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NRC SENDS LETTERS TO SIERRA NUCLEAR, THREE UTILITIES  
ON SPENT FUEL STORAGE CASK WELDING PROBLEMS

The Nuclear Regulatory Commission's Office of Nuclear Material Safety and Safeguards has issued Confirmatory Action Letters to Sierra Nuclear Corporation, designer of the VSC-24 dry storage cask for spent nuclear fuel, and three utilities that use the cask at power plants. The letters confirm that Sierra and the utilities will take certain actions regarding welding problems with the casks.

The utilities and plants where the casks are used are Entergy Operations, Inc., operator of Arkansas Nuclear One near Russellville, Arkansas; Consumers Power Co., operator of the Palisades nuclear power plant near South Haven, Michigan; and Wisconsin Electric Power Company, operator of the Point Beach nuclear power plant near Manitowoc, Wisconsin.

Sierra Nuclear holds an NRC certificate approving the use of the VSC-24. NRC conducts inspections to determine whether the system is being manufactured in accordance with the NRC-certified design.

An inspection conducted the week of March 17 at Sierra Nuclear and two of its fabrication contractor facilities focused on problems previously found in welds joining the inner cask lid to the cask walls in VSC-24 units at the Palisades and Arkansas plants. Following that inspection, problems arose while welding another Arkansas cask.

The March inspection revealed that neither Sierra Nuclear nor the utility licensees had performed a comprehensive root cause analysis of the first two weld problems. An understanding of the root cause is essential to preventing recurrence when welding future casks, and assessing the possibility of additional weld problems and cracking.

On May 6, NRC held a public meeting with Sierra Nuclear to discuss actions taken and planned by the company in response to the inspection findings. After the meeting, the NRC staff

concluded that the root cause of the weld defects has not been adequately determined.

The NRC letter to Sierra Nuclear confirms that the company will determine the root cause of the weld defects, assess the potential for delayed cracking in welds that attach the two outer lids to the cask walls in the 19 VSC-24 casks presently in use (at Arkansas, Palisades and Point Beach), and evaluate appropriate corrective actions to prevent recurrence of weld problems. After completing these actions, the company will submit a written description of these evaluations to the NRC by June 30.

The NRC letters to the three utilities currently using the VSC-24 casks confirm that--before loading additional VSC-24 casks with spent fuel--they will determine that their welding and inspection practices provide reasonable assurance that cracking, including possible undetected or delayed cracking, will not occur in the seal welds between the two outer lids of the cask system and the cask walls, and, if necessary, modify their welding processes to inhibit recurrence of the welding problem. After completing this action, the utilities will submit to the NRC, at least 14 days before loading another VSC-24 cask with spent fuel, a written description of any procedural or design modifications made, including a technical justification for each modification.

Copies of the letters will be available on the NRC Office of Public Affairs home page at: <http://www.nrc.gov/OPA>.

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