FENOC

FirstEnergy Nuclear Operating Company

5501 North State Route 2
Oak Harbor, Ohio 43449

Mark B. Bezilla
Vice President - Nuclear

419-321-7676
Fax: 419-321-7582

Docket Number 50-346 10 CFR 50.12

License Number NPF-3

Serial Number 3002

February 13, 2004

United States Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555-0001

Subject: Request to Amend the Existing Exemption from 10 CFR 50.46 and 10 CFR 50, Appendix K, for Boric Acid Precipitation Control Methodology

Ladies and Gentlemen:

This letter transmits a FirstEnergy Nuclear Operating Company (FENOC) request to amend the existing exemption from Title 10 of the Code of Federal Regulations (CFR), Section 50.46, "Acceptance Criteria for Emergency Core Cooling Systems for Light-Water Nuclear Power Reactors" and 10 CFR 50, Appendix K, "ECCS Evaluation Models," for the Davis-Besse Nuclear Power Station, Unit 1 (DBNPS) boric acid precipitation control (BPC) methodology. The exemption was originally requested by letter dated March 15, 2000, (FENOC letter Serial Number 2633) and was supplemented by letter dated April 3, 2000, (FENOC letter Serial Number 2652). The exemption approved by the NRC by letter dated May 5, 2000, (FENOC letter Log Number 5659) states:

> FirstEnergy, with respect to the Davis-Besse Nuclear Power Station, is exempt from the single failure criterion requirement of 10 CFR Part 50, Appendix K, Section I.D.1, with respect to (1) Simultaneous failure of both the primary auxiliary spray method and the backup decay heat removal drop line method of controlling boron concentration due to failure of an emergency core cooling component that results in inability to initiate, or continue to operate, an active means of controlling core boron concentration, and (2) Not establishing that the backup decay heat removal drop line method of controlling boron concentration is otherwise in compliance with Appendix K and 10 CFR 50.46(b)(5) requirements. Specifically, when establishing that boron precipitation will not occur in the decay heat removal system cooler, the Davis-Besse Nuclear Power Station credited flow through hot leg nozzle gaps and did not include all of the specific conservatisms required by Appendix K.

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> The staff considers that the modifications would also require an exemption from the decay heat generation rate requirement contained in 10 CFR Part 50, Appendix K, Section I.A.4.

The DBNPS has installed a plant modification during the thirteenth refueling outage (13RFO) that makes significant improvements in the post-Loss-of-Coolant Accident (post-LOCA) BPC methodology by providing a new active method of preventing boric acid precipitation within the reactor vessel core region. Because there are known single-failure vulnerabilities with the new active method; and because the approved exemption was specific to the current BPC methods, an amendment to the exemption from 10 CFR 50, Appendix K, Section I.D.1, "Single Failure Criterion," is required in order to credit the new combination of methodologies per 10 CFR 50.46(a)(1)(ii). In addition, implementation of this modification will allow the current primary method of BPC (auxiliary pressurizer spray method) to be credited as the backup method. The current backup method (Decay Heat Removal drop line method) will no longer be a credited method of BPC. Therefore, the single-failure and 10 CFR 50, Appendix K exemptions specific to the current backup method are withdrawn by this amended exemption request.

Information supporting this exemption request amendment is contained in Enclosure 1. FENOC requests that the NRC approve the amended exemption by July 30, 2004, to allow the implementation of the improved BPC method as soon as possible. Procedure changes, operator training, and Updated Safety Analysis Report changes necessary to implement the new BPC methodology will be completed within 120 days following NRC approval of the exemption request.

If you have any questions or require further information, please contact Mr. Gregory A. Dunn, Manager – Regulatory Affairs, at (419) 321-8450.

Very truly yours,

CWS

Enclosures

cc: Regional Administrator, NRC Region III
J. B. Hopkins, DB-1 NRC/NRR Senior Project Manager
C. S. Thomas, DB-1 NRC Senior Resident Inspector
Utility Radiological Safety Board

REQUEST TO AMEND THE EXISTING EXEMPTION FROM 10 CFR 50.46 AND 10 CFR 50, APPENDIX K, FOR BORIC ACID PRECIPITATION CONTROL METHODOLOGY

FirstEnergy Nuclear Operating Company (FENOC) proposes to amend the existing exemption from Title 10 of the Code of Federal Regulations (CFR), Section 50.46, "Acceptance Criteria for Emergency Core Cooling Systems for Light-Water Nuclear Power Reactors" and 10 CFR 50, Appendix K, "ECCS Evaluation Models," for the Davis-Besse Nuclear Power Station, Unit 1 (DBNPS) post-Loss-of-Coolant Accident (post-LOCA) boron precipitation control (BPC) methodology approved by the NRC on May 5, 2000, (FENOC letter Log Number 5659) to read as follows:

> FirstEnergy Nuclear Operating Company, with respect to the Davis-Besse Nuclear Power Station, is exempt from the single-failure criterion requirement of 10 CFR 50, Appendix K, Section I.D.1, with respect to failure of either Motor Control Center E11B or Motor Control Center F11A and the resulting inability to initiate an active means of controlling core boron concentration.

The DBNPS has installed a plant modification during the thirteenth refueling outage (13RFO) that makes significant improvements in the post-LOCA BPC methodology by providing a new active method of preventing boric acid precipitation within the reactor vessel core region. Because there are known single-failure vulnerabilities with the new active method; and because the approved exemption was specific to the current BPC methods, an amendment to the exemption from 10 CFR 50, Appendix K, Section I.D.1, "Single Failure Criterion," is required in order to credit the methodology per 10 CFR 50.46(a)(1)(ii). In addition, implementation of this modification will allow the current primary method of BPC (auxiliary pressurizer spray method) to be credited as the backup method. The current backup method (Decay Heat Removal drop line method) will no longer be a credited method of BPC. Therefore, the single-failure and 10 CFR 50, Appendix K exemptions specific to the current backup method (Decay Heat Removal drop line method) are withdrawn by this amended exemption request.

BACKGROUND

10 CFR 50.46(b)(5), "Long-Term Cooling," requires provisions to maintain the calculated core temperature at an acceptably low value and remove decay heat for the extended period of time required by the long-lived radioactivity remaining in the core following any calculated successful initial operation of the Emergency Core Cooling System (ECCS). Following the core reflooding portion of a postulated cold leg loss-of-coolant accident (LOCA), conditions in the reactor vessel are such that a fraction of the low pressure injection (LPI) water flows into the core while the rest spills directly out the break. Calculations have indicated that LPI water boiled in the core produces a steam-water mixture flow through the reactor vessel vent valves and out the break. At decay heat levels higher than those several days after a full-power trip, liquid is spilled to the reactor vessel downcomer through the vent valves. As long as the decay heat is high enough to

maintain a mixture flow through the reactor vessel vent valves and out the break, the boron concentration in the core is diluted by mixing and spillage out the break. Without the reactor vessel vent valve liquid overflow there is no significant liquid flow through the core. Boron in the injection water concentrates due to the core boiling since very little boron is carried out with the steam. Eventually, the boron concentration in the reactor vessel could exceed the solubility limit. Boron precipitation out of solution in the core could potentially inhibit long term cooling. Therefore, a means to preclude boron precipitation is required to demonstrate compliance with 10 CFR 50.46.

By letter dated March 15, 2000, (FENOC letter Serial Number 2633) and supplemented by letter dated April 3, 2000, (FENOC letter Serial Number 2652) FENOC described modifications to the DBNPS planned for the twelfth Refueling Outage (12RFO) that established new primary and backup active BPC methods. As a result of identified single-failure vulnerabilities, FENOC requested an exemption from the single-failure criterion of 10 CFR 50, Appendix K, Section I.D.1 for the primary and backup BPC methods. An additional exemption from the requirements of 10 CFR 50.46(b)(5) and 10 CFR 50, Appendix K, Section I.A.4, "Fission Product Decay," was also required for the backup BPC method. As stated above, the exemption was approved by the NRC on May 5, 2000, and the primary and backup active BPC modifications were completed in 12RFO. The current BPC methodology consists of an auxiliary pressurizer spray method and a Decay Heat Removal (DHR) drop line method.

Current Primary Method Description: Auxiliary Pressurizer Spray Method

An auxiliary pressurizer spray method serves as the current primary active BPC method (see Attachment 1, Figure 1). This method utilizes High Pressure Injection (HPI) Pump 1-2, in piggyback with the DHR/LPI Pump 1-2 to supply water to the auxiliary pressurizer spray line via a tie-line. The tie-line, including two manual gate valves, HP-209 and HP-210, connects into the auxiliary pressurizer spray flowpath. In addition two manual gate valves, DH200 and DH201, are installed in the DHR system between valve DH178 and the connection to the tie-line. During power operation, the system is lined-up in the BPC mode, with valves DH200 and DH201 closed and valves HP209 and HP210 opened. Excess spray flow initiates a reverse core flow that reduces the core boric acid concentration and precludes potential precipitation concerns by transporting the fluid with high boric acid concentrations backward through the downcomer and out the break.

Because this primary BPC method is only connected to one train of HPI, it is subject to failure if any single active component in the flowpath fails. This can be due to either a mechanical or an electrical failure. In this event, the backup method of BPC (described below) would be implemented, if not affected by the primary BPC method failure.

Current Backup Method Description: DHR Drop Line Method

The current backup active BPC method (see Attachment 1, Figure 2) utilizes one of the two operating DHR/LPI pumps taking suction from the DHR drop line and discharging a low (throttled) flow rate into the reactor vessel via the core flood nozzles. The second DHR/LPI pump will be unthrottled and will continue to take suction from the emergency sump and ensure water is supplied to the RCS so that core cooling continues. The flow through the drop line will allow forward flow through the reactor vessel, so that any amount of flow of relatively low concentration water from the train aligned to the sump will enter and dilute the boric acid in the core.

As a part of the supporting analysis of the backup BPC methodology, it was determined that the boric acid concentration in the DHR drop line coming from the core could exceed the solubility limits for the temperatures found in the DHR cooler. This concern only exists for the backup BPC method, since the flowpath for the primary method comes from the relatively dilute emergency sump. Additional analyses were performed to demonstrate that boric acid precipitation in the DHR cooler will not occur. These additional analyses relied on reactor vessel internal gaps and used a decay heat multiplier of 1.0 rather than the multiplier of 1.2 that is specified by 10 CFR 50, Appendix K, Section I.A.4.

The backup BPC method would only be utilized if the primary method was unavailable and if both DHR/LPI pumps were functioning.

PLANT MODIFICATION

The DBNPS installed a plant modification during the thirteenth refueling outage (13RFO) that will make significant improvements in the post-LOCA BPC methodology by providing a new active means of preventing boric acid precipitation within the reactor vessel core region. This modification eliminates the need to credit the current backup method and provides a redundant method of BPC that also supplies flow to the RCS hot leg via the decay heat drop line (See Attachment 1, Figure 3). This new BPC method (hot leg injection method) is simpler in design, easier to implement, and relies on one of the two DHR/LPI pumps (Train 1) rather than both. The current primary method will be relegated to the backup BPC method (See Attachment 1, Figure 4) and the new method will be designated as the primary BPC method. While the new methodology is not single-failure proof, it has fewer single-failure vulnerabilities than the current methodology.

The modification installed a new 2-1/2 inch (nominal) line, including one 2 inch (nominal) globe valve (DH206) and one 3 inch (nominal) check valve (DH207), connecting the Decay Heat Cooler 1-1 discharge line to the DH1517 bypass line. A 2 inch (nominal) globe valve (DH203) is installed on the DH1517 bypass line, and flow element FE4909 (previously abandoned in place) is reactivated to provide flow indication.

During normal shutdown cooling operation, valve DH10 is maintained closed to isolate the BPC flow path. During power operation, valve DH10 and valve DH206 will be maintained open. When required, with the Train 1 DHR/LPI pump providing LPI flow, active BPC would be initiated by opening decay heat drop line isolation valves DH11 and DH12, allowing a portion of the water drawn from the containment emergency sump by the Train 1 DHR/LPI pump to be returned to the core via the RCS hot leg. Initiation of BPC flow would occur when core exit temperature is confirmed to be less than 322°F and the RCS is not subcooled. The new BPC method is expected to provide BPC flow rates of approximately 260 gpm to approximately 450 gpm depending on Reactor Coolant System pressure and LPI flow. The new BPC method flow path has been analyzed to show that the required flow for BPC is met with substantial margin.

SINGLE-FAILURE VULNERABILITIES – CURRENT METHODOLOGY

To support the exemption request for the current methodology, a failure modes and effects analysis (FMEA) was performed to identify any single-failure vulnerabilities between the BPC methods. The analysis consisted of six parts:

- Single-Failure Analysis – Primary Long-Term BPC Flowpath
- Single-Failure Analysis – Backup Long-Term BPC Flowpath
- Electrical Failure Analysis - 480 Essential Motor Control Centers (MCCs) - Train 1
- Electrical Failure Analysis - AC Distribution Buses and Emergency Onsite Power - Train 1
- Electrical Failure Analysis - 480 Essential MCCs - Train 2
- Electrical Failure Analysis - AC Distribution Buses and Emergency Onsite Power - Train 2

The analysis considered potential failure modes for components that perform an active mechanical function or an active or passive electrical function. The failure modes for each active component and the effect a failure has on the ability of the primary and/or backup long-term BPC flowpaths to perform the intended function were identified. The following single-failure vulnerabilities were identified through the FMEA and included in the single-failure exemption for the current methodology:

1. The primary BPC method via HPI-supplied auxiliary pressurizer spray utilized a tie-line that is available for use only with HPI Train 2. In addition, both DHR/LPI trains must be available in order to use the previous backup BPC method (suction from Decay Heat Drop Line), since one train must continue to perform the LPI function while the other train performs the BPC function. Therefore, since both the primary and backup long-term BPC flowpaths relied on Train 2 components, failures that affected both HPI Train 2 and DHR/LPI Train 2 could result in the loss of both the primary and alternate long-term BPC flowpaths. Potential failures of concern were:

    - Emergency Diesel Generator (EDG) 2 failure following a loss of offsite power

- 4160 V essential bus D1 lockout
- Loss of DC control power to 4160 V essential bus D1
- Loss of Service Water (SW) Train 2 (including ventilation)
- Loss of Component Cooling Water (CCW) Train 2 (including ventilation)
- Loss of ECCS Room Coolers 1 and 2 (serving ECCS Room containing Train 2 DHR/LPI and HPI pumps)

It was noted in the earlier submittals that some of this equipment could be supplemented by non-safety grade or manually aligned standby systems.

2. A single-failure of valve DH9A, valve DH2734, or DHR/LPI Pump 2 would result in the temporary loss of both the primary and alternate flowpath. However, the DHR Train 1 cross tie alignment could be performed by opening 8 inch (nominal) motor-operated valve DH831, which receives Train 1 essential power.

3. The primary BPC flowpath includes two motor-operated valves in series, DH2735 and DH2736, which are powered from Train 1 and Train 2 essential power, respectively. Similarly, the backup BPC flowpath includes two motor-operated valves in series, DH11 and DH12, which are powered from Train 2 and Train 1 essential power, respectively. Valves DH2735 and DH12 are powered from 480 V essential MCC E11B. Valves DH2736 and DH11 are powered from 480 V essential MCC F11A. In case of an electrical failure, the capability is provided to interconnect MCCs E11B and F11A, so that the valves can be powered from the unaffected power supply. The need for this cross tie capability was described in the original Final Safety Analysis Report (FSAR) and is currently described in Updated Safety Analysis Report (USAR) Section 8.3.1.1.11, "Cross Ties Between MCC E11B and F11A." The actions to accomplish the interconnection are presently in plant procedures. However, a direct fault on either MCC E11B or F11A would defeat operation of one valve on each penetration, and not allow the capability to interconnect the MCCs.

SINGLE-FAILURE VULNERABILITIES – NEW METHODOLOGY

The FMEA was re-performed for the new methodology. DC distribution failures were also explicitly included. The single-failure analysis of the revised system is considerably simpler because most of the single-failure vulnerabilities for the current methodology no longer exist. Presented in the previous order, they are condensed as follows:

1. The BPC method via HPI-supplied auxiliary pressurizer spray utilizes a tie-line that is available for use only with HPI Train 2. However, in the revised system, Train 2 components are required only for the backup method. Rather than requiring both LPI trains to be available, both the Hot Leg Injection method installed in 13RFO (Train 1 component

dependent) and the HPI-supplied auxiliary pressurizer spray method (Train 2 component dependent) can operate with one of the two DHR/LPI pumps, rather than needing both. Therefore, the single-failure exemptions previously required for Train 2 mechanical and electrical support systems for the current methodology are no longer needed.

2. A single-failure of valve DH9A, valve DH2734, or DHR/LPI Pump 2 would previously result in the loss of both the primary and backup flowpaths. However, in the revised system, since the hot leg injection method is reliant on LPI Train 1, and the backup method is reliant on HPI Train 2, but either LPI train alone can supply sufficient flow to support both the BPC and the ECCS functions, no exemptions or special considerations are required for valve DH9A, valve DH2734, or DHR/LPI Pump 2.

3. The hot leg injection method installed in 13RFO and the HPI-supplied auxiliary pressurizer spray method continue to use the same mechanical penetrations to the containment vessel as used with the current primary and backup BPC methods. Therefore, the previous exemption related to electrical failure of 480VAC MCC E11B and F11A will continue to be required as described for the existing exemption. This is the only single-failure exemption required for the new methodology.

EVALUATION OF RISK

The current BPC methodology is highly dependent upon Train 2 ECCS components. The primary method utilizes High Pressure Injection (HPI) Pump 1-2, in piggyback with the DHR/LPI Pump 1-2 to supply water to the auxiliary pressurizer spray line via a tie-line. The current backup method utilizes one of the two operating DHR/LPI pumps taking suction from the DHR drop line and discharging a low (throttled) flow rate into the reactor vessel via the core flood nozzles with the second DHR/LPI pump continuing to take suction from the emergency sump and supplying ECCS flow. A summary of the evaluation of risk due to failure of both BPC methods was provided in FENOC letter Serial Number 2633 and supplemented in FENOC letter Serial Number 2652. The Core Damage Frequency (CDF) and Large Early Release Fraction (LERF) results of these evaluations for the current BPC methods are as follows:

CDF Contribution due to Failure of BPC	~ 1.1E-7/year
CDF Contribution due to Failure of BPC (assuming 10% probability of nozzle gap failure)	~ 1.3E-7/year
LERF Contribution due to Failure of BPC	~ 1.1E-11/year

In the new methodology, since the hot leg injection method is reliant on LPI Train 1, and the backup method is reliant on HPI Train 2, but either LPI train alone can supply sufficient flow to support both the BPC and the ECCS functions, the vulnerability to single-failures that affect both BPC methods is significantly reduced. As has been previously discussed, the exceptions to this are motor-operated valves DH11 and DH12 (hot leg injection method) or DH2735 and DH2736 (pressurizer auxiliary spray method). For either of the BPC methods to be placed in service, 480V MCCs E11B and F11A must be energized. Actions to energize E11B from F11A (and F11A from E11B) are presently in plant procedures as described in the DBNPS USAR. However, a direct fault on either MCC E11B or MCC F11A would defeat operation of one valve on each penetration, and not allow the capability to interconnect the MCCs. Other single-failure vulnerabilities previously evaluated for the current BPC methodology do not impact the new BPC methodology. In addition, note that the new methodology does not credit flow through the reactor vessel outlet nozzle gaps. Therefore, the CDF and LERF results previously reported remain bounding.

PROPOSED AMENDED EXEMPTION

FENOC proposes to amend the existing exemption from 10 CFR 50.46 and 10 CFR 50, Appendix K for the DBNPS post-LOCA BPC methodology to read as follows:

> FirstEnergy Nuclear Operating Company, with respect to the Davis-Besse Nuclear Power Station, is exempt from the single-failure criterion requirement of 10 CFR 50, Appendix K, Section I.D.1, with respect to failure of Motor Control Center E11B or Motor Control Center F11A and the resulting inability to initiate an active means of controlling core boron concentration.

REASON FOR AMENDED EXEMPTION

Pursuant to 10 CFR 50.46(a)(1)(ii), the DBNPS ECCS is modeled in conformance with the required and acceptable features of 10 CFR 50 Appendix K. Appendix K Section I.D.1, "Single Failure Criterion," requires an analysis of possible ECCS equipment failure modes and their effects on ECCS performance during the post-blowdown phase of a postulated LOCA. In addition, it requires that the combination of ECCS subsystems assumed to be operative shall be those available after the most damaging single-failure of ECCS equipment has taken place.

As previously described, the DBNPS has installed a plant modification during the thirteenth refueling outage (13RFO) that will make significant improvements in the post-LOCA BPC methodology by providing a new active means of preventing boric acid precipitation within the reactor vessel core region. The combination of the new primary method of BPC provided by the modification and the proposed backup method (the current primary method) are less vulnerable to a single-failure than the combination of the current primary and current backup methods of BPC. Because there are known single-failure vulnerabilities that would disable both the new primary method of BPC provided by the modification and the proposed backup method (the current primary method), an exemption from 10 CFR 50 Appendix K Section I.D.1 is still required for crediting this combination of BPC methods as meeting 10 CFR 50.46(a)(1)(ii).

JUSTIFICATION FOR EXEMPTION

10 CFR 50.12(a) states the Commission may grant an exemption from requirements contained in 10 CFR Part 50 provided that the exemption (1) is authorized by law, (2) will not present an undue risk to public health and safety, (3) is consistent with the common defense and security, and (4) special circumstances are present.

The requested amendment to the exemption from the single-failure requirement of 10 CFR 50, Appendix K, Section I.D.1, satisfies these requirements as described below:

1. The requested exemption is authorized by law

The NRC authority to grant exemptions from the requirements of Title 10 of the Code of Federal Regulations, Part 50 is codified in 10 CFR 50.12. Since the amended exemption request does not present an undue risk to public health and safety, and will not endanger the common defense and security, as discussed below, the NRC is authorized to issue the exemption.

2. The requested exemption will not present an undue risk to public health and safety

As described above, the combination of the new primary BPC method and the new backup BPC method (the current primary BPC method) is less vulnerable to single-failures than the combination of the current primary and backup BPC methods. FENOC has concluded that the previously reported values for CDF and LERF bound operation with the new BPC methodology. Therefore, FENOC concludes that this exemption does not pose an undue risk to the health and safety of the public.

3. The requested exemption is consistent with the common defense and security

The DBNPS has systems and processes in place that provide protection for the public from diversion of Special Nuclear Material (SNM) that is licensed to be possessed on site. These systems and processes are those embodied in the "Davis-Besse Nuclear Power Station Physical Security Plan," the "Davis-Besse Nuclear Power Station Guard Training and Qualification Plan," and the "Davis-Besse Nuclear Power Station Safeguards Contingency Plan."

The requested exemption from the single-failure criterion of Section I.D.1 of 10 CFR 50, Appendix K, does not affect the systems and processes discussed above. Therefore, this exemption does not affect the common defense or security.

4. Special circumstances are present

10 CFR 50.12(a)(2) states that the NRC will not consider granting an exemption to the regulations unless special circumstances are present. The requested exemption meets the special

circumstances of 10 CFR 50.12(a)(2)(ii), in that application of these regulations in this circumstance is not necessary to achieve the underlying purpose of the regulations.

The underlying purpose of 10 CFR 50, Appendix K, Section I.D.1 as it relates to 10 CFR 50.46(b)(5), is to assure long-term cooling performance of the ECCS in the event of the "most damaging single failure of ECCS equipment." As discussed above, the DBNPS will still have two active methods of BPC with the new BPC methodology. While the two methods are subject to common failure mechanisms, long-term cooling can still be assured by effecting repairs or taking alternate actions to mitigate the failure in a timely fashion. Procedural controls already in place alert the operators to the need for establishing BPC, and ensure that they respond promptly to restore the BPC function as quickly as possible if a failure occurs that precludes using both methods. These procedural controls will be revised to provide this guidance for the new BPC methodology. This provides assurance that measures will be promptly taken to restore an active method of BPC in the event a single-failure affects both BPC methods. Therefore, FENOC concludes that the underlying purpose of 10 CFR 50, Appendix K, Section I.D.1, as it relates to 10 CFR 50.46(b)(5), will be achieved.

<u>ATTACHMENTS</u>

Attachment 1 - Figures:

- Figure 1, "Current Primary BPC Method (Auxiliary Pressurizer Spray Method)"
- Figure 2, "Current Backup BPC Method (DHR Drop Line Method)"
- Figure 3, "New Primary BPC Method (Hot Leg Injection Method via the DHR Drop Line)"
- Figure 4, "New Backup BPC Method (Auxiliary Pressurizer Spray Method)"

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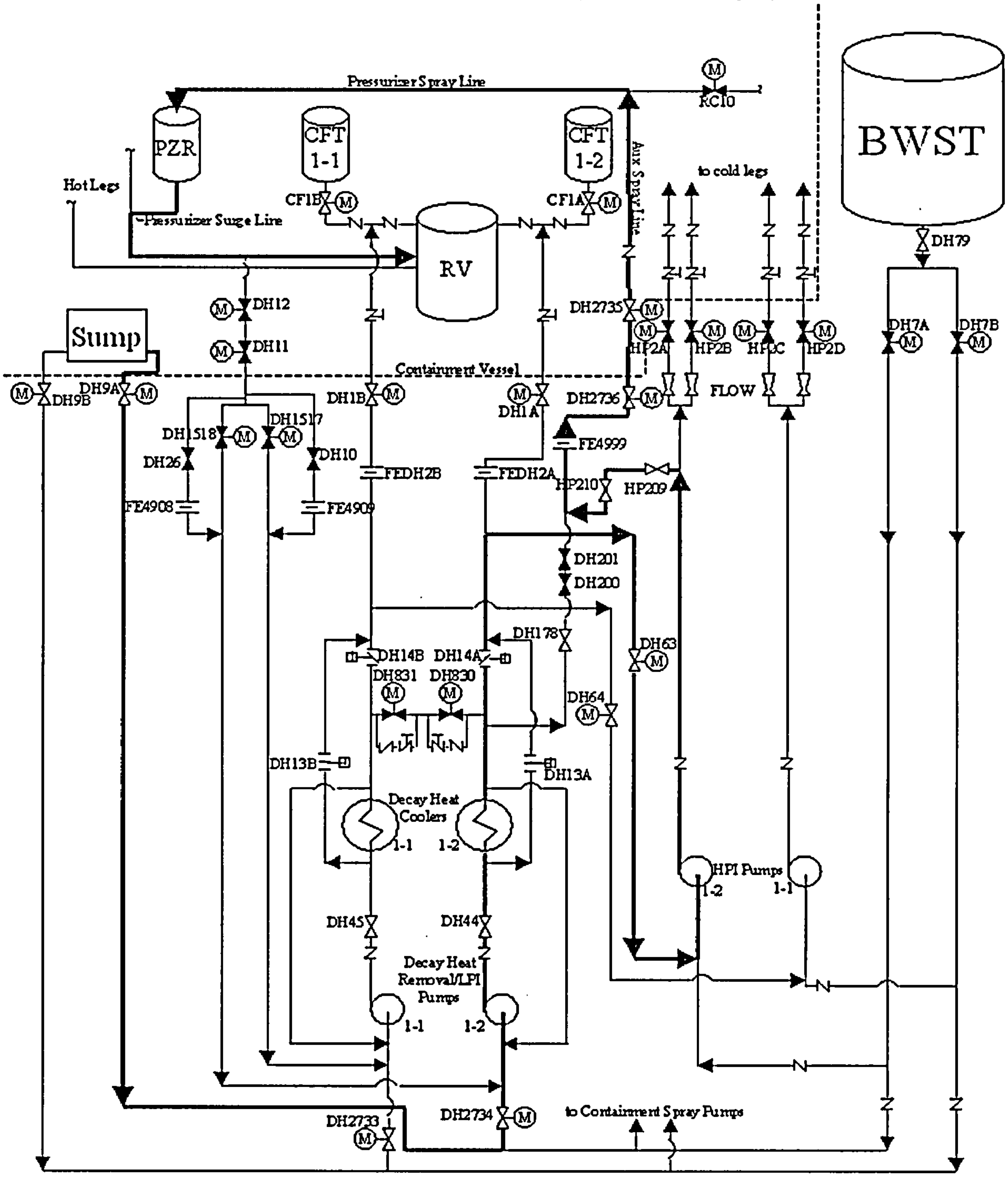
Attachment 1
Figure 1

FOR INFORMATION ONLY

Current Primary BPC Method (Auxiliary Pressurizer Spray Method)



Notes
1. Valves shown in long-term post-LOCA lineup, with Train 1 performing LPI function and Train 2 performing BPC/LPI function
2. BPC flow path is highlighted.
3. This is a simplified schematic. Not all flow paths/components are shown.

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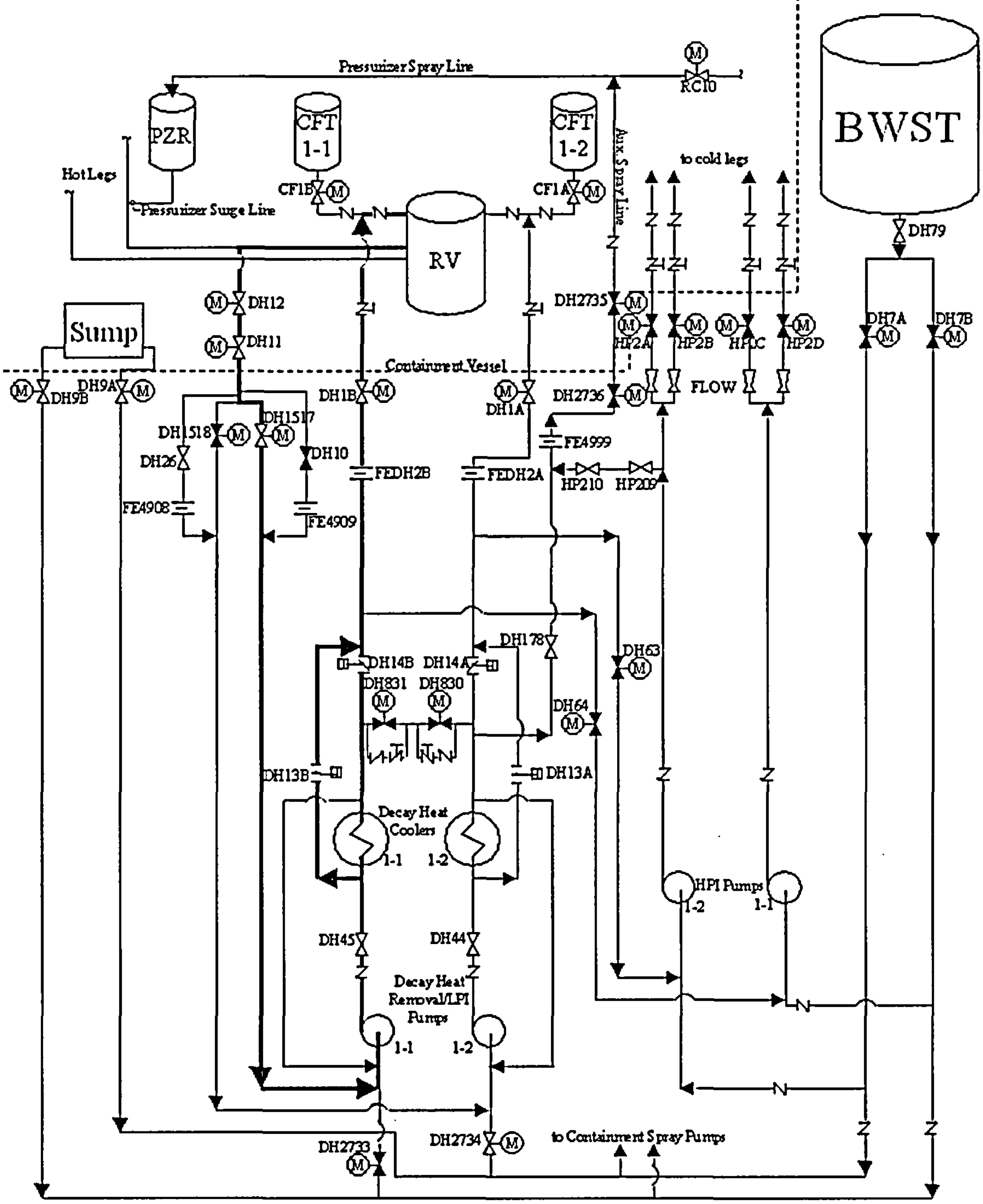
Serial Number 3002
Attachment 1
Figure 2

FOR INFORMATION ONLY

Current Backup BPC Method (DHR Drop Line Method)



Notes
1. Valves shown in long-term post-LOCA line-up, with Train 1 performing BPC function and Train 2 performing LPI function.
2. BPC flow path is highlighted.
3. This is a simplified schematic. Not all flow paths/components are shown.

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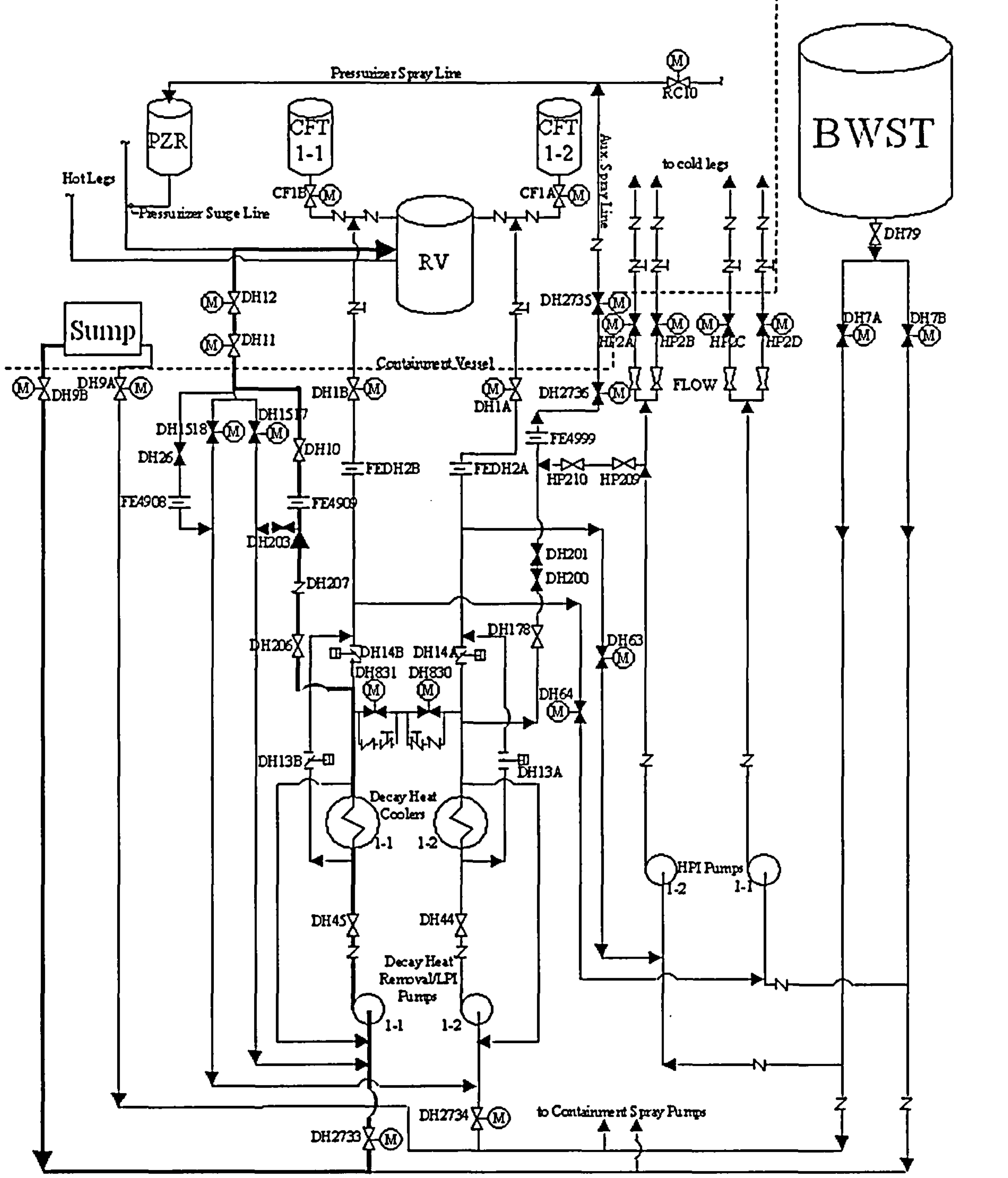
Serial Number 3002
Attachment 1
Figure 3

FOR INFORMATION ONLY

New Primary BPC Method (Hot Leg Injection Method via the DHR Drop Line)

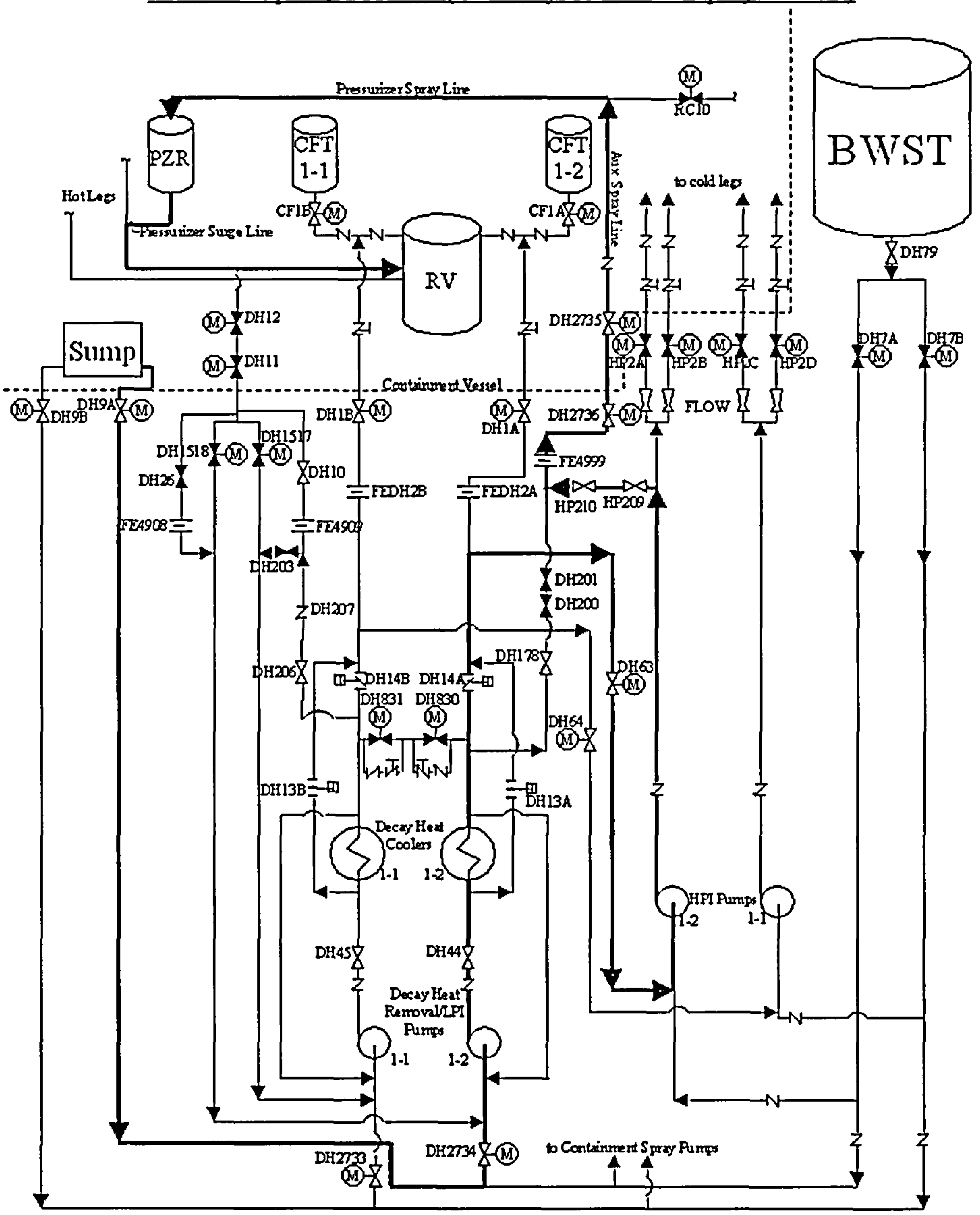


Notes
1. Valves shown in long-term post-LOCA line-up, with Train 1 performing BPC function and Trains 1 & 2 performing LPI function.
2. BPC flow path is highlighted.
3. This is a simplified schematic. Not all flow paths/components are shown.

Docket Number 50-346
License Number NPF-3
Serial Number 3002
Attachment 1
Figure 4

FOR INFORMATION ONLY

New Backup BPC Method (Auxiliary Pressurizer Spray Method)



Notes

1. Valves shown in long-term post-LOCA lineup, with Train 1 performing LPI function and Train 2 performing BPC/LPI function.
2. BPC flow path is highlighted.
3. This is a simplified schematic. Not all flow paths/components are shown.

Docket Number 50-346
License Number NPF-3
Serial Number 3002
Enclosure 2

COMMITMENT LIST

THE FOLLOWING LIST IDENTIFIES THOSE ACTIONS COMMITTED TO BY THE DAVIS-BESSE NUCLEAR POWER STATION (DBNPS) IN THIS DOCUMENT. ANY OTHER ACTIONS DISCUSSED IN THE SUBMITTAL REPRESENT INTENDED OR PLANNED ACTIONS BY THE DBNPS. THEY ARE DESCRIBED ONLY FOR INFORMATION AND ARE NOT REGULATORY COMMITMENTS. PLEASE NOTIFY THE MANAGER – REGULATORY AFFAIRS (419-321-8450) AT THE DBNPS OF ANY QUESTIONS REGARDING THIS DOCUMENT OR ANY ASSOCIATED REGULATORY COMMITMENTS.

COMMITMENTS	DUE DATE
Procedure changes, Operator training, and Updated Safety Analysis Report changes necessary to implement the new BPC methodology will be completed within 120 days following NRC approval of the exemption request.	Within 120 days following NRC approval of the exemption request.