

United States Nuclear Regulatory Commission
Office of Public Affairs
Washington, DC 20555
Phone 301-415-8200 Fax 301-415-2234
Internet: opa@nrc.gov

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NRC STAFF ASKS FOR INFORMATION, ACTION ON SPENT FUEL CASKS
IN LIGHT OF RECENT INCIDENT AT POINT BEACH PLANT

The Nuclear Regulatory Commission staff has issued a bulletin seeking information about the potential for chemical, electro-chemical or other reactions which might adversely affect the safety of spent fuel storage or transportation casks.

The bulletin is being sent to all nuclear power plant licensees, to holders of and applicants for spent fuel storage and transportation cask certificates of compliance, to companies which sell such casks, and to all registered users of spent fuel transportation casks.

Responses are required within 45 days from licensees with independent spent fuel storage installations (such as dry cask storage units); from all companies selling the casks; and from holders of certificates of compliance.

NRC is issuing the bulletin as the result of a hydrogen burn that occurred May 28 while technicians at the Point Beach nuclear power plant in Wisconsin were welding a shield lid on a spent fuel storage cask. Pressure from the ignition of the hydrogen displaced the 6390-pound lid, leaving it with one edge tipped about three inches higher than normal. Both an NRC augmented inspection team and Wisconsin Electric Power Co. concluded that the hydrogen was generated by a chemical reaction between zinc in a coating on the cask interior and acidic borated water from the plant spent fuel pool, which was in the cask.

After the incident, Wisconsin Electric, along with utilities using or planning to use the same cask model (Sierra Nuclear VSC-24) at the Arkansas Nuclear One plant in Arkansas and at the Palisades plant in Michigan, agreed to assess the hazards and to take special precautions before loading or unloading these casks. They also have agreed not to load or unload a VSC-24 cask or to place one into their spent fuel pools until NRC staff has reviewed and sanctioned their responses and has verified later actions they may take in response to the bulletin. NRC confirmed these commitments in writing.

The bulletin requires that spent fuel storage facility licensees, cask vendors, and compliance certificate holders take these actions:

- Determine whether chemical, electro-chemical or other reactions can occur during any phase of spent fuel cask loading, unloading, handling, storage or transportation, and what adverse effects they might have on the casks and their contents.
- Review current procedures with the view of minimizing potentially hazardous conditions.
- See if any chemical, electro-chemical or other reactions have occurred in casks presently loaded with spent fuel, and, if so, determine what effect these reactions have had on the integrity of the cask and the retrievability of the fuel.

Additionally, NRC requests these actions from the cask vendor, Sierra Nuclear Corporation, and from utilities using the Sierra VSC-24 cask at the Arkansas Nuclear One, Palisades and Point Beach plants:

- Evaluate the effects of a reaction among the interior zinc coating and water environments the cask may encounter, and show that the cask's integrity and fuel's retrievability will not be adversely affected over a 20-year period.
- Justify the continued use of VSC-24 storage casks already loaded with spent fuel.
- Evaluate cask unloading procedures to consider the likely presence of hydrogen gas and its possible adverse effects on cask handling and performance, and then inform NRC of any procedure changes.

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EDITORS: Copies of the full text of the bulletin are available from the NRC Office of Public Affairs. It also has been posted on the internet at this address: <http://www.nrc.gov/RIII/rjs2/reports>.