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# United States Senate

COMMITTEE ON  
GOVERNMENTAL AFFAIRS  
WASHINGTON, DC 20510-6250

August 17, 1999

The Honorable Greta Joy Dicus  
Chairman  
Nuclear Regulatory Commission  
Washington, DC 20555

Dear Chairman Dicus:

As you know, the Congress is focused on ensuring that the federal government delivers better results to its citizens and taxpayers. The Congress has enacted a statutory framework to achieve these results. This statutory framework includes the Government Performance and Results Act (GPRA); financial management statutes, such as the Chief Financial Officers Act; and information resources management statutes, such as the Clinger-Cohen Act. Each of these reforms aims at achieving more efficient and effective performance throughout the federal government.

As part of our oversight agenda, the Committee has developed information on how effectively the Nuclear Regulatory Commission (NRC) is using the above statutory tools to improve performance in several key areas such as becoming more results-oriented and resolving long-standing problems of fraud, waste, and mismanagement. The purpose of this letter is to share with you the information we have developed and obtain your response to certain questions pertaining to it. With this dialog as a start, we hope to work with you on a continuing basis to ensure that NRC delivers the best possible results for the government and the American people.

## Performance plan assessment

The Congress continues to look closely at how well departments and agencies are implementing GPRA. At the request of this Committee and others, GAO recently completed an assessment of NRC's annual performance plan for fiscal year (FY) 2000. According to GAO, NRC's plan "provides a general discussion of intended performance across the agency and of strategies and resources the agency will use to achieve its goals." GAO continues, however, to criticize the fact that "the plan focuses on strategies, not outcomes and provides limited confidence to judge the credibility of performance information because it is incomplete and lacks specificity."

The FY 2000 plan's major strengths are that it contains measurable goals and quantifiable

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measures, discusses strategies and resources for achieving intended performance, and discusses crosscutting functions and external factors.

GAO found that the FY 2000 plan had several key weaknesses. These include the fact that the plan focuses on strategies, rather than outcomes, as well as the fact that it does not show how achieving strategies and outputs will contribute to meeting performance goals and that it lacks details to determine that performance information is credible.

#### Need to implement audit recommendations on major management problems

Like many other agencies in the federal government, NRC has been plagued by mismanagement. GAO identifies a number of major management challenges that affect NRC. I am particularly concerned with outstanding recommendations to solve issues of safety at the country's nuclear plants.

GAO has recommended that NRC develop strategies to act more aggressively on safety deficiencies when they are discovered. This recommendation included the suggestion that NRC require inspection reports to fully document the status of each licensee's actions to address identified problems under NRC's correction action requirements.

NRC must be prepared to act on the many substantive, constructive recommendations made to solve such problems. Attached, you will find a number of recommendations made by GAO to address major management problems at NRC.

#### Need for specific performance goals to address major management problems

I recognize that many major management problems are complex and will take time to resolve. However, it is essential that agency heads and other managers commit themselves to tangible steps that will eventually lead to solutions and that they accept accountability for following through on these commitments. One obvious way to do this is to establish specific and measurable goals in your annual GPRA performance plans. Indeed, Office of Management and Budget (OMB) guidance implementing GPRA states:

Performance goals for management problems should be included in the annual plan, particularly for problems whose resolution is mission-critical, or which could potentially impede achievement of program goals . . .<sup>1</sup>

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<sup>1</sup> OMB Circular No. A-11, Part 2, § 220.9(e) (July 1998).

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In its review of NRC's FY 2000 performance plan, GAO evaluated the extent to which the plan contains specific performance goals to address the most serious management problems confronting NRC that GAO and your IG have identified. According to the GAO evaluation, which is detailed in an enclosure, NRC's FY 2000 performance plan does not include performance goals for the following areas identified as major management challenges:

- NRC's culture and organizational structure impede effective action;
- developing information management systems and being able to anticipate and measure the benefits to be gained;
- responding to the impact of industry deregulation and license transfers;
- administering and overseeing agency procurement under government contracting rules;
- effectively communicating with the public and industry;
- maintaining an unqualified financial statement opinion in light of new and existing Chief Financial Officer requirements;
- refocusing NRC's research program to reflect a mature industry; and
- responding to the external influences for changing NRC's operations.

I am concerned about the absence of specific and measurable goals for these major management challenges. Without specific and measurable performance goals, it is difficult if not impossible to assess progress in addressing major management problems and to hold agencies accountable. For the reasons stated above, the absence of goals to resolve many of the aforementioned outstanding recommendations is inexcusable.

#### Congressional follow-up

With so many tax dollars being wasted, this Committee expects agencies to take every opportunity to use the many tools available to them, such as GPRA plans, to resolve major management problems. Furthermore, the GAO and your own IG exist to work in partnership with you to solve longstanding issues of waste, fraud, and abuse.

I hope that the information provided with this letter will stimulate you to make greater use of these tools and resources. In this regard, I ask that you review the enclosed information and respond to the following questions:


- Do you disagree with any of the designations of management problems facing NRC? If so, which ones and why?
- Where you agree with the problem designations, are you prepared to establish specific and measurable commitments to address each one of them in your next performance plan?
- If so, could you outline preliminarily what approach you plan to take for each problem?

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- If you believe that any of these problems do not lend themselves to specific and measurable performance plan goals, please explain why. Please also explain what alternative steps you are taking to solve the problem.

I would appreciate your early attention to this letter. After receiving your response, I will ask Committee staff to arrange a meeting with your representatives to discuss it. My Governmental Affairs Committee staff contact is Robert Shea.

Sincerely,

  
Fred Thompson  
Chairman

FT/rs

Enclosures

## OPEN RECOMMENDATIONS ON NRC MAJOR MANAGEMENT PROBLEMS

### NRC LACKS ASSURANCE OF NUCLEAR PLANTS' SAFETY

**Problem Description:** The Nuclear Regulatory Commission (NRC) lacks assurance that its current regulatory approach ensures safety. NRC assumes that plants are safe if they operate as designed and follow NRC's regulations. However, NRC's regulations and other guidance do not define, for either a licensee or the public, the conditions necessary for a plant's safety; therefore, determining safety is subjective. Furthermore, six major reviews of NRC since 1979 have pointed out that NRC's regulatory approach is punitive rather than results oriented, licensees are forced to expend considerable resources on complying with regulations that may have limited impact on safety, and NRC's focus on achieving compliance with paperwork requirements can divert attention from safety activities. NRC and the nuclear utility industry have embarked on initiatives to address long-standing regulatory issues in a way that would ensure that NRC carries out its regulatory mission more effectively and efficiently. These initiatives are designed to improve safety decision-making through the analysis of risk, use agency resources more efficiently, and reduce unnecessary burdens on utilities.

GAO Report No. and Date	Recommendation
RCED-97-145 May 30, 1997	To enhance licensees' accountability, the Commissioners should direct NRC staff to develop strategies to act more aggressively on safety deficiencies when they are discovered. To achieve this goal, NRC should require inspection reports to fully document for all plants the status of the licensees' actions to address identified problems under NRC's corrective action requirements, including timetables for the completion of corrective actions and how NRC will respond to nonconformance with planned actions.

## NRC IS SLOW TO REQUIRE CORRECTIVE ACTION

**Problem Description:** NRC's oversight has been inadequate and slow. Although NRC's indicators show that conditions throughout the nuclear energy industry have generally improved, they also show that several plants are chronically poor performers. At three nuclear plants with long-standing safety problems that GAO reviewed, NRC did not take aggressive action to ensure that the utilities corrected the problems. The problems ranged from failures of equipment to work properly when tested to weaknesses in licensees' conduct of maintenance programs. NRC's programs are designed to ensure that utilities comply with its regulations, take prompt actions to correct any deficiencies found, and operate their plants safely. NRC gives utilities considerable latitude to fix their problems. This strategy works well when the utilities' managers place priority on maintaining a strong safety culture. GAO found, however, that this condition was not present in the three plants it examined and that the problems worsened when NRC did not hold utilities accountable for fixing them. As a result of NRC's inaction, the conditions at the plants worsened, reducing safety margins. NRC is examining its inspection, enforcement, and plant performance assessment programs, in part, to address these issues. These efforts show a commitment by NRC to strengthen its oversight.

GAO Report No. and Date	Recommendation
RCED-97-145 May 30, 1997	To enhance licensees' accountability, the Commissioners should direct NRC staff to develop strategies to more aggressively act on safety deficiencies when they are discovered. To achieve this goal, NRC should require inspection reports to fully document for all plants the status of the licensees' actions to address identified problems under NRC's corrective action requirements, including timetables for the completion of corrective actions and how NRC will respond to nonconformance with planned actions.
	To enhance licensees' accountability, the Commissioners should direct NRC staff to develop strategies to act more aggressively on safety deficiencies when they are discovered. To achieve this goal, NRC should make licensees' responsiveness to identified problems a major feature of the information provided to the participants of the Senior Management Meetings, including how NRC will respond if problems go uncorrected. For example, NRC should describe the range of sanctions that it will impose on the licensees on the basis of the potential seriousness of their failure to resolve problems within a predetermined time. These sanctions should range from assessing fines to involuntary shutdown of the plant.

## NRC'S CULTURE AND ORGANIZATIONAL STRUCTURE IMPEDE EFFECTIVE ACTIONS

**Problem Description:** NRC's culture and organizational structure have made the process of addressing concerns with the agency's regulatory approach slow and ineffective. At the heart of safe plant operations is NRC's holding utilities accountable for fixing problems more promptly and addressing management issues more directly. The need to ensure that NRC's regulatory programs work as effectively as possible is extremely important, particularly in light of major changes taking place in the electric utility industry. Yet changing NRC's culture will not be easy. Six major reviews conducted since 1979 found chronic and significant problems with NRC's regulatory culture. The various reviews have concluded that NRC's organizational structure, inadequate management control, and inability to oversee itself have impeded its effectiveness. NRC has taken various actions to improve its organization and culture. For example, in 1996 NRC began to strengthen its skills in certain key processes and to identify opportunities for efficiency and effectiveness. Despite its efforts, in June 1998, NRC's Office of the Inspector General reported that staff were uncertain and confused about the new directions in regulatory practices and challenges facing the agency. According to staff, NRC recognizes the need to communicate effectively with its staff and other stakeholders and is developing plans to do so.

GAO Report No. and Date	Recommendation
RCED-99-95 Mar. 19, 1999	To help ensure the safe operation of plants and the continued protection of public health and safety in a competitive environment, the Commissioners of NRC should direct the staff to develop a comprehensive strategy that includes, but is not limited to, objectives, goals, activities, and time frames for the transition to risk-informed regulation; specifies how the commission expects to define the scope and implementation of risk-informed regulation; and identifies the manner in which it expects to continue the free exchange of operational information necessary to improve the quality and reliability of risk assessments.
RCED-97-145 May 30, 1997	To enhance licensees' accountability, the Commissioners should direct NRC staff to develop strategies to more aggressively act on safety deficiencies when they are discovered. To achieve this goal, NRC should require that the assessment of management's competency and performance be a mandatory component of NRC's inspection process.

**SPECIFIC PERFORMANCE GOALS IN NRC'S FY 2000 PERFORMANCE PLAN  
ADDRESSING GAO AND IG DESIGNATED MAJOR MANAGEMENT CHALLENGES**

<b>Major Management Challenges</b>	<b>Specific Performance Goals</b>
NRC lacks assurance that nuclear plants are safe.	Performance Goals: (1) zero civilian nuclear reactor accidents; (2) maintain low frequency of events that could lead to an accident; (3) zero deaths because of radioactive releases from civilian radiation exposures because of civilian reactors.
NRC is slow to require corrective action. Although NRC's performance indicators show that conditions throughout the nuclear energy industry have generally improved, they also show that several plants are chronically poor performers.	Performance Goals: (1) zero civilian nuclear reactor accidents; (2) maintain low frequency of events that could lead to an accident; (3) zero deaths because of radioactive releases from civilian radiation exposures because of civilian reactors.
NRC's culture and organizational structure impede effective actions.	None.
Developing and implementing a risk-informed, performance-based approach to regulatory oversight.	Performance Goals: (1) zero civilian nuclear reactor accidents, deaths, and significant radiation exposures; (2) zero deaths or significant radiation exposures from the civilian use or loss of source, byproduct, and special nuclear material; (3) zero off-site releases of radioactive material from operating facilities; and (4) others.
Developing information management systems and being able to anticipate and measure the benefits to be gained.	None.
Responding to the impact of industry deregulation and license transfers.	None.
Administering and overseeing agency procurement under government contracting rules.	None.
Ability to effectively communicate with the public and industry.	None.



Maintaining an unqualified financial statement opinion in light of new and existing Chief Financial Officer requirements.	None.
Ensuring that NRC's processes, such as spent fuel cask certification and licenses renewal, are responsive to industry needs.	Performance Goals: (1) zero radiation-related deaths and significant radiation exposures from the civilian use or loss of source, byproduct, and special nuclear materials; (2) zero off-site releases of radioactive material from operating facilities; and (3) no significant accident releases of radioactive material from the storage or transportation of nuclear material or waste.
Ensuring that NRC's enforcement program has an appropriate safety focus and reflects improved licensee performance.	Performance Goals: (1) zero civilian nuclear reactor accidents, deaths, and significant radiation exposures; (2) zero deaths or significant radiation exposures from the civilian use or loss of source, byproduct, and special nuclear material; (3) zero off-site releases of radioactive material from operating facilities; and (4) others.
Refocusing NRC's research program to reflect a mature industry.	None.
Responding to external influences for changing NRC's operations; for example, NRC's ability to meet its missions and the requirements of the Results Act following the agency's proposed reorganization.	None.



**G A O**

Accountability \* Integrity \* Reliability

**United States General Accounting Office**  
Washington, D.C. 20548

**Resources, Community, and  
Economic Development Division**

B-282381

July 20, 1999

The Honorable Dick Armey  
Majority Leader  
House of Representatives

The Honorable Dan Burton  
Chairman, Committee on Government Reform  
House of Representatives

The Honorable Fred Thompson  
Chairman, Committee on Governmental Affairs  
United States Senate

Subject: Observations on the Nuclear Regulatory Commission's Fiscal Year 2000 Performance Plan

As you requested, we have reviewed and evaluated the fiscal year 2000 performance plans for the 24 Chief Financial Officers (CFO) Act agencies that were submitted to Congress as required by the Government Performance and Results Act of 1993 (Results Act). Enclosure I to this letter provides our observations on the fiscal year 2000 performance plan for the Nuclear Regulatory Commission (NRC). Enclosure II lists management challenges that face the agency and the applicable goals and measures in the fiscal year 2000 annual performance plan.

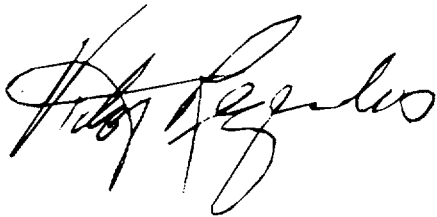
Our objectives were to (1) assess the usefulness of the agency's plan for decisionmaking and (2) identify the degree of improvement the agency's fiscal year 2000 performance plan represents over the fiscal year 1999 plan. Our observations were generally based on the requirements of the Results Act, guidance to agencies from the Office of Management and Budget (OMB) for developing the plan (OMB Circular A-11, Part 2), our previous reports and knowledge of NRC's operations and programs, and our observations on NRC's fiscal year 1999 performance plan. Our summary report on the CFO Act agencies' fiscal year 2000 plans contains a complete discussion of our objectives, scope, and methodology.<sup>1</sup>

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<sup>1</sup> Managing for Results: Opportunities for Continued Improvements in Agencies' Performance Plans (GAO/GGD/AIMD-99-215, July 20, 1999).

B-282381

As agreed, unless you announce the contents of this letter earlier, we plan no further distribution until 30 days from the date of the letter. The major contributors to this report are listed in enclosure III. Please call me on (202) 512-3841 if you or your staff have any questions.

A handwritten signature in black ink, appearing to read "Victor S. Rezendes". The signature is fluid and cursive, with the first name "Victor" and last name "Rezendes" clearly distinguishable.

Victor S. Rezendes  
Director, Energy, Resources, and  
and Science

Enclosures - 3

# Observations on the Nuclear Regulatory Commission's Performance Plan for Fiscal Year 2000

The Nuclear Regulatory Commission's (NRC) fiscal year 2000 annual performance plan should be useful to decisionmakers in that it provides a general discussion of intended performance across the agency and of strategies and resources the agency will use to achieve its goals. However, the plan focuses on strategies, not outcomes and provides limited confidence to judge the credibility of performance information because it is incomplete and lacks specificity. Figure 1 highlights the plan's major strengths and key weaknesses as NRC seeks to make additional improvements to its plan.

Figure 1: Major Strengths and Key Weaknesses of Fiscal Year 2000 Annual Performance Plan

## **Major Strengths**

- Contains measurable goals and quantifiable measures
- Discusses strategies and resources for achieving intended performance
- Better discusses crosscutting functions and external factors

## **Key Weaknesses**

- Focuses on strategies, not outcomes
- Does not show how achieving strategies and outputs will contribute to meeting performance goals
- Lacks details to determine that performance information is credible

NRC's fiscal year 2000 performance plan represents a moderate improvement over the fiscal year 1999 plan in that it indicates some degree of progress in addressing the weaknesses that we identified in our assessment of the earlier plan. In reviewing the fiscal year 1999 plan, we observed that NRC could have provided a clearer picture of the agency's intended performance overall as well as the strategies and resources it would use to achieve its performance goals. We also noted that the fiscal year 1999 performance plan did not provide confidence that the agency's performance information would be credible. In its fiscal year 2000 plan, NRC (1) better discusses how its strategies and resources will help achieve its goals, (2) links its strategies to programs, and (3) better discusses crosscutting functions with other government agencies and external factors that could affect achieving the goals established. However, NRC focuses on strategies, not outcomes; has not related the outputs to its performance goals; and provides limited details to determine whether its performance information is credible.

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## **NRC's Performance Plan Provides a General Picture of Intended Performance Across the Agency**

The plan should be useful to decisionmakers in that it provides a general picture of intended performance across the agency. NRC has established performance goals that are precise and measurable and, collectively, cover key aspects of the agency's strategic goals as well as program activities in the budget. In its fiscal year 2000 performance plan, NRC states that its strategic goals represent the overall outcomes required to accomplish its mission. In addition, NRC states that it has reduced its strategic arenas from seven to four and incorporated many of its fiscal year 1999 common defense and security, public confidence, and excellence goals into the remaining four strategic arenas. However, NRC has not directly related its strategies to the performance plan outputs, has not related the outputs to its performance goals, and has not established intermediate outcome goals that would link output targets to performance goals.

NRC's performance goals are quantifiable. For example, three of NRC's performance goals are zero civilian nuclear reactor accidents; zero radiation-related deaths from the civilian uses of source, by-product, and special nuclear materials; and zero loss or theft of the special nuclear materials regulated by NRC. In the performance plan, NRC also provides "output measures." These measures represent the means and strategies (processes and activities that NRC expects to perform) to attain the performance goals. Although NRC reserves the term "performance goal" for outcome-oriented goals, both its performance goals and output measures seem to qualify as performance goals under the Results Act.

NRC has included some baseline and trend information in its fiscal year 2000 performance plan. The agency uses fiscal year 1998 achievements to set the baseline. For many years, NRC used seven indicators, such as safety system actuations, significant events, and safety system failures, to identify the overall performance of the nuclear power industry. NRC has frequently stated that improvements in the indicators show that the nuclear industry is getting safer. Yet NRC did not use any of the indicators to demonstrate the impact that its programs and related costs are having on providing a reasonable assurance of safety.

In 1998, NRC contracted with Arthur Andersen to assess the agency's planning, budgeting, and performance management process. In its March 1999 report, Arthur Andersen noted that a gap exists between NRC's strategic goals and annual performance outputs and that the fiscal year 2000 plan focuses on strategies, not outcomes. The report also noted that NRC's planning activities are not driven by organizational outcome goals, plans are not effectively integrated across offices or programs, and the fiscal year 2000 process was driven by the budget rather than outcomes. Both Arthur Andersen and we found that NRC has not established the necessary links in the process; that is, NRC has not related its strategies to

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outputs and outputs to performance goals. For example, NRC has not explained how maintaining a regulatory framework for low-level waste disposal will prevent or mitigate radiation exposures or releases from nuclear waste. In addition, NRC did not establish intermediate outcome goals (for example, when discussing its research activities and performance goal for the international nuclear safety area) that would link output targets to its performance goals. According to NRC staff, one of the reasons that the agency contracted with Arthur Andersen was that it recognized that it did not have the necessary links in the process.

NRC's fiscal year 2000 performance plan indicates a moderate improvement over the fiscal year 1999 performance plan in that it provides a clearer picture of intended performance across the agency. Although NRC does not link its strategies to specific performance goals, it has linked specific strategies to its programs. For example, NRC links its reactor inspection program to the following strategy: ensure that licensees carry out their primary responsibility for conducting activities consistent with the agency's regulations. Also, NRC lists output measures for programs within each strategic arena but, like last year, does not link the output measures to specific performance goals. For example, NRC does not explain how its output measure of reducing the age of its licensing action inventory will affect its performance goals to prevent a nuclear plant accident or the release of radioactive material to the environment. Last year, we noted that NRC risked creating an excess of data that will obscure rather than clarify performance issues by including over 110 output measures. In its fiscal year 2000 plan, NRC reduces the number to about 60.

In addition, NRC has included specific details on its crosscutting functions with other government agencies and relates the areas of mutual interest to its strategic arenas. NRC states that it expects to coordinate with other agencies through memorandums of understanding and bilateral agreements. For example, NRC shows that it shares responsibility with the Environmental Protection Agency to protect public health and safety and the environment for the nuclear material safety and nuclear waste strategic arenas. However, NRC has not shown how differing program strategies reinforce one another or established common or complementary performance measures, when appropriate. For example, NRC says that it is seeking legislation to remedy the differences in residual radiation standards between itself and the Environmental Protection Agency. But NRC does not discuss the ramifications on licensees from using different criteria to decontaminate their facilities.

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## **NRC's Performance Plan Provides a General Discussion of the Strategies and Resources It Will Use to Achieve Its Goals**

The plan should be useful to decisionmakers in that it provides a general discussion of strategies and resources the agency will use to achieve performance goals. NRC has included its mission statement and strategic goals in the plan and linked the strategies to various programs within each strategic arena. But like last year, NRC has not directly linked the strategies to performance goals and has not demonstrated how achieving the desired outputs will contribute to meeting the performance goals. For example, NRC does not explain how its output measure of reducing the backlog of licensing actions will impact on its performance goals to prevent radiation-related deaths and illnesses and protect the environment.

NRC's plan shows how budgetary resources relate to achieving performance goals. NRC has integrated for the first time its budget justification and performance plan as part of an initiative to implement its planning, budgeting, and performance management process. For each strategic arena, NRC lists spending by "function" (for example, salaries and benefits, contract support, and travel) and by "program." NRC crosswalks each of the programs to one or more strategies and includes a discrete group of output measures for each program.

Because NRC's programs generally bear a one-to-one relationship with its strategic goals, the plan clearly shows the amount that NRC is proposing to spend on the discrete set of performance goals, outputs, and strategies associated with its strategic goals. For example, NRC uses a table to show the funds and staff requested for the 13 programs that constitute the nuclear reactor safety strategic arena and 13 programs that constitute the nuclear material safety strategic arena. However, although NRC provides some information on the recruitment, training, and utilization of staff, it does not discuss--or refer to a separate plan that discusses--the knowledge, skills, and abilities needed to achieve the performance goals. Such a discussion would be particularly helpful since NRC has been reducing its staff in response to congressional pressure.

In providing a specific discussion of the strategies and resources the agency will use to achieve performance goals, the fiscal year 2000 performance plan is a moderate improvement in addressing the weaknesses we identified in our assessment of the fiscal year 1999 performance plan. In reviewing the fiscal year 1999 plan, we observed that NRC did not directly link the strategies to performance goals nor did the agency link resources to strategies. We also noted that (1) neither the performance plan nor the fiscal year 1999 budget request showed the resources needed to achieve each performance goal, (2) the plan did not provide a rationale for how resources would contribute to accomplishing the expected level of performance, and (3) NRC had limited information on the impact of external factors on its activities.

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Among the improvements in the fiscal year 2000 plan are that NRC (1) better discusses how its strategies and resources will help achieve its goals; (2) links its strategies to programs; and (3) provides a much better discussion of the resources applied to, and improves the linkage between, its strategies and outputs for its information technology activities. NRC also refers to its information technology report and its capital asset plan, which had been provided to the Office of Management and Budget. The information technology report briefly describes the major information technology systems that NRC is developing; the capital asset plan shows the estimated funding required for each system as well as the justification, funding basis, benefits to be derived, and other information.

In addition, NRC provides information on external factors that could affect the achievement of its goals. These factors include electric utility deregulation, a decline in the number of commercial nuclear power plants, changes in the Department of Energy's high-level waste program, the 100-percent fee recovery requirement, and the need to maintain core competencies and staff. By the nature of the issues identified, NRC implicitly relates the external factors to some of its strategic arenas but does not relate them to specific performance goals. With one exception, NRC describes the efforts it would take to mitigate the effect of the external factors that it identifies. For example, in discussing electric utility deregulation, NRC notes that it is developing measures to help ensure that utilities' cost-cutting efforts do not endanger safe plant operations.

However, NRC does not include all external factors key to its operations and does not discuss, for example, the significant impact that such industry organizations as the Nuclear Energy Institute and Institute on Nuclear Power Operations could have on achieving its goals. Over the last 12 months, the Nuclear Energy Institute has provided extensive information and assistance as NRC developed a new process to assess nuclear plants' overall performance and revise its enforcement program and plant maintenance requirements to be more risk-informed and performance-based. With the multiplicity of activities now going on at NRC, it is likely that the nuclear industry and other external stakeholders will continue to influence NRC's activities. In addition, although NRC notes that utilities are primarily responsible for the safe operation of nuclear plants, the agency does not estimate the degree of impact that utilities and industry organizations have on meeting its performance goals and the outputs established. According to NRC staff, they do not believe it is possible to determine the impact that utilities and industry organizations can have on achieving the agency's performance goals. They also said that NRC had not discussed the impact of any of the external factors on achieving its goals. Without some information on the impact of external factors/stakeholders, it will be difficult for the Congress to determine the impact that the agency's actions and the effectiveness of its programs have on achieving the performance goals.



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## NRC's Performance Plan Provides Limited Confidence That the Agency's Performance Information Will Be Credible

The plan provides limited confidence that NRC's performance information will be credible because it is incomplete and lacks specificity. NRC does not address the weaknesses that we identified in our assessment of the fiscal year 1999 performance plan. For example, NRC does not describe (1) specific data that are required to assess each of its performance goals, (2) reliability and validity assessment procedures of each of its performance measures, and (3) any actions or plans to address any limitations associated with the data or information systems used to assess performance.

NRC recognizes the importance of valid and reliable data and associated information systems to support its performance measurement and goal assessment. NRC provides an overview of the sources of information, identifies the three primary data systems applicable to the performance measures, and describes the basis for its confidence that internal and external data sources are reliable and accurate.<sup>1</sup> However, NRC does not translate its general recognition of the importance of performance measures and the validity and reliability of information into specific plans for their assessment. More specifically, NRC neither describes credible procedures to verify and validate performance information nor identifies any significant data and/or information system limitations, their implications for assessing the achievement of performance goals, or any actions designed to improve recognized problems. Specifically, NRC's plan does not

- identify specific data that will be used to measure and assess each of the 14 performance goals and related subgoals or describe procedures designed to ensure that data associated with each goal are sufficiently valid and reliable for performance assessment,
- describe any standards and/or procedures that it will use to assess the reliability of the three major information systems that will be used to develop and process performance measures,<sup>2</sup>
- identify any data and/or information system limitations, or

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<sup>1</sup> Sequence Coding and Search System, Nuclear Material Events Database, and Radiation Exposure Information Report System.

<sup>2</sup> Generally accepted standards to assess the reliability of computer system and application controls can be found in Government Auditing Standards (June 1994) and Assessing the Reliability of Computer-Processed Data (GAO/OP-8.1.3, Sept. 1990).

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- describe the agency's plans to assess or improve the quality of its performance measures and related information systems.

NRC does identify the primary information systems that support its performance measurement and assessment but only briefly mentions a plan to assess these systems. However, NRC does not provide details on the assessment plan; therefore, we could not determine its credibility. In addition, the plan lists a set of procedures and reports that provide NRC with a high degree of confidence in the reliability and technical accuracy of events reported to it. Although the listed procedures generally seem sound, NRC does not provide details to assess the credibility of those procedures to achieve their intended purpose. NRC may have specific and credible plans, but they are not described in its fiscal year 2000 performance plan. According to NRC staff, the agency is working to document the processes that are used to collect data to measure performance and to further refine its performance goals, measures, and outputs.

By providing limited confidence that the agency's performance information will be credible, NRC's fiscal year 2000 performance plan shows little, if any, improvement over the fiscal year 1999 performance plan. In reviewing the fiscal year 1999 plan, we observed that most of the data to measure performance originates with such external sources as electric utilities, fuel cycle facility operators, or materials licensees. Yet the fiscal year 1999 plan did not address how NRC would ensure that these external sources provide accurate, timely, and reliable information. NRC also said that it planned to carefully examine its data systems to help ensure that accurate and reliable data were reported. NRC did not discuss how it intended to actually verify and validate these data. In this area, we did not see any improvement in NRC's fiscal year 2000 performance plan compared to its fiscal year 1999 plan.

## Other Observations on NRC's Implementation of Performance-Based Management

NRC has undertaken various activities to implement a performance-based regulatory and management approach.<sup>3</sup> In 1993, NRC formed the Regulatory Review Group to examine its power reactor regulations and assess the feasibility of substituting performance-based requirements and guidance for its traditional requirements and guidance. One of NRC's most significant efforts to implement a performance-based approach was the implementation of the maintenance regulations in July 1996. The regulations allow utilities to establish

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<sup>3</sup>Nuclear Regulation: Strategy Needed to Regulate Safety Using Information on Risk (GAO/RCED-99-95, Mar. 19, 1999), Nuclear Regulatory Commission: Strategy Needed to Develop a Risk-Informed Safety Approach (GAO/T-RCED-99-71, Feb. 4, 1999), and Performance and Accountability Series: Major Management Challenges and Program Risks: Nuclear Regulatory Commission (GAO/OCG-99-19, Jan. 1999).

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performance goals and equipment monitoring regimes, modify established goals on the basis of plant or equipment performance, and determine whether to rely on preventive maintenance in lieu of establishing goals and performance monitoring. The regulations also require utilities to periodically reevaluate their maintenance programs and to consider that the risk significance of structures, systems, and components can change as a result of plant modifications or the availability of new information.

In addition, in January 1999, NRC released for public comment a new approach to assess overall plant safety. As proposed, NRC's plant assessment process would use performance indicators; inspection results; utilities' self-assessments; and clearly defined, objective thresholds for making decisions. Although some performance indicators would apply to the industry as a whole, others would be plant-specific and would depend, in part, on the results of utilities' risk assessments. NRC expects to use a phased approach to implement the new process. Under this approach, it plans to begin pilot testing the use of risk-informed performance indicators at 13 plants in June 1999. In addition, NRC staff have proposed that the agency fully implement the process by January 2000 and complete an evaluation and propose any adjustments or modifications needed by June 2001.

However, the Commissioners have not yet decided on the staff's proposed implementation schedule. NRC expects to obtain needed information through the pilot projects and will need to factor the results into the proposed assessment process. As a result, NRC staff told us that it is not clear that the January 2000 implementation date will apply across the industry or whether NRC will incrementally adopt the process. Another issue that NRC is addressing is how performance-based regulation will affect the finding of violations and the use of its enforcement authority. According to NRC staff, in March 1999 they proposed that the Commission integrate a changed enforcement program approach with the pilot projects for the proposed assessment process.

NRC's proposed fiscal year 2000 budget and performance plan reflect NRC's continuing commitment to move forward with a risk-informed and, ultimately, performance-based regulatory approach. In March 1999, an NRC contractor reported that NRC's becoming a performance-based organization will require a long-term commitment, with many challenges for management and staff. NRC staff, the report said, will be challenged to become outcome-based and to be held more accountable for measurable results.

Furthermore, NRC has implemented, and described in the performance plan, its planning, budgeting, and performance management process. Using this process, NRC will establish goals and objectives and determine the resources and planned accomplishments needed to achieve them. NRC staff estimate that it could take 3 to 5 years until the agency fully implements its planning, budgeting, and performance management process and achieves the cultural changes required to use the process in its activities. According to staff, NRC has used a contractor to make this process more performance-based and outcome-oriented.

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They also said that the agency has identified outcomes for the nuclear reactor safety arena and expects to use the outcomes in its fiscal year 2001 performance plan.

In part to conform to federal cost accounting standards, NRC is developing an integrated financial and resource management system (STARFIRE). Cost accounting standards and concepts are designed to complement the financial accounting practices in place at NRC. Managerial cost accounting focuses on the information needs of agency managers to support agency functions for planning, controlling costs, decision-making, and evaluating performance. NRC plans to use cost accounting to trace various input costs to the outputs and outcomes realized by the agency under the Results Act. NRC expects the managerial cost accounting features of the system to be operational in fiscal year 2000.

In the independent auditor's report for the year ending September 30, 1998, NRC's Office of the Inspector General concluded that the lack of cost-accounting information undermines the agency's ability to demonstrate its readiness to fully comply with the Results Act requirements in fiscal year 1999. In the fiscal year 2000 performance plan, NRC states that once implemented, STARFIRE will, among other things, support the preparation of auditable financial statements. However, it is not clear from NRC's plan how the system relates to the assessment of performance measures. NRC does not describe the part of the system that is directly related to its performance measures and its plans to ensure that the applicable part of the system is reliable and the resulting information credible.

## Agency Comments

On April 12, 1999, we obtained comments from NRC staff, including the Deputy Chief Financial Officer, Office of the Chief Financial Officer, on a draft of our analysis of the fiscal year 2000 annual performance plan. According to NRC staff, the agency appreciates the recognition of the progress noted in our report of its fiscal year 2000 performance plan. They said that the agency is committed to moving to an outcome-oriented, performance-based organization. NRC recognizes that a multiyear effort will be required to do so and that it expects to continue to make progress in this endeavor. We added this information to this report.

In addition, NRC staff said that the agency has many activities that are not included as strategies or outputs in the performance plan. They noted, for example, that NRC has realigned three major program offices and eliminated the Office for Analysis and Evaluation of Operational Data and has undertaken an assessment to ensure that its research program focuses on outcomes. NRC staff also said the agency has initiatives under way that will allow it to make some substantial changes in the fiscal year 2001 performance plan. We have added these activities to the report, where appropriate.

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Furthermore, NRC staff said that most of the data to measure performance are developed for and summarized in the report of abnormal occurrences report, which NRC submits to the Congress annually, and that the agency has procedures to review and evaluate potential abnormal occurrences reported by licensees. NRC reiterated the points that it made last year; in particular, the agency has a high degree of confidence about the reliability of its information, in part, because the agency maintains an aggressive inspection program that audits licensees to determine that they report required information. Nevertheless, the Results Act requires that agencies describe the specific procedures they will use to assess the reliability and validity of all data used for all performance measures as well as the information systems used to maintain, process, and report the data. NRC has not indicated how it will verify and validate its data to ensure that they are accurate and complete.

NRC staff also said that it would be very difficult to show a one-to-one relationship between the improved performance of the nuclear industry over the last 10 years and the impact that the agency's programs have on performance or the safe operation of plants. For example, after American Electric Power shut down its D. C. Cook plant as a result of NRC's design inspection, other utilities acted to correct problems at their plants. A number of variables may affect the actions taken by utilities; therefore, NRC cannot quantify the impact that it has on safety. Although it may be difficult for NRC to show the impact of external factors on achieving its performance goals, without such information, it will be difficult for the Congress to determine the impact of the agency's actions on achieving its performance goals.

# Management Challenges

The following table shows the management challenges that we noted in the Performance and Accountability Series: Major Management Challenges and Program Risks: Nuclear Regulatory Commission (GAO/OCG-99-19) in January 1999 and that NRC's Office of the Inspector General noted in a December 1998 letter to the Honorable Dick Armey, House Majority Leader, and the Honorable Dan Burton, Chairman, of what was then the House Committee on Government Reform and Oversight. The table also shows the specific performance goals, strategies, and outputs, where applicable, that NRC has established to address each management challenge.

**Table II.1: Management Challenges in NRC's Fiscal Year 2000 Performance Plans**

GAO identified management challenge	Applicable references in the fiscal year 2000 annual performance plan
NRC lacks assurance that nuclear plants are safe.	Strategic arena: Nuclear reactor safety.
NRC assumes that plants are safe if they operate as designed and follow NRC's regulations. However, NRC's regulations and other guidance do not define the conditions necessary for a plant's safety; therefore, determining safety is subjective	<p>Performance goals: (1) zero civilian nuclear reactor accidents, (2) maintain low frequency of events that could lead to an accident, (3) zero deaths because of radioactive releases from civilian reactors, and (4) zero significant radiation exposures because of civilian reactors.</p> <p>Strategies: (1) ensure that licensees discharge their primary responsibility for conducting safe operations, (2) incrementally implement risk-informed and performance-based regulatory approaches, and (3) others.</p> <p>Outputs: (1) operator licensing examinations, (2) license renewal reviews, (3) inspections, (4) safety assessments, (5) evaluation of operational experience, and (6) others.</p>
NRC is slow to require corrective action.	Strategic arena: Nuclear reactor safety.
Although NRC's performance indicators show that conditions throughout the nuclear energy industry have generally improved, they also show that several plants are chronically poor performers. At three nuclear plants with long-standing safety problems, NRC did not take aggressive action to ensure that the utilities corrected the problems.	<p>Performance goals: (1) zero civilian nuclear reactor accidents, (2) maintain low frequency of events that could lead to an accident, (3) zero deaths because of radioactive releases from civilian reactors, and (4) zero significant radiation exposures because of civilian reactors.</p> <p>Strategies: ensure that licensees carry out their primary responsibility for conducting activities consistent with NRC's regulations.</p> <p>Outputs: (1) timely review of allegations, (2) timely completion of enforcement actions and investigations, (3) annual senior managers meeting, (4) inspections, and (4) plant performance reviews.</p>
NRC's culture and organizational structure impede effective actions.	Strategic arena: None—overarching issues.
	Performance goals: None. But NRC has

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GAO Identified management challenge	Applicable references in the fiscal year 2000 annual performance plan
Since 1979, various reviews have concluded that NRC's organizational structure, inadequate management control, and inability to oversee itself have impeded the agency's effectiveness.	management goals that it says will achieve excellence and public confidence; provide the public and its other stakeholders with clear and accurate information; and sustain a diverse workforce while employing innovative and sound business practices.  Outputs: None.
Inspector General's areas of concern	Applicable references in the fiscal year 2000 annual performance plan
Developing and implementing a risk-informed, performance-based approach to regulatory oversight.	Strategic arena: Nuclear reactor safety and nuclear material safety.  Performance goals: (1) zero civilian nuclear reactor accidents, deaths, and significant radiation exposures; (2) zero deaths or significant radiation exposures from the civilian use or loss of source, by-product, and special nuclear materials; (3) zero off-site releases of radioactive material from operating facilities, and (4) others.  Strategies: (1) ensure that licensees discharge their primary responsibility for conducting safe operations; (2) incrementally implement risk-informed, performance-based regulatory approaches; (3) consider risk information when authorizing the use and storage of nuclear materials and transportation packages; and (4) others.
Developing information management systems and being able to anticipate and measure the benefits to be gained.	Outputs: (1) operator licensing examinations; (2) license renewal reviews; (3) inspections; (4) safety assessments; (5) reviews for spent fuel containers; (6) timely review of new materials licenses, amendments, and renewals; and (7) others. Strategic arena: None—overarching issue.  Performance goals: None. But NRC has a management goal to apply information technology to streamline processes, improve information delivery, and support scientific computing and information needs.  Strategies: (1) increase knowledge of and ability to apply information technology to improve performance, (2) make sound information technology investments that are focused on results and responsive to customers' needs, (3) ensure that computer systems are Year 2000 compliant, and (4) others.

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Inspector General's areas of concern	Applicable references in the fiscal year 2000 annual performance plan
Responding to the impact of industry deregulation and license transfers.	<p>Outputs: (1) develop demonstrable returns from the reactor program system, agencywide integrated financial and resource management system, and agencywide document management system; (2) replace workstations to support new agency applications; (3) zero affects from the Year 2000 problem; and (4) others.</p> <p>Strategic arena: Nuclear reactor safety.</p> <p>Performance goals: None of NRC's performance goals specifically address this issue.</p> <p>Strategies: (1) place a high priority on the review of license transfer amendments, (2) ensure that licensees discharge their responsibility to conduct safe operations, and (3) others.</p> <p>Outputs: evaluate operational experience and develop the technical bases for safety and regulator guidance.</p>
Administering and overseeing agency procurement under government contracting rules.	<p>Strategic arena: None—overarching issue.</p> <p>Performance goals: None. But NRC has a management goal: employ innovative and sound business practices.</p> <p>Strategies: NRC will acquire goods and services in a manner that results in the best value to the agency, ensures fair and equitable treatment for all parties wishing to do business with NRC, and results in the best value to the agency.</p> <p>Outputs: None.</p>
Ability to effectively communicate with the public and industry.	<p>Strategic arena: None—overarching issue.</p> <p>Performance goals: None. But NRC has a management goal: inspire public confidence by providing stakeholders with clear and accurate information.</p> <p>Strategies: (1) demonstrate that its efforts enable the nation to use nuclear materials safely and securely; (2) respond to requests, inquiries, and concerns of stakeholders in a timely way; and (3) others.</p> <p>Outputs: None.</p>
Maintaining an unqualified financial statement opinion in light of new and existing Chief Financial Officer requirements.	<p>Strategic arena: None—overarching issue.</p> <p>Performance goals: None. But NRC has a management goal to employ innovative and sound business practices.</p>



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Inspector General's areas of concern	Applicable references in the fiscal year 2000 annual performance plan
Ensuring that NRC's processes, such as spent fuel cask certification and licensee renewal, are responsive to industry needs.	<p data-bbox="984 512 1544 669">Strategies: NRC will create and maintain a planning, budgeting, and performance management process that focuses on outcomes and provides an effective tool for setting goals, allocating resources, tracking progress, measuring results, and identifying areas for improvement.</p> <p data-bbox="984 695 1455 747">Outputs: publish a timely and an unqualified financial statement.</p> <p data-bbox="984 751 1492 804">Strategic arena: Nuclear reactor safety, nuclear materials safety, and nuclear waste safety.</p> <p data-bbox="984 829 1544 1037">Performance goals: (1) zero radiation-related deaths and significant radiation exposures from the civilian use or loss of source, by-product, and special nuclear materials; (2) zero off-site releases of radioactive material from operating facilities; and (3) no significant accidental releases of radioactive material from the storage or transportation of nuclear material or waste.</p> <p data-bbox="984 1062 1536 1304">Strategies: (1) develop the capability to provide timely and independent technical bases for regulatory decisions; (2) improve the regulatory framework and use risk information, where appropriate; (3) consider risk information when authorizing the use and storage of nuclear materials and transportation packages; and (4) place a high priority on the review of applications for renewing existing nuclear power plant licenses.</p> <p data-bbox="984 1329 1536 1486">Outputs: (1) complete design reviews for spent fuel containers; (2) timely review of new materials licenses, amendments, and renewals; (3) conduct timely inspections; (4) complete research products that respond to high and medium priorities of the Commission and licensees.</p>
Ensuring that NRC's enforcement program has an appropriate safety focus and reflects improved licensee performance.	<p data-bbox="984 1491 1536 1543">Strategic arena: Nuclear reactor safety and nuclear materials safety.</p> <p data-bbox="984 1568 1544 1755">Performance goals: (1) zero civilian nuclear reactor accidents, deaths, and significant radiation exposures; (2) zero deaths or significant radiation exposures from the civilian use or loss of source, by-product, and special nuclear materials; (3) zero off-site releases of radioactive material from operating facilities, and (4) others.</p> <p data-bbox="984 1780 1544 1856">Strategies: (1) ensure that licensees discharge their primary responsibility for conducting safe operations; (2) incrementally implement risk-informed,</p>

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Inspector General's areas of concern	Applicable references in the fiscal year 2000 annual performance plan
Refocusing NRC's research program to reflect a mature industry.	<p>performance-based regulatory approaches; (3) consider risk information when authorizing the use and storage of nuclear materials and transportation packages; and (4) others.</p> <p>Outputs: timeliness in completing enforcement actions.</p> <p>Strategic arena: Nuclear reactor safety, nuclear materials safety, and nuclear waste safety.</p> <p>Performance goals: None.</p> <p>Strategies: (1) maintain and further develop the capability to provide timely and independent technical bases for regulatory decisions, (2) improve the regulatory framework and incrementally use risk-informed approaches, and (3) evaluate operational experience and use the information to improve its regulations.</p>
Responding to external influences for changing NRC's operations, for example, NRC's ability to meet its mission and the requirements of the Results Act following the agency's proposed reorganization.	<p>Outputs: provide technical bases for safety and regulatory guidance and decision-making.</p> <p>Strategic arena: None—overarching issue.</p> <p>Performance goals: None. But NRC has a management goal to employ innovative and sound business practices.</p> <p>Strategies: create and maintain a planning, budgeting, and performance management process that is focused on outcomes and provides an effective tool to set goals; allocate resources; track progress; measure results; and identify areas for improvement.</p> <p>Outputs: None.</p>

# GAO Contacts and Staff Acknowledgments

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## GAO Contact

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## Acknowledgments

In addition to the contact named above, Gary Jones, Mary Ann Kruslicky, and Philip Olson made key contributions to this product.

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