

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) §

APPLICANT'S MOTION FOR SUMMARY
DISPOSITION ON INTERVENOR DOHERTY'S
CONTENTION NO. 44

Applicant moves the Board under 10 CFR §2.749 to grant summary disposition with respect to Intervenor Doherty's Contention No. 44 relating to IGSCC/water hammer. As shown in the accompanying statement of material facts as to which there is no genuine issue to be heard, and the affidavit of Walter Malec and Lewis Gunther, there is no genuine issue to try in this proceeding and Applicant is entitled under §2.749 to have the contention summarily dismissed as a matter of law.

The Contention

Doherty's Contention No. 44 states:

Intervenor contends the ACNGS design is unsafe against pipe break accidents at pipe cracks initiated by water hammer. Further, analysis of such an event is required to indicate what must be done to cope with accidents caused by large deep cracks in the recirculation pipes such as those discovered at the Duane Arnold Energy Center in 1978. According to the 1978 NRC Annual Report,

100 incidents involving water hammer have occurred in both PWR's and BWR's. A recent Advisory Committee on Reactor Safeguards (ACRS) report to the Commission (August 16, 1979), indicates there is need for more adequate inservice inspection of piping including feedwater and steam supply piping, residual heat removal system, ECCS, containment spray system, and service water systems in nuclear plants such as ACNGS.

Intervenor contends:

- a. Applicant should be required to analyze and determine what additional measures may be taken to mitigate the consequences of water hammer on system piping listed above, and...
- b. Applicant should be required to analyze and determine what additional measures may be taken to mitigate the consequences of water hammer on system piping listed above which has suffered the various types of cracking observed in NUREG-0531, and NUREG-75/067, and
- c. Applicant should be required to analyze and determine what additional measures can reduce the probability of an event where water hammer causes a cracked pipe to break.

Argument

Intervenor Doherty's concern in this contention is that piping in the ACNGS will be susceptible to intergranular stress corrosion cracking (IGSCC), which will undermine the structural strength of this piping.^{1/} In the event that

^{1/} All of Intervenor's references (Duane Arnold cracks, NUREG-0531, "Investigation and Evaluation of Stress Corrosion Cracking in Piping of Light Water Reactor Plants," and NUREG-75/067, "Investigation and Evaluation of Cracking of Austenitic Stainless Steel Piping of BWR Plants") and the only example identified by Intervenor on deposition (Tr. 346, dated Nov. 20, 1979) exclusively concern intergranular stress corrosion cracking.

intergranular stress corrosion cracking were to occur, Intervenor further postulates that water hammer forces would exert sufficient strain on the already weakened pipes as to cause the pipes to break. The co-existence of these two physical concerns, IGSCC and water hammer is, therefore, alleged to pose a health and safety hazard at Allens Creek.

As the affidavit of Walter Malec and Lewis Gunther attached to this motion, as well as the affidavits submitted in support of Applicant's motion for summary disposition of TexPirg Contention 10, demonstrate, materials not susceptible to IGSCC will be utilized in virtually all of the piping in the ACNGS. These materials eliminate the major cause of IGSCC heretofore identified in light water reactors and make it highly unlikely that ACNGS piping will experience this phenomenon. The removal of IGSCC concerns at Allens Creek eliminates an essential element of Intervenor's contention.

Moreover, Applicant has taken numerous design and engineering measures to minimize the potential for water hammer forces which may be created at Allens Creek. The attached affidavit demonstrates that Applicant has reviewed existing NRC Staff guidance on this issue and has incorporated several design modifications in order to minimize the possibility of significant water hammer forces. Applicant will further implement applicable recommendations made by

the NRC Staff, if any, in the future. The second element of intervenor's contention has, therefore, also been minimized or eliminated in the systems where, in the past, serious water hammer forces have been identified.

Accordingly, there is no genuine issue as to any material fact relevant to Doherty Contention 44, and Applicant is entitled to a favorable decision as a matter of law.