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Serial: RA-22-0025
January 20, 2022

10 CFR 50.55a

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

OCONEE NUCLEAR STATION, UNIT NOS. 1, 2 AND 3
DOCKET NOS. 50-269, 50-270, AND 50-287 / RENEWED LICENSE NOS. DPR-38, DPR-47, AND DPR-55

SUBJECT: Supplemental Information for Relief Request to Utilize an Alternative Acceptance Criteria for Code Case N-853, "PWR Class 1 Primary Piping Alloy 600 Full Penetration Branch Connection Weld Metal Buildup for Material Susceptible to Primary Water Stress Corrosion Cracking, Section XI, Division 1"

REFERENCES:

1. Duke Energy letter, *Relief Request to Utilize an Alternative Acceptance Criteria for Code Case N-853, "PWR Class 1 Primary Piping Alloy 600 Full Penetration Branch Connection Weld Metal Buildup for Material Susceptible to Primary Water Stress Corrosion Cracking, Section XI, Division 1"*, dated May 4, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21124A170)
2. NRC email, *Oconee Nuclear Station, Units 1, 2, and 3 - Request for Additional Information RE: Alternative Request (RA-20-0334) Regarding use of an Alternative to the ASME Code Case N-853 Acceptance Criteria (EPID L-2021-LLR-0032)*, dated August 5, 2021 (ADAMS Accession No. ML21217A191)
3. Duke Energy letter, *Response to Request for Additional Information (RAI) Regarding Relief Request to Utilize an Alternative Acceptance Criteria for Code Case N-853, "PWR Class 1 Primary Piping Alloy 600 Full Penetration Branch Connection Weld Metal Buildup for Material Susceptible to Primary Water Stress Corrosion Cracking, Section XI, Division 1"*, dated August 31, 2021 (ADAMS Accession No. ML21243A515)
4. NRC email, *Oconee Nuclear Station, Units 1, 2, and 3 - Request for Additional Information RE: Alternative Request (RA-20-0334) Regarding use of an Alternative to the ASME Code Case N-853 Acceptance Criteria (EPID L-2021-LLR-0032)*, dated October 1, 2021 (ADAMS Accession No. ML21274A068)
5. Duke Energy letter, *Response to Second Request for Additional Information (RAI) Regarding Relief Request to Utilize an Alternative Acceptance Criteria for Code Case N-853, "PWR Class 1 Primary Piping Alloy 600 Full Penetration Branch Connection Weld Metal Buildup for Material Susceptible to Primary Water Stress Corrosion*

Cracking, Section XI, Division 1", dated October 28, 2021 (ADAMS Accession No. ML21301A018)

6. NRC email, *Oconee Nuclear Station, Units 1, 2, and 3 - December 13, 2021, Clarification Call Summary RE: Use of an Alternative to the ASME Code Case N-853 Acceptance Criteria (EPID L-2021-LLR-0032)*, dated December 14, 2021 (ADAMS Accession No. ML21348A545)

Ladies and Gentlemen:

In Reference 1, Duke Energy Carolinas, LLC (Duke Energy) requested U.S. Nuclear Regulatory Commission (NRC) approval to use an alternative volumetric inspection acceptance criteria for American Society of Mechanical Engineers (ASME) Code Case N-853, "PWR Class 1 Primary Piping Alloy 600 Full Penetration Branch Connection Weld Metal Buildup for Material Susceptible to Primary Water Stress Corrosion Cracking, Section XI, Division 1" at Oconee Nuclear Station Units 1, 2, and 3 (ONS). Specifically, in lieu of the ASME Code, Section III, NB-5330 acceptance criteria for fabrication, Duke Energy proposed to use the preservice examination acceptance criteria of ASME Code, Section XI, IWB-3514.

In References 2 and 4, the NRC staff requested additional information (RAI) regarding Reference 1. Duke Energy provided responses to the RAIs in References 3 and 5, respectively. Subsequently, on December 13, 2021, a clarification call was held between the NRC and Duke Energy (meeting summary in Reference 6). As a result, supplemental information is provided in Enclosure 1, which supersedes the Reference 5 response in its entirety.

No new regulatory commitments have been made in this submittal. If you have additional questions, please contact Mr. Lee Grzeck, Manager (Acting) – Regulatory Affairs, at 980-373-1530.

Sincerely,

Steven M. Snider
Site Vice President
Oconee Nuclear Station

Enclosures:
1. Supplemental Information for Relief Request RA-20-0334

cc:
L. Dudes, Regional Administrator USNRC Region II
J. Nadel, USNRC Senior Resident Inspector – ONS
S. A. Williams, NRR Project Manager – ONS

Enclosure 1
Supplemental Information for Relief Request RA-20-0334

Relief Request RA-20-0334 - Code Case N-853 Weld Pad Inspection Protocol

- For acceptance of the weld pad after installation, Duke Energy will follow ASME Code Case (CC) N-853, Section 3, paragraph (d)(3). If the results of the examination are acceptable under NB-5330, Duke Energy will follow the ASME Code Case N-853 required subsequent inservice inspection (ISI) for that weld pad (i.e., visual examination).
- If a defect is detected in a weld pad that is rejectable under NB-5330 but acceptable under IWB-3514, Duke Energy will perform a subsequent, one-time volumetric examination of that weld pad during the first or second refueling outage following installation. If the volumetric examination shows no indication of crack growth or new cracking, the weld pad will be placed into a population to be examined on a sample basis. Twenty-five percent of this population shall be added to the ISI program and shall be examined volumetrically once each inspection interval with the following inspection attributes.
    - The examination will be a “best effort” examination obtaining the maximum coverage available, knowing beforehand that the examination will have reduced coverage due to the nozzle obstruction.
    - If the defect is located within the weld pad volume that will be completely removed as part of nozzle replacement activities, the defect will be considered to have been removed, and no further evaluation is required.
    - If the defect is located in the weld pad volume that cannot be sufficiently interrogated in the future due to the existence of the nozzle, the defect will be removed by weld repair as confirmed by subsequent volumetric examination.
    - The one-time examination will be of sufficient volume, and area, such that the previously identified and dispositioned defect will be adequately interrogated to determine any in-service growth. The one-time examination will not include the entire weld pad volume.
    - The one-time volumetric examination will use the same or equivalent procedures, equipment, and personnel qualifications as the initial fabrication examination.
    - The applicability of these provisions will be limited solely to the N-853 weld pads, and not any other components evaluated to IWB-3514 acceptance criteria.
- The 25% inspection population will be defined as only those CC N-853 weld pads that required this alternative to disposition an identified defect. All other CC N-853 weld pads that were acceptable, either by the presence of no defects, or acceptable using NB-5330 criteria, will not be included in this population.
- If during the subsequent, one-time volumetric examination of a weld pad, or subsequent examinations, there is an indication of crack growth or new cracking, Duke Energy will evaluate the condition of the weld pad in accordance with Section XI of the ASME Code and take action (e.g., repair, subsequent re-examination, etc.) in accordance with ASME Code requirements.