

NRR-PMDAPEm Resource

From: Wideman Steve G [stwidem@WCNOC.com]
Sent: Wednesday, November 19, 2014 4:13 PM
To: Lyon, Fred
Cc: Muilenburg William T; Flannigan Richard D; Ketchum Bill H; Roland, Kevin
Subject: RE: Question on LAR to add ASTRUM to COLR (TAC No. MF3518)

Fred - In response to the teleconference held on November 10, 2014, WCNOC requests that the NRC continue with its review of our application as an interim solution to address the margin to the PCT limit. WCNOC will submit a schedule for performing a large break LOCA re-analysis that applies a NRC approved methodology, which includes the effects of fuel thermal conductivity degradation (TCD), within 6 months of NRC approval of WCAP-16996-P, Revision 0, "Realistic LOCA Evaluation Methodology Applied to the Full Spectrum of Break Size (FULL SPECTRUM LOCA Methodology)," and WCAP-17642-P, Revision 0, "Westinghouse Performance Analysis and Design Model (PAD5)."

WCAP-16996-P, Revision 0, was submitted to the NRC on November 23, 2010 by Westinghouse letter LTR-NRC-10-73. WCAP-17642-P, Revision 0, was submitted to the NRC on October 29, 2013 by Westinghouse letter LTR-NRC-13-72.

WCNOC will submit a formal letter documenting the regulatory commitment.

Steve Wideman

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From: Lyon, Fred [<mailto:Fred.Lyon@nrc.gov>]
Sent: Tuesday, October 28, 2014 1:46 PM
To: Wideman Steve G
Cc: Muilenburg William T
Subject: RE: Question on LAR to add ASTRUM to COLR (TAC No. MF3518)

Steve, the reviewers would like to discuss options moving forward with the ASTRUM implementation.

There are basically 2 options: (a) adding license conditions to move to new methods (e.g., PAD5) when available, or (b) provide enough information to approve PAD4 as a plant-specific method.

Also, the reviewers need to know if there is there any relation between this amendment and the set-points amendment that was withdrawn (MF2574, Change to W Methodologies/AST).

They'd like to set up a phoncon for next Tuesday if possible. If not, please give me some other suggestions.

Thanks, Fred

From: Wideman Steve G [<mailto:stwidem@WCNOC.com>]
Sent: Wednesday, October 01, 2014 2:04 PM
To: Lyon, Fred

Cc: Muilenburg William T; Koenig Steve R; Flannigan Richard D; Roland, Kevin

Subject: RE: Question on LAR to add ASTRUM to COLR (TAC No. MF3518)

The current large break LOCA AOR (1981 BASH Code – WCAP-10266) results in a peak centerline temperature (PCT) of 2181 °F (increases to 2188 °F with the planned containment cooler modification) with the limit being 2200 °F. Given the minimal margin to the PCT limit, the decision was made to pursue WCGS specific approval of the LBLOCA analysis using the ASTRUM methodology in WCAP-16009-P-A. The initial LAR submitted on 11/4/10 was withdrawn on 8/23/12 when it was determined in discussions with the NRC staff that the LBLOCA analysis would require the incorporation of thermal conductivity degradation (TCD).

As you noted, WCAP-16996-P, “Realistic LOCA Evaluation Methodology Applied to the Full Spectrum of Break Size (FULL SPECTRUM LOCA Methodology,” dated November 2010 is still under NRC review. Input from Westinghouse indicates that full resolution of TCD and 50.46c rulemaking is expected via FULL SPECTRUM™ LOCA and PAD5 on a timeframe consistent with the finalization of 50.46c.

Given the above minimal margin, WCNOB believed it prudent to update the best-estimate LBLOCA analysis and use PAD 4.0 + TCD (includes full runs of all 124 cases of first and second cycle fuel) and resubmit for NRC approval. This resubmittal was made with the knowledge that FULL SPECTRUM™ LOCA Evaluation Methodology was still under NRC review. The use of PAD 4.0 + TCD (full runs) is similar to the Watts Bar Unit 2 submittal currently under NRC review. The WCGS LBLOCA analysis is similar to the Turkey Point approved amendment that used PAD 4.0 + TCD for first cycle fuel with an evaluation that shows second cycle fuel is bounded by first cycle fuel.

From: Lyon, Fred [<mailto:Fred.Lyon@nrc.gov>]

Sent: Monday, September 29, 2014 10:07 AM

To: Wideman Steve G

Cc: Muilenburg William T

Subject: Question on LAR to add ASTRUM to COLR (TAC No. MF3518)

What exactly are you all trying to accomplish with the LAR? The original application was withdrawn because NRC was not willing to approve implementation of a methodology known to contain an error (PAD 4 inputs to ASTRUM were non-conservative because PAD 4 does not account for TCD). What has changed? PAD 5, which explicitly accounts for TCD has still not been approved. The NRC approved some applications with conditions to convert to PAD 5 when it is approved, but those were for plants that already had ASTRUM, not for plants that didn't have it.

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