



**babcock & wilcox nuclear energy**

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November 30, 2011

BW-JAH-2011-270

U.S. Nuclear Regulatory Commission (NRC)  
ATTN: Document Control Desk  
11555 Rockville Pike  
Rockville, MD 20852-2738

Babcock & Wilcox Nuclear Energy, Inc.(B&W NE)  
Docket Number-PROJ0776  
Project Number-776

Subject: Submittal of the B&W mPower™ Reactor Integrated Systems Test Technical Report  
(Revision 1)

As part of our pre-application efforts, we submitted to the NRC Revision 0 of the subject technical report describing the planned integrated systems testing program for the B&W mPower Reactor in June 2010. Since that time, we have interacted with the NRC technical staff in meetings and other communications about the design of the test facility and also about scaling questions. Based on our progress and information exchanges with the NRC staff, we have updated that report to reflect those exchanges and to include new information.

The revised report content is primarily based on the original 425 MWt design, rather than the recently announced 500 MWt design. A future revision of the report will address the change in power level in more detail along with planned physical changes to the test plant. The scaling section, Section 2, has been added to the report and contains information that addresses several of the questions raised during interactions with the NRC technical staff regarding scaling assumptions, the power level of 500 MWt, and the relocation of the reactor coolant pumps. Section 2 in the assessment section also provides a relative comparison of the 425 MWt design to the IST loop and the 500 MWt design with the reactor coolant pumps raised to the steam generator inlet. Section 2 also provides the general approach to planned changes associated with the emergency core cooling and the normal decay heat removal functions. Section 3 was modified to include expected parameter changes as the upgraded systems mature. Sections 4 through 8 concentrate on the design description as it was developed for the 425 MWt design. A few testing capabilities were also incorporated to allow testing of other approaches to the various passive systems. In addition, a testing approach was added as Section 11 to provide an overview of how the test programs will proceed.

Attachment 1 is the full version of the report that includes Confidential Commercial Information (CCI) that is marked in brackets. We request that this version be withheld from public disclosure in accordance with the requirements of 10 CFR 2.390. Attachment 2 is a redacted version of the report that can be released to the public.

Also enclosed is a signed affidavit (Attachment 3) that provides the justification for withholding the CCI information identified in the full version of the report.

D104  
NRO

Questions concerning this submittal may be directed to Jeff Halfinger at 434-316-7507 (email: [jahalfinger@babcock.com](mailto:jahalfinger@babcock.com)) or T. J. Kim at 434-382-9791 (email: [tjkim@babcock.com](mailto:tjkim@babcock.com)).



Jeffrey A. Halfinger

VP, Technology Development  
B&W NE

JAH/jlr

Attachments:           1. Subject Report containing CCI information  
                              2. Subject Report (Redacted)  
                              3. Affidavit

cc:     Joelle L. Starefos, NRC, TWFN 9-F-27  
       Stewart L. Magruder, Jr., NRC, TWFN 9-F-27

Attachment 3

AFFIDAVIT OF Jeffrey A. Halfinger

STATE OF VIRGINIA

CITY OF LYNCHBURG

I, Jeffrey A. Halfinger, being duly sworn, do hereby depose and say:

1. I am a citizen of the United States of America. I am a resident of Lynchburg, Virginia.

My birth date is November 4<sup>th</sup>, 1961.

2. I am the Vice President for Babcock & Wilcox Nuclear Energy, Inc. (B&W NE), located in Lynchburg, Virginia.

I have held this position since June 1, 2010. I have personal knowledge of the facts set forth in this affidavit, and if called and sworn as a witness in a deposition or before any court, I could and would testify competently under oath to these facts.

3. B&W NE requests that the NRC withhold from public disclosure the information marked as "B&W NE" regarding certain design information being submitted to the NRC by the B&W NE letter dated November 30, 2011. This information is included in an attachment to that letter: B&W mPower™ Reactor Integrated Systems Test Technical Report, Revision 001.

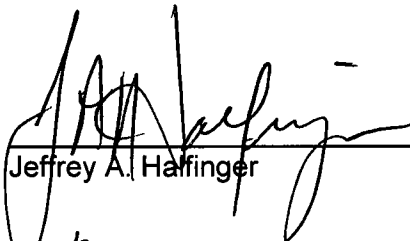
4. I have personal knowledge of the criteria and procedures used by B&W NE in designating confidential commercial or financial information as proprietary and have been delegated the function to review the information to identify proprietary information and authorized to apply for its withholding. The need for confidentiality is driven by the following:

- a) The information requested to be withheld reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) whose use by any of B&W NE's competitors, without a license from the submitter, would constitute a competitive economic disadvantage to B&W NE.

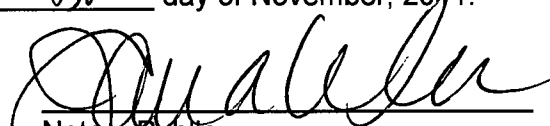
- b) Use by a competitor of the information requested to be withheld would reduce a competitor's expenditure of resources, or improve its competitive position, in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product.
- c) The information requested to be withheld reveals aspects of privately funded development plans or programs of commercial value to B&W NE.
- d) The information requested to be withheld consists of patentable ideas.

5. Specifically, the information identified in paragraph 3 above, is classified as proprietary because B&W NE has developed the conceptual and technical approaches regarding details of the B&W mPower Reactor fuel and core design, structural design, plant layout, and associated analysis, disclosure of which could adversely affect B&W NE's competitive position by informing competitors of the degree of maturity and viability of the program, thereby motivating them to increase efforts to develop competing technologies. These features of the reactor design were privately funded by B&W NE and are of commercial value to B&W NE because of their nature in providing key elements of the B&W mPower™ reactor design analysis. All or parts of the approach described in the withheld material are patentable.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is a true and correct statement of facts.

  
\_\_\_\_\_  
Jeffrey A. Halfinger

Subscribed and sworn to before me this 30<sup>th</sup> day of November, 2011.

  
\_\_\_\_\_  
Notary Public  
7128442

My commission expires: Aug. 31, 2015