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C. Thomas

ACRS (16)

OCT 21 1976

Docket No. 50-346

Toledo Edison Company  
ATTN: Mr. Lowell E. Roe  
Vice President, Facilities  
Development

Edison Plaza  
300 Madison Avenue  
Toledo, Ohio 43652

Gentlemen:

bcc: J. R. Buchanan, NSIC  
T. B. Abernathy, TIC

REQUEST FOR ADDITIONAL INFORMATION  
(DAVIS BESSE, UNIT 1)

Our evaluation of the Davis Besse, Unit 1 (DB-1) Final Safety Analysis Report as revised through Revision No. 20 (July 30, 1976) requires additional information in order to complete our review. The request for additional information provided in Enclosure 1 to this letter has been discussed with you in a series of telephone conversations in August and September 1976 and a draft request for information (as provided in Enclosure 1 to this letter) was telecopied to you on September 30, 1976. Also, Mr. L. Engle, the Licensing Project Manager, discussed each item in Enclosure 1 with Mr. E. Kovak, General Superintendent, Power Engineering and Construction, at a site visit on October 6, 1976.

As you know, we are calculating differential pressures that exceed design values for the reactor cavity and steam generator compartments. Upon examination of plan and elevation drawings, we have determined that you have calculated incorrectly certain vent areas. In our series of discussions with you regarding these matters you have agreed to submit a revised reactor cavity analysis using the correct vent area data and also provide appropriate DB-1 inertial term data (L/A).

We feel certain that peak calculated differential pressures for the reactor cavity will exceed design conditions unless the basis for assuming a 14.14 ft<sup>2</sup> longitudinal split in the hot leg is re-examined. Our discussions with you indicated your plans to submit additional information regarding postulated pipe break configurations and sizes for the reactor cavity analysis. Also, you have indicated your intentions to adopt a similar approach for the steam generator compartment analysis, should that become necessary.

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OFFICE →						
SURNAME →						
DATE →						

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OCT 21 1976

Your Revision 20 presented a revised thermal analysis of the shield building following a LOCA which increased the shield building depressurization time from 65 seconds to 12.33 minutes. Before we can conclude on the acceptability of your revised shield building analysis additional information is required. The request for information concerning these matters have been discussed with you previously.

We have reviewed your plans for operation of the containment purge system during normal plant operation. As first provided to you in draft form on September 30, 1976, and in ensuing discussions, you have been advised that it is the staff position that unless demonstration is provided that the radiological consequences of unlimited purging would be within 10 CFR Part 100 values following a postulated LOCA, that the purge system operation for Davis Besse, Unit 1 be limited to less than 90 hours per year (w 1% of the time per year). Therefore, we require you provide the analysis as delineated in BTP CSD 6-4, "Containment Purging During Normal Plant Operation," or agree to limit purging operating to less than 90 hours per year (Modes 1, 2, 3 and 4). If you so decide to adopt the 90 hours per year for purge system operation, we will include this limitation in the plant technical specifications.

The request for information provided in Enclosure 1 regarding Containment Leak Testing Technical Specifications have been discussed with you previously.

Since these matters have been identified to you over a period of time, we request that you provide the information as identified in Enclosure 1 no later than November 5, 1976. Please advise us within 3 days after receipt of this letter of your plans to meet the above date or provide us with a different schedule in order that we may adjust our scheduling accordingly.

Please call us if you have any questions concerning these matters.

Sincerely,

Original Signed by  
John F. Stolz

John F. Stolz, Chief  
Light Water Reactors Branch No. 1  
Division of Project Management

Enclosures:

1. Request for Additional Information
2. Branch Technical Position CSB 6-4

cc: See page 3

POOR ORIGINAL

OFFICE →	LWR 1	LWR 1	LWR 1			
SURNAME →	L. Longley	C. Thomas	J. Stolz			
DATE →	10/21/76	10/21/76	10/4/76			

Toledo Edison Company

- 3 -

cc: Mr. Donald H. Hauser, Esq.  
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300 Madison Avenue  
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POOR ORIGINAL

OFFICE →						
SURNAME →						
DATE →						

ENCLOSURE 1

DAVIS BESSE NUCLEAR POWER STATION, UNIT 1  
CONTAINMENT SYSTEMS BRANCH  
REQUEST FOR ADDITIONAL INFORMATION

1. In the revised shield building analysis, the emergency ventilation system fans are assumed to start in 16 seconds following a postulated loss of coolant accident. Discuss how the actuation time was established and justify that it is conservative. Consider loss of off-site power, startup and sequencing of diesels, the time delay for setpoints to be reached, and mode of fan actuation (manual or automatic). If the fan actuation time of 16 seconds is shown to be non-conservative, provide a reanalysis of the shield building pressure transient following a LOCA.
  
2. During a shield building pressure transient following a loss of coolant accident, thermal expansion of the steel containment vessel results in a reduction of the annulus volume and an increase in the heat transfer surface area between the containment and the shield building. Both of these effects tend to increase the pressure on the shield building. Provide justification for the assumption made in the revised shield building analysis (see Page 6-36b of the FSAR) that both of these effects are compensating and that their combined effect is negligible.
  
3. Identify the systems or portions of systems which will be vented and drained during a Type A test as required by Appendix J to 10 CFR 50, and include this information in the proposed Technical Specifications. Systems that will not be vented or drained should be identified and the reasons for not doing so should be provided.

4. The proposed Technical Specifications specify an overall air lock leakage rate limitation of 0.05 La at Pa (38 psig). Since the air lock is included as a potential bypass leak path, this limit conflicts with the maximum allowable bypass leakage rate of 0.015 La. Provide an acceptance criterion for the overall air lock leakage rate that does not conflict with the maximum allowable bypass leakage rate.

In addition, the proposed Technical Specifications specify that periodic leak testing of the air lock door seals should demonstrate no detectable seal leakage when pressurized to Pa without the use of "strongbacks," and that leakage has been detected between the door seals when pressurized at a reduced pressure. Therefore, propose a method of leak testing the volume between the door seals at a reduced pressure and justify the test pressure. Provide the equations that will be used to extrapolate the leakage rate to Pa, and justify that it is a conservative method. In addition, specify and justify the maximum allowable, extrapolated leakage rate at Pa.

5. The proposed Technical Specifications require some testing of the emergency ventilation system. However, it is not clear that the testing will verify the acceptability of the system performance. Identify the parameters to be monitored and specify their limiting values, for the purpose of justifying the calculated 740-second depressurization time for the shield building. Propose a technical specification which identifies the criteria for the acceptable performance of the emergency ventilation system.

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