

From: [Vaughan, Jordan L](#)
To: [Shawn Williams](#)
Cc: [Treadway, Ryan I](#)
Subject: [External_Sender] N-752 Additional Information
Date: Tuesday, August 22, 2023 5:09:22 PM
Attachments: [Material Change Example.docx](#)

Shawn,

Could you please pass the attached document along to the NRC staff reviewing the Oconee N-752 proposed alternative. Based on some of the discussion in last week's audit and public meeting, we wanted to provide a bit more information focused on the valve bonnet example and highlighting other aspects of quality and design processes that may help the staff in their ongoing discussions. Please let me know if the staff would like additional information or discussion on anything in the attachment.

Also, if possible, Duke would greatly appreciate this attachment also going to NRR leadership involved with the decision-making on Oconee N-752.

Thanks,
Jordan

During our audit and public meeting discussions, the staff repeatedly expressed concerns about the possible interaction effects if a valve with an active HSS function and passive LSS function were to have the bonnet replaced using the allowances of ASME Code Case N-752. An example as suggested by NRC staff of these potential interaction effects, would be if the valve bonnet were made of a different or lower quality material and had different thermal expansion properties such that the bonnet would interact with the moving parts of the valve (HSS function).

The code case specifically states:

Section 1420, item c: Changes in configuration, design, materials, fabrication, examination, and pressure-testing requirements used in the repair/replacement activity shall be evaluated, as applicable, to ensure the structural integrity and leak tightness of the system are sufficient to support the design bases functional requirements of the system.

This requirement from the case is saying, for the example above (different bonnet material) that the licensee would evaluate the change in material to ensure the pressure boundary function would continue to support the design basis functional requirements of the system – aka the bonnet would retain the fluid and not allow the bonnet to impede the active function of the valve.

While the Relief Request implementation relaxes ASME Section XI and Quality Program Requirements, it does not alleviate Design Control process requirements. The Design Control program at Duke Energy requires various levels of engineering evaluation based on the change implemented and whether that change is within the Bounding Technical Requirements, including evaluation of the changes per 10 CFR 50.59. For example, the 10CFR50.59 change control process does not allow changes if they:

(v) Create a possibility for an accident of a different type than any previously evaluated in the final safety analysis report;

(vi) Create a possibility for a malfunction of an SSC important to safety with a different result than any previously evaluated in the final safety analysis report;

Changes, such as changing the bonnet material, would be evaluated in the Duke Energy Design Control Process. The Duke Energy procurement process also requires Engineering to specify treatment (design, fabrication, testing, documentation, receipt, etc.) of the LSS SSCs to ensure reasonable confidence is maintained.

Further, as noted in ASME Code Case N-752 Section 1420 the licensee has numerous requirements to fulfill to ensure the alternate treatment is appropriate. These additional controls ensure continued capability and reliability of the design-basis function. Further, any conditions that may prevent an LSS SSC from performing its safety-related function under design-basis conditions will be identified and addressed in accordance with the licensee's corrective action program (as discussed in Oconee Round 1 RAIs). In the example above, the valve bonnet must perform the pressure boundary function and must allow the active items of the valve to perform their function. Controls are established to ensure both of these functions are addressed for changes to the plant (via design control) and identification/resolution of undesirable conditions (via the corrective action program).

The licensee must continue to implement all special treatments applied to active components (e.g. In-Service Testing) and other special treatments to the pressure boundary components that are not

affected by this code case (e.g. In-Service Inspection, License Renewal Aging Management, Flow Accelerated Corrosion, Erosion, Raw Water Program, Buried Pipe Program). For a valve there are extensive tests and design calculations that would explicitly test for degradation via robust testing and the design calculations also would explicitly look for such material property changes.

This relief request does not change the Oconee Technical Specifications and all Surveillance Requirements will continue to be performed with the specified Frequencies. Oconee SR 3.0.1 governs and provides usage rules for all Surveillance Requirements.

As noted in Oconee's Relief Request and Round 1 RAIs, Duke Energy intends to implement the QA Program exemption applicable to IWA-1400(n) and IWA-4000 when performing repair/replacement activities on LSS items. In accordance with 10 CFR 50.54(a), licensees may make changes to a previously accepted quality assurance program description provided the bases of the approval are applicable to the licensee's facility. Duke Energy does not intend to deviate from the QAPD wording in the NRC Safety Evaluation for ANO's QAPD Reduction in Commitment utilized to implement ASME Code Case N-752. The NRC's review of the ANO QAPD changes to implement ASME N-752 states [bolding added for emphasis]:

*The NRC staff reviewed the licensee's application, as supplemented, for the proposed change to the QAPM to allow the use of ASME Code Case N-752. The NRC staff has reasonable assurance that the **licensee's implementation of ASME Code Case N-752 will ensure that Class 2 and 3 LSS SSCs will perform their intended safety-related functions under design-basis conditions.** This reasonable assurance is based on the licensee's plans to continue using current processes and procedures, as supplemented, for the treatment of Class 2 and 3 LSS SSCs. In addition, when procuring Class 2 and 3 LSS SSC items, the licensee will specify supplemental procurement requirements and implement additional controls to ensure continued capability and reliability of the design-basis function. Therefore, the NRC staff concludes that the proposed Entergy QAPM change continues to **provide an acceptable level of quality and safety.***

In order to implement the same change to the Oconee QAPD without prior NRC approval, via the process outlined in 10 CFR 50.54a, Duke Energy must demonstrate the bases for the NRC's QAPD approval at ANO is applicable to Duke Energy. Meaning – the same QAPD changes the NRC found to provide an acceptable level of quality and safety for ANO will also be implemented at Duke Energy (Oconee specifically).