APPLICATION FOR AMENDMENT

TO

FACILITY OPERATING LICENSE NUMBER NPF-3

DAVIS-BESSE NUCLEAR POWER STATION

UNIT NUMBER 1

Attached are the 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.

The proposed changes (submitted under cover letter Serial Number 2608) concern:

Appendix A, Technical Specifications (TS):

TS 3/4.3.3.1, Radiation Monitoring Instrumentation
TS 3/4.3.3.2, Instrumentation - Incore Detectors,
TS 3/4.3.3.9, Instrumentation - Waste Gas System Oxygen Monitor,
TS 3/4.4.6.1, Reactor Coolant System Leakage - Leakage Detection Systems,
TS 3/4.4.7, Reactor Coolant System - Chemistry,
TS 3/4.11.2, Radioactive Effluents - Explosive Gas Mixture,
and their Associated Bases.

I, G. G. Campbell, state that (1) I am Vice President - Nuclear of the FirstEnergy Nuclear Operating Company, (2) I am duly authorized to execute and file this certification on behalf of the Toledo Edison Company and The Cleveland Electric Illuminating Company, and (3) the statements set forth herein are true and correct to the best of my knowledge, information and belief.

By _____
G. G. Campbell, Vice-President - Nuclear

Affirmed and subscribed before me this 26th day of July, 1999.

_____
Notary Public, State of Ohio
Nora L. Flood
My commission expires September 4, 2002.

The following information is provided to support issuance of the requested amendment to the Davis-Besse Nuclear Power Station (DBNPS), Unit Number 1, Operating License NPF-3, Appendix A, Technical Specifications (TS). The amendment request involves changes to TS 3/4.3.3.1, Radiation Monitoring Instrumentation; TS 3/4.3.3.2, Instrumentation - Incore Detectors; TS 3/4.3.3.9, Instrumentation - Waste Gas System Oxygen Monitor; TS 3/4.4.6.1, Reactor Coolant System Leakage - Leakage Detection Systems; TS 3/4.4.7, Reactor Coolant System - Chemistry; TS 3/4.11.2, Radioactive Effluents - Explosive Gas Mixture; and their Associated Bases.

A. Time Required to Implement: These changes are to be implemented within 120 days after NRC issuance of the License Amendment.

B. Reason for Change (License Amendment Request 99-0002):

These changes are proposed as line item TS improvements consistent with the recommendations in NRC Generic Letter (GL) 95-10, "Relocation of Selected Technical Specification Requirements Related to Instrumentation," dated December 15, 1995, or based upon guidance provided by the NRC in the improved "Standard Technical Specifications - Babcock and Wilcox Plants," NUREG-1430, Revision 1, dated April, 1995.

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

Docket Number 50-346
License Number NPF-3
Serial Number 2608
Attachment

SAFETY ASSESSMENT AND SIGNIFICANT HAZARDS CONSIDERATION FOR LICENSE AMENDMENT REQUEST 99-0002

(45 pages follow)

**SAFETY ASSESSMENT AND SIGNIFICANT HAZARDS CONSIDERATION
FOR
LICENSE AMENDMENT REQUEST NUMBER
99-0002**

TITLE:

Revise Technical Specification (TS) 3/4.3.3.1, Radiation Monitoring Instrumentation; TS 3/4.3.3.2, Instrumentation - Incore Detectors; TS 3/4.3.3.9, Instrumentation - Waste Gas System Oxygen Monitor; TS 3/4.4.6.1, Reactor Coolant System Leakage – Leakage Detection Systems; TS 3/4.4.7, Reactor Coolant System – Chemistry; TS 3/4.11.2, Radioactive Effluents – Explosive Gas Mixture; and their Associated Bases

DESCRIPTION:

The purpose of this License Amendment Request is to revise the Davis-Besse Nuclear Power Station (DBNPS) Unit Number 1 Operating License NPF-3, Appendix A, Technical Specifications in accordance with the Nuclear Regulatory Commission (NRC) guidance documents Generic Letter (GL) 95-10: "Relocation of Selected Technical Specifications Requirements Related to Instrumentation," dated December 15, 1995, and NUREG-1430, Revision 1, "Standard Technical Specifications – Babcock and Wilcox Plants," dated April, 1995. The following revisions are proposed:

1. Relocate the requirements listed below and their Bases from the TS to the DBNPS Updated Safety Analysis Report (USAR) Technical Requirements Manual (TRM):

    a. TS 3/4.3.3.2, Instrumentation - Incore Detectors,
    b. TS 3/4.3.3.9, Instrumentation - Waste Gas System Oxygen Monitor, and
    c. TS 3/4.4.7, Reactor Coolant System – Chemistry

2. Revise the Surveillance Requirement of TS 3/4.11.2, Radioactive Effluents – Explosive Gas Mixture, and TS Bases 3/4.11.2, Explosive Gas Mixture, to reflect the relocation of TS 3/4.3.3.9 (above) to the USAR TRM.

3. Revise TS 3/4.4.6.1, Reactor Coolant System Leakage – Leakage Detection Systems, to require one monitor of the gaseous or the particulate containment atmosphere radioactivity monitoring systems to be operable, rather than requiring both systems to be operable simultaneously.

4. Revise Tables 3.3-6 and 4.3-3 of TS 3/4.3.3.1, Radiation Monitoring Instrumentation, to be consistent with the above proposed revision to TS 3/4.4.6.1.

It is also proposed that the TS Index and Bases sections be revised to reflect these changes, and TS pages 3/4 3-37 and 3/4 3-51 be removed from the TS since these pages do not contain any information. The attached TS pages are marked up to reflect the above proposed revisions.

Relocation of TS to USAR TRM

The proposed relocation of TS 3/4.3.3.2 (Incore Detectors) and TS 3/4.3.3.9 (Oxygen Monitor) to the USAR TRM is based on the NRC's recommended line-item TS improvements in GL 95-10. The NRC issued GL 95-10 to provide guidance to licensees regarding the relocation of certain TS instrumentation requirements to licensee-controlled documents or programs. The intent of GL 95-10 is to reduce resources spent by licensees by allowing them to remove these requirements from the TS and change these requirements in the future without amending their licenses. The relocation of these requirements will also potentially reduce NRC staff time by decreasing the number of future reviews for plant-specific changes to the affected TS. The relocation of these requirements is based on the NRC staff's conclusion that these instrumentation requirements listed in GL 95-10 are not required under 10 CFR 50.36, "Technical Specifications," to be included in the TS.

The proposed relocation of these instrumentation requirements from the TS is also consistent with the NRC's guidance document NUREG-1430, Revision 1, regarding TS content. In developing NUREG-1430, the NRC staff also concluded these requirements do not meet the 10 CFR 50.36 criteria for inclusion in the TS. Therefore, these instrumentation requirements are not in NUREG-1430, Revision 1.

The proposed relocation of TS 3/4.4.7, Reactor System – Chemistry, is also consistent with it not being included in the NRC's NUREG-1430, Revision 1 guidance document on TS content. This TS would be relocated to the USAR TRM.

The proposed revision of the Surveillance Requirement (SR) of TS 3/4.11.2, Radioactive Effluents – Explosive Gas Mixture, is necessary due to the relocation of TS 3/4.3.3.9 to the USAR TRM. Surveillance Requirement 4.11.2 presently refers to SR 4.3.3.9 which is being proposed for relocation. It is proposed that this reference be deleted from SR 4.11.2 and TS Bases 3/4.11.2 be revised to state the Surveillance Requirements for testing will now be found in the USAR TRM.

The present TS for the Incore Detectors, Waste Gas System Oxygen Monitor, and Reactor Coolant System – Chemistry provide the Limiting Conditions for Operation (LCOs) and SRs for these items. The relocation of these requirements from the TS to the USAR TRM will not alter the basic content of the LCOs and SRs, and no requirements will be eliminated during this transition.

Relocating these three TS to the USAR TRM will provide for future changes to be made by the DBNPS staff under the regulatory controls of 10 CFR 50.59, "Changes, Tests, and Experiments." The DBNPS staff will be allowed to control and evaluate proposed changes to these three TS without the need for the DBNPS and NRC staffs to process a License Amendment Request, when such proposed changes do not involve an unreviewed safety question or a change to the TS. Changes made to the USAR TRM will be submitted to the NRC in accordance with the USAR revision requirements of 10 CFR 50.71(e). The relocation of these three TS to the USAR TRM

will be completed no later than the implementation of the NRC-approved License Amendment that allows for their removal from the TS.

Revision of TS Requirements for the Reactor Coolant System Leakage Detection Systems

The proposed revision of TS 3/4.4.6.1 to require one monitor of the gaseous or the particulate containment atmosphere radioactivity monitoring system to be operable, rather than both systems, is based upon the NRC's guidance provided in NUREG-1430, Revision 1, TS 3.4.15, Reactor Coolant System (RCS) Leakage Detection Instrumentation. This proposed TS revision does not provide for a reduction in the number of containment atmosphere radioactivity monitoring systems at the DBNPS, rather only the number required to be controlled by the TS.

Redundant and diverse means of detecting RCS leakage will be provided by retaining the TS requirement that, in addition to one operable containment atmosphere radioactivity monitor, the containment sump level and flow monitoring system must be operable. A revision to the Action statement is proposed to allow plant operation for up to 30 days with one of these two TS-required means of detecting RCS leakage inoperable (as long as specified compensatory monitoring actions are taken). This is consistent with the guidance of NUREG-1430 and allows for a reasonable time period to restore an inoperable system before the plant must be shutdown.

The proposed revision of TS 3/4.3.3.1, Radiation Monitoring Instrumentation, would add a footnote to the "Minimum Channels Operable" column of TS Table 3.3-6, Radiation Monitoring Instrumentation, for the leakage detection containment atmosphere radioactivity monitors (items 2.a.i and 2.a.ii). This footnote would identify that the minimum channels required to be operable for each monitor is specified by TS 3/4.4.6.1, RCS Leakage – Leakage Detection Systems. Currently, TS 3/4.3.3.1 requires that a minimum of one channel of both the gaseous and particulate leakage detection monitors be operable. However, consistent with NUREG-1430, Revision 1, TS 3.4.15, this would be revised to require one channel of either the gaseous or the particulate leakage detection monitors to be operable.

SYSTEM, COMPONENTS, AND ACTIVITIES AFFECTED:

The proposed license amendment affects the administrative location of the Incore Detectors, Waste Gas System Oxygen Monitor, Reactor Coolant System – Chemistry, and Explosive Gas Mixture TS requirements and the content of their associated TS Bases.

The proposed license amendment also affects the number of containment atmosphere radioactivity monitors controlled by TS, however, the actual number of such monitors in the plant is not changed.

FUNCTIONS OF THE AFFECTED SYSTEMS, COMPONENTS, AND ACTIVITIES:

The overall function of the Operating License, Appendix A, TS is to impose those conditions or limitations upon reactor operation necessary to preserve the validity of the results of the USAR Design Bases Accident analyses. The functions of the requirements in TS 3/4.3.3.1, Radiation

Monitoring Instrumentation; TS 3/4.3.3.2, Incore Detectors; TS 3/4.3.3.9, Waste Gas System Oxygen Monitor; TS 3/4.4.6.1, Leakage Detection Systems; TS 3/4.4.7, Reactor Coolant System – Chemistry; and TS 3/4.4.11.2, Explosive Gas Mixture are as follows:

TS 3/4.3.3.1, Radiation Monitoring Instrumentation

Section 5.2.4, Reactor Coolant Pressure Boundary (RCPB) Leak Detection System, of the USAR describes the gaseous and particulate containment atmosphere radioactivity monitors. These monitors are used to detect leakage from the RCPB. There are two separate and redundant particulate monitors (particulate – RE 4597AA and particulate – RE 4597BA) and two separate and redundant gaseous monitors (gaseous – RE 4597AA and gaseous – RE 4597BA).

TS 3/4.3.3.2, Incore Detectors

Section 7.9, Incore Monitoring System, of the USAR describes the incore detectors instrumentation as consisting of seven local flux detectors, one background average flux detector and one core outlet thermocouple installed in the instrumentation tube of each of 52 fuel assemblies located in the reactor core. The function of the incore detector assemblies is to measure neutron flux and temperatures in the reactor core and provide this information to the control room.

TS 3/4.3.3.9, Waste Gas System Oxygen Monitor

Section 11.3, Gaseous Waste System, of the USAR describes the Waste Gas System used to collect and store radioactive gaseous waste from the DBNPS in the waste gas surge tank until such time that radioactive decay renders the gas safe for release. To preclude the inleakage of air, a nitrogen blanketing system can be put into service to maintain a minimum positive pressure in the waste gas surge tank. An oxygen monitor is installed on the tank to provide an additional measure of safety against the unlikely buildup of oxygen. The function of the Waste Gas System Oxygen Monitor is to monitor the oxygen concentration in the waste gas surge tank to ensure the concentration of potentially explosive gas mixtures contained in the tank is maintained below the flammability limits of hydrogen with oxygen.

TS 3/4.4.6.1, Leakage Detection Systems

Section 5.2.4, RCPB Leak Detection System, of the USAR describes the system as including the containment atmosphere particulate radioactivity monitoring system, the containment sump level and flow monitoring system, and the containment atmosphere gaseous radioactivity monitoring system. These RCS leakage detection systems are provided to detect and monitor leakage from the Reactor Coolant Pressure Boundary. Each containment atmosphere radioactivity monitoring system consists of two separate and redundant trains. The containment atmosphere particulate radioactivity monitoring system consists of two trains, each with a particulate monitor (particulate – RE 4597AA and particulate – RE 4597BA). The containment atmosphere gaseous radioactivity monitoring system consists of two trains, each with a gaseous monitor (gaseous –

RE 4597AA and gaseous – RE 4597BA). The containment sump level and flow monitoring system includes normal, narrow, and wide range sump level indicators.

TS 3/4.4.7, Reactor Coolant System - Chemistry

Section 5.2.3.4, "Reactor Coolant Additives," of the USAR describes the maintenance of the RCS chemistry in order to provide an environment that is compatible with the RCS materials and reactor core materials. Section 9.3.6, "Chemical Addition System," of the USAR describes the RCS chemistry parameters that are maintained. These parameters and values were derived using the Electric Power Research Institute (EPRI) Primary Water Chemistry Guidelines. The RCS chemistry is maintained within the appropriate specifications to provide adequate corrosion protection to ensure the structural integrity of the RCS over the life of the plant and reduce the potential for RCS leakage or failure due to stress corrosion.

TS 3/4.11.2, Explosive Gas Mixture

USAR Section 11.3, "Gaseous System," describes the waste gas treatment system. This TS is provided to ensure that the concentration of potentially explosive gas mixtures contained in the waste gas treatment system is maintained below the flammability limits of hydrogen with oxygen. Maintaining the concentrations of hydrogen or oxygen below their flammability limits provides assurance that the releases of radioactive materials will be controlled in conformance with the requirements of 10 CFR Part 50, Appendix A, General Design Criterion 60, "Control of Release of Radioactive Materials to the Environment."

EFFECTS ON SAFETY:

Relocation of TS 3/4.3.3.2, TS 3/4.3.3.9, and TS 3/4.4.7 to the USAR TRM

The purpose of the Operating License, Appendix A, Technical Specifications is to impose those conditions or limitations upon reactor operation necessary to preserve the validity of the results of USAR Design Basis Analyses. Section 182a of the Atomic Energy Act requires applicants for nuclear power plant operating licensees to include TS as part of the license. The NRC regulatory requirements related to the content of the TS are set forth in 10 CFR 50.36, "Technical Specifications." This regulation requires that the TS include items in five specific categories, including: (1) Safety Limits, Limiting Safety System Settings, and Limiting Control Settings; (2) Limiting Conditions for Operation; (3) Surveillance Requirements; (4) Design Features; and, (5) Administrative Controls. However, 10 CFR 50.36 does not specify the particular requirements to be included in a plant's TS.

The NRC has provided guidance for the content of TS in its "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors," dated July 22, 1993 (reference: 58 FR 39132) in which the NRC indicated that compliance with the Final Policy Statement satisfies Section 182a of the Atomic Energy Act. In particular, the NRC indicated that certain items may be relocated from the TS to licensee-controlled documents since TS are to be reserved for those matters to which the imposition of rigid conditions or limitations upon reactor

operation is deemed necessary to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety.

The NRC's Final Policy Statement recognized, as had previous statements related to the NRC's TS Improvement Program, that implementation of the policy would result in the relocation of some existing TS requirements to licensee-controlled documents such as the USAR. Those items relocated to the USAR would, in turn, be controlled in accordance with the requirements of 10 CFR 50.59. This regulation provides criteria to determine when facility or operating changes planned by a licensee require prior NRC approval in the form of a license amendment in order to address any unreviewed safety question.

Four criteria were published by the NRC in the Final Policy Statement. The policy established that any TS requirements which did not meet any of the four criteria could be proposed for relocation to licensee-controlled documents such as the USAR. These criteria were subsequently incorporated into the regulations by an amendment to 10 CFR 50.36, dated July 19, 1995 (reference: 60 FR 36953). The three TS proposed for relocation to the USAR TRM do not meet these criteria for inclusion in the DBNPS TS and are, therefore, proposed for relocation. The removal of these TS is also consistent with their absence in the NRC's guidance document NUREG-1430, Revision 1, dated April 1995, "Standard Technical Specifications - Babcock and Wilcox Plants."

These three TS and their Bases are proposed for relocation to the DBNPS USAR TRM. In general, these TS and Bases will be incorporated into the USAR TRM with the same content they possessed as part of the Operating License.

Each of the three TS proposed for relocation is evaluated below with respect to the four criteria of 10 CFR 50.36(c)(2)(ii) used in determining whether a particular item is required to be retained in the TS, or may be relocated to other licensee-controlled documents. The four criteria that require retaining a particular item in TS are as follows:

1. Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

   As described in the Federal Register notice (Reference: 58 FR 39132) of the NRC's Final Policy Statement, the purpose of this criterion is to ensure that the TS control those instruments specifically installed to detect excessive Reactor Coolant System leakage. The Federal Register notice states that this criterion should not be interpreted to include instrumentation to detect precursors to reactor coolant pressure boundary leakage or instrumentation to identify the source of actual leakage (e.g., the loose parts monitor).

2. A process variable, design feature, or operating restriction that is an initial condition of a Design Basis Accident or Transient Analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

   As described in the Final Policy Statement's Federal Register notice, the purpose of this

criterion is to capture those process variables that have initial values assumed in the Design Basis Accident and Transient Analyses, and which are monitored and controlled during power operation. As long as these variables are maintained within the established values, risk to the public safety is presumed to be acceptably low. This criterion also includes active design features (e.g., high pressure/low pressure system valves and interlocks) and operating restrictions (e.g., pressure/temperature limits) needed to preclude unanalyzed accidents and transients.

3. A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a Design Basis Accident or Transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

   As described in the Final Policy Statement's Federal Register notice, the purpose of this criterion is to capture only structures, systems, and components that are part of the primary success path of a safety sequence analysis. Also captured by this criterion, are those support and actuation systems that are necessary for items in the primary success path to successfully function. The primary success path for a particular mode of operation does not include backup and diverse equipment (e.g., safety valves which are a backup to low temperature overpressure relief valves during cold shutdown.).

4. A structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.

   As described in the Final Policy Statement's Federal Register notice, the purpose of this criterion is to retain in TS those requirements that the probabilistic safety assessment or operating experience shows as significant to public health and safety.

TS 3/4.3.3.2, Incore Detectors

The Incore Detectors are described in DBNPS USAR Section 7.9, Incore Monitoring Instrumentation. These detectors are used to measure neutron flux and temperature in the reactor core and provide this information to the control room. These measurements are used in a confirmatory manner and do not provide direct input to the Reactor Protection System (RPS) or the Safety Features Actuation System (SFAS). An evaluation of the Incore Detectors with respect to the four criteria of 10 CFR 50.36(c)(2)(ii) follows:

Criterion 1: Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary (RCPB).

The Incore Detectors are not instrumentation installed to detect degradation of the RCPB. These detectors are not installed for, or capable of, detecting reactor coolant leakage, and, therefore, do not meet Criterion 1 for inclusion in the TS.

Criterion 2: A process variable, design feature, or operating restriction that is an initial condition of a Design Basis Accident or Transient Analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

Although core power distributions constitute an important initial condition to design basis accidents and, therefore, are addressed by TS 2.2 Limiting Safety System Settings – Reactor Protection System Setpoints, the incore detectors themselves are not an active design feature needed to preclude unanalyzed accidents or transients. The NRC's GL 95-10 explicitly identified the Incore Detectors as not required to be retained in the TS. These detectors do not meet Criterion 2 for inclusion in the TS.

Criterion 3: A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a Design Basis Accident or Transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

The Incore Detectors do not provide direct input to the RPS or the SFAS, and do not function as a primary success path to mitigate events which assume a failure of or a challenge to the integrity of fission barriers. These detectors do not meet Criterion 3 for inclusion in the TS.

Criterion 4: A structure, system or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.

These detectors have not been shown to be significant to public health and safety by either operational or probabilistic risk assessment. The Incore Detectors were not included in the scope of the DBNPS Individual Plant Examination (IPE) or the Individual Plant Examination for External Events (IPEEE), nor are they "risk significant" under the 10 CFR 50.65 Maintenance Rule Program. These detectors do not meet Criterion 4 for inclusion in the TS.

In summary, the Incore Detectors requirements can be relocated from the TS to the USAR TRM with no adverse effect on nuclear safety. Future changes to these requirements will be controlled under the 10 CFR 50.59 process.

TS 3/4.3.3.9, Waste Gas System Oxygen Monitor

The Waste Gas System Oxygen Monitor is described in USAR Section 11.3, Gaseous Waste System. This monitor is used to monitor the oxygen concentration in the waste gas surge tank to ensure the concentration of potentially explosive gas mixtures contained in the tank is maintained below the flammability limits of hydrogen with oxygen. An evaluation of this monitor with respect to the four criteria of 10 CFR 50.36 (c)(2)(ii) follows:

Criterion 1: Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the RCPB.

The Waste Gas System Oxygen Monitor is not installed instrumentation used to detect degradation of the RCPB. This monitor is not installed for, or capable of detecting reactor coolant leakage. This monitor does not meet Criterion 1 for inclusion in the TS.

Criterion 2: A process variable, design feature, or operating restriction that is an initial condition of a Design Basis Accident or Transient Analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

The Waste Gas System Oxygen Monitor is not a process variable, design feature, or operating restriction that is an initial condition of a Design Basis Accident or Transient Analysis. Furthermore, this monitor is not an active design feature and operating restriction needed to preclude unanalyzed accidents and transients. This monitor does not meet Criterion 2 for inclusion in the TS.

Criterion 3: A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a Design Basis Accident or Transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

The monitor does not prevent or mitigate Design Basis Accidents or Transients which assume a failure of or present a challenge to a fission product barrier. Acceptable concentrations of explosive gases are controlled by the Limiting Condition for Operation in TS 3/4.11.2, Explosive Gas Mixture. Therefore, this monitor does not meet Criterion 3 for inclusion in the TS.

Criterion 4:

A structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.

The Waste Gas System Oxygen Monitor has not been shown to be significant to public health and safety by either operational or probabilistic risk assessment. This monitor was not included in the scope of the DBNPS IPE or the IPEEE, nor is it "risk significant" under the Maintenance Rule Program. Therefore, this monitor does not meet Criterion 4 for inclusion in the TS.

In summary, the Waste Gas System Oxygen Monitor requirements can be relocated from the TS to the USAR TRM with no adverse effect on nuclear safety. Future changes to these requirements will be controlled under the 10 CFR 50.59 process.

<u>TS 3/4.4.7, Reactor Coolant System – Chemistry</u>

USAR Section 5.2.3.4, "Reactor Coolant Additives," and Section 9.3.6, "Chemical Addition System," describe the maintenance of the RCS chemistry in order to provide an environment that is compatible with the RCS materials and reactor core materials. The RCS chemistry is maintained to provide corrosion protection to ensure the structural integrity of the RCS over the life of the plant.

Criterion 1: Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

This TS provides chemistry limits for the RCS and does not address installed instrumentation. Therefore, Criterion 1 is not met for inclusion in the TS.

Criterion 2: A process variable, design feature, or operating restriction that is an initial condition of a Design Basis Accident or Transient Analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

This TS provides chemistry limits for the RCS and not process variables, design features, or operating restrictions that are an initial condition of a Design Basis Accident or Transient Analysis. Therefore, Criterion 2 is not met for inclusion in the TS.

Criterion 3: A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a Design Basis Accident or Transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

This TS addresses chemistry limits for the RCS and does not address a structure, system, or component that is part of the primary success path which functions or actuates to mitigate a Design Basis Accident or Transient. Therefore, Criterion 3 is not met for inclusion in the TS.

Criterion 4: A structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.

This TS addresses chemistry limits for the RCS and does not address a structure, system, or component. RCS chemistry is not included in the scope of the DBNPS IPE or the IPEEE, nor is it "risk significant" under the Maintenance Rule Program. Therefore, Criterion 4 is not met for inclusion of RCS - Chemistry in the TS.

In summary, the RCS – Chemistry requirements can be relocated from the TS to the USAR TRM with no adverse effect on nuclear safety. Reactor Coolant System chemistry parameters will continue to follow EPRI guidelines and will be maintained within limits to provide RCS corrosion protection. Future changes to these requirements will be controlled under the 10 CFR 50.59 process.

TS 3/4.11.2, Explosive Gas Mixture

This TS specifies the limit for the concentration of oxygen in the waste gas system and the surveillance requirement for determining the oxygen concentration. The Surveillance Requirement 4.11.2 currently states:

> The concentration of oxygen in the waste gas system shall be determined to be within the above limits by monitoring the waste gases in the waste gas system as required by Specification 3.3.3.9.

However, since TS 3/4.3.3.9 is being proposed by this same License Amendment Request to be relocated to the USAR TRM, the above references to "Specification 3.3.3.9" must be revised. It is proposed that this Surveillance Requirement be revised to state:

> The concentrations of oxygen in the waste gas system shall be determined to be within the above limits by monitoring the waste gases in the waste gas system.

To address the location of the specific monitoring requirements, it is proposed that the TS Bases 3/4.11.2, Explosive Gas Mixture, have a sentence added that states:

> The concentration of oxygen in the waste gas system is determined to be within acceptable limits by monitoring the waste gases in the waste gas system as required by the USAR Technical Requirements Manual.

This Bases revision is an administrative change as a result of the relocation of TS 3/4.3.3.9 to the USAR TRM. Future changes to the referenced USAR TRM will be subject to the regulatory controls of 10 CFR 50.59, including a determination of whether a change to the Technical Specifications or an unreviewed safety question is involved. Also, in these Bases the word "treatment" has been proposed to be removed from the name of the system ". . . waste gas treatment system. . ." to make the name editorially consistent with the name in the TS. Accordingly, there is no adverse effect on nuclear safety as a result of the above changes to Surveillance Requirement 4.11.2 and TS Bases 3/4.11.2.

TS 3/4.4.6.1, Leakage Detection Systems

This TS specifies the Reactor Coolant System (RCS) leakage detection systems required to be operable to detect and monitor leakage from the Reactor Coolant Pressure Boundary. Regulatory Guide 1.45, "Reactor Coolant Pressure Boundary Leakage Detection Systems," dated May, 1973, describes acceptable methods to provide for RCS leakage detection. Leakage detection systems must have the capability to detect significant reactor coolant pressure boundary degradation as soon after occurrence as practical to minimize the potential for propagation to a gross failure.

Currently, the following three leakage detection systems are required to be operable in Modes 1, 2, 3 and 4 by TS 3/4.4.6.1:

- Containment atmosphere particulate radioactivity monitoring,
- Containment atmosphere gaseous radioactivity monitoring system, and
- Containment sump level and flow monitoring system.

The revisions proposed for TS 3/4.4.6.1 would require one containment atmosphere radioactivity monitor (either gaseous or particulate) to be operable. The containment sump level and flow monitoring system would continue to be required to be operable.

The current Action statement allows plant operation to continue up to 30 days if one of the three required leakage detection systems (particulate, gaseous, or sump) is inoperable. If the inoperable system is either the particulate or gaseous radioactivity monitoring system, compensatory grab sampling and analysis must be performed at least once per 24 hours. If the inoperable system is the sump level and flow monitoring system, no compensatory action is required by the Action statement. If two of the three required leakage detection systems are inoperable, then the plant must be shutdown.

It is proposed that the Action statement be revised to:

- Allow the containment sump level and flow monitoring system to be inoperable for up to 30 days provided existing TS Surveillance Requirement 4.4.6.2.1.d is performed once per 24 hours as compensatory action. This Surveillance Requirement requires the performance of an RCS water inventory balance during steady operation to determine leakage amounts. If this Action is not completed within the required time, then the plant must be shutdown.
- Allow the single, TS-required containment atmosphere radioactivity monitor (either particulate or gaseous) to be inoperable for up to 30 days provided containment atmosphere grab samples are obtained and analyzed at least once per 24 hours, or an RCS water inventory balance is performed at least once per 24 hours. If this Action is not completed within the required time, then the plant must be shutdown.
- Require an immediate plant shutdown if both required leakage detection means (the containment atmosphere radioactivity monitor and the containment sump level and flow monitoring system) are inoperable.

This revised TS will still require diversity and redundancy in RCS leakage detection systems. The sensitivity of the existing containment atmosphere radioactivity monitors is not affected. This revised TS will still retain the Action requirement to implement compensatory measures if the required containment atmosphere radioactivity monitor becomes inoperable. This revised TS will add an Action requirement to implement compensatory measures if the containment sump level and flow monitoring system becomes inoperable. The allowed outage time of 30 days, should one of the two required leakage detection systems become inoperable, allows for a reasonable time to restore the inoperable system to operability and recognizes that compensatory actions are being taken to supplement the remaining operable leakage detection system.

These proposed revisions are consistent with the NRC's guidance provided in NUREG-1430, Revision 1, Standard Technical Specifications – Babcock and Wilcox Plants, TS 3.4.15 – Reactor Coolant System (RCS) Leakage Detection Instrumentation. Redundant means of detecting RCS leakage will continue to be provided by retaining the TS requirement that in addition to one operable containment atmosphere radioactivity monitor, the containment sump level and flow monitoring system must be operable.

This proposed TS revision does not provide for an actual reduction in the number of containment atmosphere radioactivity monitors at the DBNPS. Rather, this proposed TS revision provides for only a reduction in the number of monitors required to be operable at any one time by the TS. An inoperable containment atmosphere radioactivity monitor (particulate or gaseous) that is not

subject to TS requirements, would remain subject to the requirements of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, whereby prompt corrective action to restore the monitor must be taken.

Since these proposed revisions do not change the DBNPS USAR commitments to have a containment atmosphere particulate radioactivity monitoring system, a containment atmosphere gaseous radioactivity monitoring system, and a containment sump level and flow monitoring system, the current commitments to Regulatory Guide 1.45, "RCPB Leakage Detection Systems," will continue to be met. Accordingly, these proposed revisions to TS 3/4.4.6.1 have no adverse effect on nuclear safety.

TS 3/4.3.3.1, Radiation Monitoring Instrumentation

This TS is related to the above TS 3/4.4.6.1 with respect to the gaseous and particulate containment atmosphere radioactivity monitoring system. TS 3/4.3.3.1 contains the Channel Check, Channel Calibration, and Channel Functional Test requirements for the gaseous and particulate containment atmosphere radioactivity monitors.

The current TS 3/4.3.3.1, Table 3.3-6, Radiation Monitoring Instrumentation, requires that there be a minimum of one gaseous monitor and one particulate monitor. With the above proposed changes to TS 3/4.4.6.1 to require only one monitor, either gaseous or particulate, to be operable, it is necessary to revise this table.

It is proposed that a footnote "*" be added to the table as follows:

Instrument	Minimum Channels Operable
2. Process Monitors	
a. Containment	
i. Gaseous Activity	
RCS Leakage Detection	1*
ii. Particulate Activity	
RCS Leakage Detection	1*

* As required by Specification 3.4.6.1.

This proposed footnote would provide operability requirements consistent with the operability requirements of TS 3/4.4.6.1 regarding the gaseous or particulate monitor being used for TS compliance. It should be noted that if the minimum channels operable requirement is not met, the current applicable Action (21) already references TS 3/4.4.6.1:

With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.4.6.1.

Therefore, no revision of this Action is required.

TS 3/4.3.3.1, Table 4.3-3, Radiation Monitoring Instrumentation Surveillance Requirements, lists the frequencies for the Channel Check, Channel Calibration, and Channel Functional Test for these containment atmosphere gaseous and particulate radioactivity monitors. Consistent with requiring only one of these monitors operable to comply with the revised TS 3/4.4.6.1, it is proposed that a footnote "*" be added to Table 4.3-3 as follows:

Instrument	Channel Check	Channel Calibration	Channel Functional Test
2. Process Monitors			
a. Containment			
i. Gaseous Activity RCS Leakage Detection*	S	E	M
ii. Particulate Activity RCS Leakage Detection*	S	E	M

*If required by Specification 3.4.6.1 to be OPERABLE.

This proposed footnote would provide surveillance requirements consistent with the operability requirements of TS 3/4.4.6.1 regarding the gaseous or particulate monitor being used for TS compliance.

Similar to the proposed revisions to TS 3/4.4.6.1 discussed above, these proposed revisions to TS 3/4.3.3.1 do not change the DBNPS USAR commitments to maintain the containment atmosphere particulate and gaseous radioactivity monitoring systems. Accordingly, these proposed revisions to TS 3/4.3.3.1 have no adverse effect on nuclear safety.

SIGNIFICANT HAZARDS CONSIDERATION:

The Nuclear Regulatory Commission has provided standards in 10 CFR 50.92(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 consideration 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. The Davis-Besse Nuclear Power Station (DBNPS) has reviewed the proposed changes 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 accident initiator, conditions or assumptions are affected by the proposed revisions to Technical Specification (TS) 3/4.3.3.1, Radiation Monitoring Instrumentation, TS 3/4.3.3.2, Instrumentation - Incore Detectors; TS 3/4.3.3.9, Instrumentation - Waste Gas System Oxygen Monitor; TS 3/4.4.7, Reactor Coolant System – Chemistry; TS 3/4.11.2, Radioactive Effluents – Explosive Gas Mixture; and TS 3/4.4.6.1, Reactor Coolant System Leakage – Leakage Detection Systems, and their associated TS Bases.

The requirements of TS 3/4.3.3.2, TS 3/4.3.3.9, and TS 3/4.4.7 are proposed to be relocated from the TS to the DBNPS Updated Safety Analysis Report (USAR) Technical Requirements Manual (TRM). These requirements would be relocated generally intact to the TRM whereby future changes would be subject to the regulatory controls of 10 CFR 50.59. These relocations are consistent with the NRC guidance provided in Generic Letter (GL) 95-10, "Relocation of Selected Technical Specifications Requirements Related to Instrumentation," or NUREG –1430, Revision 1, "Standard Technical Specifications – Babcock and Wilcox Plants," dated April 1995.

The proposed revision to TS 3/4.11.2, Radioactive Effluents – Explosive Gas Mixture, and its Bases is an administration change to a reference necessitated by the proposed relocation of TS 3/4.3.3.9 to the USAR TRM.

The proposed revisions to TS 3/4.3.3.1 and TS 3/4.4.6.1 regarding the number of Reactor Coolant System (RCS) leakage detection monitors required and their allowed outage times is based upon the NRC's guidance of NUREG-1430, Revision 1. This proposed revision affects the TS only and does not reduce the number, diversity, or sensitivity of Reactor Coolant System leakage detection systems inside the containment building or as committed to in the DBNPS USAR.

1b. Not involve a significant increase in the consequences of an accident previously evaluated because no accident condition or assumption is affected by the proposed revisions. As described above, the revisions are consistent with the guidance of NRC GL 95-10 or NUREG-1430, Revision 1. The proposed revisions, as described above, do 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.

2. Not create the possibility of a new or different kind of accident from any accident previously evaluated because no new accident initiators or assumptions are introduced by the proposed TS revisions. No new accident scenarios, transient precursors, failure mechanisms, or limiting failures are introduced as a result of the proposed changes.

3. Not involve a significant reduction in a margin of safety because the proposed revisions do not reduce or adversely affect the capabilities of any plant structures, systems or components. The proposed relocation of TS 3/4.3.3.2, TS 3/4.3.3.9, and TS 3/4.4.7 to the USAR TRM is essentially an administrative change to the location and process by which

these requirements are controlled and revised. Future revisions to these requirements relocated to the USAR TRM will be subject to the regulatory controls of 10 CFR 50.59. Therefore, these revisions will not result in a significant reduction in a margin of safety.

The proposed revision to TS 3/4.11.2 and its Bases is administrative and reflects the relocation of TS 3/4.3.3.9 to the USAR TRM. Therefore, this revision will not result in a significant reduction in a margin of safety.

The proposed revisions to TS 3/4.3.3.1 and TS 3/4.4.6.1 affect the number of containment atmosphere radioactivity monitors required by TS to be operable simultaneously. However, redundancy and diversity requirements are maintained in the TS for detecting Reactor Coolant System leakage. Although TS-allowed outage times are proposed to be increased consistent with NUREG-1430, Revision 1 guidance, related compensatory action requirements are also being increased. Furthermore, the DBNPS commitments made for complying with Regulatory Guide 1.45, May, 1973, "Reactor Coolant Pressure Boundary Leakage Detection Systems," are not changed by the proposed revisions. Along with the applicable revised TS requirements, 10 CFR 50, Appendix B, Criterion XVI will require prompt corrective action for inoperable leakage detection systems. Accordingly, these proposed revisions will not result in a significant reduction in a margin of safety.

CONCLUSION:

On the basis of the above, the Davis-Besse Nuclear Power Station has determined that this License Amendment Request does not involve a significant hazards consideration. As this 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.

REFERENCES:

1. DBNPS Operating License NPF-3, Appendix A, Technical Specifications through Amendment 233.

2. Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors (58 FR 39132, dated July 22, 1993).

3. NUREG-1430, Revision 1, dated April, 1995, "Standard Technical Specifications - Babcock and Wilcox Plants."

4. NRC Generic Letter 95-10, "Relocation of Selected Technical Specifications Requirements Rela[illegible]entation," dated December 15, 1995.

5. Regulatory Guide 1.45, "Reactor Coolant Pressure Boundary Leakage Detection Systems," dated May, 1973.

6. DBNPS USAR 5.2.3.4, "Reactor Coolant Additives," through Revision 21.

7. DBNPS USAR Section 5.2.4, "Reactor Coolant Pressure Boundary Leak Detection System," through Revision 21.

8. DBNPS USAR Section 7.9, "Incore Monitoring System," through Revision 21.

9. DBNPS USAR Section 11.3, "Gaseous Waste System," through Revision 21.

10. DBNPS USAR Section 9.3.6, "Chemical Addition System," through Revision 21.

11. 10 CFR 50.36, "Technical Specifications."

12. 10 CFR 50.59, "Changes, Tests, and Experiments."

13. DBNPS SD-017A, "System Description for Process Radiation Monitors."