

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555

September 30, 1992

NRC INFORMATION NOTICE 92-71: PARTIAL PLUGGING OF SUPPRESSION POOL
STRAINERS AT A FOREIGN BWR

Addressees

All holders of operating licenses or construction permits for nuclear power reactors.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to alert addressees to the potential for loss of emergency core cooling systems (ECCS) that was identified as a result of an event at a Swedish boiling water reactor (BWR). It is expected that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. However, suggestions contained in this information notice are not NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances:

On July 28, 1992, Sydkraft AB, the utility licensed by the Swedish regulatory agency for the Barsebäck nuclear power plant, was restarting Unit 2 after the annual outage. While the reactor was at 1 or 2 percent power and at 435 psi, a leaking pilot valve caused a safety valve for the reactor vessel to open. This valve discharges directly to the drywell. Reactor scram, high pressure safety injection, core spray, and containment spray systems initiated automatically in response to the event. Steam from the open safety valve, impinging on thermally-insulated equipment, dislodged 440 pounds of metal-jacketed, mineral wool. An estimated 220 pounds of insulating material was washed into the suppression pool. Two of five strainers on the suction side of the ECCS pumps were in service and became partially plugged with mineral wool. Plugging caused pressure to decrease significantly across the strainers and caused indications of cavitation in one pump in about an hour after the event began. The operators successfully back flushed the strainers and shut down the reactor without additional problems.

Discussion

In the safety analysis for Unit 2 of the Barsebäck plant, the licensee concluded that the strainers would not require back flushing during the first 10 hours after a loss-of-coolant accident. Because of the event of July 28, the Swedish regulatory agency required Barsebäck Unit 2 and four other units of similar design to remain shut down until this problem is resolved.


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This event at Barsebäck is directly applicable to an earlier study conducted by the NRC. That study evaluated the potential for displaced thermal insulation to form debris and to be drawn to the sump screen. The results of the study are documented in "Containment Sump Performance," NUREG-0897, Revision 1, dated March 1984. The NRC concluded that the risk associated with the sump clogging concern did not warrant backfitting of domestic plants. However, based on the Barsebäck event, this conclusion is being reevaluated.

This information notice requires no specific action or written response. If you have any questions about the information in this notice, please contact the technical contact listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.


Charles E. Rossi, Director
Division of Operational Events Assessment
Office of Nuclear Reactor Regulation

Technical contact: Robert L. Dennig, NRR
(301) 504-1156

Attachment: List of Recently Issued NRC Information Notices

LIST OF RECENTLY ISSUED
NRC INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
92-70	Westinghouse Motor-Operated Valve Performance Data Supplied to Nuclear Power Plant Licensees	09/25/92	All holders of OLs or CPs for nuclear power reactors.
92-69	Water Leakage from Yard Area Through Conduits Into Buildings	09/22/92	All holders of OLs or CPs for nuclear power reactors.
91-29, Supp. 1	Deficiencies Identified During Electrical Dis- tribution System Func- tional Inspections	09/14/92	All holders of OLs or CPs for nuclear power reactors.
92-68	Potentially Substandard Slip-On, Welding Neck, and Blind Flanges	09/10/92	All holders of OLs or CPs for nuclear power reactors.
92-67	Deficiency in Design Modifications to Ad- dress Failures of Hiller Actuators Upon A Gradual Loss of Air Pressure	09/10/92	All holders of OLs or CPs for nuclear power reactors.
92-66	Access Denied to NRC Inspectors at Five Star Products, Inc. and Construction Products Research, Fairfield, Connecticut	09/01/92	All holders of OLs or CPs for nuclear power reactors and all recipients of NUREG-0040, "Licensee, Con- tractor and Vendor Inspec- tion Status Report" (White Book).
92-65	Safety System Problems Caused by Modifications That Were Not Adequately Reviewed and Tested	09/03/92	All holders of OLs or CPs for nuclear power reactors.
92-64	Nozzle Ring Settings on Low Pressure Water- Relief Valves	08/28/92	All holders of OLs or CPs for nuclear power reactors.

OL = Operating License
CP = Construction Permit

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Original Signed by
Charles E. Rossi

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Division of Operational Events Assessment
Office of Nuclear Reactor Regulation

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Attachment: List of Recently Issued NRC Information Notices

Document Name: 92-71.IN

*SEE PREVIOUS CONCURRENCES

DOEA:NRR	*C/OGCB:DOEA:NRR*RPB:ADM
CERossi	GHMarcus TechEd
09/27/92	09/28/92 09/24/24
*OEAB:DOEA:NRR*SC/OEAB:DOEA:NRR	*C/OEAB:DOEA:NRR*C/SPLB:DST:NRR
RWoodruff RLDennig	*CEP/OIP*
09/24/92 09/24/92	ACHaffee CEMcCracken AKenneke
	09/28/92 09/25/92 09/28/92

* CEP/OIP
Schuler-Hayes
09/28/92

note discussions were held with
Sweden on this notice on
9/29/92 see previous concurrence pages

Draft

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1. List of Recently Issued Information Notices

* See previous page for concurrence.

CONCURRENCE:

OEAB	TECH EDITOR	SC:OEAB	BC:SPLB	BC:OEAB	BC:OGCB
*RWWoodruff	*JDMain	*RLDennig	CEMcCracken	AEChaffee	GHMarcus
09/24/92	09/24/92	09/24/92	09/25/92	09/28/92	09/ /92

D:DOEA
CERossi
09/ /92

OIP ~~dk~~
SSchuyler-Hayes
09/28/92

OIP ~~f~~
A. Kenneke
09/28/92

410a.in

Lennart Hammen
is Deputy Director
General and Director,
Reactor Safety for the
Swedish Nuclear Power Inspection

concurrence based on
expectation of future
positive dialogue with Swedish

On 9-29-92 08:20
Al Chaffee + Roger Woodruff
read the Info Notice to the
Swedish representative Lennart Hammen
who agreed that they had no problems with
this document *ack*

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RWoodruff	AChafee CEMcCracken AKenneke
09/24/92	09/ /92 09/ /92 09/ /92

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CONCURRENCE:

OEAB *R. Woodruff*
RWWoodruff
09/24/92

TECH EDITOR
JMain *gm*
09/24/92

SC/OEAB *R. Dennig*
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