September 12, 1963

Honorable Glenn T. Seaborg
Chairman
U. S. Atomic Energy Commission
Washington, D. C.

Subject: REPORT ON SAN ONOFRE NUCLEAR GENERATING STATION, UNIT NO. 1

Dear Dr. Seaborg:

At its forty-eighth and forty-ninth meetings, July 11 to 13, and September 5 and 6, 1963, the Advisory Committee on Reactor Safeguards considered the application of Southern California Edison Company, San Diego Gas and Electric Company, Bechtel Corporation and Westinghouse Electric Corporation, for a construction permit for the San Onofre Nuclear Generating Station, Unit No. 1. The Committee had the benefit of site visits, discussions with representatives of the applicants, the AEC Regulatory Staff and consultants, and the documents listed.

The applicants propose construction of this unit by Bechtel and Westinghouse who, as co-contractors, will demonstrate full power operation prior to delivery on a turn-key basis to the owners, Southern California Edison Company and San Diego Gas and Electric Company. The reactor will be operated by Southern California Edison Company thereafter.

Unit No. 1 will be a 1210 Mw(t) pressurized light water reactor located on the Pacific coast near the northern boundary of Camp Pendleton, California. The reactor will be constructed on a 90-acre site, about two and one-half miles from the nearest boundary of San Clemente, a town of approximately 10,000 people. The site is within the Camp Pendleton Reservation and fronts on the Pacific Ocean. U. S. Highway 101 and the Atchison, Topeka and Santa Fe Railway pass through Camp Pendleton approximately one-eighth mile from the reactor.

The applicants propose to contain the reactor in a spherical steel structure designed for a maximum leakage rate of 0.1% per day at pressure and with critical penetrations designed to permit frequent leak testing. Additional engineered safeguards are required for this site. Such safeguards proposed include a multiple, borated-water injection system to prevent extensive core meltdown in the unlikely event of a major break in the primary water system, a containment spray system, and an internal air cleanup system.

A meteorological factor favorable to the proposed reactor location is the fact that air movement from the site toward San Clemente occurs at most only a few percent of the time.

Extensive study of seismology in the area had been undertaken and earthquake resistant designs using conservative factors are proposed and are to be documented by the applicants.

The ACRS has emphasized that the engineered safeguards must be designed and reviewed with great care for both adequacy and reliability. Special attention should be directed to the safety injection system which must perform as proposed to validate the applicants' assumption of low release of radioactivity to the containment under accident conditions. A halogen removal system may be required. Design details of the holdup system for reactor off-gases resulting from routine operation will also require careful attention. The ACRS has recommended study of the consequences of rainout following an accident; the results of this study should be taken into account in the final design of the engineered safeguards.

In view of the favorable prevailing wind direction, conservative seismic design approach, and with engineered safeguards of the type proposed, it is the Committee's opinion that a pressurized water reactor of the type and power level proposed can be designed, constructed and operated at the site without undue hazard to the health and safety of the public.

Sincerely yours,

/s/ D. B. Hall

D. B. Hall
Chairman

References attached.