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Highlights

Highlights of [GAO-04-415](#), a report to congressional requesters

Why GAO Did This Study

In March 2002, the most serious safety issue confronting the nation's commercial nuclear power industry since Three Mile Island in 1979 was identified at the Davis-Besse plant in Ohio. After the Nuclear Regulatory Commission (NRC) allowed Davis-Besse to delay shutting down to inspect its reactor vessel for cracked tubing, the plant found that leakage from these tubes had caused extensive corrosion on the vessel head—a vital barrier preventing a radioactive release. GAO determined (1) why NRC did not identify and prevent the corrosion, (2) whether the process NRC used in deciding to delay the shutdown was credible, and (3) whether NRC is taking sufficient action in the wake of the incident to prevent similar problems from developing at other plants.

What GAO Recommends

Because the nation's nuclear power plants are aging, GAO is recommending that NRC take more aggressive actions to mitigate the risk of serious safety problems occurring at Davis-Besse and other nuclear power plants.

NRC disagreed with two of the report's five recommendations—that it develop (1) additional means to better identify safety problems early and (2) guidance for making decisions whether to shut down a plant. GAO continues to believe these recommendations are appropriate and should be implemented.

www.gao.gov/cgi-bin/getrpt?GAO-04-415.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Jim Wells at (202) 512-3841 or wellsj@gao.gov.

NUCLEAR REGULATION

NRC Needs to More Aggressively and Comprehensively Resolve Issues Related to the Davis-Besse Nuclear Power Plant's Shutdown

What GAO Found

NRC should have but did not identify or prevent the corrosion at Davis-Besse because its oversight did not generate accurate information on plant conditions. NRC inspectors were aware of indications of leaking tubes and corrosion; however, the inspectors did not recognize the indications' importance and did not fully communicate information about them. NRC also considered FirstEnergy—Davis-Besse's owner—a good performer, which resulted in fewer NRC inspections and questions about plant conditions. NRC was aware of the potential for cracked tubes and corrosion at plants like Davis-Besse but did not view them as an immediate concern. Thus, NRC did not modify its inspections to identify these conditions.

NRC's process for deciding to allow Davis-Besse to delay its shutdown lacks credibility. Because NRC had no guidance specifically for making a decision on whether a plant should shut down, it used guidance for deciding whether a plant should be allowed to modify its operating license. NRC did not always follow this guidance and generally did not document how it applied the guidance. The risk estimate NRC used to help decide whether the plant should shut down was also flawed and underestimated the amount of risk that Davis-Besse posed. Further, even though underestimated, the estimate still exceeded risk levels generally accepted by the agency.

NRC has taken several significant actions to help prevent reactor vessel corrosion from recurring at nuclear power plants. For example, NRC has required more extensive vessel examinations and augmented inspector training. However, NRC has not yet completed all of its planned actions and, more importantly, has no plans to address three systemic weaknesses underscored by the incident. Specifically, NRC has proposed no actions to help it better (1) identify early indications of deteriorating safety conditions at plants, (2) decide whether to shut down a plant, or (3) monitor actions taken in response to incidents at plants. Both NRC and GAO had previously identified problems in NRC programs that contributed to the Davis-Besse incident, yet these problems continue to persist.

The Davis-Besse Nuclear Power Plant in Oak Harbor, Ohio



Source: FirstEnergy.