

Duke Energy Corporation  
Entergy Operations, Inc.  
Florida Power Corporation

Oconee 1, 2, 3  
ANO-1  
Crystal River



GPU Nuclear, Inc.  
Toledo Edison Company  
Framatome Technologies, Inc.

TMI-1  
Davis-Besse

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Working Together to Economically Provide Reliable and Safe Electrical Power

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March 17, 2000  
OG-1783

Project No. 693

Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Subject: Disposal of Irradiated Materials by the B&W Owners Group Reactor Vessel Working Group

Gentlemen:

The B&W Owners Group (B&WOG) Reactor Vessel Working Group (RVWG) wishes to advise the staff that it plans to begin an orderly disposal of all B&W plant-specific and intact (unopened) B&WOG supplemental capsules over the next several years. It is intended that shipments of these capsules for disposal will coincide with other planned shipments, which will minimize costs and exposure to personnel.

The B&W Owners Group's Master Integrated Reactor Vessel Surveillance Program (MIRVP) was designed to comply with the Code of Federal Regulations, Title 10, Part 50, Appendix H, and ASTM Standard E 185 and to insure the continued licensability of the B&W Owners Group reactor vessels. The current program is described in BAW-1543, Revision 4 and BAW-1543, Revision 4, Supplement 3, which have been approved by the NRC staff.<sup>1</sup> The MIRVP is an extension of the integrated surveillance program developed by the B&W Owners Group for the B&W 177-FA plants.<sup>2</sup> Since the 1970s, a number of B&W plant-specific surveillance program capsules included in this integrated program have been or are being irradiated as standby capsules to comply with the above regulations.

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<sup>1</sup> "Safety Evaluation of BAW-1543, "Master Integrated Reactor Vessel Surveillance Program," Revision 4, Supplement 3 (TAC No. MA5053), U. S. Nuclear Regulatory Commission, October 26, 1999.

<sup>2</sup> A. L. Lowe, Jr., PE, K. E. Moore, and J. D. Aadland, "Integrated Reactor Vessel Material Surveillance Program," BAW-1543A, Revision 2, Babcock & Wilcox's Nuclear Power Generation Division, Lynchburg, Virginia, May 1985.

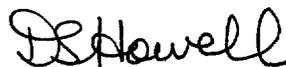
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The existing B&W plant-specific standby capsules either do not contain weld materials or are not expected to contribute significantly to the Linde 80-weld metal surveillance database. The B&W plant-specific surveillance capsules, which do not contain weld material, need not be tested because their data are not necessary for monitoring radiation embrittlement of B&W-fabricated reactor vessels. The B&W plant-specific surveillance capsules, which do contain weld metal, are not expected to contribute significantly to the weld metal surveillance database because the data either already exists at the expected/received capsule fluences or data is available at fluences greater than the expected/received capsule fluences. Therefore, none of the remaining B&W plant-specific standby surveillance capsules are required to be tested as indicated in BAW-1543, Revision 4, Supplement 3. Table 1 presents the status of the B&W plant-specific standby surveillance capsules and their contents. These standby capsules should be disposed of at an appropriate time.

As shown in Figure 1, the in-vessel capsule test data for the limiting Linde 80-weld metals for the B&W 177-FA reactor vessels needed through end-of-license have been obtained. In addition, capsule test data for the limiting Linde 80-weld metals of the plants that have submitted applications for license renewal have been or will be obtained in the next several years. These plants include Oconee Unit 1, Unit 2, and Unit 3 and Arkansas Nuclear One Unit 1.

Because there is no need to test the B&W plant-specific standby surveillance capsules, the RVWG plans to dispose of these capsules. The RVWG with the assistance of FTI has developed a master plan to dispose of all the intact (unopened) B&W plant-specific standby capsules and MIRVP supplemental capsules. Unless otherwise directed by the staff, this disposal plan will commence in the winter of 2001 and will proceed as indicated in Table 2.

Sincerely,



Don L. Howell  
Project Manager  
B&W Owners Group Services

DLH/mcl

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**Table 1. B&W Plant-Specific Reactor Vessel Surveillance Program  
Intact (Unopened) Capsules**

<b>Plant</b>	<b>Capsule</b>	<b>Status</b>
Oconee Unit 1	OCI-B (Base Metal Only) OCI-D (Base Metal Only)	Stored In host reactor vessel
Oconee Unit 2	OCII-B (Base Metal Only) OCII-D (Base Metal Only) OCII-F (Base Metal Only)	Stored In host reactor vessel Stored
Oconee Unit 3	OCIII-C (Weld Metal WF-209-1) OCIII-E (Weld Metal WF-209-1) OCIII-F (Weld Metal WF-209-1)	Stored In host reactor vessel In host reactor vessel
Three Mile Island Unit 1	TMI1-B (Base Metal Only) TMI1-D (Base Metal Only) TMI1-F (Base Metal Only)	Stored Stored Stored
Crystal River Unit 3	CR3-A (Atypical Weld Metal) CR3-E (Atypical Weld Metal)	Stored Stored
Arkansas Nuclear One Unit 1	ANO1-D (Base Metal Only) ANO1-F (Base Metal Only)	Stored Stored
Davis-Besse	TE1-C (Weld Metal WF-182-1) TE1-E (Weld Metal WF-182-1)	Stored Stored

**Table 2. Master Plan for Disposal of Radioactive Materials Related to the  
B&W Owners Group MIRVP Activities**

<b>Year</b>	<b>Radioactive Waste</b>	<b>Description</b>
Winter 2001	Plant-Specific Capsule OCI-B	Contains Base Metal Specimens Only [Intact]
	Plant-Specific Capsule OCII-B	Contains Base Metal Specimens Only [Intact]
	Plant-Specific Capsule TMI1-B	Contains Base Metal Specimens Only [Intact]
	Plant-Specific Capsule TMI1-F	Contains Base Metal Specimens Only [Intact]
	Plant-Specific Capsule ANO1-F	Contains Base Metal Specimens Only [Intact]
	Plant-Specific Capsule ANO1-D	Contains Base Metal Specimens Only [Intact]
Spring 2003	Plant-Specific Capsule CR3-A	Contains Atypical Weld Metal Specimens [Intact]
	Plant-Specific Capsule CR3-E	Contains Atypical Weld Metal Specimens [Intact]
	Plant-Specific Capsule OCII-D	Contains Base Metal Specimens Only [Intact]
	B&WOG Capsule TMI2-D	Used as a "Dummy" (Spacer) [Intact]
Summer 2008	Plant-Specific Capsule OCI-D	Contains Base Metal Specimens Only [Intact]
	Plant-Specific Capsule OCII-F	Contains Base Metal Specimens Only [Intact]
	Plant-Specific Capsule OCIII-C	Contains WF-209-1 Weld Metal Specimens [Intact]
	Plant-Specific Capsule OCIII-E	Contains WF-209-1 Weld Metal Specimens [Intact]
	Plant-Specific Capsule OCIII-F	Contains WF-209-1 Weld Metal Specimens [Intact]
	Plant-Specific Capsule TMI1-D	Contains Base Metal Specimens Only [Intact]
	Plant-Specific Capsule TE1-C	Contains WF-182-1 Weld Metal Specimens [Intact]
	Plant-Specific Capsule TE1-E	Contains WF-182-1 Weld Metal Specimens [Intact]
Year 2011	B&WOG Capsule L1	Originally Planned for Annealing Investigation [Intact]
	B&WOG Capsule L2	Originally Planned for Annealing Investigation [Intact] to be used as a "Dummy" (Spacer) [Intact]
	B&WOG Capsule DB1-LG2	Weld Metal Data not Expected to Contribute Significantly to Linde 80-Weld Metal Database [Intact]
	B&WOG Capsule TMI2-A	Used as a "Dummy" (Spacer) [Intact]

Figure 1. B&W Plant Limiting Weld Wire Heats Vs. Capsule Fluence

