DUKE POWER COMPANY

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Re: In the Matter of Duke Power Company
(Perkins Nuclear Station, Units 1, 2 and 3)
Docket Nos. STN 50-488, STN 50-489 & STN 50-490

Dear Members of the Board:

Attached hereto is the written testimony of D. B. Blackmon. Applicant is serving copies of this testimony pursuant to 10 CFR 2.743(b) which it anticipates introducing at the forthcoming hearing. It is noted that the testimony makes reference to alternate site information that has previously been furnished to the Board and parties. Applicant intends to introduce these documents as exhibits in this proceeding.

Very truly yours,

John E. Lansche

John E. Lansche

JEL/fhb
Attachment
cc: Charles A. Barth, Esq.
William A. Raney, Jr., Esq.
William G. Pfefferkorn, Esq.
J. Michael McGarry, III, Esq.
Mr. Chase R. Stephens
Mrs. Mary Apperson Davis
Chairman, Atomic Safety & Licensing Board Panel
Chairman, Atomic Safety & Licensing Appeal Board

account the economics of standardization, would be to purchase six identical units of the 1200 MWe class.

Based upon studies completed in connection with the Catawba Nuclear Station, Duke had previously decided that nuclear-fueled additions would be the most economical and environmentally acceptable baseload additions for the service area. Accordingly, Duke's site selection process had as its goal the selection of the two best sites for nuclear unit additions . At the same time, Duke was aware that the 1972 Federal Water Pollution Control Act Amendments would lead to the promulgation by EPA of regulations concerning alternate methods for waste heat dissipation from steam electric generating stations. Duke did not want to be placed in the position of having to use cooling towers when lake cooling may be a viable option. At the same time, Duke did not want to be in the position of selecting sites on existing or new lakes when regulations may require cooling towers. For these reasons Duke was seeking available nuclear generation sites suitable for either lake cooling or cooling tower waste heat dissipation methods. Secondly, Duke was seeking sites that would be suitable only for the cooling tower alternative.

An initial review of Duke's region of interest, i.e., the Duke Power Company service area and the immediately adjacent areas, was performed using the existing inventory of sites. Also, preliminary screening was accomplished to locate additional site areas. The primary screening factors were water availability, access to the existing transmission network, institutional factors, and the locations of other sites. This review and screening eventually led to nine site areas and a variety of identified sites with suitable condenser cooling alternatives. Reconnaissance level information was utilized in the

TESTIMONY
OF
D. B. BLACKMON
DESIGN ENGINEER, CIVIL AND ENVIRONMENTAL DIVISION
DESIGN ENGINEERING DEPARTMENT
DUKE POWER COMPANY

PERKINS NUCLEAR STATION
NUCLEAR REGULATORY COMMISSION HEARING
JANUARY 29, 1979

On July 14, 1978, this Atomic Safety and Licensing Board reopened this proceeding pursuant to the NRC Staff's request to take further evidence on the Staff's review of alternative sites. On July 20 and August 18, 1978, the Staff requested information from Duke pertaining to this reopened issue. On August 8, August 31, and September 27, 1978, Duke responded to such requests. Copies of these documents have been served upon the Board and parties. This testimony incorporates the above-referenced Duke responses which provide the details of Duke's site selection process leading to the selection of the Perkins site. The details describe the methodology employed, address the screening and selection process including site elimination and selection criteria, provide the underlying factual data upon which Duke premised its site evaluation, and reasonably and adequately identify potentially licensable sites for power generating facilities in and about the Duke service area.

The Perkins Nuclear Station Site was selected in April 1973 based upon studies performed in the latter half of 1972 and early 1973. In late 1971 Duke completed a load forecast which indicated the need for additional generating capacity in the 1981-1990 time frame. The forecast indicated a need for approximately 7000 MWe of baseload unit capacity additions in the 1981-1984 time frame. Since Duke had previously purchased both fossil and nuclear units in the 1100^{+} MWe range, it was decided that an optimum plan, taking into

evaluation and each of the sites was considered for specific site-opening cost determinations.

Completed system water use studies, transmission system studies, and conclusions and decisions regarding waste heat dissipation led to the selection of the Perkins site for one of the two plant sites as described in Duke's Construction Permit Application submitted in March 1974.

The review of Duke's siting evaluation by the NRC Staff was reported in their Environmental Impact Statement. This statement indicated that based on a comparison of the actual specific sites, there was no site obviously superior to Perkins.

In mid-1976, Duke initiated a thermal station siting program. The objective of this program was to select the two best fossil and two best nuclear site alternatives for the baseload generation needs in the period after the commercial operation of the Perkins units. This study is designed to complement existing siting guidelines and regulations.

The study has been utilized by the NRC Staff in their recent review of sites alternative to Perkins. They conclude that "No alternative site stands out as one which could be rated as obviously superior." In addition their report states:

> "We therefore, have reaffirmed our conclusions contained in the FES that none of the alternatives considered is obviously superior to the Perkins site as a reasonable and licensable site for the 3840-MWe (net) nuclear station proposed by the applicant, Duke Power Company, based on environmental considerations.*" (footnote omitted)

In conclusion, it is to be emphasized that Duke has twice conducted environmental analyses which consider specific actual alternative sites as opposed

to generalized ones. These analyses provide sufficient information to support a finding that alternative sites have been fairly assessed on an objective basis and that there is no site obviously superior to Perkins.