UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 17, 2016

LICENSEE: Duke Energy

FACILITY: Brunswick Steam Electric Plant, Units 1 and 2

SUBJECT: SUMMARY OF AUGUST 18, 2016, PRE-SUBMITTAL MEETING WITH DUKE ENERGY REGARDING MELLLA+ LICENSE AMENDMENT REQUEST (CAC NOS. MF8284 AND MF8285)

On August 18, 2016, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of Duke Energy Progress, LLC (Duke, the licensee) by a conference call. The meeting notice and agenda, dated August 5, 2016, are available in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML16218A435. A list of attendees is enclosed.

The purpose of this meeting was to discuss a proposal by the licensee to submit a license amendment request (LAR) to use the Maximum Extended Load Line Limit Analysis Plus (MELLLA+) methodology in reactor core flow management for Brunswick Steam Electric Plant (BSEP) Units 1 and 2.

With the use of slides (ADAMS Accession No. ML16231A132), Duke presented its approach and responded to the clarification questions from the NRC staff. Significant actions for the licensee to consider included the following:

- The time required to review this type of complex request is significant and the licensee's desired completion date is a challenge to the NRC's resources. Thus, the NRC staff wishes to start setting up the TRACE modeling instead of waiting for the submittal, in order to conduct supporting calculations and computer based modeling to inform the staff's technical review. The supporting calculations and modeling will help the NRC staff to identify the risk-significant areas to focus on and, thereby, be more efficient in the review. The NRC staff proposed a site visit by the TRACE modeling analysts to make this effort more efficient. Duke indicated that most of this type of information resides with its vendors and would take considerable efforts to gather. The NRC staff agreed to prioritize the information request and offered to work with Duke to travel to optimal locations that are convenient to Duke. A separate meeting on data collection will be planned for the near future.

- The NRC staff discussed the following items for Duke to consider in the submittal, in order to minimize the need for supplements:

    - Identify major differences between the two units at BSEP and explain how the differences are addressed in the calculations.

- Identify assumptions for the calculations are bounded by the limiting unit design. Duke indicated that these evaluations will be discussed in the LAR document to be submitted. A specific list of differences has not been developed since the bounding work is not necessarily derived from the BSEP design. Duke does not currently plan to develop a relative design comparison of all differences between the units. If a specific issue is requested, further investigation will need to be performed.

- Determine if a sensitivity study was done by General Electric-Hitachi during the selection of the required operator action time of 120 seconds for the ATWS-I [anticipated transient without scram] using the TRAC-G computer model.

- Limited iterations were performed during the course of development of the 120-second operator action to mitigate the accident. Specific sensitivities on inputs or analysis methods were not required to evaluate the ATWS-I event. No additional evaluations are required at this time.

- Report the BSEP power density as compared to the MELLLA+ Topical Report penalty requirements.

- There is one MELLLA+ Topical Report requirement applicable to power density. MELLLA+ Topical Report Limitation and Condition (L&C) 12.23.5 requires a power density lower than 52.5 MWt/Mlbm/hr at rated conditions. Section 9.3.3 of the BSEP Updated Final Safety Analysis Report (UFSAR) documents that BSEP is below this requirement. A second Power/Flow Ratio requirement exists with respect to Topical Report NEDC-33173P. NEDC-33173P L&C 9.3 documents a requirement that if 50 MWt/Mlbm/hr is exceeded, additional documentation is needed with respect to power distribution uncertainties. The L&C 9.3 is fully addressed in Sections 1.2.1 and 2.2.5 of the BSEP UFSAR.

- Review Technical Specification (TS)/Operating License markups for feedwater temperature reduction (FWTR) limitation and ensure that requirement is documented in license material. "...as specified in the COLR [core operating limit report]...." Duke believed the BSEP TS markups contain the guidance that FWTR will be defined in the COLR. No additional action is planned.

No regulatory decisions were reached at this meeting. No member of the public called in to listen or provide comments to the staff after the business portion of the meeting and, thus, no Public Meeting Feedback forms were received.

Please direct any inquiries to me at 301-415-8480 or Andrew.Hon@nrc.gov.

Andrew Hon, Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-324 and 50-325

Enclosures:
List of Attendees

cc w/enclosure: Distribution via Listserv

LIST OF ATTENDEES

AUGUST 18, 2016, PRE-SUBMITTAL MEETING WITH DUKE ENERGY

REGARDING MELLLA+ LICENSE AMENDMENT REQUEST

Duke Energy

Keith Allen, Manager-Design Engineering
Bert Elam, MELLLA+ Engineer
Lee Grzeck, Manager- Brunswick Regulatory Affairs
Christopher Lethgo, Manager-Engineering Projects
Joel Leviner, MELLLA+ Engineer
John McKernan, Manager-Reactor Engineering
Bill Murray, Lead Licensing Engineer
Jeff Nolin, General Manager-Brunswick Engineering
John Siphers, General Manager-Fuels Engineering
Roger Thomas, Jr., Manager-BWR Fuel Engineering
Stephen Yodersmith, MELLLA+ Project Manager

U.S. Nuclear Regulatory Commission

Andy Hon, Project Manager, Office of Nuclear Reactor Regulation (NRR)
Diego Saenz, Reviewer, NRR
George Thomas, Reviewer, NRR
Shie-Jeng Peng, Reviewer, NRR
Mathew Panicker, Reviewer, NRR
Jennifer Whitman, Acting Branch Chief, NRR
Kathy Gibson, Special Assistant, Office of Nuclear Regulatory Research (RES)
Tom Boyle, Reactor Systems Engineer, RES
Andy Bielen, Reactor Systems Engineer, RES

Public

None

Enclosure

No regulatory decisions were reached at this meeting. No member of the public called in to listen or provide comments to the staff after the business portion of the meeting and, thus, no Public Meeting Feedback forms were received

Please direct any inquiries to me at 301-415-8480 or Andrew.Hon@nrc.gov.

/RA/

Andrew Hon, Project Manager
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DATE	10/14/2016	10/14/2016	10/17/2016	10/17/2016

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