

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
)
GEORGIA POWER COMPANY) Docket Nos. 50-424 and
et al.) 50-425
)
(Vogtle Electric Generating Plant,)
Units 1 and 2))

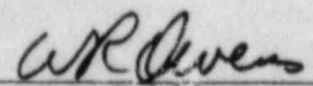
AFFIDAVIT OF ALFRED W. DAHLBERG, III

State of Georgia
County of Fulton

Personally appeared before the undersigned officer authorized to administer oaths, Alfred W. Dahlberg, III, who, being duly sworn, deposes and says that the information stated in the pages attached hereto is true and correct to the best of his knowledge, information and belief and that he is of legal age and competent to testify thereto.


Alfred W. Dahlberg, III

Sworn to and subscribed
before me this 6th day
of June, 1984.


Notary Public

Notary Public, Georgia, State at Large
My Commission Expires Feb. 25, 1986

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
)
GEORGIA POWER COMPANY) Docket Nos. 50-424 and
) 50-425
et. al)
)
(Vogtle Electric Generating)
Plant, Units 1 and 2))

AFFIDAVIT OF ALFRED W. DAHLBERG, III

State of Georgia
County of Fulton

After being duly sworn by a judicial officer authorized to administer oaths, the undersigned affiant, Alfred W. Dahlberg, III, states and deposes that he is of legal age and competent to testify and that the following is true and correct and of his own personal knowledge.

1.

I am Alfred W. Dahlberg, III. I am employed by Georgia Power Company as its Senior Vice President, Marketing. My business address is 333 Piedmont Avenue, N.E., Atlanta, Georgia, 30308.

I began my employment with Georgia Power Company in 1960. In 1978 I became the General Manager of System Administration of the Operations Department. In 1979 I was named Vice President of Operations, Planning and Control. In May, 1982, I was promoted to the position of Senior Vice President of Bulk Power Resources. In that capacity I was responsible for the areas of Power System Planning, Bulk Power Markets, and Bulk Power Delivery, as I still am. In May of 1983 I became the Senior Vice President of Marketing with the addition of retail marketing to my other responsibilities. In the course of my employment I have obtained substantial experience in planning and marketing bulk power resources.

2.

The goal of Georgia Power Company's generation planning is to plan a power supply system that will be efficient, reliable, economical, and will adequately serve our customers and which can be reasonably financed. The starting point of this process is the existing system. Next a load forecast is required, normally for the next 25 years. Both the peak demand forecast by year and the estimated load shape are required. The load shape is the estimated system demand for each of the 8760 hours of each year. The present operating system, the commercial operating dates for the units that are presently under construction, and the load forecast with its projected shape for the next 25 years, and a targeted level of

system reliability including reserves are run through an optimum generation mix program. Other factors that must be input are the retirement schedules for existing generating units, anticipated fuel costs, future plant costs and many other items. The output of this program is a generation expansion plan that has the best possible (most economic) mix between capital cost and operating cost. There are many uncertainties in a 25 year projection of load, fuel costs, and future plant costs. Factoring in the various uncertainties, the Company attempts to produce the best plan possible to provide reliable service at the lowest cost to the customer. The Company's generation expansion plan, one which resulted from the process I have described, includes commercial operation of Unit 1 of Plant Vogtle in 1987 and commercial operation of Unit 2 of Plant Vogtle in 1988. These plans are continually reviewed for appropriateness. I testified as to the Company's generation expansion plan and to the process from which it resulted in the Company's last retail rate case before the Georgia Public Service Commission, Docket No. 3397-U, a proceeding in which Campaign for a Prosperous Georgia ("CPG") participated.

3.

I have reviewed the materials submitted by CPG in support of its request for a waiver of the prohibition of consideration of need for power issues in the pending operating license proceeding, including

the Affidavit of Tim Johnson. The Affidavit collects a series of facts and opinions and concludes that Plant Vogtle is not needed. As a comparison between the preceding explanation of the generation expansion planning process and the isolated observations of the Johnson Affidavit indicates, the facts and opinions relied on by Mr. Johnson, even when accurate, are not of a type prudently relied upon by a system planner to determine the need for a power plant as part of a utility generation expansion program. In addition each paragraph of the Johnson Affidavit includes misleading and selective facts, inaccuracies, and unsupported conclusions. Each paragraph is addressed below in order.

4.

Paragraph One of the Johnson Affidavit asserts that the Company's annual electricity sales rate of growth has steadily declined, and states that the "average annual growth in territorial sales in the last six years has been less than 1%." Johnson does not explain why he selects the past six years or territorial sales as his yardstick, and does not account for the reality that a plant is constructed for its capacity and its associated energy, and not just for the energy it will produce. Tabulated below by year are (i) the actual sales (in thousands of kilowatt-hours) of the Company for the Georgia territory, (ii) total sales by the Company (including off-system sales), (iii) total territorial sales (territorial

sales of all the Plant Vogtle co-owners), and (iv) the annual maximum integrated-hour demand in kilowatts for the Georgia territory (which includes the demand placed on the facilities of all of the co-owners of Plant Vogtle).

	<u>Territorial Company Sales</u>	<u>Total Company Sales</u>	<u>Total Territorial Sales</u>	<u>Territorial Demand</u>
1973	38,414,548	38,414,548	39,617,329	8,212,100
1974	38,605,396	38,605,396	39,858,604	8,745,200
1975	39,009,518	39,009,518	40,290,867	8,794,700
1976	41,329,966	41,329,966	42,905,147	9,149,800
1977	43,818,826	43,818,826	46,091,754	9,631,400
1978	44,145,118	44,145,118	47,923,870	10,113,000
1979	43,180,564	43,234,692	47,984,959	10,213,000
1980	44,203,280	46,305,741	50,927,712	11,154,000
1981	45,099,881	47,742,428	52,107,754	11,514,000
1982	44,833,209	49,702,722	51,958,058	10,683,000
1983	46,291,914	53,407,975	54,722,006	12,527,000

It is misleading and inappropriate to use the rate of increase in the Company's territorial sales as an indicator of the rate of growth in the energy requirements of the Company's service area. The Company's territorial wholesale customers have purchased undivided interests in several of the Company's operating plants, as well as Plant Vogtle. As the wholesale customers have increased their retained capacity from jointly-owned operating units, they have reduced their purchases from the Company. The Company's

territorial wholesale sales have thereby been reduced, with the result that growth of territorial requirements -- which drives the Company's planning process -- is not fully reflected in Company territorial sales. For this reason, the rate of increase in the Company's territorial sales understates the rate of increase of energy requirements which will be served by Plant Vogtle. A persistent error of Mr. Johnson's is his focus solely on the Company when Plant Vogtle is owned in common with three other bulk power suppliers in the Georgia territory, whose undivided interests in Plant Vogtle account for the majority of the plant. Plant Vogtle is a territorial resource and not just a Company resource.

Mr. Johnson conveniently ignores the fact that there has been growth in sales and demand despite three major recessions in the past ten years. Mr. Johnson takes no account for the effect of general levels of economic activity on historic sales and demand levels. Johnson's dates are arbitrarily selected to portray a low growth rate. More importantly, he makes no forecast of future demand or sales. The Company estimates that the demand for electricity will grow on average about three percent per year between 1983 and 1995. These estimates are reasonable in my opinion, and result from a forecasting methodology which is more sophisticated than that used in the past. The Company's forecasts also include the anticipated effects of conservation activities. In the Company's last retail rate case, I presented the Company's then current (as of January, 1983) generation expansion plan through 1996,

including projected loads, reserves, plant additions, plant retirements, and bulk power purchases and sales. In my opinion that plan, which includes Plant Vogtle, is reasonable. In summary, there has been and will be continued growth in electric power demand and sales, the Company, on a continuing basis, plans its system to meet the reasonably anticipated needs of its customers at a reasonable cost, and its current plan includes the completion of Plant Vogtle as scheduled.

5.

The second paragraph asserts that the Company "grossly overestimated the need for the plant and underestimated the operating costs of nuclear power during the construction permit proceeding", but only discusses historic estimates of future demand which were not met by the demand the system actually experienced. Mr. Johnson provides no forecast or critique of the Company's forecasts for the years Plant Vogtle will be operational.

In addition, estimates of peak demand always vary from actual, and the Company's estimates of future demand also change. What Mr. Johnson fails to consider is that generation expansion programs also change. The Company's currently available capacity includes approximately one-third of the new capacity additions which the Company planned to make a decade ago. In 1974, for example, the Company cancelled Units 3 and 4 of Plant Vogtle. It was the first

utility in the country to cancel nuclear units which had construction licenses and has taken many other steps to adjust its program to changing conditions. The Company has also not commenced construction of units which were in the early stages of planning, deferred scheduled additions of capacity, sold undivided interests in plants under construction, and contracted bulk power off system as adjustments in light of the lower than once anticipated rate of growth.

Mr. Johnson's complaint that past foresight as to future peak demand was not perfect simply fails to tell the entire story and fails therefore to give any indication that the Company should, or that a prudent planner would, take any actions other than those which the Company has taken, and fails therefore, from the perspective of a prudent planner, to give any indication of change in the need for Plant Vogtle.

In 1983, the Company's estimated peak demand (on a normal weather basis) was 11,571 megawatts, and its estimated territorial reserves were 27.29%. Excluding oil-fired capacity, its estimated territorial reserves were 15.77%. In my opinion these reserves were reasonable. More important is the future, which is ignored by Mr. Johnson. The Company's generation expansion program which includes Plant Vogtle has projected reserves which are reasonable in my opinion.

The third paragraph is a characterization of the Company's historic load factor as steadily declining, based on years selected by Mr. Johnson without basis. While projected load shapes (as opposed to load factors) are important for system planning, Mr. Johnson does not undertake such a projection and his observations are accordingly useless from the standpoint of determining the need for generating plants.

Load factors can change from year to year, as is shown by the following tabular listing of the Company's annual load factors from which Mr. Johnson selected his figures. It is improper to conclude the existence of a trend from a selection of such figures as Mr. Johnson does.

<u>Year</u>	<u>Annual Company Territorial Load Factor</u>
1973	59.7
1974	56.2
1975	56.7
1976	57.8
1977	59.2
1978	58.4
1979	57.0
1980	54.7
1981	55.4
1982	59.1
1983	51.9

Load factor statistics are especially volatile during recession years. During 1982, when the load factor was relatively high

(59.1%), the recession affected both the energy and the peak demand, lowering them both. In 1983, the economy was still sluggish during the first half of the year, which held the energy sales down. However, by the summer, the economy had picked up and the peak demand was relatively high. Additionally, the peak day weather conditions in 1983 were among the hottest ever recorded while the weather throughout the year was close to normal. This, of course, lowers the annual load factor. Mr. Johnson is trying to say that because the load factor dropped in 1983, that it represents a long-term trend over 10 years. In fact, the statistics he cites provide no basis for that assertion, and only reflect the economic and weather conditions of that particular year. Finally, instead of examining the territorial load shape, Mr. Johnson again restricts himself to consideration of the Company's sales in the territory as compared to the demand attributable to the Company's customers, and again ignores the territorial demand and sales of all of the co-owners of Plant Vogtle.

7.

The fourth paragraph characterizes the Company as "greatly overbuilt". Had he reviewed the Company's actual reserves and its system expansion plan as discussed above and as presented in the Company's last retail rate case, he would have seen that this conclusion is simply wrong.

Instead, Mr. Johnson reaches his conclusion that the Company is currently overbuilt based on a 1978 ranking of utilities by the amount of reserve capacity. Because the Company is a relatively large utility, any dollar or kilowatt measurement of its reserves will appear large when compared with those of other utilities. Moreover, these dollar rankings of so-called reserve capacity ignore the fact that new capacity (in that case the Company's first nuclear plant, Plant Hatch) is actually operating and is not, from an operating standpoint, reserve or "excess" capacity at all. In addition, rankings such as these fail to take into account the operating cost savings associated with new capacity additions. As a management audit of the Company's operations conducted under the auspices of the Georgia Public Service Commission during 1979-80 concluded, the oil displacement caused by the Company's alleged excess capacity resulted in a net reduction of revenue requirements. Reserves during the years Plant Vogtle is scheduled to be operational would also include fossil-fueled capacity with relatively high operating costs. Mr. Johnson's assertion that the Company is "overbuilt" is based on some unspecified criteria other than delivery of power to customers at the lowest reasonable cost, which is what the Company's system is designed to do. Mr. Johnson also asserts that since Plant Vogtle is not the only plant under construction, it "compounds the Company's over capacity problem, particularly in view of the increasing public use of alternative energy sources including cogeneration and conservation". Again, Mr. Johnson forgets that these factors are all

accounted for, as are retirements and bulk power sales and purchases, in the generation expansion program which includes Plant Vogtle and for which Johnson offers no alternative.

8.

The observation of Mr. Johnson's fifth paragraph is not an accurate portrayal of the Company's activities. The Company is continually exploring new markets and opportunities to reduce risk. These efforts in the past and today contradict Mr. Johnson's unstated assumption that the Company stands still in the face of continually changing circumstances. These efforts have not resulted in ownership of Plant Vogtle by entities outside of Georgia to date. This March, however, the Municipal Electric Authority of Georgia purchased an additional 5% interest in Plant Vogtle. The result of this sale is that the majority of the ownership of Plant Vogtle now is held by the Municipal Electric Authority of Georgia, Oglethorpe Power Corporation and the City of Dalton, Georgia.

9.

The sixth paragraph of Mr. Johnson's Affidavit asserts that there are preferable alternatives to Plant Vogtle without specifying what in Mr. Johnson's mind makes an alternative preferable or what is a deleterious environmental impact. As indicated above, the

effects of conservation have been accounted for in the Company's current generation expansion plan. Mr. Johnson's Affidavit indicates a particular interest in solar hot water heating and asserts that a "hot water heater could be installed on every household in Georgia at less cost than the remaining cost of the Vogtle nuclear plant." Mr. Johnson's statement is hard to fathom, and the materials submitted at the prehearing conference do not provide data to support such a calculation. Whatever estimates Mr. Johnson has in his mind, he is probably not including the cost or environmental impacts of felling trees or making adjustments to homes to provide the necessary southern exposure. The materials submitted by CPG also express the savings from solar hot water heating in terms of British Thermal Units of energy, which is appropriate from the perspective of marketing solar hot water heaters but which caused Mr. Johnson to forget that the majority of households in the Company's service area use natural gas to provide hot water heating.

10.

I was a witness in the proceeding discussed in Mr. Johnson's seventh paragraph. There is no basis for Mr. Johnson to read into the discussion in an order reaching a rate level agreed to by the Company any finding by the Commission as to the probability that Plant Vogtle will or will not be needed.

11.

Mr. Johnson's eighth paragraph repeats his earlier error of basing conclusions about future need on past projections of what are now past events. He asserts that Plant Vogtle will not displace less economical generating capacity, ignoring entirely the actual resources available to the Company, which are predominately fossil-fueled. Under normal economic dispatch, Plant Vogtle's capacity will be utilized in preference to fossil-fueled generation because its fuel costs will be lower.

12.

Mr. Johnson's ninth paragraph again simply asserts the existence of "environmentally preferable alternatives", without stating what makes an alternative "preferable" or an environmental impact "significant". The effect of these asserted alternatives on demand and energy requirements are included in the generation expansion plan which includes Plant Vogtle. Nor is the Company's understanding of the impacts of these alternatives based on conjecture. Attached hereto as Exhibit A is a list of load control and conservation initiatives of the Company. These initiatives are not unexplored alternatives but are part of the program Mr. Johnson is complaining about.

In summary, the need for a plant is a forward-looking inquiry involving many variables. Mr. Johnson's Affidavit is backward-looking and selects isolated bits of information to confirm what are apparently imperatives selected by Mr. Johnson a priori. While circumstances have changed over time, change is a constant reality in utility system planning. The plan which includes Plant Vogtle as an important power supply resource has evolved and accounts for the factors Mr. Johnson has identified to the extent appropriate. Mr. Johnson offers no alternatives to the present generation expansion program, no alternative load or energy forecast, no alternative schedule of off-system bulk power sales and power purchases, and no change in unit retirements or additions.

It is my opinion that the Company's generation expansion program is a good program from the standpoint of providing reliable service at a reasonable cost. That does not mean that the current program is immune to change or improvement, or that other reasonable programs could not be devised. Mr. Johnson's Affidavit, however, does not suggest any viable alternative program or basis for change. Arguments about the past accuracy of load or energy forecasts, general and nonspecific invocations of alternatives, and the other aspects of Mr. Johnson's Affidavit provide no basis for concluding other than that Plant Vogtle will be a valuable power supply

resource for the Company, the State of Georgia, and the region, which is my professional expectation today and which has been at all times and remains the Company's expectation as a public utility with substantial ongoing service responsibilities.

FURTHER AFFIANT SAYETH NAUGHT.

EXHIBIT "A"

1. Future I Photovoltaic
Research Home
2. Georgia Power Headquarters
Building
3. Shenandoah Solar Total
Energy Project
4. Passive Solar Good Cents
Home Plan Book
5. Fuel Cell Field Test
6. Good Cents Home Program for
New Homes, Multi-Family
Dwellings and Mobile Homes
7. Terrora Visitors Center
Solar System
8. Senior Citizen Water Heater
Jacket Program
9. Senior Citizen Insulation
and Weatherization Program
10. Good Cents Heating and Air
Conditioning Dealer Program
11. Retrofit Demonstration for
Multi-Family Dwellings
12. Passive Solar Home
Monitoring
13. PTA Energy Conservation
Programs for Classrooms
14. Caulking Compounds
Infiltration Test
15. Alcohol from Wood Study
16. Commercial Ice Bank Cooling
Test, C&S Bank
17. Motel Solar Water Heating
Test, Days Inn
18. Residential Conservation
Service Energy Audit Program
19. Thermal Storage Evaluation
20. Conservation Workshops for
State and Federal Agencies,
Senior Citizens and Limited
Income Groups
21. Centsable Home Improvements
for Existing Homes
22. Conservation Seminars for
Home Builders, Realtors,
Bankers, Mortgage Bankers,
Appraisers and Heating and
Cooling Dealers

EXHIBIT "A" Continued

23. Energy Workshops for Teachers and Educational Leaders and Classroom Programs
24. Commercial Energy Extension Program (in cooperation with the State Office of Energy Resouces)
25. Good Cents Lighting Program
26. Energy Programs for Group Meetings
27. Open Houses and Energy Expositions
28. Energy Research and Demonstration Homes ("Answer Houses")
29. Retrofit of 10 HUD Homes
30. Perkerson Woods Apartments-to-Condominiums Retrofit Program
31. Aerial infrared Scan of Athens
32. Residential Ice Bank Cooling Test
33. Insulating Window Panel Test
34. Water Heater Timer Test
35. Water Heater Insulation Jacket Test
36. Multi-Family Retrofit Test by Builder
37. Post Properties Multi-Family Construction Test
38. Peak Demand Air Conditioning Control Test (300 volunteer customers)
39. Summer Positive Load Control Program (6,000 vclunteer customers)
40. Peak Load Pricing Test (450 volunteer customers)