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Mr. Richard P. Crouse
Vice President, Nuclear
Toledo Edison Company
Edison Plaza - Stop 712
300 Madison Avenue
Toledo, Ohio 43652

Dear Mr. Crouse:

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1 - INADEQUATE CORE COOLING (ICC), NUREG-0737 ITEM II.F.2

This is in response to the letter dated January 17, 1983 from your Counsel, Mr. Jay E. Silberg, regarding our Order on this subject.

The referenced letter indicated that you plan to install a reactor coolant inventory tracking system which includes a wide range hot leg level monitor to provide inventory tracking when reactor coolant pumps are off and a reactor coolant pump monitor to provide inventory tracking when reactor coolant pumps are on. However, you also indicated that you are sponsoring further analysis to address our requirement for a reactor vessel head monitor, and that the results of this analysis will be submitted for NRC review by April 15, 1983.

In response to a request by the NRC staff, representatives of your organization, Sacramento Municipal Utility District and Arkansas Power and Light Company met with NRC in Bethesda on January 27, 1983. The purpose of that meeting was to discuss the basis for your request for an extension of time to complete your response to our Order. Based on your presentation, we understand that an analysis is being performed to develop information relative to your planned April 15, 1983 submittal as follows:

(1) Evaluation of how the proposed instrumentation system responds in an approach to ICC.

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(2) Evaluation of operator actions required based on reactor vessel head monitoring information and integration of this input into proposed Emergency Procedure Guidelines for response to ICC.

(3) A detailed evaluation of costs, in dollars and plant personnel exposure, for inclusion of reactor vessel head instrumentation.

(4) Evaluation of alternate concepts to minimize cost/ALARA concerns associated with head level instrumentation.

In the meeting, an alternate design concept consisting of a vent line from the reactor vessel head to the top of the hot leg was discussed. In principle, this would obviate the need for tracking of coolant inventory in the reactor vessel head since steam and non-condensables would be vented continuously to the hot leg.

We have considered your request for an extension to complete your analysis as described in the January 17, 1983 letter from your Counsel and as clarified in the above cited January 27, 1983 meeting. Our conclusions regarding your proposed submittal are as follows:

(1) The portion of your proposed April 15, 1983 submittal dealing with your evaluation of instrument response in an approach to ICC and with related operator actions is not required within 90 days by the Order. Within the 90 days you need only describe the content and schedule of your proposed submittal as part of your detailed schedule for engineering which is to be provided with your conceptual design description.

(2) Your evaluation of costs for inclusion of reactor vessel head instrumentation is not required per se. However, cost/benefit information can be used to justify deviations from NUREG-0737 design requirements if it can be shown that the staff cost/benefit study (SECY Paper 82-407) relative to the particular design requirement is inappropriate for your plant.

Submittal of cost/benefit information used to justify design deviations can be deferred if it is identified and a submission schedule is included as part of the detailed schedule for engineering to be provided with your initial response to the Order.

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(3) Your request for an extension until April 15, 1983 to evaluate your possible alternative approach to reactor vessel head monitoring, which will complete your conceptual design review study, is approved.

In summary, we understand that you plan to respond to the subject Order in two submittals, essentially as described in Enclosure 1. Such a response will be acceptable.

Sincerely,

"ORIGINAL SIGNED BY:"
Darrell G. Eisenhut, Director
Division of Licensing, ONRR

Enclosure:
Expected Response to
Order for Modification
of License

cc w/enclosure:
See next page

*See previous NRC 318 for concurrence.

OELD *
MRothschild 2/8/83

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(3) The staff believes that your possible alternative approach to reactor vessel head monitoring has potential merit and may meet the intent of the Order. Your request for an extension until April 15, 1983 for this submittal, which will complete your conceptual design review study, is approved.

In summary, we understand that you plan to respond to the subject Order in two submittals, essentially as described in Enclosure 1. Such a response will be acceptable.

Sincerely,

Darrell G. Eisenhut, Director
Division of Licensing, ONRR

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See next page

EDoyle
No legal objection
M. Rothschild
2/8/83

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DATE	2/4/83	2/7/83	2/7/83	2/7/83	2/7/83	2/7/83	2/7/83

Toledo Edison Company

cc w/enclosure(s):

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(3) Your request for an extension until April 15, 1983 to evaluate your possible alternative approach to reactor vessel head monitoring, which will complete your conceptual design review study, is approved.

In summary, we understand that you plan to respond to the subject Order in two submittals, essentially as described in Enclosure 1. Such a response will be acceptable.

Sincerely,

for Darrell G. Eisenhut, Director
Division of Licensing, ONRR

Enclosure:
Expected Response to Order for Modification of License

cc w/enclosure:
See next page

ENCLOSURE 1

EXPECTED RESPONSE TO ORDER FOR MODIFICATION OF LICENSE - INADEQUATE CORE COOLING INSTRUMENTATION SYSTEM FOR DAVIS-BESSE NUCLEAR POWER STATION

Within 90 days of the Order:

(1) A conceptual design description of a wide range hot leg level monitor to provide inventory tracking when reactor coolant pumps are off.

(2) A conceptual design description of a reactor coolant pump monitor to provide inventory tracking when reactor coolant pumps are on.

(3) A detailed schedule for engineering, procurement and installation of the inventory tracking system.

(4) A report on the status of conformance of all components of the inadequate core cooling (ICC) instrumentation system with NUREG-0737, Item II.F.2, including a description and schedule for submittal of all documentation identified in NUREG-0737 (and in the checklist provided as Appendix A to the Order) which are required for review and approval of the proposed ICC instrumentation system.

By April 15, 1983:

(1) Completion of the conceptual design description of the inventory tracking system to address the requirement for coolant inventory monitoring in the vessel upper head when reactor coolant pumps are off.

(2) Results of an analysis to support evaluation of how the proposed instrumentation system responds in an approach to ICC.

(3) Detailed cost/benefit evaluations if needed to justify any deviations from NUREG-073/ Item II.F.2 design requirements (identified in the 90 day response).

(4) Evaluation of any alternate design concepts for monitoring coolant inventory in the reactor vessel head. If a continuous venting system is proposed, the evaluation should include, as a minimum, calculations which show that continuous venting does not produce any adverse effects on any events analyzed for Chapter 15 of the FSAR, in particular those in which any region of the primary system is calculated to saturate.

(5) A summary of operator actions required in an approach to ICC.