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U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

- References:
1. Docket No. 50-285
 2. Letter from OPPD (T. R. Nellenbach) to NRC (Document Control Desk), "Emergency License Amendment Request (LAR), Revision to Technical Specification (TS) 2.15, Table 2-5 Footnote (c) for Safety Valve Acoustic Position Indication," dated May 31, 2010 (LIC-10-0042) (ML 101520198)
 3. Letter from OPPD (J. A. Reinhart) to NRC (Document Control Desk), "Supplement to Emergency License Amendment Request (LAR), Revision to Technical Specification (TS) 2.15, Table 2-5 Note (c) for Safety Valve Acoustic Position Indication," dated June 1, 2010 (LIC-10-0043) (ML101530319)
 4. Letter from OPPD (J. A. Reinhart) to NRC (Document Control Desk), Fort Calhoun Station, Unit No. 1, License Amendment Request (LAR) "Revision to Technical Specification (TS) 2.15, Table 2-5, Item 1 and TS 3.1, Table 3-3, Items 1, 2 and 4 Control Element Assembly Position Indication and Correction of TS 2.10.2(7)c," dated July 12, 2010 (LIC-10-0034) (ML101930443)

SUBJECT: License Amendment Request (LAR) 10-04, Proposed Changes to Relocate Operating and Surveillance Requirements for the Power Operated Relief Valve and Safety Valve Position and Tail Pipe Temperature Instrumentation

Pursuant to 10 CFR 50.90, the Omaha Public Power District (OPPD) hereby requests an amendment to Renewed Facility Operating License No. DPR-40 for Fort Calhoun Station (FCS), Unit No. 1. The proposed amendment would remove the Technical Specification (TS) limiting condition for operation (LCO) 2.15, *Instrumentation and Control Systems*, Table 2-5, *Instrumentation Operating Requirements for Other Safety Feature Functions*, Items 3, 4, and 5, and the associated Notes a, b, c, and d, for power operated relief valve (PORV) and pressurizer safety valve (PSV) acoustic position indication and tail pipe temperature from the FCS TS. This proposed change would also revise the surveillance requirement (SR), TS 3.1, *Instrumentation and Control*, Table 3-3, *Minimum Frequencies for Checks, Calibrations and Testing of Miscellaneous Instrumentation and Controls*, Items 21, 23, and 24 for *PORV Operation and Acoustic Position Indication*, *Safety Valve Acoustic Position Indication*, and *PORV/Safety Valve Tail Pipe Temperature*, respectively. Specifically, Table 3-3, Item 21 will be revised to be more aligned with NUREG-1432, *Standard Technical Specifications, Combustion Engineering Plants*, Revision 3, for PORV operation; and Items 21, 23, and 24 will be revised to relocate the acoustic position indication and tail pipe temperature indication SRs from the FCS TS.

In conjunction with the proposed TS changes, operability and surveillance requirements for the acoustic position indication and tail pipe temperature indication instrumentation will be incorporated into the FCS Updated Safety Analysis Report (USAR) and associated plant procedures.

The proposed changes conform to NRC regulation 10 CFR 50.36 for the contents of the TS.

In References 2 and 3, OPPD requested an emergency amendment to modify TS 2.15, Table 2-5, Note (c) to allow a onetime extension of the 7-day allowed outage time for the inoperability of Item 4 regarding safety valve acoustic position indication to allow repair prior to the next entry into Operating Mode 3 (Hot Shutdown) from Operating Mode 4 (Cold Shutdown). The NRC approved the LAR in TS Amendment No. 265. This permitted FCS to continue power operations with inoperable safety valve acoustic position indication on safety valve RC-142. This LAR proposes to delete the footnote added to TS 2.15, Table 2-5 in References 2 and 3 as approved by the NRC in TS Amendment No. 265.

In Reference 4, OPPD submitted a LAR to add Note e to TS LCO 2.15, Table 2-5, Item 1. TS 2.15, Table 2-5, Item 1 is the minimum number of control element assembly (CEA) position indication system (CEAPIS) channels required to be operable. Note e was proposed for Item 1, which will be applicable when either the primary CEAPIS channel or the secondary CEAPIS channel is inoperable for one or more CEAs. Note e will modify the requirements of TS 2.15 to require the performance of a new SR (TS 3.1, Table 3-3, Item 4) within 15 minutes following any CEA motion in that group. Note e also clarifies that TS 2.15(1), (2), and (3) are not applicable to CEAPIS channels as explained in Reference 4. As a result of the LAR proposed in Reference 4 adding a new Note e, in conjunction with this proposed LAR deleting the existing Notes a through d, the Note e proposed in Reference 4 will become a new Note a, upon subsequent NRC approval of both LARs.

OPPD has determined that this LAR does not involve a significant hazard consideration as determined per 10 CFR 50.92. Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of this amendment.

The enclosure contains a description of the proposed changes, the supporting technical analyses, and the significant hazards consideration determination. Attachment 1 provides the existing TS pages marked-up to show the proposed changes. Attachment 2 provides the retyped (clean) TS pages. There are no TS Bases changes proposed by this LAR since the primary safety valve position indication is not specifically identified in the FCS TS Basis.

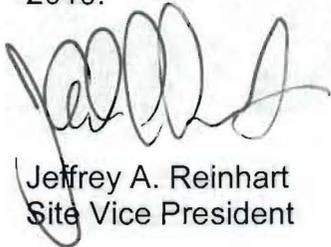
OPPD requests approval of the proposed amendment by August 16, 2011. Once approved, the amendment shall be implemented within 90 days.

There are no regulatory commitments associated with this proposed change.

In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the designated State of Nebraska official.

If you should have any questions regarding this proposed LAR 10-04 submittal or require additional information, please contact Mr. Bill R. Hansher at 402-533-6894.

I declare under penalty of perjury that the foregoing is true and correct. Executed on August 16, 2010.

A handwritten signature in black ink, appearing to read "Jeffrey A. Reinhart". The signature is stylized and cursive, with a large initial "J" and "R".

Jeffrey A. Reinhart
Site Vice President

Enclosure: OPPD's Evaluation of the Proposed Change(s)

c: Manager Radiation Control Program, Nebraska Health & Human Services, R & L Public Health Assurance, State of Nebraska

OPPD's Evaluation of the Proposed Change(s)

License Amendment Request (LAR) 10-04, Proposed Changes to Relocate Operating and Surveillance Requirements for the Power Operated Relief Valve and Safety Valve Position and Tail Pipe Temperature Instrumentation

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ATTACHMENTS:

- 1. Technical Specification Pages Markup
- 2. Retyped ("Clean") Technical Specifications Page

1.0 SUMMARY DESCRIPTION

This license amendment request (LAR) proposes a change to Renewed Facility Operating License No. DPR-40 for Fort Calhoun Station (FCS), Unit No. 1. The Omaha Public Power District (OPPD) proposes to remove the Technical Specification (TS) limiting condition for operation (LCO) 2.15, *Instrumentation and Control Systems*, Table 2-5, *Instrumentation Operating Requirements for Other Safety Feature Functions*, Items 3, 4, and 5, and the associated Notes a, b, c, and d, for the reactor coolant system (RCS) power operated relief valve (PORV) and pressurizer safety valve (PSV) acoustic position indication and tail pipe temperature from the FCS TS. This proposed change also revises the surveillance requirement (SR), TS 3.1, *Instrumentation and Control*, Table 3-3, *Minimum Frequencies for Checks, Calibrations and Testing of Miscellaneous Instrumentation and Controls*, Items 21, 23, and 24 for *PORV Operation and Acoustic Position Indication*, *Safety Valve Acoustic Position Indication*, and *PORV/Safety Valve Tail Pipe Temperature*, respectively. Specifically, Table 3-3, Item 21 will be revised to be more aligned with NUREG-1432, *Standard Technical Specifications, Combustion Engineering Plants*, Revision 3, for PORV operation; and Items 21, 23, and 24 will be revised to relocate the acoustic position indication and tail pipe temperature indication SRs from the FCS TS. In conjunction with these proposed TS changes, operability and surveillance requirements for the acoustic position indication and tail pipe temperature indication instrumentation will be incorporated into the FCS Updated Safety Analysis Report (USAR) and associated plant procedures.

In References 6.1 and 6.2, OPPD requested an emergency amendment to modify TS 2.15, Table 2-5, Note (c) to allow a onetime extension of the 7-day allowed outage time for the inoperability of Item 4 regarding safety valve acoustic position indication to allow repair prior to the next entry into Operating Mode 3 (Hot Shutdown) from Operating Mode 4 (Cold Shutdown). This permitted FCS to continue power operations with inoperable safety valve acoustic position indication on safety valve RC-142. The NRC approved the LAR in TS Amendment No. 265 (Reference 6.3). This LAR proposes to delete the footnote i associated with Note (c) which was added to TS 2.15, Table 2-5 in References 6.1 and 6.2 and subsequently approved by the NRC in TS Amendment No. 265 (Reference 6.3).

In addition, in Reference 6.4, OPPD submitted a LAR to add Note e to TS LCO 2.15, Table 2-5, Item 1. TS 2.15, Table 2-5, Item 1 is the minimum number of control element assembly (CEA) position indication system (CEAPIS) channels required to be operable. Note e was proposed for Item 1, which will be applicable when either the primary CEAPIS channel or the secondary CEAPIS channel is inoperable for one or more CEAs. Note e will modify the requirements of TS 2.15 to require the performance of a new SR (TS 3.1, Table 3-3, Item 4) within 15 minutes following any CEA motion in that group. Note e also clarifies that TS 2.15(1), (2), and (3) are not applicable to CEAPIS channels as explained in Reference 6.4. As a result of the proposed CEAPIS LAR (Reference 6.4) adding a new Note e, in conjunction with this proposed LAR 10-04 deleting the existing Notes a through d, the Note e proposed in Reference 6.4 will become a new Note a, upon subsequent NRC approval of both LARs.

2.0 DETAILED DESCRIPTION

The proposed TS changes for LAR 10-04 are as follows:

- TS LCO 2.15, *Instrumentation and Control Systems*
 - Table 2-5, *Instrumentation Operating Requirements for Other Safety Feature Functions*
 - Item No. 3, *PORV Acoustic Position Indication-Direct* is being deleted.
 - Item No. 4, *Safety Valve Acoustic Position Indication* is being deleted.
 - Item No. 5, *PORV/Safety Valve Tail Pipe Temperature* is being deleted.
 - The “Notes” title and Notes a, b, c, and d are being deleted.
 - Footnote (i) associated with Note c is being deleted.
- TS 3.1, *Instrumentation and Control*
 - Table 3-3, *Minimum Frequencies for Checks, Calibrations, and Testing of Miscellaneous Instrumentation and Controls*
 - Item 21, *PORV Operation and Acoustic Position Indication* is being revised to delete the words “*and Acoustic Position Indication.*”
 - Item 21.a, the frequency is being changed from “M” to “R” to reflect channel functional testing of PORV operation, which is more aligned with NUREG-1432 surveillance requirements.
 - Item 21.b, the PORV acoustic position indication channel calibration is being deleted in its entirety.
 - Item 23, *Safety Valve Acoustic Position Indication* is being deleted and replaced with “Not Used.”
 - Item 24, *PORV/Safety Valve Operation Tail Pipe Temperature* is being deleted and replaced with “Not Used.”

The channel calibration test as defined in NUREG 1432 encompasses the channel functional test. Currently, the FCS PORV channel calibration delineated in Table 3-3, Item 21.b, which is scheduled on a refueling frequency, encompasses the channel calibration for the acoustic position indication and the channel functional test for PORV operation. Going forward, the TS surveillance requirement for PORV operation will be met via the channel functional test on a refueling frequency as proposed by the change to Table 3-3, Item 21.a.

There are no TS Bases changes proposed by this LAR since safety valve position indication is not specifically identified in the Bases.

By letter dated July 12, 2010, OPPD submitted a license amendment request which proposed a change to TS 2.15 (Reference 6.4). Specifically, this LAR proposed a new note for Table 2-5, Item 1, which is the minimum number of CEAPIS channels required

to be operable. Note e was proposed for Item 1, which will be applicable when either the primary CEAPIS channel or the secondary CEAPIS channel is inoperable for one or more CEAs. This CEAPIS LAR requested NRC approval by July 1, 2011, with a 180-day implementation period. The proposed changes in LAR 10-04, upon approval, will result in the deletion of Notes a, b, c, and d; therefore, the Note e proposed in Reference 6.4 would be re-lettered and become the new Note a. This re-lettering will be addressed at the time the NRC issues the safety evaluation report (SER) for the LAR.

3.0 TECHNICAL EVALUATION

System Description

The FCS reactor coolant system (RCS) is protected against overpressurization by control and protective circuits such as the pressurizer pressure high reactor trip and by the two PORVs (PCV-102-1 and PCV-102-2) and the two PSVs (RC-141 and RC-142) connected to the top of the pressurizer. Upon opening, these valves discharge steam into the pressurizer quench tank, which condenses and collects the valve effluent. Two independent monitoring systems (acoustic and temperature) exist to alert the operator to the passage of steam or liquid through the PSVs due to valve lift or seat leakage. The purpose of the PSV acoustic monitor is to provide the operator with information regarding PSV position by detecting downstream acoustic vibrations generated from the steam flowing through the valve and actuating an alarm in the control room. A temperature sensor upstream of the acoustic sensor generates a signal that actuates a control room alarm when a temperature increase is experienced in the line, as would be the case if the valve released steam.

The acoustic monitors were added to the FCS TS by Amendment No. 54 to meet the requirements of NUREG-0578, *TMI-2 Lessons Learned Task Force Status Report and Short Term Recommendations*, and NUREG-0737, *Clarification of TMI Action Plan Requirements*. With inoperable acoustic position indication, OPPD utilizes the temperature sensors installed downstream of the PSVs to identify flow through these valves. These sensors provide indication and alarm in the control room and indication on the plant computer.

PORV and safety valve flow is a Category 2, Type D variable as described in Regulatory Guide (RG) 1.97, *Instrumentation for Light-Water Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident*, (Reference 6.7). Note that the Category 2 RG 1.97 variables will be addressed in a licensee-controlled document and is defined as follows:

Category 2 – provides less stringent requirements and generally applies to instrumentation designated for indicating system operating status.

In the OPPD response to RG 1.97 for the primary system relief valve position, the acoustic flow monitor loops F-141, F-142, F-102-1 and F-102-2 were identified to fulfill

the RG 1.97 requirement for the primary system relief valve position (Reference 6.9). The Category 2 provides for qualification but is less stringent in that it does not include seismic qualification, redundancy, or continuous display and requires only a highly reliable power source. RG 1.97, Type D variables are those that provide indication of operation of individual safety systems and other systems important to safety. RG 1.97 requires Closed/Not Closed indication for primary system relief valve position.

10 CFR 50.36(c)(2)(ii) states that "A technical specification limiting condition for operation of a nuclear reactor must be established for each item meeting one or more of the following criteria:

- (A) 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.
- (B) 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.
- (C) 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.
- (D) Criterion 4 - A structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety."

Reference 6.10, *Final Commission Policy Statement on Technical Specifications for Nuclear Power Reactors*, dated July 22, 1993, concluded that those existing TS requirements, which do not satisfy the screening criteria specified in regulation 10 CFR 50.36 above, may be deleted from the TS, and the requirements established in licensee-controlled documents, subject to the controls of 10 CFR 50.59. Type A instruments provide the primary information required to permit the control room operator to take specific manually controlled actions, for which no automatic control is provided, and that are required for safety systems to accomplish their safety functions for design basis accident (DBA) events. Category 1 instruments are designed for full qualification redundancy, continuous real-time display, and onsite (standby) power. RG 1.97 designates primary system safety relief valve position instrumentation as type D, Category 2, instrumentation. Therefore, relocating the safety relief valve position instrumentation from the TS to a licensee-controlled document conforms with the NRC position on application of the screening criteria to post-accident monitoring instrumentation.

NRC-approved NUREG-1432, *Standard Technical Specifications, Combustion Engineering Plants*, Revision 3 (Reference 6.8), identifies an improved TS that was developed based on the screening criteria in the Commission's Final Policy Statement (Reference 6.10) and subsequently codified in 10 CFR 50.36. The safety relief valves themselves are a part of the primary success path in the USAR accident analysis in that they can actuate to mitigate a DBA and therefore meet Criterion 3 (described above) and their operability is required by FCS TS 2.1.6, *Pressurizer and Main Steam Safety Valves*. However, the safety relief valve position indication does not detect or indicate a significant abnormal degradation of the RCS pressure boundary considered by Criterion 1. This is consistent with the Commission's Final Policy Statement (Reference 6.10) which indicated that the first criterion was intended to assure that the TS controlled those instruments specifically installed to detect reactor coolant leakage but not to include instrumentation to identify the source of actual leakage (e.g., valve position indication).

Safety relief valve position indication is not a process variable, design feature or operating restriction that is an initial condition of a DBA or transient analysis considered in Criterion 2.

USAR Section 4.3 states, in part, that the PORV and PSVs have acoustic monitors and tail pipe temperature indicators in the control room to provide flow indication. However, the safety relief valve position indication does not form a part of the primary success path since the USAR accident analyses assumes that the safety relief valves function as designed (i.e., the USAR analysis assumes no operator action based on safety relief valve position for the valves to perform their primary success path function considered in Criterion 3).

The loss of the instrumentation has no effect on the probabilistic safety assessment, and has not been shown to be significant to the health and safety as considered in Criterion 4.

Finally, the PSVs discharge into the pressurizer quench tank. The temperature, pressure, and liquid level of this tank are indicated and alarmed in the control room. A change in these parameters would alarm and alert the operator of a PSV discharge condition. Abnormal Operating Procedures (AOP-22) and Emergency Operating Procedures (EOP-03) contain instructions noting that RCS leakage to the pressurizer quench tank is indicated by a rise in tank pressure, temperature, or level and rising or elevated pressure relief line temperatures or flow indication from the relief line acoustic monitors. Operators undergo training on utilization of the AOPs and EOPs. Thus, failure of the pressurizer safety valve position indication would not pose a significant challenge to the ability of the Operations staff to respond to a DBA or plant transient.

Consequently, the PORV/PSV position indication does not meet any of the screening criteria of 10 CFR 50.36(c)(2)(ii). This is supported by the absence of operability and surveillance requirements for the PORV/PSV position indication instrumentation in the

Standard Technical Specifications for Combustion Engineering Plants presented in NUREG-1432, Revision 3 (Reference 6.8). Accordingly, the proposed changes are aligned with the NUREG 1432, Revision 3 and the PORV/PSV position indication instrumentation requirements can be established in licensee-controlled documents. Future changes to PORV/PSV position instrumentation requirements will be subject to the controls of 10 CFR 50.59.

Precedent for removing the PORV/PSV acoustic position indication operability and surveillance requirements was found in Amendments No. 179 and 141 for the Limerick Generating Station, Units 1 and 2, respectively (Reference 6.6) as requested in Reference 6.5. Amendments No. 141 and 179 issued on September 27, 2005, document the relocation of the operability and surveillance requirements for the reactor coolant system safety/relief valve position instrumentation from the TS to the Limerick Generating Station Technical Requirements Manual. Thus, the proposed LAR for deleting the FCS TS operating requirements and associated surveillance requirements for the PORVs and PSVs acoustic position indication and relocating these requirements to licensee-controlled documents is similar to that approved by the NRC for Limerick as found in Amendments No. 179 and No. 141 to the Limerick Generating Station's Operating License for Units No. 1 and No. 2, respectively (Reference 6.6).

In addition to deleting the acoustic position indication portion of SR Item 21 in Table 3-3, this LAR proposes to maintain the PORV operation SR in Item 21. Specifically, Item 21.a is being revised to reflect the performance of the PORV operation channel functional test on its existing refueling (R) frequency and deletes the monthly (M) frequency denoted in the TS for the acoustic position indication. The performance of this test on a refueling outage frequency is aligned with the SR provided in NUREG-1432 (Reference 6.8) and is consistent with current plant procedures. The channel calibration test as defined in NUREG 1432 encompasses the channel functional test. Currently, the FCS PORV channel calibration delineated in Table 3-3, Item 21.b, which is scheduled on a refueling frequency, encompasses the channel calibration for the acoustic position indication and the channel functional test for PORV operation. Therefore, going forward, PORV operation will be tested via the channel functional test on a refueling frequency as proposed by the change to Table 3-3, Item 21.a. There is no channel calibration surveillance requirement for PORV operation in NUREG 1432. Therefore, Item 21.b is being deleted in its entirety for both the PORV operation and acoustic position indication.

The surveillance requirement for low-temperature setpoint for the PORVs, which is aligned with NUREG-1432, is delineated in TS 3.1, Table 3-3, Item 18, and is implemented via existing plant procedures. The low temperature setpoint PORV channel functional test verifies operability of the actuation circuitry using the installed test switches. PORV actuation could depressurize the reactor coolant system and is not required. This FCS TS surveillance requirement remains unchanged by this LAR.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

4.1.1 Regulations

Code of Federal Regulations Part 50:

10 CFR 50.36, *Technical Specifications*: 10 CFR 50.36(c)(2) states, "When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met." The revised actions continue to meet the requirements of this regulation.

10 CFR 50.36(c)(3) criteria states that "surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met." Reliability centered inspections and maintenance overhauls, while important, do not meet the requirements set forth in 10 CFR 50.36 for incorporation into the TS, and are not activities that are generally used to demonstrate component operability. Therefore, deletion of the PORV/PSV surveillance requirement is acceptable because relocating safety relief valve position instrumentation from the TS to a licensee-controlled document conforms with the NRC position on application of the 10 CFR 50.36 screening criteria to post-accident monitoring instrumentation.

10 CFR 50.65, *Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants*: The overall objective of this performance-based rule is to ensure that nuclear power plant structures, systems, and components (SSCs) will be maintained so that they will perform their intended function when required. The revised actions continue to meet the requirements of this regulation.

Fort Calhoun Station (FCS), Unit No. 1 was licensed for construction prior to May 21, 1971, and is committed to the draft General Design Criteria (GDC) published for comment in the Federal Register on July 11, 1967 (32 FR 10213) in lieu of 10 CFR 50, Appendix A. Appendix G of the FCS Updated Safety Analysis Report (USAR) shows that draft GDC 12 and 16 are most applicable to the proposed amendment. It should be noted that draft GDC 12 and draft GDC 16 precede the requirements of NUREG-0578 and NUREG-0737.

CRITERION 12 - INSTRUMENTATION AND CONTROL SYSTEMS

Instrumentation and controls shall be provided as required to monitor and maintain variables within prescribed operating ranges.

This criterion is met. Instrumentation is provided for continuous measurement of all significant process variables. Controls are provided for the purpose of maintaining these variables within the limits prescribed for safe operation. The instrumentation conforms to applicable Institute of Electrical and Electronics Engineers (IEEE) standards. The principal process variables monitored include neutron level (reactor power); reactor coolant temperature, flow, and pressure; pressurizer liquid level; and steam generator level. In addition, instrumentation is provided for continuous automatic monitoring of radiation level. The instrumentation and control systems are described in detail in USAR Section 7.

PORV/PSV acoustic position indication and PORV/PSV tail pipe temperatures are both indicative of RCS leakage. The proposed amendment request removes the operability and surveillance requirements for the FCS PORV/PSV acoustic position indication and tail pipe temperatures from the TS and relocates them to a licensee-controlled document.

CRITERION 16 - MONITORING REACTOR COOLANT PRESSURE BOUNDARY

Means shall be provided for monitoring the reactor coolant pressure boundary to detect leakage.

This criterion is met. The reactor coolant pressure boundary is monitored by the following means for detecting leakage of reactor coolant:

- a) *Containment Building Radiation Level - A gas monitor and a filter paper airborne particle monitor are arranged with a vacuum pump for continuous sampling of the containment building atmosphere. The particulate and gas monitor is sufficiently sensitive to detect small quantities of leaking coolant at a fraction of the design value for fuel assembly clad failures.*
- b) *Condenser Offgas - A gas monitor is provided to detect any radioactive noble gases in the air ejector discharge. Presence of such gases at that point indicates the possibility of steam generator reactor coolant to secondary system leakage.*

- c) *Steam Generator (SG) Blowdown Water - The blowdown sampling stream is monitored continuously in each SG blowdown sample line. A sudden increase in blowdown gamma activity indicates the possibility of a steam generator reactor coolant to secondary system leak.*
- d) *Containment Humidity and Temperature - The humidity and temperature of the air in the containment are continuously monitored. An increase in the readings of these monitors could be an indication of leakage from the reactor coolant pressure boundary.*
- e) *Containment Sump Level - Reactor coolant leakage reaching the containment building sump would be annunciated in the control room by activation of the sump high level alarm.*
- f) *Volume Control Tank (VCT) Level - Loss of inventory from the reactor coolant system would be detected by level changes in the VCT.*

The control room operator would be alarmed to the existence of larger leaks by low pressurizer level, closing of letdown control valves, and continued operation of standby charging pumps.

The proposed amendment concerning relocation of PORV/PSV acoustic position indication does not affect the means of detecting RCS leakage described above for compliance with GDC 16. These methods of detecting RCS leakage are still available.

4.1.2 Design Basis

The design basis requirement is taken from NUREG-0737, Section II.D.3, which states:

Reactor coolant system relief and safety valves shall be provided with a positive indication in the control room derived from a reliable valve position detection device or a reliable indication of flow in the discharge pipe.

4.1.3 Approved Methodologies

- *Regulatory Guide 1.97, Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident, Revision 2, December 1980*
- *NUREG-0578, TMI-2 Lessons Learned Task Force Status Report and Short Term Recommendations*
- *NUREG-0737, Clarification of TMI Action Plan Requirements*

4.1.4 Analysis

No analyses were conducted in support of the proposed amendment. This instrumentation is not credited in Probabilistic Risk Assessment (PRA) for operator actions to mitigate the consequences of an event.

4.2 Precedent

As noted in Section 3.0 above, precedent for allowing the relocation of the operability and surveillance requirements for the power operated relief valve and safety valve position indication instrumentation from the TS to a licensee-controlled document was found in Amendments No. 179 and No. 141 for the Limerick Generating Station, Units No. 1 and 2, respectively (References 6.5 and 6.6).

4.3 Significant Hazards Consideration

The proposed change would modify Technical Specification (TS) 2.15, Table 2-5, Items 3, 4, and 5 and the associated Notes a through d and surveillance requirements (SRs) 3.1, Table 3-3, Items 21, 23, and 24, to allow the relocation of the position indication instrumentation operability and surveillance requirements for the power operated relief valve (PORV) and pressurizer safety valve (PSV) acoustic position indication from the TS to a licensee-controlled document. Future changes to safety relief valve position instrumentation requirements will be subject to the controls of 10 CFR 50.59. The proposed change also revises SR 3.1, Table 3-3, Item 21 to maintain the existing channel functional test of the PORVs on a refueling frequency, which is aligned with NUREG 1432, *Standard Technical Specifications, Combustion Engineering Plants*, Revision 3.

The Omaha Public Power District (OPPD) has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. **Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?**

Response: No.

The safety valve acoustic position indication does not affect the operation of its associated spring-loaded safety valve. As such, the proposed change does not increase the probability of an accident. The acoustic monitor is only one of the indications used to identify that a safety valve is open. Other indications are available to the operators and alarm in the control room. The acoustic monitor is only one of the indications that the

abnormal and emergency procedures direct operators to use to diagnose the opening of a safety valve. The failure of the power operated relief valve (PORV)/safety valve position instrumentation is not assumed to be an initiator of any analyzed event in the Updated Safety Analysis Report (USAR). The proposed changes do not alter the physical design of the PORVs/safety valves or any other plant structure, system or component (SSC). The changes would remove the PORV/safety valve position indicator operability and surveillance requirements from the Fort Calhoun Station (FCS) Technical Specifications (TS), and incorporate the requirements for this instrumentation into a licensee-controlled document under the control of 10 CFR 50.59.

The proposed changes conform to the Nuclear Regulatory Commission's (NRC's) regulatory guidance regarding the content of plant TS as identified in 10 CFR 50.36 and NRC publication NUREG-1432.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. **Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?**

Response: No.

The proposed changes do not alter the physical design, safety limits, or safety analysis assumptions associated with the operation of the plant. Hence, the proposed changes do not introduce any new accident initiators, nor do they reduce or adversely affect the capabilities of any plant structure or system in the performance of their safety function.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. **Does the proposed amendment involve a significant reduction in a margin of safety?**

Response: No.

The instrumentation is not needed for manual operator actions necessary for safety systems to accomplish their safety function for the design basis accident events. The acoustic position indicator and tail-pipe temperature instrumentation provides only alarm and PORV/safety valve position indication, and does not provide an input to any automatic trip function. Diverse means are available to monitor PORV/safety valve position, and operability and surveillance requirements will be established in a licensee-

controlled document to ensure the reliability of the PORV/safety valve position monitoring capability. Changes to these requirements will be subject to the controls of 10 CFR 50.59, providing the appropriate level of regulatory control. In addition, the PORV operation is currently tested on a refueling frequency, which is aligned with the surveillance requirements provided in NUREG-1432.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, OPPD concludes that the proposed amendment presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of “no significant hazards consideration” is justified.

4.4 Conclusions

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

5.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6.0 REFERENCES

- 6.1 Letter from OPPD (T. R. Nellenbach) to NRC (Document Control Desk), “Emergency License Amendment Request (LAR), Revision to Technical Specification (TS) 2.15, Table 2-5 Footnote (c) for Safety Valve Acoustic Position Indication,” dated May 31, 2010 (LIC-10-0042) (ML 101520198)

- 6.2 Letter from OPPD (J. A. Reinhart) to NRC (Document Control Desk), "Supplement to Emergency License Amendment Request (LAR), Revision to Technical Specification (TS) 2.15, Table 2-5 Note (c) for Safety Valve Acoustic Position Indication," dated June 1, 2010 (LIC-10-0043) (ML101530319)
- 6.3 Letter from NRC (L. E. Wilkins) to OPPD (D. J. Bannister), "Fort Calhoun Station, Unit No.1 - Issuance of Amendment Re: Revision to Technical Specification 2.15, Table 2-5 for Safety Valve Acoustic Position Indication (Emergency Circumstances) (TAC NO. ME3992)," dated June 2, 2010 (ML101520296)
- 6.4 Letter from OPPD (J. A. Reinhart) to NRC (Document Control Desk), Fort Calhoun Station, Unit No. 1, License Amendment Request (LAR) "Revision to Technical Specification (TS) 2.15, Table 2-5, Item 1 and TS 3.1, Table 3-3, Items 1, 2 and 4 Control Element Assembly Position Indication and Correction of TS 2.10.2(7)c," dated July 12, 2010 (LIC-10-0034) (ML101930443)
- 6.5 Letter from Exelon Generation Company, LLC (M. P. Gallagher) to NRC (Document Control Desk), "License Amendment Request, Proposed Changes to Relocate Operability and Surveillance Requirements for the Safety/Relief Valve Position Instrumentation," for Limerick Generating Station, Units 1 and 2, dated June 1, 2004 (ML041610374)
- 6.6 Letter from NRC (T. L. Tate) to Exelon Nuclear (C. M. Crane), "Limerick Generating Station, Units 1 and 2 – Issuance of Amendments Re: Relocation of Operability and Surveillance Requirements for the Safety/Relief Valve Position Instrumentation (TAC No's MC3454 and MC3455)," dated September 27, 2005 (ML052550369)
- 6.7 Regulatory Guide 1.97, Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident, Revision 2, December 1980
- 6.8 NUREG 1432, Revision 3, Standard Technical Specifications, Combustion Engineering Plants, dated June 2004
- 6.9 Letter from OPPD (R. L. Andrews) to the NRC (D. E. Sells), "Conformance to Regulatory Guide 1.97, Revision 2," dated October 21, 1986 (LIC-86-0532)
- 6.10 NRC "Final Policy Statement on Technical Specifications Improvement for Nuclear Power Reactors" (58 FR 39132, dated July 22, 1993)

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TECHNICAL SPECIFICATIONS

TABLE 2-5

Instrumentation Operating Requirements for Other Safety Feature Functions

<u>No.</u>	<u>Functional Unit</u>	<u>Minimum Operable Channels</u>	<u>Minimum Degree of Redundancy</u>	<u>Permissible Bypass Condition</u>
1	CEA Position Indication Systems	1	None	None
2	Pressurizer Level	1	None	Not Applicable
3	PORV Acoustic Position Indication Direct	1 ^{(a)(c)}	None	Not Applicable
4	Safety Valve Acoustic Position Indication	1 ^{(a)(c)}	None	Not Applicable
5	PORV/Safety Valve Tail Pipe Temperature	1 ^{(d)(b)}	None	Not Applicable

NOTES:

~~a — One channel per valve.~~

~~b — One RTD for both PORV's; two RTD's, one for each code safety.~~

~~c — If item 5 is operable, requirements of specification 2.15 are modified for items 3 and 4ⁱ to "Restore inoperable channels to operability within 7 days or be in hot shutdown within 12 hours."~~

~~d — If items 3 and 4 are operable, requirements of specification 2.15 are modified for item 5 to "Restore inoperable channels to operability within 7 days or be in hot shutdown within 12 hours."~~

~~ⁱ The requirement of Table 2-5, Note c to restore Safety Valve Acoustic Position Indication in 7 days is extended on a one-time basis. This allows the instrumentation for Functional Unit 4 for pressurizer safety valve RC-142 to be inoperable from June 1, 2010 until the next entry into Mode 3 from Mode 4.~~

TECHNICAL SPECIFICATIONS

TABLE 3-3 (Continued)

MINIMUM FREQUENCIES FOR CHECKS, CALIBRATIONS AND TESTING OF MISCELLANEOUS INSTRUMENTATION AND CONTROLS

<u>Channel Description</u>	<u>Surveillance Function</u>	<u>Frequency</u>	<u>Surveillance Method</u>
19. Auxiliary Feedwater Flow	a. Check	M	CHANNEL CHECK
	b. Calibrate	R	CHANNEL CALIBRATION
20. Subcooled Margin Monitor	a. Check	M	CHANNEL CHECK
	b. Calibrate	R	CHANNEL CALIBRATION
21. PORV Operation and Acoustic Position Indication	a. Test	MR	CHANNEL FUNCTIONAL TEST
	b. Calibrate	R	CHANNEL CALIBRATION
22. PORV Block Valve Operation and Position Indication	a. Check	Q	Cycle valve. Valve is exempt from testing when it has been closed to comply with LCO Action Statement 2.1.6(5)a.
	b. Calibrate	R	Check valve stroke against limit switch position.
23. Safety Valve Acoustic Position Indication Not Used	a. Test	M	CHANNEL FUNCTIONAL TEST
	b. Calibration	R	CHANNEL CALIBRATION
24. PORV/Safety Valve Tail Pipe Temperature Not Used	a. Check	M	CHANNEL CHECK
	b. Calibrate	R	CHANNEL CALIBRATION

Retyped ("Clean") Technical Specifications Pages

TABLE 2-5

Instrumentation Operating Requirements for Other Safety Feature Functions

<u>No.</u>	<u>Functional Unit</u>	<u>Minimum Operable Channels</u>	<u>Minimum Degree of Redundancy</u>	<u>Permissible Bypass Condition</u>
1	CEA Position Indication Systems	1	None	None
2	Pressurizer Level	1	None	Not Applicable

TECHNICAL SPECIFICATIONS

TABLE 3-3 (Continued)

MINIMUM FREQUENCIES FOR CHECKS, CALIBRATIONS AND TESTING OF MISCELLANEOUS INSTRUMENTATION AND CONTROLS

<u>Channel Description</u>	<u>Surveillance Function</u>	<u>Frequency</u>	<u>Surveillance Method</u>
19. Auxiliary Feedwater Flow	a. Check	M	CHANNEL CHECK
	b. Calibrate	R	CHANNEL CALIBRATION
20. Subcooled Margin Monitor	a. Check	M	CHANNEL CHECK
	b. Calibrate	R	CHANNEL CALIBRATION
21. PORV Operation	a. Test	R	CHANNEL FUNCTIONAL TEST
22. PORV Block Valve Operation and Position Indication	a. Check	Q	Cycle valve. Valve is exempt from testing when it has been closed to comply with LCO Action Statement 2.1.6(5)a.
23. Not Used	b. Calibrate	R	Check valve stroke against limit switch position.
24. Not Used			