



Donald C. Shelton
Vice President - Nuclear
Davis-Besse

300 Madison Avenue
Toledo, OH 43652-0001
(419) 249-2300

Docket Number 50-346

License Number NPF-3

Serial Number 2032

March 20, 1992

Dr. Thomas E. Murley
Director, Office of Nuclear Reactor Regulation
United States Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

Subject: Request for Temporary Waiver of Compliance from Technical
Specification 3.4.11 (Reactor Coolant System - Reactor
Coolant System Vents)

Dear Dr. Murley:

The purpose of this letter is to request a temporary waiver of compliance with Technical Specification (TS) 3.4.11 (Reactor Coolant System - Reactor Coolant System Vents) Action a., to avoid putting the Davis-Besse Nuclear Power Station (DBNPS) through a thermal transient due to shutdown requirements (i.e., a cooldown of the primary system from approximately 580 degrees F to less than 200 degrees F).

A recent containment entry identified the RCS Loop 2 vent path through valves PC 4610A and RC 4610B as a potential source of increased Reactor Coolant System (RCS) leakage. To minimize RCS leakage, this flow path was isolated by unlocking and closing upstream manual valve RC 44. The vent path was declared inoperable and the associated TS LCO 3.4.11.a Action statement was entered. This Action statement allows 30 days to restore the vent path to operable status. Following expiration of the 30 day allowed outage time at 1118 hours on March 31, 1992, a plant shutdown will be required to commence if the vent path has not been restored to an operable status.

Toledo Edison estimates that the repair work on these two valves would require a duration of 80 hours working around-the-clock. However, due to the need to be in Cold Shutdown (Mode 5) to perform the work and the associated Mode change testing requirements, Toledo Edison estimates that a forced outage would have a total duration (breaker to breaker) of approximately 14.8 days.

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ADD 1

Toledo Edison, by letter dated March 13, 1992 (Reference Serial Number 2026), submitted a license amendment application to permanently revise TS 3.4.11. The change proposed by this license amendment application would revise the TS 3.4.11 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 operable status. Toledo Edison requested that this license amendment application be processed by the NRC on an exigent or emergency basis, in the manner allowed by 10CFR50.91 (a). A temporary waiver of compliance with TS 3.4.11 Action a is requested to allow the plant to continue operating in Mode 1 until this request for a license amendment can be processed.

1. Requirements For Which Waiver Is Requested

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."

As noted above, the RCS Loop 2 vent path is currently inoperable due to closure of upstream manual valve RC 44, and the 30 day allowed outage time expires at 1118 hours on March 31, 1992.

2. Discussion of Circumstances Surrounding Situation

As noted above, a recent containment entry identified the RCS Loop 2 vent path through valves RC 4610A and RC 4610B as a potential source of increased RCS leakage. To minimize RCS leakage, this flow path was isolated by unlocking and closing upstream manual valve RC 44. The vent path was declared inoperable and the associated TS LCO 3.4.11.a Action statement was entered. As noted above, the current wording of this Action statement allows 30 days to restore the vent path to operable status. Following expiration of the 30 day allowed outage time at 1118 hours on March 31, 1992, a plant shutdown will be required to commence.

The RCS loop vent path valves RC 4608A, 4608B, 4610A, and 4610B are solenoid-operated globe valves manufactured by Valcor Engineering Corporation. These valves are classified as American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section XI (1986) "Category B" valves - valves for which seat leakage in the closed position is inconsequential for fulfillment of their

function. The valves are stroke tested, however, a valve leak rate test is not required since these valves are classified as Category B. These valves have leaked in the past, however, the leakage could be corrected by cycling the valves, or by allowing the valves to seat themselves over time. A slight leakage from the RCS Loop 2 vent path discharge (one drip every several minutes) was observed on November 6, 1991, and a Work Request was initiated. However, since the leak rate was insignificant, the Work Request was closed, and no significant leakage was attributed to these valves during plant startup.

As noted in the license amendment application, Toledo Edison plans to attempt to reseal the leaking valves (RC 4610A and RC 4610B). A procedure is currently being developed to stroke the valves and to assess leakage. The procedure will be performed prior to expiration of the 30 day allowed outage time. If the leakage can be corrected, the RCS Loop vent path will be restored to operable status. In this event, the license amendment request may be processed in a routine manner rather than as an exigent or emergency request, and the temporary waiver of compliance will not be required.

3. Compensatory Actions

Toledo Edison will remain within the Action statement until the RCS Loop 2 vent path is returned to an operable status. This entry will be tracked to ensure operators are acutely aware of the inoperability of one of the RCS Loop vent paths. The Technical Specifications will continue to require that the plant be in Hot Standby (Mode 3) within the next six hours, if a second vent path becomes inoperable and cannot be restored within seventy-two hours.

4. Preliminary Evaluation of Safety Significance and Potential Consequences of the Proposed Request

A Safety Assessment and Significant Hazards Consideration was prepared as part of the license amendment application that was submitted on March 13, 1992, and is included as Attachment 1. This Safety Assessment and Significant Hazards Consideration is applicable to the requested temporary waiver of compliance.

As discussed in the attached Safety Assessment and Significant Hazards Consideration, Toledo Edison has evaluated the appropriateness of a plant shutdown due to a single inoperable RCS loop vent path and concluded that such a forced shutdown is unwarranted.

5. Justification of Temporary Waiver of Compliance Duration

As discussed above, this temporary waiver of compliance will only remain in effect until the requested license amendment application can be processed by the NRC. The license amendment application justifies continued plant operation with one inoperable RCS Loop vent path.

6. Basis for Conclusion of No Significant Hazard Consideration

A Safety Assessment and Significant Hazards Consideration was prepared as part of the license amendment application that was submitted on March 13, 1992, and is included as Attachment 1. This Safety Assessment and Significant Hazards Consideration is applicable to the requested temporary waiver of compliance.

As described in the attached Safety Assessment and Significant Hazards Consideration, Toledo Edison has determined that a significant hazard does not exist.

7. Basis for Conclusion of No Irreversible Environmental Consequences

An Environmental Assessment was prepared as part of the license amendment application that was submitted on March 13, 1992, and is included as Attachment 2. This Environmental Assessment is applicable to the requested temporary waiver of compliance.

As described in Attachment 2, Toledo Edison has reviewed the proposed license amendment against the criteria of 10CFR51.30 for an environmental assessment. The proposed amendment does not involve a significant hazards consideration, does not increase the types or amounts of effluents that may be released offsite, and does not increase individual or cumulative occupational radiation exposures. Accordingly, Toledo Edison finds that the proposed license amendment, if approved by the Nuclear Regulatory Commission, will have no significant impact on the environment and that no Environmental Impact Statement is required.

8. Conclusion

The DBNPS has entered TS Action Statement 3.4.11.a due to an inoperable RCS Loop vent path. The 30-day allowed outage time expires at 1118 hours on March 31, 1992. A temporary waiver of compliance is requested to allow continued plant operation while the NRC is processing the previously submitted license amendment application.

If the proposed Technical Specification change is granted, the revised Action statement would require that a Special Report 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 operable status. This Special Report would be submitted by April 30, 1992.

In order to avoid a potential forced plant shutdown, this temporary waiver of compliance is required by 1118 hours on March 31, 1992.

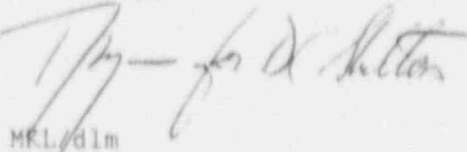
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In the event this temporary waiver of compliance is granted, but the license amendment application is subsequently denied and the RCS Vent path has not been restored to an operable status, the DBNPS will be placed in Mode 3 (Hot Standby) within 6 hours of notification of denial, and in Mode 4 (Hot Shutdown) within the following 30 hours.

The Safety Assessment and Significant Hazards Consideration provided to the NRC as part of the license amendment application submitted to the NRC on March 13, 1992 was reviewed and approved by the DBNPS Station Review Board.

If you have any questions, please contact Mr. Robert W. Schrauder, Manager - Nuclear Licensing, at (419) 249-2366.

Sincerely,



MRL/dlm

Attachments

cc: A. B. Davis, Regional Administrator, NRC Region III
E. G. Greenman, Regional Division Director for Reactor Projects
J. B. Hopkins, NRC Senior Project Manager
W. Levis, DB-1 NRC Senior Resident Inspector
J. G. Partlow, NRC/NRR Assistant Director for Projects
J. R. Williams, Chief of Staff, Ohio Emergency Management Agency,
State of Ohio (NRC Liaison)
✓ USNRC Document Control Desk
Utility Radiological Safety Board

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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 noncondensable 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 5.5.16, 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 noncondensable 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 noncondensable 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 noncondensable 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 noncondensable 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 noncondensable 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 noncondensable 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 noncondensable 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 (PCS) 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.

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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.