



United States General Accounting Office  
Washington, DC 20548

Resources, Community, and  
Economic Development Division

B-285479

June 30, 2000

The Honorable Fred Thompson  
Chairman  
The Honorable Joseph I. Lieberman  
Ranking Minority Member  
Committee on Governmental Affairs  
United States Senate

Subject: Observations on the Department of Energy's Fiscal Year 1999 Accountability Report and Fiscal Year 2000/2001 Performance Plans

As you requested, we reviewed the 24 Chief Financial Officers (CFO) Act agencies' fiscal year 1999 performance reports and fiscal year 2000 and 2001 performance plans required by the Government Performance and Results Act of 1993 (GPRA). In essence, under GPRA, annual performance plans are to establish performance goals and measures covering a given fiscal year and provide direct linkage between an agency's longer-term goals and day-to-day activities. Annual performance reports are to subsequently report on the degree to which those performance goals were met.

This letter contains three enclosures responding to your request concerning key program outcomes and major management challenges at the Department of Energy (DOE). Enclosure I provides our observations on the Department's accountability report for fiscal year 1999 and performance plans for fiscal years 2000 and 2001 for the key outcomes you identified as important mission areas. These key outcomes are (1) energy systems are secure, competitive, and serve the needs of the public; (2) energy use is more efficient and productive, while environmental impacts are limited; and (3) reduce nuclear weapons stockpiles and the proliferation threat caused by the possible diversion of nuclear materials. According to DOE officials, these outcomes represent about 20 percent of its budget. Enclosure II lists the major management challenges facing the agency that we and DOE's Inspector General identified, as discussed in DOE's fiscal year 1999 accountability report, the progress DOE made in resolving these challenges, and the applicable goals and measures in the fiscal year 2001 performance plan. Enclosure III contains the DOE's comments on this report.

## Results in Brief

In its fiscal year 1999 accountability (performance) report, the Department of Energy indicates that it was mostly successful in making progress toward the three outcomes we examined. For example, for the outcome “Energy use is more efficient and productive, while environmental impacts are limited,” the Department reports it met or exceeded all of its performance goals and measures for fiscal year 1999. The Department’s performance plan for fiscal year 2001 continues efforts in these outcome areas, maintaining essentially the same outcomes while adding, deleting, or modifying annual performance goals and measures as appropriate. This plan also presents the Department’s performance measures by specific budgetary decision units.

Although the Department’s report indicates success in meeting the performance goals and measures in the three outcome areas, we could not determine whether the Department had made significant progress toward its overall outcomes (strategic goals and objectives) in these areas because most of the performance goals and measures the Department used to assess its annual performance are not clear and quantified.<sup>1</sup> For example, we found, in most cases, the measures did not sufficiently describe the Department’s specific activities and explain how these activities will help achieve the goal, or, when met, indicate how much progress will have been made toward reaching the goal. As a result, we could not determine what the Department was trying to accomplish or how it planned to get there. For example, one of DOE’s performance goals is “By 2010, reduce industrial energy use per unit of output by 25 percent by supporting industry/government/academia partnerships in R&D to improve efficiency of the nation’s energy intensive industries.” DOE does not describe what it means by “supporting,” nor does it provide a baseline for industrial energy use. To achieve this goal, DOE states it will “Complete roadmaps for six of the major energy intensive industries to achieve each industry vision and start implementing the resulting R&D to achieve up to 25-percent reduction of energy consumption by 2010.” It is unclear how far completing the roadmaps will bring DOE toward realizing the performance goal or how quickly the R&D will pay off. In instances like these, the Department did not follow its own criteria (stated in app. A of its fiscal year 2001 performance plan) that performance measures and goals must, among other things, precisely state what will be done in the fiscal year, clearly state the measurement and target level of performance, and use baselines for context.

Furthermore, although we agree with the Department’s decision to link its performance goals and measures with its budget, the Department did not provide a clear cross-walk with its plans in previous years, making it hard to find specific performance goals in the latest plan. In some cases, the Department does not mention specific performance goals, yet maintains the performance measures from previous years supporting them. The Department’s performance plans would be improved if it provided such a cross-walk. Furthermore, the plan does not discuss the outcome of the Department’s implementation of its verification and validation

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<sup>1</sup> In this report, we refer to the item directly linked to a performance measure as a performance goal.

plan or provide any evidence that the data quality is sufficient for assessing the agency's performance. The Department also does not discuss limitations in its data. For these reasons, we continue to lack confidence that the plan's performance data are credible.

The Department's performance plan for fiscal year 2001 cites 14 areas of vulnerability in its operations—known as major management challenges—identified by GAO or the Department's Office of Inspector General. The Department identifies a total of six direct measures to address two of GAO's five challenges. When we met with DOE officials to discuss our analysis, they stated that a number of additional performance measures relate to one challenge, contract management, although they were not highlighted in the plan. The Department did not provide direct measures for the other three challenges because it believes these challenges were fully addressed in previous years. Although the Department has taken steps to address each of these challenges, we do not believe enough progress has been made to consider any of the challenges resolved. For example, to address one management challenge—completing large projects—the Department has taken a number of steps, such as creating the Chief Operating Officer's Project Management Watch List, to help ensure that projects are completed on time. However, we do not believe the Department has adequately addressed the challenge, since many of its remedies focus on procedures rather than on the desired outcome—completing large projects on time and within cost estimates.

For the nine challenges identified by the Office of Inspector General, the Department identified direct measures to address six of them. In three cases, the Department did not provide measures because it believes these challenges were either fully addressed in previous years or were not a departmental challenge. The Office of Inspector General stated that the performance measures DOE specifies in its fiscal year 2001 performance plan generally addressed their respective management challenge.

## **Objectives, Scope, and Methodology**

Our objective concerning key agency outcomes was to identify and assess the quality of the performance goals and measures stated in the Department's fiscal year 1999 accountability report and fiscal year 2000 and 2001 performance plans related to each key outcome. Our objectives concerning major management challenges were to (1) assess how well the agency's fiscal year 1999 accountability report discussed the progress the Department had made in resolving the major management challenges that we and the agency's Inspector General had previously identified and (2) identify whether the agency's fiscal year 2001 performance plan had goals and measures applicable to the major management challenges. As agreed, to meet the Committee's tight reporting time frames, our observations were generally based on the requirements of GPRA, guidance to agencies from the Office of Management and Budget (OMB) for developing performance plans and reports (OMB Circular A-11, part 2), previous reports and evaluations by us and others, our knowledge of DOE's operations and programs, and our observations on DOE's other GPRA-related efforts.

We did not independently verify the information contained in the accountability report or plans. We conducted our review from April through June 2000 in accordance with generally accepted government auditing standards.

## Agency Comments and Our Evaluation

We provided a draft of this report to DOE for its review and comment. Its comments appear in enclosure III. Overall, DOE neither agreed nor disagreed with the report, but focused its comments on four areas: (1) GAO's use of the three "key outcomes," (2) the lack of clear and quantitative connections between outcomes and performance goals and measures in DOE's fiscal year 1999 accountability report and fiscal year 2000 and 2001 performance plans, (3) DOE's efforts to address its management challenges, and (4) our focus on the accountability report's performance goals and measures rather than results.

First, DOE noted that the three key outcomes we examined represent a very small portion of what it is funded to do for the public, omitting activities such as the Stockpile Stewardship Program, the environmental cleanup program, and the Department's science program. DOE believes the three outcomes—which together comprise less than 20 percent of its budget—do not provide an accurate picture or assessment of the overall performance planning and reporting process. While the three key outcomes may represent a small portion of the Department's budget, they have been identified by the requesting committee as key outcomes important to DOE's missions.

Second, DOE disagreed with our assessment that the fiscal year 1999 accountability report and the fiscal year 2000 and 2001 performance plans lack clear and quantitative connections between outcomes and performance measures. Specifically, the Department noted that the report and plans organize performance goals with strategic goals and objectives and provide contextual linkages and numbers to clearly indicate the particular strategic goal, objective, or strategy they support. However, we believe the performance goals and measures in these documents are unclear primarily because of their descriptions, not their organization. For example, we found, in most cases, that the Department's measures did not sufficiently describe specific activities, explain how these activities will help achieve the goal, or, when met, indicate how much progress will have been made toward reaching the goal. As a result, we could not determine what the Department was trying to accomplish or how it planned to get there. In addition, while DOE acknowledged it could improve its performance measures, it said it had made performance measures significantly clearer and more quantified. However, in our review of the accountability report and performance plans, we found that DOE was not totally successful in making its performance measures clearer or more quantified in that the results were mixed—a few measures became clearer, a few became less clear, and the majority stayed about the same.

Third, DOE said GAO may have misunderstood how the Department develops and handles management challenges. Specifically, DOE noted that its Internal Control and Audit Review Council considered a wide array of management challenges, including those identified by GAO and the Office of Inspector General, but decided that some should be addressed at the program level rather than at the Department level. DOE includes additional measures for these challenges in its fiscal year 2001 performance plan, but does not highlight them as answering the challenges. In response, we believe it would be more effective for DOE to handle GAO's management challenges at the Department level because these challenges generally involve activities throughout DOE rather than a single program. For example, the one GAO management challenge the Department indicated in its fiscal year 2001 performance plan that should be addressed at the program—"ineffective organizational structure blurs accountability"--involves programs throughout the Department. As a result, we believe this and similar challenges that cut across DOE's programs deserve attention at the Department level. In this regard, DOE acknowledged it could improve its performance plans' descriptions of how it will address management challenges.

Finally, DOE noted that our observations on the accountability report represent "old news" because those observations focus on measures rather than results. We believe reporting annual results would not be useful because DOE has not clearly established the ultimate results or goals it hopes to achieve. As a result, we could not determine how much progress DOE's fiscal year 1999 results contributed toward reaching its goals. In addition, DOE pointed out that, because of the GPRA reporting cycle, corrections it makes in response to reviews such as ours will not show up until 2 years after a review is concluded. While this may be true, we note in the report that DOE has not corrected the problems in goals and measures we identified 2 years ago.

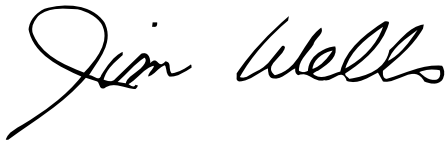
Beyond these four areas, DOE also provided technical clarifications, which we incorporated as appropriate.

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As agreed with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days after the date of this letter. At that time, we will send copies to the Honorable Bill Richardson, Secretary of Energy, and make copies available to others upon request.

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Please call me or Derek B. Stewart on (202) 512-3841 if you or your staff have any questions. Key contributors to this report were Robert Baney, Dan Haas, Richard Iager, and Daren Sweeney.

A handwritten signature in black ink that reads "Jim Wells". The signature is written in a cursive style with a large initial "J" and a long, sweeping underline.

Jim Wells  
Director, Energy, Resources,  
and Science Issues

Enclosures - 3

**Observations on the Department of Energy's Fiscal Year 1999 Actual Performance and Fiscal Year 2000 and 2001 Planned Performance Related to Key Outcomes**

This enclosure contains our observations on the Department of Energy's (DOE) fiscal year 1999 actual performance and fiscal year 2000 and 2001 planned performance in relationship to outcomes identified by the Senate Committee on Governmental Affairs as important mission areas of the Department. The key outcomes for DOE are as follows: (1) Energy systems are secure, competitive, and serve the needs of the public; (2) energy use is more efficient and productive, while environmental impacts are limited; (3) reduce nuclear weapons stockpiles and proliferation threat caused by the possible diversion of nuclear materials. As requested, we identified the goals and measures directly related to a selected key outcome. Our observations are organized according to each selected key outcome and follow the goals and measures.

**Key Agency Outcome: Energy Systems Are Secure, Competitive, and Serve the Needs of the Public**

**Fiscal Year 1999 Performance Goals and Measures for the Key Agency Outcome of Energy Systems Are Secure, Competitive, and Serve the Needs of the Public**

**Performance goal:** Boosting the nation's production of domestic oil—Support research and development, policies, and improve regulatory practices capable of ending the decline in domestic oil production before 2005. **(met goal)**

- **Measure:** Demonstrate four advanced production technologies that could ultimately add 190 million barrels of domestic reserves, including 30 million barrels during fiscal year 1999. **(exceeded goal)**
- **Measure:** Complete an online environmental compliance expert system, developed in cooperation with states, that will improve oil and gas production economies by giving producers online access to federal and state rules and regulations and allow them to conduct environmental permitting and reporting over the Internet, reducing time and costs related to environmental compliance. **(nearly met goal)**

**Performance goal:** Maintaining an effective Strategic Petroleum Reserve (SPR)—Maintain an effective SPR to deter and respond to oil supply disruptions, and act cooperatively with the importing member nations of the International Energy Agency. **(met goal)**

- **Measure:** Initiate additional SPR Infrastructure Life Extension Program projects, thereby bringing program implementation to approximately 96 percent of the \$328 million program. Program completion in fiscal year 2000 will increase sustained drawdown capability to 4.1 million barrels per day, compared to 3.7 in fiscal year 1997. **(met goal)**

**Performance goal:** Diversifying the international supply of oil and gas—Diversify the international supply of oil and gas. **(met goal)**

- **Measure:** Continue DOE leadership in international energy initiatives that are instrumental in developing, through government-to-government efforts, an effective legal and regulatory framework for private sector energy investment and policies to encourage development of a broad portfolio of fuel supplies. **(met goal)**

**Performance goal:** Developing alternative transportation fuels and more efficient vehicles—Develop alternative transportation fuels and more efficient vehicles that can reduce year 2010 projected oil (crude plus refined products) imports of 12 million barrels per day by 10 percent. **(below expectations)**

- **Measure:** Expand the Clean Cities Program to create continuous corridors of alternative transportation fuel availability in and between 10 major urban centers. **(met goal)**
- **Measure:** Support an industrial partner to complete site preparation and begin construction of an industry-owned facility to demonstrate first-of-a-kind cellulosic biomass to ethanol technology from agriculture crop waste. (nearly met goal)
- **Measure:** Build a single-cylinder proof-of-concept diesel engine that delivers up to 55 percent efficiency. **(nearly met goal)**

**Performance goal:** Maximizing the productivity of federal oil fields—Maximize the productivity of federal oil fields, consistent with congressional legislation. **(met goal)**

- **Measure:** With the sale of the Elk Hill Naval Petroleum Reserve, work in this area is essentially complete. **(not applicable)**

**Performance goal:** Taking measures to avoid domestic energy disruptions—Take measures to avoid, but when needed, respond to domestic energy disruptions. **(met goal)**

- **Measure:** Initiate the development and implementation of a national plan to protect the nation's energy infrastructure as required by the Presidential Decision Directive 63. **(met goal)**
- **Measure:** Work with industry organizations and government agencies, including the National Petroleum Council, to assess the impact of changing market conditions and regulations on the level and variability of petroleum prices and supply, and provide recommendations to minimize disruptions during change. **(met goal)**



- **Measure:** Ensure that each power system control area operated by a Power Marketing Administration (PMA) receives, for each month of the fiscal year, a control compliance rating of "pass" using the North American Electricity Reliability Council performance standard. **(met goal)**

- **Measure:** Work with industry organizations and government agencies to establish a comprehensive process to assess Year 2000 readiness status, promote intersectoral coordination, and provide contingency plans. Provide for timely communication to the public of information regarding readiness status and contingency planning **(met goal)**

**Performance goal:** Establishing a more open, competitive electric system—Update the Administration's 1998 legislative proposals and support administrative actions to promote establishment of a more open, competitive, and reliable electric system, with improved environmental performance. **(exceeded goal)**

- **Measure:** Enhance electricity sector modeling capabilities by benchmarking the representation of transmission system constraints against models of physical power flows to better address electric reliability and economic issues and use this enhanced modeling capability in support of the legislative process. **(met goal)**

- **Measure:** Issue a revised administration proposal on electric utility restructuring and the supporting economic analysis to provide a catalyst for consensus and action. **(met goal)**

**Performance goal:** Boosting the nation's production of natural gas—Support R&D policies and improved regulatory practices that can increase domestic natural gas supplies, moderate future price increases, and fuel 25 percent of the anticipated 6 trillion cubic foot (TCF) increase in natural gas demand (of which 3.5 TCF is for electricity generation) through 2010. **(met goal)**

- **Measure:** Complete development of one advanced drilling, completion and stimulation technology system that could contribute an additional 6 TCF of domestic reserves by 2010. **(met goal)**

**Performance goal:** Developing renewable domestic energy—Develop renewable energy technologies and support policies capable of doubling non-hydroelectric renewable energy generating capacity by 2010. **(met goal)**

- **Measure:** Support the Million Solar Roofs Initiative by installing 15,000 energy systems. **(exceeded goal)**

- **Measure:** Develop codes, standards, and safety specifications for residential photo-voltaic roof systems. **(nearly met goal)**

- **Measure:** Accumulate 750 hours of reliable operation for a distributed concentrating solar power system. **(exceeded goal)**
- **Measure:** Complete design of power plant modifications for co-firing of biomass with coal. **(met goal)**
- **Measure:** Develop an industry-led vision and roadmap for an integrated bioenergy industry to advance the development of biomass-derived energy and its use in domestic and global markets. **(nearly met goal)**
- **Measure:** Establish a U.S.-based commercial firm as an internationally recognized certification agent using testing and design review services provided by the National Wind Technology Center. **(met goal)**
- **Measure:** Complete three nationwide solar technology Super-Energy Savings Performance Contracts (Super ESPCs) for use by all agencies. **(below expectation)**

**Performance goal:** Reducing emissions from existing fossil-fueled power plants and developing clean, high-efficiency fossil-fueled power plants for the 21st century—By 2010, significantly reduce emissions from currently existing fossil-fuel power plants and from new plants by (1) developing market-ready coal power systems with efficiencies over 60 percent (new plants are currently about 35 percent), emissions to less than 1/10 of New Source Performance Standards (NSPS), and CO<sub>2</sub> emissions 45 percent below conventional plants, and (2) integrating advance turbine and fuel cell technology to achieve market-ready gas-fueled power plants with efficiencies over 70 percent. **(met goal)**

- **Measure:** Complete testing of the first commercial-sized fuel cell module (100 KWe) using high-temperature solid oxide technology suitable for advanced high-efficiency electrical generation cycles. **(met goal)**
- **Measure:** Complete full-scale component testing of two advanced, utility-scale turbines with over 60 percent efficiency when used in combined cycles (new plants are currently about 55 percent) and with ultra-low NOx emissions. Initiate advanced gas turbine full speed, no load testing with one gas turbine manufacturer. **(nearly met goal)**
- **Measure:** Complete commercial demonstration of one integrated gasification combined-cycle project (Wabash) and continue operations of two other gasification projects in order to establish the engineering foundation leading to a new generation of 60 percent efficient, ultraclean coal power plants. **(nearly met goal)**
- **Measure:** Complete review of proposals for the second round in fiscal year 1999 and initiate projects to design and develop advanced catalysts,

electrodes, and membranes, as well as advanced separator plates and high-temperature sealants under the Russian-American Fuel Cell Consortium. **(met goal)**

**Performance goal:** Improve existing nuclear power—Improve nuclear power plant reliability and availability to increase the capacity factor of existing nuclear power plants from the 1996 average of 76 percent to 85 percent by 2010. **(met goal)**

- **Measure:** Complete memorandums of understanding with the Nuclear Regulatory Commission and the Electric Power Research Institute (EPRI) to guide future implementation of the Joint DOE-EPRI Strategic R&D Plan to optimize U.S. power plants. **(met goal)**

**Performance goal:** Maintaining nuclear power as a viable option for the future—Maintain a viable nuclear option for the future, carbon-free baseload electricity through cooperative technical development activities with U.S. electricity industry, national laboratories, and universities that would maintain domestic nuclear capabilities and that would facilitate a U.S. order of an advanced nuclear power plant by 2010. **(met goal)**

- **Measure:** Establish a peer-reviewed Nuclear Energy Research Initiative, initially funded at \$19 million, to select and conduct investigator-initiated innovative scientific and engineering research that will address issues facing the future of nuclear power in the U.S., including proliferation concerns, economics, and the management of nuclear waste. **(met goal)**

**Performance goal:** Developing advanced turbines for cogeneration—Develop and introduce advanced turbines for cogeneration that can reduce annual industrial energy costs by \$500 million and carbon emissions by nearly 1.7 million metric tons in 2010. **(met goal)**

- **Measure:** Initiate the 8,000-hour test of the gas turbine engine for the Advanced Turbine System for use in industrial cogeneration. **(met goal)**

**Performance goal:** Designing and delivering the vehicles of the future—Develop and deploy vehicles, fuels, and systems of the future, contributing significantly to the Partnership for New Generation Vehicles to develop by 2004 prototype midsized cars capable of 80 miles per gallon that will reduce NO<sub>x</sub> and CO<sub>2</sub> emissions by two-thirds compared to today's new car average without compromising safety, comfort, and cost. **(met goal)**

- **Measure:** By September 1999, in cooperation with industry and other federal agencies, develop a direct injection power system technical roadmap and

a fuel cell power system technical roadmap to integrate fuels and lubricants R&D with development of engine and emission treatment technologies. **(met goal)**

**Performance goal:** Improving efficiency of energy-intensive industries—By 2010, reduce industrial energy per unit of output by 25 percent by supporting industry/government/academia partnerships in R&D to improve efficiency of the nation's energy-intensive industries. **(met goal)**

**Measure:** Complete roadmaps for the six of the major energy-intensive industries to achieve each industry vision and start implementing the resulting R&D to achieve up to a 25-percent reduction of energy consumption by 2010. **(met goal)**

- **Measure:** Continue support for industrial assessment centers operating at 30 participating universities that will conduct approximately 750 combined energy, waste, and productivity assessments. **(met goal)**

**Performance goal:** Improving the energy efficiency of buildings—By 2010, improve the energy efficiency of the existing U.S. building stock, and increase the energy efficiency of new homes by 50 percent and other new buildings by 30 percent, compared to 1996 average new buildings. **(met goal)**

- **Measure:** Develop progress milestones and estimates of energy-related program benefits annually for every Energy Efficiency/Renewable Energy program. Review 25 percent of the milestones and estimated benefits through external peer review each year with a goal of having all milestones and estimated benefits peer-reviewed at least once every four years. **(met goal)**

- **Measure:** Accumulate customer economic savings from past and current Energy Efficiency/Renewable Energy programs exceeding \$11 billion. **(exceeded goal)**

- **Measure:** Maintain an industry cost share level of 40 percent when averaged across all work with industry. **(met goal)**

- **Measure:** Weatherize 67,845 homes, bringing the total number of homes weatherized to 4.7 million. **(exceeded goal)**

- **Measure:** Work with the Federal Trade Commission to allow manufacturers to add the energy star logo to the yellow and black Energy Guide label for covered products and recruit an additional 1,500 stores to market energy star appliances nationwide. **(exceeded goal)**

- **Measure:** Recruit 55 additional Rebuild America Partnerships. New partners will begin action plans that will result in over 250 million square feet of

floor space renovated, reduce annual energy costs by over \$90 million, and reduce annual carbon emissions by 0.22 million metric tons. **(met goal)**

- **Measure:** Complete 100 homes that are over 50 percent more efficient than typical homes through the Building America Program, bringing the total number of homes completed to 700; add five new community-scale projects for building 1,000 additional homes in fiscal year 2000; and transfer research recommendations to the Partnership for Advancing Technology in Housing (PATH). **(exceeded goal)**

**Performance goal:** Planning for energy-related greenhouse gas reductions—Develop policies, programs, and information to facilitate the energy sector's reductions in greenhouse gas emissions. **(unspecified)**

- **Measure:** Develop a DOE proposal for guidelines for implementing the flexibility mechanisms included in the Kyoto Protocol. **(nearly met goal)**
- **Measure:** Support, through quantitative analysis and international contacts, Administration efforts to obtain meaningful commitments for reducing greenhouse gas emissions from developing countries. **(unspecified)**
- **Measure:** Lead the U.S. government's technology and climate change strategy development and implementation through (1) chairing and expanding the Annex II countries' Climate Change Technology Initiative, which promotes the objectives of the UN Framework Convention on Climate Change, by fostering international cooperation for accelerated development and diffusion of climate-friendly technologies and practices for all activities and greenhouse gases and (2) leading and facilitating the development of U.S. positions on technology issues in the climate negotiations including participation in the UNFCCC technology consultation process. **(met goal)**

**Performance goal:** Cooperating internationally to develop open energy markets—Cooperate with foreign governments and international institutions to develop open energy markets, and facilitate the adoption and export of clean, safe, and efficient energy technologies and energy services. **(met goal)**

- **Measure:** Increase U.S. energy-related business internationally by removing policy, legal, and fiscal barriers for U.S. companies. (DOE lists four initiatives that it will support or lead to meet this measure.) **(met goal)**

**Performance goal:** Expanding public access to energy information—Develop and expand public access to energy data, forecasts and analyses, and educational materials. **(met goal)**

- **Measure:** Achieve a growth rate of at least 20 percent per year in the average number of unique monthly users of the Energy Resources Board Web site (from about 70,000 per month in 1997). **(exceeded goal)**

- **Measure:** Publish domestic and international Annual Energy Outlooks forecasting energy supply and consumption through the year 2020. **(met goal)**

**Performance goal:** Developing innovative options for 21<sup>st</sup> century energy markets—Carry out research and scenario analysis to help identify and understand options that could revolutionize 21<sup>st</sup> century energy markets. **(met goal)**

- **Measure:** Complete the scale-up of the sorbent enhanced reformer concept for hydrogen production. **(met goal)**

- **Measure:** Complete the preliminary version of the gas hydrate seismic model based on field and laboratory data. **(met goal)**

- **Measure:** Initiate a coordinated, Department-wide program to develop lower-cost, environmentally acceptable technology approaches to carbon capture and sequestration. **(met goal)**

GAO's Observations on DOE's Fiscal Year 1999 Actual Performance for the Key Agency Outcome of Energy Systems Are Secure, Competitive, and Serve the Needs of the Public

This outcome area is the strategic goal for DOE's Energy Resources business line. This outcome is supported by 20 performance goals and 48 performance measures. The accountability report states that DOE nearly met, met, or exceeded expected performance for almost all performance goals and measures in the Energy Resources area.

DOE's fiscal year 1999 accountability report does not provide a clear picture of DOE's direction and outcome for Energy Resources. Almost all of the performance goals and most of the performance measures were not clear and quantified. As a result, we could not determine what the Department was trying to accomplish or how it planned to get there. For example, one of DOE's performance goals is to "diversify the international supply of oil and gas." DOE does not clearly indicate what "diversify" means or how it will be measured. For this performance goal, DOE states a performance measure—"Continue leadership in international energy initiatives"—without explaining what it will do to lead or how these activities will ultimately diversify the international supply of oil. Another performance goal is to develop policies, programs, and information to facilitate the energy sector's reductions in greenhouse gas emissions. DOE does not clearly indicate which specific "policies, programs, and information" need to be developed. For the performance goal, DOE states an unquantified measure—

“support, through quantitative analysis and international contacts, Administration efforts to obtain meaningful commitments for reducing greenhouse gas emissions from developing countries”—without explaining what “support” or “meaningful commitments” mean.

In instances like these, DOE did not follow its criteria (stated in app. A of its fiscal year 2001 performance plan) that performance measures and goals must, among other things, precisely state what will be done in the fiscal year, clearly state the measurement and target level of performance, and use baselines for context. The lack of clarity and quantification in goals and measures makes it hard to determine how much closer DOE is to meeting its larger, multiyear strategic goal/outcome. In this regard, DOE’s report also did not provide a discussion of program evaluations related to performance measures, nor did the performance plan provide a specific and credible verification and validation plan for its performance measures.

GAO, DOE, and DOE’s Office of Inspector General have identified weaknesses in DOE’s quality and reporting of performance data. For example, according to a 1999 Office of Inspector General report, none of the program offices had processes in place to ensure that all performance data collected from the contractors were reliable. Nonetheless, DOE’s 1999 report did not provide a discussion of the credibility of the performance data, how the data were verified and validated, and the results of DOE’s checks on data quality. Thus, we have little confidence that the reported data are credible.

Unmet Fiscal Year 1999 Performance Goals and Measures for the Key Agency Outcome of Energy Systems Are Secure, Competitive, and Serve the Needs of the Public

**Performance goal:** Developing alternative transportation fuels and more efficient vehicles

- **Measure:** Complete three nationwide solar technology Super Energy Savings Performance Contracts (Super ESPCs) for use by all agencies. **(below expectations)**

GAO’s Observations on DOE’s Unmet Fiscal Year 1999 Performance Goals and Measures for the Key Agency Outcome of Energy Systems Are Secure, Competitive, and Serve the Needs of the Public

In its report, DOE provided explanations and plans of action only when performance measures fell below expectations. As a result, for Energy Resources, DOE provided an explanation and plan of action for its one performance measure that fell below expectations, but did not take such steps for the performance goal that fell below expectations. In the one case in which a performance measure was not met, DOE provided the following explanation for why performance was below expectations:

“...Two of the solar technology ESPCs will not be developed as planned. One, solar thermal, has been dropped due to a lack of agency demand for a new contract. The other, solar pre-heat, has been dropped due to lack of agency demand for a contract.”

This explanation appears reasonable. However, the associated plan of action (“The Department’s Federal Energy Management Program is currently re-evaluating the most appropriate mechanisms to increase deployment of renewable technologies in federal facilities”), although clear, contains no specific actions and lacks a time frame for completion.

Fiscal Year 2000 Performance Goals and Measures for the Key Agency Outcome of Energy Systems Are Secure, Competitive, and Serve the Needs of the Public

**Performance goals dropped from the fiscal year 2000 performance plan**

**Performance goal:** Maximizing the productivity of federal oil fields

**Performance measures added to the fiscal year 2000 performance plan**

- **Measure:** Complete field testing and monitoring of two technologies for downhole separation of oil and water, resulting in a reduction in water and a potential increase in oil production per well.
- **Measure:** Ensure the achievement of a calculated site availability of 95 percent or greater with drawdown of 4.1 million barrels per day for a sustained 90-day period within 15 days’ notice by the President.
- **Measure:** Complete contracting for the transfer and/or exchange of 28 million barrels of federal royalty oil from the Department of Interior for a net increase of approximately 23 million barrels in SPR inventory, with deliveries of a remaining 4 million barrels in fiscal year 2001.
- **Measure:** Demonstrate conversion of agricultural wastes to ethanol at a small commercial scale using a genetically engineered fermentative microorganism.
- **Measure:** Complete testing of baseline prototype, 50-volt high-power lithium-ion modules for use in hybrid vehicles.
- **Measure:** Launch two projects that will lead to 100-percent penetration of alternative fuel vehicles in selected niche applications, such as a local taxi fleet or the buses for a particular school.
- **Measure:** Complete solicitation for and selection of candidate industrial teams for the Entry Entrance Coproduction Plant (EECP) project in which



innovative alternative fuels will be coproduced with electricity and chemical products.

- **Measure:** Meet planned repayment of principal on power investment.
- **Measure:** Achieve a safety performance of 3.3 or fewer recordable accident rate for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower.
- **Measure:** Develop a 13-percent efficient stable prototype thin-film photovoltaic module.
- **Measure:** Demonstrate the fully autonomous operation of a 10 kW dish engine system for off-grid applications.
- **Measure:** Complete two designs of an advanced air-cooled condenser for geothermal applications.
- **Measure:** Install and begin testing of two proof-of-concept turbines under the Next Generation Turbine program leading to the commercial availability of technology capable of producing electricity at 2-½ cents per kilowatt (kW) hour in a 15-mile-per-hour (mph) wind resource by 2003.
- **Measure:** Establish an Interagency Council and Advisory Committee on biobased products and bioenergy. By April 30, 2000, develop a strategic plan for the development and use of bio-based products and bioenergy as required by Executive Order 13134.
- **Measure:** In support of Vision 21, complete testing of a 250 kW fuel cell/turbine hybrid and deliver a conceptual design of a 1-megawatt (MW) fuel cell/turbine hybrid power plant to facilitate market entry.
- **Measure:** Complete pilot studies on mercury emission controls that augment existing pollution control technologies and are expected to reduce mercury emissions by over 500 percent at less than half the cost originally estimated in EPA's December 1997 report to Congress on mercury.
- **Measure:** Complete the first large scale (600 MW) test of selective noncatalytic reduction, which will allow coal-fired power plants to satisfy ozone transport (OTAG) requirements for reduction of emissions of oxides of nitrogen and also reduce fine particulate matter.
- **Measure:** Advance the state of scientific knowledge and technology to enable incorporation of improved proliferation resistance, safety, and economies in the potential future design and development of advanced reactor and nuclear fuel systems.

- **Measure:** Work with three domestic automakers to incorporate the most promising Partnership for a New Generation of Vehicles (PNGV) technologies in concept vehicles with up to three times the average fuel economy of 1993 Taurus, Lumina, and Concorde models.
- **Measure:** Establish partnerships with 50 Industries of the Future plants to provide integrated delivery of tools and technical assistance to target motors, steam, compressed air, and combined heat and power system opportunities.
- **Measure:** Issue final rules regarding energy efficiency standards for fluorescent lamp ballasts and water heaters and issue proposed rules regarding energy efficiency standards for clothes washers and central air conditioners.
- **Measure:** Continue efforts to reduce the use of energy in federal buildings and report the results achieved through the end of fiscal year 1998, towards the goal of achieving a 20 percent reduction by the end of fiscal year 2000 as compared to 1985 energy use. Preliminary data indicate that the agencies had achieved a 17-percent reduction at the end of fiscal year 1997.
- **Measure:** Respond to 70,000 inquiries by individuals, small businesses, and state and local government through the energy Efficiency and Renewable Energy Clearinghouse (EREC).

**Measures dropped in the fiscal year 2000 performance plan**

- **Measure:** Complete an online environmental compliance expert system, developed in cooperation with states, that will improve oil and gas production economies by giving producers online access to federal and state rules and regulations and allowing them to conduct environmental permitting and reporting over the Internet, reducing timing and costs related to environmental compliance.
- **Measure:** Expand the Clean Cities program to create continuous corridors of alternative transportation fuel availability in and between 10 major urban centers.
- **Measure:** Support an industrial partner to complete site preparation and begin construction of an industry-owned facility to demonstrate first-of-a-kind cellulosic biomass to ethanol technology from agriculture crop waste.
- **Measure:** Build a single-cylinder proof-of-concept diesel engine that delivers up to 55 percent efficiency.
- **Measure:** With the sale of the Elk Hills Naval Petroleum Reserve, work in this area is essentially complete.

- **Measure:** Initiate the development and implementation of a national plan to protect the nation's energy infrastructure as required by the Presidential Decision Directive 63.
- **Measure:** Issue a revised administration proposal on electric utility restructuring and the supporting economic analysis to provide a catalyst for consensus and action.
- **Measure:** Develop codes, standards and safety specifications for residential photo-voltaic roof systems.
- **Measure:** Accumulate 750 hours of reliable operation of a distributed concentrating solar power system.
- **Measure:** Develop an industry-led vision and roadmap for an integrated bioenergy industry to advance the development of biomass-derived energy and its use in domestic and global markets.
- **Measure:** Establish a U.S.-based commercial firm as an internationally recognized certification agent using testing and design review services provided by the National Wind Technology Center.
- **Measure:** By September 1999, in cooperation with industry and other federal agencies, develop a direct injection power system technical roadmap and a fuel cell power system technical roadmap to integrate fuels and lubricants research and development of engine and emissions treatment technologies.
- **Measure:** Maintain an industry cost-share level of over 40 percent when averaged across all work with industry.
- **Measure:** Accumulate customer economic savings from past and current Energy Efficiency/Renewable Energy programs exceeding \$11 billion.
- **Measure:** Develop progress milestones and estimates of energy-related program benefits annually for every Energy Efficiency/Renewable Energy program. Review 25 percent of the milestones and estimated benefits through external peer review each year with a goal of having all milestones and estimated benefits peer-reviewed at least once every 4 years.

GAO's Observations on DOE's Fiscal Year 2000 Performance Goals and Measures for the Key Agency Outcome of Energy Systems Are Secure, Competitive, and Serve the Needs of the Public

DOE provides a generic statement in its report (p. 131) explaining that performance targets for fiscal year 2000 were revised, as appropriate, in response to actual results for fiscal year 1999 and presented in the fiscal year 2001

performance plan. However, DOE almost never provided a reason for why it revised, dropped, or added individual performance goals or measures.

DOE includes a means and strategies section for each objective in its 2000 performance plan. However, this section is not specific on the actions necessary to achieve individual 2000 performance goals and measures. For example, DOE's means and strategies statement for its performance goal of "Cooperating internationally to develop open energy markets" states that

"...Work on opening international energy markets will include meetings with other U.S. governmental agencies, including EPA, Commerce, and the President's Office of Science and Technology Policy, as well as international energy organizations."

The statement does not explain the nature of these meetings or how they will help DOE cooperate internationally to develop open energy markets.

Fiscal Year 2001 Performance Goals and Measures for the Key Outcome of Energy Systems Are Secure, Competitive, and Serve the Needs of the Public

**Strategic objectives and performance goals revised in the fiscal year 2001 performance plan**

**Objective:** Reduce the vulnerability of the U.S. economy to disruptions in energy supplies.

**Objective:** Support U.S. energy, environmental, and economic interests in global markets.

**Performance goal:** Boosting the nation's production of domestic oil—Support research and development, policies, and improved regulatory practices capable of ending the decline in domestic oil production before 2005.

**Performance goal:** Developing advanced turbines for cogeneration—Develop and introduce advanced turbines for cogeneration that can reduce annual industrial energy costs by \$500 million and carbon emissions by nearly 1.7 million metric tons in 2010.

**Performance goals dropped in the fiscal year 2001 performance plan**

**Performance goal:** Diversify the international supply of oil and gas—Diversifying the international supply of oil and gas.

**Performance goal:** Establishing a more open, competitive electric system—Advance congressional action on comprehensive electricity restructuring legislation by incorporating additional elements of the Administration's 1999 proposal during full committee and floor consideration to achieve an outcome that benefits consumers, the economy, and the environment. Also, support

administrative actions to promote establishment of a more open, competitive, and reliable electric system, with improved environmental performance.

**Performance goal:** Supporting research to improve existing nuclear power plants—Support research to improve nuclear power plant reliability and availability, and increase the capacity factor of existing nuclear power plants from the 1996 average of 76 percent to 85 percent by 2010.

**Performance goal:** Planning for energy related greenhouse gas reductions—Develop policies, programs, and information to facilitate the energy sector's reductions in greenhouse gas emissions.

**Performance goal:** Cooperate internationally to develop open energy markets—Cooperate with foreign governments and international institutions to develop open energy markets, and facilitate the adoption and export of clean, safe, and efficient energy technologies and energy services.

**Measures added to the fiscal year 2001 performance plan**

- **Measure:** Evaluate advanced flash and binary power plant capital costs declining below \$1,400/kW and \$2,000/kW, respectively, for geothermal applications, a decrease of about 25 percent since the late 1980s.
- **Measure:** Advanced wind hybrid control system technology developed jointly with the Department of Agriculture's Agriculture Research Center will be commercially available.
- **Measure:** Produce 20 cubic meters per hour of hydrogen via steam reforming of biomass pyrolysis oil in a process development unit.
- **Measure:** Demonstrate the field application of a shoulder-mounted, portable video methane leak detection system that can be used to significantly reduce the costs of leak monitoring at refineries and other facilities while reducing harmful air emissions. Annual savings of \$500,000 per year per refinery, on average, would result from regulatory acceptance and application of this technology.
- **Measure:** Complete design and initiate construction of the Advanced Pressurized Circulating Fluidized Bed (APCFB) demonstration project at Lakeland, Fla.
- **Measure:** Complete the design and continue construction of the Circulating Atmospheric Fluidized Bed demonstration project at Jacksonville, Fla.
- **Measure:** Initiate construction of a fixed-bed slagging gasification and fuel cell demonstration project (Clean Energy Project).

- **Measure:** Complete operation of the LaPorte Slurry Phase Reactor for production of advanced ultraclean fuels for engine testing.
- **Measure:** Begin laboratory-scale test operations of a novel syngas ceramic membrane reactor to reduce gas-to-liquid fuel conversion costs and initiate construction of the first-stage scale-up of the reactor.
- **Measure:** Complete 15 assessments on five case studies of major industrial plants that will document for a variety of system-focused implementation actions. These will influence replication of similar energy savings for other plants.
- **Measure:** Support the annual acquisition of 12,000 alternative-fuel vehicles in the federal fleet.
- **Measure:** Complete test and evaluation of a fuel-flexible 50 kW integrated fuel cell power system.

**Measures dropped from the fiscal year 2001 performance plan**

- **Measure:** Complete two designs of advanced air-cooled condensers for geothermal applications.
- **Measure:** Establish an Interagency Council and Advisory Committee on bio-based products and bioenergy. By April 30, 2000, develop a strategic plan for the development and use of bio-based products and bioenergy as required by Executive Order 13134.
- **Measure:** Install and begin the testing of two proof-of-concept turbines under the Next Generation Turbine program, leading to the commercial availability of technology capable of producing electricity at 2-1/2 cents per kWh in 15 mph wind resource by 2003.
- **Measure:** Demonstrate over 90 percent absorption of CO<sub>2</sub> in a sorbent enhanced reformer reactor for hydrogen production.
- **Measure:** Complete the field testing and monitoring of two technologies for downhole separation for oil and water, resulting in reduction in produced water and potential increase in oil production per well.
- **Measure:** Complete the Life Extension Program to ensure the long-term reliability, effectiveness, and operational readiness of SPR facilities and systems.

- **Measure:** Establish partnerships with 50 Industries of the Future plants to provide integrated delivery of tools and technical assistance to target motors, steam, compressed air, and combined heat and power system opportunities.
- **Measure:** Launch two projects that will lead to 100-percent penetration of alternative-fuel vehicles in selected niche applications such as a local taxi fleet or the buses for a particular school.
- **Measure:** Work with three domestic automakers to incorporate the most promising Partnership for a New Generation of Vehicles (PNGV) technologies in concept vehicles with up to 3 times the average fuel economy of 1993 Taurus, Lumina, and Concorde models.
- **Measure:** Complete the final preparations for a smooth Year 2000 transition in U.S. energy markets in cooperation with industry organizations and other government agencies. Provide for the timely communication to the public of information regarding readiness status, contingency planning activities, and real-time performance of the nation's energy infrastructure during the Year 2000 rollover.

GAO's Observations on DOE's Fiscal Year 2001 Performance Goals and Measures for the Key Agency Outcome of Energy Systems Are Secure, Competitive, and Serve the Needs of the Public

In its fiscal year 2001 performance plan, DOE does not provide reasons for why it revised, dropped, or added individual objectives, performance goals, or measures when compared with fiscal year 1999 or fiscal year 2000. In addition, although DOE is making some of its performance goals and measures more quantified and specific, generally the changes in goals and measures continue to lack clarity and quantification, making it hard to get a clear picture of intended performance. For example, one DOE goal is to ensure the availability of competitively priced oil and natural gas supplies to support a strong U.S. economy. DOE is unclear about what "ensure the availability" means, particularly since supplies are determined by the market, not DOE. To accomplish this goal, one performance measure is to quantify a hydrate deposit by correlating core samples with geophysical and well log data. DOE is unclear on what "quantify" and "correlating" mean.

Also of importance, DOE dropped five performance goals contained in its fiscal year 2000 plan without providing replacements or explaining why these goals were no longer important. These goals related to such matters as diversifying the international supply of oil and gas; establishing a more open, competitive electric system; planning for energy-related greenhouse gas reductions; and cooperating internationally to develop open energy markets. The performance measures associated with these performance goals were placed under either DOE's Office of Policy or the Office of International Affairs. For example, one of the measures within the Office of Policy states:

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“Support through quantitative analysis and international contacts, Administration efforts to obtain meaningful commitments for reducing greenhouse gas emissions from developing countries.”

In DOE’s fiscal year 2000 performance plan, this measure supported the performance goal, “Planning for energy-related greenhouse gas reductions.” This goal was not mentioned in the fiscal year 2001 plan. The absence of these performance goals in the 2001 plan makes it impossible to determine what goals the associated performance measures support.

The fiscal year 2001 performance plan does not adequately address two weaknesses we identified in our previous assessments of DOE’s plans for fiscal years 1999 and 2000: (1) strategic goals and objectives are not clear and quantified so that a determination can be made about whether annual goals are reasonable and appropriate and (2) plans do not provide details of the procedures DOE will use to verify and validate performance.

For the first weakness, DOE’s attempts to clarify and quantify its performance goals and measures were mixed. Some performance goals improved when compared with the fiscal year 2000 plan. For example, one fiscal year 2000 performance goal was to

“develop alternative transportation fuels and more efficient vehicles that can reduce year 2010 projected oil imports of 12 million barrels per day by 5 percent.”

For fiscal year 2001, this performance goal was made more quantifiable by stating

“for 2010, increase the fuel efficiency of new light vehicles by 5.4 mpg, to have 10 million vehicles on the road with light-weight materials, and to increase cellulosic ethanol production to 2,200 million gallons per year.”

However, other goals became less clear and quantified. For example, one fiscal year 2000 goal was

“By 2015, significantly reduce emissions from currently existing fossil fuel power plants and from new plants by: (1) developing market-ready coal power systems with efficiencies over 60 percent (new plants are currently about 35 percent) and near zero emissions; (2) integrating advanced turbine and fuel cell technology to achieve market-ready gas-fueled power plants with efficiencies over 70 percent.”

For fiscal 2001, this performance goal was made less clear and quantified by stating

“by 2015, develop systems which produce near zero level of pollutants while simultaneously reducing electricity costs by 10 percent to 20 percent.”

In this case, the term “develop systems” is less clear than the specific power plants described in the fiscal year 2000 goal.

Performance measures improved moderately in clarity and quantification. We estimated that, when compared with the fiscal year 2000 plan, nine measures



became more clear or quantified in the fiscal year 2001 plan, while five other measures were less clear or quantified.

For the second weakness, the fiscal year 2001 performance plan contains an overview of DOE's validation and verification of information on performance. In this overview, DOE says it will validate and verify performance through the use of, among other things, periodic guidance, reviews, certifications, and audits. DOE also says internal management controls will be applied to ensure data quality. This overview does not provide evidence about the quality of the data.

Neither this overview nor information contained for each budgetary unit provides specifics about how DOE intends to validate and verify performance information. In addition, the plan does not report the outcome of DOE's implementation of its verification and validation plan or provide any evidence that the data quality is sufficient for assessing the agency's performance. DOE also does not discuss limitations in its data. For these reasons, we continue to lack confidence that the plan's performance data are credible and useful to agency and congressional decisionmakers.

In addition, it is important to note that, based on our previous recommendations, DOE presented its goals and measures in its fiscal year 2001 plan by budgetary decision unit. This helps to better align expected performance with the related budgetary investment. The plan could be further improved by providing clear cross-references with DOE's plans in previous years, which were organized by strategic and performance goals. Thus, in many cases, it was hard to tell where specific goals were distributed among budgetary units.

**Key Agency Outcome: Energy Use Is More Efficient and Productive, While Environmental Impacts Are Limited**

Fiscal Year 1999 Performance Goals and Measures for the Key Outcome of Energy Use Is More Efficient and Productive, While Environmental Impacts Are Limited

**Performance goal:** Designing and developing the vehicles of the future—Develop and deploy vehicles, fuels, and systems of the future, contributing significantly to the Partnership for New Generation Vehicles to develop by 2004, prototype midsized cars capable of 80 miles per gallon that will reduce NO<sub>x</sub> and CO<sub>2</sub> emissions by two-thirds compared to today's new car average without compromising safety, comfort, and cost. **(met goal)**

- **Measure:** By September 1999, in cooperation with industry and other federal agencies, develop a direct injection power system technical roadmap and a fuel cell power system technical roadmap to integrate fuels and lubricants research and development (R&D) with development of engine and emission treatment technologies. **(met goal)**

**Performance goal:** Improving the efficiency of energy-intensive industries—By 2010, reduce industrial energy per unit of output by 25 percent by supporting industry/government/academia partnerships in R&D to improve the efficiency of the nation's energy-intensive industries. **(met goal)**

- **Measure:** Complete roadmaps for the six major energy-intensive industries to achieve each industry vision, and start implementing the resulting R&D to achieve up to a 25-percent reduction of energy consumption by 2010. **(met goal)**
- **Measure:** Continue support for industrial assessment centers operating at 30 participating universities that will conduct approximately 750 combined energy, waste, and productivity assessments. **(met goal)**

**Performance goal:** Improving the efficiency of buildings—By 2010, improve the energy efficiency of the existing U.S. building stock, and increase the energy efficiency of new homes by 50 percent and other new building by 30 percent, compared with 1996 average new buildings. **(met goal)**

- **Measure:** Develop progress milestones and estimates of energy-related program benefits annually for every Energy Efficiency/Renewable Energy program. Review 25 percent of the milestones and estimated benefits through external peer review each year with a goal of having all milestones and estimated benefits peer-reviewed at least every 4 years. **(met goal)**

- **Measure:** Accumulate customer economic savings from past and current Energy Efficiency/Renewable Energy programs exceeding \$11 billion. **(exceeded goal)**
- **Measure:** Maintain an industry cost share level of 40 percent when averaged across all work with industry. **(met goal)**
- **Measure:** Weatherize 67,845 homes, bringing the total number of homes weatherized to 4.7 million. **(exceeded goal)**
- **Measure:** Work with the Federal Trade Commission to allow manufacturers to add the Energy Star logo to the yellow and black Energy Guide label for covered products and recruit an additional 15,000 stores to market Energy Star appliances nationwide. **(exceeded goal)**
- **Measure:** Recruit 55 additional Rebuild America Partnerships. New partners will begin action plans that will result in over 250 million square feet of floor space renovated, reduce annual energy costs by over \$90 million, and reduce annual carbon emissions by .22 million metric tons. **(met goal)**
- **Measure:** Complete 100 homes that are over 50 percent more efficient than typical homes through the Building America Program, bringing the total number of homes completed to 700; add five new community-scale projects for building 1,000 additional homes in fiscal year 2000; and transfer research recommendations to the Partnership for Advancing Technology in Housing (PATH). **(exceeded goal)**

GAO's Observations on the Fiscal Year 1999 Actual Performance for the Key Agency Outcome of Energy Use Is More Efficient and Productive, While Environmental Impacts Are Limited

This outcome area is one of the five objectives for DOE's Energy Resources business line. This area has 3 performance goals and 10 performance measures related to increasing the efficiency and productivity of energy use in three sectors of the U.S. economy—transportation, industry, and buildings. The accountability report states that DOE met or exceeded performance for every performance goal and measure in this outcome area.

DOE's fiscal year 1999 accountability report does not provide a clear picture of DOE's direction and outcome for "increasing the efficiency and productivity of energy use while limiting environmental impacts." Almost all of the performance goals and most of the performance measures were not clear and quantified. As a result, we could not determine what the Department was trying to accomplish or how it planned to get there. For example, one of DOE's performance goals in this area is, "By 2010, reduce industrial energy use per unit of output by 25 percent by supporting industry/government/academia partnerships in R&D to improve efficiency of the nation's energy intensive industries." DOE does not describe

what it means by “supporting,” nor does it provide a baseline for industrial energy use. To achieve this goal, DOE states it will “Complete roadmaps for six of the major energy intensive industries to achieve each industry vision and start implementing the resulting R&D to achieve up to 25-percent reduction of energy consumption by 2010.” It is unclear how far completing the roadmaps will bring DOE toward realizing the performance goal or how quickly the R&D will pay off. Nonetheless, DOE indicates in the accountability report that it met the performance goal because it has met the performance measure, even though the performance goal is a 10-year goal and there is no evidence that industrial energy use has been reduced by 25 percent.

In instances like this, DOE did not follow its criteria (stated in app. A of its fiscal year 2001 performance plan), that performance measures and goals must, among other things, precisely state what will be done in the fiscal year, clearly state the measurement and target level of performance, and use baselines for context. (See discussion, outcome area 1.)

In addition, DOE’s report also did not provide a discussion of program evaluations related to performance measures. Such evaluations could help DOE better understand the relationship between its activities (e.g., completing the roadmaps) and the result it hopes to achieve (e.g., reducing industrial energy use).

Moreover, DOE’s report does not discuss the credibility of the performance data, how the data were verified and validated, or the results of DOE’s checks on data quality. (See discussion, outcome area 1.)

Unmet Fiscal Year 1999 Performance Goals and Measures for the Key Agency Outcome of Energy Use Is More Efficient and Productive, While Environmental Impacts Are Limited

None for this outcome

Fiscal Year 2000 Performance Goals and Measures for the Key Agency Outcome of Energy Use Is More Efficient and Productive, While Environmental Impacts Are Limited

**Measures added to the fiscal year 2000 performance plan**

- **Measure:** Establish partnerships with 50 Industries of the Future plants to provide integrated delivery of tools and technical assistance to targeted motors, steam, compressed air, and combined heat and power system opportunities.
- **Measure:** Issue final rules regarding energy efficiency standards for fluorescent lamp ballasts and water heaters and issue proposed rules regarding energy efficiency standards for clothes washers and central air conditioners.

- **Measure:** Continue efforts to reduce the use of energy in federal buildings and report the results achieved through the end of fiscal year 1998 toward the goal of achieving a 20-percent reduction by the end of fiscal year 2000 as compared with 1985 energy use. Preliminary data indicate that the agencies had achieved a 17-percent reduction at the end of fiscal year 1997.

**Measures dropped from the fiscal year 2000 performance plan**

- **Measure:** By September 1999, in cooperation with industry and other federal agencies, develop a direct injection power system technical roadmap and fuel cell power system technical roadmap to integrate fuels and lubricants research and development of engine and emissions treatment technologies.
- **Measure:** Maintain an industry cost-share level of over 40 percent when averaged across all work with industry.
- **Measure:** Accumulate customer economic savings from past and current Energy Efficiency/Renewable Energy programs exceeding \$11 billion.
- **Measure:** Develop progress milestones and estimates of energy-related program benefits annually for every Energy Efficiency/Renewable Energy program. Review 25 percent of the milestones and estimated benefits through external peer review each year with a goal of having all milestones and estimated benefits peer-reviewed at least once every 4 years.

**GAO's Observations on the Fiscal Year 2000 Actual Performance for the Key Agency Outcome of Energy Use Is More Efficient and Productive, While Environmental Impacts Are Limited**

DOE provides a generic statement in its report (p. 131) explaining that performance targets for fiscal year 2000 were revised, as appropriate, in response to actual results for fiscal year 1999 and presented in the fiscal year 2001 performance plan. However, DOE almost never provided a reason for why it revised, dropped, or added individual performance goals or measures.

DOE includes a means and strategies section for each objective in its 2000 performance plan. However, this section is not specific on the actions necessary to achieve individual 2000 performance goals and measures. For example, DOE states that its means and strategies for this outcome are that

"[t]he Department will collaborate with the big three automobile companies, the Department of Transportation, and the Department of Commerce under the Partnership for a New Generation of Vehicles (PNGV) to conduct R&D that reduces vehicle emission levels, partner with manufacturers in the most energy-intensive industries to implement vision roadmaps, and partner with states, retail stores, and other federal agencies to foster deployment of energy efficiency technologies in buildings."

This description lacks specifics about DOE's actions or how they will help achieve the performance goals and measures.

Fiscal Year 2001 Performance Goals and Measures for the Key Outcome of Energy Use Is More Efficient and Productive, While Environmental Impacts Are Limited

**Measures added to the fiscal year 2001 performance plan**

- **Measure:** Complete 15 assessments on five case studies of major industrial plants that will document a variety of system-focused implementation actions. These will influence replication of similar energy savings for other plants.
- **Measure:** Complete the testing and evaluation of a fuel-flexible 50 kilowatt (kW) integrated fuel cell power system.

**Measures dropped from the fiscal year 2001 performance plan**

- **Measure:** Establish partnerships with 50 Industries of the Future plants to provide integrated delivery of tools and technical assistance to target motors, steam, compressed air, and combined heat and power system opportunities.
- **Measure:** Work with the three domestic automakers to incorporate the most promising Partnership for a New Generation of Vehicles (PNGV) technologies in concept vehicles with up to 3 times average fuel economy of 1993 Taurus, Lumina, and Concorde models.

GAO's Observations on the Fiscal Year 2001 Actual Performance for the Key Agency Outcome of Energy Use Is More Efficient and Productive, While Environmental Impacts Are Limited

In its fiscal year 2001 performance plan, DOE does not provide reasons for why it revised, dropped, or added individual performance goals or measures when compared with fiscal year 1999 or fiscal year 2000. In addition, although DOE is making some of its performance goals and measures more quantified and specific, generally the changes in goals and measures lack clarity and quantification, making it hard to get a clear picture of intended performance. For example, one performance measure for fiscal year 2000 was to

“work with the three domestic automakers to incorporate the most promising Partnership for a New Generation of Vehicles technologies in concept vehicles with up to 3 times average fuel economy of 1993 cars, Taurus, Lumina, and Concorde models.”

For fiscal year 2001, this performance measure was dropped, and a new performance measure that is also unclear was added to

“complete test and evaluation of a fuel-flexible 50 kW integrated fuel cell power system.”

The fiscal year 2001 performance plan does not adequately address two weaknesses we identified in our previous assessments of DOE's plans for fiscal

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years 1999 and 2000: (1) strategic goals and objectives are not clear and quantified so that a determination can be made about whether annual goals are appropriate and (2) plans do not provide details of the procedures DOE will use to verify and validate performance.

For the first weakness, DOE's attempts to clarify its performance goals and measures provided little positive change. While all three of the goals and seven of the performance measures were essentially the same, three performance measures became less clear or less quantified. For example, one performance measure for fiscal year 2000 was to

"issue final rules regarding energy efficiency standards for fluorescent lamp ballasts and water heaters and issue proposed rules regarding energy efficiency standards for clothes washers and central air conditioners."

In place of this performance measure, for fiscal year 2001, the Department used the measure

"publish ANOPR concerning standards for commercial HVAC and water heaters and distributed transformers."

For the second weakness, the fiscal year 2001 performance plan contains an overview of DOE's validation and verification of information on performance, but provides no evidence about the quality of the data (see discussion, outcome area 1)

**Key Agency Outcome: Reduce Nuclear Weapons Stockpiles and Proliferation Threat Caused by the Possible Diversion of Nuclear Materials**

Fiscal Year 1999 Performance Goals and Measures for the Key Agency Outcome of Reduce Nuclear Weapons Stockpiles and the Proliferation Threat Caused by the Possible Diversion of Nuclear Materials

**Performance goal:** Reducing the weapons stockpile—Dismantle nuclear warheads that have been removed from U.S. nuclear weapons stockpile in a safe and secure manner. **(below expectations)**

- **Measure:** Adhere to schedules for the safe and secure dismantlement of approximately 275 nuclear warheads that have been removed from the U.S. nuclear weapons stockpile. **(below expectations)**
- **Measure:** Evaluate the impacts of warhead dismantlement and transparency initiatives. **(met goal)**

**Performance goal:** Reducing inventories of surplus weapons-usable fissile materials worldwide in a safe, secure, transparent, and irreversible manner—Implement the disposition of surplus highly enriched uranium (HEU) and plutonium, and provide technical support to attain reciprocal actions for the disposition of surplus Russian plutonium. Minimize the future demand for HEU in civilian programs through the development of alternative low enriched uranium (LEU) fuels for research reactors and targets for medical isotope production. Support international efforts to place excess fissile materials under International Atomic Energy Agency (IAEA) safeguards. **(met goal)**

- **Measure:** Complete the final environmental impact statement and issue a record of decision on the siting of a plutonium disposal facility. **(nearly met goal)**
- **Measure:** Initiate, by the end of 1999, negotiations with Russia on a bilateral agreement for the disposition of surplus weapons plutonium. **(exceeded goal)**
- **Measure:** Initiate design for pit disassembly and conversion and mixed oxide (MOX) fuel fabrication facilities. **(met goal)**
- **Measure:** Continue transfer of U.S. surplus HEU to the United States Enrichment Corporation for dilution and subsequent sale. **(met goal)**
- **Measure:** Place over 20 metric tons of excess HEU under International Atomic Energy Agency safeguards in fiscal year 1999. **(met goal)**



- **Measure:** Monitor the dilution of 30 metric tons of highly enriched uranium (HEU) to low enriched uranium (LEU) from dismantled Russian nuclear weapons for purchase by the United States Enrichment Corporation. **(met goal)**
- **Measure:** Remove all highly enriched uranium (HEU) oxides from the Portsmouth site. (met goal)

GAO's Observations on DOE's Fiscal Year 1999 Actual Performance for the Key Agency Outcome of Reduce Nuclear Weapons Stockpiles and the Proliferation Threat Caused by the Possible Diversion of Nuclear Materials

This outcome area is one of the seven objectives in DOE's National Security business line. It is supported by two performance goals and nine measures related to reducing nuclear weapons stockpiles and the proliferation threat from the possible diversion of nuclear materials. The accountability report states DOE nearly met, met, or exceeded performance for one performance goal and eight performance measures in this outcome area. DOE also estimated that it performed below expectations for one goal and one measure in this area.

DOE's fiscal year 1999 accountability report does not provide a clear picture of DOE's direction and outcome to reduce nuclear weapons stockpiles and the proliferation threat from the possible diversion of nuclear materials. Almost all of the performance goals and most of the performance measures were not clear and quantified. As a result, we could not determine what the Department was trying to accomplish or how it planned to get there. For example, one of DOE's performance goals in this area is to "dismantle nuclear warheads that have been removed from the U.S. nuclear weapons stockpile in a safe and secure manner." While DOE indicates the number of warheads to be dismantled is now classified, the performance goal does not provide a deadline for completion. To achieve this goal, DOE states a performance measure, "Evaluate the impacts of warhead dismantlement and transparency initiatives," without providing an idea of the method it will use to evaluate impacts or explaining how the evaluation will help achieve the performance goal.

In instances like this, DOE did not follow its criteria (stated in app. A of its fiscal year 2001 performance plan) that performance measures and goals must, among other things, precisely state what will be done in the fiscal year, clearly state the measurement and target level of performance, and use baselines for context. (See discussion, outcome area 1.)

DOE's report also did not provide a discussion of program evaluations related to performance measures. Such evaluations could help DOE better understand the relationship between its activities and the result it hopes to achieve. (See discussion, outcome area 1.)

Furthermore, DOE does not discuss the credibility of the performance data, how the data were verified and validated, or the results of DOE's checks on data quality. (See discussion, outcome area 1.)

Unmet Fiscal Year 1999 Performance Goals and Measures for the Key Agency Outcome of Reduce Nuclear Weapons Stockpiles and the Proliferation Threat Caused by the Possible Diversion of Nuclear Materials

**Performance goal:** Reducing the weapons stockpile—Dismantle nuclear warheads that have been removed from the U.S. nuclear weapons stockpile in a safe and secure manner. **(below expectations)**

- **Measure:** Adhere to schedules for the safe and secure dismantlement of approximately 275 nuclear warheads that have been removed from the U.S. nuclear weapons stockpile. **(below expectations)**

GAO's Observations on DOE's Unmet Fiscal Year 1999 Performance Goals and Measures for the Key Agency Outcome of Reduce Nuclear Weapons Stockpiles and the Proliferation Threat Caused by the Possible Diversion of Nuclear Materials

DOE determined that its performance for one goal and one performance measure was below expectations. In its report, DOE provided explanations and plans of action only when performance measures fell below expectations. It did not provide explanations when performance goals fell below expectations. For the one performance measure that fell below expectations, DOE explained that the measure was not achieved because of technical difficulties without describing those difficulties in detail. While DOE's plan of action to achieve the measure is clear and provides time frames for completion, it gives no details on how the technical difficulties will be corrected.

Fiscal Year 2000 Performance Goals and Measures for the Key Agency Outcome of Reduce Nuclear Weapons Stockpiles and the Proliferation Threat Caused by the Possible Diversion of Nuclear Materials

**Measures added to the fiscal year 2000 performance plan**

- **Measure:** Conduct up to 24 special visits to Russian facilities.
- **Measure:** Install permanent monitoring equipment at the Zheleznogorsk blending facility.
- **Measure:** Maintain and monitor the UF6 flow and enrichment measurement equipment installed at the blend points at a Russian HEU dilution facility.

- **Measure:** Compile and analyze collected data and information into an assessment of confidence of the compliance with the nonproliferation objectives of the HEU Agreement.
- **Measure:** Conduct a Russian technology demonstration to further warhead dismantlement or transparency measures.

**Measures dropped from the fiscal year 2000 performance plan**

- **Measure:** Evaluate the impacts of warhead dismantlement and transparency initiatives.
- **Measure:** Place over 20 metric tons of excess HEU under International Atomic Energy Agency safeguards in fiscal year 1999.
- **Measure:** Remove all HEU oxides from the Portsmouth site.

**GAO's Observations on DOE's Fiscal Year 2000 Planned Performance for the Key Agency Outcome of Reduce Nuclear Weapons Stockpiles and the Proliferation Threat Caused by the Possible Diversion of Nuclear Materials**

DOE provides a generic statement in its report (p. 131) explaining that performance targets for fiscal year 2000 were revised, as appropriate, in response to actual results for fiscal year 1999 and presented in the fiscal year 2001 performance plan. However, DOE almost never provided a reason for why it revised, dropped, or added individual performance goals or measures.

DOE includes a means and strategies section for each objective in its 2000 performance plan. However, this section is not specific on the actions necessary to achieve individual 2000 performance goals and measures. For example, the means and strategies section for the National Security outcome of reducing the nuclear weapons stockpile states, among other things, that

“the Department will further reduce the nuclear danger by continuing a program of dismantling retired weapons, including studies and development of safe dismantlement procedures, characterization and disposition of components, and long-term storage.”

This section is silent on the specific actions needed to achieve the unmet fiscal year 1999 performance measure to

“adhere to schedules for the safe and secure dismantlement of approximately 275 nuclear warheads that have been removed from the U.S. nuclear weapons stockpile.”

**Fiscal Year 2001 Performance Goals and Measures for the Key Agency Outcome of Reduce Nuclear Weapons Stockpiles and the Proliferation Threat Caused by the Possible Diversion of Nuclear Materials**

**Measures added to the fiscal year 2001 performance plan**

- **Measure:** Complete negotiations to open the Permanent Presence Office at Seversk processing facility.
- **Measure:** Initiate design of the Immobilization Facility.

**Goals and measures dropped from the fiscal year 2001 performance plan**

**Performance goal:** Reducing the weapons stockpile.

- **Measure:** Adhere to approved schedules for the safe and secure dismantlement of nuclear warheads that have been removed from the U.S. nuclear weapon stockpile.
- **Measure:** Install permanent monitoring equipment at the Zeleenagorsk blending facility.
- **Measure:** Conduct Russian technology demonstrations to further warhead dismantlement or transparency measures.
- **Measure:** Begin the environmental impact statement for the disposition of uranium 233.

**GAO's Observations on DOE's Fiscal Year 2001 Planned Performance for the Key Agency Outcome of Reduce Nuclear Weapons Stockpiles and the Proliferation Threat Caused by the Possible Diversion of Nuclear Materials**

In its fiscal year 2001 performance plan, DOE does not provide reasons for why it revised, dropped, or added individual performance goals or measures when compared with fiscal year 1999 or fiscal year 2000. In addition, the changes in goals and measures continue to lack clarity and quantification, making it hard to get a clear picture of intended performance. For example, one measure added, "Initiate design of the Immobilization Facility," is vague and does not provide a time frame for the activity. Furthermore, one performance goal and the related measure concerning the dismantlement of nuclear warheads were dropped from the previous years' performance plans without replacement. This is surprising, since DOE indicated in its fiscal year 1999 accountability report that the goal and measure were scheduled to be completed in fiscal year 2005.

The fiscal year 2001 performance plan does not adequately address two weaknesses we identified in our previous assessments of DOE's plans for fiscal years 1999 and 2000: (1) strategic goals and objectives are not clear and quantified so that a determination can be made about whether annual goals are reasonable and appropriate and (2) plans do not provide details of the procedures DOE will use to verify and validate performance.

## Enclosure I

For the first weakness, DOE's changes had little effect on the clarity and quantification of its performance goal and measures.

Second, the fiscal year 2001 performance plan contains an overview of DOE's validation and verification of information on performance but provides no evidence about the quality of the data. (See discussion, outcome area 1.)

**Observations on the Department of Energy’s Fiscal Year 2001 Goals and Performance Measures to Address Major Management Challenges**

The following table identifies the major management challenges confronting the Department of Energy (DOE). The first column lists the management challenges identified by our office and DOE’s Inspector General (IG). The second column presents DOE’s progress in resolving major management challenges in fiscal year 1999, and the third column discusses the extent to which DOE’s fiscal year 2001 performance plan includes performance goals to address the management challenges that we and the IG identified.<sup>2</sup>

| Major management challenges at DOE as identified by GAO or DOE’s IG | Progress in resolving major management challenges in fiscal year 1999   | Applicable goals and performance measures <sup>3</sup> in the fiscal year 2001 performance plan   |
|---|---|---|
| <b>Management challenges identified by GAO</b>                      |   |   |
| Contract management   | DOE’s accountability report describes an extensive, multiyear contract reform initiative, including recompeting contracts, tying performance metrics to contractor fees, and shifting risk to contractors. In addition, DOE intends to recompete seven major contracts this year. | In its fiscal year 2001 performance plan, DOE provides one performance measure for fiscal year 2000 that it specifically identifies as addressing contract management (i.e., “Complete the milestones listed in the FMFIA corrective action plan for the Departmental Challenge of contract management”). DOE officials state that a number of additional performance measures relate to contract management, although they were not highlighted in the plan. In the fiscal year 1999 accountability report and response to this Committee, DOE provides a detailed description of contract management reforms, such as converting all management and operating contracts to performance-based management contracts. We believe the plan does not address the challenge because it is unclear and limited to procedural matters. In addition, our recent reviews on major systems show significant issues remain in contractors’ project management and basic accountability. Although DOE has changed practices, the reforms are not complete, nor have they been shown to improve contractors’ performance or accountability. Moreover, DOE’s fiscal year 1999 accountability report states that contract reform is a multiyear effort, yet the plan does not mention any efforts for fiscal year 2001. |
| Difficulty completing large projects                                | After several external and internal reviews, DOE, in fiscal year 1999, assigned the responsibility for oversight of project management to the Office of the Chief Financial Officer. DOE also created the Chief   | DOE provides five performance measures—four for fiscal year 2000 and one for fiscal year 2001:  |

<sup>2</sup> In this report, we refer to the item directly linked to the performance measure as the performance goal.

Enclosure II

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|   | <p>Operating Officer's Project Management Watch List, which subjects specific projects to monthly reviews and reporting requirements. The final correction of these issues has been extended until fiscal year 2002 to include additional project reviews and benchmarking efforts to identify additional needed improvements.</p> | <p><u>Fiscal year 2000 measures:</u> (1) Continue construction of the National Ignition Facility and rebaseline future construction, total costs, and schedules by June 2000; (2) obtain approval of the defense-related project management campaign implementation plan; (3) complete the milestones listed in the FMFIA corrective action plan for the Departmental Challenge of project management; (4) monitor field activities and participate in reviews at the Savannah River Operations Office to ensure adherence to project costs and schedules.</p> <p><u>Fiscal year 2001 measures:</u> By year-end fiscal year 2001, complete the following geographic sites, increasing the total number of completed sites to 74 of the 113 geographic sites in the Environmental Management Program: two geographic sites in fiscal year 2000 and three geographic sites in fiscal year 2001.</p> <p>There are other relevant performance measures that DOE does not specifically cite as linked to the challenge, such as integrating by April 2001 all ongoing projects valued at \$5 million or more into the project management policies, procedures, and systems implementation. In addition, a DOE response to this Committee provides details of the systems DOE is putting in place to help complete large projects, such as establishing a project management tracking and control system for projects valued at \$20 million or more. We do not believe the measures adequately address the challenge. The plan focuses on processes rather than on the desired outcome—completing large projects on time and within cost estimates. The new management processes and independent reviews will be helpful, but they do not address DOE's basic problems in holding contractors accountable for results. Recently reported cost overruns at the National Ignition Facility and Hanford show that this challenge still exists.</p> |
| <p>Slow transition to external regulations</p>                                | <p>Since DOE does not believe this is still a management challenge, it did not include a discussion of efforts in its accountability report.</p>   | <p>There are no performance goals or measures because DOE believes it fully addressed this challenge in fiscal year 1999. It maintains that external regulation would not be entirely beneficial. However, we do not believe this challenge has been adequately addressed or resolved. We have often reported on weaknesses in DOE's self-regulation of the environmental, safety, and health responsibilities at its facilities.</p>  |
| <p>Weaknesses in DOE's organizational structure that blur accountability,</p> | <p>Since DOE does not believe this is a management challenge, it did not include a discussion of efforts in its accountability report.</p>   | <p>There are no performance goals or measures because DOE believes it fully addressed this challenge in fiscal year 1999. DOE notes in the plan that it has performance goals related to this challenge in the</p>   |

Enclosure II

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| allowing problems to go undetected and remain uncorrected          |   | Corporate Management business line. We do not believe this challenge has been adequately addressed or resolved. Our work shows DOE's field structure is not set up to effectively control contractors. Moreover, DOE's position seems to be inconsistent with its draft strategic plan for fiscal year 2000, which identifies this area as a management challenge.  |
| Lack of technical and management skills on the part of DOE's staff | DOE's accountability report does not specifically address this issue. Instead, DOE discusses "mission critical staffing," a management challenge DOE has identified. In the discussion, DOE states that its requests for mission critical staffing have not been funded.  | DOE believes this challenge was addressed in fiscal year 1999. However, DOE officials state that the plan includes a number of additional performance measures related to developing technical and management skills, although they may not be highlighted in the plan. In addition, DOE reported to this Committee that it has begun a multiyear effort (i.e., the Workforce for the 21 <sup>st</sup> Century Initiative) that will establish a planning process to manage critical employee staffing and development needs. DOE also added that it would continue to establish specific performance goals, but it did not include any in its fiscal year 2001 plan. Moreover, we do not believe this challenge has been adequately addressed or resolved. In recent testimony before the House Armed Services Committee, we reported that DOE lacks personnel with important project and contract management skills, leading to projects that are late and over budget. |
| <b>Management challenges identified by DOE's Inspector General</b> |   |   |
| Environmental compliance and waste management                      | The accountability report states that DOE is implementing an aggressive plan to accelerate cleanup at contaminated sites.   | The IG states that the performance measures DOE specifies in its fiscal year 2001 performance plan generally address the management challenge.  |
| Year 2000 readiness  | This challenge was not addressed in DOE's accountability report.  | DOE has reported that it no longer considers this a management challenge.   |
| Information security   | DOE's accountability report describes several initiatives. In May 1999, the Secretary of Energy issued a 10-point security reform package designed to help DOE detect security infractions, correct institutional problems, and protect nuclear secrets. In February 1999, the Secretary approved a counterintelligence implementation plan that, among other things, includes measures to monitor foreign visitors to DOE facilities and to develop a counterintelligence polygraph program. Finally, the National Defense Authorization Act for fiscal year 2000 established a National Nuclear Security Administration within DOE. This agency became active on March 1, 2000. | The IG states that the performance measures DOE specifies in its fiscal year 2001 performance plan generally address the management challenge.  |
| Nuclear and occupational safety and health                         | DOE's accountability report discusses several activities. It states DOE has, among other things, added requirements for developing  | The IG states that the performance measures DOE specifies in its fiscal year 2001 performance plan generally address the  |



## Enclosure II

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| deficiencies   | and reviewing Integrated Safety Management system descriptions to all major management and operating contracts and established a safety council to monitor the implementation of safety management. In fiscal year 1999, DOE also completed 13 safety management evaluations.  | management challenge.  |
| Delays in schedules for disposal of radioactive waste                        | DOE has been conducting tests to determine the suitability of Yucca Mountain, Nevada, as the disposal site for the nation's spent nuclear fuel and high-level radioactive waste.   | The IG states that the performance measures DOE specifies in its fiscal year 2001 performance plan generally address the management challenge. |
| Inventories of surplus nuclear materials                                     | In fiscal year 1999, DOE made available 7 metric tons of surplus highly enriched uranium to the United States Enrichment Corporation. It also completed the final environmental impact statement, issued a record of decision on siting plutonium disposition facilities, and initiated the design of two disposition facilities. Finally, in fiscal year 1999, DOE conducted formal negotiations with Russia to reach agreement for the disposition of surplus plutonium. | The IG states that the performance measures DOE specifies in its fiscal year 2001 performance plan generally address the management challenge. |
| Poor condition of DOE's infrastructure.                                      | Since DOE does not believe this is still a management challenge, it did not include a discussion of efforts in its accountability report.  | DOE states that it fully addressed this challenge in fiscal year 1998. It no longer considers the issue to be a management challenge.          |
| Deficiencies in DOE's control over government personal property              | This challenge was not addressed in the Department's accountability report.  | DOE states that it fully addressed this challenge in fiscal year 1998. It no longer considers the issue to be a management challenge.          |
| Access to sensitive materials, areas, and information, and physical security | DOE's accountability report discusses several steps to improve security. See the description of the efforts above in fiscal year 1999 under "Information Security."  | The IG states that the performance measures DOE specifies in its fiscal year 2001 performance plan generally address the management challenge. |

**Comments From the Department of Energy**



**Department of Energy**  
Washington, DC 20585

June 13, 2000

Mr. Jim Wells  
Director, Energy, Resources,  
and Science Issues  
U.S. General Accounting Office  
Washington, DC 20548

Dear Mr. Wells:

Thank you for the opportunity to comment on the draft General Accounting Office (GAO) Report RCED-00-209R, "DEPARTMENT OF ENERGY: FY 1999 Accountability Report and FY 2001 Performance Plan," (Job Code 141439). While we suggested several corrections during the exit conference held on June 8, 2000, we also have comments on the referenced "key outcomes", the GAO report's assessment of our FY 1999 performance results and the FY 2001 performance plan toward those "key outcomes", and its observations on the "management challenges".

Although Chairman Thompson identified three "key outcomes" in his request to GAO, these outcomes represent a very small part of what the Department of Energy is funded to do for the public. Specifically, the GAO did not examine: the Stockpile Stewardship Program, which maintains our continuing nuclear arsenal; the entire environmental clean-up effort, which addresses the Federal government's third largest financial liability; and our science program, which is the third largest in government. These programs in total represent more than 80 percent of the Department's annual budget. We are pleased that you found that Chairman Thompson's "key outcomes" were addressed in the FY 1999 Accountability Report, but we suggest that reviewing only these three "key outcomes" does not provide an accurate picture of the overall performance planning and reporting process.

The GAO report asserts that DOE's report and performance plan "lack clear and quantitative connections between these outcomes and performance goals and measures." Please note that the outcomes to which you are looking for linkage are not the ones we developed through a strategic planning process. Our "outcomes," the strategic goals and objectives, are clearly linked throughout the Department's planning, execution, and reporting in two ways. First, contextual linkage has been provided through the organization of the documents. In the 1997 Strategic Plan, previous performance plans (FY 1999 and FY 2000), and in each year's performance agreement, the strategic goals and objectives are presented with their associated performance goals. Second, performance goals are always numbered to indicate the strategic goal, objective, and strategy they support. Improving this linkage by adding a discussion of how these performance measures demonstrate progress toward the objectives is part of the design of the next strategic plan.

Additionally, the draft report focuses on the Department's "management challenges" in the context of the Department's strategic planning process. GAO's discussion of DOE's management challenges may demonstrate a misunderstanding of the development and handling of management

## Enclosure III

challenges at DOE. Our process for identifying and addressing management challenges includes internal evaluations at every level of the Department's organization. The Departmental Internal Control and Audit Review Council considered a wide range of management challenges, including those identified by GAO and our IG, but consciously decided that some were not management challenges to be addressed at the Departmental level. The designated Departmental management challenges have multi-year corrective action plans which are included and identified in the annual performance plan. Those management challenges that were not designated as Departmental-level challenges are worked within the programs and some are visible in the Department's annual performance plan. The annual performance plan also has some performance measures for actions related to the designated Departmental management challenges in addition to the corrective action plans. In summary, there are more actions related to management challenges at DOE than just those identified as such.

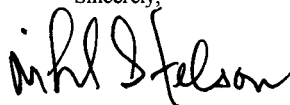
We note that the observations on the FY 1999 report focus on the performance measures rather than on the reported results. By focusing on the measures, the report's observations are "old news" since GAO previously commented on our FY 1999 performance plan (GAO/RCED-98-194R of May 28, 1998) which was where those measures were established. GAO also reviewed our FY 2000 plan (GAO/RCED-99-218R of July 20, 1999).

There is a systemic problem with dealing with comments on our plans and reports. Because we are discussing plans that are prepared and published nearly a year before they are implemented, changes we implement today cannot significantly impact the performance measures of the next two reports because they are already established. The cycle time for improvements is long.

Finally, the FY 1999 report was the first under GPRA and, as the committee report accompanying GPRA noted, "It may be several years before a truly effective performance measurement system is operating." While we acknowledge we can improve our performance measurement system, the Department has made significant improvements in establishing performance measures that are clear and quantified, and the Department is committed to continuing that trend. But, it is going to take time to become fully effective.

We submit this response to the draft report and encourage the GAO to reexamine the assessment it has made on the Department of Energy's FY 1999 reporting and its planning for FY 2001. If you have any questions on this matter, please contact Mr. William G. Kennedy, Acting Director, Office of Strategic Planning and Program Evaluation, at (202) 586-0423.

Sincerely,



Michael L. Telson  
Chief Financial Officer

(141439)