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Highlights

Highlights of GAO-12-635, a report to the Chairman, Committee on Commerce, Science, and Transportation, U.S. Senate

Why GAO Did This Study

EPA recently proposed or finalized four regulations affecting coal-fueled electricity generating units, which provide almost half of the electricity in the United States: (1) the Cross-State Air Pollution Rule; (2) the Mercury and Air Toxics Standards; (3) the proposed Cooling Water Intake Structures regulation; and (4) the proposed Disposal of Coal Combustion Residuals regulation. Power companies may retrofit or retire some units in response to the regulations. EPA estimated two of the regulations would prevent thousands of premature deaths and generate $160-$405 billion in annual benefits. Some stakeholders have expressed concerns that these regulations could increase electricity prices and compromise reliability—the ability to meet consumers' demand. FERC and others have oversight over electricity prices and reliability. DOE can order a generating unit to run in certain emergencies.

GAO was asked to examine: (1) actions power companies may take in response to these regulations; (2) their potential electricity market and reliability implications; and (3) the extent to which these implications can be mitigated. GAO reviewed agency documents, selected studies, and interviewed stakeholders.

What GAO Recommends

GAO recommends, among other things, that FERC, DOE, and EPA take additional steps to monitor industry's progress in responding to the regulations. DOE and EPA agreed with this recommendation, and FERC disagreed with this and another recommendation. GAO continues to believe that it is important for FERC to take the recommended actions.

View GAO-12-635. For more information, contact Frank Rusco at (202) 512-3841 or ruscof@gao.gov or David Trimble at (202) 512-3841 or trimbled@gao.gov.

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EPA REGULATIONS AND ELECTRICITY

Better Monitoring by Agencies Could Strengthen Efforts to Address Potential Challenges

What GAO Found

It is uncertain how power companies may respond to four key Environmental Protection Agency (EPA) regulations, but available information suggests companies may retrofit most coal-fueled generating units with controls to reduce pollution, and that 2 to 12 percent of coal-fueled capacity may be retired. Some regions may see more significant levels of retirements. For example, one study examined 11 states in the Midwest and projected that 18 percent of coal-fueled capacity in that region could retire. EPA and some stakeholders GAO interviewed stated that some such retirements could occur as a result of other factors such as lower natural gas prices, regardless of the regulations. Power companies may also build new generating units, upgrade transmission systems to maintain reliability, and increasingly use natural gas to produce electricity as coal units retire and remaining coal units become somewhat more expensive to operate.

Available information suggests these actions would likely increase electricity prices in some regions. Furthermore, while these actions may not cause widespread reliability concerns, they may contribute to reliability challenges in some regions. Regarding prices, the studies GAO reviewed estimated that increases could vary across the country, with one study projecting a range of increases from 0.1 percent in the Northwest to an increase of 13.5 percent in parts of the South more dependent on electricity generated from coal. According to EPA officials, the agency's estimates of price increases would be within the historical range of price fluctuations, and projected future prices may be below historic prices. Regarding reliability, these actions are not expected to pose widespread concerns but may contribute to challenges in some regions. EPA and some stakeholders GAO interviewed indicated that these actions should not affect reliability given existing tools. Some other stakeholders GAO interviewed identified potential reliability challenges. Among other things, it may be difficult to schedule and complete all retrofits to install controls and to resolve all potential reliability concerns associated with retirements within compliance deadlines.

Existing tools could help mitigate many, though not all, of the potential adverse implications associated with the four EPA regulations, but the Federal Energy Regulatory Commission (FERC), Department of Energy (DOE), and EPA do not have a joint, formal process to monitor industry's progress in responding to the regulations. Some tools, such as state regulatory reviews to evaluate the prudence of power company investments, may address some potential price increases. Furthermore, tools available to industry and regulators, as well as certain regulatory provisions, may address many potential reliability challenges. However, because of certain limitations, these tools may not fully address all challenges where generating units needed for reliability are not in compliance by the deadlines. FERC, DOE, and EPA have responsibilities concerning the electricity industry, and they have taken important first steps to understand these potential challenges by, for example, informally coordinating with power companies and others about industry's actions to respond to the regulations. However, they have not established a formal, documented process for jointly and routinely monitoring industry's progress and, absent such a process, the complexity and extent of potential reliability challenges may not be clear to these agencies. This may make it more difficult to assess whether existing tools are adequate or whether additional tools are needed.