

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

March 30, 1979

IE Information Notice No. 79-09

SPILL OF RADIOACTIVELY CONTAMINATED RESIN

Description of Circumstances:

In May 1978, a spill of contaminated resin slurry occurred outside the auxiliary building at the Crystal River Nuclear Power Plant, Unit No. 3. A plant radioactive waste pump was being used to transfer resin from a holdup tank inside the building, through a trailer-mounted control station, into a shielded shipping cask. The cask and trailer, owned and operated by a contractor, were located outside of plant buildings because of space limitations. All hoses in the transfer line were metal braided and all piping was steel except for a polyvinylchloride (PVC) tee inside the trailer, where flush water could be added after each transfer. Resin entered the cask through a fill cap where it was mixed with a solidifying agent. An automatic isolation valve in the transfer line was designed to close upon receipt of a high cask level signal from level instrumentation on the fill cap. The resin spill occurred when this valve closed prematurely; the resultant pressure surge caused the PVC tee inside the trailer to break. Resin flowed from the broken tee into the trailer sump. Bolted seams in the sump leaked, spilling resin onto asphalt pavement under the trailer. Water from the spilled resin slurry flowed into a nearby storm drain.

Factors contributing to the cause or consequences of the spill included: use of a PVC pipe fitting in the resin transfer line, inadequate hydrostatic test of the system before use, failure to leak test the trailer sump, and insufficient precautions taken to mitigate the consequences of a spill.

Technical Specifications require radioactive waste systems to be tested and operated in accordance with procedures approved by licensee management. It should be noted that this requirement applies to systems owned and/or operated by contractors at licensed power reactors.

It is the responsibility of licensees to review equipment and procedures used for the transfer of contaminated liquids, resins, and filter media that differ from permanent systems described in the FSAR. Such equipment and procedures should include consideration of the following:

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1. Preoperational testing of systems, including interlocks and automatic functions. These tests should assure the operability of the systems (i.e., hydrostatic testing for transient loads, testing of sump integrity, testing of system interlocks, functional testing of level instrumentation, and verification of proper valve line-ups).
2. Visual inspection of connections, temporary lines, and other potential leak paths during transfer operations.
3. Means to promptly isolate leaks.
4. Establishment of adequate communications.
5. Means to control releases (i.e., capping of uncontrolled drains, use of barriers or dikes, use of controlled sumps, and protection from inclement weather).

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

Enclosure:
List of IE 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