

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

June 20, 1979

IE Information Notice No. 79-17

SOURCE HOLDER ASSEMBLY DAMAGE FROM MISFIT BETWEEN ASSEMBLY AND REACTOR UPPER GRID PLATE

Description of Circumstances:

Recently, the NRC was informed of a problem at two Westinghouse PWR facilities resulting from an apparent misfit between secondary source holder assemblies and the reactor upper grid plate.

The misfit problem was first identified by Carolina Power & Light, licensee for H. B. Robinson Unit 2, who informed the NRC on May 6, 1979, of the circumstances. During the current refueling outage at H. B. Robinson 2, CP&L determined that two secondary source holder assemblies had been damaged during the previous refueling in February 1978, by a misfit between the assembly and the reactor upper grid plate. The misfit resulted from insufficient clearance (i.e. 1/2 to 3/4 inch) between the source holder assembly hub and the grid plate at the core locations containing thermocouple mixing vanes. This lack of sufficient clearance caused minor deformation of the upper grid plate components at the core location and of the source holder assemblies. The deformation also resulted in some bending of the fuel rods in the assembly, however, in no case did this bending result in fuel cladding perforation.

On May 16, 1979, the licensee of D. C. Cook Unit 1 informed the NRC that the present refueling outage would be extended 15 to 20 days to remove the reactor head, which had already been reinstalled following completion of refueling, to correct this misfit problem. They learned of the problem from Westinghouse. Subsequently, the licensee's inspection revealed that the source holder assembly hubs were in contact with the vanes. The source holder was removed from one assembly readily with no apparent damage while in the other the source holder was found stuck in the assembly. The problem was corrected prior to return to operations.

The secondary source assembly rods are normally inserted into rod cluster control assemblies and placed at symmetrical locations in the core. Each such assembly contains a symmetrical grouping of four secondary source rods and between zero and twenty burnable poison rods. Locations in the assembly not filled with a source or burnable poison rod contain a thimble plug. The lack of sufficient clearance for these source holder assemblies apparently exists only at the core locations which contain thermocouple mixing vanes.

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IE Information No. 79-17

June 20, 1979
Page 2 of 2

This Information Notice provides the details of a significant occurrence that is still under review by the NRC staff. If further NRC review indicates, an IE Circular or Bulletin may be issued to recommend or request specific licensee actions.

No written response is required. If you desire additional information regarding this matter, please contact the Director of the appropriate NRC Regional Office.

Enclosure:

List of Information Notices
Issued in 1979

LISTING OF IE INFORMATION NOTICES
ISSUED IN 1979

Information Notice No.	Subject	Date Issued	Issued To
79-01	Bergen-Paterson Hydraulic Shock and Sway Arrestor	2/2/79	All power reactor facilities with an OL or a CP
79-02	Attempted Extortion - Low Enriched Uranium	2/2/79	All Fuel Facilities
79-03	Limitorque Valve Geared Limit Switch Lubricant	2/9/79	All power reactor facilities with an OL or a CP
79-04	Degradation of Engineered Safety Features	2/16/79	All power reactor facilities with an OL or a CP
79-05	Use of Improper Materials in Safety-Related Components	3/21/79	All power reactor facilities with an OL or CP
79-06	Stress Analysis of Safety-Related Piping	3/23/79	All Holders of Reactor OL or CP
79-07	Rupture of Radwaste Tanks	3/26/79	All power reactor facilities with an OL or CP
79-08	Interconnection of Contaminated Systems with Service Air Systems Used As the Source of Breathing Air	3/28/79	All power reactor facilities with an OL and Pu Processing fuel facilities
79-09	Spill of Radioactively Contaminated Resin	3/30/79	All power reactor facilities with an OL
79-10	Nonconforming Pipe Support Struts	4/16/79	All power reactor facilities with a CP
79-11	Lower Reactor Vessel Head Insulation Support Problem	5/7/79	All holders of Reactor OLs and CPs

IE Information Notice No. 79-17
June 20, 1979

Enclosure
Page 2 of 2

LISTING OF IE INFORMATION NOTICES
ISSUED IN 1979

Information Notice No.	Subject	Date Issued	Issued To
79-12	Attempted Damage to New Fuel Assemblies	5/11/79	All Fuel Facilities Research Reactors, and Power Reactors with an OL or CP
79-13	Indication of Low Water Level in the Oyster Creek Reactor	5/29/79	All Holders of Reactor OLs and CPs
79-14	NRC Position of Electrical Cable Support Systems	6/11/79	All Power Reactor Facilities with a CP
79-15	Deficient Procedures	6/7/79	All Holders of Reactor OLs and CPs
79-16	Nuclear Incident at Three Mile Island	6/22/79	All Research Reactors and Test Reactors with OLs