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Subject: Schedule for Completion of the Davis-Besse Nuclear Power  
Station, Unit 1, Individual Plant Examination (IPE) for  
Severe Accident Vulnerabilities

Gentlemen:

On November 23, 1988, the NRC issued Generic Letter 88-20 requesting that each utility perform an Individual Plant Examination (IPE) to identify any severe accident vulnerabilities. By letter dated October 27, 1989 (Serial Number 1723), Toledo Edison responded by stating that a Level 1 Probabilistic Risk Assessment (PRA) and a containment performance analysis would be performed for the Davis-Besse Nuclear Power Station (DBNPS). Toledo Edison further proposed completing this analysis by the NRC requested date of September 1, 1992. Since that time, Toledo Edison personnel have been actively performing the IPE. However, due to several unforeseeable factors, Toledo Edison finds it necessary to delay the submittal of the IPE from the original September 1, 1992 date. Toledo Edison now anticipates submittal of the IPE to the NRC by February 26, 1993. As explained below, this six month delay results from additional time being required to evaluate an unexpectedly large number of cutsets for some complex event sequences, and the unavailability until May, 1992, of an upgraded version of the EPRI Modular Accident Analysis Program (MAAP) better suited for application to Babcock & Wilcox (B&W) designed plants.

While the quantification of the core damage sequences is essentially complete, this process took much longer than expected due to the evolution of an atypical set of cutsets for some sequences. In one sequence, more than 14,000 cutsets were generated which exceeded the nominal truncation limits and required further evaluation. The number of cutsets for this sequence is on the order of a magnitude larger than would be typically found for the most complex sequences in other PRAs. Although no single component or system seems to contribute disproportionately to this sequence, the large number of combinations of cutsets has taken considerably longer to evaluate.

Another key factor was the extended delay in the release of Revision 18.0 of the MAAP Code. Revision 18.0. During the development by Toledo Edison personnel of a totally plant-specific input deck (including detailed models of the Reactor Coolant System, Containment and Emergency Core Cooling Systems), a deficiency in the capabilities of MAAP to accurately analyze events where reactor vessel internal vent valves were important (particularly small break loss of coolant accident sequences) was identified by EPRI. Reactor vessel internal vent valves are unique to B&W plants. In December, 1990, Toledo Edison requested EPRI to upgrade MAAP thermal-hydraulic models for B&W plants. Toledo Edison provided significant engineering support to EPRI for the MAAP Revision 18.0 upgrade. Revision 18.0 to MAAP was finally released in May, 1992, at least six months after its release was originally anticipated. This delayed the analysis for some sequences where reactor vessel internal vent valves are important. Further, with Revision 18.0 now serving as the base version for the IPE, other previously analyzed sequences have had to be reanalyzed.

In addition, to further ensure a technically complete IPE submittal to the NRC, Toledo Edison management has decided to obtain an independent external review of the IPE process and results prior to submittal to the NRC. The additional time required for an independent external review was not considered in the original schedule.

It should be noted that, to date, with the majority of the sequences quantified, no inherent vulnerabilities have been identified. Furthermore, several sequences have been evaluated for containment response and no unusual containment failure mode or unacceptable containment response has been identified.

Toledo Edison believes that this six month delay will ensure that the DBNPS IPE submittal will better fulfill the Commission's objectives for the IPE, and will fully reflect the significant level of resources devoted to PRA/IPE efforts at the DBNPS and the overall quality of this largely in-house effort.

If you have any questions regarding this letter, please call Mr. R. W. Schrauder, Manager - Nuclear Licensing at (419) 249-2366.

Very truly yours,



PWS/dac

cc: A. B. Davis, Regional Administrator, NRC Region III  
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