The Light company Houston Lighting & Power P.O. Box 1700 Houston, Texas 77001 (713) 228-9211

May 30, 1984
ST-HL-AE-1099
File No.: G12.195

Mr. John T. Collins
Regional Administrator, Region IV
Nuclear Regulatory Commission
611 Ryan Plaza Dr., Suite 1000
Arlington, Texas 76012

Dear Mr. Collins:

South Texas Project
Units 1 & 2
Docket Nos. STN 50-498, STN 50-499
Commingling of Round Rod Materials

On April 30, 1984, Houston Lighting & Power Company (HL&P) identified the subject item as a Potentially Reportable Deficiency pursuant to the requirements of 10CFR50.55(e). Please find attached an interim report on this item. The next report will be provided by September 28, 1984.

If you have any questions, please contact Mr. Michael E. Powell at (713) 993-1328.

Very truly yours,

G. W. Oprea, Jr.
Executive Vice President

LJK/mpg
Attachment: Interim Report Concerning the Deficiency on Commingling of Round Rod Materials

W2/NRC2/i

IE-27

cc:

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Revised 04/03/84

South Texas Project
Units 1 & 2
Interim Report Concerning Deficiency
on Commingling of Round Rod Materials

I. Summary

Prior to May 21, 1984 Material Control Procedures for the South Texas Project (STP) prescribed the marking of bulk material by color coding and ribbon striping as the method of identification. Recent inspections of material at the fabricating shop storage area revealed improperly marked rods at the STP. This finding indicates a potential problem of commingling of ASTM A36 and ASTM A193 material.

II. Description

Material Control Procedures prescribe that safety-related ASTM A193 round rods shall be coated red-gray with a ribbon stripe identifying A193 painted continuously along one side. Safety-related ASTM A36 rods are to be coated the same red-gray color, but without a ribbon stripe. Inspection at the fabricating shop storage area revealed several 1-inch diameter rods with a stamped heat code known to be A193 material, but without the ribbon stripe.

A testing program utilizing the Texas Nuclear Alloy Analyzer (TNAA) was initiated in order to determine whether the incident was an isolated one or not. Additional rods were found that indicate commingling exists within various rod diameters. The problems found to date consist of A36 rods incorrectly ribbon striped indicating they are A193, as well as A193 without the ribbon stripe.

Further investigation of the extent of the commingling problem is in progress. However, it is noted that the problem is presently restricted to rod material used by Ebasco for field-fabricated anchor bolts and embed plates with welded anchor rods.

III. Corrective Action

The definitive corrective action is currently under evaluation. The next report will address this item.

As interim measures to define the previously field-fabricated (F-F) components that are susceptible to the material commingling and to preclude further installation of such components, the following has been implemented:

Embed plates with welded anchor rods required to be A36

F-F plates which are not installed will be subjected to testing by the TNAA on 100% of their welded anchor rods to verify A36 material. Plates confirmed to have A36 rods will be marked to indicate approved field-fabricated (AFF) plate. Any plates found with A193 rods will be rejected; only AFF plates will be released for installation.

Plates which are installed in concrete forms and/or reinforcing awaiting a concrete placement will be visually inspected to identify F-F plates. F-F plates will be evaluated with the TNAA as described above prior to concrete placement; those found defective will be rejected.

Anchor bolts specified by design drawing as A193

For ongoing and future concrete placements, the A193 anchor bolts will be subject to verification of A193 material by TNAA testing prior to installation; those found not to be A193 material will be rejected.

Anchor bolts specified by design drawing as A36

As demonstrated by our Technical Evaluation of Anchor Bolts and Embeds report, Section 2.1 (reference ST-HL-AE-1075) submitted to your office on March 30, 1984, the inadvertent substitution of A193 rod for a A36 rod is not significant since the A193 material is of higher strength and is not degraded by the cold work involved in the fabrication of some types of A36 anchor bolts. The concern arises when the design requires or allows welding onto the A36 anchor bolts, and the potential exists for the anchor bolts to be A193 material instead. Therefore, for cases where welding to an anchor bolt is allowed or required, the bolts will be subject to verification of A36 material by TNAA testing prior to installation.

IV. Recurrence Control

The definitive recurrence control measures will be developed after the extent of the problem is fully identified. As an initial measure, all A193 rod material has been segregated and placed on hold as of May 19, 1984.

The following practices are currently in place which will help to preclude the occurrence of any similar material mixup in the future:

1) As indicated in our letter of February 21, 1984 (ST-HL-AE-1060) from Mr. G. W. Oprea, Jr. to Mr. John T. Collins, no anchor bolts or embed rods are being fabricated at the STP site.

2) As indicated in our letter referenced in (1) above, improvements have been made to the STP material control program. Specifically, anchor bolts and embeds are hand-marked (stamped) to indicate material type based on supplier documentation separate from the color coding process. QC utilizes the hard marking in carrying out its responsibilities to verify material correctness.

3) As indicated in our letter referenced in (1) above, provisions have been taken to require that whenever a design change requires field welding to an existing embedded anchor bolt, the bolt material will be verified.

V. Safety Analysis

The Bechtel requirements for material identification by color code were not properly implemented, resulting in commingling of A36 and A193 rod material. Material commingling might result in structurally deficient field-fabricated components that could represent a safety hazard. This is considered to be a reportable deficiency.