UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
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APR 4 1980

In Reply Refer To:
RII:JPO
50-518, 50-519
50-520, 50-521
50-553, 50-554

Tennessee Valley Authority
Attn: H. G. Parris
Manager of Power
500A Chestnut Street Tower II
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Gentlemen:

The enclosed Bulletin 80-07 is forwarded to you for information. No written response is required. If you desire additional information regarding this matter, please contact this office.

Sincerely,

James P. O'Reilly
Director

Enclosures:
1. IE Bulletin 80-07
2. List of IE Bulletins Recently Issued

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

IE Bulletin No. 80-07
Date: April 4, 1980

BWR JET PUMP ASSEMBLY FAILURE

Description of Circumstances:

On February 2, 1980, Commonwealth Edison Company (CECo) reported that a jet pump failed in Dresden Unit 3 while operating at about 67 percent of full power in a coastdown mode to a refueling shutdown. Observed changes in plant parameters during the event indicated an individual jet pump failure had occurred. In accordance with T.S., an orderly plant shutdown was begun to bring the unit to cold shutdown within 24 hours.

The plant parameter changes reported by the licensee were (1) generator electrical output decreased from 539 to 511 MW electrical, (2) core thermal power decreased as indicated by decreased APRM readings and steam flow to the turbine, (3) indicated total core flow increased from 97.6 to 104.7 x 10^6 lb./hr., (4) core plate differential pressure decreased from 16.1 to 13.8 psid., and (5) B recirculation loop flow increased from 49 to 54 x 10^3 gpm while A recirculation loop flow remained at 49 x 10^3 gpm. These changes were readily observed by the operator in the control room and it was postulated that a jet pump had failed. Individual jet pump readings were taken, the jet pump operability surveillance was performed, and an apparent failure of jet pump No. 13 was determined.

Following vessel head removal and defueling, TV camera and visual inspections of the jet pumps and vessel annulus revealed the hold-down beam assembly of the suspect jet pump had broken across its ligament sections at the mean diameter of the bolt thread area. Failure of the beam assembly resulted in pump decoupling at the diffuser connection. Subsequent insitu ultrasonic examination of all other jet pump hold-down beams, using a special UT technique developed by General Electric (GE), revealed ultrasonic indications of cracking at the same location in 6 of the remaining 19 beams examined. Initial estimates of crack depth ranged from 6 to 20 mils. A sketch of the typical jet pump assembly is shown in Figures 1 and 2.

On March 15-16, 1980, insitu ultrasonic e
jet pump hold-down beam assemblies at Qua
refueling). One beam was found to contai
in excess of 100 mils depth in the same l
Dresden.

On March 28, 1980, Boston Edison reported
revealed crack indications in three (3) ho
Unit 1.