



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

August 11, 1981

The Honorable Nunzio J. Palladino
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: REPORT ON SUSQUEHANNA STEAM ELECTRIC STATION UNITS 1 AND 2

Dear Dr. Palladino:

During its 256th meeting, August 6-8, 1981, the Advisory Committee on Reactor Safeguards completed its review of the application of the Pennsylvania Power and Light Company and Allegheny Electric Cooperative, Inc. (Applicant) for a license to operate the Susquehanna Steam Electric Station Units 1 and 2. The units will be operated by the Pennsylvania Power and Light Company. A Subcommittee meeting was held in Washington, D.C. on July 23, 1981 to consider this project. A tour of the facility was made on July 2, 1981. During its review, the Committee had the benefit of discussions with representatives of the Applicant and the NRC Staff. The Committee also had the benefit of the documents listed. The Committee commented on the construction permit application for this station in its report dated April 13, 1972.

The Susquehanna station is located in Luzerne County, Pennsylvania about 12 miles northwest of Hazleton and 15 miles southwest of Wilkes-Barre, the nearest cities having populations in excess of 25,000.

Each Susquehanna unit is equipped with a General Electric BWR-4 nuclear steam supply system with a rated power level of 3293 MWt and has a Mark II pressure suppression containment with a design pressure of 53 psig.

In connection with our review of the Susquehanna station, the NRC Staff discussed its generic resolution of the safety issues associated with the Mark II containment design and performance. This resolution is given in the Staff report NUREG-0808, "Mark II Containment Program Load Evaluation and Acceptance Criteria." This matter has received detailed review by the ACRS Subcommittee on Fluid Dynamics. We believe that the load definitions given in this report are conservative and acceptable. These load definitions are to be applied to BWR Mark II's on a case-by-case basis. We believe that the Susquehanna containment structures will meet these requirements.

The Applicant described the management organization and the technical personnel available for operation of the Susquehanna plant. Although this is the first nuclear power plant to be operated by this Applicant, both

management and plant staff are made up of personnel with considerable background and expertise in commercial nuclear power plant operation. We commend the Applicant's efforts to obtain knowledgeable and experienced personnel.

The Applicant described the program and the philosophy for training of personnel. Training has a high priority as it had even prior to the TMI-2 accident. For example, a training simulator was ordered by the Applicant considerably before the accident at TMI-2 and is currently in use. The training program includes consideration of ATWS. The Applicant's training program appears sound and thorough.

The NRC Staff proposes to require the installation of core thermocouples in the Susquehanna station as specified by Regulatory Guide 1.97, Revision 2, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident." The Applicant has not yet agreed to this requirement. We supported use of core thermocouples in BWRs in our letter of November 10, 1980 to the NRC Executive Director for Operations but called attention to the need for further study to determine the appropriate vertical location of such thermocouples. Since most of the information of interest from thermocouples may be obtainable from a small number of thermocouples placed in a more accessible location, we recommend that this requirement be reevaluated.

The NRC Staff proposes to require a second meteorological tower at the Susquehanna site for the purpose of collecting additional data for use during an emergency. This issue is still being discussed with the NRC Staff. Additionally, there are several other issues concerning emergency planning which are identified by the NRC Staff in its Safety Evaluation Report and Supplement No. 1 as Outstanding Issues. We believe that these issues should be resolved in a manner satisfactory to the NRC Staff. We wish to be kept informed.

Another Outstanding Issue involves IE Bulletin 79-27, "Loss of Non-Class-1-E Instrumentation and Control Power System Bus During Operation." The Applicant has stated that this IE Bulletin will be complied with prior to issuance of an operating license. We recommend that this issue be resolved in a manner satisfactory to the NRC Staff.

The Applicant is currently reviewing the issue of station blackout. Analytical work, development of operating procedures, and actual testing of equipment response to simulated blackout conditions are planned by the Applicant. We believe that the Applicant's proposed program is a satisfactory response to this issue.

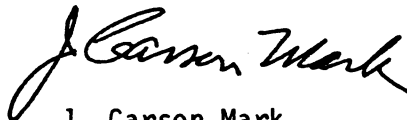
The NRC Staff has identified other Outstanding Issues in its Safety Evaluation Report dated April 1981 and in Supplement No. 1 to that report dated June 1981 such as turbine missiles, review of the alternate shutdown system,

August 11, 1981

and modification of depressurization logic. We believe the Outstanding Issues can be resolved, and recommend that this be done in a manner satisfactory to the NRC Staff before operation at full power.

The Committee believes that if due consideration is given to the recommendations above, and subject to satisfactory completion of construction, staffing, and preoperational testing, there is reasonable assurance that Susquehanna Steam Electric Station Units 1 and 2 can be operated at power levels up to 3293 MWt each without undue risk to the health and safety of the public.

Sincerely,



J. Carson Mark
Chairman

References:

1. Pennsylvania Power and Light Company, "Final Safety Analysis Report, Susquehanna Steam Electric Station, Units 1 and 2," with Amendments 1 through 35.
2. U.S. Nuclear Regulatory Commission, "Safety Evaluation Report Related to the Operation of Susquehanna Steam Electric Station, Units 1 and 2, Docket Nos. 50-387 and 50-388," USNRC Report NUREG-0776, dated April 1981 and Supplement No. 1, dated June 1981.
3. U.S. Nuclear Regulatory Commission IE Bulletin No. 79-27, "Loss of Non-Class-1-E Instrumentation and Control Power System Bus During Operation," dated November 30, 1979.