March 28, 2000 Template # NRR-058

Mr. Guy G. Campbell, Vice President - Nuclear
FirstEnergy Nuclear Operating Company
5501 North State Route 2
Oak Harbor, OH 43449-9760

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1 - ISSUANCE OF AMENDMENT (TAC NO. MA6093)

Dear Mr. Campbell:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 240 to Facility Operating License No. NPF-3 for the Davis-Besse Nuclear Power Station, Unit 1. The amendment revises the Technical Specifications in response to your application dated July 26, 1999 (Serial Number 2572, License Amendment Request No. 96-0012), as supplemented by submittal dated December 7, 1999 (Serial Number 2629).

The changes permit implementation of 10 CFR Part 50, Appendix J, Option B, and reference Regulatory Guide 1.163, "Performance-Based Containment Leak Test Program," dated September 1995, which specifies a method acceptable to the NRC for complying with Option B. These changes relate only to Type B and C (local) leakage rate testing. The use of Option B for Type A (integrated) leakage rate testing was approved on February 22, 1996, by License Amendment No. 205.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

/RA/
Douglas V. Pickett, Senior Project Manager, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-346

Enclosures: 1. Amendment No. 240 to License No. NPF-3
2. Safety Evaluation

cc w/encls: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

FIRSTENERGY NUCLEAR OPERATING COMPANY

DOCKET NO. 50-346

DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 240
License No. NPF-3

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by the FirstEnergy Nuclear Operating Company (the licensee) dated July 26, 1999, as supplemented by submittal dated December 7, 1999, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 240 , are hereby incorporated in the license. FirstEnergy Nuclear Operating Company shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented not later than 120 days after issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Anthony J. Mendiola, Chief, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: March 28, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 240

FACILITY OPERATING LICENSE NO. NPF-3

DOCKET NO. 50-346

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove	Insert
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3/4 6-1	3/4 6-1
3/4 6-2	3/4 6-2
3/4 6-3	3/4 6-3
3/4 6-4	3/4 6-4
3/4 6-6	3/4 6-6
3/4 6-6a	3/4 6-6a
B 3/4 6-1	B 3/4 6-1
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REPORTABLE EVENT

1.7 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 of 10 CFR Part 50.

CONTAINMENT INTEGRITY

1.8 CONTAINMENT INTEGRITY shall exist when:

a. All penetrations required to be closed during accident conditions are either:

   1. Capable of being closed by the Safety Features Actuation System, or

   2. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except those approved to be open under administrative controls,

b. The equipment hatch is closed,

c. Each air lock is in compliance with the requirements of Specification 3.6.1.3,

d. The containment leakage rates are within the limits specified in the Containment Leakage Rate Testing Program, and

e. The sealing mechanism associated with each penetration (e.g., welds, bellows or O-rings) is OPERABLE.

CHANNEL CALIBRATION

1.9 A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds with necessary range and accuracy to known values of the parameter which the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the CHANNEL FUNCTIONAL TEST. CHANNEL CALIBRATION may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is calibrated.

CHANNEL CHECK

1.10 A CHANNEL CHECK shall be the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrument channels measuring the same parameter.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

a. At least once per 31 days by verifying that:

   1. All penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except those valves that may be opened under administrative controls per Specification 3.6.3.1, and

   2. The equipment hatch is closed.

b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3

c. By performing required visual examinations of the containment vessel and shield building in accordance with the Containment Leakage Rate Testing Program.

*Except valves, blind flanges, and deactivated automatic valves which are located inside the Shield Building (including the annulus and containment) and are locked, sealed, or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that verification of these penetrations being closed need not be performed more often than once per 92 days.

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be in accordance with the Containment Leakage Rate Testing Program.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With containment leakage rate(s) not within limit(s), restore containment leakage rate(s) within limit(s) within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.2.1 The containment leakage rates shall be determined in accordance with the Containment Leakage Rate Testing Program.

4.6.1.2.2 A special test shall be performed to verify that the containment purge and exhaust isolation valves leakage rate is within the limits specified in the Containment Leakage Rate Testing Program, by pressurizing the piping section including one valve inside and one valve outside the containment to a pressure greater than or equal to 20 psig:

a. Each time the containment purge and exhaust isolation valves are opened, within 72 hours after valve closure, or prior to entering MODE 4 from MODE 5, whichever is later.

b. Each time the plant has been in any combination of MODES 3, 4, 5 or 6 for more than 72 hours, if not performed in the previous 6 months.

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Page 3/4 6-4 Deleted

CONTAINMENT AIR LOCKS

LIMITING 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 entry and exit, then at least one air lock door shall be closed, and

b. An overall air lock leakage rate in accordance with the Containment Leakage Rate Testing Program.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

*a. With one air lock door inoperable in one or more containment air locks, or with the containment air lock interlock mechanism inoperable in one or more containment air locks:

1. Verify an OPERABLE door in each affected air lock is closed within one hour, and

2. Lock an OPERABLE door closed in each affected air lock within 24 hours, and

3. Operation may then continue provided that an OPERABLE door in each affected air lock is maintained closed and is verified to be locked closed at least once per 31 days, and provided that the containment air lock passes each scheduled performance of the overall air lock leakage rate test.

4. Otherwise, be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

*b. With one or more containment air locks inoperable except as a result of an inoperable air lock door or air lock interlock mechanism:

1. Verify at least one door in each affected air lock is closed within one hour, and

2. Restore air lock(s) to OPERABLE status within 24 hours.

3. Otherwise, be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

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*Entry and exit through the OPERABLE door is permissible if necessary to perform repairs of the affected air lock components. After each entry and exit, the OPERABLE door must be closed without delay.

CONTAINMENT AIR LOCKS

SURVEILLANCE REQUIREMENTS

4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

a. By performing required air lock leakage rate testing in accordance with the Containment Leakage Rate Testing Program.*

b. Deleted.

c. At least once per REFUELING INTERVAL by verifying that only one door in each air lock can be opened at a time.

*One inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test.

3/4.6.1 PRIMARY CONTAINMENT

3/4.6.1.1 CONTAINMENT INTEGRITY

Primary CONTAINMENT INTEGRITY ensures that the release of radioactive materials from the containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the safety analyses. This restriction, in conjunction with the leakage rate limitation and air lock door requirements, will limit the site boundary radiation doses to within the limits of 10 CFR 100 during accident conditions.

3/4.6.1.2 CONTAINMENT LEAKAGE

As described in Administrative Controls Section 6.16, the Containment Leakage Rate Testing Program is based on Option B of Appendix J of 10 CFR 50. The limitations on containment leakage rates ensure that the total containment leakage volume will not exceed the value assumed in the safety analyses at the peak design basis loss of coolant accident pressure of 38 psig, P_a. As an added conservatism, the measured, overall, as-left integrated leakage rate is further limited to $\leq 0.75\ L_a$, during performance of the periodic tests to account for possible degradation of the containment leakage barriers between leakage tests.

The special test for the containment purge and exhaust isolation valves is intended to detect gross degradation of seals on the valve seats. The special test is performed in addition to the Appendix J requirements.

USAR 6.2.4 identifies all penetrations that are secondary containment bypass leakage paths.

3/4.6.1.3 CONTAINMENT AIR LOCKS

The limitations on closure and leak rate for the containment air locks are required to ensure CONTAINMENT INTEGRITY and to meet the restrictions on overall containment leak rate. Surveillance testing of the air lock seals provides assurance that the overall air lock leakage will not become excessive due to seal damage during the intervals between air lock leakage tests. Maintaining containment air locks OPERABLE requires compliance with the leakage rate test requirements of the Containment Leakage Rate Testing Program, which is described in Administrative Controls Section 6.16.

One inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test. This is considered reasonable since either air lock door is capable of providing a fission product barrier in the event of a design basis accident.

The air lock interlock allows only one air lock door of an air lock to be opened at a time. This provision ensures that a gross breach of containment does not exist when CONTAINMENT INTEGRITY is required. Closure of a single door in each air lock is sufficient to provide a leak tight barrier following postulated events. Nevertheless, in MODES 1 through 4, both doors are kept closed when the air lock is not being used for entry and exit, i.e., containment entries/exits, air lock maintenance, or air lock testing.

3/4.6.1.3 CONTAINMENT AIR LOCKS (Continued)

The surveillance requirement which verifies that only one door in each air lock can be opened at a time is not part of the Containment Leakage Rate Testing Program. Therefore, its test frequency is subject to the provisions of Specification 4.0.2.

3/4.6.1.4 INTERNAL PRESSURE

The limitations on containment internal pressure ensure that 1) the containment structure is prevented from exceeding its design negative pressure differential with respect to the annulus atmosphere of 0.5 psi and 2) the containment peak pressure does not exceed the design pressure of 40 psig during LOCA conditions.

The maximum peak pressure obtained from a LOCA event is 37 psig. The limit of 1 psig for initial positive containment pressure will limit the total pressure to 38 psig which is less than the design pressure and is consistent with the safety analyses.

3/4.6.1.5 AIR TEMPERATURE

The limitations on containment average air temperature ensure that the overall containment average air temperature does not exceed the initial temperature condition assumed in the accident analysis for a LOCA.

3/4.6.1.6 CONTAINMENT VESSEL STRUCTURAL INTEGRITY

Deleted

3/4.6.1.7 CONTAINMENT VENTILATION SYSTEM

Maintaining the containment purge supply and exhaust isolation valves closed with control power removed at all times during MODES 1, 2, 3 and 4 provides assurance that the safety function of containment isolation is maintained in the event of a LOCA.

The ACTION statement assures that at least one containment purge supply and exhaust isolation valve is closed in each containment penetration and provides reasonable time to permit closure of an open valve.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

3/4.6.2.1 CONTAINMENT SPRAY SYSTEM

The OPERABILITY of the containment spray system ensures that containment depressurization and cooling capability will be available in the event of a LOCA. The pressure reduction and resultant lower containment

6.16 CONTAINMENT LEAKAGE RATE TESTING PROGRAM

a. A program shall establish the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," dated September 1995, as modified by the following exceptions:

   1. A reduced duration Type A test may be performed using the criteria and Total Time method specified in Bechtel Topical Report BN-TOP-1, Revision 1.

   2. The fuel transfer tube blind flanges (containment penetrations 23 and 24) will not be eligible for extended test frequencies. Their Type B test frequency will remain at 30 months. However, As-found testing will not be required.

b. The peak calculated containment internal pressure for the design basis loss of coolant accident, P_a, is 38 psig.

c. The maximum allowable containment leakage rate, L_a, at P_a, shall be 0.50% of containment air weight per day.

d. Leakage rate acceptance criteria are:

   1. Containment leakage rate acceptance criterion is $< 1.0\ L_a$. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq 0.75\ L_a$ for Type A tests, $< 0.60\ L_a$ for all penetrations and valves subject to Type B and Type C tests, and $\leq 0.03\ L_a$ for all penetrations that are secondary containment bypass leakage paths;

   2. A single penetration leakage rate of $\leq 0.15\ L_a$ for each containment purge penetration;

   3. Air lock acceptance criteria are:

      a) Overall air lock leakage rate is $\leq 0.015\ L_a$ when tested at $\geq P_a$,

      b) For each door, seal leakage rate is $\leq 0.01\ L_a$ when the volume between the door seals is pressurized to ≥ 10 psig.

e. The provisions of Specification 4.0.2 do not apply to the test frequencies specified in the Containment Leakage Rate Testing Program.

f. The provisions of Specification 4.0.3 are applicable to the Containment Leakage Rate Testing Program.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 240 TO FACILITY OPERATING LICENSE NO. NPF-3

FIRSTENERGY NUCLEAR OPERATING COMPANY

DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1

DOCKET NO. 50-346

1.0 INTRODUCTION

On September 12, 1995, the U.S. Nuclear Regulatory Commission (NRC) approved issuance of a revision to 10 CFR Part 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors," which was subsequently published in the Federal Register on September 26, 1995, and became effective on October 26, 1995. The NRC added Option B, "Performance-Based Requirements," to allow licensees to voluntarily replace the prescriptive testing requirements of 10 CFR Part 50, Appendix J, with testing requirements based on both overall performance and the performance of individual components.

By application dated July 26, 1999, as supplemented by submittal dated December 7, 1999, FirstEnergy Nuclear Operating Company (the licensee) requested changes to the Technical Specifications (TSs) for the Davis-Besse Nuclear Power Station. The proposed changes would permit implementation of 10 CFR Part 50, Appendix J, Option B, and reference Regulatory Guide 1.163, "Performance-Based Containment Leak Test Program," dated September 1995, which specifies a method acceptable to the NRC for complying with Option B. These changes relate only to Type B and C (local) leakage rate testing. The use of Option B for Type A (integrated) leakage rate testing was approved on February 22, 1996, by License Amendment No. 205.

The letter of December 7, 1999, contained supplemental clarifying information and did not change the initial no significant hazards consideration determination and did not expand the scope of the original Federal Register notice.

2.0 BACKGROUND

Compliance with 10 CFR Part 50, Appendix J, provides assurance that the primary containment, including those systems and components which penetrate the primary containment, do not exceed the allowable leakage rate specified in the TSs and Bases. The allowable leakage rate is determined so that the leakage rate assumed in the safety analyses is not exceeded.

On February 4, 1992, the NRC published a notice in the Federal Register (57 FR 4166) discussing a planned initiative to begin eliminating requirements marginal to safety which impose a significant regulatory burden. 10 CFR Part 50, Appendix J, "Primary Containment

Leakage Testing for Water-Cooled Power Reactors," was considered for this initiative and the staff undertook a study of possible changes to this regulation. The study examined the previous performance history of domestic containments and examined the effect on risk of a revision to the requirements of Appendix J. The results of this study are reported in NUREG-1493, "Performance-Based Leak-Test Program."

Based on the results of this study, the staff developed a performance-based approach to containment leakage rate testing. On September 12, 1995, the NRC approved issuance of this revision to 10 CFR Part 50, Appendix J, which was subsequently published in the Federal Register on September 26, 1995, and became effective on October 26, 1995. The revision added Option B, "Performance-Based Requirements," to Appendix J to allow licensees to voluntarily replace the prescriptive testing requirements of Appendix J with testing requirements based on both overall and individual component leakage rate performance.

Regulatory Guide 1.163, "Performance-Based Containment Leak Test Program," dated September 1995, was developed as a method acceptable to the NRC staff for implementing Option B. This regulatory guide states that the Nuclear Energy Institute (NEI) guidance document NEI 94-01, Rev. 0, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J," provides methods acceptable to the NRC staff for complying with Option B with four exceptions which are described therein.

Option B requires that Regulatory Guide 1.163 or another implementation document used by a licensee to develop a performance-based leakage testing program must be included, by general reference, in the plant TSs. The licensee has referenced Regulatory Guide 1.163 in the proposed Davis-Besse TSs.

Regulatory Guide 1.163 specifies an extension in Type A test frequency to at least one test in 10 years based upon two consecutive successful tests. Type B tests may be extended up to a maximum interval of 10 years based upon completion of two consecutive successful tests and Type C tests may be extended up to 5 years based on two consecutive successful tests.

By letter dated October 20, 1995, NEI proposed TSs to implement Option B. After some discussion, the staff and NEI agreed on final TSs which were transmitted to NEI in a letter dated November 2, 1995. These TSs are to serve as a model for licensees to develop plant-specific TSs in preparing amendment requests to implement Option B.

In order for a licensee to determine the performance of each component, factors that are indicative of, or affect performance, such as an administrative leakage limit, must be established. The administrative limit is selected to be indicative of the potential onset of component degradation. Although these limits are subject to NRC inspection to assure that they are selected in a reasonable manner, they are not TS requirements. Failure to meet an administrative limit requires the licensee to return to the minimum value of the test interval.

Option B requires that the licensee maintain records to show that the criteria for Type A, B, and C tests have been met. In addition, the licensee must maintain comparisons of the performance of the overall containment system and the individual components to show that the test intervals are adequate. These records are subject to NRC inspection.

3.0 EVALUATION

The licensee's application of July 26, 1999, as supplemented by submittal dated December 7, 1999, proposes to establish a "Containment Leakage Rate Testing Program" and add this program to the TSs. The program references Regulatory Guide 1.163, "Performance-Based Containment Leak Test Program," dated September 1995, which specifies methods acceptable to the staff for complying with Option B. This requires changes to existing TSs 1.8, 3/4.6.1.1, 3/4.6.1.2, 3/4.6.1.3, and the addition of the "Containment Leakage Rate Testing Program" as TS 6.16. Corresponding bases were also modified.

Option B permits a licensee to choose Type A; or Type B and C; or Type A, B, and C testing to be done on a performance basis. The licensee has elected to perform Type A, B, and C testing on a performance basis.

The TS changes proposed by the licensee are in compliance with the requirements of Option B and consistent with the guidance of Regulatory Guide 1.163, with two exceptions noted by the licensee; these are discussed in sections 3.1 and 3.2, below. Further, despite the different format of the licensee's current TSs, all of the important elements of the model TS guidance provided in the NRC letter to NEI dated November 2, 1995, are included in the proposed TSs.

Additionally, the licensee has proposed related TS changes which go beyond the scope of the conversion to Option B; these are discussed in 3.3, below.

3.1 Use of Bechtel Topical Report BN-TOP-1

The first exception to Regulatory Guide 1.163 is stated in TS 6.16.a.1., as follows:

> A reduced duration Type A test may be performed using the criteria and Total Time method specified in Bechtel Topical Report BN-TOP-1, Revision 1.

NEI 94-01, Section 8.0, "Testing Methodologies for Type A, B and C Tests," states that these tests should be performed using the technical methods and techniques specified in ANSI/ANS 56.8-1994, "or other alternative testing methods that have been approved by the NRC." Some licensees wish to use the alternative testing methodology contained in Bechtel Topical Report BN-TOP-1, Revision 1, "Testing Criteria For Integrated Leakage Rate Testing of Primary Containment Structures For Nuclear Power Plants," dated November 1, 1972. The staff approved use of BN-TOP-1 in 1972 and it has been used ever since, primarily because it allows Type A tests to be completed in as little as 6 hours instead of the typical 24 hours. Although Option B and ANSI/ANS 56.8-1994 allow tests as short as 8 hours and may be preferable to the dated methodology of BN-TOP-1, the licensee proposes to retain BN-TOP-1 as an option for performing Type A tests. BN-TOP-1 still provides acceptable results and, therefore, continues to be acceptable for plants under either Option A or Option B of Appendix J.

The proposed TS describes the use of BN-TOP-1 as an exception to Regulatory Guide 1.163. Strictly speaking, the use of BN-TOP-1 does not constitute an exception to Regulatory Guide 1.163; it conforms to the provision, quoted above, that allows other alternative testing methods

that have been approved by the NRC. Nevertheless, the staff has no objection to specifically citing BN-TOP-1 in the TS to avoid any confusion as to its acceptability. Therefore, the staff finds the proposed TS concerning BN-TOP-1 to be acceptable.

3.2 Fuel Transfer Tube As-found Testing Exception

The second exception to Regulatory Guide 1.163 is stated in TS 6.16.a.2., as follows:

> The fuel transfer tube blind flanges (containment penetrations 23 and 24) will not be eligible for extended test frequencies. Their Type B test frequency will remain at 30 months. However, as-found testing will not be required.

This exception addresses the surveillance test requirements for the fuel transfer tube blind flanges. The licensee proposes to retain their Type B test interval at 30 months, while eliminating the requirement to perform as-found testing. As-left testing will continue to be performed following reinstallation of the blind flanges after fuel transfer operations are completed during a refueling outage.

The licensee has provided the following information:

> It is desirable to minimize testing since the blind flanges are located in the up-ender area of the refueling canal inside containment, which is a high radiation/high contamination area during the test evolution. In addition to the As-Low-As-Reasonably-Achievable (ALARA) concerns, there are also industrial safety concerns. Personnel access to the area is via a vertical ladder, requiring fall protection. In addition, the floor at this elevation is typically wet and slippery, which is a potential hazard to the test personnel. Finally, the high temperature in the area requires test personnel to observe heat stress precautions.
>
> A review of the surveillance test history from September 1991 through May 1998, which includes the Seventh Refueling Outage through the most recent Eleventh Refueling Outage, shows no test failures.

Under Option B and Regulatory Guide 1.163, one purpose of performing as-found testing on the fuel transfer tube blind flanges is to determine if they may be put on an extended test interval. By restricting the flanges to the nominal 30-month test interval, that purpose is eliminated.

Beyond that, as-found testing helps to assure that the flanges maintain their leak-tightness throughout the life of the plant. However, the excellent testing history of these flanges indicates that as-found testing may not be necessary for this purpose.

The staff has considered the ALARA and industrial safety concerns that the licensee has described, and, based on these concerns, the excellent testing history of these flanges, and the continuation of the 30-month testing frequency, the staff finds that the proposed exception for the fuel transfer tube blind flanges is justified and acceptable.

3.3 Air Lock Leakage Rate Acceptance Criteria Change

The current acceptance criteria for air lock leakage rate testing are stated in two sections of the TSs, as follows.

3.6.1.3. Each containment air lock shall be OPERABLE with....

b. An overall air lock leakage rate of ≤ 0.002 La at Pa, 38 psig.

4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

By verifying either no detectable seal leakage when the volume between the door seals is pressurized to 10 psig, or by verifying a seal leakage rate of ≤ 0.0015 La when the volume between the door seals is pressurized to Pa, 38 psig, and the air lock door holddowns are installed....

a. By conducting an overall air lock leakage test at Pa, 38 psig, and by verifying that the overall air lock leakage rate is within its limit....

The licensee proposes to move the acceptance criteria to section 6.16, "Containment Leakage Rate Testing Program" (which is consistent with the model TSs), and increase the limits, as follows.

6.16.d.3. Air lock acceptance criteria are:

a) Overall air lock leakage rate is ≤ 0.015 L_a when tested at ≥ P_a,

b) For each door, seal leakage rate is ≤ 0.01 L_a when the volume between the door seals is pressurized to ≥ 10 psig.

The overall purpose of Appendix J testing is to assure that the total containment leakage rate during an accident does not exceed the value, L_a, assumed in the accident analysis. To accomplish this, both integrated (Type A) and local (Type B and C) leakage rate tests are performed periodically. The sum of all the Type B and C tests is limited to 0.6 L_a, but certain penetrations, such as the air lock, are subject to additional limits due to their size, frequent use, and/or potential safety significance. However, these individual limits are subordinate to the limit on the sum of all Type B and C leakage rates, 0.6 L_a. The primary value of the individual limits is to assure that the individual component does not become seriously degraded or inoperable. This is similar to the purpose of the administrative leakage limits which are mentioned above in section 2.0 of this safety evaluation.

As such, the actual values used for the individual air lock leakage rate acceptance criteria may vary. The values should not be so low that they are unnecessarily restrictive or burdensome, and yet low enough to effectively assure continued operability of the air lock.

The licensee states that the current acceptance criteria are overly restrictive and the revised criteria may alleviate future maintenance burden. They propose 0.015 L_a for the overall air lock

test and 0.01 L_a for the door seal test. Although there are no standard values for these quantities, many operating plants use 0.05 L_a and 0.01 L_a, respectively. These latter values are included in the model TSs in brackets, meaning that they are not set numbers but may vary from plant to plant.

The licensee states that the revised acceptance criteria will have no adverse effect on safety. The previous TS limits for overall air lock leakage and air lock door seal leakage were considered overly restrictive. As indicated above, many licensees have considerably less restrictive limits in their TSs. The relaxation of the proposed leakage limits have the potential to alleviate future maintenance burden and the associated radiation exposure to plant personnel. More importantly, the proposed increase in overall air lock leakage and air lock door seal leakage will not increase the limit on secondary containment bypass leakage. Since air lock leakage is a contributor to secondary containment bypass leakage, the accident analyses are not impacted by these proposed changes. Considering that the proposed leakage limits do not change the accident analyses and are within the normal range found acceptable for other facilities, the staff concurs that the proposed changes will have no adverse effect on safety and are, therefore, acceptable.

4.0 SUMMARY

In summary, the staff has reviewed the changes to the TSs and associated Bases proposed by the licensee, for Option B implementation, and finds that they are in compliance with the requirements of Appendix J, Option B. Barring the two exceptions that were found to be acceptable as discussed in section 3.1 and 3.2 above, the staff finds the proposed changes consistent with the guidance of Regulatory Guide 1.163. Furthermore, we find the additional changes discussed in section 3.3 above to be acceptable on the bases discussed therein.

5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Ohio State official was notified of the proposed issuance of the amendment. The State official had no comments.

6.0 ENVIRONMENTAL CONSIDERATION

This amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluent that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding (64 FR 46437). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Date: March 28, 2000