



**DUKE POWER**

April 26, 1996

Subject: McGuire Nuclear Station  
Docket Numbers 50-369 and -370  
Catawba Nuclear Station  
Docket Numbers 50-413 and -414  
Submittal of Appendix to DPC-NE-2005P-A;  
McGuire/Catawba Plant Specific Data, Mark-BW Fuel,  
BWU-Z Critical Heat Flux Correlation

References:

1. DPC-NE-2005P-A, Duke Power Company Thermal-Hydraulic Statistical Core Design Methodology, February 1995.
2. Letter from M.S. Tuckman to Document Control Desk, Duke Use of the BWU-Z Critical Heat Flux Correlation, December 4, 1995.
3. Letter from M.S. Tuckman to Document Control Desk, Duke Use of the BWU-Z Critical Heat Flux Correlation, October 13, 1995.
4. BAW-10199P, The BWU Critical Heat Flux Correlations, BWFC, November 1994.
5. DPC-NE-2004P-A, Duke Power Company McGuire and Catawba Nuclear Stations Core Thermal-Hydraulic Methodology Using VIPRE-01, December 1991.

Attachment 1 contains a new Appendix C to DPC-NE-2005P-A, Duke Power Company Thermal-Hydraulic Statistical Core Design Methodology, Reference 1. In References 2 and 3, the NRC was notified of Duke's intent to use the BWU-Z critical heat flux correlation in licensing and analyses for Catawba and McGuire. Use of BWU-Z is tied to the NRC review and approval of the BWU correlation (Reference 4). This approach reflects a licensing process discussed in several meetings with the NRC. In a subsequent telephone conversation on 4/2/96 with Mr. Robert Martin and Mr. Tai Huang, it became evident that a review by the NRC of the enclosed Appendix C was necessary to address licensing issues for BWU-Z use by Duke.

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APP 1

The BWU-Z designation is in reference to the correlation in the BWU form with specific coefficients applicable only to the Mark-BW 17x17 fuel type. Framatome Cogema Fuels, previously BWFC, is in the process of receiving the SER on Reference 4. As stated in Reference 2, the BWU-Z form of the BWU correlation used by Duke in analyses for McGuire and Catawba is exactly the same as the correlation represented in Reference 4. The BWU-Z correlation was transferred to the VIPRE-01 computer code and confirmed to be applicable similar to the method described for other CHF correlations in Reference 5. Following confirmation, the statistical design limit for the BWU-Z form of the BWU correlation for Mark-BW 17x17 fuel at McGuire and Catawba was calculated per Reference 1. Both of these steps are documented in the attached Appendix C.

Duke is pursuing the application of the BWU-Z form of the BWU correlation as soon as possible. During the 4/2/96 telephone conversation, NRC stated an intent to complete the review within 3 months. If Duke can assist in any way, either by tele-conferences, with a presentation to NRC staff, or by hosting the NRC for an audit at the Duke offices, please do not hesitate to ask.

Please note that some of the information in Appendix C is considered proprietary, and should be withheld from public disclosure pursuant to 10 CFR 2.790. An affidavit attesting to the proprietart nature of the information is included in Attachment 1. A non-proprietary version of the Appendix is provided in Attachment 2.

If any additional assistance is required relating to the issue of using the BWU-Z correlation or the licensing approach proposed for approval at Duke, please feel free to contact Mr. Ronald Gribble at (704) 382-6160 or Mr. Kenneth Epperson at (704) 382-6785.

  
M. S. Tuckman

cc (w/o Attachments):

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Mr. G. F. Maxwell  
Senior Resident Inspector  
McGuire Nuclear Station


Mr. R. J. Freudenberger  
Senior Resident Inspector  
Catawba Nuclear Station

Attachment 1

Appendix C - Proprietary Version  
and  
Supporting Affidavit

AFFIDAVIT OF M. S. TUCKMAN

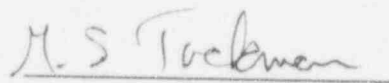
1. I am Senior Vice President, Nuclear Generation Department, Duke Power Company ("Duke"), and as such have the responsibility of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear plant licensing, and am authorized to apply for its withholding on behalf of Duke.
- 2 I am making this affidavit in conformance with the provisions of 10 CFR 2.790 of the regulations of the Nuclear Regulatory Commission ("NRC") and in conjunction with Duke's application for withholding which accompanies this affidavit.
3. I have knowledge of the criteria used by Duke in designating information as proprietary or confidential.
4. Pursuant to the provisions of paragraph (b)(4) of 10 CFR 2.790, the following is furnished for consideration by the NRC in determining whether the information sought to be withheld from public disclosure should be withheld.
  - (i) The information sought to be withheld from public disclosure is owned by Duke and has been held in confidence by Duke and its consultants.
  - (ii) The information is of a type that would customarily be held in confidence by Duke. The information consists of analysis methodology details, analysis results, supporting data, and aspects of development programs, relative to a method of analysis that provides a competitive advantage to Duke.
  - (iii) The information was transmitted to the NRC in confidence and under the provisions of 10 CFR 2.790, it is to be received in confidence by the NRC.
  - (iv) The information sought to be protected is not available in public to the best of our knowledge and belief.

  
M. S. Tuckman

(continued)

AFFIDAVIT OF M. S. TUCKMAN (Page 2)

- (v) The proprietary information sought to be withheld in this submittal is that which is marked in the proprietary version of the report DPC-NE-2005, "Duke Power Company Thermal-Hydraulic Statistical Core Design Methodology" and supporting documentation, and omitted from the non-proprietary versions. This information enables Duke to:
- (a) Respond to Generic Letter 83-11, "Licensee Qualification for Performing Safety Analyses in Support of Licensing Actions."
  - (b) Support license amendment and Technical Specification revision requests for Babcock & Wilcox and Westinghouse PWRs.
  - (c) Perform safety reviews per 10 CFR 50.59.
- (vi) The proprietary information sought to be withheld from public disclosure has substantial commercial value to Duke.
- (a) It allows Duke to reduce vendor and consultant expenses associated with supporting the operation and licensing of nuclear power plants.
  - (b) Duke intends to sell the information to nuclear utilities, vendors, and consultants for the purpose of supporting the operation and licensing of nuclear power plants.
  - (c) The subject information could only be duplicated by competitors at similar expense to that incurred by Duke.

  
M. S. Tuckman

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AFFIDAVIT OF M. S. TUCKMAN (Page 3)

5. Public disclosure of this information is likely to cause harm to Duke because it would allow competitors in the nuclear industry to benefit from the results of a significant development program without requiring a commensurate expense or allowing Duke to recoup a portion of its expenditures or benefit from the sale of the information.

M. S. Tuckman, being duly sworn, on his oath deposes and says that he is the person who subscribed his name to the foregoing statement, and that the matters and facts set forth in the statement are true.

M. S. Tuckman

M. S. Tuckman

Sworn to and subscribed before me this 26<sup>TH</sup> day of April, 1996. Witness my hand and official seal.

Mary P. Helms  
Notary Public

My commission expires JAN 22, 2001.



Attachment 2

Appendix C - Non-Proprietary Version