

## Starefos, Joelle

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**From:** Starefos, Joelle  
**Sent:** Tuesday, December 17, 2013 1:41 AM  
**To:** Poslusny, Chester (cposlusny@babcock.com); Schilthelm, Steve W (swschilthelm@babcock.com); Pope, Steven M (smpope@babcock.com)  
**Subject:** VIPRE-01 Topical Report Teleconference Materials  
**Attachments:** VIPRE TR Acceptance Review Supplemental Information Request.pdf  
  
**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Chet,

By letter dated October 30, 2013, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13305A225) Babcock & Wilcox (B&W) mPower, Inc., submitted for U.S. Nuclear Regulatory Commission (NRC) staff review Topical Report No. MPWR-TOPR-000003, VIPRE-01 Qualification for B&W mPower™ Non-LOCA Safety Analysis, Revision 000.

On December 16, 2013, the NRC and B&W staff held a teleconference to discuss the staff's acceptance review of the topical report. The staff's technical questions and comments that were the topic of this teleconference are attached for your information.

Consistent with NRC processes, this email will be made publicly available through the NRC ADAMS system on the sixth day following the date of issuance; therefore, please review the attached information to verify that no withheld proprietary information was inadvertently included. If it was, please notify me immediately so I can withhold the appropriate proprietary material before this document and its attachment are made public.

If you have any questions or comments concerning this matter, you may contact me at 301-415-6091, or email [Joelle.Starefos@nrc.gov](mailto:Joelle.Starefos@nrc.gov).

Docket No. PROJ0776

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NRC Staff Questions and Comments Related to Acceptance Review of Subject Topical Report (TR):

**Table 1. Comments/Questions Pertaining to Material Presented in TR**

Item	Section	Question/Comment
1-1	3.2	Statement regarding use of CHF correlations needs to be refined and made specific to mPower.
1-2	3.3	What is meant by plant specific statistical design limits? (SDNBR?)
1-3	3.5.2(a)	Discuss when the fuel rod model will be utilized. Discuss additional considerations related to the fuel rod model (i.e. heat transfer coefficients)?
1-4	3.5.3(a)	Radial nodding is dependent on the location of hot channel. The method for identification of hot channel was not discussed. (This is related to item 3-3. Addressing item 3-3 covers this comment).
1-5	3.5.4(a)	Provide analyses demonstrating that limiting Chapter 15 transients are not negatively affected (non-conservative) given the nodalization choice.
1-6	3.5.1(b)	It is difficult to infer what is being shown in Figure 3-3. A discussion of the sensitivity study needs to be presented along with the result.
1-7	3.5.3(b)	Show that the selected correlations have a range of applicability that bounds their intended use.
1-8	3.5.3(b)	[ ] -Provide data that supports your conclusion.
1-9	3.5.5	[ ] Why is this value applicable to all non-LOCA safety analyses?
1-10	3.5.5	[ ] Need to support conclusion with analyses/experiments or use a conservatively bounding value.
1-11	3.6.1	Need justification for the 5% flow reduction in the hot assembly.
1-12	3.8	[ ] Where did the power distribution come from?
1-13	3.8	Need to demonstrate that the range of sensitivity cases presented in Table 3-4 covers the expected ranges encountered in non-LOCA safety analyses.
1-14	3.9	Need to address program or procedures which include code error updates.

**Table 2. Comments/Questions pertaining to material not present in TR.**

2-1	Section 1.2 states that the TR will include sensitivity studies of the VIPRE-01 model for the B&W mPower reactor. The presentation of the sensitivity studies needs to include much more detail in order to support desired conclusions. (This is a general comment that is covered by items 1-5, 1-6, 1-7, 1-8, 1-9, 1-10, 1-11, and 1-12).
2-2	No discussion on thimble cell modeling. Are there any different inputs or relationships used for the thimble cells?

**Table 3. General Questions**

3-1	[ ]
3-2	VIPRE will not be used for post-DNB purposes in support of Chapter 15 analyses?
3-3	How is the generic [ ] in Table 3-1 checked on reload or fuel design change basis?