04/23/81

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
HOUSTON LIGHTING & POWER COMPANY, ET AL.	)	Docket Nos. 50-498 50-499
	)	
(South Texas Project, Units 1 & 2)	)	

NRC STAFF TESTIMONY OF JOHN W. GILRAY, RELATIVE TO WHETHER THE APPLICANT'S CURRENT QA/QC ORGANIZATION FOR CONSTRUCTION MEETS THE REQUIREMENTS OF 10 C.F.R. PART 50, APPENDIX B

Q. Will you please state your full name, employer, job title and specifically your responsibilities relative to the South Texas Project.

A. John William Gilray; U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulations, Division of Engineering, Quality Assurance Branch (QAB); Principal Quality Assurance Engineer (Nuclear).

As a result of the Show Cause Order of April 30, 1980, QAB was requested by I&E to evaluate the causes that contributed to the breakdown of the quality assurance program at the South Texas Project, the corrective actions taken by HL&P to preclude recurrence of the problems and to suggest corrective action necessary to update the QA program description. I performed this evaluation.

Q. Have you prepared a statement of your educational and professional qualifications?

A. Yes.

Q. Is this statement attached to this testimony?

A. Yes.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to respond in part to Board Issue D, to the extent it asks whether the QA/QC program which has been implemented for the balance of the construction activity at the South Texas Project meets the requirements of 10 C.F.R. Part 50, Appendix B. Board Issue D states:

> In light of HL&P's prior performance in the construction of the STP as reflected, in part, in the Notice of Violation and Order to Show Cause dated April 30, 1980, and HL&P's response thereto (filings of May 23, 1980 and July 28, 1980), and actions taken pursuant thereto, do the current HL&P and Brown & Root (B&R) construction QA/QC organizations and practices meet the requirements of 10 C.F.R. Part 50, Appendix B; and is there reasonable assurance that they will be implemented so that construction of STP can be implemented in conformance with the construction permits and other applicable requirements?

In addition, to the extent this testimony evidences a course of conduct by the Applicant from which corporate character and competence can be inferred, it will be relevant to those issues.

Q. In what document was the Houston Lighting & Power Quality Assurance/Quality Control (QA/QC) program originally incorporated?

A. In Chapter 17 of the PSAR, Docket Nos. 50-498/499.

Q. With respect to Chapter 17 of the PSAR, submitted by Houston Lighting & Power, did the Staff examine that document to determine its completeness and compliance with the 18 criteria set forth in 10 C.F.R. Part 50, Appendix B?

A. Yes, the results of the QAB evaluation are described in the Safety Evaluation Report NUREG 75/075, dated August 1975, and in Supplement #1, dated October 1975. In summary, the program was found acceptable for design and construction activities at the South Texas Project. This conclusion was reached after comparing the proposed program to the criteria of quality related Regulatory Guides and relevant ANSI standards which incorporate the broad guidelines set forth in the 18 criteria of 10 C.F.R. Part 50, Appendix B.

Q. Please explain how this conclusion was reached?

A. The QA program description was reviewed to determine whether there were sufficient QA controls to satisfy 10 C.F.R. Part 50, Appendix B, and whether there were adequate commitments to quality to satisfy related Regulatory Guides and ANSI standards. As a result of this initial review, certain areas were found deficient resulting in a request to HL&P for additional information. The QA program for construction was subsequently amended by HL&P and then found acceptable. An SER was prepared stating that the QA program was acceptable.

Q. Did there come a time when any of these commitments originally set forth in Houston Lighting & Power's PSAR were amended?

A. Yes. As a result of the Show Cause Order, the Quality Assurance Branch was requested to evaluate the causes that contributed to the problems at the South Texas Project in the quality control area, the corrective actions taken by HL&P to preclude recurrence of the problems and the necessary action taken by HL&P to update the QA program description. I evaluated the HL&P response of July 28, 1980, relative

to Section V of the Show Cause Order and prepared quality control related questions resulting from this evaluation which were presented at the Bay City Public Hearing on August 19, 1980. I summarized these questions in a letter, requesting that HL&P update its QA program and include responses to the submitted questions. The letter was submitted to HL&P on September 24, 1980, and the revised upgraded QA program was submitted to the NRC on October 31, 1980.

The docketed QA program has been improved in the HL&P submittal of October 31, 1980, and supplements thereto, reflecting a stronger, more involved QA organization and increased QA programmatic controls. Those particular areas where the program was enhanced, include:

1. The authority and responsibilities of the HL&P QA organization have been increased in the major construction disciplines of civil, structural and electrical. The QA organization has been restructured to include a quality engineering function with separate Project QA Supervisors in each of these disciplines to provide direction to Brown & Root quality control. This interface will provide the necessary continuity in implementing the QA and QC requirements. The QA Manager has been relocated to the site full time in order to be more effective in directing and managing his staff and QA/QC activities.

2. The QA organization at the site has been increased by six QA specialists to provide additional QA coverage over construction activities.

3. The training and indoctrination program has been improved with the incorporation of proficiency tests to assure personnel are knowledgeable of QA/QC principles and capable of executing their assigned tasks.

4. The "stop work" authority has been more clearly defined; it is now recognized that QA/QC personnel of both HL&P and B&R have the authority to stop unsatisfactory work.

5. The QA organization now performs trend analysis on Brown & Root construction activity to identify recurring deficiencies and prevent them from happening in the future.

6. Nonconformance Reports and Field Requests for Engineering Action are now analyzed in order to assess their impact upon the overall design.

7. The identification and correction of nonconforming conditions have been improved to require the prompt reporting of deficiencies and for formal disposition of the deficiencies with QA involvement.

8. The control of changes and "as built" drawings have been improved to preclude situations where changes can be made without engineering and QA documented direction.

9. Both HL&P and B&R have revised and improved their audit systems. The audit staff and procedures have been upgraded improving audit skills and capabilities.

10. Participation of the QA/QC staff in the review and concurrence of changes in procedures and instructions to assure the necessary quality assurance elements is provided.

As currently written, the QA program is acceptable and satisfies the 18 criteria of 10 C.F.R. Part 50, Appendix B. In addition, the improvements of the QA organization in regards to authority and responsibilities in the review and inspection of construction activities

and with improved controls in training, nonconformance controls, audits, stop work authority and engineering field changes give additional confidence that the QA program will be implemented in an acceptable manner.

Q. As currently written, does the Houston Lighting & Power quality assurance/quality control program, as evidenced by its submittal of October 31, 1980, and supplements, currently meet the 18 criteria set forth in 10 C.F.R. Part 50, Appendix B?

A. Yes.

QUALIFICATIONS AND EXPERIENCE OF
JOHN WILLIAM GILRAY

Present Position	Title:	Principal Quality Assurance Engineer (Nuclear)
	Responsibilities:	Participates as a senior member of the Office of Nuclear Reactor Regulation - Quality Assurance Branch staff whose function is primarily one of evaluating, from a safety standpoint, reactor construction and operating proposals with respect to quality assurance and/or technical specficiations. Serves as a senior specialist for evaluation of power reactor license applications.
6/63 - 6/72	Title:	Quality Control Engineer for the AEC Space Nuclear Propulsion Office
	Responsibilities:	As the SNPO-C on-site Quality Control Engineer in the prime contractor's plant, is responsible for monitoring the contractor's quality control program and providing technical direction relative to the testing, inspection and adherence to aerospace-rated quality control procedures for the development of the nuclear rocket engine (NERVA). Directs inspection personnel of the Air Force Plant Representative's office assigned to NERVA program relative to day-to-day inspections and quality surveys.
8/62 - 6/63	Title:	Quality Control Engineer for Bourn's Inc. (Electronic Component Co.)
	Responsibilities:	Responsible for the Quality Control and Reliability policies and activities in the manufacturing and inspection of potentiometers and relays used in the Aerospace industry. Evaluates the design and inspection processes for adequate quality and reliability requirements.

1/59 - 8/62	Title:	Quality Control Engineer at Alco Products, Inc. (Fabricator of Nuclear Components)
	Responsibilities:	Responsible for establishing and assuring proper implementation of Quality Control and Quality Assurance requirements for nuclear components from the design purchasing and manufacturing phases thru the shipment of the components of the Navy Nuclear Shipyards.

Schooling: Graduate in BSME 1958

Courses: Optical Tooling Engineering
Radiography and Film Reading

Societies: Society of Non-Destructive Testing
American Society of Quality Control

PE: Registered Professional Quality Engineer