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House of Representatives

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RESULTS ACT

Observations on Federal  
Science Agencies

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Mr. Chairman and Members of the Committee:

We are pleased to be here today to discuss the implementation of the Government Performance and Results Act, often referred to as the Results Act or GPRA, in federal science agencies. A focus on results, as intended by the Results Act, is aimed at improving the efficiency and effectiveness of the federal government. In the science and technology area, where more than 20 agencies spent \$60 billion in fiscal year 1996, the potential for unnecessary overlap is particularly high and close coordination is essential. While some shared responsibilities are fine, uncoordinated program efforts can waste scarce funds, confuse and frustrate program customers, and limit the overall effectiveness of the federal effort. Coordination among federal programs contributing to the same or similar results can ensure that goals are consistent and, as appropriate, program efforts are mutually reinforcing.

As agreed with the Committee, my statement will focus on six agencies' fulfillment of the requirements of the Results Act and the interagency coordination of crosscutting science programs, activities, or functions that are similar or complementary to those of other federal agencies. Regarding the requirements of the Results Act, we focused on two elements—(1) agencywide goals and objectives and (2) past and future program evaluations. The six agencies I will discuss include the Departments of Commerce, Energy, and Transportation, as well as the Environmental Protection Agency (EPA), the National Science Foundation (NSF), and the National Aeronautics and Space Administration (NASA). My statement is based on our review of the agencies' draft strategic plans, discussions with agency officials, and our general knowledge of the science agencies.

In summary, Mr. Chairman:

Overall, the draft strategic plans show progress toward meeting the purposes of the Act; however, only one of the six agencies' plans contains all six of the Act's critical elements. In addition, some of the completed elements were insufficient. For example, the goals and objectives were frequently results-oriented, but it was unclear in all of the plans how some of the goals would be measured. Developing effective performance measures for these program goals will be a major challenge for science agencies. Furthermore, five of the six plans did not include information on past and future program evaluations and the one inclusion could be improved. Because the draft plans do not contain all six elements, the

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Congress is missing critical pieces of information for its consultations with the agencies.

Under Office of Management and Budget (OMB) guidance, the agencies' final submission should include a summary of consultation efforts, including crosscutting activities. Currently, the agencies' draft plans generally do not address how crosscutting activities correspond with those of other agencies. In addition, the plans generally do not address whether such shared responsibilities were coordinated in the development of the draft plans. However, some of the agencies' missions and goals do involve or overlap those of other agencies. Despite the fact that the draft plans do not reflect coordination activities, several agencies have initiated efforts to coordinate crosscutting research programs governmentwide. But coordination has occurred primarily at the program level rather than at the senior management level which is necessary to ensure consistency of program objectives among agencies. In our opinion, recognition of such coordination activities as part of the final submission will be useful to the Congress in making funding decisions that involve similar or complementary science programs.

Now, I will briefly discuss these issues within the context of each of the six agencies. More details are provided in our reports on each of these agencies' implementation of the Results Act, as listed in appendix I to my statement.

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## Background

The Results Act is intended to improve the efficiency and effectiveness of federal programs by establishing a process to set goals for program performance and to measure results. As a starting point, the Act requires virtually every executive agency to develop a strategic plan covering at least 5 years. It also requires that an agency's strategic plan contain the following six critical elements: a mission statement; agencywide goals and objectives; the strategies and resources needed to achieve the goals and objectives; the relationship between the long-term goals and objectives and the annual performance goals; the key external factors that could affect the achievement of goals; and a description of how program evaluations were and will be used to establish or revise strategic goals.

When developing a strategic plan, the Results Act requires that the agency shall consult with the Congress and shall solicit and consider the views and suggestions of those entities potentially affected by or interested in such a plan. Furthermore, guidance from OMB states that when general

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goals and objectives have crosscutting functions, programs, or activities, agencies may have a shared responsibility for defining and achieving them. Thus, agencies should ensure that appropriate and timely consultation occurs with other agencies during the development of strategic plans with crosscutting goals and objectives. Though the Act does not include a requirement that the draft strategic plans should contain a description of how the activities of an agency relate and will be coordinated with the activities of other agencies with similar programs, OMB guidance does provide that the letter transmitting the strategic plan include a summary of the general scope and nature of the consultation and the types of entities consulted. In addition, OMB guidance on preparation of annual performance plans beginning in fiscal year 1999, states that agencies should indicate those goals and indicators that are being mutually undertaken in support of programs or activities of an interagency, crosscutting nature.

It is important to recognize that the final strategic plans are not due to the Congress and OMB until September 1997. Furthermore, the Results Act anticipated that it may take several planning cycles to perfect the process and that the final plans would be continually refined as future planning cycles occur. Thus, our comments reflect a snapshot of the plans when they were submitted to the Congress, between May and July, and are intended to provide insights that may help this Committee and the agencies work together to successfully implement the Results Act. We also recognize that the agencies are continuing to revise their strategic plans with input from OMB, congressional staff, and other stakeholders.

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## National Science Foundation

While NSF addresses five of the six required elements of the Results Act, at least four of them need further development, and the sixth element—key external factors—is not included in its draft strategic plan.<sup>1</sup> Although NSF defines goals and objectives in the draft plan, many of these goals are not expressed in a measurable form, making it unclear whether the Foundation and the Congress will be able to assess whether the goals are achieved. NSF's draft plan also does not discuss how the agency used specific program evaluations to develop its strategic goals or the other components of the plan. Further details are needed on a schedule for future evaluations, the scope of and methodology for future evaluations, and how the findings could be useful in assessing NSF's goals and performance plans.

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<sup>1</sup>We reviewed the draft strategic plan dated June 9, 1997.

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The draft plan acknowledges the crosscutting nature of NSF's work but does not show evidence of interagency coordination. It emphasizes the importance of NSF's many partners in the research and education enterprise but does not identify these partners or provide sufficient information to determine the extent to which NSF and its partners' functions are duplicative or overlapping. However, we identified similarities of mission in the draft plans developed by NSF, Energy, and Commerce. For example, the Foundation's mission includes promoting the progress of science, and one of its overarching goals is to enable the United States to uphold a position of world leadership in all aspects of science, mathematics, and engineering. Similarly, Energy's science mission is to ensure that the United States retains its leadership in science and technology. Also comparable is Commerce's mission, which includes keeping America competitive with cutting-edge science and technology.

Although not identified in NSF's draft plan, agency officials cite efforts to coordinate the crosscutting areas. For example, NSF has shared its draft plan on the Internet. Furthermore, according to NSF's Assistant to the Director for Science Policy and Planning, the Foundation participates in a number of groups such as the National Science and Technology Council, the Committee on Fundamental Science, and the Research Roundtable. While one purpose of these groups is to coordinate, NSF's draft plan does not mention these groups or the frequency of their discussions. We have found that although these agency forums have provided an important opportunity for agencies to work together to address common concerns in goal setting and performance measurement, they have not generally attempted to coordinate crosscutting program efforts.

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## Department of Energy

Energy's draft plan fully addresses only two of the six required elements—the mission statement and the goals and objectives—and partially addresses a third—the strategies element.<sup>2</sup> We found that the goals and objectives cover the agency's major functions and operations, and that the goals are generally results-oriented. However, in reviewing the multiple objectives for each goal, we identified several objectives that were stated in ways that will make it difficult to measure whether they are being achieved. Furthermore, Energy did not complete the element related to the impact of program evaluations on the development of strategic goals. The Department is finalizing these elements and expects to include them in the final plan.

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<sup>2</sup>We reviewed the draft strategic plan dated June 16, 1997.

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Although Energy does not mention crosscutting programs or coordination efforts in its draft plan, the Department is sharing its draft plan with other federal agencies. Energy's draft plan does not identify programs and activities that are crosscutting or similar to those of other federal agencies, primarily because the Department believes its functions are unique. On the basis of our work, however, we believe that Energy's broad missions do involve or overlap those of other agencies. As previously discussed, we have identified the potentially overlapping missions of Energy, Commerce, and NSF. Another example of potential overlap is in science education. Energy's draft strategic plan states that it will use its laboratories and the nation's universities to contribute to the nation's science and mathematics education. Similarly, NSF's authorizing legislation directs it to initiate and support science and engineering education programs at all levels and in all fields of science and engineering.

Environmental quality is another area of potential overlap. The science and technology portion of Energy's draft plan contains a strategy to conduct high-quality research on environmental quality. Similarly, one of EPA's goals is to develop and apply the best available science for addressing current and future environmental hazards as well as new approaches toward improving environmental protection.

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## Department of Commerce

Commerce's draft strategic plan contains four of the six critical elements, but each of the four, including the goals and objectives element, has weaknesses.<sup>3</sup> While there are linkages among themes, goals, objectives, and responsible components, the goals and objectives are not as results-oriented as they could be. For example, the goal to support restructuring export controls for the 21st century could be made more results-oriented by identifying the purpose of the restructuring. Moreover, the draft plan does not explicitly discuss the program evaluations used to establish general goals and objectives and has no schedule for future program evaluations.

Commerce's draft plan also does not identify crosscutting programs and activities or whether such shared responsibilities were coordinated in the development of the draft plan. The draft plan does describe, in very general terms, some of the existing partnerships between Commerce agencies and various public and private entities. However, as stated earlier, we identified mission overlap between NSF, Energy, and Commerce. Another example of potential overlap occurs in Commerce's

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<sup>3</sup>We reviewed the draft strategic plan dated June 1997.

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grant program to promote the use of advanced telecommunications in the public and nonprofit sectors. A number of other federal agencies, including NSF, also support telecommunications projects for similar constituencies.

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## National Aeronautics and Space Administration

Of the six elements required by the Results Act, NASA includes four in its draft strategic plan. The two that are not explained in enough detail are the relationship between NASA's long-term goals and annual performance goals and a description of program evaluations.<sup>4</sup> While the goals outlined by NASA appear to meet the Results Act's requirements, progress toward some of the goals, such as the goal to acquire and encourage knowledge and technologies that promote our quality of life, may prove difficult to assess. As we recently reported, it is inherently difficult to measure the performance of research and development programs because the results are typically not apparent until many years later.<sup>5</sup> The draft does not explicitly discuss or demonstrate how program evaluations were used in establishing or revising agency goals and objectives, nor does it provide a schedule for future evaluations.

NASA's draft plan also does not identify specific programs and activities that are crosscutting or similar to those of other federal agencies, and the plan does not address interagency coordination. Many of NASA's objectives, however, are shared with other agencies. For example, one of NASA's objectives related to long-term climate and ozone research involves NSF, the Department of Energy, and Commerce's National Oceanic and Atmospheric Administration. Moreover, like NSF's mission of advancing scientific knowledge, one of NASA's missions is to advance and communicate scientific knowledge and understanding of the Earth, the solar system, and the environment of space for research.

The draft plan does not address what interagency coordination occurred to address the shared responsibilities. However, the draft plan does note the importance of working with other agencies in achieving its objectives, and NASA officials stated that coordination has occurred at the program level. NASA officials stated that each strategic enterprise coordinated its objectives with the relevant agencies at the program level. They noted that NASA officials participate in many crosscutting groups, like the Research Roundtable, where programmatic objectives are discussed. They also

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<sup>4</sup>We reviewed the draft strategic plan dated May 1997.

<sup>5</sup>Measuring Performance: Strengths and Limitations of Research Indicators (GAO/RCED-97-91, Mar. 21, 1997).



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noted that for the last few years, the agency has shared its strategic plan with other federal agencies.

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## Environmental Protection Agency

EPA's draft plan contains four of the six elements required by the Results Act, certain aspects of which could be improved.<sup>6</sup> Although the goals and objectives—one of the completed elements—are generally results-oriented and measurable, some do not clearly define the expected results, and it is unclear how EPA would assess progress toward achieving them. Furthermore, the large number of goals (10), objectives (45), and subobjectives (200) may make it difficult for the Congress and others to discern EPA's priorities—what will be most important to the agency over the next several years. The two missing elements are (1) the relationship between EPA's long-term goals and the annual performance goals and (2) program evaluations used in developing the plan and a schedule for future evaluations.

EPA's draft plan does not discuss the agency's programs and activities that are crosscutting or similar to those of other federal agencies, but it does address the need for coordination with its stakeholders, which include federal entities. Our past work has found that EPA—as the central federal agency responsible for safeguarding the environment—carries out a number of mission-related activities that are crosscutting or similar to those of other federal agencies. For example, as we discussed previously, EPA and Energy both conduct research on environmental quality. In addition, EPA shares responsibilities with other agencies for collecting and managing the data needed to perform environmental assessments. Thus, EPA must coordinate data for health assessments with a number of different agencies, including NSF.

EPA's draft plan makes broad reference to the need for coordination with federal agencies as well as other stakeholders to accomplish its mission. As such, EPA is currently taking steps to coordinate its plan with other agencies to address crosscutting programs and activities. To further refine its plan and determine areas of potential overlap between EPA and federal agencies with related responsibilities, EPA identified 16 federal agencies with crosscutting or similar functions and sent each of them a draft outline for the strategic plan in May 1997, and the full draft in early July 1997, for their review and comment. In addition, EPA is reviewing these agencies' draft plans to identify areas in which duplication of activities exists and further coordination is warranted. According to EPA officials, the agency is

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<sup>6</sup>We reviewed the draft strategic plan dated July 1997.

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including in its coordination all of the other five science agencies discussed in this testimony.

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## Department of Transportation

Although Transportation's draft plan includes all six critical elements, we believe that only three of the six meet the Act's requirements, including the mission statement, long-term goals, and a description of program evaluations.<sup>7</sup> The five long-term goals encompass the Department's major functions and operations and are within the Department's span of influence. However, they could be improved by stating all goals in a measurable form to allow for future assessments of their achievement. Furthermore, they are stated in general terms whereas sufficiently precise goals can better direct and guide agency staff toward fulfilling the agency's mission. The program evaluation information is insufficient to determine the scope and methodology or the key issues to be addressed. Without this information, it is difficult to determine how or if scheduled evaluations relate to Transportation's goals.

Transportation's draft plan does not identify the crosscutting activities nor show evidence of interagency coordination. Supporting documents that Transportation used to prepare its draft plan indicate that the Department considered a number of crosscutting issues but did not include the information in the plan. Again, however, one of the science-related strategies outlined in Transportation's draft strategic plan focuses on research and technology to foster economic growth and enable research and education. Transportation's draft plan recognizes that there are other federal stakeholders and provides for establishing partnerships. However, it is silent on whether the Department coordinated with other federal agencies that have programs and activities that are crosscutting or similar to Transportation's. According to a senior Transportation official, coordination is an ongoing activity and no specific coordination was done for the purposes of preparing the draft plan.

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In conclusion, the Results Act process provides an opportunity for agencies to begin improving the coordination and execution of crosscutting science issues across the federal government. The lack of coordinated performance goals that are results-oriented may be problematic as the Congress begins to evaluate programs and activities that are crosscutting among the science agencies. In addition, fully resolving the problem of potential overlap and duplication will take time

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<sup>7</sup>We reviewed the draft strategic plan provided to congressional committees on July 2, 1997.

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and require sustained leadership by this Committee, OMB, and agency senior management to ensure that science agencies coordinate their efforts and develop coordinated goals among crosscutting programs and activities. Congressional consultations on agencies' strategic plans provide an ongoing opportunity for the Congress and the executive branch to work together to minimize the extent and potential consequences of overlap and fragmentation in federal program efforts. Special attention devoted to crosscutting issues and coordination activities in the strategic plans will improve this consultation process. Congressional oversight, such as is occurring here today, is also key.

This concludes my statement. I would be pleased to respond to any questions you or the Members of the Committee may have.

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# Related GAO Reports

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Results Act: Observations on the National Science Foundation's Draft Strategic Plan ([GAO/RCED-97-203R](#), July 11, 1997).

Results Act: Observations on the Department of Energy's Draft Strategic Plan ([GAO/RCED-97-199R](#), July 11, 1997).

The Results Act: Observations on Commerce's June 1997 Draft Strategic Plan ([GAO/GGD-97-152R](#), July 14, 1997).

Results Act: Observations on NASA's May 1997 Draft Strategic Plan ([GAO/NSIAD-97-205R](#), July 22, 1997).

Results Act: Observations on Environmental Protection Agency's Draft Strategic Plan ([GAO/RCED-97-209R](#), July 30, 1997).

Results Act: Observations on the Department of Transportation's Draft Strategic Plan ([GAO/RCED-97-208R](#), July 30, 1997).

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