



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION V

1990 N. CALIFORNIA BOULEVARD  
SUITE 202, WALNUT CREEK PLAZA  
WALNUT CREEK, CALIFORNIA 94596

TIC

December 28, 1979

Docket Nos. 50-206, 50-361,  
50-362

Southern California Edison Company  
P. O. Box 800  
2244 Walnut Grove Avenue  
Rosemead, California 91770

Attention: Mr. A. Arenal, Vice President  
Advanced Engineering

Gentlemen:

This Information Notice is provided as an early notification of a possibly significant matter. It is expected that recipients will review the information for possible applicability to their facilities. No specific action or response is requested at this time. If NRC evaluations so indicate, further licensee actions may be requested or required. If you have questions regarding this matter, please contact the Director of the appropriate NRC Regional Office.

Sincerely,

A handwritten signature in cursive script, appearing to read "R. H. Engelken".

R. H. Engelken  
Director

Enclosures:

1. IE Information Notice No. 79-37
2. List of Recently Issued IE  
Information Notices

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cc w/enclosures:  
J. M. Curran, SCE  
J. T. Head, SCE  
J. H. Drake, SCE

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT  
WASHINGTON, D.C. 20555

ISINS NO.: 6870  
Accession No.:  
7910250525

December 28, 1979

IE Information Notice No. 79-37

CRACKING IN LOW PRESSURE TURBINE DISCS

Description of Circumstances:

An anonymous letter was received by the Director of the Office of Inspection and Enforcement, on November 17, 1979 which alleged possible violation of Part 10 CFR 50.55e and/or 10 CFR 21 Regulations concerning reportability of recently discovered stress corrosion cracking in Westinghouse 1800 rpm low pressure turbine discs. Westinghouse had made a presentation on the turbine disc cracking to electric utility executives on October 30, 1979.

Telephone discussions between the NRC staff and Westinghouse's Turbine Division on November 20, 1979 established that cracking, attributed to stress corrosion phenomena, had been found in the keyway areas of several LP turbine discs at operating plants and that inservice inspection techniques (i.e., in situ ultrasonic examination) for crack detection have been developed and are being implemented in the field. The Office of Inspection and Enforcement was also notified on November 20, 1979 that during the current overhaul of Commonwealth Edison's Zion Unit 1 LP turbine, ultrasonic examination revealed embedded cracks located on the inlet side on the disc bore area where no cracks had been previously observed. Ultrasonic measurements indicate this disc bore cracking is of greater depth than the keyway cracks found to date. According to Westinghouse, these bore cracks have been metallurgically examined and preliminary findings show them not to be typical of classical stress corrosion cracking observed in the keyways. The probable cracking mechanism and impact on disc integrity is being further evaluated by Westinghouse.

A meeting was held on December 17, 1979 between the NRC staff, Westinghouse and utility representatives to discuss the disc cracking problem, repair alternatives, turbine missile evaluation, inspection techniques and plant inspection priorities. In response to the staff's request, Westinghouse provided the staff an updated report on December 21, 1979 regarding the current field inspection program that included a list of nuclear power plants already inspected, recommended inspection schedules and pertinent information related to LP turbines where cracks have been observed. Inspections to date have identified turbine disc cracks at Surry Unit 2, Point Beach Unit 2, Palisades, Indian Point Unit 3 and Zion Unit 1. All units except Point Beach Unit 2 will make repairs before the plants return to power. Point Beach returned to power on December 23, 1979 with a small crack in the No. 2 disc of LP turbine. Westinghouse indicated that the observed cracking during 28 additional months of turbine inspection will be reported in the turbine inspection results and analysis.

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DUPLICATE DOCUMENT

Entire document previously  
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