



NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

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NRC REQUIRES PRESSURIZED WATER REACTOR LICENSEES TO SUBMIT INFORMATION ON REACTOR VESSEL HEADS

The Nuclear Regulatory Commission has sent a bulletin to companies that hold licenses for operating pressurized water reactors (PWRs) requiring information on the structural integrity of the reactor vessel head and a basis for concluding that the vessel head will continue to perform its function as a coolant pressure boundary.

The bulletin was sent to the sixty-nine PWRs for action because of a problem that was recently discovered at the Davis-Besse Nuclear Power Station at Oak Harbor, Ohio. The bulletin was sent to licensees of boiling water reactors (BWRs) for information only.

An earlier bulletin, issued on August 3, 2001, described the discoveries of circumferentially cracked and leaking penetration nozzles in reactor pressure vessel heads. In response to that bulletin, PWR licensees provided their plans for inspecting their reactor pressure vessel head penetration nozzles and/or the outside surface of the reactor pressure vessel head to determine whether the nozzles were leaking. Some plants have completed these inspections.

In conducting the inspections at the Davis-Besse plant in February and March, First Energy Corporation, the plant operator, identified three nozzles with indications of axial cracking that resulted in leakage. While repairing these nozzles, the company detected damage to a small area of the surrounding reactor vessel head, resulting in a cavity in the ferritic steel vessel head approximately 6 inches deep and 7 inches long by 4 to 5 inches wide. The remaining thickness of the vessel head in this area was reported as 3/8 inches of stainless steel.

As previously announced on March 12, the NRC is conducting an Augmented Team Inspection at Davis-Besse. The investigation of the causes of the degradation of the vessel head is continuing, but preliminary assessments suggest that the cause may be corrosion, at least partially due to the presence of boric acid used in the cooling water.

The information required by the bulletin will allow the NRC staff to determine whether current inspection and maintenance practices at reactor facilities provide reasonable assurance that reactor coolant pressure boundary integrity is being maintained. The information will also enable the NRC

staff to determine whether inspection and maintenance practices need to be augmented to ensure that the safety significance of this form of degradation remains low.

A copy of the bulletin is available from the NRC Public Document Room, Washington, D.C. 20555; telephone: 301/415-4737 or 800/397-4209. A copy also is available electronically through the NRC's web site at <http://www.nrc.gov/reactors/operating/ops-experience/vessel-head-degradation/ml020770497.pdf> .

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