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Highlights

Highlights of GAO-08-114T, a testimony before the Subcommittee on Clean Air and Nuclear Safety, Committee on Environment and Public Works, U.S. Senate

NUCLEAR ENERGY

NRC Has Made Progress in Implementing Its Reactor Oversight and Licensing Processes but Continues to Face Challenges

Why GAO Did This Study

The Nuclear Regulatory Commission (NRC) is responsible for overseeing the nation's 104 commercial nuclear power reactors to ensure they are operated safely. Since 2000, NRC has used a formal Reactor Oversight Process (ROP) to oversee safety. NRC is also responsible for licensing the construction and operation of new reactors. Electric power companies have announced plans to submit 20 applications in the next 18 months.

This testimony is based on GAO reports that reviewed (1) how NRC implements the ROP, (2) the results of the ROP over several years, (3) the status of NRC's efforts to improve the ROP, (4) NRC's efforts to prepare its workforce and manage its workload for new reactor licensing, and (5) NRC's efforts to develop its regulatory framework and review processes for new reactor activities. In conducting this work, GAO analyzed programwide information and interviewed cognizant NRC managers and industry representatives.

What GAO Recommends

GAO made recommendations to NRC to improve the effectiveness of (1) the ROP in identifying declining safety performance at nuclear power facilities before significant safety problems develop and (2) NRC's workforce and processes in facilitating the review of new reactor license applications. NRC generally agreed with the recommendations.

To view the full product, including the scope and methodology, click on GAO-08-114T. For more information, contact Mark Gaffigan at (202) 512-3841 or gaffiganm@gao.gov.

What GAO Found

In implementing its ROP, NRC uses various tools and takes a risk-informed and graded approach to ensure the safety of nuclear power facilities. The ROP primarily relies on physical inspections of equipment and operations and quantitative measures or indicators of performance at each facility to assess the status of safety and determine appropriate levels of oversight.

Since 2001, NRC has made more than 4,000 inspection findings that reactor unit operators had not fully complied with safety procedures. Almost all of these findings were for actions NRC considered important to correct but of low significance to safe operations. As a result of NRC inspections, more than 75 percent of the nation's reactor units received some level of increased oversight while five units were subjected to NRC's highest level of oversight for long periods because their performance problems were more systemic.

In 2006, GAO reported that NRC has generally taken a proactive approach to improving its ROP. However, concerted efforts will be needed to address shortcomings, particularly in identifying and addressing early indications of declining reactor safety performance. For example, NRC is implementing several enhancements to the ROP to better assess a facility's safety culture—organizational characteristics that ensure safety issues receive the attention their significance warrants. GAO made recommendations to further improve this effort, and NRC has taken initial steps to implement them.

NRC has taken important steps to prepare its workforce for new licensing reviews, but several key activities are still underway and uncertainties remain about its management of the expected surge of applications. For example, NRC has increased funding, hired hundreds of new employees, and created and partly staffed a new office. However, NRC has not completed its development of some computer-based tools for enhancing the consistency and coordination of application reviews and has not fully developed criteria for setting priorities if the workload exceeds available resources. Also, while NRC's Office of New Reactors established a resource management board for coordinating certain office review activities, it has not clearly defined the extent of the board's responsibilities. NRC agreed with recommendations GAO made to further improve its workload management.

NRC has revised most of its primary regulatory framework and review processes, including its rules, guidance, and oversight criteria to provide for early resolution of issues, standardization, and enhanced predictability. However, NRC has not yet completed some associated rules, guidance, and review process components, including revisions to its environmental guidance, its hearing process, and its process for requesting additional information from applicants. Without these components, expected efficiencies and predictability may be limited regarding the total time an applicant needs to obtain a license. NRC agreed with a recommendation GAO made to further improve its application review process.