restore the inoperable air lock(s) to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

(1) Entry and exit is permissible to perform repairs of the inner air lock door.

LIMITING CONDITION FOR OPERATION

ACTION: (Continued)

- c. With the containment air lock interlock mechanism inoperable in one or more containment air locks:
1. Verify an OPERABLE door is closed in each affected air lock, within 1 hour.
 2. Lock an OPERABLE door closed⁽²⁾ in each affected air lock within 24 hours.
 3. Verify an OPERABLE door is locked closed in each affected air lock at least once per 31 days.
 4. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
 5. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

- a. Within 72 hours following each containment entry, except when the air lock is being used for multiple entries, then at least once per 72 hours, by verifying no detectable seal leakage when the gap between the door seals is pressurized for at least 2 minutes to:
1. Personnel air lock ≥ 40.0 psig
 2. Emergency air lock ≥ 10.0 psig
- or, by quantifying the total air lock leakage to ensure the requirements of 3.6.1.3.b are met.
- b. By conducting overall air lock leakage tests, at not less than P_a (40.0 psig), and verifying the overall air lock leakage rate is within its limit:
1. At least once per 6 months,⁽³⁾ and

(2) Entry and exit of containment is permissible under control of a dedicated individual.

(3) The provisions of Specification 4.0.2 are not applicable.

SURVEILLANCE REQUIREMENTS (Continued)

2. Upon completion of maintenance which has been performed on the air lock that could affect the air lock sealing capability.⁽⁴⁾
- c. At least once per 18 months during shutdown by verifying:
1. Only one door in each air lock can be opened at a time, and
 2. No detectable seal leakage when the volume between the emergency air lock shaft seals is pressurized to greater than or equal to 40.0 psig for at least 2 minutes.

(4) Exemption to Appendix J of 10 CFR 50, dated November 19, 1984.

ATTACHMENT C-2

Beaver Valley Power Station, Unit No. 2
Proposed Technical Specification Change No. 66

Typed Pages:

3/4 6-4

3/4 6-5

3/4 6-5a

CONTAINMENT SYSTEMSCONTAINMENT AIR LOCKSLIMITING CONDITION FOR OPERATION

3.6.1.3 Each containment air lock shall be OPERABLE with:

- a. Both doors closed except when the air lock is being used for normal transit entry and exit through the containment, then at least one air lock door shall be closed, and
- b. An overall air lock leakage rate of less than or equal to $0.05 L_a$ at P_a (44.7 psig).

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- a. With one containment air lock door inoperable in one or more containment air locks:
 1. Maintain the associated OPERABLE air lock door closed in each affected air lock and either restore the associated inoperable air lock door to OPERABLE status within 24 hours or lock the associated OPERABLE air lock door closed.⁽¹⁾
 2. Operation may then continue until performance of the next required overall air lock leakage test provided that the associated OPERABLE air lock door is verified to be locked closed at least once per 31 days.
 3. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
 4. The provisions of Specification 3.0.4 are not applicable.
- b. With one or more containment air locks inoperable, except as the result of an inoperable air lock door, maintain at least one air lock door closed; restore the inoperable air lock(s) to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

⁽¹⁾ Entry and exit is permissible to perform repairs of the inner air lock door.

LIMITING CONDITION FOR OPERATION

ACTION: (Continued)

- c. With the containment air lock interlock mechanism inoperable in one or more containment air locks:
1. Verify an OPERABLE door is closed in each affected air lock, within 1 hour.
 2. Lock an OPERABLE door closed⁽²⁾ in each affected air lock within 24 hours.
 3. Verify an OPERABLE door is locked closed in each affected air lock at least once per 31 days.
 4. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
 5. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

- a. Within 72 hours following each containment entry, except when the air lock is being used for multiple entries, then at least once per 72 hours, by verifying no detectable seal leakage when the gap between the door seals is pressurized for at least 2 minutes to:
1. Personnel air lock ≥ 44.7 psig
 2. Emergency air lock ≥ 10.0 psig
- or, by quantifying the total air lock leakage to insure the requirements of 3.6.1.3.b are met.
- b. By conducting overall air lock leakage tests, at not less than P_a (44.7 psig), and verifying the overall air lock leakage rate is within its limit:
1. At least once per 6 months,⁽³⁾ and

(2) Entry and exit of containment is permissible under control of a dedicated individual.

(3) The provisions of Specification 4.0.2 are not applicable.

CONTAINMENT SYSTEMSSURVEILLANCE REQUIREMENTS (Continued)

- 4. Upon completion of maintenance which has been performed on the air lock that could affect the air lock sealing capability.⁽⁴⁾
- c. At least once per 18 months during shutdown by verifying:
 - 1. Only one door in each air lock can be opened at a time, and
 - 2. No detectable seal leakage when the volume between the emergency air lock shaft seals is pressurized to greater than or equal to 44.7 psig for at least 2 minutes.

(4) Exemption of Appendix J of 10 CFR 50.