



**LOUISIANA**  
**POWER & LIGHT**

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July 29, 1981

D. L. ASWELL  
Vice President-Power Production

W3K-81-0275  
Q-3-A35.07.31  
Q-3-A35.02.01

Mr. K. V. Seyfrit, Director, Region IV  
U. S. Nuclear Regulatory Commission  
Office of Inspection and Enforcement  
611 Ryan Plaza Drive, Suite 1000  
Arlington, Texas 76012

SUBJECT: Waterford CES Unit No. 3  
Docket No. 50-382  
Interim Report of Significant Construction Deficiency No. 31  
"Incorrect Friction Factor used in Design of Pipe Support Hangers"

Reference: T lecon - L. L. Bass (LP&L) to W. Hubacek (NRC) on July 7, 1981

Dear Mr. Seyfrit:

In accordance with the requirements of 10CFR50.55(e), we are hereby providing two copies of the Interim Report of Significant Construction Deficiency No. 31, "Incorrect Friction Factor Used in Design of Pipe Support Hangers."

If you have any questions, please advise.

Very truly yours,

*D. L. Aswell*

D. L. Aswell

DLA/LLB/grf

Attachment

- cc: 1) Director  
Office of Inspection & Enforcement  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555  
(with 15 copies of report)
- 2) Director  
Office of Management  
Information and Program Control  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555  
(with 1 copy of report)



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LOUISIANA POWER & LIGHT COMPANY

WATERFORD SES UNIT NO. 3

Interim Report of  
Significant Construction Deficiency No. 31

Incorrect Friction Factor Used in Design of Pipe Support Hangers

Reviewed by *R. J. Milhiser* *7/24/81*  
R. J. Milhiser - Site Manager Date

Reviewed by *J. L. Wills* *7/24/81*  
J. L. Wills - Project Superintendent Date

Reviewed by *J. Hart* *7-24-81*  
*for* J. Hart - Project Licensing Engineer Date

Reviewed by *R. A. Hartnett* *7-24-81*  
R. A. Hartnett - Q. A. Site Supervisor Date

July 24, 1981

INTERIM REPORT  
SIGNIFICANT CONSTRUCTION DEFICIENCY NO. 31  
INCORRECT FRICTION FACTOR USED IN DESIGN OF PIPE SUPPORT HANGERS

INTRODUCTION

This report is submitted pursuant to 10CFR50.55(e). It describes a deficiency in the selection of friction factors used for the design of pipe supports supplied by Bergen Patterson. This problem is considered reportable under the requirements of 10CFR50.55(e). To the best of our knowledge, this problem has not been identified to the Nuclear Regulatory Commission pursuant to 10CFR21.

DESCRIPTION OF PROBLEM

In the design of supports for the Waterford 3 Project, Bergen Patterson used a variety of friction factors and eventually decided on a factor of 0.6 to be applied in the design calculations. It has been determined that friction factors other than 0.6 result in some supports which could not withstand design loads when the 0.6 factor was applied.

This deficiency has been reported via Nonconformance Report W3-2732 which identifies 289 pipe supports affected. At this time, we do not have a finite number of hangers affected. However, supplements to this Nonconformance Report will identify the total number.

The systems affected are as follows:

<u>Safety-Related</u>	<u>Non-Safety-Related</u>
Blowdown	Air Evacuation
Boron Management	Auxiliary Steam
Component Cooling	Condensate
Chemical Volume Control	Circulating Water
Containment Spray	Demineralized Water
Emergency Diesel Generator	Extraction Steam
Feedwater	Fuel Oil
Fuel Pool Cooling	Fire Protection
Main Steam	Heater Drain
Reactor Coolant	Lube Oil
Safety Injection	Miscellaneous Drains
	Vent

SAFETY IMPLICATIONS

If this deficiency were left uncorrected, degradation of safety systems could possibly occur. Such degradation would occur by exceeding the design bending stresses of the subject pipe support structure. This deficiency also presents the potential for common mode failure within and between systems. Such failures are not analyzed in the FSAR.

CORRECTIVE ACTION

Nonconformance Report W3-2732 has been written to identify and disposition this condition. As of this time, Bergen Patterson has completed a design re-review of 244 supports. Of these, Bergen Patterson has established that 108 supports require rework and 136 merely require paper work revisions (revised loads on hanger sketches). Rework of supports is being accomplished on a start-up system basis by Tompkins-Beckwith, Inc., Waterford 3 piping contractor. Corrective action will be completed by turnover of the system to LP&L. The Bergen Patterson review is presently scheduled to be completed by July 31, 1981. Corrective action will be accomplished and a Final Report submitted on or before April 1, 1982.