



Docket No. 50-346

License No. NPF-3

Serial No. 1271

April 18, 1986

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John F. Stolz, Director  
PWR Project Directorate #6  
Division of PWR Licensing-A  
United States Nuclear Regulatory Commission  
Washington, D. C. 20555

Dear Mr. Stolz:

From March 31, 1986 through April 2, 1986, a group of NRC staff personnel and supporting consultants led by Mr. Leo Beltracchi met with members of the Toledo Edison staff to discuss the Detailed Control Room Design Review (DCRDR) Program at the Davis-Besse Station.

During that meeting, and as summarized at a briefing at the end of the visit, Toledo Edison committed to provide detailed documentation on the status and proposed plans for resolution of the 29 Safety Significant Human Engineering Discrepancy (HED) Reports originally identified in the DCRDR Summary Report. Included in this commitment was documentation of a formal re-evaluation of the 29 HEDs with human factors input.

The attached report includes the detailed documentation on the 29 HEDs and their evaluation. The report also includes a description of the process used to perform the evaluation and documentation and a brief description of the procedures to be developed for the inclusion of human factors considerations into the normal facility change process.

Mr. J. R. Lingenfelter of our staff will be happy to assist you in your review of this documentation in any way possible.

Very truly yours,

A handwritten signature in cursive script, appearing to read 'Joe Williams, Jr.'.  
W:JRL:plf

cc: DB-1 NRC Resident Inspector

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ATTACHMENT 1

DOCKET NO. 50-346

LICENSE NO. NPF-3

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APRIL 18, 1986

TOLEDO EDISON COMPANY

DAVIS-BESSE NUCLEAR POWER STATION

DETAILED CONTROL ROOM DESIGN REVIEW

SAFETY SIGNIFICATION HUMAN ENGINEERING DISCREPANCY REPORTS

A detailed re-evaluation of the 29 safety significant HEDs identified in the Detailed Control Room Design Review (DCRDR) Summary Report has been completed. The evaluation included the development of detailed documentation for each HED and the formal review and approval of that documentation.

The re-evaluation process was performed using the guidelines contained in Enclosure 1, "Human Engineering Discrepancy Review and Closeout Process for the Davis-Besse Detailed Control Room Design Review Program". Where necessary, the scope of the HED has been clarified by preparing lists of specific components effected by the HED. This activity was performed by experienced operators with guidance from a human factors specialist on the interpretation of the individual HED problems. The detailed evaluation of each HED with respect to individual components has resulted in a better understanding of the significance of the HED with respect to those components. Correspondingly, the Assessment category of several HEDs and components within HEDs has been modified.

The detailed HED documentation has been reviewed by the HED Review Team specified in the guidelines of Enclosure 1, which includes individuals with specific expertise in human factors, Station Operations, and Plant Engineering.

The Independent Process Review Committee established for the System Review and Test Program and described in the Davis-Besse Course of Action, also reviewed the technical issues presented in the HEDs and schedule for implementation of each HED. The minutes of the formal review meeting as approved by the HED Review Team Chairman, Mr. Louis Simon, are included as Enclosure 2.

Enclosure 3 is a compilation of the 29 HED forms as approved by the HED Review Team. The HEDs reference numerous Facility Change Requests (FCR), which are the documents used by Toledo Edison to initiate, implement, and close a plant hardware modification. Some of the FCRs referenced were developed specifically to correct HED related problems identified in the DCRDR. Many of the FCRs, however, were initiated by other corrective action programs. Other FCRs unrelated to any HED have also been implemented during the current outage. Early in the outage, Toledo Edison initiated a review of all FCRs to determine their impact on plant operations from a human factors standpoint. This review was conducted and documented informally in parallel with the development of formal procedures for the incorporation of human factors involvement in the FCR process. These procedures are being developed in conjunction with the effort to revise and restructure all Nuclear Mission Procedures.

Prior to restart the procedures controlling the FCR process will identify the responsibilities and processes for inclusion of good human factors engineering in plant design modifications. The process will include a review of FCRs to determine the extent to which further human factors involvement is required. Where appropriate and to the extent possible, human factors specialists will be directly involved in the modification design development. For those FCRs resulting in a physical change to the hardware affecting the man/machine interface, a post-implementation review will be performed to assure that the design was implemented as established and that no additional unforeseen problems were created. Documentation of

the human factors involvement in plant modifications will be included as a part of the FCR process documentation. The review of FCRs implemented during this outage will continue on an informal basis until the procedures are complete. Prior to restart, those FCRs requiring human factors review as delineated by the new procedures will receive a post-implementation review. Any new problems which cannot be rectified prior to restart will be documented as a new HED and included as a part of the DCRDR program.

The scope and approach of the Toledo Edison Detailed Control Room Design Review program has undergone a significant change since the April, 1985 NRC audit. This change has been influenced by the June 9, 1985 event and by the organizational and administrative changes that have occurred in parallel to the event recovery. As indicated in the October 9, 1985 presentation to the NRC staff and further discussed in the Davis-Besse Course of Action, Toledo Edison has committed to complete the activities necessary to close the formal DCRDR program by the 6th refueling outage. These activities will be performed with the direct support of human factors specialists in accordance with a structured proceduralized program. Toledo Edison has also expressed a commitment to long-term human factors involvement in appropriate areas of station design, modification, and operation.

The development of programs and procedures to incorporate human factors considerations into the operation of the Davis-Besse Station have been impacted by the recovery efforts of the June 9, 1985 event. The most significant impact has been on the personnel resources required to support the human factors related programs. Individuals experienced in Station Operations and Instrumentation and Control have significant restart related responsibilities. Nevertheless, resources have been applied to the human factors related programs. The human factors reviews of FCRs, discussed above, has been ongoing, and procedural modifications to upgrade the FCR process are under development. The scope of the Special Studies identified in the DCRDR Summary Report are nearly complete, and procedures for their implementation are being developed. Computer-based documentation of HEDs has been established to provide better documentation and control and assist in the completion of remaining DCRDR activities and final HED closeout.

A schedule for the completion of the Special Studies and additional activities necessary to closeout the Toledo Edison DCRDR has been developed and submitted as a part of the Davis-Besse Course of Action (see Appendix IV.C.5.1). The schedule indicates that most activities would follow plant restart. With the extended outage resulting from Reactor Coolant Pump problems, an improvement in the schedule of the DCRDR activities may be possible as resources not required to support Reactor Coolant Pump work can be made available. Some activities previously designated as post-restart will be initiated earlier although no specific schedule improvements can be identified at this time. Some activities, including responses to NRC Requests for Additional Information as identified in the draft Safety Evaluation Report, should be initiated prior to restart. Conceptual Design activities for improvements to the SFRCS, for example, are already in progress to ensure completion of this effort by the next refueling outage.