APPLICATION FOR AMENDMENT

TO

FACILITY OPERATING LICENSE NPF-3

DAVIS-BESSE NUCLEAR POWER STATION

UNIT NUMBER 1

Attached are requested changes to the Davis-Besse Nuclear Power Station, Unit Number 1 Facility Operating License Number NPF-3. Also included is the Safety Assessment and Significant Hazards Consideration, and the Environmental Assessment.

The proposed changes (submitted under cover letter Serial Number 2026) concern:

Appendix A, Technical Specification 3/4.4.11, Reactor Coolant System - Reactor Coolant System Vents

Appendix A, Technical Specification Bases 6.9.2 Reporting Requirements - Special Reports

By: _____
D. C. Shelton
Vice President, Nuclear

Sworn and Subscribed before me this 13th day of March , 1992

_____
Notary Public, State of Ohio

EVELYN L. DRESS
NOTARY PUBLIC, STATE OF OHIO
My Commission Expires July 28, 1994

The following information is provided to support issuance of the requested changes to Davis-Besse Nuclear Power Station, Unit Number 1 Operating License Number NPF-3, Appendix A, Technical Specification (TS) 3.4.11 Reactor Coolant System - Reactor Coolant System Vents, and TS 6.9.2, Reporting Requirements - Special Reports.

A. Time Required to Implement: This change is to be implemented within 7 days after NRC issuance of the License Amendment.

B. Reason for Change (License Amendment Request Number 92-0004, Revision 0):

The Reactor Coolant System (RCS) High Point Vent System provides vents on each of the two hot legs and on the pressurizer to vent steam and noncondensible gases to aid in refilling the RCS and promote natural circulation flow for core cooling. The High Point Vent System was installed in accordance with the requirements of NUREG-0737, Item II.B.1 and 10CFR50.44, Standards for combustible gas control system in light-water-cooled power reactors". The requirement to vent the reactor vessel upper head was met by installation of a Continuous Vent Line (CVL) system. The CVL consists of a pipe attached to the reactor vessel head which terminates at a connection near the top of Steam Generator (SG) 1-2. The purpose of the CVL is to allow any noncondensible gases or steam which may collect in the reactor vessel upper head region, during accident conditions, to vent to the hot leg high point of SG 1-2. The gases can then be removed via the high point vents, and the steam can be condensed.

Technical Specification 3.4.11 currently requires that three reactor coolant system vent paths shall be operable: a.) Reactor Coolant System Loop 1 with vent path through valves RC 4608A and RC 4608B; b.) Reactor Coolant System Loop 2 with vent path through valves RC 4610A and RC 4610B; and c.) Pressurizer with vent path through either valves RC 11 and RC 2A (PORV), or valves RC 239A and RC 200. Technical Specification Action 3.4.11.a currently states "With one of the above vent paths inoperable, restore the inoperable vent path to OPERABLE status within 30 days, or, be in HOT STANDBY within six hours and in HOT SHUTDOWN within the following 30 hours."

The proposed change to TS 3.4.11 would revise the Action Statement to allow continued operation in the event that either the RCS Loop 1 vent path or the RCS Loop 2 vent path (but not both) is inoperable and cannot be restored to operable status within 30 days. Under this scenario, in lieu of a plant shutdown, a Special Report would be prepared and submitted to the NRC pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of inoperability, and the plans and schedule for restoring the vent path to an operable status. A plant shutdown would continue to be required in the event the pressurizer vent path is inoperable for longer than 30 days. Current Actions b, c, and d would be unchanged with the exception that they would be redesignated as Actions c, d, and e, respectively.

Technical Specification 6.9.2 summarizes the Special Reports required to be submitted to the NRC. The above described proposed change to TS 3.4.11 would add a new Special Report requirement, which would require a new item entry to TS 6.9.2. This is an administrative change.

The proposed change to TS 3.4 11 would remove the requirement of a plant shutdown in the event that either the RCS Loop 1 or the RCS Loop 2 vent path is inoperable for longer than 30 days. The RCS vent paths can be used to help restore natural circulation conditions following an event in which natural circulation was lost due to noncondensible gas collection. As stated in USAR Section 5.5.10.2, redundancy of one RCS Loop vent path is provided by the other RCS Loop vent path. However, design basis events do not generate sufficient noncondensible gases to block natural circulation. The RCS vent paths are, accordingly, not required to function to mitigate a Design Basis Accident. Since the RCS Loop vent path's only safety function is to act as part of the RCS pressure boundary, the inability to open the valves or to vent the RCS via these flowpaths will have no adverse effect on safety, therefore the present TS requirement to shutdown the plant with only one of the two RCS Loop vent paths inoperable is overly conservative.

The Continuous Vent Line serves to transport steam and noncondensible gases to the inlet plenum of Steam Generator 1-2 and to improve flow in the reactor vessel upper head region during natural circulation cooldown. Relocation of steam and gases to the RCS loop could cause an interruption of natural circulation to RCS Loop 2 during a small break LOCA. However, the DBNPS small break LOCA analyses have taken credit for reflux cooling (coupled heat transfer from the RCS to the SG secondary side) to keep the reactor cooled. Consequently, there is no specific need to be able to remove the steam or noncondensible gases transported from the reactor vessel upper head to the RCS loop high point by the CVL. Therefore, removal of the requirement to shutdown the plant if a RCS Loop vent path becomes inoperable has no effect on safety.

The proposed change will reduce the potential for unduly requiring cooldown and heatup transitions of plant equipment, thus preserving the cycling margin between plant design and actual operating history. The proposed change will also allow repairs to an inoperable RCS vent path to be deferred to a refueling outage when the radiation dose rate associated with the repair can be better planned and scheduled in order to minimize individual and occupational doses in accordance with the As Low As Reasonably Achievable (ALARA) Program

C. Safety Assessment and Significant Hazards Consideration: See Attachment 1.

D. Environmental Assessment: See Attachment 2.

SAFETY ASSESSMENT AND SIGNIFICANT HAZARDS CONSIDERATION
FOR
LICENSE AMENDMENT REQUEST NUMBER 92-0004

TITLE:

Revision of Technical Specification (TS) 3.4.11 Action Statement for One RCS Vent Path Inoperable, and Revision of TS 6.9.2 to Note the Addition of a Reporting Requirement.

DESCRIPTION:

The purpose for the proposed change is to modify the Davis-Besse Nuclear Power Station (DBNPS) Operating License NPF-3, Appendix A Technical Specification (TS) 3/4.4.11 (Reactor Coolant System - Reactor Coolant System Vents), and TS 6.9.2 (Reporting Requirements - Special Reports).

As described in the Davis-Besse Nuclear Power Station (DBNPS) Updated Safety Analysis Report (USAR) Section 5.5.10.2, the Reactor Coolant System (RCS) High Point Vent System provides vents on each of the two hot legs and on the pressurizer to vent steam and noncondensible gases to aid in refilling the RCS and promote natural circulation flow for core cooling. The High Point Vent System was installed in accordance with the requirements of NUREG-0737, Item II.B.1 and 10CFR50.44, "Standards for combustible gas control system in light-water-cooled power reactors". The requirement to vent the reactor vessel upper head was met by installation of a Continuous Vent Line (CVL) system. As described in USAR Section 5.5.10, the CVL consists of a pipe attached to the reactor vessel head which terminates at a connection near the top of Steam Generator (SG) 1-2. There are no valves associated with the CVL. The purpose of the CVL is to allow any noncondensible gases or steam which may collect in the reactor vessel upper head region, during accident conditions, to vent to the hot leg high point of SG 1-2. The gases can then be removed via the high point vents, and the steam can be condensed.

Technical Specification 3.4.11 currently requires that three reactor coolant system vent paths shall be operable: a.) Reactor Coolant System Loop 1 with vent path through valves RC 4608A and RC 4608B; b.) Reactor Coolant System Loop 2 with vent path through valves RC 4610A and RC 4610B; and c.) Pressurizer with vent path through either valves RC 11 and RC 2A (PORV), or valves RC 239A and RC 200. Technical Specification Action 3.4.11.a currently states "With one of the above vent paths inoperable, restore the inoperable vent path to OPERABLE status within 30 days, or, be in HOT STANDBY within six hours and in HOT SHUTDOWN within the following 30 hours."

The proposed change to TS 3.4.11 would revise the Action Statement to allow continued operation in the event that either the RCS Loop 1 vent path or the RCS Loop 2 vent path (but not both) is inoperable and cannot be restored to OPERABLE status within 30 days. Under this scenario, in lieu of a plant shutdown, a Special Report would be prepared and submitted to the NRC pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of

inoperability, and the plans and schedule for restoring the vent path to an OPERABLE status. A plant shutdown would continue to be required in the event the pressurizer vent path is inoperable for longer than 30 days. Current Actions b, c, and d would be unchanged with the exception that they would be redesignated as Actions c, d, and e, respectively.

Technical Specification 6.9.2 summarizes the Special Reports required to be submitted to the NRC. The above described proposed change to TS 3.4.11 would add a new Special Report requirement, which would require a new item entry to TS 6.9.2. This is an administrative change.

A similarly worded license amendment was approved by the NRC and issued on May 8, 1989 for the Florida Power Corporation Crystal River Unit 3 Nuclear Generating Plant (Docket No. 50-302, Amendment No. 112 to License No. DPR-72).

SYSTEMS, COMPONENTS, AND ACTIVITIES AFFECTED:

Reactor Coolant System High Point Vents
Reactor Vessel Continuous Vent Line

SAFETY FUNCTIONS OF THE AFFECTED SYSTEMS, COMPONENTS AND ACTIVITIES:

The RCS Loop vent paths and the CVL do not have an assigned safety function except to form a part of the RCS pressure boundary.

The TS 3.4.11 (Reactor Coolant System - Reactor Coolant System Vents) Limiting Condition for Operation (LCO) ensures the capability of venting steam or noncondensible gas bubbles from the RCS to maintain or aid in the restoration of natural circulation following a small break loss-of-coolant accident (LOCA).

As stated in the February 14, 1990 "Safety Evaluation by the Office of Nuclear Reactor Regulation Related to Instrumentation for Detection of Inadequate Core Cooling and Reactor Head Vent, NUREG-0737 Items II.F.2 and II.B.1, Toledo Edison Company DBNPS Docket No. 50-346," the CVL is designed to improve the cooling of the reactor vessel upper head (RVUH) during a natural circulation cooldown and also to transport noncondensible gases (NCGs) to the high-point vents following a LOCA. Piping of the CVL provides a direct flow path for gases or steam voids from the reactor head to enter one steam generator above the tube sheet.

EFFECTS ON SAFETY:

The proposed change to TS 3.4.11 would remove the requirement of a plant shutdown in the event that either the RCS Loop 1 or the RCS Loop 2 vent path is inoperable for longer than 30 days. The RCS vent paths can be used to help restore natural circulation conditions following an event in which natural circulation was lost due to noncondensible gas collection. As stated in USAR Section 5.5.10.2, redundancy of one RCS Loop vent path is provided by the other RCS Loop vent path. However, as described in USAR 6.3.3.1.4, design basis events do not generate

sufficient noncondensible gases to block natural circulation. The RCS vent paths are, accordingly, not required by the USAR to function to mitigate a Design Basis Accident. Since the RCS Loop vent path's only safety function is to act as part of the RCS pressure boundary, the inability to open the valves or to vent the RCS via these flowpaths will have no effect on safety, therefore the present TS requirement to shutdown the plant with only one of the two RCS Loop vent paths inoperable is overly conservative.

The Continuous Vent Line serves to transport steam and noncondensible gases to the inlet plenum of Steam Generator 1-2 and to improve flow in the reactor vessel upper head region during natural circulation cooldown. Relocation of steam and gases to the RCS loop could cause an interruption of natural circulation to RCS Loop 2 during a small break LOCA. However, the DBNPS small break LOCA analyses have taken credit for reflux cooling (coupled heat transfer from the RCS to the SG secondary side) to keep the reactor cooled. Toledo Edison has previously submitted information to the NRC (Serial No. 1543 dated August 23, 1988) regarding the effectiveness of reflux cooling. Consequently, there is no specific need to be able to remove the steam or noncondensible gases transported from the reactor vessel upper head to the RCS loop high point by the CVL. Therefore, removal of the requirement to shutdown the plant if a RCS Loop vent path becomes inoperable has no effect on safety.

The proposed change will reduce the potential for unduly requiring cooldown and heatup transitions of plant equipment, thus preserving the cycling margin between plant design and actual operating history. The proposed change will also allow repairs to an inoperable RCS vent path to be deferred to a refueling outage when the radiation dose rate associated with the repair can be better planned and scheduled in order to minimize individual and occupational doses in accordance with the As Low As Reasonably Achievable (ALARA) Program.

The proposed change will not alter source terms, containment isolation requirements, or increase projected or allowable values for radiological releases. Therefore, the radiological consequences of this proposed change will not adversely affect safety.

Based on the above evaluation, Toledo Edison has concluded that the proposed change to Technical Specification 3.4.11 will not adversely affect safety.

The proposed change to TS 6.9.2 is administrative only and has no adverse effect on safety.

SIGNIFICANT HAZARDS CONSIDERATION:

The NRC has provided standards in 10CFR50.92(c) for determining whether a significant hazard exists due to a proposed amendment to an Operating License for a facility. A proposed amendment involves no significant hazards if operation of the facility in accordance with the proposed changes would: (1) Not involve a significant increase in the probability or consequences of an accident previously evaluated; (2)

Not create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) Not involve a significant reduction in a margin of safety. Toledo Edison has reviewed the proposed change and determined that a significant hazards consideration does not exist because operation of the Davis-Besse Nuclear Power Station, Unit Number 1, in accordance with these changes would:

1a. Not involve a significant increase in the probability of an accident previously evaluated because no Updated Safety Analysis Report accident initiators are affected by the proposed changes. The proposed change to Technical Specification (TS) 3.4.11 removes the requirement to shutdown in the event that either the Reactor Coolant System (RCS) Loop 1 or the RCS Loop 2 vent paths is inoperable for longer than 30 days. Removal of the requirement to shutdown has no bearing on experiencing an accident previously evaluated.

The proposed change to TS 6.9.2 is administrative only and has no adverse effect on the probability of experiencing an accident previously evaluated.

1b. Not involve a significant increase in the radiological consequences of an accident previously evaluated because no accident conditions or assumptions are affected by the proposed changes. Removal of the requirement to shutdown does not alter the source term, containment isolation, or allowable releases. The proposed changes, therefore, will not increase the radiological consequences of a previously evaluated accident.

The proposed change to TS 6.9.2 is administrative only and has no adverse effect on the consequences of an accident previously evaluated.

2a. Not create the possibility of a new kind of accident from any accident previously evaluated because no new types of failures or accident initiators are introduced by the proposed changes.

The proposed change to TS 6.9.2 is administrative only and has no effect on the possibility of a new kind of accident previously evaluated.

2b. Not create the possibility of a different kind of accident from any accident previously evaluated because no different accident initiators or failure mechanisms are introduced by the proposed changes.

The proposed change to TS 6.9.2 is administrative only and has no adverse effect on the possibility of a different kind of accident from any accident previously evaluated.

3. Not involve a significant reduction in the margin of safety. All accident analyses are still valid, so no changes in margins of safety occur. Therefore, removal of the requirement to shutdown the plant will not adversely affect the margin of safety. The administrative change to TS 6.9.2 will not adversely affect the margin of safety.

CONCLUSION:

On the basis of the above, Toledo Edison has determined that the License Amendment Request does not involve a significant hazards consideration. As the License Amendment Request concerns a proposed change to the Technical Specifications that must be reviewed by the Nuclear Regulatory Commission, this License Amendment Request does not constitute an unreviewed safety question.

ATTACHMENT:

Attached are the proposed marked-up changes to the Operating License.