January 14, 2000

Mr. W. R. McCollum, Jr.
B&W Owners Group Executive Committee
Duke Energy Corporation
Oconee Nuclear Station
7800 Rochester Highway
Seneca, SC 29672

SUBJECT: RESPONSE TO AUGUST 23, 1999, LETTER RELATED TO THE BABCOCK & WILCOX OWNERS GROUP EMERGENCY OPERATING PROCEDURE GUIDANCE

Dear Mr. McCollum:

On June 17, 1999, the Babcock & Wilcox Owners Group (B&WOG) met with members of the NRC staff to discuss issues related to the B&WOG program for emergency operating procedure (EOP) guidance. The impetus for the meeting was an NRC inspection of the EOPs at Crystal River-3 which had resulted in several NRC open items. There are significant differences between how the B&WOG EOP program is arranged compared to other owners groups, primarily because of the manner in which the documentation for the B&WOG program evolved. The meeting served to improve the understanding of several key issues involving both the B&WOG EOP program and the NRC's program for EOP inspections. At the meeting, a key item discussed was the B&WOG EOP Technical Basis Document (TBD).

By letter dated August 23, 1999, the B&WOG sent the NRC its understanding of key points from the June 17 meeting, and asked the staff to confirm or correct these interpretations as necessary.

Subsequently, on November 5, 1999, the staff issued the Safety Evaluation (SE) for the B&WOG EOP TBD. The staff believes the SE should clarify several of the items discussed at the June 17 meeting.

The enclosure to this letter responds to the specific items you pointed out in your August 23 letter. The enclosure, coupled with the SE issued on November 5, 1999, should clarify issues related to the staff's inspection of EOPs at B&WOG plants.

If you have any questions about these items, please call me at (301) 415-1321.

Sincerely,

/***RA/***

Stewart N. Bailey, Project Manager, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Project No. 693

Enclosure: Staff Response to B&WOG Interpretations

cc w/encl: See next page

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Stewart N. Bailey, Project Manager, Section 2
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Enclosure: Staff Response to B&WOG Interpretations

cc w/encl: See next page

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STAFF RESPONSE TO
BABCOCK AND WILCOX OWNERS GROUP
INTERPRETATIONS OF KEY POINTS
FROM JUNE 17, 1999, MEETING ON
EMERGENCY OPERATING PROCEDURE GUIDANCE

Item 1. Safety Evaluation Report (SER) on B&W EOP Guidance

B&WOG Interpretation:

*Documentation of the NRC review of materials submitted by the B&WOG in support of its existing program of EOP guidance has yet to be finalized. While no mandate exists to complete this activity, some NRC Staff representatives expressed the opinion that completion of this activity would be appropriate and would provide benefit to both the NRC inspectors and the B&WOG for EOP implementation and inspection.*

Staff Response:

We agree with your description in reference to the June 17, 1999, meeting. The NRC issued its SE on the TBDs by letter dated November 5, 1999.

Item 2. Relationship between SER and NRC Inspection Procedure 42001 (IP42001)

B&WOG Interpretation:

*The NRC Staff acknowledged that IP42001 was created based on an approach to EOP guidance more typical of other Owners Groups and unlike that adopted by the B&WOG. The NRC Staff also acknowledged that, absent an SER which formalizes expectations unique to the B&WOG EOP guidance, the application of IP42001 leaves the B&WOG with situations that are difficult to resolve and apt to make inspections more problematic.*

Staff Response:

We agree that IP42001 guidance applies better to Westinghouse Plant EOPs than to B&W plant EOPs. We anticipate that the SE will help to clarify expectations unique to the B&WOG EOP guidance.

Item 3. Use of B&WOG Technical Basis Document (TBD) Volumes for EOP Guidance

B&WOG Interpretation:

*B&WOG participants indicated that all B&WOG licensees reference (or will reference) the TBD Volume 1 as the basis for EOP deviations. However, the B&WOG regards the entire set of three TBD volumes as vendor-approved and believes that guidance formed from the composite of these three volumes is a suitable basis for EOPs. Therefore, elaborate justifications are not required when EOPs access guidance from the TBD outside Volume 1. The NRC Staff expressed an understanding of and willingness to accept this approach.*

Enclosure

Staff Response:

We agree in principle with your description regarding justifications with respect to use of TBD guidance from Volume 3. This topic is addressed in SE Sections 1.0 and 3.3.1.

Item 4. Standards for Deviations/Justification

B&WOG Interpretation:

*The NRC Staff strongly encouraged the B&WOG to adopt standards for identification of deviations between plant EOPs and TBD Volume 1 and to adopt standards for acceptable technical justification for such deviations.*

Staff Response:

We basically agree with your statement. The staff believed the B&WOG had generated Volume 1 as "Generic Emergency Operating Guidelines" because of the description in your letter of February 7, 1991. This understanding and expectation was documented in our notes dated November 24 and December 1, 1992, and which we discussed with the B&WOG on December 1-3, 1992. Consequently, when we found a difference of opinion regarding use of Volume 1, we encouraged adoption of TBD Volume 1 as a reference with respect to deviations. Our understanding of the licensee response to that position during the June 17, 1999, meeting is covered in SE Sections 1.0 and 3.3.1.

Some of the background is useful in addressing other items you listed. The following notes were written by Warren Lyon (the NRC reviewer) while working with Brent Brooks (B&W) on December 1, 1992, and we believe represented a mutually acceptable approach that Warren planned at that time to recommend to NRC management:

> "The staff does not expect Vol. 1 to cause a complete rewrite of plant EOPs - the EOPs exist. It does expect licensees to review Vol. 1 and to compare it to plant-specific EPGs (and EOPs). Where appropriate, plant-specific corrections and improvements should be made and significant inconsistencies that remain should be briefly justified. This process should be documented in internal documentation that is available to NRC inspectors. For example, (1) there is no need for an exact correspondence in the numbers between Vol. 1 and plant-specific EPGs, nor do such differences need to be documented when they occur due to such actions as addition of plant-specific steps.[1] (2) The process should identify and justify technical differences. All sequence differences that alter the mitigation strategy or method shall be justified. (3) Reasons should be provided for selection of an option from Vol. 3 that differs from Vol. 1"

Our November 5, 1999, SE is intended to be consistent with the above notes.

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[1]A side note indicates that "If functionally the EOP is accomplishing the same thing ..."

Item 5. EOP Step Sequencing and the Timing of Critical Actions

B&WOG Interpretation:

*The NRC Staff expressed a willingness to conditionally accept the B&WOG position on EOP step sequencing. Unless the TBD defines a particular step sequence as important to the mitigation strategy, differences in step sequencing between plant EOPs and the TBD should not be considered deviations. This includes changes in sequencing that are a result of the addition of plant-specific steps. The NRC Staff indicated agreement to this with the condition that the timing of critical actions be addressed in the TBD. This approach will enable NRC inspectors to judge whether the TBD sequencing priority is maintained.*

Staff Response:

You stated that, unless the TBD defines a particular step sequence as important to the mitigation strategy, differences in step sequencing between the plant EOPs and the TBD should not be considered. We agree with that since we understand Revision 9 of the TBD will appropriately specify where step sequences are important and where they are not. We note this is consistent with our example in Item 4, above.

Item 6. Limits of Verification and Validation of Supporting Procedures

B&WOG Interpretation:

*The NRC Staff indicated their agreement that it is reasonable for B&WOG licensees to list in their EOPs certain "lower tier" contingency actions. Such actions are considered beyond the scope of the EOPs in that they are not part of the standard "upper tier" TBD mitigation strategy and are included only as potential backup options in the event that the standard mitigative actions are unsuccessful. In this context, the NRC Staff indicated further agreement that the usual verification and validation checks are not required for these backup actions, provided that the BWOG provides a clear demarcation of what should be included in the TBD mitigation path.*

Staff Response:

You differentiated between "upper tier" and "lower tier" EOP actions. You stated that “lower tier” actions were not part of the B&WOG TBD mitigation strategy and were included only as potential backup options in the event that the standard mitigative actions are unsuccessful. Also, you stated your interpretation that NRC Staff indicated that the usual V&V checks are not required for these "lower tier" backup actions. There may be a misunderstanding regarding what constitutes an EOP and what V&V is necessary.

TMI Action Item I.C.1 required development of emergency procedures guidelines and upgrading of EOPs. Early in the development and review process, the B&W Owners Group and the staff agreed that the Item I.C.1 requirements would be met by addressing transient initiation from all plant modes other than decay heat removal system operation.

An additional implementation requirement was that licensees apply a Procedures Generation Package (PGP) to EOPs. The PGP for the B&W plants includes: (1) the B&W Owners Group TBD, (2) an EOP writers guide, and (3) an EOP V&V program. The NRC considers that all licensee procedures that are used to implement Item I.C.1 are EOPs. In other words, with the exception of addressing transients that initiate from a decay heat removal system operation mode, regardless of what title is on a licensee procedure; if it is needed to implement the TBD, then V&V of that procedure is required. In addition, if implementation involves site specific actions that may be needed to address site specific design differences or vulnerabilities, then those actions must be included in the V&V program. With respect to Item I.C.1, all of the B&WOG mitigation strategy or technically justified changes to the TBD mitigation strategy actions, as implemented in procedures, must be verified and validated to ensure that they will work. The actions to be included in V&V should implement the TBD mitigation strategy and should include site-specific backup actions needed to do so.

The TBD uses "... the best available equipment to mitigate a transient regardless of the safety classification of that equipment. When abnormal conditions develop, the operator is directed to attempt regaining control of the control function ... in question by first using the system or equipment best suited for that purpose. If that fails, he is directed to the next system or equipment that can restore control, etc. This approach continues until either control is regained or all available equipment has failed." (TBD Volume 3, Chapter II.A, Section 1.0). Consequently, although the EOPs must be capable of addressing the licensing basis accidents under the worst expected environmental conditions, and within the times assumed in your accident analyses, individual mitigation actions contained within the EOPs may not be needed to meet these criteria.

We acknowledge that your EOPs and supporting procedures may contain actions that go beyond the TBD mitigation strategy and beyond the NRC expectations for EOPs as described in TMI Action Item I.C.1. In these instances, a full V&V may not be required. However, the procedures must be reasonably assured to work and they must be able to be performed by any operator who may be relied upon to perform them. Also, such actions may not impair implementation of the TBD mitigation strategy actions within the necessary times.

Item 7. Basis for Assessment of B&WOG EOPs

B&WOG Interpretation:

*The NRC Staff indicated their recognition that the B&WOG licensee EOPs are based on a unique guidance program which was developed and issued in a high-level, engineering guidance format. Furthermore, the B&WOG TBD cannot be used for an explicit one-to-one inspection comparison to plant EOPs as required by IP42001. With this consideration, they agreed that inspection of B&WOG plant EOPs should focus on implementation of the higher level TBD mitigation strategies.*

Staff Response:

You stated that NRC staff members agreed that NRC inspection of B&WOG plant EOPs should focus on implementation of the higher level TBD mitigation strategies. There are no high or low level TBD strategies. While we would expect NRC inspections of B&WOG plant EOPs to focus on implementation of the TBD mitigation strategies, that does not preclude inspection of any procedural actions on which the plant may rely to mitigate accidents. For example, a plant may have unique risk vulnerabilities for which the licensing basis relies upon certain operator actions to mitigate accidents. These actions should be addressed in EOPs and the NRC may well include them in an inspection of EOPs.