

September 17, 1979

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
HOUSTON LIGHTING & POWER COMPANY	)	Docket No. 50-466
(Allens Creek Nuclear Generating Station, Unit 1)	)	

NRC STAFF'S RESPONSE TO AMENDMENT TO  
NEW CONTENTION III SUBMITTED BY F. H. POTTHOFF III

On May 25, 1979, Mr. Potthoff filed a document in the captioned proceeding entitled "New Contentions Submitted By F. H. Potthoff III." In that pleading, Mr. Potthoff alleged, inter alia, that wind power (new Contention III) and solar power (new Contention IV) are viable alternatives to the Allens Creek facility. These contentions were based largely upon statements taken from the 1974 Project Independence report. In a separate pleading filed contemporaneously with this one, the Staff has responded to an amendment to new Contention III submitted by Mr. Potthoff on August 20, 1979. In an undated document docketed by the NRC on August 29, 1979, Mr. Potthoff seeks to amend his new Contention IV concerning solar cells.<sup>1/</sup> The Staff continues to oppose the admission of that contention as an issue in controversy for the reasons stated below.

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<sup>1/</sup> Although Mr. Potthoff has designated the undated document an amendment to new Contention III, the Staff believes that this designation is in error, since the only contention submitted by Mr. Potthoff which deals with solar power was new Contention IV.

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Mr. Potthoff now alleges that the Project Independence report demonstrates the availability of between one million and three million megawatts/year of power from photovoltaic cells in 1985. However, Mr. Potthoff has been misled by an obvious omission in Figure II-18, "Solar Electric Potential," as set forth on page 144 of the report. A copy of this figure is attached. The figure projects the potential for the production of electricity from wind, solar thermal, photovoltaic, and ocean thermal for the period 1980-1985. The units given are billions of kilowatts per year (kw/yr). From the data available in this figure it is obvious that the appropriate units for this figure are billions of kilowatt hours per year (kwh/yr). No other interpretation of these units is logical.<sup>2/</sup>

With this correction, the solar photovoltaic energy production figures of 1 or 3 billion kwh/yr represent between 114 and 342 MW of capacity operating at a 100% capacity factor throughout the year. Since the 114 to 342 MW of solar photovoltaic generating capability represents the predicted 1985 total for the entire U.S., and since this capacity is significantly less than the Allens Creek facility,<sup>3/</sup> it is not possible to argue that the Project Independence

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<sup>2/</sup> For example, assuming that the term kw/yr represents installed capacity, the 1985 value of 150.9 billion kw would represent, even at an impractically low capacity factor of 20%, a new annual energy production of 902 quads per year. The Project Independence report projects a maximum total U.S. energy consumption (coal, oil, nuclear, hydropower, etc.), in 1985 of only 109 quads, (page 34), and a total electric generation of just 12.3 quads of distributed electrical generation in that year (page 30).

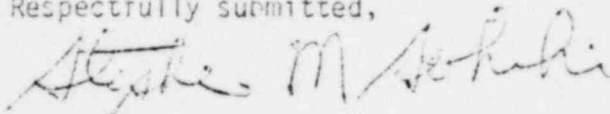
<sup>3/</sup> The 1146 MW Allens Creek facility, if assumed to operate at no more than a 50% capacity factor, would provide 573 MW/yr of electricity, which is 5 billion kwh/yr

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data support the contention that the Allens Creek facility can be replaced by a system of photovoltaic cells.

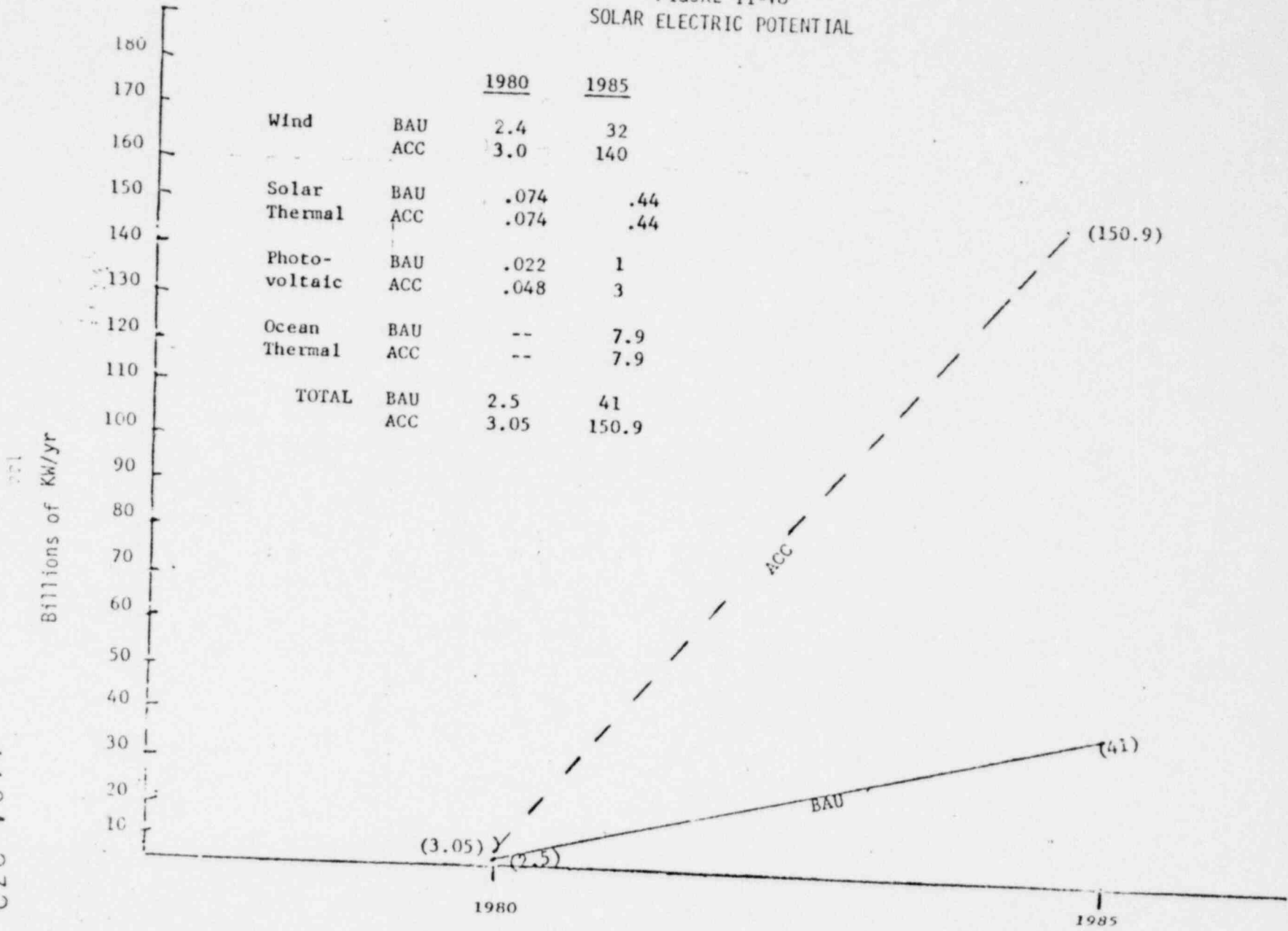
Respectfully submitted,



Stephen M. Sohinki  
Counsel for NRC Staff

Dated at Bethesda, Maryland,  
this 17th day of September, 1979.

FIGURE II-18  
SOLAR ELECTRIC POTENTIAL



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CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF'S RESPONSE TO AN AMENDMENT TO NEW CONTENTION III SUBMITTED BY F. H. POTTHOFF III" and "NRC STAFF'S RESPONSE TO AMENDMENT TO NEW CONTENTION III SUBMITTED BY F. H. POTTHOFF III" in the above-captioned proceeding have been served on the following by deposit in the United States mail, first class, or, as indicated by an asterisk by deposit in the Nuclear Regulatory Commission internal mail system, this 17th day of September, 1979:

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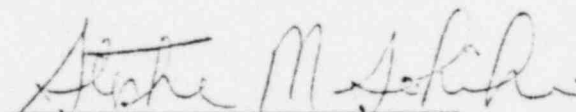
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