

10/09/81

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) )

NRC STAFF TESTIMONY OF FELIX B. LITTON  
ON WELDER TRAINING [DOHERTY CONTENTION 35]

- Q. Please state your name and position with the NRC.
- A. My name is Felix B. Litton. I am employed by the Nuclear Regulatory Commission in the Materials Engineering Branch. I have been so employed since 1975. A statement of my professional qualifications has been previously submitted in this proceeding and I have testified in connection with other contentions.
- Q. What is the purpose of this testimony?
- A. The purpose of my testimony is to address Doherty Contention 35, which reads as follows:

Applicant will be unable to provide safe welding of piping at ACNGS without costly repairs to such welding or danger to petitioners health and economic interests in the event of pipe break as a result of such welding not being rewelded when it should have been. Welding at Comanche Peak Nuclear Steam Station, Units 1 & 2 in Somerville County, Texas, has been done frequently by persons being trained to be welders prompting large frequency of rewelding and seven meetings between NRC officials and the utility representatives. This Intervenor says the same situation is likely to occur here due to a shortage of trained employees and less than union

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wages from Applicant's constructor, Ebasco. Intervenor contends Applicant should be required to present a program for training persons before they weld at the ACNGS site and to require a pay scale for employees of all contractors for welding and welders equal to union wages for welders at similar construction conditions, in order to assure continued employment of such welders.

- Q. What will be done to insure that safe welding techniques are performed at the Allens Creek site?
- A. Criterion IX of Appendix B of 10 C.F.R. Part 50 requires that measures be established to control special processes, including welding, and that they be performed by qualified personnel using procedures conforming to the applicable codes, standards, and specifications. For welding qualification, the applicable standards (per Appendix B) are contained in Section IX of the ASME Boiler and Pressure Vessel Code. In Section 3.6.3.1.1.5.3.2 of the Allens Creek Nuclear Generating Station Unit 1 Preliminary Safety Analysis Report, Houston Lighting and Power Company states that welders shall be trained to perform welding procedures to the standards required by the above-mentioned section of the ASME code. In order to ensure ductile behavior of the welds for the Allens Creek facility, Houston Lighting and Power Company requires, in addition to the ASME code requirement, that Charpy-V notch impact tests be performed as part of the weld qualification tests.
- Q. What type of requirements are set forth in the ASME Boiler Code to provide for proper welding?

A. Section IX of the ASME Boiler and Pressure Vessel Code does not control the basic or fundamental training of the welder or welding operator. However, the code does ensure that the welder or welding operator performs welding procedures to make sound welds which possess the necessary mechanical properties. To this end, performance qualification tests are required by Section IX of the code from each manufacturer or contractor to qualify each welder or welding operator for each welding procedure or process to be used in the production welding. If, during the performance qualification tests, it becomes apparent to the supervisor conducting the tests that the welder or welding operator does not possess the skill to produce satisfactory welds, the tests are terminated and the welder or welding operator disqualified.

The type and purpose of the tests and examinations required for the Welding Procedure Qualifications are stated in Article III of Section IX of the ASME code. The actual test may be selected from a group of tests required for a particular Welding Procedure Qualification. The Houston Lighting and Power Company requires that Charpy-V notch impact tests be performed in addition to the particular Section IX requirements. The tests that are required by the code may be Tension Tests, Guided Bend Tests, Notch-Toughness Tests, Fillet-Weld Tests, and other tests and examinations, including Radiographic and Macro-scopic Examination. The acceptance criteria are stated with the test requirements.

- Q. What other measures will be taken to insure that welding at the site will be done properly?
- A. In compliance with Section IX code requirements, Houston Lighting and Power Company has also established a Quality Assurance Program at the Allens Creek Nuclear Generating Station Unit 1 and has developed written procedures and controls for fabrication of components to ensure that production welding is performed by qualified personnel. Additional fabrication welding and welding during construction at the site will be governed by procedures developed pursuant to Appendix B and ASME Code requirements. These procedures describe the welding to be performed and the documentation required. Conformance to these requirements is assured by a review of the procedures and controls by authorized inspectors and audits to verify implementation.

The Applicant and its architect engineer are responsible for testing and documenting the adequacy of production welds. This documentation is then audited by the Commission's Office of Inspection and Enforcement to ensure that the production welds possess the necessary mechanical properties. The Office of Inspection and Enforcement will conduct inspections for the Allens Creek Nuclear Generating Station Unit 1 for the implementation of the Quality Assurance Program by the Houston Lighting and Power Company. The inspections will consist of selective examination of procedures and representative records, interviews with personnel, and observations by the inspectors. No deviations were identified with the scope of the inspection in the most recent report.

Q. In your opinion is there any validity to Mr. Doherty's contention that an alleged shortage of trained welders will require the use of novice welders?

A. With respect to Mr. Doherty's allegation regarding a shortage of trained welders, the short answer is that until the individuals who are to perform the production welding at Allens Creek pass the qualification tests required by the ASME Code, no production welding will be performed. Thus, it is assured that only properly trained welders will be employed.

Q. What do you conclude with respect to this contention?

A. The conduct of safe welding operations at Allens Creek will be assured by (1) the requirements of 10 C.F.R. Part 50, Appendix B which mandate appropriate welder qualification, (2) the testing requirements of the ASME code and the Applicant, (3) the examination of production welds by the architect engineer and Applicant to verify that they possess necessary mechanical properties, and (4) the audit of those tests by the NRC's Office of Inspection and Enforcement.