

LOUISIANA POWER & LIGHT COMPANY

WATERFORD SES UNIT NO 3

FINAL REPORT OF  
SIGNIFICANT CONSTRUCTION DEFICIENCY NO 12

MATERIAL FAILURE -

PIPE FITTINGS - 4" - 45° ELLS AND 4" - 90° ELLS

Submitted by

  
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SCHEDULE 40

Introduction

This report is submitted pursuant to 10CFR50.55(e). It describes a deficiency in the type of material utilized for the manufacture of Pipe Fittings (4" - 45° Ell and 4" - 90° Ell) purchased through Purchase Order WP3-1235 for use in Louisiana Power & Light's Waterford Steam Electric Station Unit No 3. Tube Turns Division also reported this problem to the U. S. Regulatory Commission by letter dated 4-12-79.

Description

On April 6, 1979, the McJunkin Corporation, Tube Turns Division, notified Ebasco Services Incorporated that the pipe fittings bearing lot identification number W6719 were subject to experience material failure (cracking when welded) and that these fittings be returned to them.

The sequence of events leading to the deficiency is as follows:

Tube Turns Division, upon learning that one 4" - 90° elbow had cracked when welded in a line, determined that the carbon content of the fitting was above the limit of ASTM A234 WPB. Subsequent investigation determined that the steel from which the fitting was made was from a shipment of pipe received from U S Steel. It was further determined that U S Steel had erroneously identified high carbon steel with the same marking as Tube Turns' regular material and mixed it with the regular material prior to delivery.

Tube Turns received 3.500 OD x .250W pipe from U S Steel - Lorain - identified as U S Steel Heat Number N57028. A total of 28,153 feet was received and identified by Tube Turns as Lot W6719. From this pipe, 4" - 90° and 45° - .237 wall elbows and 2" - .237 wall straight tees, A234 WPB, were produced by Tube Turns. Approximately 27,000 fittings were produced and each is identified by Tube Turns Lot Number W6719. Shipment of these fittings started in March of 1978, and it is estimated all were shipped before the end of 1978.

Upon confirming that several lengths of pipe were involved, Tube Turns initiated a recall program under which they advised all of their customers who had received 4" elbows and 2" tees to return to Tube Turns any of these marked Lot W6719 that are in their stock.

Safety Implication

The fittings in question were purchased as stock material for use by the Plant Process Piping Contractor. This particular type and size of fittings are utilized in Safety Category Two (2) and Three (3) Systems. Ebasco received ten (10) fittings

of the lot in question. Of this, three have been installed and at present only one (1) has been identified as having been installed in a safety-related system; i.e., Component Cooling System. The postulated failure of these fittings, had they been left installed, would have resulted in invalidating the safety functions of the systems in which the fittings would have been incorporated.

#### Corrective Action

Six (6) of the ells were immediately placed on hold in the warehouse. Site Nonconformance Report No. W3-1354 was issued to the piping contractor directing the removal of the three (3) installed ells.

As of August 30, 1979, these nine (9) ells were removed from the Waterford 3 Site. As reported in letter LPL 11493 dated June 29, 1979, it is concluded that the remaining ell was scrapped. This conclusion was reached only after an intensive search had been conducted to verify the ell was not installed or available to be installed in the plant.