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U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

South Texas Project Electric Generating Station
Unit 2
Docket No. STN 50-499
As-Built Reconciliation (ABR) Program

Attached is the STP Unit 2 plan for addressing the IEB 79-14 requirements for conducting an as-built reconciliation (ABR) program.

The Unit 2 ABR program will be limited to ASME Class 1 piping. We have determined this scope of review to be acceptable based on the following:

1) The Unit 1 ABR program, which was very extensive and resulted in minor modifications to only three supports, has demonstrated the effectiveness of the STP design-installation control program.

2) The same design and installation control program that was applied to Unit 1 has been implemented on Unit 2. The program includes procedures which define installation requirements and the required documentation for procedural or design deficiencies. It also requires the installed configuration to be verified and approved by construction supervision, field engineering, quality control inspection and design engineering. Design change documents resulting from those procedures provide comprehensive as-built information which is incorporated into drawings and used to finalize calculations.

Therefore, HL&P believes that a detailed ABR program similar to that completed for STP Unit 1 is not necessary. However, in the event that the Unit 2 program identifies significant problems, an evaluation will be performed and corrective action taken which will include consideration of Class 2 and 3 piping supports.

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If you should have any questions on this matter, please contact Mr. A. W. Harrison at (713) 993-1239.

J. H. Goldberg
Group Vice President, Nuclear

AWH/eb

Attachment: As-Built Reconciliation Program Plan for Unit 2

L1/NRC/a.

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Revised 11/20/87

ABR PROGRAM PLAN FOR UNIT 2

CONTENTS

1.0 INTRODUCTION:

This outlines the scope of the As-Built Reconciliation (ABR) Program to address NRC IE Bulletin 79-14 for South Texas Project (STP) Unit 2. The scope, reduced from that of Unit 1, is based on the effectiveness of the STP design-installation control program, which was clearly demonstrated on Unit 1.

2.0 UNIT 1 ABR PROGRAM:

2.1 Outline

The Unit 1 ABR program included all safety-related ASME Section III piping systems and their extensions up to the first in-line anchor. The program included four hundred thirty-three (433) stress calculations and over eight thousand pipe supports.

The program consisted of two main functions. The first involved walkdowns to obtain as-built information via measurements. The measurements were taken to provide comprehensive data related to the piping geometry as well as details of pipe support configurations. The measurement tolerances utilized for walkdowns were equal to or more stringent than those used in the industry.

The second main function consisted of engineering reconciliation. Stress analysis reconciliation involved a review of piping attributes such as geometry, pipe support locations, type, stiffness, and orientation, valves, equipment nozzles, and penetrations to identify deviations between as-built and as-designed conditions. Deviations that exceeded the project criteria were resolved either by documented engineering judgment or reanalysis as appropriate. Pipe support reconciliation involved identification of differences in configuration between the as-built and as-designed supports. Attributes such as center to center distances, base plates, anchor bolts, clip angles, components and member sizes, weld configurations, support stiffnesses, and clearances were compared and any inconsistencies justified by engineering judgment or reanalysis.

2.2 Unit 1 ABR Program Results and Conclusions

Minor hardware modifications were made to only three supports (less than 0.04% of the total scope).

The extremely low percentage of required modifications prove the effectiveness of the STP design and installation control program.

3.0 BASIS FOR UNIT 2 ABR PROGRAM:

The same design and inscallation control program is applied to Unit 2 that was applied to Unit 1.

The program includes procedures which define installation requirements and required documentation for procedural or design deviations. It also requires verification and approval of the installed configuration by construction supervision, field engineering, quality control inspection and design engineering. Design change documents resulting from these procedures provide comprehensive as-built information which is then incorporated into drawings and used to finalize design calculations.

Based on the demonstrated effectiveness of STP verification programs, a comprehensive ABR program like the one performed on Unit 1 is not planned for Unit 2. The review of Class 1 piping described in the next section is sufficient to confirm that the design and installation control process has been an adequate as-built reconciliation for Unit 2.

Review of Class 1 is appropriate for the following reasons:

- o The most rigorously analyzed systems are reviewed.
- o The systems with the most severe thermal transient loadings are reconciled.
- o The detail of the Class 1 reconciliation will readily identify design or installation contro. program deficiencies.
- o The same design and installation procedures are applied to ASME III Classes 1, 2, and 3, so confirmation of acceptability on Class 1 can be extended to Class 2 and Class 3.

4.0 SCOPE OF UNIT 2 ABR PROGRAM

The scope of the Unit 2 ABR Program will involve ASME Nuclear Class 1 lines which require Certified Stress Reports per ASME Section III. The Unit 2 ABR program will be conducted in the same format as the Unit 1 ABR program briefly described in Section 2.0.

4.1 Scope

The list noted below provides the specific scope.

System	Calculational Scope
Reactor Coolant	o Hot leg to pressurizer (RC-5100) o RC leg to liquid waste (RC-7200) o RC leg to liquid waste (RC-7201) o Pressurizer safety and relief valve piping (RC-7208) o Reactor head vent (RC-7497)

Safety Injection	o	RHR lines to hot and cold legs to accumulator tanks and heat exchangers (RC-5110, 5112, 5114)
Residual Heat Removal	o	Hot leg to RHR Pump 1A (RC-5109)
	o	Hot leg to RHR Pump 1B (RC-5111)
	o	Hot leg to RHR Pump 1C (RC-5113)
Chemical Volume Control	o	RC Pump Seal injection lines (RC-7202), 7203, 7204, 7205)
	o	Lines to regenerative heat exchanger, pressurizer spray nozzle, excess letdown heat exchanger (RC-5101, 5106, 5107, 5108)

5.0 BASIS FOR ACCEPTANCE OF UNIT 2 ABR PROGRAM

Outlined below is an approach that will be utilized to evaluate the results of the Unit 2 ABR Program.

The evaluation is intended to be performed in two stages.

1. Discrepant items and measurements noted during the piping system walkdowns for as-building will be recorded. These items may result in nonconformances as determined by the QC organization.

2. The second stage of evaluation will be during the engineering reconciliation of the as-built data. Design deficiencies noted during the reconciliation process will be evaluated utilizing the project QA program implemented via the Engineering Department procedures (EDP's).

   Results of the reconciliation process might necessitate changes to the installed hardware such as pipe support modifications. Piping reroutes are not anticipated. Any such modifications will be evaluated for any generic implications, including applicability to Class 2 and 3 piping and supports.

In summary, the Unit 2 ABR program results will be monitored, evaluated, and documented for the limited scope defined in para. 4.0. Individual discrepancies will be reported and evaluated for adverse trends utilizing existing engineering and standard site procedures. The results of the program will be available on site for NRC review.

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter	)	
	)	
Houston Lighting & Power Company, et al.,	)	Docket No. 50-499
	)	
	)	
South Texas Project Unit 2	)	

AFFIDAVIT

J. H. Goldberg, being duly sworn, hereby deposes and says that he is Group Vice President, Nuclear of Houston Lighting & Power Company; that he is duly authorized to sign and file with the Nuclear Regulatory Commission the attached As-Built Reconciliation (ABR) Program; is familiar with the content thereof; and that the matters set forth therein are true and correct to the best of his knowledge and belief.

J. H. Goldberg
J. H. Goldberg
Group Vice President, Nuclear

STATE OF TEXAS)
)
)

Subscribed and sworn to before me, a Notary Public in and for the State of Texas this 5th day of January, ~~1987~~ 1988.

LOIS I. MILLS
Notary Public, State of Texas
My Commission Expires 7-27-91

Lois I. Mills
Notary Public in and for the
State of Texas