

In my capacity as a corporate planner I am required to become familiar with legislation such as the Powerplant and Industrial Fuel Use Act of 1978 (PIFUA), because of the impact of such legislation on HL&P's long term planning. I am particularly familiar with the Act because I became involved when the legislation was first proposed in the Spring of 1977. At that time we began an extensive program to review and comment on the legislation. Subsequent to passage of the PIFUA I have been involved in commenting on the DOE regulations implementing the Act. Most importantly, it has been my responsibility to evaluate the impact of PIFUA on HL&P. I have determined that HL&P is precluded from constructing new gas plants. I have also evaluated the various exemptions contained in the legislation to determine whether HL&P would qualify for the receipt of one or more of the exemptions for continued natural gas use past 1989. I will comment later on the results of my evaluation.

With regard to the economic comparison between competing generation alternatives, it has been my continuing responsibility over the past four years to provide such analyses to executive management for their use. My comments on the analysis conducted by Mr. Johnson in his affidavit and the conclusions I have reached on the economic comparison between natural gas and Allens Creek generation are discussed below.

The PIFUA contains prohibitions against the use of gas as a primary energy source in new power plants and, beginning in 1990, against the use of gas as a primary energy source in existing power plants. However, exemptions are available which may allow the construction of new gas-fired power plants and may allow for the extended use of gas in existing plants past 1989. I have evaluated each of the exemptions contained in the legislation and implemented in Final Rules published in June and August of 1980. It is my opinion that HL&P could not qualify for a single permanent exemption to construct new gas-fired generation to replace that generation expected to result from the construction and operation of Allens Creek. With regard to exemptions for continued use of gas in existing power plants, my opinion is that HL&P can qualify for retirement exemptions for some of its older gas-fired capacity and continue to burn gas in that capacity until December 31, 1994. Thus, at most, we could get only an additional five years service out of these units on natural gas. This relief would not preclude the need for ACNGS Unit No. 1 which has an expected life of 40 years. There are simply no exemptions for which HL&P could qualify which would allow unlimited use of gas for unlimited time periods in existing capacity.

The most important point to make here is that even if unlimited exemptions were available, HL&P must build new capacity for load growth during the 1985-1990 time period. It is clearly the primary purpose of the Allens Creek facility to provide new capacity to support this projected load growth.

Concerning the "economic evaluation" of Mr. Johnson, it is my judgment that his analysis is flawed in the following respects:

1. The use of constant dollars is inappropriate because the cost of natural gas has increased at a much faster inflation rate than has the cost of nuclear fuel, and this trend is expected to worsen when the 1985 scheduled natural gas price deregulation occurs.
2. The discount rate should be based on current instead of real dollars to be consistent with the previous comment. However, even if a real dollar discount rate were to be used, the 7% figure is inappropriate. The discount rate should be based on the total cost of capital and not just the interest rate as Mr. Johnson assumes. After weighing all sources of funds that HL&P uses, and reducing that average by the 9% inflation

assumed by Mr. Johnson, the appropriate real discount rate would be closer to 3%.

3. The "initial estimate" of \$1.6 billion is inaccurate. The current estimate for the total cost of Allens Creek Nuclear Generating Station is \$1.48 billion, expressed in current dollars for 1988 commercial operation. The additional escalation of 15% per year is therefore completely baseless and inappropriate.

In response to Mr. Johnson's affidavit, I have prepared a brief analysis showing the relative economics of a new natural gas powered plant versus Allens Creek. A more extensive analysis should take into account, among other things, a more realistic appraisal of future gas prices following deregulation. This brief analysis is not intended to be the full presentation that HL&P would make in litigating this issue. Rather, the analysis is a simple demonstration that nuclear power is more economic than gas fired capacity even using several of Mr. Johnson's assumptions which are inaccurate.

I have used a conventional and well-accepted utility economic evaluation analysis commonly referred to as "revenue requirements". This methodology uses current cost data for capital and fuel and assumes typical utility

financing. The results of the analysis are expressed in levelized cost of generation over the life of the facility.

The input assumptions for my analysis are as follow:

	<u>ACNGS</u>	<u>New Gas Power Plant</u>
Commercial Operation Yr	1988	1988
Capacity (MW)	1200	1200
Capital Cost (\$/Kw)	1237	393*
Fuel Cost		
First Year (\$/MBtu)	1.07	5.25
Cost Escalation (%/Yr)	5.8	5.5
O & M Cost		
First Year (\$/Kw-Yr)	10.4	10.0
Cost Escalation (%/Yr)	4.0	4.0
Heat Rate (btu/Kwhr)	10600	10200
Capacity Factor (%)	45 and 74	75
Levelized Cost of Energy (mills/Kwhr)	80.2 and 63.7	112.6

* Assuming Mr. Johnson's \$295/Kw for 1985 operation and escalated at 10%/Yr to 1988.

As one can see, even using Mr. Johnson's thoroughly pessimistic assumption regarding capacity factor (an assumption which I do not accept as appropriate) and using natural gas prices which do not take into account the 1985 price deregulation, the levelized cost of generation from Allens

Creek is considerably less than that from a new gas-fired power plant (80.2 vs 112.6). I also evaluated the cost of energy from an existing gas-fired power plant assuming no gas plant capital cost and the same gas price as above. The levelized cost of energy from that analysis was 100.0 mills/Kwhr, still 25% greater than the highest cost of energy from Allens Creek.

My conclusions are as follows:

1. Under the existing PIFUA the construction of new gas-fired capacity is infeasible and extending the life of existing gas capacity beyond 1990, even if feasible, would not provide the new capacity required for the projected growth in the HL&P system.
2. Notwithstanding my first conclusion, even if Mr. Johnson were correct with regard to gas use feasibility, my economic analysis of gas versus Allens Creek, under the most pessimistic assumptions, shows Allens Creek to be considerably less costly than gas-fired capacity.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

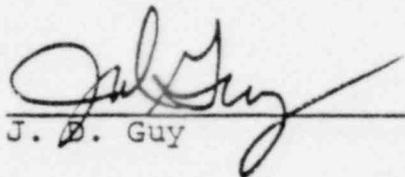
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

AFFIDAVIT OF J. D. GUY

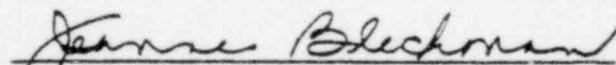
STATE OF TEXAS §
§
COUNTY OF HARRIS §

I, J. D. Guy, Manager, Corporate Planning Department, Houston Lighting & Power Company, first being duly sworn, upon my oath certify that I have reviewed and am thoroughly familiar with the statements contained in the attached affidavit and that all my statements contained therein are true and correct to the best of my knowledge and belief.



J. D. Guy

Subscribed and sworn to before me by the said
J. D. Guy on this 30th day of September, 1980.



Notary Public in and for
Harris County, Texas

Bryan L. Baker
1118 Montrose
Houston, Texas 77019

J. Morgan Bishop
11418 Oak Spring
Houston, Texas 77043

Stephen A. Doggett
P. O. Box 592
Rosenberg, Texas 77471

John F. Doherty
4327 Alconbury
Houston, Texas 77021

Carro Hinderstein
609 Fannin, Suite 521
Houston, Texas 77002

D. Marrack
420 Mulberry Lane
Bellaire, Texas 77401

Brenda McCorkle
6140 Darnell
Houston, Texas 77074

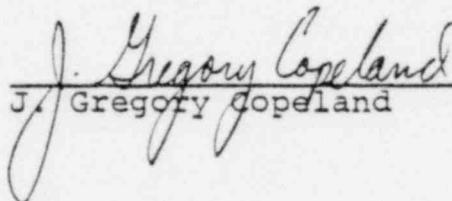
W. Matthew Perrenod
4070 Merrick
Houston, Texas 77025

F. H. Potthoff
7200 Shady Villa, No. 110
Houston, Texas 77055

Wayne E. Rentfro
P. O. Box 1335
Rosenberg, Texas 77471

William Schuessler
5810 Darnell
Houston, Texas 77074

James M. Scott
13935 Ivy Mount
Sugar Land, Texas 77478



J. Gregory Copeland