BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

IN THE MATTER OF	§	
	§	
HOUSTON LIGHTING & POWER COMPANY	§	DOCKET NO. 50-466
	§	
(ALLEN CREEK NUCLEAR GENERATING STATION, UNIT I)	§	

SUPPLEMENT TO PETITION TO INTERVENE
IDENTIFYING PROPOSED CONTENTIONS

Pursuant to the Board's August 6, 1979 "Order Scheduling Prehearing Conference" STEPHEN A. DOGGETT files the following supplement to his petition for leave to intervene as a full party dated July 17, 1979 and proposes the following contentions which petitioner seeks to have litigated and the basis therefor:

Contention 1: There are alternative energy sources available whi. render the building of the nuclear powered ACNGS unnecessary. These alternatives would be environmentally preferable to ACNGS. The Applicant has not given adequate consideration to the availability, costs, and lesser environmental impact of the following alternative energy sources:

Availability

a. "Synfuels": heavy crude, oil and tar sands, gasohol.

1. Heavy crude, oil and tar sands. Enormous deposits of heavy crude and oil sands are found in 60 countries including the U. S. (reserves estimated at 300 billion barrels) and Canada (reserves estimated at 2 trillion barrels). The technology already exists to extract much of this oil, and it is becoming increasingly economical to produce as conventional crude oil prices increase. There are indications that government regulations

requiring the classification of heavy oils as "old" oil and preventing the passing on of cost of ungrading and refining heavy oil, as well as certain other government regulations, which tend to make the production of these oils uneconomical, will be eliminated or significantly modified. It is thus highly likely that these huge oil reserves will become economically recoverable in the near future, which would significantly increase oil supplies. See Nation's Business, Aug. 1979, pp 23-28.

2. Gasohol. Raw materials for alcohol fuels are virtually inexhaustible: coal, municipal garbage, waste-wood products, grain, sugar crops, and starchy plants. The Energy Department estimates production will reach 300 million gallons a year by 1982 and 600 million gallons by 1985 from present production of 60 million gallons a year presently. Use of gasohol will stretch oil supplies making more oil available for boiler fuel. See U.S. News & World Report, Aug. 13, 1979, pp 34-35.

b. Solar power. Estimates are that the sun will provide 12 to 15 percent of this country's energy by 2000. Solar technology is becoming rapidly competitive with electricity. See U.S. News & World Report, Aug. 13, 1979, pp 33-34. According to HL & P, ACNGS will provide 10% of HL & P'S total current generating capacity. If solar power were used to take over 2 to 5% of the HL & P demand, and other alternative fuel sources were employed, as discussed

herein, the need for a nuclear powered plant would be eliminated.

c. Coal. There is an estimated 300 year supply of coal at present rate of use. HL & P already operates coal fueled power stations at Smither's Lake. See U.S. News & World, Aug. 13, 1979, pp 34-35; Nation's Business, Sept. 1979, pp. 41-48.

d. Miscellaneous:

1. Biomass - organic matter which can be burned for heat, steam, and electricity. Each year trees rot away in U.S. forest with energy nearly double that of oil imported to the U.S. Use of manure from feedlots, rotting trees, scrap lumber, garbage, etc. could make a significant direct impact on electricity requirements and indirectly as fuel for electric generation. See U.S. News & World Report, Aug. 13, 1979, p. 35.

2. Hydrolectric. There is significant potential for increased hydroelectric power. Installation of small hydroelectric plants on "low head" dams is being considered at many Texas sites. The potential from existing small dams and undeveloped small dam sites is estimated at 200 million kilowatts, about 40 percent of the nation's current electrical demand. U.S. News & World Report, Aug. 13, 1979, p. 36.

3. Conservation. According to HL & P's booklets "Dollar Wise Use of Electricity," "Are You Wasting $150.00 a Year?," and "Warming Up in Wintertime," improper insulation can add 50% to the cost

of heating and cooling a home; improper weatherstripping can increase cost 15 to 20%; each air conditioner thermostat setting degree below 75° increases costs 6 to 10%; for heating each degree above 75° increases cost 3%; dirty filters can increased costs up to 11%; dirt on air conditioner coils can increase cost up to 30%; and so on. The booklets offer simple tips on decreasing household energy usuage by significant amounts. Most of these principals are applicable to larger buildings. There is enormous untapped potential for conservation.

Comparative Economic Cost

Heavy crude and oil from oil and tar sands, solar power, coal, biomass, and hydroelectric sources are becoming increasingly economical as conventional oil and uranium prices rise. Currently, costs for coal and uranium are about equal. However, uranium has risen from $8 a pound in 1972 to $50 a pound, and high quality uranium shortages will occur in the 1980s. U.S. News & World Report, Aug. 13,1979, p. 38. Coal fired plants are presently cheaper to build. There is concern that at least 40 percent of the investment in a new coal-fired plant is used for meeting environmental requirements. Nation's Business, Sept., 1979, p. 41. Some have argued that this will make building nuclear plants more economical. The Houston Post, July 5, 1979, Sound-Off, Letter of Robert Patlovany, p. 3B. However, environmental requirements also account for a large percentage

of the costs of nuclear plants. Moreover, cost overruns of a billion dollars like that at STNP would indicate that nuclear plants, for various reasons, are becoming more and more expensive to build. See The Texas Observer, Jul. 13, 1979.

H L & P has failed to consider the economic (and environmental) benefits of building several smaller conventional facilities as opposed to the large ACNGS. A recent study of the Los Alamos Scientific Laboratory concludes that building a network of relatively small plants instead of a large plant is economically advantageous. Time for construction of small plants is much shorter, allowing the utility to make more accurate forecast of demand. In addition, large plants tend to "go down" more frequently and stay down longer for repairs. See The Houston Post, May 12, 1979, p. 13C. This is also apparently true of coal versus nuclear plants in general. Also to be considered are the cost of storing and disposing of nuclear waste and the cost of decommissioning ACNGS, both of which are likely to be highly expensive. See Texas Energy Advisory Council, Advisory Committee on Nuclear Energy 's Recommended Policy Statements on Selected Nuclear Issues, Notice of Public Meeting, Aug. 3, 1979.

Another economic factor to consider is that a coal fired facility or series of facilities would be more labor intensive that a nuclear facility. This would be more beneficial to the local economy.

Environment

A series of smaller, conventional plants would cause less environmental degradation than ACNGS. These could include coal and oil fired plants, low-head hydroelectric dams, single and multi-family and business building unit of use of solar and wind power and biomass. See The Houston Post, May 12, 1979, p. 13C.

Hydroelectric, solar, and wind power are all non-polluting.

Pollution from burning oil, coal, and biomass can be adequately controlled by presently mandated environmental equipment.

In comparison, ACNGS would during normal operation emit low level radiation. There is no dispute that there is no threshold below which radiation ceases to have adverse effects on humans. See The Houston Post, May 3, 1979, p. 1C.

There is admittedly considerable disagreement as to what levels of radiation pose a "significant" threat to humans. Whatever risk exists is eliminated if ACNGS is not built.

In addition, there is the risk that in the event of an accident, high dosages of radioactive materials could be released over areas varying sizes.

Potential Population exposure is much greater for ACNGS than for non-nuclear plants.

ACNGS utilizes valuable prime cropland and water. In comparison, utilization of solar and wind power on a small unit basis would require substantially less land and water usage.

Contention 2: The STNP is a superior site to that of the proposed site of ACNGS and is environmentally preferable. The existing and future population exposure to low-level and possibly high level radiation is and will be much lower at the STNP site. Use of the STNP site would decrease land and water use, both of which are becoming extremely valuable and scarce resources in the Greater Houston area. Environmental impact on the STNP site would not be significantly increased while environmental impact on the ACNGS site would be eliminated. Alvin M. Weinberg, Director of the Institute for Energy Analysis at Oak Ridge, Tenn. takes the position that future nuclear generating units should be concentrated at present sites with the surrounding area zoned to prevent future population buildups. The Houston Post, Jul. 8, 1979, "Fallout From 3 Mile Island Fracas".

Contention 3: The issuance of a permit for construction of ACNGS will be inimical to the health and safety of the public and of petitioner because the present quality assurance/quality control process is inadequate to properly insure that all required design, architectural, and engineering features and components have been properly met as evidenced by the program set up by HL & P at STNP. The quality assurance/control systems has failed on several occasions at STNP. Air pockets in portions of the steel reinforced, concrete wall of the reactor unit one containment building were not discovered until long after the concrete was poured. In several instances welding of reinforceing steel in the same containment building was not performed according

to standard NRC procedures for installations, inspection, and documentation, leaving the strengths of the welds open to question. About 1100 bolts that did not meet design specifications were installed to anchor pipes that will carry radioactive water from the reactor vessel to the electrical generating plant. Due to a surveying error, the foundation laid for an auxiliary building ended up one foot short. Construction crews observed during one NRC inspection had not been furnished with revised blue prints after changes in designs. Brown & Root inspectors have been cited for failure to monitor work in progress according to NRC requirements, and several times during inspection records had been found to be inadequate. In May, 1977 it was found that an unqualified inspector had been monitoring concrete pours. In August, 1978 a report described inadequate training in new procedures for Brown & Root quality control inspectors, inaccessibility of upper management, and friction between construction crews and quality control personal.
The Texas Observer, Jul. 13, 1979, "Toil and Trouble at the South Texas Nuke". A large gantry crane which was supposed to be tornado proof costing $500,000 was delivered and installed before it was discovered by HL & P that the crane was not tornado proof due to HL& P and Brown & Root errors in specifications. The Houston Post, Jul. 19, 1979, p. 24A.

Contention 4: HL&P is not financially qualified to design and construct the proposed facility. Evidencing HL&P's financial disqualification is H L& P's

application for a 20%, $179 million rate increase primarily to continue to finance its new power plant construction.

According to HL & P each year ACNGS is delayed, an additional $110 million is added to the construction cost of ACNGS.

STNP now shows cost overruns exceeding $1 billion. The Texas Observer, Jul. 13, 1979.

Most of these overruns have been caused by design changes, deadline revisions, and construction problems. Id. See also U.S. News & World Report, Aug. 13, 1979, p. 37. Because of these tremendous cost overruns, city officials in Austin and San Antonio have demanded outside audits to check the performance of HL&P and Brown & Root in the STNP. The possibility of lawsuits has also been raised. The Houston Post, Aug. 29, 1979, p. 1.

Financing is becoming difficult to obtain as a as a result of Three Mile Island. U.S. News & World Report, Aug. 13, 1979. p.38.

Construction costs for STNP and ACNGS may be forced even higher if major design changes are found necessary as a result of Three Mile Island studies. NRC staff is already recommending revision of control and monitoring systems and improved training of operating personnel.

Uranium costs are likely to increase, and there may be a severe shortage of uranium by the 1980's. Costs of storing radioactive waste are also likely to increase as storage sites begin to reach capacity. In summary, rising fuel, waste disposal, and construction costs are likely to continue to rise significantly. These are factors beyond HL & P's control.

In addition, HL&P has shown poor management at STNP resulting in large, unnecessary costs. As a result, HL&P has already been forced to request a substantial rate increase to maintain its financial ability to continue with STNP and ACNGS. All factors tend to show that HL&P is not financially qualified to undertake ACNGS.

Contention 5: The issuance of a permit for construction of ACNGS will be inimical to the health and safety of the general public and of petitioner because in the event of a major accident it would be impossible to evacuate major portions of the Greater Houston Area population.

a. An accident releasing large amounts of radiation could occur so quickly that there would be no time for evacuation.

b. Even if it is possible to give warnings, it could take 6 days to evacuate the area.

c. The last major evacuation of the area occurred in 1961 when 1 million people were relocated as a result of Hurricane Carla. The population has tripled since then.

d. Weather conditions could severely hamper transportation and also make prediction of the likely destination of any radiation releases extremely difficult.

This problem could be eliminated if a non-nuclear facility or facilities are used, if the proposed ACNGS is relocated to a less populous area such as STNP, or if ACNGS is buried underground. The first two alternatives are discussed in Contentions 1 and 2, respectively. The final alternative is feasible and would add only a small fraction to

the cost of ACNGS while largely eliminating the discharge of low-level radiation and the potential accidental discharge of large amounts of high level radiation. This solution is advocated by Carroll L. Wilson, former general manager of the AEC. The Bulletin of the Atomic Scientists, Jun. 1979, pp. 13, 16-17.

Respectfully submitted,

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