UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

JAN 25 1980

Docket No. 50-461
Docket No. 50-462

Illinois Power Company
ATTN: Mr. W. C. Gerstner
Executive Vice President
500 South 27th Street
Decatur, IL 62525

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 further NRC evaluations so indicate, an IE Circular or Bulletin will be issued to recommend or request specific licensee actions. If you have questions regarding this matter, please contact the Director of the appropriate NRC Regional Office.

Sincerely,

James G. Keppler
James G. Keppler
Director

Enclosure: IE Information Notice
No. 80-02

cc w/encl:
Central Files
Director, NRR/DPM
Director, NRR/DOR
PDR
Local PDR
NSIC
TIC
Mr. Dean Hansell, Office of
Assistant Attorney General

1933 201

8002060 255

SSINS: 6870
Accession No:
7912190654

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

DUPLICATE

January 25, 1980

IE Information Notice No. 80-02

8X8R WATER ROD LOWER END PLUG WEAR

On October 3, 1979, Vermont Yankee Nuclear Power Corporation (VY or Licensee) reported (LER-79-25/IP) observance of lower end plug wear on the water rods of 8X8R demonstration fuel assemblies. These observations were obtained during refueling outage inspections. Subsequent to the initial LER, the Licensee issued LER 79-25/IT on October 17, 1979, which provided more detailed descriptions of the probable cause and corrective action associated with this event.

The lower end plug wear was isolated to the water rods of the 8X8R fuel assemblies. The cause of the wear was attributed to flow excitation of the water rods by coolant cross flow within the lower tie plate flow volume. The repetitive contact of the Zircaloy lower end plug with the stainless steel lower tie plate resulted in preferential wear of the softer Zircaloy end plug. No significant wear was observed in the lower tie plate.

To provide in-reactor experience on the modification proposed to mitigate lower end plug wear, the Licensee will include four modified 8X8R fuel bundles in their upcoming cycle of operations. The primary modification consists of using two capture water rods with shorter lower end plugs to eliminate the flow-induced excitation. Two of these fuel assemblies were previously irradiated. The staff was informed that VY plans to perform surveillance on these four modified bundles at the next refueling outage. The surveillance will confirm the efficacy of the modifications and the currently estimated rate of wear.

Based on evaluation of the lower end plug wear rates, and the absence of any indicated rotational movement of the water rods with worn lower end plugs, General Electric Company (GE) and the Licensee have concluded that no additional corrective action is warranted at this time.

To support this conclusion, on December 11, 1979, VY and GE presented detailed status of their evaluations and analyses of this condition to the NRC staff. As a result of the information provided in the December 11, 1979 meeting, the staff agreed with the conclusion that no additional corrective action is warranted at this time.

The staff requested that GE document and formally submit proprietary, and nonproprietary versions of their evaluations and analysis. In addition, the staff requested the Licensee to submit a supplement to the earlier LER's considering the potential for loose parts.

1933 202

To provide additional confirmatory evidence supporting the findings by GE and the Licensee, GE will develop a surveillance program specifically addressed at inspections for wear of the lower end plugs. When this program is developed, GE will propose the program to the NRC staff. BWR Licensees are encouraged to participate in a surveillance program on this matter.

This Information Notice is provided as an early notification of a possibly significant matter that is still under review by the NRC staff. 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 you have any questions regarding this matter please contact the Director of the appropriate NRC Regional Office.

Attachment: List of Recently
Issued IE Information Notices

1933 203

Enclosure

RECENTLY ISSUED
IE INFORMATION NOTICES

Information Notice No.	Subject	Date Issued	Issued To
80-01	Fuel Handling Events	1/4/80	All holders of power reactor OLs and CPs
79-37	Cracking in Low Pressure Turbine Discs	12/28/79	All power reactor OLs and CPs
79-36	Computer Code Defect in Stress Analysis of Piping Elbow	12/31/79	All power reactor OLs and CPs
79-35	Control of Maintenance and Essential Equipment	12/31/79	All power reactor facilities with an OL or CP
79-34	Inadequate Design of Safety-Related Heat Exchangers	12/27/79	All holders of power reactor OLs and CPs
79-33	Improper Closure of Primary Containment Access Hatches	12/21/79	All power reactor facilities holding OLs and CPs
79-32	Separation of Electrical Cables for HPCI and ADS	12/21/79	All power reactor facilities holding OLs and CPs
79-31	Use of Incorrect Amplified Response Spectra (ARS)	12/13/79	All holders of power reactor OLs and CPs
79-30	Reporting of Defects and Noncompliance, 10 CFR Part 21.	12/6/79	All power reactor facilities holding OLs and CPs and vendors inspected by LCVIP
79-29	Loss of NonSafety-Related Reactor Coolant System Instrumentation During Operation	11/16/79	All power reactor facilities holding OLs or CPs
79-28	Overloading of Structural Elements Due to Pipe Support Loads	11/16/79	All power reactor facilities with an OL or CP
79-27	Steam Generator Tube Ruptures At Two PWR Facilities	11/16/79	All power reactor facilities holding OLs and CPs