

July 20, 1981

SECURITIES AND EXCHANGE COMMISSION
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OFFICE OF APPLICATIONS UNITED STATES OF AMERICA
& REPORTS SERVICES NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

HOUSTON LIGHTING & POWER COMPANY

(Allens Creek Nuclear Generating
Station, Unit 1)

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Docket No. 50-466

DIRECT TESTIMONY OF CLOIN G. ROBERTSON
ON DOHERTY CONTENTION 8 AND BOARD QUESTION
RE ATWS

Q. Please state your name and position.

A. My name is Cloin G. Robertson. I am the Manager
of Nuclear Licensing for Houston Lighting & Power Company
(HL&P).

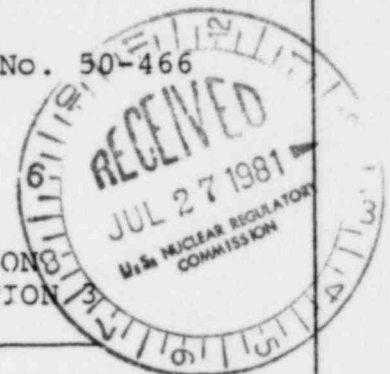
Q. Please describe your professional experience and
educational background.

A. My professional experience and educational back-
ground are explained in Attachment CGR-1.

Q. Mr. Robertson, in your capacity as Manager of
Nuclear Licensing are you responsible for assuring that
the design of the Allens Creek Nuclear Generating Station,
complies with all applicable regulatory requirements?

A. Yes I am.

Q. What is your understanding as to the current NRC
position on ATWS?



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1 A. The steps that have been taken by the NRC to
2 address ATWS are thoroughly described in Volume 4 of
3 NUREG-0460. The NUREG lists several groupings of design
4 changes that have been proposed in order to mitigate the
5 consequences of ATWS. Under the NRC's currently proposed
6 rule on ATWS (SECY-80-409) the design changes designated
7 as Alternate 3A in Vol. 4 of NUREG-0460 would be required
8 for the Allens Creek plant.

9 Q. What design changes are necessary in order to
10 incorporate Alternate 3A into the design of Allens Creek?

11 A. The design details are fully described in
12 NUREG-0460. To summarize, Alternative 3A requires incor-
13 poration of: (1) an alternative rod injection system (ARI);
14 (2) recirculation pump trip (RPT); (3) an automated standby
15 liquid control system (SLCS); (4) logic changes to reduce
16 vessel isolation events and permit feedwater runback; (5) modi-
17 fication of scram discharge volume to reduce common mode
18 failure potential of the single scram discharge volume;
19 and (6) provisions for the rapid closure of containment
20 isolation valves in the event of fuel failure.

21 Q. In Board Question 3 the Board has inquired as
22 to whether HL&P intends to comply with the NRC require-
23 ments regarding ATWS. Can you address this question?

24 A. Yes. In Appendix K of the PSAR, HL&P committed to

1 incorporate any design modifications that may be required by
2 the staff to resolve the ATWS issue, as stated at page 15-
3 2 of Supplement No. 2 to the Allens Creek Safety Evaluation
4 Report. At the construction permit stage HL&P is designing
5 the Allens Creek plant to accomodate the alternatives as
6 described in NUREG-0460, Vol. 4.

7 Q. Referring specifically to Mr. Doherty's conten-
8 tion, is it true that the Allens Creek plant will have only
9 a manually operated SCRAM System as backup to an automatic
10 SCRAM initiation.

11 A. Not necessarily. The ARI is a redundant backup
12 system for the prompt scram system. ARI has automatic
13 initiation, and it has completely independent circuitry. The
14 SLCS is also a redundant system and it functions automatically.

15 Q. What changes to the design relative to ATWS have
16 already been instituted or programmed for Allens Creek?

17 A. The recirculation pump trip and an identified
18 procedural package will be developed by HL&P operations
19 personnel prior to plant operation.

20 Q. Are design features other than the recirculation
21 pump trip and procedural package required at this time?

22 A. No. The RPT and procedural package are being used
23 by NRC at the current time as the ATWS requirements for
24 issuing new operating licenses with the caveat that additional

1 design features may be required later.

2 Q. Does the Allen Creek design currently include all
3 identified NRC requirements?

4 A. Yes. The design meets current requirements and
5 provisions are being made to accomodate additional features
6 if necessary. Again I would emphasize that HL&P is committed
7 to including such design features as are necessary to resolve
8 the long-standing ATWS issue.

Cloin G. Robertson

I received a Bachelor of Science Degree from the U.S. Military Academy at West Point in 1958. I received a Master of Science in Nuclear Engineering from MIT in 1965, and I received a Nuclear Engineer Degree from MIT in 1967.

From 1967 to 1973 I was employed as an engineer at the KAPL Division of General Electric Company where I performed safety analyses and core thermal/hydraulic analyses on the reactors for the Nimitz class attack carriers. I also performed loss-of-coolant accident analyses of reactor systems, conducted safe guard analyses for AIG fuel loading and fuel storage operations, conducted shielding analyses for protection of personnel and equipment, reviewed and approved operating, maintenance, start-up and test procedures for the AIG reactor system, and conducted protective system analyses including control rod injection and high-pressure and high-power transients. As an engineer at GE I also worked on the AIG thermal hydraulic design and analysis that included analyzing fuel and cladding temperature distributions, design of the emergency core cooling system, analysis of control rod cooling water flow flow rates and other core structural members, and performance of water hammer analyses of core and reactor vessel loadings.

From 1973 through 1974 I was employed by the New York Atomic Energy Council as a nuclear facility specialist where I represented the State of New York in licensing proceedings relating to the issuance of construction permits and operating licenses permits for nuclear facilities in the State of New York. I also provided a technical evaluation for the New York State Emergency Plan for Fixed Nuclear Facilities and represented the State of New York on a state and federal siting committee relative to the NRC early site review regulations.

From May 1974 to March 1977 I worked for the New York State Energy Research and Development Authority as a Siting Program Manager. In this capacity I was responsible for management of the state-wide environmental and technical qualifications program to identify and evaluate sites for major new electrical generation stations. In this regard I directed site studies for nuclear and fossil generating stations and also directed the Authority's interest in the West Valley reprocessing plant and waste burial facility.

From March 1977 to March 1981 I was employed by the Stone & Webster Engineering Corporation. From March 1977 to January 1978 I was a Senior Licensing Engineer in the Licensing Division with responsibility to coordinate the preparation of Licensing Division technical guidelines. I was the licensing engineer for James A. FitzPatrick, Surry Units 1 and 2, Maine Yankee, Connecticut Yankee, and Millstone plants relative to work by the Operation Services Division. From January 1978 through November 1980 I was Supervisor of the Engineered Safeguards Group. I supervised 20 to 30 engineers with responsibility for the analysis and functional design of Stone & Webster nuclear power plant containments and safety systems. This work included the design and analyses activities associated with containment pressure and temperature response during accident conditions. It also included system design and analysis responsibility for safety injection systems, containment spray systems, auxiliary feedwater systems, containment atmosphere cooling systems, containment leakage monitoring systems, and re-activity control systems. I was also responsible for the performance of analyses regarding the effects resulting from postulated pipe breaks inside and outside containment. Such analyses included combustible gas control inside containment, pH control inside containment, equipment temperature and pressure environmental qualification requirements, containment subcompartment asymmetric pressure transients, containment pressure and temperature transients resulting from postulated pipe breaks, NPSH requirements, and requirements for heat removal from spent fuel storage pools.

From November 1980 until March 1981 I was Supervisor of the Engineered Safety Systems and Analysis Group. My responsibilities were basically the same as in my prior capacity as Supervisor of the Engineered Safeguards Group. However, during this time I did work on development of analysis capabilities with respect to degraded core conditions and I coordinated the Stone & Webster work with respect to the NRC rule making related to reactor safety.

I joined Houston & Lighting Company in March of 1981 as the Manager of Nuclear Licensing. In this capacity I am responsible for all licensing activities for the Allens Creek and South Texas Project nuclear plants.