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SUBJECT: Requests review of encl program re drywell steel interim operability criteria.

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Gentlemen:

In the Matter of ) Docket Nos. 50-260  
Tennessee Valley Authority )

BROWNS FERRY NUCLEAR PLANT (BFN) - SEISMIC QUALIFICATION OF DRYWELL STEEL -  
(NRC TAC NO. 00302)

This letter describes the BFN program for the seismic qualification of drywell steel. This letter supplements the information provided by section III.3.8 of revision 1 to the BFN Performance Plan which was transmitted by S. A. White's letter dated July 1, 1987 and my letters, dated March 10, 1988 and April 28, 1988. This letter incorporates resolution of the NRC staff's concerns as discussed in our meeting, dated May 18, 1988.

Enclosure 1 to this letter describes the BFN program for resolving this issue. Enclosure 2 provides the BFN drywell steel interim operability criteria. TVA requests your review of this program and the issuance of a written statement documenting the programs acceptability.

Please refer any questions regarding this submittal to M. J. May, Manager, BFN Site Licensing, (205) 729-3570.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

*R. Gridley*  
R. Gridley, Director  
Nuclear Licensing and  
Regulatory Affairs

Enclosures  
cc: See page 2

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*[Handwritten mark]*

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MAY 26 1988

cc (Enclosures):

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THE  
STATE  
OF  
NEW YORK  
IN SENATE  
JANUARY 10, 1906.

REPORT  
OF THE  
COMMISSIONERS  
OF THE LAND OFFICE  
IN ANSWER TO A RESOLUTION  
PASSED BY THE SENATE  
MAY 18, 1905.

ALBANY: J. B. WARD, STATE PRINTER, 1906.

ENCLOSURE 1

TENNESSEE VALLEY AUTHORITY  
BROWNS FERRY NUCLEAR PLANT  
UNIT 2  
DRYWELL STEEL PLATFORMS

This report gives TVA's plan to demonstrate the adequacy of drywell steel platforms.

Issue

A nonconforming condition report identified an unanalyzed attachment to one of the lower drywell platforms. Investigation showed this to be part of a generic problem for all drywell platforms.

Background

While dispositioning nonconforming condition report BFN-BWP-8309, the following was determined: Drywell floor framing steel at elevations 563' and 584' had not been reevaluated for some loads which were added or revised since the original design, structural behavior of platforms under combined loadings was not completely evaluated and documented, and some configurations did not match drawings. Additional findings were later identified in SCR BFN CEB 8634, 8640, and 8643 on platforms at elevations 604', 616', and 628'.

Resolution

To assure the adequacy of drywell steel platforms, the following plan was implemented:

1. A detailed walkdown of all drywell platforms was performed to document the as-built configuration.
2. Detailed analysis of each platform was performed using the GT-STRUDL program. The model included primary as well as secondary steel that supports piping systems and cable trays. All support loads considered were the maximum values for OBE and DBE load conditions. Resulting stresses were compared to an interim Operability Criteria based on the AISC code. Platforms at elevations 604'; 616'; and 628' have been evaluated to design criteria BFN 50-C-7100, revision 1, attachment G "Miscellaneous Steel Components for Class I and II Components."
3. Modifications are necessary to meet the interim operability criteria, on secondary steel beams and connections and were mainly due to safety relief valve piping loads. Additionally, stiffener plates were added to reduce the local stresses in beams at attachment points.
4. Additional modifications were made to correct installation problems observed during the walkdowns.
5. All modifications necessary to meet operability criteria will be made prior to restart of unit 2.

6. The FSAR requires that the drywell steel platforms remain functional for loads due to the platform weight and all attachment loads. Specific stress allowables are identified in FSAR Table 12.2.16. These commitments are reflected in the design criteria for drywell steel platforms.

The drywell platform design will be brought up to the FSAR commitment post-restart incorporating final pipe support attachment loads consistent with the schedule for completion of the program to resolve IE Bulletin 79-14. Modifications required to meet design criteria will be implemented prior to restart following the next refueling outage.

To assure the structural adequacy of drywell platforms for future attachments, a long-term program has been established to monitor and evaluate new attachments.

#### Licensing Issue

The Interim Operability Criteria used to determine the structural adequacy of drywell platforms allows 1.6 times the capacity 'S' based on the AISC code, instead of the FSAR stress limits of 0.9Fy.

#### Justification

The use of the Operability Criteria on an interim basis is considered justified because of the following:

1. The interim operability criteria minimizes the modifications in highly congested radioactive areas now, while maintaining adequate industry accepted safety margins.
2. The long-term program provides for updating the designs for the latest loads, resulting from the 79-14 program, and meeting the FSAR requirements.
3. The operability criteria is based on NUREG 0800, Standard Review Plan, section 3.8.3, which has been accepted for use on other nuclear power plants. Also, the use of the AISC code allowable stresses with appropriate load factors has been accepted by NRC for the Torus Long Term Integrity program as documented in section 4-3.4 of the BFN Plant Unique Analysis Report (PUAR) which was transmitted by letter dated January 3, 1984, and as supplemented by submittals dated September 11, 1984 and January 25, 1985. Approval of the BFN-PUAR is documented by letter from D. B. Vassallo to H. G. Parris, dated May 6, 1985.

The drywell steel qualification program is comprehensive and assures the structural adequacy of the drywell steel platforms.