

United States General Accounting Office Washington, DC 20548

Resources, Community, and Economic Development Division

B-285226

June 30, 2000

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

Subject: Observations on the Nuclear Regulatory Commission's Fiscal Year 1999 Performance Report and Fiscal Year 2001 Performance Plan

As you requested, we have reviewed the 24 Chief Financial Officers Act agencies' fiscal year 1999 performance reports and fiscal year 2001 performance plans required by the Government Performance and Results Act (GPRA) of 1993. In essence, under GPRA, annual performance plans are to establish performance goals and measures covering a given fiscal year and provide the direct linkage between an agency's longer-term goals and day-to-day activities. Annual performance reports are to subsequently provide information on the degree to which those performance goals were met. This report contains two enclosures responding to your request concerning key program outcomes and major management challenges at the Nuclear Regulatory Commission (NRC). Enclosure I provides our observations on NRC's fiscal year 1999 actual and fiscal year 2001 planned performance for the key outcomes that you identified as important mission areas for the agency. These key outcomes are

- no radiation-related deaths or illnesses due to civilian nuclear reactors;
- no radiation-related deaths or illnesses due to the civilian use of nuclear materials;
- wastes produced by the civilian use of nuclear materials are treated, stored, and disposed of safely; and
- no loss or theft of special nuclear materials regulated by NRC.

Enclosure II lists the 13 major management challenges facing the agency that we and NRC's Office of the Inspector General (OIG) identified, how NRC's fiscal year 1999 performance report discussed the progress the agency has made in resolving these challenges and the applicable goals and measures in the fiscal year 2001 performance plan.

NRC is undergoing change in virtually every aspect of its regulatory activities. To a large extent, the economic restructuring of the nation's electric power system, from a regulated industry to one driven by competition, precipitated this change. NRC says that competition will challenge it to reduce unnecessary regulatory burden on the nuclear industry while ensuring safety and making more efficient and effective use of its own resources. To meet these objectives, NRC has been moving from its traditional approach that was largely developed without the benefit of quantitative estimates of risk to an approach—termed risk-informed regulation—that considers relative risk in conjunction with engineering analyses and operating experience. Where applicable, NRC has also been moving to a performance-based regulatory approach. Under such an approach, NRC would establish clearly defined, objective criteria to assess a licensee's performance, allow the licensee flexibility to determine how to meet the criteria, and recognize that the failure to meet a performance criterion will not in and of itself result in adverse consequences.

Results in Brief

NRC's performance report includes all the performance goals related to the four key outcomes and shows that it has met all of its performance goals for only one key outcome--no radiation-related deaths or illnesses due to civilian nuclear reactors. NRC did not meet one goal in each of the remaining three key outcomes. For two of the unmet goals, NRC concluded that the deviations were slight and did not affect its performance. NRC was silent regarding the third unmet fiscal year 1999 performance goal.

NRC has partially addressed the weaknesses that we identified last year. For example, NRC is following through on its commitment to focus more on outcomes, rather than its previous practice of focusing on outputs, to better determine the extent to which its programs and activities have contributed to achieving its performance goals and the agency more directly links key strategies to its performance goals. Despite these positive actions, we continue to have concerns that NRC has not verified and validated the data used to assess performance for the four key outcomes. NRC expects to address the validation and verification of data in its fiscal year 2002 performance plan.

The actions of its licensees, industry organizations, states, and others have a significant impact on the extent to which NRC will achieve its strategic and performance goals. However, NRC says that it cannot determine the degree of impact that others have on achieving its goals and outcomes. Since NRC cannot show a one-to-one relationship between the performance of its licensees and the impact that the agency's programs have on safety, its program evaluations should provide reliable information to help the Congress and others determine the validity and reasonableness of the agency's goals and strategies and identify factors likely to affect achieving its performance goals. However, NRC's program evaluations did not provide such information, did not discuss how the evaluations helped it to achieve

the performance goals, and did not indicate whether the evaluation results showed a need for NRC to change its goals or strategies. For example, NRC describes a "top down" assessment of the Office of Nuclear Reactor Regulation to improve the effectiveness and the efficiency of that office and a 6-month pilot program to determine the feasibility of moving forward with its new safety oversight process for nuclear power plants. NRC also describes three program evaluation reviews related to materials performance and the processes used to determine the feasibility of streamlining its license review process for uranium recovery, decommissioning, and high-level waste programs. However, NRC did not discuss how the evaluation results can help it meet or identify the need to change its performance goals or strategies. In addition, NRC did not conduct any program evaluations that specifically addressed the security area. Although NRC initially identified security as a strategic arena, it has since integrated these activities into the performance goals of the three key outcomes discussed above. Nevertheless, because of the significant dangers that the loss or theft of special nuclear materials would pose to the public and despite being commingled with the agency's other key outcomes, it would seem prudent that security would warrant special attention in program evaluations.

To reflect its changing regulatory direction, NRC has identified four new performance goals that apply to almost all of the agency's activities.¹ The new performance goals are to maintain safety and protect the environment, common defense, and security (referred to as the maintain safety goal); increase public confidence; make its activities more effective, efficient, and realistic; and reduce unnecessary regulatory burden on stakeholders. NRC also identified succinct and concrete performance measures and metrics for the maintain safety goal but not for the other three performance goals. NRC expects to develop measures and metrics for the remaining goals during the next year. NRC focused on the maintain safety goal because ensuring public health and safety from the operations and activities of its licensees is its primary statutory responsibility.

NRC has not established performance goals or measures that specifically address the 13 major management challenges that we and its OIG identified. Although NRC said that the management issues present a challenge for the agency, it does not view them as mission-critical problems that impede the agency's carrying out its goals. In addition, NRC staff believe that the agency's programs and activities sufficiently reflect the issues that we and the OIG identified. Therefore, NRC does not believe that the management challenges are significant enough to warrant a separate performance goal or measure. However, NRC has activities underway, has identified strategies, or has established output measures that address the management challenges. For example, NRC has identified four new performance goals for its three major strategic arenas. One performance goal relates to maintaining safety in the operation of commercial nuclear power plants; the various entities that process and fabricate uranium ore into fuel for the plants as well as those that use nuclear material for industrial, medical, and academic purposes; and activities related to the

¹NRC has identified four strategic arenas: nuclear reactor safety, nuclear materials safety, nuclear waste safety, and international nuclear safety support. The new performance goals do not apply to the international nuclear safety support arena.

decommissioning of nuclear facilities and the transporting, storing, and disposing of radioactive wastes. This performance goal would capture 7 of the 13 management challenges.²

In addition, NRC either has an output measure or management strategy that relates to four management challenges (developing information management systems, overseeing agency procurement, maintaining an unqualified financial statement, and refocusing NRC's research program to reflect a mature industry). To achieve another of its new performance goals—increase public confidence—NRC will need to effectively communicate with the public—a management challenge identified by the OIG. Although the Commission did not approve the staff's recommendation to conduct a public confidence survey and establish a baseline by which to measure whether NRC's actions increase public confidence and allow it to achieve this goal, the staff is examining various options to assess and/or measure NRC's effectiveness in communicating with the public.

Finally, although NRC has neither a goal, measure, nor strategy to address the cultural and organizational challenges that we identified, it has taken or is in the process of taking various actions to address this management challenge. For example, NRC has reduced its staff and achieved its targeted 8 to 1 supervisor to staff ratio. In addition, in the spring of 1999, NRC disbanded one of its offices and placed that office's activities within its program offices. It also contracted for a "top down" assessment of one of its major program offices to identify opportunities to improve its effectiveness and efficiency. In addition, NRC intends to become more performance-based and has established a planning, budgeting, and performance management process to implement such an approach. NRC's following through on this commitment and completing its ongoing cultural change initiatives should help it address this management challenge.

Objectives, Scope, and Methodology

Our objectives concerning selected key agency outcomes were to (1) identify and assess the quality of the performance goals and measures directly related to a key outcome, (2) assess the agency's actual performance in fiscal year 1999 for each outcome, and (3) assess the agency's planned performance for fiscal year 2001 for each outcome. Our objectives concerning major management challenges were to (1) assess how well NRC's fiscal year 1999 performance report discussed the progress it had made in resolving the major management challenges that we and NRC's OIG had previously identified and (2) identify whether NRC's fiscal year 2001 performance

²The seven management challenges are (1) NRC lacks assurance that nuclear plants operate safely; (2) NRC is slow to require corrective action; (3) defining and implementing a risk-informed, performance-based approach; (4) responding to the impact of industry deregulation; (5) ensuring that NRC's processes are responsive to industry's needs; (6) ensuring that NRC's enforcement program has an appropriate safety focus and reflects improved licensees' performance; and (7) responding to external influences for changing NRC's operations..

plan has goals and measures applicable to the agency's major management challenges. As agreed, to meet the Committee's tight reporting time frame, 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 NRC's operations and programs, and our observations on NRC's other GPRA-related efforts. We did not independently verify the information contained in the performance report or plan. We conducted our review from April through May 2000 in accordance with generally accepted government auditing standards.

Agency Comments and Our Evaluation

We provided NRC with a draft of this report for review and comment. NRC found the draft report to be consistent with our prior reviews of its implementation of GPRA and appreciated our recognition of the progress it had made since it published the fiscal year 1999 performance plan in February 1998. Nevertheless, NRC said that relying on the fiscal year 1999 performance plan as the basis for evaluating the fiscal year 1999 performance report does not take into account revisions the agency made to the 1999 performance targets and the progress the agency has made in strategic planning since fiscal year 1999. We believe that, in relevant sections of the report, we have described a number of activities underway at NRC and the changes that it has made to its performance goals and measures since 1999.

In addition, NRC states that the draft report provides recommendations on issues that the agency has started to address. For example, NRC said that it is identifying ways to improve its fiscal year 2000 performance report and that it expects to address the validation and the verification of data in its fiscal year 2002 performance plan.

NRC also offered suggestions for our future GPRA work. For example, NRC suggested that we establish criteria to identify management challenges and when the agency has addressed them. GAO is developing such criteria. We modified the report to address a number of NRC's concerns. NRC's comments and our detailed responses are provided in enclosure III.

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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 Richard A. Meserve, Chairman, Nuclear Regulatory Commission; the Honorable Nils J. Diaz, the Honorable Greta Joy Dicus; the Honorable Edward McGaffigan, Jr., and the Honorable Jeffrey S. Merrifield, Commissioners, Nuclear Regulatory Commission. We will make copies available to others on request.

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If you or your staff have any questions, please call me or Derek Stewart on (202) 512-8021. Key contributors to this report were Vondalee Hunt, Mary Ann Kruslicky, and Philip Olson.

Jim Wells

Director, Energy, Resources, and Science Issue Area

Jim Wells

Enclosures - 3

Observations on the Nuclear Regulatory Commission's Fiscal Year 1999 Actual Performance and Fiscal Year 2001 Planned Performance Related to Key Outcomes

This enclosure contains our observations on the Nuclear Regulatory Commission's (NRC) fiscal year 1999 actual and fiscal year 2001 planned performance for key outcomes identified by the Senate Governmental Affairs Committee as important mission areas for the Commission. The key outcomes for NRC are: (1) no radiation-related deaths or illnesses due to civilian nuclear reactors; (2) no radiation-related deaths or illnesses due to the civilian use of nuclear materials; (3) wastes produced by the civilian use of nuclear materials are treated, stored, and disposed of safely; and (4) no loss or theft of special nuclear materials regulated by NRC. As requested, we have identified the goals and the 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: No Radiation-Related Deaths or Illnesses Due to Civilian Nuclear Reactors

<u>Fiscal Year 1999 Performance Goals and Measures for the Key Agency Outcome of</u> No Radiation-Related Deaths or Illnesses Due to Civilian Nuclear Reactors

Zero civilian nuclear plant accidents

• Fiscal year 1999 goal: 0

• Actual: 0 (goal met)

Zero deaths resulting from radiation or radiation releases from civilian nuclear plant operations

• Fiscal year 1999 goal: 0

• Actual: 0 (Preliminary data) (goal met)

Zero significant radiation exposures resulting from civilian nuclear plants

Fiscal year 1999 goal: 0

• Actual: 0 (Preliminary data) (goal met)

No more than one event that could lead to a severe accident³

• Fiscal year 1999 goal: No more than 1

• Actual: 0 (Preliminary data) (goal met)

³The performance indicator is the annual number of events from the population of civilian nuclear power plants that could result in a 1 in 1,000 or greater probability of leading to a nuclear reactor accident.

GAO's Observations on NRC's Fiscal Year 1999 Actual Performance for the Key Agency Outcome of No Radiation-Related Deaths or Illnesses Due to Civilian Nuclear Reactors

NRC identified almost 30 output measures that were the means and the strategies (processes and activities that NRC expected to perform) to attain the performance goals. However, NRC listed the output measures as a group by strategic goals and did not link the output measures to specific performance goals. In addition, NRC did not establish intermediate outcome goals that would link output targets to performance goals.

NRC's performance report shows that NRC has met all the performance goals related to this key outcome. Because it is regulating a mature industry whose performance, in terms of these goals, has improved over the last 10 years, NRC has set its goals to maintain the status quo rather than to demonstrate progress. In addition, NRC only had preliminary data for the following three performance goals:

- Zero deaths resulting from radiation or radiation releases from civilian nuclear power operations.
- Zero significant radiation exposures resulting from civilian nuclear plants.
- No more than one event that could lead to a severe accident.

NRC did not explain (1) its reasons for using preliminary data even though the deadline for licensees' submitting the data was 5 months before the performance report was issued, (2) when and how the data would be updated, or (3) the actions it would take to prevent a similar occurrence next year. NRC staff told us that the data were preliminary for some of the performance goals because they were included in the abnormal occurrences (unscheduled incidents or events that pose a significant threat to public health and safety) report and cannot be reported publicly until approved by the Commission and sent to the Congress. Since NRC issued the abnormal occurrences report to the Congress at about the same time as the agency issued its performance report, NRC had to use preliminary data. The staff also said that NRC would provide the information in the performance report for fiscal year 2000.

The actions of NRC's licensees, industry organizations, and others have a significant impact on the extent to which the agency will achieve its strategic and performance goals. However, NRC did not estimate the degree of impact that utilities and industry organizations have on achieving its goals and the outputs established. Without such information, it is difficult to determine the impact that NRC's actions (compared to others) have on achieving its goals.

Since NRC cannot show a one-to-one relationship between the improved performance of the nuclear utility industry over the last 10 years and the impact that the agency's programs have on the safety performance of the plants, its program

evaluations should provide reliable information to help the Congress and others determine the validity and the reasonableness of the agency's goals and strategies and identify the factors likely to affect achieving them. However, NRC's program evaluations did not provide such information, did not discuss how the evaluations helped it to achieve the performance goals, and did not indicate whether the evaluation results showed a need for NRC to change its goals or strategies. For example, NRC merely describes a "top down" assessment of the Office of Nuclear Reactor Regulation to improve the effectiveness and the efficiency of that office and a 6-month pilot program to determine the feasibility of moving forward with its new safety oversight process for nuclear power plants. NRC did not discuss how these evaluations can help it meet or identify the need to change its performance goals or strategies.

We have concerns about the credibility of NRC's performance information. Most of the data to measure performance in this key outcome comes from the abnormal occurrences report that NRC annually submits to the Congress and from reports submitted by licensees. The information originates with external sources, and NRC did not address how it would help ensure that the external sources provided accurate, timely, and reliable information. NRC noted that it would continue to rely on established procedures, such as audits and management reviews by the Office of the Inspector General, to verify and validate performance data.

<u>Unmet Fiscal Year 1999 Performance Goals and Measures for the Key Agency Outcome of No Radiation-Related Deaths or Illnesses Due to Civilian Nuclear Reactors</u>

NRC met all of its performance goals for this key outcome.

Fiscal Year 2000 Performance Goals and Measures for the Key Agency Outcome of No Radiation-Related Deaths or Illnesses Due to Civilian Nuclear Reactors

Zero civilian nuclear plant accidents

Fiscal year 2000 goal: 0

Zero deaths resulting from radiation or radiation releases from civilian nuclear plant operations

• Fiscal year 2000 goal: 0

Zero significant radiation exposures resulting from civilian nuclear plants

• Fiscal year 2000 goal: 0

No more than one event that could lead to a severe accident⁴

Fiscal year 2000 goal: No more than 1

Zero substantiated breakdowns of physical security that significantly weakens protection against radiological sabotage or theft or diversion of special nuclear materials

Fiscal year 2000 goal: 0

Zero offsite releases of radioactive material from civilian nuclear plants that have the potential to cause a serious adverse impact on the environment.

• Fiscal year 2000 goal: 0

The 5-year average (fiscal years 1996-2000) will not exceed three offsite releases of radioactive material from civilian nuclear power plants that exceed regulatory limits.

Fiscal year 2000 goal: Not to exceed 3

Zero environmental impacts identified and substantiated by external sources that were not identified through NRC's National Environmental Policy Act process

• Fiscal year 2000 goal: 0

GAO's Observations on NRC's Fiscal Year 2000 Planned Performance for the Key Agency Outcome of No Radiation-Related Deaths or Illnesses Due to Civilian Nuclear Reactors

NRC reduced its strategic arenas from seven to four and incorporated many of its common defense and security, environmental protection, and other goals into the remaining four strategic arenas. NRC took this action to provide a more focused and meaningful basis to evaluate its performance and to more directly link its goals to this key outcome. As a result of restructuring its strategic arenas, NRC included additional performance goals for this key outcome.

Similar to fiscal year 1999, NRC did not relate the outputs to its performance measures and did not establish intermediate outcome goals to link output targets to performance goals.

NRC did not assess the effect of its fiscal year 1999 performance on estimated performance levels for fiscal year 2000.

The performance indicator is the annual number of events from the population of civilian nuclear power plants that could result in a 1 in 1,000 or greater probability of leading to a nuclear reactor accident.

Fiscal Year 2001 Performance Goals and Measures for the Key Agency Outcome of No Radiation-Related Deaths or Illnesses Due to Civilian Nuclear Reactors

In addition to performance goals and measures, NRC included outcome-oriented strategic goal measures in its fiscal year 2001 performance plan. The strategic goal measures generally are the performance goals and measures from the earlier plans. For the nuclear reactor safety arena, its strategic goal measures and metrics are as follows:

Zero nuclear plant accidents

Zero deaths resulting from radiation exposures from nuclear plants

Zero events at nuclear plants that result in significant radiation exposures

Zero radiological sabotage at nuclear plants and

Zero releases of radioactive material that could adversely impact the environment

For the maintain safety performance goal, the measures and metrics are as follows:

No more than one event per year that would be a significant precursor to a nuclear plant accident

Fiscal year 2001 goal: No more than 1

No statistically significant adverse trends in industry performance

Fiscal year 2001 goal: No statistically significant adverse trends

Zero events that would result in radiation overexposures from nuclear power plants that exceed regulatory limits

• Fiscal year 2001 goal: 0

Zero substantiated breakdowns of physical security that significantly weaken protection against radiological sabotage or theft or diversion of special nuclear materials

Fiscal year 2001 goal: 0

No more than three releases per year of radioactive material to the environment that exceed regulatory limits

Fiscal year 2001 goal: Not to exceed 3

GAO's Observations on NRC's Fiscal Year 2001 Planned Performance for the Key Agency Outcome of No Radiation-Related Deaths or Illnesses Due to Civilian Nuclear Reactors

NRC is undergoing change in virtually every aspect of its regulatory activities. Because of this, NRC made several significant changes to its fiscal year 2001 performance plan that provide a clearer picture of its intended performance and the activities and processes it will use to achieve its goals. For example, NRC identified the following four new performance goals:

- maintain safety and protect the environment, common defense, and security (referred to as the maintain safety goal),
- increase public confidence,
- make NRC's activities more effective and efficient, and
- reduce unnecessary regulatory burden on stakeholders.

Although NRC developed succinct, concrete, and outcome-oriented measures for the maintain safety performance goal, the agency did not develop such measures for the other three performance goals. NRC said that it will develop these measures in subsequent plans. NRC focused on the maintain safety performance goal because ensuring public health and safety from the operations and activities of its licensees is its primary statutory responsibility.

In addition, NRC identified specific strategies for each performance goal. For example, for the maintain safety goal, NRC identified eight strategies, noting that the agency will evaluate nuclear plants' operating experiences, ensure that changes to operating licenses and exemptions to regulations meet its requirements, and issue and renew nuclear plant operators' licenses only to qualified individuals. For the reduce unnecessary regulatory burden goal, the four strategies included using performance-based approaches and redirecting resources to those activities that are less important to safety.

In the nuclear reactor safety arena, NRC established some outputs that challenge and/or stretch NRC to improve its performance.

NRC partially addressed the weaknesses that we identified in our assessment of the fiscal year 2000 performance plan. For example, the fiscal year 2001 plan reflects NRC's continuing commitment to focus on outcomes over which the agency has influence, rather than outputs, so that it can determine the extent to which its programs and activities contribute to achieving the performance goals. In addition, NRC identified and directly linked key strategies to performance goals. However, NRC did not provide details to determine whether its performance information is credible. For example, NRC fails to describe (1) the procedures that will be used to ensure that data associated with each performance goal are sufficiently valid and

reliable for performance assessment, (2) the standards and/or procedures to assess the reliability of the major information systems associated with its performance measures, (3) any limitations associated with data or information systems used to assess performance, and (4) any actions or plans to address these limitations. In addition, NRC no longer plans to rely on established procedures, such as audits and management reviews by the Office of the Inspector General, to verify and validate performance data. In commenting on a draft of this report, NRC said that it inadvertently omitted the reference to the Inspector General in its fiscal year 2001 performance plan and that it plans to continue to rely on audits and management reviews to assess its ability to verify performance data.

NRC staff previously told us that the agency was working to document the processes that are used to collect data to measure performance. NRC expects to address the validation and verification of data in its fiscal year 2002 performance plan.

Key Agency Outcome: No Radiation-Related Deaths or Illnesses Due to the Civilian Use of Nuclear Materials

<u>Fiscal Year 1999 Performance Goals and Measures for the Key Agency Outcome of</u>
No Radiation-Related Deaths or Illnesses Due to the Civilian Use of Nuclear Materials

Zero deaths resulting from radiation exposures from the civilian use of source, byproduct, and special nuclear materials

Fiscal year 1999 goal: 0Actual: 0 (goal met)

The 5-year average (fiscal years 1995-1999) will not exceed two significant radiation exposures due to the loss or use of source, byproduct, and special nuclear materials that exceed regulatory limits

Fiscal year 1999 goal: Not to exceed 2

• Actual: 2.2 (goal not met)

The 5-year average (fiscal years 1995-1999) will not exceed two losses of licensed material

Fiscal year 1999 goal: Not to exceed 2

• Actual: 0.4 (goal met)

Zero accidental criticality involving licensed material

Fiscal year 1999 goal: 0Actual: 0 (goal met)

The 5-year average (fiscal years 1995-1999) will not exceed six misadministration events that cause radiation exposures at or above the level of reporting abnormal occurrences to the Congress

• Fiscal year 1999 goal: Not to exceed 6

• Actual: 3.6 (goal met)

GAO's Observations on NRC's Fiscal Year 1999 Actual Performance for the Key Agency Outcome of No Radiation-Related Deaths or Illnesses Due to the Civilian Use of Nuclear Materials

NRC identified almost 20 output measures that were the means and the strategies (processes and activities that NRC expected to perform) to attain the performance goals. However, NRC listed the output measures as a group by strategic goals and did not link the output measures to specific performance goals. In addition, NRC did not establish intermediate outcome goals that would link output targets to performance goals.

NRC's performance report includes all performance goals related to this key outcome. It also shows that NRC has met all but one of its performance goals but noted that the deviation was slight and had no effect on NRC's performance. Because it is regulating a mature industry, NRC has set its goals to maintain the status quo rather than to demonstrate progress in ensuring the safe use of nuclear materials.

The actions of NRC's and states' licensees have a significant impact on the extent to which the agency will achieve its strategic and performance goals. However, NRC did not estimate the degree of impact that licensees and states have on achieving its goals and the outputs established. Without such information, determining the impact that NRC's actions (compared to others) have on achieving its goals is difficult.

Since NRC cannot show a one-to-one relationship between the performance of its licensees and the impact that the agency's programs have on safety performance, its program evaluations should provide reliable information to help the Congress and others determine the validity and the reasonableness of the agency's goals and strategies and identify factors likely to affect achieving them. However, NRC's program evaluations did not provide such information, did not discuss how the evaluations helped it to achieve the performance goals, and did not indicate whether the evaluations' results showed a need for NRC to change its goals or strategies. For example, NRC merely describes three integrated materials performance evaluation program reviews and the process used to determine the feasibility of streamlining the license review process for uranium recovery programs and decommissioning. NRC did not discuss how the evaluation results could help it meet or identify the need to change its performance goals or strategies.

<u>Unmet Fiscal Year 1999 Performance Goals and Measures for the Key Agency Outcome of No Radiation-Related Deaths or Illnesses Due to the Civilian Use of Nuclear Materials</u>

No more than an average of two significant radiation exposures for the 5-year period, fiscal years 1995 through 1999, due to the loss or use of source, byproduct, and special nuclear materials.

GAO's Observations on NRC's Unmet Fiscal Year 1999 Performance Goals and Measures for the Key Agency Outcome of No Radiation-Related Deaths or Illnesses Due to the Civilian Use of Nuclear Materials

NRC's performance report showed that the 5-year average was 2.2 exposures. In a footnote, NRC stated that the goal established an approximate measure and the deviation was slight. It also noted that not achieving the goal had no effect on the agency's performance.

<u>Fiscal Year 2000 Performance Goals and Measures for the Key Agency Outcome of</u>
No Radiation-Related Deaths or Illnesses Due to the Civilian Use of Nuclear Materials

Zero deaths resulting from radiation exposures from the civilian use of source, byproduct, and special nuclear materials

Fiscal year 2000 goal: 0

The 5-year average (fiscal years 1996-2000) will not exceed two radiation exposures per year due to the loss or use of source, byproduct, and special nuclear materials that exceed regulatory limits

Fiscal year 2000 goal: Not to exceed 2

The 5-year average (fiscal years 1996-2000) will not exceed two losses per year of licensed material

Fiscal year 2000 goal: Not to exceed 2

Zero accidental criticality involving licensed material

Fiscal year 2000 goal: 0

The 5-year average (fiscal years 1996-2000) will not exceed six misadministration events per year that cause radiation exposures at or above the level of reporting abnormal occurrences to the Congress

Fiscal year 2000 goal: Not to exceed 6

Zero offsite releases of radioactive material from operating facilities that have the potential to adversely impact the environment

• Fiscal year 2000 goal: 0

The 5-year average (fiscal years 1996-2000) will not exceed one offsite release per year of radioactive material from operating facilities that exceed regulatory limits

Fiscal year 2000 goal: Not to exceed 1

Zero accidental releases of radioactive material from the storage or the transportation of nuclear material or nuclear waste

• Fiscal year 2000 goal: 0

Zero loss, theft, or diversion of strategic special nuclear material or unauthorized enrichment of special nuclear material regulated by NRC

• Fiscal year 2000 goal: 0

Zero substantiated cases of actual or attempted theft or the diversion of strategic special nuclear material

• Fiscal year 2000 goal: 0

Zero substantiated breakdowns of physical protection or material control and accounting systems that significantly weaken the protection against theft or diversion of strategic special nuclear material

• Fiscal year 2000 goal: 0

Zero substantiated cases of unauthorized enrichment of special nuclear material

• Fiscal year 2000 goal: 0

Zero substantiated cases or unauthorized disclosures or compromises of classified information about the security of special nuclear material or plant equipment vital to the safety of production or utilization facilities

Fiscal year 2000 goal: 0

Zero environmental impacts identified and substantiated by external sources that were not identified through NRC's National Environmental Policy Act process

• Fiscal year 2000 goal: 0

GAO's Observations on NRC's Fiscal Year 2000 Planned Performance for the Key Agency Outcome of No Radiation-Related Deaths or Illnesses Due to the Civilian Use of Nuclear Materials

Our findings are the same as those in the nuclear reactor safety key outcome discussed above.

<u>Fiscal Year 2001 Performance Goals and Measures for the Key Agency Outcome of No Radiation-Related Deaths or Illnesses Due to the Civilian Use of Nuclear Materials</u>

In addition to performance goals and measures, NRC included outcome-oriented strategic goal measures in its fiscal year 2001 performance plan. The strategic goal measures generally are the performance goals and measures from the earlier plans. For the nuclear materials safety arena, its strategic goal measures and metrics are as follows:

Zero deaths resulting from acute radiation exposures from the civilian uses of source, byproduct, and special nuclear materials or from other hazardous materials used or produced from licensed materials

No more than six events per year that cause significant radiation or hazardous materials exposures from the loss or use of source, byproduct, and special nuclear materials

Zero events that result in the release of radioactive material from the civilian use of source, byproduct, or special nuclear materials that adversely impact the environment

Zero losses, thefts, or diversion of strategic special nuclear material; radiological sabotage; or unauthorized enrichment of special nuclear material regulated by NRC

Zero unauthorized disclosures or compromises of classified information causing damage to national security

For the maintain safety performance goal, the measures and metrics are as follows:

No more than 356 losses of licensed material

Fiscal year 2001 goal: Not to exceed 356

Zero occurrences of accidental criticality involving licensed material

Fiscal year 2001 goal: 0

No more than 19 events per year that result in radiation overexposures that exceed regulatory limits

Fiscal year 2001 goal: Not to exceed 19

No more than 43 medical events per year

• Fiscal year 2001 goal: Not to exceed 43

No more than 39 releases per year of radioactive material to the environment from operating facilities that exceed regulatory limits

Fiscal year 2001 goal: Not to exceed 39

No more than five substantiated cases per year of attempted malevolent use of source, byproduct, and special nuclear material, and

Fiscal year 2001 goal: Not to exceed 5

Zero breakdowns of physical security or material control and accounting systems that result in a vulnerability to radiological sabotage, theft, diversion, or unauthorized enrichment of special nuclear materials

Fiscal year 2001 goal: 0

NRC did not identify measures or metrics for its three other performance goals—increase public confidence, make its activities more effective and efficient, and reduce unnecessary regulatory burden on stakeholders.

GAO's Observations on NRC's Fiscal Year 2001 Planned Performance for the Key Agency Outcome of No Radiation-Related Deaths or Illnesses Due to the Civilian Use of Nuclear Materials

NRC is undergoing change in virtually every aspect of its regulatory activities and has made a number of significant changes to its fiscal year 2001 performance plan. These changes provide a clearer picture of its intended performance and the activities and processes it will use to achieve its goals.

For example, NRC identified specific strategies for each performance goal. NRC identified five strategies for the maintain safety goal, noting that it will confirm that licensees understand and carry out their activities consistent with regulatory requirements and will continue to encourage states to pursue a more active role in the regulatory process. For the goal to make NRC's activities more effective, efficient, and realistic, the three strategies included identifying and modifying processes that allow for the most improvement.

However, NRC generally did not establish outputs that challenge and/or stretch the agency to improve its performance. Instead, the outputs related to this key outcome are generally similar to the fiscal year 1999 outputs and, in some cases, are less challenging than the fiscal year 1999 performance achieved. For example, in fiscal year 1999, NRC completed 98 percent of its safety and safeguards inspections on time; its fiscal year 2001 target is 90 percent. As another example, in fiscal year 1999, NRC completed 86 percent of its license reviews (new, renewals, and amendments) within 90 days; its target for fiscal year 2001 is 80 percent within 90 days.

NRC partially addressed the weaknesses that we identified in our assessment of its fiscal year 2000 performance plan.

Key Agency Outcome: Wastes Produced by the Civilian Use of Nuclear Materials Are Treated, Stored, and Disposed of Safely

<u>Fiscal Year 1999 Performance Goals for the Key Agency Outcome of Wastes</u>
<u>Produced by the Civilian Use of Nuclear Materials Are Treated, Stored, and Disposed of Safely</u>

Zero accidental significant releases of radioactive material from the storage and the transportation of high-level waste (including spent fuel) or low-level waste

Fiscal year 1999 goal: 0Actual: 0 (goal met)

Zero offsite releases of radioactivity beyond regulatory limits from low-level waste disposal sites

Fiscal year 1999 goal: 0Actual: 0 (goal met)

Issue final regulations by July 1999 to establish a regulatory framework for high-level waste disposal

• Fiscal year 1999 goal: July 1999

• Actual: Regulations not issued by July 1999 (goal not met)

GAO's Observations on NRC's Fiscal Year 1999 Actual Performance for the Key Agency Outcome of Wastes Produced by the Civilian Use of Nuclear Materials Are Treated, Stored, and Disposed of Safely

NRC provided more than 10 output measures that were the means and the strategies (processes and activities that NRC expected to perform) to attain the performance goals. However, NRC listed the output measures as a group for each strategic goal and did not link the output measures to specific performance goals. In addition, NRC did not establish intermediate outcome goals that would link output targets to performance goals.

NRC's performance report includes and shows that it has met all of its performance goals for this key outcome. Because it is regulating a mature industry, NRC has set its goals to maintain the status quo rather than to demonstrate progress in the nuclear waste area.

The actions of NRC's licensees and others have a significant impact on the extent to which the agency will achieve its strategic and performance goals. However, NRC did not estimate the degree of impact that licensees and others have on achieving its goals and the outputs established. Without such information, it is difficult to

determine the impact that NRC's actions (compared to others) have on achieving its goals.

Since NRC cannot show a one-to-one relationship between the performance of its licensees and the impact that the agency's programs have on safety performance, its program evaluations should provide reliable information to help the Congress and others determine the validity and reasonableness of the agency's goals and strategies and identify factors likely to affect achieving them. However, NRC's program evaluations did not provide such information, did not discuss how the evaluations helped it to achieve the performance goals, and did not indicate whether the evaluations' results showed a need for NRC to change its goals. For example, NRC described the process used to determine the feasibility of streamlining its high-level waste program without discussing how such streamlining can help it meet or identify the need to change its performance goals or strategies.

As discussed above, we have concerns about the credibility of NRC's performance information.

<u>Unmet Fiscal Year 1999 Performance Goals and Measures for the Key Agency Outcome of Wastes Produced by the Civilian Use of Nuclear Materials Are Treated, Stored, and Disposed of Safely</u>

Issue final regulations by July 1999 to establish a regulatory framework for high-level waste disposal.

GAO's Observations on NRC's Unmet Fiscal Year 1999 Performance Goals and Measures for the Key Agency Outcome of Wastes Produced by the Civilian Use of Nuclear Materials Are Treated, Stored, and Disposed of Safely

NRC expects to publish final site-specific, performance-based regulations during fiscal year 2000.

<u>Fiscal Year 2000 Performance Goals and Measures for the Key Agency Outcome of Wastes Produced by the Civilian Use of Nuclear Materials Are Treated, Stored, and Disposed of Safely</u>

The 5-year average (fiscal years 1996-2000) will not exceed two radiation exposures or releases per year of radioactive material that will have significant adverse affect on public health and safety and the environment from uranium recovery, decommissioning, cleanup of contaminated sites, and disposal of radioactive waste

Fiscal year 2000 goal: Not to exceed 2

The 5-year average (fiscal years 1996-2000) will not exceed two radiation exposures or offsite releases that exceed regulatory requirements for operating facilities

Fiscal year 2000 goal: Not to exceed 2

Zero estimated post operational offsite releases that exceed regulatory requirements

• Fiscal year 2000 goal: 0

Zero environmental impacts identified and substantiated by external sources that were not identified as part of NRC's National Environmental Policy Act process

• Fiscal year 2000 goal: 0

Issue final regulations to establish a regulatory framework for a high-level waste repository

• Fiscal year 2000 goal: publish a final site-specific, performance-based regulation application to the proposed Yucca Mountain repository

Develop guidance for at least five of the seven subsissues for the key technical issues needed to be addressed to license a high-level waste repository (the plan identified the seven issues)

• Fiscal year 2000 goal: At least 5

Participate in developing a high-level waste radiation safety standard and the Yucca Mountain review plan

• Fiscal year 2000 goal: Refine the Yucca Mountain Review Plan that will implement the site-specific, risk-informed, and performance-based regulations

GAO's Observations on NRC's Fiscal Year 2000 Planned Performance for the Key Agency Outcome of Wastes Produced by the Civilian Use of Nuclear Materials Are Treated, Stored, and Disposed of Safely

Our observations are the same as those in the nuclear reactor safety key outcome discussed above.

<u>Fiscal Year 2001 Performance Goals and Measures for the Key Agency Outcome of Wastes Produced by the Civilian Use of Nuclear Materials Are Treated, Stored, and Disposed of Safely</u>

In addition to performance goals and measures, NRC included outcome-oriented strategic goal measures in its fiscal year 2001 performance plan. The strategic goal measures generally are the performance goals and measures from the earlier plans. For the nuclear waste arena, the strategic goal measures and metrics are as follows:

Zero deaths resulting from acute radiation exposures from radioactive waste

Zero events that result in significant radiation exposures

Zero releases of radioactive waste that would adversely affect the environment

Zero losses, thefts, diversions, or radiological sabotages of special nuclear material or radioactive waste

For the maintain safety performance goal, the measures and metrics are as follows:

Zero events that result in radiation overexposures from radioactive waste that exceed regulatory requirements

Fiscal year 2001 goal: 0

Zero breakdowns of physical protection that result in a vulnerability to radiological sabotage, theft, diversion, or loss of special nuclear materials or radioactive waste

• Fiscal year 2001 goal: 0

Zero releases to the environment from operational activities that exceed regulatory limits

• Fiscal year 2001 goal: 0

Zero instances where NRC-regulated radioactive waste and materials cannot be handled, transported, stored, or disposed of safely

• Fiscal year 2001 goal: 0

Zero NRC-regulated operational events that impact the environment, which cannot be mitigated within applicable regulatory limits, using available methods that are not cost prohibitive

Fiscal year 2001 goal: 0

NRC did not identify measures or metrics for its three other performance goals—increase public confidence, make its activities more effective and efficient, and reduce unnecessary regulatory burden on stakeholders.

GAO's Observations on NRC's Fiscal Year 2001 Planned Performance for the Key Agency Outcome of Wastes Produced by the Civilian Use of Nuclear Materials Are Treated, Stored, and Disposed of Safely

NRC is undergoing change in virtually every aspect of its regulatory activities and has made a number of significant changes to reflect those changes. Because of this, NRC has made several significant changes to its fiscal year 2001 performance plan that provide a clearer picture of its intended performance and the activities and processes it will use to achieve its goals.

For example, NRC identified and directly linked key strategies to performance goals. NRC identified six strategies for the maintain safety goal, noting that it will respond to operational events involving potential safety consequences; evaluate new information from research, international programs, and licensees' operating experience to improve its programs; and will take the appropriate actions to ensure that it can complete its licensing activities for the nation's high-level waste program within the specified statutory time frames. As we have discussed, NRC partially addressed the weaknesses that we identified in our assessment of the fiscal year 2000 performance plan.

Key Agency Outcome: No Loss or Theft of Special Nuclear Materials Regulated by NRC

<u>Fiscal Year 1999 Performance Goals and Measures for the Key Agency Outcome of No Loss or Theft of Special Nuclear Materials Regulated by NRC</u>

Zero loss or theft of special nuclear materials

Fiscal year 1999 goal: 0Actual: 0 (goal met)

Zero substantiated cases of attempted theft or diversion of strategic special nuclear materials

Fiscal year 1999 goal: 0Actual: 0 (goal met)

Zero substantiated breakdowns of physical security or material control that significantly weakened the protection against theft or diversion of strategic special nuclear material

Fiscal year 1999 goal: 0Actual: 0 (goal met)

Strengthen international nuclear safety and safeguards by participating in international exchange activities by providing assistance through international agreements and by supporting U.S. nonproliferation interests

- Fiscal year 1999 goal: Negotiate/review 5 bilateral agreements
- Actual: Renegotiated 4 bilateral exchange agreements (goal not met)

GAO's Observations on NRC's Fiscal Year 1999 Actual Performance for the Key Agency Outcome of No Loss or Theft of Special Nuclear Materials Regulated by NRC

NRC provided almost 15 output measures that were the means and the strategies (processes and activities that NRC expected to perform) to attain the performance goals. However, NRC listed the output measures as a group for each strategic goal and did not link the output measures to specific performance goals. In addition, NRC did not establish intermediate outcome goals that would link output targets to performance goals.

In its fiscal year 2000 performance plan, NRC deleted physical security as a strategic arena and integrated the goals and measures into its other strategic arenas. In relevant sections of its performance report, NRC shows that it has met all but one of its performance goals for this key outcome. NRC noted that the deviation was slight

and had no effect on NRC's performance. However, NRC has set its goals to maintain the status quo rather than to demonstrate progress.

The actions of NRC's licensees and others have a significant impact on the extent to which the agency will achieve its strategic and performance goals. However, NRC did not estimate the degree of impact that licensees and others have on achieving its goals and the outputs established. Without such information, it is difficult to determine the impact that NRC's actions (compared to others) have on achieving its goals.

Since NRC cannot show a one-to-one relationship between the performance of its licensees and the impact that the agency's programs have on safety performance, its program evaluations should provide reliable information to help the Congress and others determine the validity and the reasonableness of the agency's goals and strategies and identify factors likely to affect achieving them. However, NRC did not conduct any program evaluations that specifically address the security area. As discussed above, we have concerns about the credibility of NRC's performance information.

Unmet Fiscal Year 1999 Performance Goals and Measures for the Key Agency Outcome of No Loss or Theft of Special Nuclear Materials Regulated by NRC

Negotiate/review 5 bilateral agreements between NRC and appropriate foreign counterparts to ensure that an effective framework for NRC's international exchanges is in place.

GAO's Observations on NRC's Unmet Fiscal Year 1999 Performance Goals and Measures for the Key Agency Outcome of No Loss or Theft of Special Nuclear Materials Regulated by NRC

NRC negotiated or reviewed four bilateral exchange agreements. In a footnote, NRC stated that the goal established an approximate measure and the deviation was slight. It also noted that not achieving the goal had no effect on the agency's performance.

Fiscal Year 2000 Performance Goals and Measures for the Key Agency Outcome of No Loss or Theft of Special Nuclear Materials Regulated by NRC

In its fiscal year 2000 performance plan, NRC deleted physical security as a strategic arena and integrated the goals into its other strategic arenas.

GAO's Observations on NRC's Fiscal Year 2000 Planned Performance for the Key Agency Outcome of No Loss or Theft of Special Nuclear Materials Regulated by NRC

The information related to the security of nuclear facilities and materials is included in the three key outcomes discussed previously.

Fiscal Year 2001 Performance Goals and Measures for the Key Agency Outcome of No Loss or Theft of Special Nuclear Materials Regulated by NRC

In its fiscal year 2000 performance plan, NRC deleted physical security as a strategic arena and integrated the goals into its other strategic arenas. NRC continued this approach in its fiscal year 2001 plan.

<u>GAO's Observations on NRC's Fiscal Year 2001 Planned Performance for the Key</u> Agency Outcome of No Loss or Theft of Special Nuclear Materials Regulated by NRC

The information related to the security of nuclear facilities and material is included in the three key outcomes discussed previously.

Observations on the Nuclear Regulatory Commission's Efforts to Address Its Major Management Challenges

The following table identifies the major management challenges confronting the Nuclear Regulatory Commission (NRC). The first column lists the management challenges identified by our office and NRC's Office of the Inspector General (OIG). The second column discusses the progress, as discussed in its fiscal year 1999 performance plan, that NRC has made in resolving its major management challenges. The third column discusses the extent to which NRC's fiscal year 2001 performance plan includes performance goals and measures to address the management challenges that we and NRC's OIG identified. According to NRC's OIG officials, they expect to review the management challenges they identified to determine their continued applicability and whether changes are warranted.

Major management challenge

NRC lacks assurance of nuclear plants' safety. NRC assumes that plants are safe if they operate as designed and follow the Commission's regulations. However, the regulations and other guidance do not define the conditions necessary for a plant's safety; therefore, determining safety is subjective.

Progress in resolving major management challenge as discussed in the fiscal year 1999 performance report

Nuclear reactor safety, with a results-oriented strategic goal and performance goals, is one of the four strategic arenas identified by NRC. NRC is continuing to move to an outcome-oriented environment, whereby it can focus resources on the most significant safety issues while providing licensees with flexibility in determining how best to meet the agency's requirements. Although NRC's activities are intended to ensure that nuclear power plants are operated in a manner that adequately protects public health and safety, it has not defined adequate protection or the conditions necessary to ensure that the plants operate safely. In commenting on a draft of this report, NRC said that it had evaluated the need to define adequate protection and had concluded that a need does not exist to further clarify the definition.

Applicable goals and measures in the fiscal year 2001 performance plan

NRC has revised its performance goals. One of the four new goals is to maintain safety and protect the environment, the common defense, and security (referred to as the maintain safety goal) in the operation of commercial nuclear power plants. NRC has identified five performance measures and metrics to assess the attainment of this outcomeoriented goal. The measures include (1) no more than one event per year identified as a significant precursor of nuclear accidents, (2) no statistically significant adverse industry performance trends, and (3) no events that result in radiation exposures that exceed applicable regulatory limits. NRC's actions partially address this management challenge, and the goals and measures combined with achieving its targeted outputs should help NRC to continue addressing this management challenge.

Major management challenge

NRC is slow to require corrective action. 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, NRC did not take aggressive action to ensure that the utilities corrected the problems.

Progress in resolving major management challenge as discussed in the fiscal year 1999 performance report

Although the nuclear reactor safety strategic arena encompasses this management challenge, NRC does not have a specific performance goal or measure to ensure that nuclear plant licensees take timely corrective actions for regulatory violations and whether or how NRC will ensure that the utilities correct their safety problems.

Applicable goals and measures in the fiscal year 2001 performance plan

None. However, on April 2, 2000, NRC implemented a new process to assess the overall performance of commercial nuclear power plants. The process will combine inspection results, risk assessments, and performance indicators to determine a plant's overall safety performance. NRC will also allow utilities—rather than the agency—to track enforcement violations of a lesser regulatory significance in their corrective action programs. Inspectors will periodically review a sample of the actions taken to ensure that utilities have corrected the problems identified. In addition, NRC expects to manage its programs and operations to its performance goals. NRC's actions partially address this management challenge, and its following through with these commitments and achieving its targeted outputs should help NRC continue to address this management challenge.

Major management challenge NRC's culture and organizational structure impede effective actions. Since 1979, various reviews have concluded that NRC's organizational structure, inadequate management control, and inability to oversee itself have impeded its effectiveness.	Progress in resolving major management challenge as discussed in the fiscal year 1999 performance report NRC discussed its intent to become a more performance-based organization and noted that that it had established a planning, budgeting, and performance management process to implement a performance-based approach. However, NRC did not discuss its ongoing cultural change initiatives and their potential impact on its ability to oversee itself and its processes.	Applicable goals and measures in the fiscal year 2001 performance plan None. NRC received "early out" authority and has reduced its staff from more than 3,000 in fiscal year 1997 to 2,813 in fiscal year 2000 and achieved an 8 to 1 supervisor to staff ratio. In addition, in the spring of 1999, NRC disbanded the Office for Analysis and Evaluation of Operational Data and placed the activities of this office within its other major offices. In addition, NRC now more directly links research to the program offices and activities that it serves. Finally, NRC has various management strategies that relate to this management challenge. NRC's actions partially address this management challenge, and its following through with its intent to become more performance based and achieving its management strategies should help NRC continue to address this management challenge.
Areas identified by NRC's OIG		
Developing and implementing a risk-informed, performance-based approach to regulatory oversight	NRC identified some of its risk- informed initiatives. However, the information did not provide details on the scope, depth, magnitude, and potential impact of these initiatives.	None. In its fiscal year 2001 performance plan, NRC includes a revised performance goal to maintain safety for its major strategic arenas. One of the key strategies to attain this goal is to continually develop and incrementally use risk-informed and, where appropriate, less prescriptive performance-based regulatory approaches. For example, on April 2, 2000, NRC implemented a new risk- informed process to assess the performance of commercial nuclear power plants and has been developing a similar process to assess the performance of the commercial facilities that process and fabricate uranium ore into fuel for the plants. In addition, NRC has been determining whether opportunities exist to use a risk-informed approach when licensing or inspecting the more than 21,000 entities that use nuclear material in medical, academic, or industrial applications. Taken together, NRC's actions partially address this management challenge, and its following through on its commitments combined with achieving its targeted outputs should help NRC to continue addressing this management challenge.
Developing information management systems and being able to anticipate and	NRC is developing several information management systems that must comply with the	None. Although NRC does not have a performance goal related to this issue, it has established output measures for the

Major management	Progress in resolving major management challenge as discussed in the fiscal year 1999	Applicable goals and measures in the
challenge measure the benefits to be gained	requirements of the Clinger-Cohen Act of 1996 and meet NRC's Capital Planning and Investment Control Process. For example, the Reactor Program System will integrate inspection and licensing information to better monitor plant performance and identify early causes of concern. STARFIRE, comprised of 10 separate modules, will integrate financial and resource management information. Finally, the Agency Documents Access and Management System (ADAMS) is intended to support document creation and capture, workflow, records management, and search and retrieval for NRC staff and provide access to publicly available documents.	riscal year 2001 performance plan major information technology systems it is developing. NRC started to enter documents into ADAMS in November 1999 to replace two systems that were not Y2K compliant. NRC experienced a number of start-up problems with ADAMS, including ensuring that the software would be compatible with that of non-NRC users and the recognition that staff needed additional training on using the system. Under its processes, NRC will develop a "lessons learned" analysis 6 months after implementing ADAMS (and other information technology systems). In May 2000, NRC's Chairman said that the agency had started to evaluate the problems that people have encountered in using ADAMS and by July 2000 will determine whether and when the agency can resolve them. NRC has spent almost \$16 million on ADAMS, and recent press reports indicate that the agency may eventually replace it. NRC staff said that the agency does not have a date for the system's replacement and the earliest it would consider doing so would be June 2001. In addition, NRC has experienced delays in the development and the implementation of the cost accounting module of STARFIRE. NRC experienced problems with the initial contractor selected to develop the system and, according to staff, will be contracting with a vendor that will assist
		the agency on the type of software package needed and how to use it. NRC's actions partially address this management challenge.
Responding to the impact of industry deregulation and license transfers	NRC briefly discussed some of its ongoing initiatives. However, it provided no specifics to determine the progress that had been made and how the actions it had taken in regard to license renewals or other licensing actions would specifically help ensure that the agency effectively and efficiently responds to deregulation.	None. However, NRC expects to continue reviewing its processes, including those for license transfers, to keep pace with the challenges associated with the economic deregulation of the electric utility industry. In addition, NRC has worked with industry to determine the number of additional license renewals that can be expected over the next several years. NRC has said that its workload is moving away from decommissioning and towards license renewal. Furthermore, in part to respond to electricity restructuring, NRC has refocused its fiscal year 2001

	Progress in resolving major	
	management challenge as	
Major management	discussed in the fiscal year 1999	Applicable goals and measures in the
challenge	performance report	fiscal year 2001 performance plan
		performance plan around four
		performance goals: maintain safety, increase public confidence, reduce
		unnecessary regulatory burden, and
		improve the effectiveness and efficiency
		of its operations. The latter two goals
		relate to this management challenge.
		Although NRC developed outcome-
		oriented measures for the maintain
		safety goal, it has not developed them
		for the other three performance goals. It
		expects to do so within the next year.
		Taken together, NRC's actions partially address this management challenge,
		and its following through on its
		commitment should help NRC to
		continue addressing this management
		challenge.
Administering and overseeing	NRC's performance report did not	None. Although NRC does not have a
agency procurement under	discuss this management challenge.	performance goal related to this
new government contracting		management challenge, it has a
rules		management strategy to employ
		innovative and sound business practices by acquiring goods and services in a
		manner that results in the best value to
		the agency. NRC 's action partially
		addresses this management challenge,
		and its following through on the strategy
		should help it to continue addressing
Al-ilita to affective by	NDO did and dinasce thin	this management challenge.
Ability to effectively communicate with the public	NRC did not discuss this management challenge.	None. However, one of the NRC's new performance goals is to increase public
and industry	management challenge.	confidence. A primary mechanism to
and modelly		realize an increase is through effective
		and clear communications with the
		public. In this regard, NRC has been
		examining the 10 C.F.R. 2.206 petition
		process; holding semiannual meetings
		with its stakeholders, including such
		public interest groups as the Union of Concerned Scientists and Public
		Citizen; and conducting workshops on
		various new initiatives in both the
		nuclear safety and materials safety
		strategic arenas. In addition, NRC has
		developed strategies to implement the
		increase public confidence goal.
		However, NRC did not identify measures for this performance goal,
		noting that it would do so in subsequent
		plans. Taken together, NRC's actions
		partially address this management
		challenge, and its following through to
		identify the measures and completing its
		other planned actions should help NRC
		to continue addressing this
Maintaining on an array life of	NDC did not discuss this	management challenge.
Maintaining an unqualified	NRC did not discuss this	None. However, NRC's performance

Major management	Progress in resolving major management challenge as	Applicable goals and massures in the
Major management challenge	discussed in the fiscal year 1999 performance report	Applicable goals and measures in the fiscal year 2001 performance plan
financial statement opinion in light of new and existing Chief Financial Officer's requirements	management challenge. Although NRC has received an unqualified opinion on its financial statements for the past 6 years, it does not comply with required cost accounting standards to trace various input costs to the outputs and outcomes realized by NRC under GPRA. NRC experienced problems with the initial contractor selected to develop the system and, according to staff, will be contracting with a vendor that will assist the agency on the type of software package needed and how to use it. The original contract did not include such services, which resulted in delaying the implementation of a new cost accounting system. The result of an independent audit of NRC's financial statements, as of the end of fiscal year 1999, noted that the lack of a managerial cost accounting system is considered to be a material weakness and a substantial noncompliance with the Federal Financial Management Improvement Act.	plans include an output measure related to this management challenge. NRC's actions partially address this management challenge. In addition, meeting its output measure, continuing to work with the OIG, and implementing an effective cost accounting system should help NRC continue to address this management challenge.
Ensuring that the NRC's processes are responsive to industry's needs	NRC discussed the program evaluations and self-assessments that it had conducted. Although NRC evaluated some processes, the information was not specifically related to its performance goals or strategies and did not state how implementing the recommendations would respond to industry's needs.	None. However, NRC has two new performance goalsto increase the efficiency and effectiveness of its operations and to reduce unnecessary regulatory burden on its licenseesin three major strategic arenas. However, NRC did not establish measures and metrics to assess attainment of these goals, noting that it would do so this year. NRC's actions partially address this management challenge, and its following through on its commitment to establish measures and metrics should help it to continue addressing this management challenge.
Ensuring that NRC's enforcement program has an appropriate safety focus and reflects improved licensees' performance	NRC briefly discussed revisions made to the enforcement policy since 1998 and indicated that additional changes might be necessary as a result of its new program to assess the overall safety performance of nuclear power plants. The information presented, however, does not provide details to determine whether the enforcement program has the appropriate safety focus and only discussed efforts related to the enforcement of nuclear power plants. It did not discuss efforts related to other	None. However, NRC has identified output measures for the nuclear reactor safety and nuclear materials safety arenas to complete enforcement actions in a timely manner. In addition, in conjunction with developing a new process to assess the overall performance of commercial nuclear power plants, NRC has made various changes to its enforcement policy that, as shown in the plan, are expected to reduce the number of enforcement actions. For example, NRC will no longer issue violation notices for inspection findings with a low-risk

	Progress in resolving major	
	management challenge as	
Major management	discussed in the fiscal year 1999	Applicable goals and measures in the
challenge	performance report	fiscal year 2001 performance plan
onanenge	regulated activities and entities.	significance. Instead, utilities will track and monitor NRC's findings and their corrective actions. NRC is developing a similar process for the facilities that process and fabricate uranium ore into fuel for nuclear power plants. Taken together, NRC's actions partially addressed this management challenge, and its following through on its planned activities and achieving its output measures should help NRC to continue addressing this management challenge.
Refocusing NRC's research program to reflect a mature industry	NRC described some of its research efforts. However, NRC did not relate the information to outcomes, performance goals, or strategies and did not state how the results were applicable to a mature industry.	None. Although NRC does not have a performance goal related to this issue, its fiscal year 2001 performance plan includes output measures related to its research activities. In addition, NRC more directly links its research efforts to its program offices and activities in the performance plan. Taken together, NRC's actions partially address this management challenge, and meeting the outputs should help it to continue addressing this management challenge.
Responding to external influences for changing NRC's operations, for example, its ability to meet the requirements of the Results Act following the agency's proposed reorganization	This management challenge is closely related to two others identified by the OIG: (1) ensuring that NRC's processes are responsive to industry's needs and (2) responding to the impact of deregulation—both of which entail external factors. The previous discussions for these two other management challenges are relevant to this challenge.	None. However, over the last 2 years, NRC has been working with its licensees and other stakeholders, including the public, to identify ways to make its operations more effective and efficient. Last year, we noted that some fiscal year 2000 output measures did not challenge the agency or its staff. In the nuclear reactor safety area, the fiscal year 2001 performance plan established some output measures that challenge and/or stretch the agency to improve its performance. We did not, however, see similar output measures for the nuclear materials safety area. Instead, the output measures are similar to the fiscal year 1999 targets and, in some cases, less challenging than the fiscal year 1999 performance achieved. As NRC continues to identify ways to make its operations more efficient and effective, the results should be reflected in more challenging performance goal measures and output measures for both the nuclear reactor and nuclear materials areas. NRC's actions partially address this management challenge.

Comments From the Nuclear Regulatory Commission

Note: GAO comments supplementing those in the report text appear at the end of this enclosure.

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UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D.C. 20555-0001

June 14, 2000

Mr. James Wells, Director Energy, Resources, and Science Issue Area Resources, Community, and Economic Division United States General Accounting Office 441 G Street, N.W. Washington, DC 20458

Dear Mr. Wells:

This is in response to your May 31, 2000, General Accounting Office (GAO) draft report, "Observations on the Nuclear Regulatory Commission's Fiscal Year 1999 Performance Report and Fiscal Year 2001 Performance Plan", requesting our review and comments. I found the report to be consistent with prior GAO reviews of the Nuclear Regulatory Commission's (NRC) implementation of elements within the Government Performance and Results Act (GPRA). More importantly, I appreciated GAO's recognition of the progress we have made since publication of our FY 1999 Performance Plan in February 1998.

In reviewing the draft report, I would like to address some concerns and to provide recommendations for GAO's consideration. Overall, the draft report provides recommendations on issues already in the process of being improved. Because FY 1999 was the initial year for annual performance reports to be provided to the President and Congress, the NRC relied heavily on the guidance provided in the Office of Management and Budget's (OMB) Circular A-11. With the initial year completed, we are now addressing ways to improve our FY 2000 Performance Report beyond the general scope of the OMB A-11 requirements.

VERIFICATION AND VALIDATION OF PERFORMANCE DATA

Now on pp. 2, 9, and 13.

Concern: On page 2 of the GAO letter to Senator Thompson and on pages 8 and 10 of GAO's Observations, GAO states:

"...we continue to have concerns that NRC has not verified and validated the data used to assess performance for the four key outcomes, and its staff could not estimate when the agency would do so [emphasis added]."

See comment 1.

Recommendation: We recommend GAO delete the underlined portion of the reference. Although neither the 1999 Performance Report nor the FY 2001 Performance Plan provided a specific timetable for dealing with GAO's verification and validation concerns, it is incorrect to state that the staff could not estimate when those concerns will be addressed. The agency plans to develop a more detailed profile of each of the performance measures in the FY 2002 Performance Plan.

Now on pp. 2, 9, 21, and 26.

Concern: On pages 8, 13, 18, and 22 of GAO's Observations, GAO states:

"We have concerns about the credibility of NRC's performance information."

See comment 2.

Recommendation: We recommend GAO revise the statement to ensure that it conveys the right message. This statement suggests to the reader NRC's performance information is not credible, when it appears GAO's actual concern is the verification and validation of the performance information. Most of the data used to measure performance goals come from the NRC's abnormal occurrence data, and from reports submitted by licensees. The NRC has established procedures for systematic review and evaluation of events reported by NRC licensees and Agreement State licensees and the decision to classify an event or incident as an abnormal occurrence is based on review and analysis from several internal processes. Such processes include inspections, daily events reviews, and event data contained in several information systems and the NRC has a high degree of confidence about the reliability of these processes.

Now on p. 13.

Concern: On pages 8 and 10 of GAO's Observations, GAO states:

"...In addition, NRC no longer plans to rely on established procedures, such as Office of the Inspector General audits and management reviews, to verify and validate performance data..."

See comment 3.

Recommendation: This statement is not correct. In the FY 2001 Performance Plan, the NRC staff inadvertently removed references to relying on established procedures. The NRC will continue to rely on audits and management reviews to assess our ability to verify and validate performance data.

PROGRAM EVALUATIONS

Now on pp. 3 and 26.

Concern: On page 3 of the GAO letter to Senator Thompson as well as page 22 of GAO's Observations, GAO states:

See comment 4.

"...NRC did not conduct any program evaluations that specifically addressed the security area. Nevertheless, because of the significant dangers that the loss or theft of special nuclear materials would pose to the public and despite being commingled with the agency's other key outcomes, it would seem prudent that security would warrant special attention in program evaluations."

Recommendation: We recommend GAO delete these references in their entirety. The NRC would report the loss or theft of special nuclear materials in its annual Abnormal Occurrence (AO) Report to Congress. Congressional AO threshold reporting criteria have not been exceeded. Thus, we do not believe that GAO has a basis to single out security as warranting specific attention among NRC's activities.

3

SETTING PERFORMANCE GOALS

Now on pp. 8, 9, 20, and 26. Concern: On page 6, 12, 17, and 21 of GAO's Observations, GAO states:

"...Because it is regulating a mature industry whose performance, in terms of these goals, has improved over the last 10 years, NRC has set its goals to maintain the status quo rather than to demonstrate progress" (p. 6). "...However, NRC has set goals to maintain the status quo rather than to demonstrate progress in ensuring the safe use of nuclear materials..." (p. 12, 17, and 21).

See comment 5

Recommendation: GAO should revise the tone on pages 12, 17, and 21. The current tone implies GAO is critical of NRC's performance goal to maintain safety and implies NRC should be demonstrating progress. Although the goal is to maintain safety rather than to increase safety, this represents a composite approach for the many categories of licensees represented in the different strategic arenas. Most nuclear material facilities and a large majority of materials licensees have operated safety and securely for many years. The industries, the NRC, and the Agreement States have recognized that certain elements of the fuel cycle and materials industries are mature, and practices and standards already in place have been tested over time and found to be acceptable in maintaining safety and security.

"STRETCH" TARGETS FOR IMPROVED PERFORMANCE

Now on pp. 12 and 19.

Concern: On page 10 and page 15 of GAO's Observations, GAO states:

"In the nuclear reactor safety arena, NRC established some targets that challenge and/or stretch NRC to improve its performance" (p. 10). "However, NRC generally did not establish targets that challenge and/or stretch the agency to improve its performance" (p. 15).

See comment 6.

Recommendation: GAO should delete the statements entirely. To state that NRC needs to provide "stretch" targets when outcomes are already zero is not a reasonable expectation. Under GPRA, agencies should establish realistic goals and measures. The NRC goals and measures are realistic in expecting zero deaths per year.

APPLYING FY 1999 PERFORMANCE TO FY 2000 PROJECTIONS

Now on p. 10.

Concern: On page 8 of GAO's Observations, GAO states:

"NRC did not assess the effect of its fiscal year 1999 performance on estimated performance levels for fiscal year 2000."

See comment 7.

Recommendation: GAO should delete the statement entirely. It is not practical to assess the effect of FY 1999 performance on FY 2000 performance levels because of the timing of the two documents. NRC did not assess the effect of FY 1999 actual performance on estimated performance levels in the FY 2000 Performance Plan since only one quarter of FY 1999 operating experience was available at the time the FY 2000 levels were established. Additionally, in accordance with the OMB A-11, performance goals could be revised, and were

revised, as late as first quarter of FY 2000, and were included in the FY 2001 Performance Plan. In future reviews, GAO should assess the actual performance for a given year against a more realistic time frame and within the context of progress made by an agency in perfecting its goals and measures in the most current performance plan.

MANAGEMENT CHALLENGES

Now on p. 3. Concern: On page 3 of the GAO letter to Senator Thompson, GAO states:

"...NRC has not established performance goals or measures that specifically address the 13 major management challenges that we and its OIG identified. NRC did not do so because the agency disagrees that the issues are management challenges [emphasis is added], and NRC staff believe that the agency's programs and activities sufficiently reflect the issues that we and OIG identified."

See comment 8.

Recommendation: GAO should delete the underlined portion of the second sentence. The NRC agrees these management issues are challenging but does not view them as mission critical problems that pose a realistic or prospective impediment to carrying out the nission or achieving its goals. In GAO's report, "High Risk Series: An Update", the NRC did not have any high risk areas particularly vulnerable to fraud, waste, abuse or mismanagement. In that light, the NRC does not have management problems significant enough to establish a performance goal or measure. Additionally, in our triennial update of the Strategic Plan for FY 2000, we have strategies to improve our activities and programs focused on these management strategies. This includes strategies focused on making our regulatory process more risk-informed and on addressing the agency's plans to strengthen communications with the public and the industry.

Now on pp. 28-38. Concern: In GAO's assessment of all management challenges, pages 23 - 31, GAO states:

"...Taken together, NRC's actions partially addressed this management challenge."

See comment 9.

Recommendation: We appreciate the recognition that the NRC has partially addressed management challenges identified by GAO and OIG, as well as the acknowledgment that 7 of the 13 management challenges have been captured in our performance goals to maintain safety in our FY 2001 Performance Plan. However, we recommend that GAO and the OIG establish criteria for identifying management challenges, and, once identified, clarify under what conditions these challenges have been met. We will be working to identify specifically what has been done by the agency to address each of the management challenges identified in the report and clarify what GAO and the OIG expect to reach closure.

Additionally, GAO does not acknowledge that in accordance with OMB Circular A-11, agencies are not required to report on management challenges in the annual performance report. For the initial year of producing the annual performance report, the NRC relied heavily on the OMB A-11 to provide guidance and direction for developing the initial report. The NRC already has

activities underway to improve the FY 2000 Performance Report beyond the general scope of the OMB A-11 requirements.

Now on p. 28.

Concern: On page 23 of the Management Challenges section, GAO states:

"...it has not defined adequate protection or the conditions necessary to ensure that plans operate safely.

See comment 10. Recommendation: GAO should note in their report that the NRC staff has evaluated this issue and does not see the need to further define adequate protection beyond the collection of health and safety regulations promulgated by the agency. Under Atomic Energy Commission and NRC case law, reasonable assurance of adequate protection of public health and safety has long been defined by the Commission's health and safety regulations themselves - there is reasonable assurance of adequate protection of public health and safety when the applicant or licensee demonstrates compliance with the Commission's regulations.

Now on pp. 31 and 35.

Concern: On page 26 of the Management Challenges section, GAO states:

"...The result of an independent audit of NRC's financial statements...noted that the lack of a managerial cost accounting systems is considered to be a material weakness and a substantial noncompliance with the Federal Financial Management Improvement Act."

See comment 11.

Recommendation: The GAO assessment does not relate to the OIG management challenge identified and should be deleted. The management challenge addresses being able to develop information management systems and being able to anticipate and measure the benefits to be gained within the requirements of the Clinger-Cohen Act of 1996 and utilizing the NRC's own information technology Capital Planning and Investment Control process.

Now on p. 35.

Concern: On page 29 of the Management Challenges section, GAO states:

...it does not comply with required cost accounting standards to trace various input costs to the outputs and outcomes realized by NRC under the Results

See comment 12. Récommendation: GAO should note in its report that the NRC has received unqualified opinions on our financial statements for the past 6 years. The agency has been able to compile reliable and accurate data necessary to present the necessary financial statements even in the absence of a cost accounting system. The NRC has been steadily working towards the implementation of a new system that will provide both detailed time and labor costs as well as cost accounting. The agency also modified the existing payroll system for FY 2000 to capture individual labor costs by strategic arena.

Now on p. 4.

OBJECTIVES, SCOPE, AND METHODOLOGY

Concern: In this draft report, the disconnect between the GAO assessment of the 1999 Performance Report and the FY 2001 Performance Plan does not capture the progress the NRC has made since the initial FY 1999 Performance Plan was developed. The agency relied on the FY 2000 Budget and Performance Plan as the final basis for tracking the FY 1999

performance measures as permitted in OMB Circular A-11. As a result, relying on the original FY 1999 Performance Plan as the basis for evaluating the FY 1999 Performance Report does not take into account revisions made to the 1999 performance targets and the progress the agency has made in strategic planning since FY 1999. Likewise, the GAO assessment of the FY 2000 goals relies on the FY 2000 Performance Plan as a frame of reference. NRC continued to developed the performance goals and indicators for FY 2001 in the FY 2001 Performance Plan to reflect progress on the triennial update for the FY 2000-2005 Strategic Plan. The agency plans to rely on the FY 2001 Budget and Performance Plan as the final basis upon which to track the FY 2000 performance measures.

See comment 13.

Recommendation: In future reviews, we would recommend that GAO integrate its assessment of the annual performance report and the latest performance plan. This will ensure the agency's annual performance report is reviewed within a frame of reference that provides all relevant information on the agencies' past, current, and future performance plans, revisions, and improvements.

CONCLUSION

The NRC appreciates this opportunity to review GAO's draft report regarding the FY 1999 Performance Report and FY 2001 Performance Plan. GAO's observations will be useful as we begin to develop the FY 2002 Performance Plan and the FY 2000 Performance Report. We are prepared to discuss these concerns with you at your convenience.

Sincerely,

Jesse L. Funches Chief Financial Officer

The following are GAO's comments on the Nuclear Regulatory Commission's letter dated June 14, 2000.

GAO's Comments

- 1. We have revised the report to state that NRC expects to address the verification and the validation of data in its fiscal year 2002 performance plan.
- 2. NRC's information is the same as that provided in its performance plans and does not contradict the information shown in the report. In addition, it does not address how NRC will ensure that external sources provided accurate, timely, and reliable data. Therefore, we have made no change to the report.
- 3. NRC acknowledges that its fiscal year 2001 performance plan deleted the reference to relying on established procedures, such as audits and management reviews by the Office of the Inspector General. However, NRC also notes that the deletion was an inadvertent omission and that it will continue to rely on audits and management reviews to assess its ability to verify and validate performance data. We have added this information where appropriate.
- 4. NRC and the nuclear utility industry have recently focused a great deal of attention on physical security issues at commercial nuclear power plants, including options for the conduct of periodic drills and force-on-force exercises. In April 2000, for example, the Commission directed NRC staff to reevaluate the physical protection regulations for nuclear power plants, test an industry self-assessment program, and consider whether opportunities exist to further risk-inform physical security regulations. In addition, reporting the loss or theft of special nuclear materials to the Congress is not the same as NRC's conducting program evaluations related to security. Therefore, we have not deleted the information as NRC suggested.
- 5. We have added a reference to the maturity of the industry in the key outcome discussions on nuclear materials and nuclear waste.
- 6. Rather than delete the reference to stretch targets as NRC indicated, we have clarified the report to ensure that this information relates to output measures, rather than performance goals.
- 7. Although NRC may not believe that it is practical to assess the effect of fiscal year 1999 performance on fiscal year 2000 performance levels, the Government Performance and Results Act requires that it does so. In addition, in relevant sections of the report, we have described a number of activities underway at NRC and the changes that it has made to its performance goals and measures since 1999. Therefore, we made no change to the report.
- 8. NRC said that the 13 management issues present a challenge for the agency, but it does not view them as mission-critical problems that impede the agency's carrying out its goals. Therefore, NRC does not believe that the management challenges

- are significant enough to warrant a separate performance goal or measure. We have included this information in the report.
- 9. NRC suggests that we establish criteria to identify management challenges and when the agency has addressed them. GAO is developing the criteria that NRC suggests. In addition, NRC noted that the Office of Management and Budget (OMB) does not require agencies to report on management challenges in their annual performance report. However, OMB Circular No. A-11 (1999) indicates that agencies' performance plans should include performance goals and measures for management problems. Since OMB requires goals and measures in performance plans, it would seem logical that agencies should report on the problems in their performance reports.
- 10. We have revised the report to state that NRC has evaluated the need to define adequate protection and has concluded that a need does not exist to further clarify the definition.
- 11. We have revised the report to include some of the information management systems that must comply with the requirements of the Clinger-Cohen Act of 1996 and NRC's Capital Planning and Investment Control Process.
- 12. We have revised the report to reflect that NRC has received an unqualified opinion on its financial statements for the past 6 years.
- 13. NRC does not believe that we captured the progress it has made since it developed the fiscal year 1999 performance plan. However, in relevant sections of the report, we have described a number of activities underway at NRC and the changes that it has made to its performance goals and measures since 1999. NRC also said that we did not recognize the information in its fiscal year 2000-2005 strategic plan. However, the strategic plan is a draft document, subject to continued revision, and was not the focus of this effort. Therefore, we have made no changes to the report to reflect NRC's concerns.

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