

Docket Nos. 50-390 ENVIRO
and 50-391

APR 12 1977

Tennessee Valley Authority
ATTN: Mr. Godwin Williams, Jr.
Manager of Power
830 Power Building
Chattanooga, Tennessee 37201

Gentlemen:

As a result of our continuing review of the Watts Bar Nuclear Plant, Unit Nos. 1 and 2, we require additional information in order that our review of your application can continue. The information requested is described in the enclosure to this letter. To avoid delay in our review, a completely adequate response should be submitted by April 29, 1977. Please inform us within 7 days after receipt of this letter of your confirmation of the schedule or furnish an alternate date for submittal so that we may plan our review accordingly.

Your reply should consist of three signed originals and 147 additional copies as a sequentially numbered supplement to your report, Environmental Information, Watts Bar Nuclear Plant, Unit Nos. 1 and 2, issued November 18, 1976. Please forward 41 copies and distribute the remaining 109 copies according to the enclosed distribution list. Copies of your report, Environmental Information, and any subsequent (past and future) supplements should also be distributed according to this list.

If you have any questions concerning the requested information, please contact Mr. Oliver D. T. Lynch, Jr., Environmental Project Manager, at (301) 443-6990.

Sincerely,

Original signed by
W. H. Regan
Wm. H. Regan, Jr., Chief
Environmental Projects Branch 2
Division of Site Safety and
Environmental Analysis

Enclosures:

- 1. Request for Additional Info. for Watts Bar
- 2. Distribution List for

Environmental Info. Report and Supplements

OFFICE					
SURNAME					
DATE					

Enc. 2
69

APR 12 1977

cc: Herbert S. Sanger, Jr., Esq.
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Keneth Black, Regional Director
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SURNAME ▾	MDuncan/dm	Olynch	WRegan			
DATE ▾	4/8/77	4/12/77	4/12/77			

REQUEST FOR ADDITIONAL INFORMATION

FOR

WATTS BAR NUCLEAR PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-390 AND 50-391

7. Need for Power

- 7.1 Provide most recent projections of energy and peak demand for the TVA system; by year from present to two years beyond the planned on-line date of Watts Bar Unit No. 2. For energy demand, provide total system energy, Federal energy component, and Non-Federal energy component separately. For peak load, provide total peak load, ERDA load, non-ERDA peak load, and non-ERDA temperature adjusted peak load separately.
- 7.2 Discuss TVA's power projection technique in general and specially for residential sector, distributor-served commercial/industrial sector, and direct-served industry sector. Provide annual projections for each of these sectors.
- 7.3 Discuss the projected effect which conservation and substitution efforts are expected to have on TVA's forecasts of energy and peak system demand. Present forecasts with conservation and substitution affects considered.
- 7.4 Discuss TVA's future outlook for pricing electricity under alternative rate structures, particularly flattening of rates, inverting rates, and various forms of peak load or time differentiated pricing techniques. Discuss projected effects on energy and peak demand, if adopted.
- 7.5 Provide and discuss other relevant forecasts of energy and/or peak demand performed by other governmental agencies, private firms, academic institutions, etc. applicable to the TVA service area. Include forecasts which are of a regional; state; or local nature and not necessarily conforming exactly to the TVA service area.
- 7.6 Provide capacity plans and on-line capacity for each year from present to beyond two years of the Watts Bar Unit No. 2 on-line date. Identify type of units and capacity of these units which make up total capacity for each year.
- 7.7 Provide a summary table of forecast peaks, capacity, and reserve margins for each year from present to two years beyond Watts Bar Unit No. 2 on-line date. Discuss the methodology used to determine reserve margins. Provide criteria for determination of minimum required system reserve margins.

- 7.8 Discuss effects of delays of one and two years in the planned operating dates of Watts Bar Unit Nos. 1 and 2 on reserve margins and power supply of the TVA system.
- 7.9 In terms of operating costs (i.e., fuel costs plus operation and maintenance costs), provide a listing of those plants, if any, which would cost less to operate than Watts Bar Unit Nos. 1 and 2 (at the planned on-line dates for each unit). Provide generating capacity, annual energy output, and capacity factors for each of these plants in the first full year of Watts Bar Unit Nos. 1 and 2 operation.
- 7.10 Assuming no load growth (zero growth) after 1976, compare operating costs for the overall TVA system with and without Watts Bar Unit Nos. 1 and 2. Provide the same calculations and data assuming projected load growth is realized.
- 7.11 Provide most recent projected fuel costs for Watts Bar Unit Nos. 1 and 2 for the first full year of operation; state in mills/KWh and dollars per year.
- 7.12 Provide mix of fuels which would be used to generate electricity during the first full year of operation if Watts Bar Unit No. 1 were not on-line. Provide same for first full year of operation if Unit No. 2 were not on-line. Also provide forecasted cost of that fuel in terms of mills/KWh and millions of dollars per year. If purchased power were necessary and available, provide its estimated cost.
- 7.13 Provide most recent estimate of total capital cost for completion of Watts Bar Unit Nos. 1 and 2.

8. Meteorology

- 8.1 Provide diurnal and monthly averages and extremes of temperature, dew point, and relative humidity based on recent long term (e.g., 30 years) climatic data. This information should be fully documented and substantiated as to the validity of its representation of expected long-term conditions at and near the site.
- 8.2 Provide at least two annual cycles (preferably three or more whole years), including the most recent one-year period, of monthly and annual onsite wind speed and direction data in joint frequency form at all heights of measurement representative of wind characteristics for points of effluent release to and transported within, the atmosphere.
- 8.3 Provide monthly and annual joint frequencies of wind direction and speed by atmospheric stability class at heights and intervals relevant to atmospheric transport of effluents within 50 miles of the site. These data may be supplemented by nearby representative stations.
- 8.4 Provide information concerning the number of hours with precipitation, rainfall rate distributions and monthly precipitation wind roses.
- 8.5 Discuss the impact of existing levels of air pollution on station operation.
- 8.6 Discuss the relationship of the meteorological data gathered on a regional basis to onsite data.
- 8.7 Provide a discussion of the effect of local topography on meteorological conditions in the Watts Bar area.
- 8.8 Provide monthly mixing height data.
- 8.9 For assessment of the impact of station operation on the environment, provide data summaries (e.g., moisture deficit, visibility, solar radiation) to support your conclusions of the frequency and extent of fogging and icing conditions as a result of the use of natural draft cooling towers and of other impacts on the environment.
- 8.10 Provide appropriate summaries of joint humidity data along with the joint wind speed, stability category, and wind direction frequencies for heights related to the estimation of cooling tower moisture dispersion for at least one annual cycle in order to provide a basis for the estimation of the impact of tower operation on the environment. If detailed site-specific meteorological data as described above are not available, you may present information applicable to the general site area from the National Weather Service or other authoritative sources.

- 8.11 Discuss the techniques used to estimate the change in cooling tower plume width as a function of distance and direction from the cooling tower.
- 8.12 Compare the Paradise Steam Plant site (which was used in making estimates of cooling tower plume length for Watts Bar) and the Watts Bar site with respect to parameters (e.g., wind, stability, humidity) related to cooling tower plume dispersion.
- 8.13 Provide information describing the locations and elevations of observation stations, instrumentation, and frequency and duration of meteorological data provided to describe the local air quality and local and regional meteorology near the Watts Bar site. This information should include descriptions of instruments, performance specifications, calibration and maintenance procedures, data output and recording systems and locations, and data analysis procedures.

DISTRIBUTION LIST

ENVIRONMENTAL REPORT, AMENDMENTS, AND SUPPLEMENTS
(Number in parens indicates number of copies)

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