



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 1000
ARLINGTON, TEXAS 76012

March 17, 1981

MEMORANDUM FOR: Those Listed Below
FROM: G. L. Madsen, Chief, Reactor Projects Branch, IE:RIV
SUBJECT: IE INFORMATION NOTICE NO. 81-07

Subject IE Information Notice has been sent to the following listed licensees. A copy of the letter sent to each licensee and the IE Information Notice are attached for your information.

Arkansas Power & Light Company ANO-1 & 2 (50-313; 50-368)	Gulf States Utilities River Bend (50-458; 50-459)
Nebraska Public Power District Cooper Nuclear Station (50-298)	Houston Lighting & Power Company South Texas (50-498; 50-499)
Omaha Public Power District Ft. Calhoun (50-285)	Kansas Gas & Electric Company Wolf Creek (STN 50-482)
Public Service Company of Colorado Fort St. Vrain (50-257)	Louisiana Power & Light Company Waterford-3 (50-302)
	Texas Utilities Generating Company Comanche Peak (50-445; 50-446)

G. L. Madsen
G. L. Madsen, Chief,
Reactor Projects Branch

Attachments:
As stated

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SSINS No.: 6835
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8011040267
IN 81-07

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

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POTENTIAL PROBLEM WITH WATER-SOLUBLE PURGE
DAM MATERIALS USED DURING INERT GAS WELDING

Description of Circumstances:

Recent experiences with water-soluble purge dam materials at several nuclear construction sites have shown the need to develop welding procedures that address the potential for thermally decomposing the purge dam material during inert gas welding or post-weld heat treatment operations. Specifically, polyvinyl alcohol film manufactured by Chris-Craft Industries was the purge dam material used at these construction sites. The decomposition of this purge dam material at elevated temperatures causes the material to lose its solubility in water. As a result, the purge dam material cannot be completely dissolved during subsequent piping system flushing and cleaning operations. The failure of this material to completely dissolve could cause significant problems during reactor plant operation.

Specimens of polyvinyl alcohol film were recently obtained from the Mono-Sol Division of Chris-Craft Industries and tested at Franklin Research Center (FRC) to determine, among other things, the threshold temperature at which the material becomes insoluble in water. The results of this test program indicate that (1) the solubility of the purge dam material in water rapidly approaches zero if the material is heated and held at temperatures in excess of 300°F; (2) the purge dam material hardens and becomes difficult to break if subject to temperatures in the range of 300°F to 400°F, and becomes brittle if heated to 450°F; and (3) purge dam material heated above its threshold temperature is not soluble in commonly used laboratory solvents. The independent testing laboratory (FRC) therefore concludes that the Mono-Sol polyvinyl alcohol film will not dissolve during aqueous flushing of the system if the material has been heated to temperatures in excess of 300°F.

Recommended Actions for Holders of Operating Licenses and Construction Permits:

It is recommended that all welding operations involving polyvinyl alcohol purge dam materials be governed by procedures that require the material to be located in areas that are sufficiently removed from heat so that the temperature of the material does not reach 300°F.

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No written response to this information notice is required. If you require additional information with regard to this subject, please contact the appropriate NRC Regional Office.

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LISTING OF RECENTLY ISSUED
IE INFORMATION NOTICES

Information Notice No.	Subject	Date Issued	Issued To
80-44	Actuation of ECCS in the Recirculation Mode While in Hot Shutdown	12/16/80	All power reactor facilities with an Operating License (OL) or Construction Permit (CP)
80-45	Potential Failure of BWR Backup Manual Scram Capability	12/17/80	All pressurized water reactor facilities with an Operating License (OL) Construction Permit (CP)
81-01	Possible Failures of General Electric Type H ₂ A Relays	1/16/81	All power reactor facilities with an Operating License (OL) Construction Permit (CP)
81-02	Transportation of Radiography Devices	1/23/81	All Radiography licensees
81-03	Checklist for Licensees Making Notifications of Significant Events in Accordance with 10 CFR Part 50.72	2/12/81	All power reactor facilities with an Operating License (OL) and Near-term Applicants
81-04	Cracking in Main Steam Lines	2/27/81	All power reactor facilities with an Operating License (OL) or Construction Permit (CP)
81-06	Failure of ITE Model K-600 Circuit Breaker	3/11/81	All power reactor facilities with an Operating License (OL) or Construction Permit (CP)
81-05	Degraded DC System at Palisades	3/13/81	All power reactor facilities with an Operating License (OL) or Construction Permit (CP)

Enclosure