SAFETY EVALUATION REPORT SUPPLEMENT

ENRICO FERMI ATOMIC POWER PLANT, UNIT 2

Since our SER submittal for the Fermi-2 QA program which covered material through FSAR amendment 35, Detroit Edison has modified the FSAR through amendment 59. Also Cygna's IDVP on Fermi-2 has been entered into the docket. The staff has conducted a review of this material and prepared the following information which supplements chapter 17 of the SER.

1. The 17.1 "General" section should be revised as follows: "Amendment 35" referenced in the first sentence should now be "Amendment 59".

2. The 17.2 "Organization" section should be revised as follows: Replace the second sentence of the first paragraph with the following sentence "The President and Chief Operating Officer has the ultimate management authority for establishing quality assurance policy and has delegated the responsibility for implementing the operational QA program to the Vice President - Nuclear Operations." Change the title of "Construction and Maintenance QA" in the second sentence of the second paragraph to "Maintenance and Modification QA."

3. The 17.4 "Conclusion" section should be revised as follows: "Amendment 35" referenced in the first sentence of the second paragraph should now be "Amendment 59". Item (3) should be "The list of items (Q-List) covered by the QA program controls meets the staff's requirements except for the confirmatory item described in 17.6 below."

4. The following results of our evaluation of the Cygna's IDVP should be incorporated in the SSER.

17.5 Independent Design Verification Program

17.5.1 Background

At the request of Detroit Edison Company, Cygna developed and implemented an Independent Design Verification Program (IDVP) to gain additional confidence in the acceptability of the Fermi-2 design. The IDVP plan was submitted to the staff for review and it was accepted in December 1982.

17.5.2 Cygna Assessment Process

The Cygna IDVP included the following two tasks:

Task 1: Review of the design control process to:

- determine whether Detroit Edison's design control activities, as defined in its design control program, satisfy the licensing commitments of Fermi-2

- determine whether the design control activities of selected contractors utilized by Detroit Edison satisfy contract commitments and SAR requirements

- evaluate Detroit Edison's and selected contractor's implementation of the design control commitments as delineated in their respective program documentation

Task 2: A vertical technical design review consisting of:

- a multi-disciplined technical review of three elements of the Residual Heat Removal (RHR) System. The technical review included mechanical, electrical, and civil design and interface activities of Detroit Edison and its design contractors

- a plant walkdown to verify that the final design of these elements are reflected in the as-built configuration

The following three elements of the RHR System were included in the independent verification program:

- the primary shutdown path suction line components from the recirculation system interface to and including the outboard isolation valve

- the primary components in the fluid path of the RHR Service Water System to an RHR Cooling Tower, and

- one RHR Cooling Tower

Cygna evaluated Detroit Edison, Sargent and Lundy, Stone & Webster and General Electric design activities. The reviews involved an assessment of the accuracy and completeness of the information at various stages of the design process including the flow of information from the preliminary design stage to the as-built condition. The process also included collecting design documents and control procedures; developing review criteria, procedures, and checklists; conducting program and design reviews against SAR commitments; escalating the review process to project review teams and senior review teams; conducting walkdown inspections of the as-built configuration; identifying observations and evaluating these for potential findings and impact to safety; and documenting the results in a final report.

Whenever, during the course of the review, Cygna determined that an item was inadequately addressed, the item was noted as an observation. Each observation that had a potential impact on safety was identified as a potential finding. During its review, Cygna noted 108 observations. Of the 108 observations, 98 had no potential impact on safety. The remaining 10 were identified as potential findings which were eventually resolved and also determined not to impact safety.

After completion of its evaluation, Cygna submitted to NRC their final report, No. 83021-1, which included an executive summary, a description of the program, the results of the assessment, a description of each observation and potential finding, and a description of how each was resolved.

Cygna's overall conclusion was that the design control at the Fermi-2 facility was adequate and appeared to have been successfully implemented resulting in an acceptable design and resultant as-built conditions.

17.5.3 Assessment by the QA Branch

The QA Branch performed a review of the quality assurance portion of the Cygna final report, including the observations and potential findings to determine their significance and assess the resolution of each. The NRC staff met with representatives of Cygna and the applicant on June 15, 1983 and May 11, 1984, to discuss the results of Cygna evaluation. The QA Branch concluded that additional background information was needed in order to complete its review. Cygna provided a supplement to the report (Section 7), clarifying and expanding the basis for resolving the observations and potential findings. This additional effort by Cygna included an evaluation of each observation to determine if it dealt with a programmatic issue or had a potential for impacting other plant designs. Accordingly, over one-third of the valid observations required an expanded review to determine the impact on the Fermi-2 design. The staff concluded from the additional information submitted by Cygna that the report was still deficient in that it did not provide an adequate description of root causes of the valid observations and potential findings. As a result of this concern and other technical concerns, Cygna performed additional studies and responded by providing the requested additional information in another supplement to the IDVP (Section 8). In Section 8, Cygna identified the root causes of each observation and potential finding and the generic impact to safety and to the acceptability of the overall design. The QA Branch review of this material resulted in requesting Cygna to provide a clarification of the conclusion of certain observations and potential findings identified as having generic implications. Also, Cygna was asked to provide a correction to the root cause and classification list. These two items are included as confirmatory items in 17.6 below.

Based on our review of this final report and the agreed-to additional information to be provided by Cygna, we find that the IDVP was structured in a disciplined, controlled manner using procedures, checklists, and multi-tier reviews. Cygna's research and investigations into the observations and potential findings now appear to be thorough, and the conclusions reached appear to be based on sound rationale. Cygna's overall conclusion is that sufficient assurance exists that the design activities on Fermi-2 facility were adequate and properly performed. Based on review of Cygna's IDVP, we conclude that the IDVP provides additional confidence in the acceptability of the Fermi-2 design. [Note to PM: Since QAB review is based only on an evaluation of the quality assurance aspects, additional input to the overall NRC conclusion from technical reviewers is necessary before the generalized statement provided above can be considered valid. Per your request, we have provided the generalized language but you are cautioned that the QA review, alone, cannot support the generalized conclusion.]

17.6 Confirmatory Items.

Detroit Edison has agreed to add the lube oil system and the combustion air intake system and make other minor clarifications to the list of items subject to the operational QA program. Cygna has agreed to provide a clarification of its overall conclusions relative to the acceptability of those observations identified as potential findings. Also Cygna will update the root cause classification list by categorizing the root causes of the design control observations.