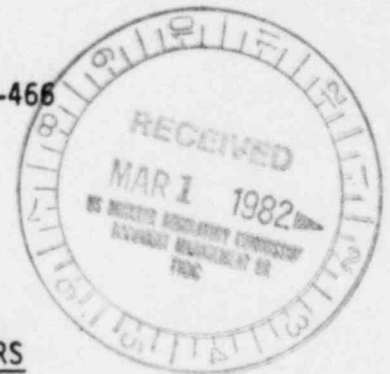


UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of
HOUSTON LIGHTING AND POWER COMPANY
(Allens Creek Nuclear Generating
Station, Unit 1)

Docket No. 50-466



NRC STAFF REPLY TO PROPOSED FINDINGS OF FACT
AND CONCLUSIONS OF LAW SUBMITTED BY INTERVENORS

Pursuant to the filing schedule adopted by the Licensing Board in this proceeding (Tr. 19875), certain intervenors filed proposed findings of fact and conclusions of law on February 12, 1982.^{1/} The NRC Staff's reply to each intervenors' proposed findings is set forth separately below.

A. Dr. Marrack

1. Transmission Lines/Waterfowl (Marrack Contention 2(c)).

Dr. Marrack contends in his proposed findings (p. 2)^{2/} that "a substantial amount of responsible scientific literature was introduced

^{1/} Intervenor Doherty filed his findings on February 13, 1982 (postmarked February 15, 1982). Staff, however, has no objection to this untimely filing since it was only one day late and we have had sufficient time to reply in a timely manner.

^{2/} Dr. Marrack has not numbered his paragraphs as required by 10 C.F.R. § 2.754(c). Accordingly, our reference to his proposed findings will be to the page number.

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into evidence "to contradict both Applicant and Staff testimony that the proposed transmission lines will not pose a threat to migrating waterfowl. Based on substantial evidence, the Board must reject this allegation. First, it is unclear that there was any evidence entered into the record which would contradict this testimony. Dr. Marrack alludes to the fact that there was such evidence, but he has referred to no citation in the record and there is no such contradictory evidence entered into the record. Second, it is clear that both Dr. Reed and Dr. Schlicht reviewed in detail the pertinent literature and research on waterfowl collisions with transmission lines. (See NRC Staff Proposed Findings of Fact, ¶ 154). These expert witnesses stated that their respective reviews of this literature led them to the conclusion that the impact of waterfowl collisions with transmission lines was insignificant. Although the available literature did not include a study for the Katy-Brookshire area, Dr. Marrack has set forth no evidence that would contradict or even detract from these conclusions. Accordingly, Dr. Marrack's assertions on this matter have no basis on the record, are not supported in fact, and therefore, are totally devoid of merit.

Dr. Marrack also criticizes as "appalling" the Staff analysis of the Marrack proposed alternate transmission route. This proposed route would follow the Brazos River to the south of the site, then go east and north to the O'Brien Substation. Both Dr. Reed and Dr. Schlicht agreed that the Applicant's proposed routes are preferable to the route generally suggested by Dr. Marrack (See NRC Staff Proposed Findings of Fact, ¶ 155). In his proposed findings, Dr. Marrack appears to deny that he ever proposed a specific alternate route, but merely suggested that a southern

route should be considered to mitigate waterfowl collision impacts. (Marrack Findings, pp. 2-3). Accordingly, he asserts that a general southerly routing could avoid the sensitive bottomland forest that both the Applicant and Staff found ecologically less preferable to the Applicant's proposed transmission routes. However, this assertion (which, again, is not supported by any evidence on record) ignores the other reasons why Dr. Marrack's proposed southern route was found to be less preferable. That is, Dr. Marrack's southern alternate route would still cross a duck concentration area, would not parallel any existing lines, would disturb year-round animal populations, would be closer to heavily populated areas, and might have to be longer in length. (NRC Staff Proposed Findings of Fact, ¶ 154).

In summation, the evidence of record indicates that the impact of migratory waterfowl collisions on transmission lines will be insignificant and that the Applicant's proposed routes are environmentally preferable to the alternative route suggested by Dr. Marrack. In addition, there is no evidence which indicates that any southern route would be preferable to mitigate an already insignificant impact.

2. Recreational Value of the Cooling Lake (TexPirg Contentions 2 and 4, Griffith Contention 4, McCorkle Contention 2)

a. Mercury (Heavy Metal Concentrations)

Dr. Marrack asserts in his proposed findings (pp. 4-5) that the NRC Staff has evidenced complacency toward the potential problem of a public health hazard due to mercury contamination in the Allens Creek cooling lake. To the contrary, the Staff has recognized the possibility of mercury bioaccumulation and biomagnification in fish and the resulting

potential health hazard caused by fish ingestion. Based on the uncertainties to predict the quantitative potential for heavy metal accumulation in the reservoir, the Staff has recommended and the Applicant has committed to a fish flesh monitoring program. (See NRC Staff Proposed Findings of Fact, ¶s 103-105.) This fish flesh monitoring program provides the necessary assurance that fish contamination, if it does occur, will not present a health hazard.

b. Chlorination

Dr. Marrack's proposed findings with respect to chlorination first attempt to offer testimony on the standard assay test used in public health water quality assessments to determine the amount of chloramines and other chlorinated compounds present in water samples. (Marrack Proposed Findings, p. 5). He then alleges that the proposed findings of the NRC Staff ignored his testimony on the analytical chemistry of non-TRC Reacting Chlorinated Compounds (NTRCC). This is untrue. The NRC Staff's Proposed Findings of Fact (¶ 94) did note the argument of Dr. Marrack that there was insufficient information regarding the chemistry of the cooling lake to determine the percentage of the chlorine that will become organically bound. However, this testimony was not given much weight because Dr. Marrack conceded he had not done an analytical analysis of the chlorine discharges as did Applicant and Staff (Tr. 15028), and we also believe that his expertise in this area could not be given much credit. Dr. Marrack has presented no testimony or evidence that would rebut Dr. Sanders opinion that a maximum of three (3) percent of the discharged chlorine would form into complex chlororganic

compounds, principally trihalomethanes. (Tr. 4750-51). Dr. Sanders acknowledged that the analytical measurement of total residual chlorine (TRC) does not include the chlororganics, but they could be ignored in considering the toxicity effects of chlorine in the lake because they were included as part of the basic chlorine demand in the system and they represented a very small fraction of the chlorine discharge (Tr. 4752-53). In addition, Dr. Tischler testified that some organic compounds, which may or may not be toxic, are not included in his calculation of TRC. However, Dr. Tischler defended this omission by stating that all of the data in the analytical literature show that the calculation of TRC is a good measure of the toxicity of these compounds. (Tr. 2579-82). Thus, Dr. Sanders and Dr. Tischler are in agreement that the chlororganics would not contribute any toxic biological effect to the aquatic biota in the Allens Creek cooling lake. Accordingly, the evidence of record clearly demonstrates that chlorine discharges into the lake have been adequately assessed.

Finally, Dr. Marrack has alleged that the Staff did not review the evidence in the record pertaining to the synergistic effect on aquatic biota of temperature, heavy metals and chlorine. (Marrack Proposed Findings, p. 6). However, he has pointed to no such evidence in the record that should have been reviewed other than his statement that such literature does exist (Tr. 4545). Moreover, even Dr. Marrack acknowledged that relatively few studies have been done on the overall impact of these combined stresses (Id). In any event, these combined stress factors have been reviewed by the Staff and Applicant and they have concluded that the combined stresses should not result in any

significant chronic effect on the Allens Creek fishery. (See NRC Staff Proposed Finding of Fact, ¶ 96). Dr. Marrack's bald assertions do not detract from these conclusions which are bolstered by the absence of any observed fish kills on Texas cooling lakes. (Id., ¶ 97).

c. Excessive Plant Growth (Sewer Discharges)

With respect to this issue, Dr. Marrack alleges (p. 7) that the NRC Staff and Applicant chose to ignore the experience and studies pertaining to Texas cooling lakes and algal growth problems. This assertion is completely without basis. As indicated in the NRC Staff Proposed Findings, ¶s 112-116, the NRC Staff and the Applicant did review data from four Texas power plant cooling lakes that were studied by EPA during the National Eutrophication Survey. This information indicated that the probability for nuisance algal blooms was very low and it should not affect the fishery resources. Dr. Marrack's unfounded assertions and his reference to the Rice University study at Lewis Creek Lake would not change these conclusions.

Dr. Marrack also asserts that exotic plants "Hydilla" (sic) and "Water Hyacinth" are significant problems in lakes in the area and would impair marine access and water sports. This statement is without basis in the record and should be rejected.

3. Barging (Reactor Vessel Transportation, TexPirg Contention AC 1)

Dr. Marrack asserts (p. 8) that the 1000 meter section of the San Bernard River from the U.S. Army Corps of Engineers maintained channel

(RM 26) to the proposed off-loading facility (RM 26.5) is unsurveyed. He therefore contends that there is no evidence that a fully laden barge can navigate this section of the river. This argument ignores the profiles of the river at the barge slip (App. Ex. 16, Figs. 2 and 3) and the other factual evidence which indicates that dredging will not be required in this section of the river in order to accommodate barge movement to the slip. (See NRC Staff Proposed Findings of Fact, ¶ 66).

B. TexPirg

By Board Order dated February 25, 1982, the Board granted TexPirg until March 15, 1982 within which to file proposed findings of fact and conclusions of law. Accordingly, we will respond to TexPirg's proposed findings pursuant to this extended schedule.

C. Conn, Cumings, Doggett, Griffith, Johnston and Lemmer
("Consolidated Intervenors")

1. Low Level Radiation Health Effects

The Consolidated Intervenors contend (¶ 158) that their evidence on this issue was in the form of a sworn affidavit by Irwin J. Bross, PhD. However, that affidavit was never introduced into evidence and cannot be considered part of this record for decision-making.

The Consolidated Intervenors are also apparently confused (¶ 162) with respect to the incremental increase in the lifetime risk of cancer from exposure to Appendix I levels of radiation. Both Dr. Gotchy (Gotchy at 24; Tr. 19736) and Dr. Hamilton (Tr. 19579) agree that this increase is about 0.009% based on BEIR III best estimates. Dr. Gotchy went on to further explain that if the present best estimates of the risk

of leukemia were low by a factor of 20 as claimed by Dr. Bross in his 1981 Reassessment, then the incremental increase would still amount to less than 0.2% (0.009% X 20). Dr. Gotchy concludes that this upper-bound increase in the lifetime risk of cancer mortality is still de minimus and should not be a reasonable basis for challenging the NEPA cost/benefit balance for ACNGS. (See NRC Staff Proposed Finding of Fact, ¶ 162.) The 0.0009%^{3/} figure cited by the Consolidated Intervenors on Dr. Gotchy's testimony (p. 18), does not pertain to the incremental increase in an individual's lifetime risk of cancer from exposure to Appendix I levels of radiation. It represents the percentage of people (40) who might die from cancer due to the operation of 100 LWRs among the 44 million people who would die from cancer due to all other causes. Thus, it represents a collective risk to the U.S. population from 100 LWRs operating for 30 years. (Tr. 19737). Obviously, a collective risk is different from an individual risk and it is just coincidental that they differ by a factor of 100. (Tr. 19738).

2. Alternatives to the Proposed Project - Coal v. Nuclear

192-195. The Consolidated Intervenors seek a Board finding that the use of coal-slurry would be environmentally and economically preferable

^{3/} Corrected by Dr. Gotchy at Tr. 19653.

to rail transport and that coal-slurry transport is a significant factor in a comparison of coal and nuclear costs. However, they cite no basis for their proposed findings and, accordingly, the findings must be rejected.

199. The Consolidated Intervenors have proposed a finding that the historical evidence shows that the construction costs of nuclear plants escalate at a significantly greater rate than coal construction costs. However, this proposed finding is contrary to the evidence of record. (See NRC Staff Proposed Findings of Fact, ¶ 196). Accordingly, it must be rejected as having no basis.

200-201. The Consolidated Intervenors submit that the Board should find that uranium fuel prices will escalate faster than coal costs. There is no support for this finding and, therefore, it must be rejected. (See NRC Staff Proposed Findings of Fact, §s 200-201).

3. Alternatives to the Proposed Project-Municipal Solid Waste Combustion

The Staff has no reply to these proposed findings. Staff, however, disagrees with Consolidated Intervenors' proposed ultimate finding on this issue.

4. Alternatives to the Proposed Project-Energy Conservation and Passive Solar

The Staff has no reply to these proposed findings. Staff, however, disagrees with Consolidated Intervenors' proposed ultimate finding on this issue.

5. Technical Qualifications

Staff believes that the Applicant's proposed findings have dealt with most of the points made by the Consolidated Intervenors regarding this contention. Reiteration of these points is unnecessary. However, Consolidated Intervenors have made various mischaracterizations of the record which should be commented upon.

Proposed Finding ¶ 309

(a) In line 9, paragraph 2 of this proposed finding (page 16), the Consolidated Intervenors contend that Mr. Oprea has testified that the elimination of several levels of management between himself and the Q/A manager was not a significant change because he had always been involved in Applicant's Q/A program. The Intervenors' inference here is that the ACNGS Q/A program is not an improvement over the STP Q/A program. To the contrary, however, what Mr. Oprea actually said was that even though he had always been involved in quality assurance activities, the system is now improved by eliminating several levels of management so that the employees now believe that management is truly involved. (Tr. 18089)

(b) In line 12, paragraph 2 of this proposed finding (page 16), Consolidated Intervenors attempt to discredit Mr. Oprea's management role in the nuclear area by pointing to a statement in the record by Mr. Oprea that he does not spend 100% of his time on nuclear activities. This comment by the Intervenors, designed to give the impression that substantial portions of Mr. Oprea's time are spent on non-nuclear endeavors,

is false. Mr. Oprea later clarified this point after continued questioning by testifying that 98% of his time is spent on nuclear activities. (Tr. 18134)

(c) Consolidated Intervenors also claim Mr. Oprea testified that his only qualification for the job is 30 years of "non-nuclear experience". Again, the Intervenors have misstated Mr. Oprea's testimony. In his statement, Mr. Oprea did not limit his experience to non-nuclear work, but stated that he had "30-some-odd years of experience." (Tr. 18062) The fact is that some of this earlier experience was in nuclear. (Tr. 18088)

Proposed Finding ¶ 310

Consolidated Intervenors contend that there is no explanation of how Applicant's in-house Staff will be maintained and managed to adequately monitor and verify Q/A conformance. This statement overlooks the detailed Q/A duties of HL&P personnel set forth in Applicant's Proposed Finding ¶ 314 and the testimony at Tr. 18095-18103.

Proposed Finding ¶ 311

Consolidated Intervenors allege that HL&P has not demonstrated how it will effectively discharge its duty of overseeing its A/E. This comment once again does not acknowledge those duties required of Applicant set forth in Applicant's Proposed Finding ¶ 314.

Proposed Findings ¶s 313-314

(a) At line 3, paragraph 1 of this proposed finding (page 18),

Consolidated Intervenor's state that Applicant could not suggest a real solution to the problem of turnover in project managers. To the contrary, the portion of the transcript in question reveals that witness Goldberg specifically testified Applicant could keep good managers by hiring persons who have the requisite qualifications and experience so that job pressures would be less likely to cause job turnovers. (Tr. 18145-146).

(b) Consolidated Intervenor's also make the misleading statement that "there is no requirement in the hiring of engineers that they have nuclear experience." This comment might lead one to believe that non-experienced personnel would be doing the work at ACNGS. This is far from Mr. Goldberg's actual testimony:

BY WITNESS GOLDBERG:

A. In terms of my policies, I currently lean very heavily toward hiring engineers with prior experience.

Now, I believe that each project should have a mix of young engineers who do not necessarily have to have that experience who are assigned to work under the direction of those that do have experience.

We have to plan for the transition of responsibilities from older engineers to younger ones as the older ones get promoted perhaps into other assignments.

Currently, I'm trying to build a certain nucleus of skills on which I can capitalize when I bring younger engineers aboard at a later date. So my current policies are to only hire in the very near future engineers with prior nuclear experience.
Tr. 1850-1851) (emphasis added)

(c) At line 8, paragraph 1 of this proposed finding (page 18), Consolidated Intervenor's contend that course attendance (by Applicant's

technical personnel) is encouraged but not required. This statement completely neglects Mr. Goldberg's statement that if they do not attend such courses ". . . they don't work for me." (Tr. 18,158).

(d) At line 9, paragraph 1 of this proposed finding (page 18), Consolidated Intervenors claim that there is no testing in evaluating the effectiveness of courses, workshops, and quality assurance indoctrination. This is a misleading characterization of Mr. Goldberg's testimony. What Mr. Goldberg actually said is that ". . . it varies from one program to another whether or not there is any kind of formal testing." He also stated that "more times than not in that type of training the pattern is to ask searching questions at various points in the program to find out if the students have in fact absorbed the material by the nature of the manner in which they respond to those questions." (Tr. 18161)

(e) In the second paragraph of this finding (page 18), Consolidated Intervenors once again belittle the fact that Mr. Oprea is in closer contact with personnel for ACNGS than he was for STP by the removal of several layers of management. As pointed out in paragraph 1 of this section, this is a mischaracterization of Mr. Goldberg's testimony.

(f) In paragraph 3 of this proposed finding (pages 18 and 19), Consolidated Intervenors assert that the proposed QA/QC plan for ACNGS is very similar to the STP plan. This apparent attempt to discredit the ACNGS plan is not supported by the testimony which is cited. The only similarity between STP and ACNGS that witness Goldberg alludes to in his testimony is the fact that in certain instances ACNGS will utilize the same type of informational pool that STP had. (Tr. 18,166). Even this

limited similarity should not be a problem, however, because the witness goes on to describe how the STP problems regarding this informational pool can be remedied. (Tr. 18167).

(g) In line 3, paragraph 3 of this proposed finding (page 19), Consolidated Intervenors assert that "there is no specific explanation as to how the proposed QA/QC changes will result in stronger implementation at the site with regard to day to day construction (Tr. 18095-96)." Staff does not understand how Consolidated Intervenors can make this allegation since witnesses Oprea and Goldberg described in considerable detail the QA/QC procedures for onsite construction. (Tr. 18095-18103). Of course, the Consolidated Intervenors were free to have obtained even more detail on cross examination regarding these procedures, but they did not elect to do so.

(h) In line 6, paragraph 3 of this proposed finding (page 19), in an apparent attempt to discredit Q/A for ACNGS construction, Consolidated Intervenors comment that Ebasco has had harassment of QA personnel similar to that at STP. Although it is true that Mr. Oprea made this statement, it should be pointed out that Mr. Goldberg also explained that such harassment problems were industry wide and were linked closely with the fact that the contractors involved were usually only working on their first or second nuclear plants. (Tr. 18106-18107).

(i) In line 10, paragraph 3 of this proposed finding (page 19), Consolidated Intervenors suggest that ACNGS audit procedures will be inadequate since they will essentially be the same as those at STP. What Consolidated Intervenors do not include in their comments, however, is that Mr. Oprea also testified that the procedures in question are

straight forward and are used on an industry-wide basis by all contractors and vendors. (Tr. 18119).

(j) In line 12, paragraph 3 of this proposed finding (page 19), Consolidated Intervenors comment that "Mr. Oprea states that there will be no change in the kind of surveillance or monitoring that will be done despite the Show Cause Order of May, 1980. (Tr. 18,227)." (It should be noted that Mr. Goldberg and not Mr. Oprea, as cited by Intervenors, testified at this portion in the transcript). This statement by the Intervenors is very misleading because it suggests that the ACNGS surveillance is in violation of the May, 1980 Show Cause Order. Nothing in this testimony by Mr. Goldberg, however, establishes that this is the case. (Tr. 18227-18228).

D. Intervenor Doherty

The NRC Staff would note a general objection to several of Intervenor Doherty's proposed findings. This objection pertains to Mr. Doherty's proposal that the Board adopt findings which would require the Applicant or Staff to do something at the operating license stage. Particularly, this type of finding has been proposed with respect to the following issues:

Doherty Contention 50: Jet Pump Beam Cracking

3. . . . we will require the Applicant to present results of the follow-up studies on jet pump beam cracking in BWR-6 plants of the proposed jet pump hold down beam design at the operating license stage.

Doherty Contention 41: Inadequacy of Water Level Indicators

22. The Board will require at the operating license stage of review the Applicant's plans with

regard to informing operators of the increasing density of liquid in the indicators for water level indication as cooling progresses.

Doherty Contention 10: Diesel Generator Reliability (HPCS)

29. We will require Staff, and Applicant if it so chooses to present evidence on compliance with the recommendations of NUREG/CR-0660, at the Operating Licensing stage of review to determine if any necessary changes are required.

Board Question 14: MSLRM Problem Discovered at Dresden 3

54. . . . we will require the Applicant to present who will have responsibility for supplying the administrative control over the movement of control rods This may be done at the OL stage of review.

The above proposed findings are objectionable because they can be interpreted as either requiring the Applicant or Staff to present certain evidence at a future operating license hearing, or directing the Applicant or Staff to review particular information at the operating license stage of review. It has been held by the Commission that adjudicatory boards do not possess the authority to direct the holding of hearings following the issuance of a construction permit nor have boards been delegated the authority to direct the Staff in the performance of its administrative functions. As part of its inherent supervisory authority, only the Commission has the authority to direct the Staff's performance of administrative functions, even over matters in adjudication. Carolina Power and Light Co. (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, and 4), CLI-80-12, 11 NRC 514 (1980). Accordingly, this Board does not have the authority to require or direct the Applicant or Staff to perform an administrative function at the operating license stage of review. If

the Board is concerned about these matters, it may bring them to the Commission's attention. Ibid. Therefore, these findings must be rejected.

In addition, the Staff notes the following responses to the specific proposed findings set forth by Intervenor Doherty.

Doherty 9: Containment Buckling

Intervenor Doherty (§ 7) cites NUREG-0747 as stating that "The current standard methods for determining buckling loads of steel containment vessels that are subjected to axisymmetrical dynamic pressure loads have not been verified by testing or accurate analysis." However, Applicant's witness Mokhtarian testified that even though it is difficult to simulate some of these nonsymmetric loadings on vessels for test purposes, the uncertainties are accounted for by using conservative assumptions regarding the maximum stress at any point around the circumference of the vessel. (Tr. 11064-65). This procedure is well recognized by experts in this field. (Tr. 11066-67). Both the Staff and the Applicant agree that the steel containment for ACNGS is designed for the loads which may give rise to buckling and the conservatisms in the calculations of loadings compensate for any uncertainties relating to buckling calculations. (See Applicant's Proposed Findings of Fact, § 91).

In addition, Mr. Doherty would have the Board note (§ 12) that the ACNGS shell has not been designed for a hydrogen explosion load. However, Staff witness Chan testified that an explosion is not the type of load that would cause buckling because it is a sudden increase of internal pressure that would give the containment tension in all directions.

(Tr. 11206). Accordingly, Mr. Doherty has not identified any evidence that would alter the Applicant and Staff conclusions on this matter.

Doherty Contention 3: Design Safety Limits of Fuel Rods

Mr. Doherty's proposed findings on this issue (§s 30-41) again raise the confusion which was exhibited during the hearing regarding the terms "fuel failure threshold" (170 cal/gm) and "design safety limit" (280 cal/gm.). (See Applicant's Proposed Findings of Fact, §s 57-58). It appears that the only point Mr. Doherty wishes to make in his proposed findings is that the design safety limit may not be conservative (that is, it should be lower than 280 cal/gm) because it does not account for fuel rods that have high burnup (above 30,000 MWD/T) such as proposed for ACNGS. However, Mr. Doherty's assertion is without merit. Staff witness Dr. Meyer explained that high burnup effects on fuel rods will have a very small effect on the design safety limit (perhaps 8 or 9 cal/gm) because very little reactivity would be left in the fuel. He testified that this effect was within the uncertainty already present in the design safety limit measurement. Dr. Meyer also noted that fuel rods with higher burnup will indeed experience greater flow blockage than those with none when exposed to high energy depositions. However, the phenomenon that produces flow blockage, namely high temperatures essentially at the melting point of the fuel, does not occur for energies below the design safety limit. The tests referred to by Intervenor Doherty (Doherty Ex. 3, p. 592) had energies greater than the design safety limit. In summation, although there is some burnup dependency regarding initial cladding defects, i.e., the fuel failure threshold,

there is virtually no such dependency regarding the design safety limit. (Tr. 14221-24; 14236).

Board Question 4A: Standards For Combustible Gas Control

In this proposed finding (§ 52), Mr. Doherty contends that the ACNGS containment is inadequate because it is designed to withstand a stress no greater than 45 psig. According to Mr. Doherty, since a complete metal water reaction and inerting with CO₂ would reach a containment pressure of 42 psig, the 3 psig would be an insufficient margin for safety. He bases this conclusion on his theory that there is a possibility that volume in the containment may later be reduced by the addition of new equipment and because there is inherent difficulty in accurately determining what the exact containment pressure would actually be following a LOCA.

Mr. Doherty is incorrect in noting that the ACNGS containment is designed to accommodate stress no greater than 45 psig. The ACNGS steel containment shell will be designed in accordance with the ASME Boiler and Pressure Vessel Code, Section III, Division 1, Subsubarticle NE-3220, for an internal pressure of 45 psig in combination with dead load and the associated temperature. The allowable stress level for meeting the above ASME Code section is Service Level C. (Staff Ex. 20, SSER Supp. No. 3, p. II-10). Staff witness Fields testified that the required minimum internal pressure corresponding to Service Level C stress limits for ACNGS would be 45 psig. (Tr. 16284). The Applicant has committed to meeting this requirement and will verify that this service level will not be exceeded by submitting appropriate analyses within two years after

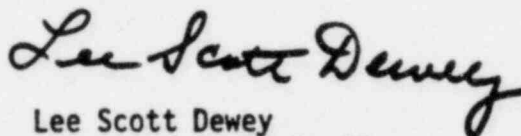
issuance of a construction permit. (Staff Ex. 20, p. II-10). The Applicant's initial calculations indicate that the peak containment pressure associated with a postulated scenario resulting from an equivalent 100-percent fuel-clad metal-water reaction coupled with the discharge of the CO₂ inerting system will be 42 psig, which is within the 45 psig minimum pressure. (Ibid.). The Staff has initially concurred with the Applicant's conclusion that containment integrity would be maintained. (Id., p. II-13). However, to ensure that these requirements are met, the Staff has recommended conditions for the permit which would require the submittal of plans, analyses and test data for the ACNGS hydrogen control systems two years after issuance of the construction permit. (See Staff Ex. 21, SSER Supp. No. 4, pp. 1-2, 1-3). Therefore, even though evidence indicates that the postulated accident scenario will result in containment pressures within the Service Level C stress limits, the hydrogen control systems will be subject to further review and analyses prior to their implementation. This will assure that containment pressure following inerting will be within acceptable limits and that the Applicant will maintain the capability of incorporating any of the alternative systems in the final design.

Finally, there is no evidentiary basis for Mr. Doherty's argument that containment volume will be reduced by bringing new equipment into the containment or there is an "inherent difficulty" in accurately determining containment pressure after the postulated accident scenario.

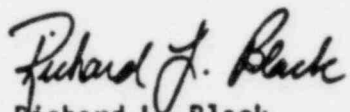
E. Intervenor Baker

Staff does not agree with Mr. Baker's conclusions. As set forth in Applicant's proposed findings (§s 14-23), the record in this proceeding establishes with reasonable assurance that adequate markets will exist for external financing and that a favorable regulatory climate in Texas will continue to enable Applicant to receive additional sources of capital for construction financing. Accordingly, the Staff submits that the Applicant has a reasonable financing plan in light of relevant circumstances, has satisfied the requirements of 10 C.F.R. § 50.33(f), and is financially qualified to construct ACNGS.

Respectfully submitted,



Lee Scott Dewey
Counsel for NRC Staff



Richard L. Black
Counsel for NRC Staff

Dated at Bethesda, Maryland
this 1st day of March, 1982.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

HOUSTON LIGHTING AND POWER COMPANY

(Allens Creek Nuclear Generating
Station, Unit 1)

Docket No. 50-466

CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF REPLY TO PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW SUBMITTED BY INTERVENORS" 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, through deposit in the Nuclear Regulatory Commission's internal mail system, this 1st day of March, 1982:

Sheldon J. Wolfe, Esq., Chairman*
Administrative Judge
Atomic Safety and Licensing
Board Panel
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Susan Plettman, Esq.
David Preister, Esq.
Texas Attorney General's Office
P.O. Box 12548, Capitol Station
Austin, TX 78711

Dr. E. Leonard Cheatum
Administrative Judge
Route 3, Box 350A
Watkinsville, Georgia 30677

Hon. Jerry Sliva, Mayor
City of Wallis, TX 77485

Mr. Gustave A. Linenberger*
Administrative Judge
Atomic Safety and Licensing
Board Panel
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Hon. John R. Mikeska
Austin County Judge
P.O. Box 310
Bellville, TX 77418

J. Gregory Copeland, Esq.
Baker & Botts
One Shell Plaza
Houston, TX 77002

Mr. John F. Doherty
4327 Alconbury Street
Houston, TX 77021

Jack Newman, Esq.
Lowenstein, Reis, Newman &
Axelrad
1025 Connecticut Avenue, N.W.
Washington, DC 20037

Mr. William J. Schuessler
5810 Darnell
Houston, TX 77074
D. Marrack
420 Mulberry Lane
Bellaire, TX 77401

Brenda A. McCorkle
6140 Darnell
Houston, TX 77074

Mr. Wayne Rentfro
P.O. Box 1335
Rosenberg, TX 77471

Leotis Johnston
1407 Scenic Ridge
Houston, TX 77043

Margaret Bishop
J. Morgan Bishop
11418 Oak Spring
Houston, TX 77043

Stephen A. Doggett, Esq.
Pollan, Nicholson & Doggett
P.O. Box 592
Rosenberg, TX 77471

Carolina Conn
1414 Scenic Ridge
Houston, TX 77043

Atomic Safety and Licensing
Board Panel*
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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Appeal Board Panel*
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Texas Public Interest
Research Group, Inc.
c/o James Scott, Jr., Esq.
13935 Ivymount
Sugarland, TX 77478

Rosemary N. Lemmer
11423 Oak Spring
Houston, TX 77043

Carro Hinderstein
Houston Bar Center
723 Main Suite 500
Houston, TX 77002

U.S. Nuclear Regulatory Commission
Region IV, I&E
611 Ryan Plaza Drive, Suite 1000
Arlington, TX 76011

Bryan L. Baker
1923 Hawthorne
Houston, TX 77098

Robin Griffith
1034 Sally Ann
Rosenberg, TX 77471

Mr. William Perrenod
4070 Merrick
Houston, TX 77025

Docketing and Service Section*
Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Richard L. Black

Richard L. Black
Counsel for NRC Staff