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August 6, 1976

Regulatory Docket File

Mr. Dennis L. Ziemann, Chief
Operating Reactors - Branch 2
Division of Operating Reactors
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Mark I Containment Plant Unique Analysis
Dresden Station Units 2 and 3
Docket Nos. 50-237 and 50-249

Dear Mr. Ziemann:

Commonwealth Edison has joined with other utilities having Mark I pressure suppression type containments in a re-evaluation of their containment systems. On October 6, 1975, General Electric submitted the Mark I Containment Evaluation Short Term Program Report, NEDC-20989, for the Mark I Owners Group. Subsequent addendums have also been transmitted on December 2, 1975 and July 2, 1976. As a result of NRC Staff review of the initial report, questions were transmitted to Commonwealth Edison on January 8, 1976 requesting additional information and clarification of the material presented. On the behalf of the Mark I Owners, General Electric transmitted responses to the questions in Enclosures 1, 2 and 3 of the NRC letter to Mr. V. Stello via Mr. E. A. Hughes' letters of April 30, May 24, and June 18, 1976.

The final task of the Mark I Short Term Program Evaluation was the plant-unique structural analysis of the torus support system. As the result of the NRC review meeting held on June 2, 1976, the final description of the program for plant-unique analyses, Nutech Report MK1-02-012 Rev. 2, was submitted to the NRC by letter of July 2, 1976. This report defined the methods of analysis and the loadings which have been used in the plant-unique analysis of Dresden Units 2 and 3.

The Nutech report COM-01-040, titled "Dresden Nuclear Generating Plant Units 2 & 3 Short Term Program Plant Unique Torus Support And Attached Piping Analysis", documents the results of the plant-unique structural analysis and is enclosed for your information as committed to in our letter of May 4, 1976. It has been determined that all torus structural support system components for Units 2 and 3 meet ASME Code allowables,

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with the exception of the pin in the connection at the base of the outside torus support column. The load in the pin in the outside column connection is approximately 25% over Code allowables; however, the strength ratio (SR) for this component is within the acceptance criteria defined in Nutech report MK1-02-012, i.e. an SR < 0.5. In addition, the external piping attached to the Unit 2 and Unit 3 torii have been surveyed, and the analysis completed to date indicates that the piping attached to the Unit 2 torus meet ASME Code allowables. The Unit 3 piping analysis has not as yet been completed, and will, therefore, be submitted in an addendum to this report.

Because all components are within the criteria outlined in the Nutech report MK1-02-012, Rev. 2, it is not necessary to define a plant-unique action plan for the modification of the Dresden Unit 2 and 3 Mark I Containments. However, it should be pointed out that the plant-unique analysis for Dresden Units 2 and 3 was performed assuming the completion of the modification to the inner row of torus support columns. Materials for this modification were purchased in February, 1976, and a purchase order for erection was awarded in May, 1976. Although preliminary schedules called for the completion of all work by August 1, 1976 construction difficulties resulted in schedule slips for the modification work. Our current schedule indicates completion of Dresden Unit 3 by August 20, 1976 and Unit 2 by September 7, 1976. We are confident that this schedule commitment can be met at this time. This modification is described in detail in Nutech Report COM-01-022, titled "Dresden Nuclear Generating Plant Units 2 and 3, Modifications to the Suppression Chamber Support Columns and Pin Connection", which is enclosed for your information. It should be pointed out that this Modification Report contains strength ratio calculations which are superceded by the Nutech Plant-Unique Report COM-01-040 to be transmitted under separate cover.

It should also be pointed out that the Dresden plant unique analysis was performed considering the application of a torus-drywell differential pressure of 1.0 psid, i.e. $\Delta P = 1.0$. It is our intention to evaluate the possibility of reducing the differential pressure to the extent possible within the existing Short Term Program criteria. The results of this evaluation will be submitted as an amendment to this report.

The plant-unique analysis for Dresden Units 2 and 3 also responds to the following NRC plant specific questions transmitted to Commonwealth Edison on January 8, 1976, and for which General Electric has previously submitted partial responses:

Enclosure 1 - Questions 4 and 7
Enclosure 2 - Questions 19 and 20
Enclosure 3 - Questions 3 and 4

There remain only four outstanding plant specific questions to be addressed. Questions 5 and 30 in Enclosure 1 will be dealt with on a generic basis and will be submitted to NRC by the Mark I Owners Group. Question 8 in Enclosure 2 is not applicable to Dresden because there are no instrument air lines within the torus on Units 2 and 3. Question 7 in Enclosure 3, which requests the original design criteria for the section of MSRV line inside the torus will be addressed in the amendment to the plant-unique report which will be submitted to document the analysis for the Unit 3 external piping. Also to be included in the amendment to the plant unique report is a discussion of the effort that has been made to determine the extent to which construction tolerances result in torus support load maldistribution on Units 2 and 3 as was outlined in our letter of February 6, 1976 to Mr. B. C. Rusche.

In summary, Nutech report COM-01-040, which documents the results of the plant-unique structural analysis of the torus supports and external piping analysis for Dresden Units 2 and 3, indicates that all components are within the defined criteria limits as a result of the pressure suppression phenomena addressed in the Mark I Containment Short Term Program. For this reason it is not necessary to identify a plant unique action plan for the implementation of mandatory fixes. The Dresden modification report (Nutech Report COM-01-022) describes in detail the as-modified condition of the plant, on which the plant unique analysis is based. Moreover, the Dresden plant-unique analysis report justifies the continued operation of Units 2 and 3 through the completion of the Mark I Containment Long Term Program presented to the NRC at the meeting of July 7, 1976.

An amendment to this report will be transmitted by August 23, 1976, to complete the documentation of the analysis performed on the piping external to the Dresden Unit 3 torus. This amendment will also include a discussion of torus support load maldistribution, as well as, the design criteria for MSRV lines within the torus. In addition, we will submit an amendment to this report within one month which will define the extent to which the drywell-torus ΔP of 1.0 can be reduced without violating Short Term Program criteria.

One (1) signed original and 39 copies of the Dresden torus support modification report, Nutech report COM-01-022, is provided for your use. The plant unique analysis, Nutech report COM-01-040, is being transmitted under separate cover direct from Nutech.

Very truly yours,

G. A. Abrell
Nuclear Licensing Administration
Boiling Water Reactors

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