



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

December 18, 1984

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

Dear Dr. Palladino:

SUBJECT: ACRS REPORT ON THE HOPE CREEK GENERATING STATION

During its 296th meeting, December 13-15, 1984, the Advisory Committee on Reactor Safeguards reviewed the application of Public Service Electric and Gas Company (the Applicant), acting on behalf of itself and as agent for the Atlantic City Electric Company, for a license to operate the Hope Creek Generating Station. The ACRS commented on the construction permit application for the Hope Creek Generating Station in a report dated February 28, 1974. Members and consultants of the Hope Creek Subcommittee toured the facility on November 28, 1984 and met in Philadelphia, Pennsylvania on November 28 and 29, 1984 to discuss the application. During our review, we had the benefit of discussions with representatives and consultants of the Applicant, General Electric Company, Bechtel Power Corporation, and the NRC Staff. We also had the benefit of the documents referenced.

The Hope Creek Generating Station consists of one unit and is immediately adjacent to the Salem Nuclear Generating Station. Both Stations are located on Artificial Island in Salem County, New Jersey, which is approximately 18 miles south of Wilmington, Delaware. The nearest densely populated center of 25,000 or more persons is Newark, Delaware, which is approximately 18 miles northwest of the Stations. Hope Creek uses a boiling water reactor (BWR/4) with a rated power level of 3293 MWt. The nuclear reactor is similar to other previously reviewed BWRs, such as the Limerick Generating Station, the Susquehanna Steam Electric Station, and the Edwin I. Hatch Nuclear Plant. The Hope Creek primary containment is a Mark I steel vessel and the secondary containment is reinforced concrete. The pressure suppression chamber is a torus shaped steel vessel which encircles the drywell at a lower elevation.

During our meeting, the NRC Staff identified a number of open issues that must be resolved prior to the granting of an operating license. We believe that these can be resolved in a manner satisfactory to the NRC Staff. We wish to be kept informed.

We heard a report from a representative of the NRC's Region I Office that the construction quality and quality assurance effectiveness at Hope Creek were satisfactory. He indicated that there is good communication at the site and that management attention is evident.

The liquefaction potential of the soils associated with plant-related structures was evaluated by the Applicant. The Applicant indicates that soils surrounding safety-related structures are stable against liquefaction at the design basis earthquake of 0.2g. The NRC Staff agrees that none of these soils will liquefy at levels up to the design basis earthquake. We agree with the NRC Staff.

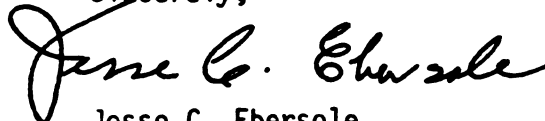
Because of the nonoptimum orientation of the turbine relative to vital components in this plant, we recommend that a structured test program for evaluating overspeed protection of the turbine be prepared and submitted to the NRC Staff for review and approval before full power operation. We wish to be kept informed.

Although the control room at the Hope Creek Generating Station has been reviewed with respect to human factors, we encourage the NRC Staff to give additional attention to its habitability requirements. This should include evaluations of the potential loss of both trains of the emergency ventilation system and the heat load and rate of temperature rise in the room under a range of HVAC conditions.

We believe that, subject to the resolution of open items identified by the NRC Staff and the items noted above, and subject to the satisfactory completion of construction, staffing, and preoperational testing, there is reasonable assurance that the Hope Creek Generating Station can be operated at power levels up to 3293 Mwt without undue risk to the health and safety of the public.

Additional comments by ACRS Member Jesse C. Ebersole are presented below.

Sincerely,



Jesse C. Ebersole
Chairman

Additional Comments by ACRS Member Jesse C. Ebersole

The Applicant has indicated that there will be an investigation of the current proposals by some BWR owners and by the General Electric Company to provide a simplified system to:

1. Provide an independent means to depressurize the primary coolant system.
2. Provide low pressure feedwater from a variety of sources using a small engine-driven pump or pumps.
3. Provide containment venting of steam after scrubbing through the suppression pool.

The minimum instrumentation for this system would be simple level indicators. The current GESSAR II design refers to this system as UPPS; however, the actual configuration of the system is still being considered.

The apparent overall simplicity and modest cost of this system and, if appropriately designed, the potential flexibility of the system to protect both core and containment cooling against a large number of accidents and system malfunctions would appear to justify careful consideration by both the Applicant and the NRC Staff as to its applicability to this plant.

References:

1. Public Service Electric and Gas Company, "Final Safety Analysis Report, Hope Creek Generating Station Unit 1," Volumes 1-20 and Amendments 1-8
2. U.S. Nuclear Regulatory Commission, "Safety Evaluation Report Related to the Operation of Hope Creek Generating Station," USNRC Report NUREG-1048, dated October 1984
3. Letter dated November 23, 1984 from Richard W. Starostecki, NRC Region I to Chester Siess, ACRS, enclosing NRC Region I Evaluation of Construction Quality at Hope Creek Generating Station as of November 1984, Presented to ACRS Subcommittee November 28-29, 1984
4. Letter dated December 12, 1984 from Bruce A. Preston, Public Service Electric & Gas Co., to C. P. Siess, ACRS, attaching responses to questions from the ACRS Subcommittee meeting of November 28-29, 1984