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8/20/79

In the Matter of
Houston Lighting & Power Company
(Allens Creek Nuclear Generating Station)
Docket No. 50-466

POOR ORIGINAL

AN ADMENDMENT TO NEW CONTENTION III
SUBMITTED BY F. H. POTTHOFF III

I contend Large wind-powered generating systems can be used to replace the proposed ACNGS and would be environmentally preferable to a large nuclear generating plant. (I shall note in passing that I tried to raise the issue of the preferability of solar power to ACNGS, but due to the restrictions placed on me by this Board's Sept.1, 1978, Order, I was able to only concentrate on generalities.) As I noted in my May 25 contention, wind-power technology has been feasible since the 1930s when the Smith-Putnam machine was operated in Vermont. This is borne out by the building of a 2000 kilowatt windmill on top of Howard's Knob in North Carolina, which became operational this year.

Using as a model the Howard's Knob machine, the Applicant can replace ACNGS with a system of 600 2 megawatt windmills located in its operating area. This may seem prohibitively expensive since the Howard's Knob machine cost \$3.5 million, but studies done by E. W. Golding show mass produced megawatt wind systems would cost one-half the price of medium size wind systems.¹ Using the figures for a ^{100 KW} production unit.

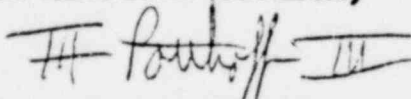
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1 "The Generation of Electricity by Wind Power" E. W. Golding, Philosophical Library, New York, 1956

(²\$1490 per kilowatt), I conclude this system of 600 windmills would cost \$900 million to build and operate. However to insure power when the wind isn't blowing, various storage systems will need to be built (batteries at \$180 per kilowatt, thermal at \$100-400, flywhells at \$400 per kilowatt.)³ These storage systems would cost anywhere from \$216 to \$480 million, making a wind powered generating system cost at the most around \$1.4 billion.

I continue to support the conclusions of Project Independence which stated wind systems could be operational in a "relatively short time."⁴ The table on P. I-7 shows wind power in the U.S. would supply between 0.5×10^{15} BTUs to 1.4×10^{15} BTUS by 1985, which may be too conservative since these figures are based on the assumption that oil would cost \$4-11 per barrel. However even these figures show wind power could be used to replace ACNGS since the Applicant has stated delays in licensing will cause ACNGS to operational only by 1986.

An American citizen,



F.H. Potthoff III

7200 Shady Villa #110

Houston Texas 77055

2 Based on figures from table p. 66. Wind Machines, U. S. Government Printing Office, 1976, NSF-RA-N-75-051

3 Table p. 68, Ibid.

4. Project Independence, U.S. Government Printin Office, 1974

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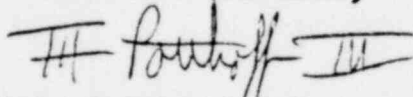
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