NOV 2 - 1972

Docket Nos. 50-289 50-320

> 50-353 50-352

Honorable Richard S. Schweiker United States Senata

Dear Sengior Schweiker:

Your letter of September 26, 1972, to Dr. Schlesinger concerning the qualifications of Mr. Carl Houston as a witness in the public hearing on the Limerick Nuclear Power Plant and concerning the status and construction problems of the Three Mile Island Nuclear Generating Plant has been referred to me for response.

The subject of quality assurance, including that of assurance of proper welding practices, is of importance in the Commission's evaluation of the adequacy of designs of nuclear reactor facilities proposed for construction. In this respect, information provided by Mr. Houston in connection with the Surry facilities of the Virginia Electric and Power Company was carefully investigated by the regulatory staff before authorizing operation of the Surry Unit 1 facility. In addition, Mr. Houston testified before the Atomic Safety and Licensing Board which the Commission established to consider the issuance of the operating license for that facility.

In connection with the Limerick proceeding, Mr. Houston was offered as a witness on behalf of certain intervenors on July 14, 1972. Such a proceeding is an adjudicatory proceeding, held in accordance with the provisions of the Atomic Energy Act of 1954, as amended, and the requirements of the Administrative Procedure Act. There were objections by the applicant in the proceeding to the offer of Mr. Houston's testimony on the grounds that intervenors had not properly raised such quality assurance issues, and on the grounds that much of Mr. Houston's prepared testimony was beyond the scope of his stated qualifications in the field of welding. However, the Atomic Safety and Licensing Board presiding in the Limerick proceeding did not rule on these objections, indicating that it desired to review the record to determine whether applicant's position was in fact well-founded.

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At that time, the Board denied the offer of Mr. Houston's testimony on the basis of the form of its preparation, explaining that it found difficulty in understanding it and indicating to the attorneys that they should assist witnesses in preparing to testify by helping the witness to separate irrelevant material from proffered testimony. The Board stated that it would reconsider that matter if a new statement on behalf of Mr. Houston were offered.

At a reconvened session of the hearing on October 16, 1972, Mr. Houston was again offered as a witness for the intervenors, having prepared a revised statement. The Board again rejected the proffered testimony, without ruling on Mr. Houston's qualifications, stating that "portions of the proffered statement are so intertwined with those phases which the Board believes are not pertinent to this proceeding, that it would take endless detail to take each of the sentences and separate them from experiences which the witness believes are pertinent." The Board indicated that it felt that the main thrust of the testimony was a simple statement or paraphrase of the provisions of the ASME Code. Since the Code requirements have been incorporated in the application by reference and are a part of the Commission's requirements in 10 CFR Part 50, Section 50.55a, the proposed testimony "does not seem to present a relevant or material matter for consideration." Enclosed for your information is a copy of the proffered testimony. You may note that it in no way reveals any substantive deficiency in the application for the Limerick facilities.

With reference to the Three Mile Island Nuclear Generating Plant, Units 1 and 2 the following updated summary of the status for this plant is provided. The construction of Unit 1 is nearing completion. We expect to complete our Safety Evaluation on the application for an operating license for this unit in early 1973. A notice of consideration of issuance of an operating license was published in the Federal Register on July 7, 1972. Petitions requesting a public hearing and for leave to intervene are presently being considered by the Commission. The construction of Unit 2 is in progress and we expect the applicant to file an application for an operating license early next year.

The reported construction problems for the Three Mile Island Nuclear Generating Plant listed in your letter are at this time applicable to the construction of Unit 1 only and are addressed below.

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Honeycombing in Primary Containment

Honeycombing of poured concrete and in particular voids in in the concrete around reinforcing bars in the ring girder area, located at the junction of the cylindrical portion with the dome of the primary containment, were detected by the applicant as early as April 1971, and reported to the Commission. We have reviewed the applicant's repair procedure and are continuing our analysis of this construction defect. Our final approval of the repaired ring girder will be based on the requirement that the entire primary containment, as built and repaired, can withstand safely all the loads specified in the original design.

Emergency Core Cooling System (ECCS)

The ECCS is a key engineered safety feature on all current light water moderated power reactors. The Commission instituted a public rule making hearing on the matter of setting acceptance criteria for performance of the ECCS in January 1972, and this hearing is still in progress. Any licenses issued for Three Mile Island Units 1 and 2 will be subject to whatever ECCS acceptance criteria are finally promulgated as a result of this rule making hearing.

Faulty Fuel Rods 3.

At the present time there is no fuel at the site of the Three Mile Island plant. The fuel proposed by the appliesnt for Units 1 and 2 is slightly enriched uranium dioxide pellets contained in zircaloy cladding. The fuel rods will · be prepressurized with helium gas. In recent months a densification of uranium dioxide pellets in operating reactors has been observed to cause a decrease in pellet dimension. As a result the Commission is engaged in a detailed review of the fuel densification phenomenon and its implientions with regard to safety. Gomputational models though Dele will provide the basis for operational and surveillance

The proximity of the Three Mile Island Nuclear Generating Plant Containing with respect to the Harrisburg International Airport led Plant Containing specific "Aircraft Impact Design Basis," that was established during our review of the applicant's application for a construction permit. In accordance with this design basis all structures of the plant necessary for a safe shurdown are designed

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The proximity of the Three Mile Island Nuclear Generating Plant with respect to the Harrisburg International Airport led to a specific "Aircraft Impact Design Basis," that was established during our review of the applicant's application for a construction permit. In accordance with this design basis all structures of the plant necessary for a safe shutdown are designed

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Honorable Richard S. Schweiker -4-

and constructed to withstand the impact of an aircraft weighing 200,000 pounds at a velocity of 200 knots. We have considered this losd in particular with regard to the construction fault and repair of the ring girder described above. In addition we required and the applicant provided a special fire detection and protection system in the air intake tunnel to the plant to suppress and extinguish a fire that could result from fuel spilled into the tunnel during the postulated aircraft impact.

All safety related issues including the "construction faults" referred to in your letter are being reviewed by the regulatory staff of the Commission and an operating license will be issued only if our Safety Evaluation concludes that the Three Mile Island Nuclear Generating Plant can be operated safely.

If you have any further questions please let me know.

Sincerely,

Original Signed By

Edward J. Bloch Deputy Director of Regulation

Enclosure: Testimony of Carl Willard Houston

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