

**ENSURING VALUE FROM ENVIRON-
MENTAL PROTECTION AGENCY
GRANTS**

(108-82)

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BEFORE THE
SUBCOMMITTEE ON
WATER RESOURCES AND ENVIRONMENT
OF THE
COMMITTEE ON
TRANSPORTATION AND
INFRASTRUCTURE
HOUSE OF REPRESENTATIVES
ONE HUNDRED EIGHTH CONGRESS
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ENSURING VALUE FROM EPA GRANTS

Tuesday, July 20, 2004

HOUSE OF REPRESENTATIVES, COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE, SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT, WASHINGTON, D.C.

The subcommittee met, pursuant to call, at 2:52 p.m. in room 2167, Rayburn House Office Building, Hon. John J. Duncan, Jr. [chairman of the subcommittee] presiding.

Mr. DUNCAN. I want to go ahead and call the subcommittee to order.

I first want to apologize to everyone for the delay in getting this hearing started. My friend, Mr. Costello, has already been giving me a hard time about this but most of the people here on the committee know that in six years of chairing the Aviation Subcommittee and now the fourth year of chairing this subcommittee, I have been almost fanatical about starting these hearings on time. In fact, our last hearing, we started five minutes earlier. I kept calling, they told us the votes were going to start at 1:30 p.m. or around that time and the last time I called, it was about 1:57 p.m. and they were getting ready to push the buttons in one or two minutes, so that is why we are starting so late. I apologize.

Mr. Costello told me that this is the second hearing he has beaten me to and if he beats me one more time, I am going to have to relinquish the gavel so I will really have to try to be early next time.

This is the third in our ongoing series of hearing on reform in EPA's grant programs. We anticipate continuing them in the next Congress to ensure that proposed reforms are fully implemented. I have been encouraged by the progress the EPA has made to date but as we will hear today, we are still at the beginning of the journey and not the end. The reforms we are evaluating at EPA have been proposed several times over the last 10 or 20 years. Often those reforms faltered after new policies were drafted because there was a lack of follow through. We want to take this opportunity to commend EPA's current efforts. They have taken the process beyond the point of previous reforms by pushing resources and responsibilities out to the regions where EPA culture must make these reforms a reality.

Unfortunately, although many of EPA's leaders, managers and project officers have committed to these reforms, there appears to be some reluctance to change old habits within some sectors of the agency. Today, we will hear from the EPA that many of the concerns raised by the members of this subcommittee are being ad-

dressed. Those concerns include improved oversight, introduction of real competition and development of personal accountability by EPA managers and program officers.

At the same time, EPA will discuss what is being done to overcome the remaining challenges in the grant programs. We have accomplished a great deal to improve our environment in the last three decades. I remain committed to the wise use of our resources while we improve the quality of our rivers, lakes, air and communities.

One of the most significant resources EPA has been given to accomplish these tasks is funding for its grant programs. We cannot squander these resources by providing money to grants that do not improve the environment in a measurable way. EPA spent over \$4 billion last year for grants. That is over half its budget. The question we must always keep before us is what environmental benefit is the public getting for that money. How far did that \$4 billion in improving our air, water and land. Four billion dollars is a lot of money.

This hearing will focus on measuring environmental results produced by EPA's grants. This is where the rubber meets the road in fixing EPA's grant problems. In past hearings, we have rightly focused on fixing the procedural practices that were broken at the EPA. However, if we don't issue grants with real measurable results, then we could end up with a great process and poor results. Previously we focused on the discretionary grant making process. That remains a key distinction on many issues raised up to now. The concept of getting true environmental benefits for the money spent applies or should apply to all EPA grants.

It seems obvious that grants should be used to further EPA's mission to protect the health of humans and the environment. Unfortunately, based on what we will hear from some of our witnesses today, that doesn't appear to be how grants are consistently thought about and targeted at EPA. We will hear from the GAO. The GAO will discuss examples of EPA grant making where grants did not produce appropriate environmental benefits. In one case, GAO recently identified a grant to gather statistics on the use of environmentally harmful solvents. The survey used to gather this information had a 1 percent response rate. It is clear the grant could have been far more effective had EPA verified the capability of the grantee to perform this survey. From all appearances this was a lost opportunity and a waste of money, money that should have been spent on a grant that could have had real measurable benefits to the environment.

The GAO will also share findings from a recent sampling of EPA grants indicating that only 15 percent of discretionary grants performed environmental cleanup activities. The remaining 85 percent went for writing, thinking and talking about environmental problems. While there is certainly a place for studying problems, most would agree that these problems have been studied to death and 15 percent for actual cleanup is just not enough. The EPA Inspector General will share her perspective today on the importance of measuring environmental results and what the EPA can do to make such results a priority.

Much of the work in selecting grants with measurable results must be done before the grant is awarded. As the IG has pointed out in previous reports, EPA has struggled to perform adequate pre-award reviews. For example, the IG previously stated that 42 percent of grants were not reviewed for environmental outcomes and 31 percent were not reviewed for probable success. In these cases, the grants were set up to fail before they even began. Fortunately, we will hear from EPA new proposal to ensure that grant funds are going to be targeted in the future to carry out the agency's mission to produce identifiable environmental benefits.

Finally, we will hear from two witnesses with real world experience in measuring results in environmental grants. Dr. Alan Moghissi, President, Institute for Regulatory Science and will brief us on how RSI works with government and private interests to help them assess the measurable environmental benefits associated with their projects. Peter Maggiore, the former Secretary of the Environment for the State of New Mexico and Chair of a recent RSI Review Panel will summarize a report evaluating selected EPA grants for measurable results. I understand they have some intriguing ideas on how to use peer review to improve the quality of EPA grants in the future.

I want to recognize and thank my colleague, Mr. Costello, the Ranking Minority Member of the subcommittee, for his support and effort in helping to reform EPA grant making and I now turn to him for any statement or remarks he wishes to make.

Mr. COSTELLO. Mr. Chairman, thank you.

Considering the fact that our witnesses have been waiting here for about an hour, I think what I will do at this point is enter my statement into the record.

As you noted, this is the third in a series of hearings on this subject. I have a number of questions I have and I look forward to hearing from our witnesses today.

Thank you.

Mr. DUNCAN. Mr. Shuster.

Mr. SHUSTER. No.

Mr. DUNCAN. Mr. Diaz-Balart?

Mr. DIAZ-BALART. No.

Mr. DUNCAN. Ms. Johnson?

Ms. JOHNSON. Mr. Chair, I will forego my opening statement.

Mr. DUNCAN. We have a very distinguished panel of witnesses here today. Ms. Nikki Tinsley is the Inspector General for the Environmental Protection Agency; Mr. John B. Stephenson is Director for Environmental Issues, U.S. General Accountability Office; Mr. David J. O'Connor is Acting Assistant Administrator, Office of Administration and Resources Management, Environmental Protection Agency; Mr. Alan Moghissi is President of the Institute for Regulatory Science and Mr. Peter Maggiore is Principal, Portage Environmental and Former Secretary of the New Mexico Department of the Environment.

We are pleased to have each of you with us. We always proceed in the order in which the witnesses are listed in the call of the hearing, so that means, Ms. Tinsley, we will start with you, please.

All full statements will be placed in the record. As in all other committees and subcommittees, we ask the witnesses to limit their

opening statements to five minutes and in this subcommittee, we give you six minutes but I ask when you see this held up, that means stop. That is done in consideration of other witnesses as well as members.

Ms. Tinsley, you may begin.

TESTIMONY OF NIKKI TINSLEY, INSPECTOR GENERAL, ENVIRONMENTAL PROTECTION AGENCY; JOHN B. STEPHENSON, DIRECTOR, ENVIRONMENTAL ISSUES, U.S. GENERAL ACCOUNTABILITY OFFICE; DAVID J. O'CONNOR, ACTING ASSISTANT ADMINISTRATOR, OFFICE OF ADMINISTRATION AND RESOURCES MANAGEMENT, ENVIRONMENTAL PROTECTION AGENCY; ALAN MOGHISSI, PRESIDENT, INSTITUTE FOR REGULATORY SCIENCE; AND PETER MAGGIORE, PRINCIPAL, PORTAGE ENVIRONMENTAL AND FORMER SECRETARY, NEW MEXICO DEPARTMENT OF THE ENVIRONMENT

Ms. TINSLEY. Mr. Chairman and Members of the Subcommittee, I am pleased to be here today to discuss the importance of ensuring results from EPA grants.

I would like to begin by reading to you part of a quote from prior EPA Administrator William K. Reilly. "First, the good news: I think EPA does an exemplary job of protecting the Nation's public health and the quality of our environment. Now, the bad news: I can't prove it..." Administrator Reilly made that statement in 1989. It is 25 years later now and EPA has made progress but it still is not able to identify the environmental results achieved by many of its grant programs, which account for over \$4 billion annually.

Measuring results is important because it provides accountability, communicates the value of the program and it gives managers the information they need to improve programs. By pairing program results or impacts with cost information, both EPA and Congress can make informed judgments about which environmental programs, or which approaches to delivering environmental programs, provide the most environmental impact for each tax dollar spent.

EPA realizes that it must find a way to measure environmental results but it faces challenges in measuring for virtually all grant supported programs, those operated by State, local and tribal governments, non-profits and universities. Our work shows three common reasons why EPA has not always been successful in measuring results: EPA didn't identify results or outcomes when it issued the grants; EPA hasn't been able to reach agreement with grantees on how to measure results; and EPA didn't plan on measuring results when it established the grant programs.

Last year, we reviewed pre-award activities required of EPA project officers by statistically sampling a broad range of grants. We found that project officers had not linked projects to achieving environmental goals for \$42 million of grants and that they had not negotiated environmental outcomes for 42 percent of grants. They were required to do both things.

EPA has been working with States since 1998 to agree on how it will measure results for its largest grant program, the \$47 billion Clean Water State Revolving Fund. When the program began in

1988, funds were used to construct or update wastewater treatment facilities. More recently, States and communities have begun using the funds for a broad range of nonpoint source and estuary management projects. Unfortunately, neither EPA nor the States can compare the results achieved from the different types of projects because they haven't agreed on what to measure or how.

EPA hasn't been able to measure results accruing from its \$8 billion Drinking Water State Revolving Fund. We reviewed EPA's Capacity Development Grant Program and found that EPA didn't plan to measure program results even though Congress directed that EPA annually assess States and withhold part of their grant if they weren't making sufficient progress in developing the capacity of utilities.

EPA can't identify the environmental results obtained from the \$5 billion Brownfields Grant Program. We reported in 2002 and again this year that EPA was measuring economic outputs rather than progress in reducing or controlling risks to human health and the environment. The program objectives are to redevelop properties and to leverage jobs and redevelopment funding. EPA is gathering information that could be used to report on environmental results, and we recommended that it do so.

There was an article on the front page of last Sunday's Washington Post reporting that EPA had overstated progress in reducing pollution in the Chesapeake Bay. The Bay story provides a good example of why it is important to accurately measure the progress of environmental programs.

I want to thank you for allowing me to testify. I think the work of this Subcommittee through hearings and other oversight activities has influenced EPA to improve its management of grants.

I would be happy to respond to your questions.

Mr. DUNCAN. Thank you very much.

Mr. Stephenson?

Mr. STEPHENSON. Thank you, Mr. Chairman and members of the subcommittee.

I am pleased to be here today to discuss how the Environmental Protection Agency manages grants to achieve results. My testimony is based on reports we issued in 2003 and 2004 on EPA grants management as well as additional work we conducted for this hearing.

As you know, this subcommittee has held previous hearings on a wide range of EPA grants management issues but we are here today to discuss the bottom line, do taxpayers have reasonable assurance they are getting their money's worth from the \$4 billion that EPA annually invests in grants. This \$4 billion is distributed as shown in Figure 2 of my testimony. The approximately 3,700 grant recipients that this chart represents includes States, and get the lion's share as you can see, 75 percent; local governments, tribes, universities and non-profit organizations. This is over half of EPA's annual budget, so the success of these grants in large part dictates how effectively EPA performs its overall mission of protecting human health and the environment.

We know that planning for grants to achieve environmental results and measuring results is an extremely difficult challenge. For example, it is much easier to measure environmental activities or

outputs such as the number of permits issued. It is much more difficult to measure the results of outcomes such as how much cleaner we have made the air. Nevertheless, it is absolutely critical that EPA do a better job than it has in the past in clearly demonstrating results of individual grants.

To its credit, EPA's comprehensive, five year grants management plan issued in April 2003 includes the goal of identifying and achieving environmental outcomes but EPA's persistent problems in this area are well documented. For example, EPA has not consistently ensured environmental outcomes are identified in the grants' work plans, the document that lays out how the grantee will use the funding. In fact, as shown in the next table, less than one-third of the work plans reviewed by EPA in fiscal year 2003 included a description of anticipated environmental outcomes. You can see it wasn't comprehensive but it did look at three regions and several of the program offices.

Not surprisingly, given the shortfall, OMB's recent reviews of ten EPA grant programs found that eight of the programs as shown in the next table were not demonstrating results. OMB's review was based on the application's program assessment and rating tool that is an integral part of the President's management agenda. While we recognize that it is extremely difficult to measure outcomes for specific grants, particularly if they involve research or training as opposed to actual cleanup, it makes it all the more important for EPA to develop better guidance that addresses the complexities of measuring and achieving environmental results.

Despite the obvious importance of this guidance, many EPA program offices have still not developed environmental measures for their grant programs. In addition, EPA's progress on addressing results has been slower and more limited than originally planned. While EPA had planned to issue outcome policy in 2003, a critical first step to show progress toward this goal, the policy's issuance has been delayed until the fall of this year and will not become effective until January 2005. As a result of this delay, EPA does not expect to meet the five year plan's first year goal of increasing the number of grant work plans with environmental outcomes from about 31 percent to 70 percent in 2004.

In the meantime, EPA has issued a limited interim policy that requires program offices to better link grants to EPA's strategic goals. This policy appears to be moving EPA in the right direction but it still does not go far enough in that it does not require linkage of individual grants to specific results or outcomes.

While getting the correct policies in place will be challenging, the major challenge of course will be in successfully implementing the policy throughout the agency. Realistically, EPA has a long road ahead in educating its managers, supervisors, staff and grantees about the importance of environmental outcomes and in putting a systemic process in place for better ensuring each and every grant is worth the money.

That concludes the summary of my statement. I too will be answering questions later.

Mr. DUNCAN. Thank you very much, Mr. Stephenson.
Mr. O'Connor?

Mr. O'CONNOR. Good afternoon, Mr. Chairman and members of the subcommittee.

I am pleased to be here today as well to continue the discussion of grants management at EPA.

The agency's grant management practices have long been the subject of reviews by the GAO and the Inspector General and audits going back to 1995 have been critical of grants management practices. The concerns have persisted notwithstanding the issuance of numerous grants policies during that same time period.

To address the persistent challenges in grants management, the agency issued in April of last year its first ever long term grants management plan. This plan is a coordinated, integrated approach to improving grants management. It is intended to address the root, underlying causes of the poor grants management issues we are hearing about.

I would like to quickly state the five strategic goals of the plan: one, enhance the skills of personnel engaged in grants management; two, promoting competition in the award of grants; three, leveraging technology to improve program performance; four, strengthening our oversight of grants; and five, supporting, identifying and realizing environmental outcomes. We are now more than a year into the grants management plan and I am pleased to report that we have made significant progress. However, I also need to report that we continue to face challenges, some of them formidable in addressing certain goals of our plan. My written statement includes a lot of specifics and details about where we stand with the plan. I won't go into that right now but I do want to mention just a few recent pertinent developments.

With respect to the skills of personnel engaged in grants management, we committed earlier that all EPA grants would be managed by project officers who are certified under our certification program. Last year, 99.2 percent of all the grants were managed by certified project officers. Last month more importantly, EPA senior level grants management counsel approved the agency's first long term grants management training plan. Among other requirements of this program, the training plan expands our existing grants training into the persistent problem areas identified in the GAO and Inspector General audit reports. For example, this includes training on how to conduct grant competitions, training in environmental outcomes and stronger training in cost review and preventing improper use of grant funds.

With respect to competition of grants, under our grants competition policy that went into effect at the beginning of 2003, 76 percent of non-exempt new grants over \$75,000 to non-profit recipients were competed. A review that we did of the effectiveness of our competition policy has recently been completed and based on the results of that review, we are in the process of making some further significant changes to the policy. For example, next year we will reduce the current competition threshold from \$75,000 down to \$10,000 and we will strengthen the documentation requirements for our competition decisions.

With respect to oversight of our grantees, EPA's December 2002 post award monitoring policy requires baseline monitoring on all active grants and provides for advanced monitoring on at least 10

percent of our active grantees. Last year, we completed over 1,000 advanced monitoring reviews. These revealed to us that 22 percent of our reviewed non-profit grantees had some number of grant management problems. We have taken a number of steps to address those problems and we are now developing a pre-award policy to help ensure that we do not award grants to non-profit organizations that have these weaknesses in their administrative capability to manage grants.

We have also made strides with respect to environmental outcomes. In January of this year, EPA issued an interim policy on environmental results that requires that a grant funding package include a description of how the grant will further the goals of EPA's strategic plan. We will not award grants without those descriptions. Effective January of next year, EPA will replace this policy with a final policy on environmental results. This policy will affect the entire grants process starting with competitive solicitations and through the review of final grants performance reports.

Among the requirements of the final policy will be the following. Competitive grant announcements must describe expected outcomes and outputs and how the grant is linked to EPA's strategic plan. Competitive grant announcements will contain ranking criteria for evaluating applicant's ability to identify and measure expected outcomes. EPA will negotiate grant work plans that contain well defined outputs and to the maximum extent practicable well defined outcomes that can be linked to the agency's strategic plans.

Measuring the results of EPA grants is one of our greatest challenges. Our new policy on environmental results will be a major step forward in meeting that challenge.

Mr. Chairman, let me conclude by saying again that our long term grants management plan is a comprehensive system of management controls and initiatives to address grants management weaknesses. We have been careful to make adjustments in the design and implementation of the system to incorporate recommendations that we continue to receive from the GAO, the Congress and the Inspector General. Given our uneven performance in the past, it is fair to ask whether this system will be any more successful than previous efforts. The answer, I believe, lies in the cultural shift that is beginning to develop within the agency towards accountable grants management. As with any major cultural change, this shift will not occur overnight and will require the agency to adopt a new way of thinking about how grants are managed. I remain certain that our plan is a sound one and there is strong support and backing for the plan among senior management at the agency. There are serious efforts underway around the agency to address the issue of measuring environmental outcomes and there are many dedicated EPA staff working hard to make our long term strategy successful. We hope in time that we will become a best practices agency for grants management.

Thank you very much and I would be happy to respond to questions.

Mr. DUNCAN. Thank you very much, Mr. O'Connor.

Dr. Moghissi?

Mr. MOGHISSI. Thank you, Mr. Chairman.

It is gratifying to see a scientist has been invited to testify.

At the outset, let me suggest that I am very proud to be a charter member of the Environmental Protection Agency and I was fortunate enough to have risen through its ranks very rapidly. I was most grateful to my superior at the EPA for having given me the chance, and others at the EPA, to participate in the scientific activities and be an active member of the scientific community. That is extremely important.

I must emphatically state that in my opinion the scientists at the EPA are every bit as knowledgeable and competent as scientists anywhere else.

I am going to skip some of the prerequisite that I describe and I do apologize if I sound professorial. It is hard to get the teaching out of your blood. So if I sound professorial, please accept my apologies, I don't mean to be.

During my last years with the EPA, I became aware of the necessity to come up with a process to define what is best available science. Let me briefly go over that. We classify scientific information in four categories: in increasing level of acceptability, personal opinions, gray literature, most government reports, most advocacy reports, most reports that are not subjected to peer review are gray literature. Independently peer reviewed and in consensus process review and I will come back to the fourth one in a minute. We classify the scientific status of science in three main categories: proven science which is scientific laws; applied science if you want to build this building, you apply basic statistics, scientific validity of these but somebody has to review to see did you correctly apply; then evolving science, much of the science upon which the environmental protection is based falls in that category and finally, fallacious information, some call it junk science.

It is imperative to recognize that peer review is particularly important in evolving science and it is responsible for eliminating fallacious science. Why do I say all of those? Because in the contentious area of environmental protection, a great deal of information is in evolving science and in fallacious science.

We at the EPA have performed over 300 peer reviews, we have done it for Federal agencies, State agencies, local agencies, congressional committees, so on and so forth. Most of these have been performed with professional societies. Interesting enough, a core issue of peer review is making sure the people are competent and have no conflict of interest and having performed 300 if you multiply them by about five reviewers, you can see how many reviewers we have had. We have no problem finding competent scientists.

What led us to peer review these activities? One of my colleagues who used to work at EPA stated something to the effect that EPA can give grants to whoever EPA wants at any level they want, everything is arbitrary. I could not believe that. A recent report by the EPA's Inspector General—I don't know if that is the same Inspector General or another Inspector General—came to the conclusion that a large number of grants were given based on not peer reviewed or no metric for them and so on.

Similarly, the most recent report of the Office of Management and Budget some of you may have followed on the subject of peer review. I wrote a letter to you, Mr. Chairman, asking if you could find someone to help us perform these peer reviews. You were kind

enough and your letter was very encouraging. It would have been even more encouraging if you would have said where we could get some funds to do it. We certainly appreciated your letter.

The peer review that we performed occurred in three stages. We went to the staff of the Institute for Regulatory Science and I believe we have the most competent staff there is anywhere. We went through under the leadership of Dr. Straja who is our vice president, he handled the literature, are there clear-cut metrics for environmental protection, and unfortunately he could not find them. So we set up an assessment panel to develop environmental metrics and these are included in the executive summary of the report which is appended to my statement and we have some copies of the report here for the people who would like to have a copy.

Subsequently, we established a review panel chaired by Peter Maggiore and I am most grateful for him and for his friendship to have done that, to have performed that peer review under his leadership with the panel and he will report on the results of the grant.

Finally, we went back to the Commission on Assessment and Reviews. This commission is established by the Institute for Regulatory Science with the cooperation of a very large number of professional societies and asked them to come back with recommendations on how EPA may improve its grants giving mechanism. It is imperative to recognize that our review is not adversarial, our review is constructive. It is intended to be helpful. Nobody is helped if we criticize the people but don't tell them how to go about improving what they are trying to do. So there are specific recommendations by the Commission on Assessment and Reviews. There are couple I would like to emphasize.

First, the EPA has to develop these metrics, subject them to independent peer review. They have to be clear, concise and understandable. Two, it is imperative that the grants comply with two very important parameters. One, they must have a measurable metric, a measurable benefit. Two, they must be based on best available science. Junk science has never helped anybody. It must be based on independent peer review.

Finally, I do not want to belabor the subject of unsolicited proposals ought to be considered every bit as closely as others. The U.S. technology science development is largely based on individual initiatives who have come to agencies and asked for grants. They have to comply with all requirements but the unsolicited proposals ought to be considered.

Thank you.

Mr. DUNCAN. Thank you, Dr. Moghissi. We will get more from you during the questioning part of this proceeding.

Next we will go to Mr. Maggiore.

Mr. MAGGIORE. Mr. Chairman, thank you for inviting me here today to testify about the results of the independent peer review of discretionary grants awarded by the U.S. EPA to non-profit organizations. I forwarded copies of my testimony which I am about to give along with a copy of my vitae for the congressional record. Please note that my testimony is based on my own professional opinions as Chair of the review panel and don't necessarily reflect the opinions of the company by whom I am employed.

The process that led to the review of grants awarded to non-profit organizations by EPA started when the Commission on Assessments and Reviews, of which I am a member, was asked by the staff of the Institute for Regulatory Science to approve a process based on three phases. The first phase involved the identification of appropriate environmental metrics which could be used to identify measurable environmental benefits. The second step would be to review a sample of grants awarded to non-profit organizations by EPA. The third step would be to provide recommendations to ensure a sound grant mechanism.

As I just mentioned, the first step consisted of identification and if necessary, the development of measurable attributes which could be used to assess the extent to which the grants may have brought about environmental benefits. The Commission on Assessments and Reviews established an Assessment Panel to review the existing legal mandates as well as the scientific information to develop a set of environmental metrics. Based upon my experiences as the former Secretary of Environment of the State of New Mexico, I was requested to be a member of that panel.

The Assessment Panel was somewhat surprised to find that apparently no clear, concise and comprehensive environmental metrics were readily available to evaluate benefits. I say somewhat surprised because it has been my personal experience that metrics such as these have only recently found their way into the toolbox of environmental agencies. For example, environmental agencies have historically measured success based upon either staffing levels or funding levels rather than the number of pounds of pollutants per year that could be kept out of an airshed or watershed.

The members of the Assessment Panel found themselves to be in general agreement with the stated mission of the U.S. EPA. Responding to the Government Performance and Results Act of 1993, in 1997 the EPA stated "The mission of the U.S. Environmental Protection Agency is to protect human health and safeguard the natural environment, air, water and land upon which life depends." These environmental metrics developed during this process identified six general categories of actions that provide environmental benefits. Four distinct metrics are related to protection of human health; another four metrics are devoted to ecological health; two metrics are each devoted to contaminate concentrations in environmental media and emission controls. Three metrics are devoted to education and public outreach. Two additional general metrics were defined.

As Dr. Moghissi mentioned, best available science is a key part of the metrics described above. In effect, the Assessment Panel stated that the only acceptable and measurable approach to protecting human or ecological health and reducing emissions and concentrations of pollutants is to use best available science. Actions that are based on faulty science do not necessarily protect human health regardless of the intention of those who undertook the action. This situation is analogous to a patient whose disease is either being diagnosed or treated. A misdiagnosis or an incorrect treatment of a disease is unhelpful regardless of the affection of those who care for the patient. Consequently, the Assessment Panel found that each grant should fulfill two criteria. First, it

must provide a measurable benefit to the environment. Second, it must meet the requirements of best available science, that is it must be based on peer reviewed information.

The primary reason for the development of environmental metrics was to identify criteria against which the results of each grant award could be evaluated. In performing this peer review, the review panel was provided with specific questions commonly referred to as review criteria to assess the validity of various scientific claims. One of the processes for identification of review criteria was completed, and the next step was to select a reasonable number of grants among the over 300 grants that were competed during fiscal year 2002. Three attributes were identified for selecting grants. One or of the six topics included in the metrics identified above such as human health or emission reduction, the level of funding or the nature of the organization receiving grants. In assessing the last attribute, organizations receiving grants were classified into seven categories such as universities and professional societies. Based on these criteria, ten grants were selected by the RSI staff and all collected information relating to these grants were forwarded to the review panel for analysis.

The review panel was unable to identify a clear, defensible approach by which the EPA selected grant recipients. The traditional approach in evaluating qualifications of the principal investigator or PI or the institution receiving the grant appears to have been seldom if ever followed. In many cases, there was no PI or if a name was given, there was no evidence that the qualifications of the PI were even provided to the EPA much less evaluated. There was only marginal evidence that any project was internally reviewed. There was no evidence of an independent peer review having existed for most projects.

I will jump to the conclusions which were that the review panel recognized the importance of the role that discretionary grants play in the arena of stimulating innovating solutions to complex environmental and ecological problems. If such a discretionary mechanism ceased to exist and grants were not allowed to be issued on a discretionary basis, unique opportunities to make scientific, technological and engineering breakthroughs could be significantly impacted if not lost.

Notwithstanding the above, the review panel found that the current process used by the EPA to receive applications, award grants, and evaluate their outcomes could be significantly improved. Although several grants were found to provide environmental benefits and were based on best available science, many of the grants reviewed dealt with various aspects of education that emphasized ecological issues without consideration of the scientific validity of the educational materials. Given that the primary mission of the EPA is the protection of human health, the EPA is urged to reassess its priorities. In providing grants to non-profit organizations by establishing clear, representative environmental metrics, the EPA could enhance its ability not only to select the most important project but to evaluate each selected project's progress against criteria that would measure the achievement of environmental benefits.

Mr. Chairman, this concludes my prepared remarks.

Mr. DUNCAN. Thank you, very much. I thank all the witnesses for very fine testimony.

I am going to ask just a couple questions to start. I have questions for all the witnesses but may be I will take just the first five minutes.

Mr. O'Connor, you saw Mr. Stephenson put up a slide that said that the OMB rates \$2.75 billion worth of EPA grant programs in 2003 as not demonstrating results. What do you think about that? Did you see that and do you think OMB was being overly critical or overly harsh? Do you think they were sort of on target and because of these reforms it is going to be much better the next time if they look at what you are doing?

Mr. O'CONNOR. First of all, I do not challenge their findings in that regard. I think what I have found as I looked at these issues when you look at the files, you don't see the documentation that you want to see to demonstrate you actually got the outcomes or the results you were looking for. The question of whether you did or not is very much up in the air, so I don't challenge the fact that as you look at files that you see the lack of documentation and the lack of evidence in there. We have acknowledged why some key components of our five year plan are intended to address that very situation.

Mr. DUNCAN. It seems to me and I am sure you feel the same way that it has to be more than just a line or a section on a form, there have to be meetings and discussions about it and people asking what good is this study going to do.

Mr. O'CONNOR. I agree and the first step I have taken as I have addressed this is the solicitation needs to be very clear about that as best we can do it. Whether we will get to a perfect state or not, it has to be stated up front in the grant solicitation.

Mr. DUNCAN. I realize what we are talking about is not easy because if you expect a study to produce some good or some results, if you knew what was going to happen in advance, you wouldn't need the study.

Dr. Moghissi, I knew what you were going to say. I appreciate your saying my letter was encouraging but it would have been more encouraging if I had sent money. I wish I could have because I admire and respect the work you are doing and I like your approach. I agree that these projects should be peer reviewed. On the other hand, you mentioned a couple of times junk science and nobody is in favor of junk science but there is an old saying something to the effect that one man's junk is another man's treasure. What came to my mind when you were talking about that was I was in the hospital for three different times back in roughly the late 1970's to the last time in 1990 and then a man who everybody thought was crazy over in England said that ulcers were being caused not by stress or food but that 85 percent of ulcers came from a virus that was labeled H-pylori. I was tested for that and anything over 4 was considered that you had it and I scored 79. Once they put me under treatment for that just for a few weeks, I haven't had any trouble since then.

I am wondering how do you do that? You want to have peer review but you don't want to have all scientists thinking alike. You

want to allow some innovation or creativity. What do you say to that?

Mr. MOGHISSI. That's an excellent question. That is a question that is always being asked when people talk about science. I did not go over classification thoroughly. You may recall I said the scientific information that is proven science, which is scientific laws and applied science, the next one is what I call extrapolation, scientific judgment and then fallacious science.

I used to be a professor of medicine believe it or not. The treatment of ulcer was based on the hypothesis which falls somewhere within extrapolation to scientific judgment. That is where the consensus process would come in. If somebody would have gone to the relevant medical college of the professionals and asked what is a consensus, is there a chance that virus would have caused it? You would have found they would have ruled it out. The discussion on virus is about 30 years old and I bet you the event you describe is not 30 years old, it is a little younger than that.

The point I am trying to make is reliance upon best available science would have immediately led the attending physician to come to the conclusion you cannot rule it out and therefore appropriate measures would have to be taken. Having said that, in the emerging area of science in all due fairness, the physician is placed, and I have a daughter who is a physician, in an untenable situation in that lack of knowledge is there. That is not the case with environmental protection. We know a lot about what pollutants do to human beings. We know that. In my years with the EPA, we developed standards. These standards have been teensy weensy, a little bit back and forth, some have been more restrictive, some not so restrictive but we have a fairly good knowledge.

My problem with lack of peer review is not even trying to find out if the cause is the virus or some other things.

Mr. DUNCAN. I think as in so many things, we need to have some balance, we need to base a lot of what we are doing on things we already know but we also need to realize that the more you learn, the more you realize there is to learn. We need to be careful not to stifle the creative and innovative thinkers.

Let me go to Mr. Costello very quickly.

Mr. COSTELLO. I will ask one question and hopefully we can get to another member or so before we have a vote.

Ms. Tinsley and Mr. Stephenson, you have testified before the subcommittee in the past. I think the last time Mr. Wynn was here from the EPA and it seems to me at least from my memory that we continue to go over the issue of grant oversight and other problems within EPA. As the Chairman mentioned, we have seen some improvement and you have noted that in your testimony but when we are searching for answers to do a better job as far as grant oversight, it seems that we do not need additional policies or regulations or rules over at EPA but we need to get the personnel there to implement what currently exists as far as policies and procedures.

I just wonder if I can ask you, Ms. Tinsley, one, regarding grant oversight, just a general overview, how is EPA doing and two, as far as improving and you covered some of this in your testimony,

do we need additional policies, rules and regulations or do we just need to do a better job of management?

Ms. TINSLEY. We just need to do a better job of management. The Agency's done a very good job in establishing policy. It has trained its staff. I think accountability is the key to this, holding managers accountable, holding employees accountable. For the first time, I think Mr. O'Connor mentioned that grant oversight duties have been added to employee position descriptions or to their performance management plan, so it will be interesting to see if that makes a difference in performance.

Mr. COSTELLO. Do you have other recommendations that you would like to talk about today as to what EPA should be doing?

Ms. TINSLEY. The only thing that I would add, and this could be in the order they are going to issue later and we will surely comment on the draft order, would be the importance of identifying in grant documents how you are going to measure the environmental results. Of course there are a lot of challenges as far as working through the largest grants, the grants for those revolving funds because EPA has to work with States and come to some kind of agreement on what is going to get measured and how that measurement is going to happen. Those are really terrific challenges.

Mr. COSTELLO. Mr. Stephenson, do you have a brief comment?

Mr. STEPHENSON. No. I agree that implementation is going to be the difficult part of this. I do believe they need to continue in the direction they are moving with the environmental results policy. That is the hard part, to get individual grantees to document what they hope to achieve. I agree in part with the peer review aspect that you should ensure that the grantee has the capability to perform the grant as agreed. I am not sure that is always done as well as it should be, but the difficult part is not the policy, it is the implementation through the program office and regions who are largely responsible for overseeing these grants, not the grants management staff itself. They are the ones that set the policy but for implementation, the program offices and regions are key to that process.

Mr. COSTELLO. Mr. Chairman, I will have some follow up questions when we come back from this vote.

Mr. EHLERS. [Presiding] The real Chairman asked me to preside for a bit longer to keep us going and then as soon as we complete votes we will be back and keep roaring onward.

First of all, Mr. Stephenson, in your testimony you talked about the fact that EPA hasn't seemed to focus on performance because they haven't been following directly OMB's program, the program assessment rating tool. That assumes that is a good measurement. Are you convinced it is a good measurement? Have you done anything to verify that is a good measurement?

Mr. STEPHENSON. I think as an agency, GAO has not wholeheartedly endorsed the PART process but I think it does look at the process agencies use to evaluate outcomes or results from their programs. I think the spirit of that is good. I think what they are focusing on here is the fact that the individual work plans for individual grants do not contain adequate documentation on what they hope to achieve with the grants. So that is largely what the PART reviews in this case were based on.

Mr. EHLERS. I have a little trouble getting my hands around what you mean by grants and perhaps a question best for Mr. O'Connor and Ms. Tinsley. I am a scientist myself. To me grants are money that is given for research. You state what you hope to do in your research, you put measures in, you have evaluation mechanisms and so forth but EPA also gives grants to clean up waste sites, gives grants to clean up sediments in rivers. It provides a number of different grants.

Ms. Tinsley, I will start with you. What does that mean to you when you talk about EPA grants? What type are you talking about or are you lumping them all together?

Ms. TINSLEY. In my testimony I talked about a couple of the biggest ones, the revolving funds. The Clean Water State Revolving Fund started out as a construction grant program and EPA funded the construction of wastewater facilities across the country. That was a big part of EPA's mission when it first began. Those grants now are a loan program and the EPA gives money to States that leverage out loans. So they continue to use part of that money to build wastewater treatment facilities, to update them, but they are also using that money for the other kinds of things you talked about, for nonpoint source things, for protecting stream banks, for restocking fisheries. The percentage of money that is going into those other activities is growing.

We know that when you build a wastewater treatment facility, obviously it helps clean up the water but what we don't know is by how much. If you equate this to the Bay program where the program was taking information that was being submitted to it and projecting whether or not the Bay was getting clean, you find out that in fact those projections, even when they were measuring and thought they were doing a good job of measuring, the projections weren't accurate. So it is really important to actually go out and start doing the measurements. It is also important to be able to compare different kinds of projects and see which ones give you the most environmental result.

Mr. EHLERS. But you are basically not talking about research grants then?

Ms. TINSLEY. Research grants would be in the big picture category of grants. When you try to evaluate the impact of a research grant, you have to look out beyond the end of the grant. For example, if you have a grant, you are doing research on how to promote pollution prevention, then you would have to look to see whether or not you created some sort of project that people implemented to reduce pollution, so you have to look years beyond the grant. It is a continuum but you have to have some end in mind certainly when you start.

Mr. EHLERS. I am afraid I am going to have to recess the hearing at this point or I won't be able to vote.

I declare the hearing in recess until the return of the real Chairman.

[Recess.]

Mr. DUNCAN. [Presiding] Dr. Ehlers, did you have a chance to ask your questions or do you have an additional question or two?

Mr. EHLERS. If you don't mind, Mr. Chairman, I do have two since I had to leave with less than the five minutes used.

Mr. DUNCAN. Go right ahead.

Mr. EHLERS. The point I was pursuing is simply that you need different types of peer review for different projects. The people doing the peer review should be peers. If it is a scientific project, my definition of science I think is different from Ms. Tinsley's, but you need a scientist who knows the field who understands the proposal and can make some judgment as to whether it is a good proposal or not and whether it has at least some chance of succeeding.

The example of the ulcers which the Chairman brought up is a good example of poor science. Part of the problem is—I hope I don't offend our guests here—but doctors of medicine by and large are not good scientists, they are clinicians. There is a huge difference between a doctor who is a clinician and one who is in fact a scientist.

For reviewing a sewer project or a landfill cleanup, you need a different type of peer. That is why this business gets so complex and that is why I am a bit worried about the part system. I am certainly willing to give it a try. I met with the people from OMB who initiated it and they are giving it an honest effort but let us not kid ourselves that the way to review things is to just plug it into a formula whether it is part or something else. You really have to have people who understand the system, understand the science and can make reasonable judgments as to whether or not the project will succeed.

I wanted to turn to Dr. Moghissi for a moment to see if he has any comments on that based on his experience at EPA and elsewhere?

Mr. MOGHISSI. You stated very eloquently the prerequisites for an appropriate peer review. The individuals who are chosen to peer review an activity ought to be as you correctly pointed out, ought to be peers. To use an example to demonstrate what I am talking about that is very, very common. You have a panel in which sociologists, psychologists, engineers, medical doctors, all of them are put together and you are trying to make an interdisciplinary review. In effect, a psychologist is asked to vote on a mechanical engineering and a mechanical engineer is asked to review medical issues and so on. That is not a proper approach.

As a general rule, at least three, and I know you are the recipient of a very high award from the American Society of Mechanical Engineers, I was present when you received that award so you are very, very familiar with what I am talking about.

The panel that is set up at least three individuals ought to be capable of judging the issue that is being reviewed. If you have a multidisciplinary review, then you have to have subcommittees that each one of them reaches a conclusion and then they are combined into an oversight committee that puts all of them together. It is imperative that the peer review is done by peers. That is a prerequisite. An individual who participates in a panel ought to be capable of judging what is being reviewed. In my judgment, we have a long way to go and I share the view you expressed about part. It is a very useful thing but what is lacking in part is the scientific component, the technical component. They judge the management side of it but the content is missing. So I am hoping one

of these days, Dr. Graham, whom I think the world of, an outstanding individual, attends to that and include a scientific side to it.

Mr. EHLERS. Just a quick question for Mr. Stephenson and Ms. Tinsley. When you review projects, do you look at that as to whether or not the reviewers were picked because of their expertise on that particular type of project, experiment or research or whatever. Is that a factor in your review?

Mr. STEPHENSON. Do you mean if we look at peer review? Not on the grants work, we haven't because that is not a factor. We generally think that assessing the capability of a grantee is obviously a good thing but we haven't looked at that in terms of peer reviews, how that is done or whether it is done or not at EPA.

Mr. EHLERS. Ms. Tinsley?

Ms. TINSLEY. We have not looked at peer review at EPA either. We have looked at whether or not EPA reviews to see if the grantees are capable.

Mr. EHLERS. OK, but I am also worried about the peer reviewers being capable. I would suggest that is an important component or factor in reviews. As a physicist, I happen to think physicists are omniscient and therefore could serve on any panel but I know that is not true.

Mr. Chairman, I yield back.

Mr. DUNCAN. Thank you very much.

I was going next to the other side but we are going to go to Mr. Shuster here next.

Mr. SHUSTER. Thank you, Mr. Chairman.

I need something cleared up. Have we developed a measurement or the metrics to be able to apply to it to the EPA, to these grants and projects? I am not clear if we have it or we don't have it or it is in the process. That is what I think I understand it to be, in the process of being developed. Does anybody care to answer that?

Mr. MOGHISSI. Our assessment panel of which Pete Maggiore was a member addressed that exactly and he briefly described how to measure if I have a benefit. For example, they came up with human health. If you can demonstrate there is a reduction in human morbidity as demonstrated but reduction in either the prevalence or the incidence of human disease related to a specific environmental exposure, if you can demonstrate that, you have a metric that says you have accomplished an environmental goal. For example, reduction in concentration of pollutants in air, water, food or soil to legally mandated limits for areas that exceed the regulatory standards, if you do that you have an environmental metric. Reduction in concentration of carcinogens in environmental media because currently the theory is there is no limit. There is a linear nonthreshold theory that manages so if you can reduce the concentration of carcinogens and there are about 17 of them that the assessment panel identified. It wasn't chaired by Peter Maggiore but he was a member. I don't know if you want to comment.

Mr. MAGGIORE. Essentially that is correct. When we began this process we did not find any previously existing environmental metrics or criteria against which these grants could be measured, so we took it upon ourselves to develop a set of metrics. That is not to say that these are the only metrics that can be used or the best metrics that could ever be developed. They are simply metrics

we felt were important to put out on the table in order to complete our work. I think they can serve as a guide possibly for EPA to look at or improve or implement.

Mr. SHUSTER. How does EPA feel about these metrics they have identified?

Mr. O'CONNOR. I think as we heard from some of the testimony, we have a small number of metrics or I should say metrics for a small number of our grants. It is a huge challenge environmentally for the agency to develop metrics for whether we are making progress in clean water, clean air. For us in grants to then take it down a level to put a metric on a grant you can look at and say, this particular grant had this outcome in cleaning a body of water is a particular challenge for us. We have a lot of work to do in this area.

Mr. SHUSTER. We are using peer review now to look at these grants?

Mr. O'CONNOR. We are using peer review in some of our grant programs. All of our competitive research grants in the Office of Research and Development, for example, do use peer review in selecting our grantees. We use less obviously in other parts of the agency and where we do, it is probably not as formal as the peer review process on the research grants.

Mr. SHUSTER. Mr. Stephenson, you had said there were programs to determine what was not put into place or they were delayed. Again, we are developing metrics, we have peer review but we are not able to determine the results or the environmental benefit of a grant program. What is in place now that we are looking at to do that?

Mr. STEPHENSON. We were focusing specifically down at the grant level. On that end of the table, they are talking about measures for the agency itself but we want to see better documentation on an individual grant by grant basis, what outcomes you expect to get from that grant. We want to see a better assessment of the capabilities of grantees to do that, we want better monitoring along the way to ensure that is happening and better evaluation at the end than currently happens.

Mr. SHUSTER. That is on both sides of the table, the EPA setting down this is what we expect and the grantee saying this is what we think we can accomplish?

Mr. STEPHENSON. Yes.

Mr. SHUSTER. And that is not taking place now?

Mr. STEPHENSON. What we are saying is they are a little bit behind. It is goal five of the five year strategic plan. They had hoped to have a broad policy in place that the program offices could then use to develop better metrics for their individual programs but since the policy is behind, the metrics are behind.

Mr. SHUSTER. And the policy is behind because the folks working at EPA aren't adhering to it and moving forward?

Mr. O'CONNOR. I don't want to make any excuses for why that part of the five year plan has fallen behind. It has fallen behind. From my standpoint, this is a very ambitious plan, there is a heck of a lot of work going into it. This one has happened to fall behind.

I might add that even though the formal policy is delayed until later this year, it doesn't mean that in the meantime we are not

working with other program offices and trying to move them in that direction and get them on their own to move in that direction while we are waiting for the formal policy.

Mr. SHUSTER. Is it because they are resisting or is it because there are hurdles even they can't overcome that is slowing them down?

Mr. O'CONNOR. I think on the issue of the delay in the policy, it is not a matter of an issue in the program offices, it is a matter of issues in my own office. If your question is just specific to why has there been a delay in getting the policy out, I would say that is not due to any particular resistance of the program offices, but a matter of workload and priorities and juggling things in our office as we try to implement the entire five year plan.

Mr. SHUSTER. Ms. Tinsley, is that what you believe, that there is not resistance out there among the middle management or EPA?

Ms. TINSLEY. I think if EPA had a policy that said measuring for results had to be in every grant, there would be resistance to that.

Mr. O'CONNOR. I don't disagree with that. I am simply saying the delay in the policy is not due to that resistance. There is a lot of resistance to a lot of what we are doing in our five year plan.

Mr. SHUSTER. That is what I see out in the world that I represent, EPA offices throwing up hurdles and resisting. We go through endless review after review on whatever project it is. It just seems to me we need to be able to move forward on these things whether they are studies or projects and put an end to some of this resistance. So it is very frustrating to me and it is very frustrating to the people that I represent that have to go through this. We have a case that happened in one of our counties extending a 5,000 foot water line. It was supposed to be a one year job and ended up taking six years and went round and round. We have to do a better job and I think there is tremendous savings by making sure these things move forward in a timely fashion.

Thank you, Mr. Chairman.

Mr. DUNCAN. Thank you very much, Mr. Shuster.

Mr. Taylor.

Mr. TAYLOR. Thank you and I appreciate your all being here today.

I am looking at the GAO report on page 11. I wish someone would explain to be Table 3. I would think the easiest thing to measure would be the results of the Clean Water State Revolving Fund. Obviously something is amiss if you can't measure that in terms of millions of gallons of water a day treated for turbidity or biological oxygen demand or suspended solids. Is there a disconnect between the Federal Government, the State Government and local governments that are actually getting the funds?

Mr. STEPHENSON. There may be. This is based on OMB's assessment through its PART review. We have not in GAO done specific work on the Clean Water Revolving Fund or the Drinking Water Revolving Fund that this 1.3 billion is based on. The IG may have.

Ms. TINSLEY. We have. We just reviewed EPA's efforts to measure results from that fund recently. We found EPA has been working with the States since 1998 to try to agree on what they would measure and how they would measure it and they cannot come to an agreement. The States are resistant because, in part, they don't

know how the measures will be used and no one wants to think their funding is going to be reduced based on results. So there are a lot of challenges for EPA when it tries to measure the results of these big programs. It is obvious that it has made a difference but how the States and EPA are going to measure results they can actually attribute to that program versus many other things that go on in environmental protection is a hard thing to do.

Mr. TAYLOR. I am looking at this and again it is close to half of the total funds of that program. One thing I am familiar with is the Corps of Engineers I believe is the 901 or 904 program where they step in and help local communities with things like wastewater treatment or wastewater collection. It is a direct relationship between the Corps of Engineers straight to a city leaving the State out of it. Has anyone done a comparative look at whether we would be better off as a Nation talking straight to the cities than going through the States? I am trying to figure out what efficiency you gain by going through an additional level of bureaucracy since to the best of my knowledge almost every wastewater authority, at least the ones I know of in Mississippi, are all at the local level, not at the State level. I know of no State wastewater authority.

Ms. TINSLEY. I believe the way that grant program works is the State's role is to assess the projects and provide funding to those where they think they can provide the most environmental benefit.

Mr. TAYLOR. Let us back up to what you just told me. You just told me they can't measure the results. If they can't measure the results, how can they do a good job of assessing who gets the funding?

Mr. STEPHENSON. Let me say that the Clean Water Revolving Fund is based on formulas for the States right now as set up in the Clean Water Act.

Mr. TAYLOR. I understand but I am still going back to what Ms. Tinsley just told me, that the States can't measure results. If they can't measure results, why are we delegating to them the responsibility of deciding who gets the money to address these problems?

Ms. TINSLEY. My staff tells me that the assessment is based on the severity of the water problem where they are asking for money. What they are doing is putting the money where they think the problem is the most severe. What we don't have is a measure for how much better that water gets afterwards.

Mr. TAYLOR. Is there any Federal oversight as far as being an honest broker to ensure that is indeed where the money is going to address the largest problem as opposed to maybe political cronyism? Sewage is probably the easiest thing of all to measure, measure millions of gallons a day that is either in attainment or not in attainment, barely in attainment or way out of attainment, needs some remedial money spent or a lot of remedial money spent. I think of all the things that is probably the easiest thing to identify your big trouble spots as opposed to your small trouble spots.

Ms. TINSLEY. The work we have done looking at EPA oversight has shown in many instances that EPA receives reports and the States receive reports because we have actually done some joint work with State auditors on oversight, but the State and EPA offices don't always look at those reports and pay attention to what is going on.

Mr. TAYLOR. So there is no Federal oversight?

Ms. TINSLEY. There is a Federal role in oversight. It does not always happen.

Mr. TAYLOR. What is the Federal role other than to write a check?

Ms. TINSLEY. The Federal Government should be overseeing those State programs to see whether or not they are doing what they agreed to do.

Mr. TAYLOR. Do you know of any instance where the Federal Government ever told a State entity you are not setting good priorities? Can you name one?

Ms. TINSLEY. We did some work in the State of Louisiana a couple years ago and we actually did it in response to citizen petitions for us to look in Louisiana. We partnered with the State Auditor. The State Auditor looked at some programs, then we looked at Region 6's oversight of Louisiana. We found that neither entity was doing its job. As a result of that, we actually recommended that EPA withdraw the programs from the State. EPA did not withdraw the programs but it did do some serious negotiation with the State and there have been some significant changes in the way that State Department of Environmental Quality runs its program.

Mr. TAYLOR. Can you name another instance?

Ms. TINSLEY. I can't name another instance but we are doing that same kind of work in EPA's Region III which oversees Maryland, Virginia, West Virginia, Pennsylvania, DC, and Delaware right now. So we don't have the results of that work yet but we are looking there as well.

Mr. TAYLOR. What is the normal recourse for a citizen or a community if they feel their need to be put on either a central collection system or for their plant to be upgraded or for a neighboring community, say they happen to be on the downstream side of a neighboring community and getting the effluent from someone who is not making the investment? How does a citizen or group of citizens try to get your attention to reassess those priorities? This is not a classroom lecture. These are questions I get on a fairly regular basis. I really haven't had a chance to talk to folks like you. Since particularly in the case of wastewater, it becomes everybody's problem eventually.

Ms. TINSLEY. Of course we don't hear the stories where people are successful in going to their local community or going to their State office or going to EPA and getting results. We don't hear about it until somebody is very frustrated and usually sends us a hotline complaint or, like the citizens in Louisiana, petitions us. We actually got another petition out of that region and that was from Texas. Folks in Texas asked us to go in and do the same work in Texas that we did in Louisiana. We were able to get the State Auditor in its normal oversight to do that work so we did not have to do it but it is difficult for the individual citizen sometimes to make something happen. As I said, we don't know when they are successful; we only hear about it when they are not successful.

Mr. TAYLOR. Was the program always this way? Did it always flow through the States or at any time were the decisions made either at the EPA regional level or at the national level as to the disbursement of funds?

Mr. STEPHENSON. To my knowledge, it is set up in the legislation that the States will get the money. It sets up an allocation formula for the States. I am not familiar with exactly what the formula is but the Drinking Water State Revolving Fund and the Clean Water State Revolving Fund are both similar in that regard.

Mr. TAYLOR. Do you limit the percentage of funds that can be spend on administrative costs, talking about at the State level?

Mr. STEPHENSON. I am not familiar with that.

Ms. TINSLEY. Yes, there is a limitation.

Mr. STEPHENSON. There is a limitation, I just don't know what it is.

Mr. TAYLOR. Do you know what that is?

Ms. TINSLEY. I think it is four percent but we will provide it for the record to make sure we are accurate. We believe the Clean Water State Revolving Fund is four percent.

[The information received follows:]

Section 603 (d)(7) of the Clean Water Act says that States may use up to 4 percent of the capitalization grant they receive from EPA for the "reasonable costs" of administering their State's Clean Water State Revolving Fund.

Mr. TAYLOR. Mr. Chairman, thank you very much.

Mr. DUNCAN. Thank you very much, Mr. Taylor.

I want to go back quickly to Mr. Costello because he got short-changed but before I do that, let me follow up a little bit on what Mr. Taylor was asking because that is really what this hearing is all about.

The Clean Water State Revolving Fund is a little over \$1.3 billion, the Drinking Water State Revolving Fund is a little over \$85 million or something like that, about \$2.2 billion for those two funds out of the \$4.2 billion but you said, Ms. Tinsley that the agency has been working since 1998 to come up with a uniform set of measures or something and that it is a very difficult job and they haven't agreed on it yet because there I think you said there is resistance from the States. Is the agency still trying and secondly, that is six years, do you think we can come up with some way to measure these results? Mr. Taylor said he didn't think it should be that hard to figure out a way to measure it. What do you think?

Ms. TINSLEY. In response to our report, the Agency said it believes it will develop a set of indicators by February 2005. It hasn't given us a timeline yet on when it will implement those indicators to measure results.

Mr. DUNCAN. Mr. O'Connor, where do you stand on that? Where does the agency stand on that? Maybe somebody mentioned February 2005 earlier but are you going to have a system ready or a set of measures or some sort of new program by 2005 for the State Revolving Funds?

Mr. O'CONNOR. My office will not be developing metrics for the State revolving funds. I am not familiar with what they have committed to do next February. I know the agency has produced some metrics in recent years and is expecting to reach finality on other metrics in the next couple of years. I don't work in that area myself so I couldn't do justice to your question.

Mr. DUNCAN. Mr. Taylor asked was the Federal role only in writing a check and Ms. Tinsley said in response, it should be more

than that, it should be to make sure the States are doing good things with the money they are getting. That is the impetus behind what we are trying to do with these hearings. We need to look into that and do a little more than has been done and make sure it is not six years from now that we come back and we are in the same boat we are in now.

Mr. Costello.

Mr. COSTELLO. Mr. O'Connor, what was the reason for the delay in issuing the outcome policy?

Mr. O'CONNOR. I don't know that there is any one reason. I think it is just an accumulation of all the work that we are doing on the five year plan. I certainly don't want to make excuses but some parts of the plan have proven to be more challenging than others. As I mentioned before, we do meet resistance with some of what we are trying to accomplish. We have made some revisions based on ongoing recommendations from my colleagues here at the table and others. It is just a matter of we put together I think a very ambitious plan, a strong plan but most components are on schedule if not a little ahead. This particular component, a very important one, has slipped behind. I won't make any excuses for that.

Mr. COSTELLO. Let me follow up on the Chairman's question about implementation. You said that parts of the components of the policy are moving forward, some are ahead and so on. Do you think as you sit here today do you feel good about January or February of 2005 being able to implement the policy?

Mr. O'CONNOR. I do feel good about it. Last month we had a meeting of our senior level grants management council which has senior representatives from all the headquarters offices and all ten regions. We had a very lively, heated, interesting discussion about this policy. We did get the entire council to vote to yes, go ahead and put it into agency review process. Everyone is understanding that our objective is to have it out in January. Once it is out there and folks are commenting on it, I am sure we will have a lot of questions and comments to deal with.

I did feel, to be honest, a very strong commitment from senior managers across the agency to move this forward and get it in place in January.

Mr. COSTELLO. Mr. Wynn testified and I am doing this from memory, I don't have his testimony in front of me, when he testified about a year or so ago, I believe either the GAO or the IG in their testimony indicated certain policies were being ignored at the regional level and a lot of management problems existed. I asked Mr. Wynn and he acknowledged that is true, that there is a problem with getting all the regions to work in synch and to follow policy. I asked how many employees at EPA had been fired, terminated or suspended for not following rules and regulations and I think he—again by memory—I think he pointed to one or two.

It seems to me, as I listened to Mr. Stephenson and Ms. Tinsley and the challenges the agency faces in implementing this policy that one of the problems we have is a management problem. Since you deal with management more than policy, as an administrator, I think I just heard you say a second ago there is some push back and some resistance from some employees within the agency. Do you feel you have a pretty good handle on personnel at the agency

and do you implement and follow through on policies? When an employee does not follow through with rules and regulations, do you follow the policy in place so there is action taken to either force them to follow the policies, rules and regulations, you suspend them or get rid of them?

Mr. O'CONNOR. We do a number of things. There is no one answer to how to deal with the resistance that is out there. Some of the policies and procedures we have put in place, we have just said you must follow this policy and if you don't, we are not awarding the grant. I think probably what happened in the past, folks ignored some of that and the grant would get awarded anyway. So we have just drawn the line in the sand and said this has to be done or the grant doesn't get funded.

Mr. COSTELLO. Can you give me an example of when you have drawn the line in the sand and said because they are not following the rules and regulations, you either stop the grant or you have not awarded the grant because of that?

Mr. O'CONNOR. One example I mentioned earlier is the requirement that the grant package we receive have a clear statement of what the program expects the benefit of the grant to be. It has always frustrated me when my colleagues here go out and audit a grant file and can't see that simple, direct statement in there that says this is what we expect to get out of the grant and this is how it links to the agency strategic plan. So we reached the point where we just said that has to be in there or we are not accepting the package.

Mr. COSTELLO. The GAO points out that in order for the implementation to be successful there is a big education program that has to go on within EPA and also with the grantees as well. I am wondering, do you have plans within the agency for outreach, to reach out to the grantees and what that might be?

Mr. O'CONNOR. Yes, sir, we do. We have talked a lot about our oversight of the grantees but at the same time we have also made available training to the grantees so they understand, and a lot of our especially newer grantees who haven't perhaps dealt with the Federal Government, don't understand the rules, don't necessarily understand our expectations. So we have put on a number of training programs for the grantees. I think they were very well received and well attended.

Mr. COSTELLO. A final question for each of the witnesses today. I would ask you to give me a one word answer and maybe I will ask for a brief explanation. It appears to me from the testimony that at least some on the panel believe there should be peer review on every grant. I am wondering, starting with you, Ms. Tinsley, do you think it is a good idea for us to have peer review on every single grant?

Ms. TINSLEY. No.

Mr. COSTELLO. Mr. Stephenson?

Mr. STEPHENSON. Not every grant.

Mr. MOGHISSI. No. It should depend upon the level of funding and the recommendation of the Commission on Assessment Reviews spells it out. It ought to be in such a manner that depending on the level of funding, the rigor of the review ought to increase.

Mr. COSTELLO. What would the threshold be in your opinion, the size of the grant?

Mr. MOGHISSI. The CAR did not identify that so whatever I would say would be Alan Moghissi's personal opinion. The number \$10,000 was used, I believe that is way too low. It should not be for \$10,000, should not be much. Let us say \$10,000 to \$100,000 internal review and \$100,00 to \$150,000 should be a more rigorous review. Anything above \$250,000, very rigorous, independent external review. I am just giving an example.

Mr. MAGGIORE. I agree, I don't believe every grant would need to be peer reviewed but a process could be put in place to develop meaningful criteria within which peer review was an integral part.

Mr. COSTELLO. I thank the witnesses, Mr. Chairman. I would note it seems to me that if we are going to have effective implementation of this policy, there is a lot of work that has to be done on the part of EPA both internally with their employees and with the grantees. So you have a major task ahead of you.

Mr. DUNCAN. Thank you, Mr. Costello.

I have to tell you that I have served on four different committees in this Congress and I have sat through several hundred hearings and I was just thinking when you asked that question and Ms. Tinsley gave you a one word answer, how rare that was, almost never, a one word answer but that was good.

Let me say I have a group of airline executives sitting in my office who have been waiting for several minutes and I am going to have to conclude this. Let me say the staff is going to submit some additional questions that we want you to respond to in writing to supplement the record of this hearing. I will say Mr. Costello was getting into almost everything you read about this and I think almost all of you have gotten into this. We are pleased that we have seen some changes in regard to this grant process already and that is good and we have commended that. On the other hand, everybody says we have to do some additional things, we have a little further to go and that probably the major thing now is to try to change the mindset of the agency and the grantees as Mr. Costello was getting into. That is not an easy thing to do. In fact, it is a very difficult thing to do but that is sort of the next step in this process. We will be working with the IG and the GAO and the agency to try to see what is being done in that regard.

All of you have been outstanding witnesses. This has been a very interesting and informative hearing. I thank you very much for taking time out of your busy schedules to be with us.

That will conclude this hearing.

[Whereupon, at 4:48 p.m., the subcommittee was adjourned, to reconvene at the call of the Chair.]

Testimony of Peter Maggiore

July 20, 2004

The Subcommittee on Water Resources and Environment

Mr. Chairman, thank you for inviting me to testify today on the results of an independent peer review of discretionary grants awarded by the U.S. Environmental Protection Agency (EPA) to nonprofit organizations. I have forwarded copies of the testimony which I am about to give, along with a copy of my vitae for the congressional record.

The process that led to the review of grants awarded to nonprofit organizations by the EPA started when the Commission on Assessments and Reviews (CAR, of which I am a member) was asked by the staff of the Institute for Regulatory Science (RSI) to approve a process based on three phases:

1. Identification of appropriate metrics, which could be used to identify measurable environmental benefits;
2. Review of a sample of grants awarded to nonprofit organizations by the EPA; and
3. Recommendations to ensure a sound grant mechanism.

Environmental Metrics

The first step consisted of identification, and if necessary the development of measurable attributes, which could be used to assess the extent to which the grants may have brought about environmental benefits. The CAR established an Assessment Panel (AP) to review the existing legal mandates, as well as the scientific information to develop a set of environmental metrics. Based upon my experience as the former Secretary of Environment for the State of New Mexico, I was requested to be a member of that panel. The Assessment Panel was somewhat surprised to find that apparently no clear, concise, and comprehensive metrics were readily available to evaluate environmental benefits. I say "somewhat surprised" because it has been my experience that metrics such as these have only recently found their way into the toolbox of environmental agencies. For example, environmental agencies have historically measured "success" based upon staffing or funding levels rather than the number of pounds of pollutants per year that were kept out of an airshed or watershed.

The members of the Assessment Panel found themselves in general agreement with the stated mission of the EPA. Responding to the Government Performance and Results Act of 1993, in 1997 the EPA stated:

The mission of the U.S. Environmental Protection Agency is to protect human health and safeguard the natural environment—air, water and land—upon which life depends.

These environmental metrics developed during this process identify six general categories of actions that provide environmental benefits. Four distinct metrics are related to protection of human health; another

four metrics are devoted to ecological health; two metrics are each devoted to contaminant concentrations in environmental media and emission controls; three metrics are devoted to education and public outreach; and finally two additional general metrics were defined.

Best Available Science (BAS) is a key part of the metrics described above. In effect, the Assessment Panel stated that the only acceptable and measurable approach to protecting human or ecological health, and reducing emissions and concentration of pollutants, is to use Best Available Science. Actions that are based on faulty science do not necessarily protect human health regardless of the intention of those who undertook the action. The situation is analogous to a patient whose disease is either being diagnosed or treated. A misdiagnosis or an incorrect treatment of a disease is unhelpful regardless of the affection of those who care for the patient. Consequently, the Assessment Panel found that each grant should fulfill two criteria:

1. It must provide a measurable benefit to the environment; and
2. It must meet the requirements of Best Available Science, i.e., it must be based on peer-reviewed information.

Review Criteria

The primary reason for the development of environmental metrics was to identify criteria against which the results of each grant award could be evaluated. In performing this peer review, the Review Panel (RP) was provided with specific questions commonly referred to as review criteria to assess the validity of various scientific claims.

Selection Process

Once the process for identification of review criteria was completed, the next step was to select a reasonable number of grants among the over 300 grants that were completed in fiscal year 2002. Three attributes were identified for selecting grants: 1) one or more of the six topics included in the metrics identified above, such as human health, or emission reduction; 2) the level of funding; and 3) the nature of the organization receiving grants. In assessing the last attribute, organizations receiving grants were classified into seven categories such as universities and professional societies. Based on these criteria, 10 grants were selected by the RSI staff, and all collected information germane to these grants was forwarded to the Review Panel for analysis.

Results of Peer Review

The Review Panel was unable to identify a clear, defensible process by which the EPA selected the grant recipients. The traditional approach in evaluating the qualifications of the Principal Investigator (PI), or the institution receiving the grant, was seldom if ever followed. In many cases, there was no PI, or if a name was given, there was no evidence that the qualifications of the PI (for example, the academic qualifications or publication list) were even provided to the EPA—much less evaluated. For example, in one case (1000 Friends of Oregon), the initial organization (The National Growth Leadership Project) was invited to participate but was unable to receive funds. Consequently, 1000 Friends of Oregon was

provided the funds to support the project. There was only marginal evidence that any project was internally reviewed. There was no evidence of an independent peer review for most of the projects.

Another issue of concern identified by the Review Panel was that most of the projects reviewed dealt with public education, with a strong emphasis on ecological issues. Despite the significance of the protection of human health as the core of the EPA's mission, none of the 10 grants reviewed were identified as having dealt with human health. Similarly, with the exception of two grants, the environmental benefits of most grants were either not identifiable or unclear.

Examples

Despite the small number of grants reviewed, the selection process was sufficiently broad enough to include a wide spectrum of grants. An example of four projects is used to demonstrate this point, as follows:

1. The American Society of Civil Engineers (ASCE) is the professional society of civil, including environmental, engineers. Consistent with the tradition of professional societies, the ASCE, in cooperation with a consulting company, developed a guidance manual for Best Management Practices performance monitoring. A description of the details of the topic is beyond the scope of this discussion; instead the emphasis is meeting the requirements of measurable environmental benefits and those of Best Available Science. The panel found that this project met both.
2. The American Society for Testing Materials, sometimes called ASTM International, is an organization devoted to the development of voluntary standards (for example, this is the group that established the standards for performing environmental assessments prior to performing property transactions). The project—which was reviewed—was intended to assist ASTM in the development of a guidance document on common activities to be used by government agencies and the general public. This activity was also to support eventual development of relevant standards. Again, the panel found that this project met the requirement of providing a measurable environmental benefit, and meeting Best Available Science requirements.
3. The National Audubon Society received a grant to support activities related to Environmental Monitoring for Public Access and Community Tracking. This grant was provided to a group of organizations led by the National Audubon Society to count birds for input into a mathematical model. Because the bird-counting and its process were found to be questionable, its results are of little or no scientific value. There were other problems related to the lack of consideration of weather prediction. The project did not meet the requirements of Best Available Science.
4. A similar situation existed with Vermont Center for the Book. This grant relied upon a project entitled "Mother Goose Meets Mother Nature" to educate teachers of preschool children and Head Start Program trainers in environmental issues. The exact nature of the education was not identified in the report provided to the EPA. More importantly, the panel concluded that this project was not based on Best Available Science.

Conclusions

The Review Panel recognizes the importance of the role that discretionary grants play in the arena of stimulating innovating solutions to complex environmental and ecological problems. If such a discretionary mechanism did not exist, and grants were to be allocated simply based upon the need to try and solve existing problems of an already significant magnitude, unique opportunities to make scientific, technological, and engineering breakthroughs could be significantly impacted, if not lost.

Notwithstanding the above, the Review Panel found that the current process used by the EPA to receive applications, award grants, and evaluate their outcome can be significantly improved. Although several grants were found to provide environmental benefits, and were based on Best Available Science, many of the grants reviewed dealt with various aspects of education that emphasized ecological issues without consideration of the scientific validity of educational materials. Given that the primary mission of the EPA is the protection of human health, the EPA is urged to reassess its priorities in providing grants to nonprofit organizations. By establishing clear, representative environmental metrics, the EPA could enhance its ability not only to select the most important projects, but to evaluate each selected project's progress against criteria that would measure the achievement of environmental benefits.

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Ensuring Value from EPA Grants

FOLLOW-UP QUESTIONS

Questions for Peter Maggiore

1. Based upon the findings of the Review Panel, what can EPA do to improve environmental results from its grant program?

Most importantly, EPA needs to develop a comprehensive set of environmental metrics against which grant proposals can be evaluated. EPA may wish to adopt the metrics that were presented in the RSI report titled "Metrics for Assessing Environmental Benefits: Application to Certain EPA Grants", or, alternatively, Congress could direct EPA to develop their own set of metrics.

In addition, EPA should ensure that research conducted by grantees uses Best Available Science as discussed in the above report. Substantive information regarding the qualifications of the Principal Investigator for each grant should be required and reviewed by EPA prior to each grant award. It is equally important for grants which contain an educational component to require that Best Available Science be used as well.

2. How would peer review improve EPA's grant making process?

A tiered peer review process could be created and implemented with respect to the grant review process. EPA could develop both technical (based on the type of research or educational curriculum proposed) and financial (dollar amount of grant) criteria which, when exceeded, could trigger different levels of peer review. Not every grant awarded by EPA need be peer-reviewed.

In addition, for larger grants, EPA should consider the implementation of a scientific peer review process which examines the findings which result from selected significant grant awards. In this manner, the value of scientific peer review can be brought to the EPA grant process on both ends of the spectrum, greatly improving the probability of that any one individual grant award will result in a positive environmental benefit.

Testimony of A. Alan Moghissi, President

Institute for Regulatory Science

July 20, 2004

The Subcommittee on Water Resources and Environment

Mr. Chairman, thank you for inviting me to testify today on the results of an independent peer review of grants awarded by the U.S. Environmental Protection Agency (EPA) to nonprofit organizations. With your permission, I would like to briefly describe what led to the decision to perform these peer reviews, the peer review process, and the findings of this peer review.

I am a proud charter member of the EPA who was fortunate to have risen through its ranks. I am most grateful to my superiors at the EPA for giving me and most of my colleagues the opportunity to participate in scientific activities and be an active member of the scientific community. I have found that scientists at the EPA are at least as good, knowledgeable, and competent as scientists anywhere else.

Upon my retirement from the EPA, I formed the Institute for Regulatory Science (RSI). During my subsequent appointments at the University of Maryland and Temple University until mid-1995, the functions of RSI were transferred to those universities.

We at RSI are dedicated to the idea that societal decisions must be based on Best Available Science (BAS). As described in the attached document entitled "Best Available Science" (Attachment 2), we make a distinction between the reliability of scientific information and the status of science. The reliability of scientific information is categorized into personal opinion; gray literature; peer-reviewed science; and consensus-processed science. Similarly, the status of science is categorized into three main classes consisting of proven science (which includes confirmed science and applied science), evolving science, and fallacious information. Peer review is often used in applied science. The application of peer review and consensus processes is particularly appropriate for evolving science. Finally, peer review eliminates fallacious information from consideration. Note that the peer review and consensus processes are intended to be entirely independent from those who have a stake in the outcome of these activities. Consequently, whenever a reference is made to these processes, it means independent peer review and independent consensus process.

During the last decade, RSI has performed over 300 peer reviews for governmental agencies at federal, state, and local levels; as well as for Congressional committees. Most of these reviews have been performed under the auspices of a coalition of professional societies led by the American Society of Mechanical Engineers (ASME). We are fortunate to have been able to use the highest quality of individuals to oversee the peer review process and actually participate in peer reviews. These individuals are often extremely busy and the cost of their time would ordinarily be so high that a peer review would be prohibitively expensive. However, we are pleased to state that we have had no problem in finding highly-qualified individuals to support us.

**Testimony of A. Alan Moghissi, President
Institute for Regulatory Science
July 20, 2004**

Independent Peer Review

As stated above, peer review is the minimum requirement for acceptability of scientific information, including claims that are based on or include science. There is no disagreement within the scientific community that peer review is not only highly desirable but often is necessary when a scientific subject is contested. All reputable research funding agencies rely upon some form of peer review to award grants. Similarly, there is a consensus not only within the regulated community but also within the scientific community that the scientific foundation of regulations must be subjected to independent peer review. Despite this consensus, there is no generally-accepted definition of “peer review”—much less “independent peer review”. The controversy associated with the recent actions of the Office of Management and Budget (OMB) to provide guidance on the peer review process is indicative of the problem.

The peer review process used by RSI was developed during the program performed jointly with the ASME, a professional society with over 100,000 members not only within the United States but in most countries in the world. This professional society publishes a rather large number of technical journals containing peer-reviewed articles, and is a major developer of globally-accepted codes and standards. Attachment 3 is a document entitled “What is Independent Peer Review ?” which includes a brief description of the subject.

Peer Review of EPA Grants

The process that led to the review of grants awarded to nonprofit organizations by the EPA started when an associate claimed that the EPA staff can “give grants to anyone at will”. Subsequently, a report from the EPA’s Inspector General became available that at least partially confirmed this allegation. We were aware of the interest of this committee in EPA grants and thought that an objective review of the EPA’s grant-making process—using procedures that are accepted by the scientific community—would be useful to the discussion. We were unable to obtain funds to perform a comprehensive review of the process, but based on the encouraging letter from you, we scaled-down our efforts and performed a review of a sample of these grants.

The RSI undertook this review on a pro-bono basis because we believe everyone would benefit if we could help both Congress and the EPA find a way to ensure that the EPA’s considerable grant-making budget produces measurable environmental benefits.

This review took place in three phases:

1. Development of Metrics to identify measurable environmental benefits
2. Review of a sample of grants awarded to nonprofit organizations by the EPA
3. Recommendations to ensure a sound grant mechanism

Environmental Metrics: The first step was to develop objective measurements which could be used to assess the extent to which the grants may have brought about environmental benefits. An Assessment Panel reviewed the existing legal mandates, as well as the scientific information, and developed a set of metrics.

**Testimony of A. Alan Moghissi, President
Institute for Regulatory Science
July 20, 2004**

As stated by the Assessment Panel, a key part of the metrics for environmental benefits is reliance upon Best Available Science. These metrics identify actions that directly or indirectly promote human health. Similarly, they identify actions that directly or indirectly impact human health by reducing emissions of pollutants at the sources or their concentration in the environment. They also include actions that directly or indirectly promote ecological health. Finally, they include public information and educational activities—provided they are related to the metrics mentioned above. Consequently, each grant must fulfill two core criteria:

1. It must provide a measurable benefit to the environment
2. It must meet the requirements of Best Available Science, i.e., it must be based on peer-reviewed information

Review of EPA Grants: In the second step, a Review Panel used these metrics to review each grant. Recognizing that we could not review all grants that were completed in fiscal year 2002 (there were more than 300 of them), three attributes were identified for selecting grants: 1) the topic included in the metrics identified above, such as human health, emission reduction, and so on; 2) the level of funding; and 3) the nature of the organization receiving grants. The organizations receiving grants were classified into seven categories, such as universities, professional societies, and so on. Based on these criteria, 10 grants were selected and reviewed.

Recommendations of CAR: The third and final phase of the review consisted of recommendations derived from the work of the two panels. The Commission on Assessments and Reviews (CAR), which selected the two panels and oversaw the process, prepared these recommendations. Most of the recommendations follow the standard review of grants. The recommendations of the Commission on Assessments and Reviews emphasize reliance upon Best Available Science. Key elements of these recommendations included the development of metrics for environmental benefits and their subsequent application in awarding grants; the development of a scaling system to provide increasing rigor as the requested funding increases; a process for evaluation of qualification of investigators and institutions seeking grants; a timely processing of unsolicited proposals.

The recommendation dealing with unsolicited proposals should not be construed as favoring the continuation of the current process, but instead, as encouraging consideration of those unsolicited applications that identify a measurable environmental benefit and meet the requirements of Best Available Science. One of the key reasons for the success of American science and technology is that initiatives by individual investigators are encouraged. The reorganization of the grant system at the EPA should ensure that unsolicited proposals are encouraged and processed in a timely manner.

**Testimony of A. Alan Moghissi, President
Institute for Regulatory Science
July 20, 2004**

Conclusions

The outcome of the extensive activities performed during this review suggest that the current process used by the EPA to award grants to nonprofit organizations must be reevaluated and revised. Protection of the environment is important enough to require the development and application of measurable environmental benefits to be used in awarding grants and assess their effectiveness. Finally, in order to ensure that these metrics are appropriately measured, nothing short of Best Available Science is acceptable.

- Attachments:
1. CV for A. Alan Moghissi
 2. Best Available Science
 3. What is Independent Peer Review?
 4. Executive Summary
 5. Individuals Who Materially Contributed to the Peer Review

ATTACHMENT 2
BEST AVAILABLE SCIENCE

TESTIMONY OF A. ALAN MOGHISSI

PRESIDENT, INSTITUTE FOR REGULATORY SCIENCE
JULY 20, 2004

THE SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT

METRICS FOR ASSESSING ENVIRONMENTAL BENEFITS:
APPLICATION TO CERTAIN EPA GRANTS

REPORT OF THE ASSESSMENT PANEL
REPORT OF THE REVIEW PANEL

RECOMMENDATIONS OF THE COMMISSION ON ASSESSMENTS AND REVIEWS

INSTITUTE FOR REGULATORY SCIENCE**BEST AVAILABLE SCIENCE**

The public is often provided with contradictory scientific information. The news media are often accused of selecting scientists who support their preconceived notions. Advocacy organizations, certain regulatory agencies, and even certain members of the legislative branch of the government seem to follow the same path. The result is confusion and mistrust of science, scientists, and many important societal institutions. Those frustrated with the current situation have coined words such as "sound science" and "junk science" to identify the acceptability of scientific information. Meanwhile, the phrase "Best Available Science" or BAS is increasingly used to describe the level of acceptability of scientific information. The BAS concept is based on three important elements as follows:

1. Status of science
2. Selection process
3. Science vs non-scientific objectives

STATUS OF SCIENCE

The status of knowledge can be categorized into three classes consisting of proven science, evolving science, and fallacious information, each having two subgroups as follows:

Proven Science

Class IA - Confirmed Science: This class is equivalent to scientific law. It is scientific information that has been unequivocally confirmed and generally accepted. Note that each scientific law or scientific fact has its limitations and conditions for its validity. For example, the validity of the law of gravity has been well-established, including the fact that it does not apply to atomic nucleus. Similarly, the speed of light is known with a given accuracy. The differences in its measurement are within the generally-accepted accuracy.

Class IB - Applied Science: This class consists of application of scientific laws to various branches of commerce and industry. Engineering and other applied sciences fall into this class.

Evolving Science

Class IIA - Extrapolation: This class includes scientific information obtained by extrapolation from observations beyond its scientific validity. Most predictive models and a large segment of contested scientific information fall into this class. These include predicted changes in the global climate, and cancer assessment as performed by the U.S. Environmental Protection Agency (EPA). Data resulting from exposing rodents to high levels of chemicals (occasionally so high that a fraction of animals die of acute poisoning) are extrapolated by EPA to humans for exposure levels that are sometimes a million-fold lower.

Class IIB - Scientific Judgement: In many cases, decisions must be made without having the needed scientific information. The methodology for expert judgement is reasonably well-developed and consists

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of asking a number of individuals to give answers to specific questions and statistically assess the results. However, in absence of this rigorous system, the scientific judgement is no more than an educated guess.

Fallacious Information

Class IIIA - Speculation: This class consists of information that cannot meet the standards of scientific acceptability. Ethical consideration dictates that the nature of the information be clearly indicated. This requirement is mandatory for any scientist who engages in speculation. Furthermore, it is imperative that the scientific community develop unambiguous rules of conduct to ensure that speculation is identified as such.

Class IIIB - Pseudo-science: Sometimes called "junk science" or "politically-processed science", this information has the sole purpose of promoting someone's ideology. The champion of this class of science was Lysenko, a Soviet geneticist who claimed a new form of genetics. The result of implementation of his system was the destruction of genetics research in the Soviet Union and disastrous agricultural production in that country. Pseudo-science is by no means limited to the past or the Soviet Union. A large segment of information disseminated by certain advocacy groups can be classified into this category. Often the dissemination of pseudo-science is justified on the basis that it is necessary to exaggerate or scare people in order to move the democratic system. What is being overlooked is the long-term damage that misinformation causes.

SELECTION PROCESS

There are rational and reasonable uncontested methods to resolve scientific controversies. Briefly, scientific information is divided into the following four distinct categories:

Group 1 - Personal Opinions: Expression of views by individuals regardless of their training, experience, and social agenda, are included in this group. Personal opinions are seldom—if ever—BAS. At best, this category can be used to initiate the study of a scientific issue. Note the standard process of news media is reliance upon this category in its reporting of scientific issues.

Group 2 - Gray Literature: Written information prepared by government agencies, advocacy groups, and others that has not been subjected to an independent peer review is included in this category. This is the favorite category of government agencies, advocacy groups, and individuals who want to promote an idea. In fact, this category is the more organized and written form of personal opinions. Again here, at best, this category should be used to initiate a study. Experience shows that in the overwhelming majority of cases, this category does not meet the requirements of scientific acceptability.

Group 3 - Peer-Reviewed Science: Information subjected to an independent peer review constitutes this category. Peer review is the foundation of scientific acceptability. There are numerous requirements for acceptability of peer review. Briefly, the individual who is chosen as a reviewer must be a "peer" to the

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author of the study, and must have no conflict of interest. In addition, the author of the study must respond to the criticism by the peer to the satisfaction of an uninvolved person or organization.

Group 4 - Consensus-Processed Science: This category consists of information resulting from a process used to resolve scientific disputes. The prerequisite for this process is the formation of a group of peers under the auspices of an organization that is uniquely qualified to do so. Professional societies are primary candidates for this activity. There are, however, certain limitations to such an approach as follows:

1. Professional societies are qualified to manage the consensus process in their respective disciplines. For example, engineers cannot authoritatively speak on medical practice, and chemists cannot judge the validity of issues related to electrical engineering.
2. Management of the consensus process must exclude parochial interests of the profession represented by the professional society. Many professional societies represent their parochial interests and should disregard these interests during the consensus process.
3. Organizations established by Congress for the purpose of reaching scientific consensus must meet certain requirements. For example, the National Research Council (the research arm of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine) is uniquely qualified to evaluate interdisciplinary scientific issues. In contrast, the National Academy of Public Administration is qualified to address administrative issues, and the National Council on Radiation Protection and Measurements is qualified to evaluate issues related to radiation.

SCIENCE VS NON-SCIENTIFIC OBJECTIVES

There is ample evidence indicating that the intrusion of non-scientific objectives would jeopardize the objectivity and consequently the acceptability of scientific information. It is true that scientific investigation is performed because society wants to solve a problem or otherwise enhance the knowledge of humanity. In effect, the initiation or continuation of scientific activities is based on a societal objective. However, the inclusion of ideology, beliefs, or any other non-scientific objective in assessing the validity of scientific information is inconsistent with the foundation of BAS. Scientists have no monopoly on deciding what is good for society. Consequently, once the science is evaluated using the peer review or consensus process, members of other professions such as lawyers, accountants, or book sellers are as qualified to decide what is good for society as are members of the scientific community.

ATTACHMENT 3

WHAT IS INDEPENDENT PEER REVIEW?

TESTIMONY OF A. ALAN MOGHISSI

**PRESIDENT, INSTITUTE FOR REGULATORY SCIENCE
JULY 20, 2004**

THE SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT

**METRICS FOR ASSESSING ENVIRONMENTAL BENEFITS:
APPLICATION TO CERTAIN EPA GRANTS**

**REPORT OF THE ASSESSMENT PANEL
REPORT OF THE REVIEW PANEL**

RECOMMENDATIONS OF THE COMMISSION ON ASSESSMENTS AND REVIEWS

INSTITUTE FOR REGULATORY SCIENCE
WHAT IS INDEPENDENT PEER REVIEW?

INTRODUCTION

The need to provide scientific advice to the nation was recognized as early as the administration of Abraham Lincoln who established the National Academy of Sciences which resulted in the formation of the National Academy of Engineering and the Institute of Medicine. Recognizing the need for a joint research organization, the academies formed the National Research Council (NRC). More recently, Congress has found it necessary to establish the National Council on Radiation Protection and Measurements and the National Academy of Public Administration to supplement the activities of the NRC. The development of science, engineering, and technology has reached a level whereby it is not only desirable but mandatory to ensure that societal decisions rely upon the Best Available Science (BAS). Inherent in the BAS concept is independent peer review. For a number of reasons, including the passage of several laws by the Congress, it has become fashionable among federal agencies to claim that they perform "peer review" of many of their activities. Numerous reports of the NRC, along with those from the General Accounting Office (GAO) and many other organizations, indicate the deficiency of these claims. The fact is that several federal agencies—notably the U.S. Environmental Protection Agency (EPA)—have a long way to go to embrace the concept of BAS, including the independent peer review.

PRINCIPLES OF INDEPENDENT PEER REVIEW

The formation of the Institute for Regulatory Science (RSI) was a direct consequence of the recognition that a large number of our regulations are based on poor science. The expressed mission of RSI is the promotion of BAS. The concept of BAS separates scientific from societal aspects of a decision that include value judgements. In recent years, RSI has teamed up with the American Society of Mechanical Engineers (ASME)—one of the largest and oldest professional societies in the world—to formulate clear and unambiguous criteria guiding the performance of independent peer review. Based on the experience of ASME/RSI, the following principles were identified as the most important requirements for an independent peer review program:

Principle 1: *The selection of reviewers and the outcome of the peer review are the result of the consensus of a group rather than the decision of an individual.*

This principle implies that all decisions dealing with selection of reviewers and the review must be made collectively by a group of qualified individuals rather than a single individual. Consequently, the ASME/RSI process uses a committee appointed by a duly organized entity of ASME. This committee appoints Review Panels (RPs) who in turn perform the review.

Principle 2: *Clear and unambiguous policies ensure that conflict of interest is avoided or at least minimized.*

The issue of conflict of interest is normally addressed by having each reviewer sign a conflict of interest form implying that the individual has no conflict of interest. However, such an approach leaves the judgement

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entirely to the reviewer. An independent peer review process requires clear policies indicating what constitutes a conflict of interest. The policy guiding the conflict of interest should be: *Those who have a stake in the outcome of the review may not act as reviewer or participate in the selection of reviewers.*

Principle 3: *The findings and recommendations of the review panel address unambiguous and clear questions (sometimes called review criteria or lines of inquiry) identified by the sponsoring organization.*

The past experience of many federal agencies has resulted in skepticism indicating that reviewers appeared to have had a free reign in addressing any issue. A properly-managed independent peer review must be based on clearly identified questions (review criteria or lines of inquiry). To be sure, questions (review criteria or lines of inquiry) must be technically reasonable. However, they must be based on the needs of the manager and must be responsive to those needs.

Principle 4: *The findings and recommendations responding to the review criteria are constructive and helpful rather than being adversarial.*

This important and hereto under-emphasized principle is an integral part of independent peer review. As the review is intended to assist the managers in their decision process, it should be helpful to the decision makers rather than being confrontational.

Principle 5: *The participation of appropriately-selected stakeholders significantly enhances the credibility and acceptability of the results of peer review.*

The participation of stakeholders in an independent peer review is an asset. In the context of this principle, stakeholders are those who are personally impacted by a decision; those who must deal with it during the course of their occupation; and all others who have an interest in the outcome of the peer review or the peer review process. Experience indicates that a properly-managed program of stakeholder participation can avoid the sometimes disorderly and chaotic conditions that can result from such participation. Also, the experience indicates that a properly-designed and properly-conducted peer review will enhance the acceptance of the decision that is based on the results of the peer review.

DEFINITION OF INDEPENDENT PEER REVIEW AND RELATED ACTIVITIES

Independent peer review is often confused with other processes—notably internal reviews, technical advice, and many other forms of reviews. It is also confused with an important process called “independent technical assessment”. Although there are similarities among these processes, they are not identical.

Independent Peer Review

Independent peer review consists of a critical evaluation of a project. The project may consist of a study; the scientific foundation of a regulation; a program; competing submissions such as grants; scientific claims; or any other technical document. It is performed by an RP consisting of individuals who—by virtue of their education, experience, and acquired knowledge—are qualified to be peers of the investigators who participated

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in the performance of the project. A peer is an individual who is able to perform the project, or the segment of the project that is being reviewed, with little or no additional training or learning.

As indicated in the ASME/RSI principles described above, there are several critical criteria defining requirements for the appointment of members of an RP and the peer review process as follows:

1. Qualifications of the reviewers.
2. Independency of the reviewers from individuals, agencies, or organizations who may be impacted by the outcome of the review.
3. Evaluation of criteria on qualifications and independency of each proposed reviewer by a group with the functional title Peer Review Oversight Committee (PROC) whose members, in the judgement of an uninvolved technical organization, meet both the requirements for qualifications and independency.
4. Transparency of the peer review and its process.

Independent peer review constitutes the core of acceptability of scientific and engineering information; thus it is performed virtually by all professional societies of scientists and engineers in their publications and other activities. They are uniquely qualified to establish PROCs for peer review of specific subject areas.

Independent Technical Assessment

Independent technical assessment consists of a critical evaluation of a topic. There are significant differences between an independent peer review and an independent technical assessment. The independent peer review consists of rendering judgement on existing information. In contrast, the results of an assessment consist of information gathered, developed, or synthesized by the Assessment Panel (AP). The requirements for appointment of members of an AP are identical to those for independent peer review. Accordingly, the three criteria described under independent peer review apply equally to APs. In this case, the PROC is referred to as Technical Assessment Oversight Committee (TAOC).

Other Forms of Review

There are numerous other forms of reviews that do not qualify as either independent peer review or independent technical assessment. A large number of "peer reviews" performed by federal agencies fall into this category. In many cases, an individual within the federal agency evaluates the qualifications of the reviewer and assesses the reviewer's independency. Clearly, such an approach does not meet the three criteria identified above.

STRUCTURE OF INDEPENDENT PEER REVIEWS

A properly-designed independent peer review process is based on a tiered system. A peer review oversight committee (PROC) establishes policies and ensures that they are followed. The peer review of each project is performed by an RP established by the PROC. The elements of the program include the following:

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1. Oversight of Peer Review
2. Review Panels
3. Review Criteria
4. Technical Peer Review Reports
5. Requirements for Transparency of the Process

Peer Review Oversight Committee

The oversight of the peer review is the responsibility of a PROC to be established preferably by a relevant professional society of scientists and engineers. There is a tradition of cooperation among the professional societies to ensure coverage of the necessary disciplines among members of the PROC for the review of multi-disciplinary projects. The functions of the PROC include the following:

1. As the overseer of the entire peer review process, the PROC should enforce all professional and ethical requirements.
2. The PROC evaluates the qualifications and independency of members of each RP and approves those that it deems acceptable.
3. It reviews and approves reports resulting from peer review for compliance with professional and ethical requirements.
4. On occasion, the sponsoring organization responds to the recommendations of the RP. In these cases, the PROC renders a judgment on the responsiveness of the sponsoring organization to the recommendations of the RP.

Review Panels

Criteria for acceptability of members of an RP are as follows:

1. **Education:** A minimum of a B.S. degree, preferably an advanced degree in a relevant discipline is required. In rare cases, this criterion may be waived if the candidate is so outstanding, as demonstrated by the other three technical criteria.
2. **Experience:** In addition to education, the reviewer must have significant experience in the area that is being reviewed.
3. **Peer Recognition:** Election to an office of a professional society; serving on technical committees of scholarly organizations; and awards by recognized technical groups with similar activities are considered to be a demonstration of peer recognition.
4. **Contributions to the Profession:** Contributions to the profession may be demonstrated by publication— primarily in peer-reviewed journals. In addition, patents; presentations at meetings where the papers were peer-reviewed; and similar activities are considered to be contributions to the profession.

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5. **Independency:** One of the most complex and contested issues in peer review is a set of subjects collectively called “conflict of interest”. The ideal reviewer is an individual who is intimately familiar with the subject and yet has no monetary interest in it. The guiding principle for conflict of interest is as follows: *Those who have a personal stake in the outcome of the review may not act as a reviewer or participate in the selection of reviewers.*

Peer Review Criteria

Sometimes referred to as lines of inquiry, peer review criteria are questions provided to the RP to be answered. In a properly-performed independent peer review, the RP responds to review criteria affirmatively or negatively and explains the rationale for the response. In addition, the RP may decide to respond to more than one criterion or the totality of criteria. Responses to questions that were not asked or descriptions outside the scope of peer review are seldom—if ever—helpful.

Review Reports

The *Technical Peer Review Report* with the subtitle *Report of the Review Panel* contains the results of the peer review. Typically the report should consist of the following items:

1. Introduction describing activities that led to the preparation of the report, including a listing of submitted documents.
2. Executive Summary.
3. Summary of the subject that was reviewed.
4. Peer Review Criteria.
5. Findings of the Panel consisting of shortcomings and meritorious aspects of the project. Note that often Review Criteria and Findings are combined.
6. Recommendations of the Panel.
7. References.
8. Appendix containing significant comments of one reviewer which were not shared by others, or those that were considered to be beneficial to the Project Team, but were not important enough to be included in the main body of the report.
9. Biographical Summary of the members of the RP and the PROC and others who had significant technical impact in preparing the report.

Note that for competing submissions or other reviews containing proprietary information, provisions must be made to modify the process. Such a process is in place in the ASME/RSI independent peer review process.

Ideally, the *Technical Peer Review Report* is not completed with the *Report of the Review Panel*. It should be incumbent upon the sponsoring organization to respond to the recommendations of the RP. If such a procedure is followed, the addition of the response of the sponsoring organization converts the subtitle to *Interim Report*. The *Interim Report* is converted to *Final Report* after the PROC reviews and approves the *Report of the Review Panel* and accepts the response by the sponsoring organization.

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Transparency of Peer Review

One of the major reasons for mistrust of the scientific foundation of many regulations is the lack of transparency of the peer review process. Transparency of peer review implies that members of the public—notably the stakeholders—are as informed about the entire peer review proceedings as is the sponsoring organization. This requirement implies that information which is provided to the RP is made public at the same time that it is provided to the RP. It also implies that meetings of the RP, except its executive sessions when the RP writes its report, are open to the public. It also implies that any information about the review process, members of the RP, and any other information which is provided to the sponsoring organization is also provided to the public. The only exception to the transparency requirement is the distribution of proprietary and classified information to the public.

Public participation is a legally-mandated process and often requires a public hearing where every entity—individual or corporate—can participate. In contrast to public participation, stakeholder participation—if properly managed—is significantly more structured by identifying and addressing stakeholders' concerns about the issue at hand. On more than one occasion, arguments have been heard by stakeholders who consider their participation as “window dressing”. Conversely, many decision makers are often concerned by some stakeholders who believe that their recommendations *must* be adopted by the decision makers.

Stakeholder participation is particularly important in issues involving scientific decisions. Most stakeholders are highly critical of those organizations responsible for making scientific decisions, particularly U.S. agencies and industry. Consequently, stakeholder participation in independent peer reviews is key to the acceptability of the final decision.

OTHER RELEVANT SUBJECTS

Management of an independent peer review requires attention to many more details than is described in this document. For example, in a large-scale project, no reviewer should be used more than two to three times during the life of that project. If so, the Project Team tends to pander to idiosyncrasies of individual reviewers. Similarly, members of the RP should include senior individuals who may have broad knowledge, as well as junior investigators who have detailed knowledge of a specific subject, but may not have the experience and “wisdom” of more senior investigators. Finally, maintenance of the integrity of the review requires that members of the RP avoid private interactions with members of the Project Team.

ATTACHMENT 4
EXECUTIVE SUMMARY

TESTIMONY OF A. ALAN MOGHISSI

PRESIDENT, INSTITUTE FOR REGULATORY SCIENCE
JULY 20, 2004

THE SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT

METRICS FOR ASSESSING ENVIRONMENTAL BENEFITS:
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This project started with an exchange of letters between the President of the Institute for Regulatory Science (RSI) and the Chairman of the Subcommittee on Water Resources and Environment of the U. S. House of Representatives. The letter from the Chairman of the Subcommittee was so encouraging, that RSI chose to pursue a peer review of grants awarded to nonprofit organizations that were completed in Fiscal Year 2002. Unfortunately, no funding could be identified to support this activity. For practical reasons, only 10 of over 300 grants could be peer reviewed. The review was overseen by the Commission on Assessments and Reviews (CAR), an interdisciplinary group of highly-distinguished individuals. The peer review occurred in three phases as follows:

PHASE I: DEVELOPMENT OF METRICS FOR ENVIRONMENTAL BENEFITS

Initially, an attempt was made to identify metrics for environmental benefits that had been subjected to an independent peer review. These attempts were less than fully successful. Consequently, an Assessment Panel was formed by the CAR to develop these metrics. These efforts resulted in the following metrics for environmental benefits.

Human Health

1. Reduction in human morbidity, as demonstrated by reduction in either the prevalence or the incidence of human disease related to a specific environmental exposure.
2. Reduction in human mortality, as demonstrated by reduction in the death rate from human disease related to a specific environmental exposure, using standardized mortality ratios.
3. Reduction in the risk of developing human disease related to a specific environmental exposure, as demonstrated by relative risk; attributable risk; or population attributable proportion.
4. Reduction in the risk of developing cancer following exposure to an environmental carcinogen using approved methodologies for cancer risk assessment.

Ecological Health

5. Protecting the population of threatened species or individual members of endangered species.
6. Desired changes in the size of the population of a species in an ecosystem.
7. Protecting or restoring the habitat of a threatened or endangered species in an ecosystem.
8. Increasing the diversity of habitat types or species in an area where those species or habitats historically existed.

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Contaminant Concentrations In Environmental Media

9. Reduction in concentrations of pollutants in air, water, food, or soil to legally-mandated limits for areas that exceed the regulatory standards.
10. Reduction in concentrations of carcinogens in environmental media.

Emission Controls

11. Emission reduction of pollutants that exceed legally-mandated limits.
12. Waste reduction or increased recycling in economic production activities.

Education And Public Outreach

13. Promotion of environmental science and technology in educational institutions, relevant conferences, or similar activities—provided that all information is based on best available science.
14. Other actions that directly or indirectly improve the public understanding of environmental issues—provided the information describes laws, regulations, or legally-mandated standards.
15. Public outreach activities to inform those who are directly impacted by an impending legal or regulatory decision about its scientific and legal background.

Other

16. Other actions that directly or indirectly reduce the exposure of people to pollutants to legally-acceptable limits or their equivalent for pollutants for which no limits have been established.
17. Other activities demonstrating that at least one of the metrics identified above has been directly or indirectly addressed.

PHASE II: PEER REVIEW OF 10 GRANTS

During this phase, environmental metrics developed during the first phase were converted to review criteria. These criteria were subsequently used by the Review Panel (RP) to prepare Findings for each grant as follows:

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The review criterion consists of two parts: While the first part deals with promotion of environmental science and technology, the second part requires that the science and technology be based on best available science.

The primary goal of the project was attending to the subject of Smart Growth. The concept of Smart Growth implies that there is a connection between development and quality of life. Smart Growth attempts to preserve open space, and questions the wisdom of abandoning "brownfields" in older communities, and agricultural lands at the suburban fringe.

Clearly, the poorly-planned growth of cities and suburban areas has adverse human health and possibly ecological health effects. The most obvious problem is traffic congestion and other associated problems such as air pollution. However, there is considerable dispute on the appropriate approach to achieve a smart growth. The information provided to the RP does not indicate that an appropriate selection was made on a reasonable approach to smart growth. Based on the participating organizations, it appears that limited or no growth was the primary objective of the grant.

The documents provided to the EPA do not provide evidence that the information used in these activities or produced during this grant was based on best available science. In particular, no evidence was provided that the presentations or documents used during the meetings, or the documents prepared during this grant, relied upon peer-reviewed information or were peer-reviewed by independent reviewers.

Of particular significance is Term and Condition 1 for the grant—attachment B to funding decision memorandum. This term requires that "The applicant shall create a peer input process and a peer review process for Task E, Case study of The effects of federal Economic and Policy Incentives and Programs on Development Patterns in Northern Michigan." A report entitled "Breaking the Sprawl Addiction—a Twelve Step Program" was produced and published in the Great Lakes Bulletin, an organ of the Michigan Land Use Institute that is available on the Internet. This document does not appear to involve a credible peer input process nor to have been peer-reviewed. Also, it does not meet the terms and conditions of the grant, as described above.

American Society for Testing & Materials

For much of the last century, ASTM International has been the preeminent standards development organization in the United States. In recent years, ASTM International has expanded its activities outside the United States. As a general rule, ASTM standards are adopted by the American National Standards Institute (ANSI), that in turn are adopted by various regulatory and other agencies, including the EPA, in support of construction activities; plastics; emergency medical services; sports equipment; petroleum; and the environmental industry. The ASTM Committee D34 deals specifically with the development of consensus standards for wastes generated by industrial, commercial, residential, and institutional sources. The submittal identifies 28 key contacts among the 480 members of D34 that represent participants from industry, academia, consulting, legal, and government sectors. It appears that "key contacts" are the current active participants on the Committee.

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The development of standards covering waste management and other environmental issues is not only in the interest of the EPA but the nation as a whole. In addition to education and public outreach, these standards provide tools for minimizing the adverse effects of various kinds of industrial activities. As indicated by the National Technology Transfer Improvements Act of 1995, federal agencies are strongly encouraged to participate in the development and use of standards developed by voluntary organizations. The process used by ASTM International is designed to encourage and assure that the best available science is incorporated both in the development of new regulations and the review and updating of existing regulations on a well-defined periodic basis.

The new standards and guidance manual developed in this project are contributions to the available standards and guidelines for protecting the environment from adverse effects of waste management activities.

American Society of Civil Engineers

This project is one component of a much broader ongoing cooperative project with the EPA aimed at developing a more sound understanding of stormwater BMP performance. The ongoing project was initiated in 1995 by the EPA in cooperative agreements with ASCE's Urban Water Resources Research Council (UWRRC). The ongoing project is administratively managed by ASCE, and the technical activities are led by a project team consisting of three principal investigators (PIs) who are members of ASCE's UWRRC, and claimed to be recognized experts in the stormwater management field. One of these PIs led the technical activities performed in the specific project being reviewed here.

The ASCE is the premier preeminent civil engineering professional society in the United States. It has a long tradition in promoting the art and science of the civil engineering profession, and in publishing materials that have been subjected to independent peer review. The ASCE's Urban Water Resources Council (UWRRC) is the leading group of stormwater management professionals in the United States. Because of these factors, ASCE has unique expertise, skills, and resources for pursuing the overall project objectives. The activities performed by the group led by ASCE in support of stormwater management are well within the core areas of its competency. Although not specifically stated, based on the process used by ASCE, it can be assumed that the activities of ASCE are consistent with the requirements of best available science.

The new guidance manual developed in this project is a contribution to the ongoing cooperative ASCE-EPA project aimed at the development of a more sound understanding of stormwater BMP performance. The ongoing project is aimed at improving management practices for minimizing damage to the environment from stormwater flooding.

Environmental Defense Fund

An assessment of the compliance of this grant with the requirements of the review criterion consists of two segments:

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Segment 1: The project must be assessed on its potential environmental merit.

Segment 2: This segment must examine whether the information developed in segment one is consistent with the requirements of best available science.

The development of a relational database that combines existing databases on environmental toxicity of materials clearly promotes the cause of environmental protection. However, segment two of review criterion (i.e., compliance with the requirements of best available science) significantly impacts this aspect. This project provided the RP with some limited evidence as to the precise source of the scientific data inserted into the database. Scientific evidence that this database was tested and the results of the tests were subjected to independent peer review were not provided.

The RP was provided no evidence that qualifications of the organizations participating in this grant were assessed. Similarly, it appeared that the description of qualifications of the investigators was brief for a thorough evaluation. Finally, the RP was concerned with the lack of robustness associated with the project close-out memorandum; specifically, no evidence was provided on the results of activities regarding the remainder of the EPA funds of \$220,589 (\$235,289-\$14,700).

National Association of Counties

The recipients of this grant are the organization of county governments and their engineering research organization. The information provided to the Review Panel indicates that the recipients are well-qualified to perform the activities included in the grant. The Non-Point Source Pollution Project was well-organized with definite goals and a clear working plan. Similarly, the biographical summaries of the investigators were sufficiently detailed to allow the reviewers to make a judgment regarding their qualifications.

The project developed numerous informational materials and guidance documents and organized a number of workshops. All of these appear to have enhanced the understanding of the recipients of these services on Nonpoint Source Pollution Prevention issues. The level of cooperation with other groups related to the National Association of County Officials was exemplary. The process used in the development of the Action Guide appears to be consistent with the requirements of best available science.

National Association of State Energy Officials

The recipient of this grant is an "instrumentality" of the state governors. Based on the information provided to the Review Panel, the primary focus of this grant was to inform the state officials of SIPs for air pollution control requirements. Accordingly, this grant was directly related to this criterion. The question of the validity of the scientific foundation of the EPA's SIP is beyond the scope of this review. The staff involved in this investigation appears to be well qualified for the task of organizing and developing guidance of environmental compliance issues. The grantee brings together both the technical and the legal (regulatory) side.

**Institute for Regulatory Science
Executive Summary****National Audubon Society**

Assessment of migration patterns of birds is likely to be relevant in understanding changes in population sizes of specific species. The development of a system that uses approaches such as radar or bioacoustics is reasonable. Similarly, confirmation of a technology by actual counting of birds is essential. During the course of the program, radar and bioacoustical data were collected. The program was highly successful in recruiting control observers (birdwatchers or "citizen scientists") to collect visual counts of various bird species. However, no "groundtruthing" evidence correlating radar and/or bioacoustics to actual bird counts was presented to the Review Panel (RP). Furthermore, no evidence was provided to the RP indicating that the radar or bioacoustic technologies as used in the program were subjected to independent peer review. The RP was somewhat handicapped by the fact that some web sites (e.g., <http://www.birdcast.org/>, <http://noth.audubon.org/facts.html>) were not available during the time-frame of this peer review. Of considerably more concern was the process used to count birds. The quality of the data collected by the birdwatchers is questionable. Equally important was the requirement of weather prediction. The lack of adequate weather prediction (even for only 12 hours) is likely to significantly limit the applicability of the forecast algorithm.

The program was highly publicized; it widely disseminated educational materials for the public; and the web site had wide viewership. However, the RP was not provided with evidence that the educational materials developed by Audubon as part of this project were subjected to independent peer review or resulted in benefits to migrating bird populations or their habitat(s). Although the intention of the project had potential environmental benefits, its performance was inconsistent with the requirements of best available science.

The biographical summary of the Principal Investigator was too brief for a reasonable evaluation. Similarly, the documents available to the RP did not include the names or biographical summaries of co-investigators.

Resources for the Future Inc.

Based on the information provided to the Review Panel (RP), a total of 13 projects are covered by this cooperative agreement between the EPA and RFF. The structure of this cooperative agreement appeared confusing to the RP. It appeared that the EPA was using RFF as a contractor rather than a grantee by asking RFF to perform specific tasks (and by providing the associated funding). Given the significant size and scope of the cooperative agreement, the RP's assessment of RFF having met the requirements of the review criterion is mixed. For example, the activity whose results were published in a reputable peer-reviewed technical journal appears to meet the requirements for both promotion of environmental science and technology and best available science. Conversely, there are several other activities whose results were either not published or published using other media.

Areas of study covered by the cooperative agreement include many subjects of significant public interest. It may have been useful to reduce the total number of projects funded, and to subject the remaining projects to some form of consensus process with the participation of affected industry and public policy makers. Such an approach could have included the economics of CO₂ control and health benefits of reducing CO₂ emissions.

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Given the size of this cooperative agreement, the RP expected a thorough evaluation of the organization and the qualifications of the Principal Investigators to have been performed by the EPA. No information was provided to the RP that either took place.

The Environmentors Project

This project entailed environmental studies carried out by high-school students under the supervision of mentors drawn from the environmental science community. Creating a culturally-diverse scientific work force has proven to be very difficult. An early step in such a process is getting well motivated students to attend college. Ninety-one percent of the seniors subsequently enrolled in college.

The information necessary to judge the quality of the projects that were actually carried out was not provided. Therefore, the Review Panel cannot affirm that this project used best available science as specified in the Review Criterion.

Vermont Center for the Book

Based on the information provided to the Review Panel (RP), it was evident that the program participants enjoyed the training they received and implemented the program in their classrooms or other educational settings. Anecdotal stories from teachers indicated that the children impacted by the program enjoyed the stories and activities and became more "environmentally aware". However, the information does not provide quantitative or qualitative evidence suggesting that environmental education was significantly enhanced in either the teachers or their students. In particular, the initial project proposal indicated that pre- and post-assessment surveys would be given to project participants to assess success of the training. Data from these surveys was not provided. Apparently a post survey was given and some valuable feedback for program improvement was obtained. However, it is not possible to assess the actual impact of the program on student learning relative to other programs that may have been in place prior to implementation of the MGMMN Program. Similarly, there is no evidence that the information used is based on best available science. Consequently, it appears that there is no evidence that this project promotes environmental science and technology in educational institutions, relevant conferences, or similar activities based on best available science. On a more positive note, the RP found evidence that the number of teachers and students who received the program exceeded the initial goals of the principal investigators.

The RP was concerned that the Environmental Protection Agency (EPA) appeared not to require a reasonable justification for selecting the grantee. In particular, apparently, the EPA did not require an individual with appropriate qualifications to be the Principal Investigator of this grant.

PHASE III: RECOMMENDATIONS OF CAR

Recognizing the need for recommendations during this phase, Findings of the RP along with draft recommendations prepared by the RP in Phase II were evaluated by the CAR to prepare the following recommendations:

**Institute for Regulatory Science
Executive Summary**

Recommendation 1: The Congress is urged to mandate that the EPA undertake the development of systematic and comprehensive metrics for environmental benefits. These metrics should be derived from and founded within existing federal environmental laws. Upon completion of this effort, the EPA's results should be subjected to independent peer review.

Recommendation 2: The Congress is urged to mandate that the EPA develop a strategy on the management of discretionary grants. This strategy should include levels of review that increase in a manner that is commensurate with funding thresholds. For example, the EPA may consider a level of funding below which nominal review would suffice.

Recommendation 3: The Congressional mandate should include the requirement that the EPA develop reasonably-clear criteria on how the qualifications of nonprofit organizations seeking grants are assessed. In particular, these organizations must demonstrate that they have the necessary competency to perform the specific studies mentioned in their proposal.

Recommendation 4: The Congressional mandate should also include the requirement that the EPA develop reasonably-clear criteria on how the qualifications of the Principal Investigator and Co-Investigators seeking grants are assessed. In particular, these key investigators must demonstrate that they have the necessary competency to perform the specific studies mentioned in their proposal.

Recommendation 5: The Congressional mandate should also include the requirement that the EPA identify specific metrics for submitted grants, and ensure that the submission includes sufficient details demonstrating that the proposal addresses the requirements of the specific metrics.

Recommendation 6: In order to ensure that the scientific reputation of the EPA is enhanced and the accusation of arbitrariness is muted, the Congressional mandate should include the requirement that the EPA develop an independent peer review process to review grants that are above a certain funding threshold. This independent peer review process should be managed by an external independent organization under the oversight of relevant professional societies.

Recommendation 7: The Congressional mandate should include the requirements that the EPA identify the funds that are devoted to general topic areas listed in the metrics included in this report, or a new set of metrics resulting from the implementation of Recommendation 1. The results of such an assessment should be subjected to independent peer review.

Recommendation 8: The EPA should ensure that unsolicited proposals receive appropriate consideration as long as they are likely to result in environmental benefits.

ATTACHMENT 5

**INDIVIDUALS WHO MATERIALLY
CONTRIBUTED TO THE PEER REVIEW**

TESTIMONY OF A. ALAN MOGHISSI

**PRESIDENT, INSTITUTE FOR REGULATORY SCIENCE
JULY 20, 2004**

THE SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT

**METRICS FOR ASSESSING ENVIRONMENTAL BENEFITS:
APPLICATION TO CERTAIN EPA GRANTS**

**REPORT OF THE ASSESSMENT PANEL
REPORT OF THE REVIEW PANEL**

RECOMMENDATIONS OF THE COMMISSION ON ASSESSMENTS AND REVIEWS

INSTITUTE FOR REGULATORY SCIENCE**INDIVIDUALS WHO MATERIALLY CONTRIBUTED TO THE PEER REVIEW ON
METRICS FOR ASSESSING ENVIRONMENTAL BENEFITS:
APPLICATION TO CERTAIN EPA GRANTS**

Edwin H. Abbott: Professor Emeritus and Past Head of the Department of Chemistry at Montana State University, Bozeman, Montana.

Erich W. Bretthauer: Past Assistant Administrator for Research and Development at the U.S. Environmental Protection Agency (Member of the Commission on Assessment and Reviews but recused himself from participation).

Melvin W. Carter: Neely Professor Emeritus at Georgia Institute of Technology and Past Director of National Environmental Research Center at the U.S. Environmental Protection Agency, Las Vegas, Nevada.

Ernest L. Daman: Chairman Emeritus of Foster Wheeler Development Corporation and Past President of the American Society of Mechanical Engineers.

Albert J. Erickson: Past Deputy Director of the Office of Water Quality and Standards at the U.S. Environmental Protection Agency, and Past Associate Director for Information and Training of the Office of Environmental Health and Safety at the University of Maryland, Baltimore.

Nathan H. Hurt: Past President and Director of Research and Development at Goodyear Tire and Rubber Company and Past President of the American Society of Mechanical Engineers.

Richard T. Jacobsen: Associate Director for Energy and Environmental Sciences at Idaho National Engineering and Environmental Laboratory and Professor at the University of Idaho.

Betty R. Love: Executive Vice President of the Institute for Regulatory Science and Past Director of the Department of Information and Training at Temple University, Philadelphia, Pennsylvania.

Peter Maggiore: Past Secretary of Environment Department for the State of New Mexico and Principal Scientist with Portage Environmental, Inc.

Phillip G. Malone: Research Geologist at the U.S. Army Corps of Engineers Research and Development Center, Vicksburg, Mississippi.

A. Alan Moghissi: President of the Institute for Regulatory Science and Past Principal Science Advisor for Radiation and Hazardous Materials at the U.S. Environmental Protection Agency; and Past Assistant Vice President and Associate Vice President at the University of Maryland, Baltimore, and Temple University respectively.

Lawrence C. Mohr, Jr: Director of Environmental Biosciences Program and Professor of Medicine at the Medical University of South Carolina and Past member of the White House Medical Unit.

**INSTITUTE FOR REGULATORY SCIENCE
INDIVIDUALS WHO MATERIALLY CONTRIBUTED TO THE PEER REVIEW**

John E. Moore: Past President of the International Association of Hydrogeologists and Past President of the American Institute of Hydrology.

Goetz K. Oertel: Past President and CEO of the Association of Universities for Research Astronomy; Past Acting Manager of Savannah River Operations Office and Past Deputy Manager of Albuquerque Operations office at the U.S. Department of Energy.

Harold W. Olson: Research Professor at the Colorado School of Mines and a Scientist Emeritus of the U.S. Geological Survey.

Mark Radosevich: Associate Professor of Soil Microbiology at the University of Tennessee, Knoxville, Tennessee.

James J. Smyth: Deputy Assistant Secretary of the Army for Project Planning and Review and former Acting Deputy Assistant Secretary of the Army for Policy and Legislation.

Sorin R. Straja: Vice President for Science and Technology at the Institute for Regulatory Science and Past Director of the Department of Occupational Safety and Health at Temple University, Philadelphia, Pennsylvania.

Charles O. Velzy: Past President of Charles R. Velzy Associates and Past President of the American Society of Mechanical Engineers.

Roger P. Whitfield: Former Deputy Assistant Secretary for Environmental Restoration and Past Director of the Environmental Division, Savannah River Operations at the U.S. Department of Energy.

Richard Wilson: Emeritus Malinckrodt Professor and Past Chair of the Department of Physics at Harvard University.



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August 18, 2004

Honorable John Duncan, Jr., Chairman
Subcommittee on Water Resources and Environment
Committee on Transportation and Infrastructure
586 Ford House Office Building
Washington, DC 20515

Dear Congressman Duncan:

Thank you for your letter dated July 28, 2004 and the request to respond to the question "What kind of peer review framework would you recommend for EPA grants based [on] varying project matter and dollar values?"

The attachment to this letter includes the response to your question. Thank you for considering me, and be assured that the staff of the Institute for Regulatory Science will be happy to support scientific activities of your Subcommittee.

Sincerely yours,



A. Alan Moghissi, PhD
President

AAM:bri

Attachment

Funding Level II: A grant at this level requires an internal EPA review by individuals other than the project manager. Again, here the internal review must ensure that any scientific component is based entirely on peer-reviewed information. In addition, evaluation of the competency of an organization and the investigators must be reviewed by this internal group. Due to the relatively small level of funding, rarely if ever, would an Independent Peer Review be required.

Funding Level III: Any grant at this level requires an Independent Peer Review not only for scientific components of the grant but also for the qualifications of the investigators; the suitability of the institution seeking grants; and many other parameters. Note that the funding level should be reflected in the nature and complexity of the Independent Peer Review. For example, the number of reviewers, their technical disciplines, and other components of the review make the Independent Peer Review process significantly more complex for a grant of \$1,000,000 as compared to a grant of \$250,000.

Examples of Dollar Values for Various Levels

The exact dollar value for each level should be considered carefully to ensure that project managers are not unduly restricted from discharging their responsibilities while the requirements of Independent Peer Review are met. Similarly, a funding level structure that may be suitable for one program may not necessarily be suitable for other programs. Consequently, a thorough assessment of the subject is necessary to identify appropriate dollar values for each funding level. The following example should be considered as a guide on how to establish funding levels:

Funding Level I: \$25,000 or less

Funding Level II: between \$25,000 and \$100,000

Funding Level III: Above \$100,000

Conclusions

The Congress should urge the EPA to perform a study for the establishment of dollar values for the three proposed levels or a similar staggered system. The process should ensure that the requirements of environmental benefits and BAS are met while project managers are not unduly restricted to perform their duties.

PEER REVIEW FRAMEWORK FOR EPA GRANTS

Congressman Duncan, Chair of the Subcommittee on Water Resources and Environment of the Committee on Transportation and Infrastructure of the U.S House of Representatives, asked for a response to the question "What kind of peer review framework would you recommend for EPA grants based [on] varying project matter and dollar values?"

In the report *Metrics for Assessing Environmental Benefits: Application to Certain EPA Grants*, the Commission on Assessments and Reviews recommended "In order to ensure that the scientific reputation of the EPA is enhanced and the accusation of arbitrariness is muted, the Congressional mandate should include the requirement that the EPA develop an Independent Peer Review process to review grants that are above a certain funding threshold. This Independent Peer Review process should be managed by an external independent organization under the oversight of relevant professional societies."

Consistent with this recommendation, three criteria are identified to respond to Congressman Duncan's question as follows:

1. The grant has to address at least one of the metrics that demonstrate an environmental benefit.
2. It must meet the requirements of Best Available Science (BAS) i.e, must be based on information that has passed Independent Peer Review.
3. A staggered process must be used that considers the funding level.

Given the broad responsibilities of the EPA, it is hard to provide an approach that would cover all types of grants—including those authorized by various laws—as well as unsolicited grants. The subject is complex and would require a thorough assessment to evaluate the current process; consider potential options; and recommend an appropriate strategy that meets the necessary criteria. Therefore, only the foundation of such an approach can be developed.

Proposed Approach

Based on the three criteria, a combination of level of funding and an appropriate confirmation of compliance with both metrics and BAS is proposed. The requirement of peer review, even for a relatively small level of funding, can be best demonstrated on grants related to public information and the education of children. The latter is of considerable significance as children are particularly vulnerable and only the Best Available Scientific Information must be used in these activities. An appropriate process consists of dividing grants into three levels of funding as follows:

Funding Level I: A grant at this level can be awarded by an authorized project manager. At this level, the project manager is responsible to ensure that the proposal either:

1. Has no scientific component (e.g., the proposal is to facilitate a meeting, or buy computers for a local environmental agency); or
2. Has scientific components which are entirely based on peer-reviewed information.

**STATEMENT OF
DAVID J. O'CONNOR
ACTING ASSISTANT ADMINISTRATOR FOR
ADMINISTRATION AND RESOURCES MANAGEMENT
U. S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
U.S. HOUSE OF REPRESENTATIVES**

July 20, 2004

Mr. Chairman, thank you for the opportunity to appear before the Subcommittee to address the subject of today's hearing -- "Measuring Results of EPA Grants--What is the Public Getting for Their Money?"

Each fiscal year (FY), EPA awards an average of \$4 billion in grants, approximately half of the Agency's budget. This funding is a key mechanism by which EPA's national media program managers, in partnership with grant recipients, deliver environmental protection to the public. Most of the grant funds -- about 89% -- go to States, Tribes and local governments. The remaining dollars are divided between non-profit organizations (6.6%), educational institutions (4.2%) and individuals, foreign recipients and profit-making organizations (.2%). Some of EPA's funding is the result of Congressional earmarks. For example, in FY 2003, funding for earmarks comprised approximately 13% of EPA's total grant dollars and 51% of the total grant dollars to non-profit organizations.

EPA has an obligation to the taxpayer to manage its grant dollars effectively and ensure they further the Agency's mission. However, since 1995, EPA's grants management practices have been criticized by Congress, the General Accounting Office (GAO) and EPA's Office of the Inspector General (OIG). These concerns have largely centered on non-State grants, particularly

grants to non-profit organizations, with an emphasis on grant competition, pre-award review, oversight, environmental results and accountability. Over the period 1995 to 2001, the Agency took steps to respond to these concerns. EPA issued formal post-award monitoring policies, virtually eliminated a grant closeout backlog of some 20,000 grants, provided grants management training to over 4,000 project officers, encouraged grant competition, and initiated development of an automated Integrated Grants Management System.

However, despite these improvements, the Agency continues to face key grants management challenges as noted in recent GAO and OIG reports, the Agency's own internal reviews and in Congressional hearings. The areas requiring continued attention include grantee selection, oversight, accountability, and environmental results.

To address these challenges, EPA issued its first-ever long-term Grants Management Plan (Plan), with associated performance measures, in April 2003. GAO has described the Plan in positive terms, characterizing it as a coordinated, integrated approach to improving grants management. The Plan establishes five strategic goals to guide the Agency in building an effective system of grants administration. These goals include: (1) enhance the skills of personnel involved in grants management; (2) promote competition in the award of grants; (3) leverage technology to improve program performance; (4) strengthen EPA oversight of grants; and (5) support identifying and realizing environmental outcomes.

As discussed below, the Agency is moving aggressively to implement the Plan, refining our corrective actions as necessary to incorporate recommendations for improvement contained in the GAO and OIG reports and from Congressional hearings.

OVERVIEW OF PERFORMANCE

I am pleased to report that EPA has made significant progress in carrying out our long-term Plan. In 2003, the Agency achieved its performance goals for 8 of the 9 measures that had 2003 targets.

Specifically:

- Virtually all (99.2%) of EPA's grants were managed by certified project officers.
- 86.4% of non-exempt new grants over \$75,000 were competed exceeding a target of 30%.
- 76.4% of non-exempt new grants over \$75,000 to nonprofit recipients were competed exceeding a target of 30%.
- 79.6% of the regional grant packages were submitted electronically exceeding a target of 65%.
- It took an average of 27.4 days to award a grant which was significantly better than the target of 57 days.
- 1000 advanced monitoring reviews were performed representing 18.4% of active recipients exceeding a target of 10%.
- Seven comprehensive internal reviews of EPA grants management operations were completed meeting a target of seven reviews.
- All post-award monitoring plans were submitted on time.

The one measure that was slightly below target was closeouts. As of October 31, 2003, 96.0% of the grants ending in FY 2001 were closed out against a target of 99%, and 83.0% of the grants ending in FY 2002 were closed out against a target of 90%. EPA requires that offices that

do not meet their closeout targets identify the steps they are taking to address closeout backlogs. EPA will closely monitor closeout performance during 2004 to ensure that any closeout backlogs are substantially reduced or eliminated.

KEY ACCOMPLISHMENTS, INITIATIVES AND CHALLENGES

In addition to meeting almost all key performance targets, we have completed more than 65 action items in support of the Plan and are taking steps to steadily improve grants management.

Enhancing Grants Management Skills -- Goal 1: On June 29, 2004, EPA's senior-level Grants Management Council approved the Agency's first-ever long-term Grants Management Training Plan (Training Plan), which is linked to EPA's Strategy for Human Capital.

The Training Plan is designed to enhance the skills of EPA personnel (both managers and staff) involved in grants management and improve grant recipients understanding of Federal grant requirements. It includes the following major elements.

- First, building upon ongoing efforts to emphasize core competencies, the Training Plan requires expanded training for project officers and grants specialists in areas identified in audit reports and the Agency's internal reviews, such as application and budget/cost analysis, procurement review, conducting competitions, environmental outcomes, and prohibitions on the use of grant funds for lobbying or suing the Government.
- Second, in order to prevent problems from occurring, the Training Plan details the

Agency's strategy for educating recipients on their grants management responsibilities.

- Third, under the Training Plan, all managers and supervisors will be required to take mandatory on-line grants management training before they will be allowed to approve grant awards.
- Fourth, the Training Plan commits EPA to establishing an Agency-wide approach to training project officers. This will ensure consistent training by National Program Managers in key areas such as environmental outcomes, statutory authority and cost reviews, and particularly benefit project officers in Regional and field locations.
- Fifth, the Training Plan maximizes the use of on-line training. All courses for EPA staff and grantees will be available on the Internet and accessible on a 24-hour basis.

Promoting Competition -- Goal 2: EPA is committed to effectively implementing its Grants Competition Policy, which went into effect on October 1, 2002. In concurring in the Policy, the Office of Management and Budget (OMB) described it as "...a strong step in the right direction that should increase competition." The Policy is designed to use competition to promote fairness in the grant award process and help ensure that EPA funds high priority projects at the least cost to the taxpayer.

While the Policy exempts certain grants, such as State and Tribal program grants and Congressional earmarks, it covers a wide range of EPA grant activities, including many grants to non-profit organizations. It also created a Grants Competition Advocate (GCA) position within

the Office of Grants and Debarment. The GCA has broad authority to administer the Order, including issuing interpretive guidance, approving specified exemptions and resolving disagreements between program and grants management offices.

The GCA recently completed an in-depth review of the Policy's effectiveness. While the review found that EPA had made substantial progress in promoting competition in the first eighteen months of the Policy, it also identified changes necessary to enhance competition. Based on the review, EPA intends to reduce the current competition threshold of \$75,000 to \$10,000, which will make approximately an additional \$8.3 million subject to the Policy. The Policy also will be changed to improve the quality of the competition process by increasing oversight of the use of non-competitive exceptions and strengthening documentation and evaluation requirements.

Leveraging Technology -- Goal 3: EPA believes that the deployment and enhancement of the Integrated Grants Management System (IGMS) is essential to strengthening grants management. IGMS is a paperless, programmatic and administrative system that fully automates the grant process from cradle to grave. It provides a structured format for reviewing the key factors that must be considered and documented in awarding a grant. It also provides electronic tracking of grant milestones, products and post-award activities, thereby strengthening project officers' oversight capabilities, and will accept applications and reports from Grants.gov, the Federal electronic portal for grant application and reporting. IGMS is now deployed in all ten EPA Regions and, over the next two years, will be fully deployed at EPA Headquarters.

In addition, EPA continues to participate in the interagency Grants.gov initiative under Public Law 106-107. This initiative is designed to streamline and simplify the award and

administration of Federal grants by creating a simple, unified source to electronically find, apply for and report on Federal grants. EPA is posting synopses of competitive grant opportunities on Fedgrants.gov (E-Find) and complying with the OMB mandate to begin providing electronic applications (E-Apply) through Grants.gov for selected grant programs. I am pleased to announce that the Office of Grants and Debarment and the Office of Research and Development recently posted an electronic application for the Science to Achieve Results (STAR) program. The application process closed on June 22, 2004 and we received 16 electronic applications that represents about 30% of all applications received for this STAR program. Other programs will be posted later this year. The STAR program pilot will provide valuable experience as we prepare to make all EPA-competitive grant programs available for electronic application on Grants.gov.

As a supplement to our IGMS and E-grants efforts, we are taking steps to improve the quality, consistency, completeness and accessibility of the grant award data made available to the public. This will include modifying EPA's Web site to make it easier for the public to get information about EPA grants and expanding the amount of information available on active grants.

Strengthening Oversight -- Goal 4: On December 31, 2002, the Office of Administration and Resources Management (OARM) issued a comprehensive post-award monitoring policy, EPA Order 5700.6, that significantly expands the Agency's post-award monitoring program. It requires baseline monitoring for all active awards on an ongoing basis. It also provides for advanced monitoring (i.e., on-site reviews and desk reviews) on a minimum of 10% of EPA's active grantees and mandatory reporting of these activities in a Grantee Compliance Database.

As noted above, the Agency completed over 1000 advanced monitoring reviews in 2003 representing 18.4% of its active recipients, which exceeded our performance target of 10%. Moreover, we have implemented, or are in the process of implementing, major GAO recommendations for strengthening post-award monitoring. In this regard, effective for calendar year 2004, we have required EPA staff to use a standard reporting format when entering advanced monitoring reviews in the Grantee Compliance Database and have included in the Database information on OIG and GAO reports, Agency advanced monitoring reviews, significant compliance actions taken by the Agency and A-133 audits. This will make it easier for EPA to identify systemic issues early on and take appropriate corrective action. Moreover, after consulting with statisticians, the Agency will pilot test in 2005 a statistical approach to selecting grantees for advanced monitoring. Based on the results of the pilot, we will implement a statistical approach Agency-wide.

In implementing its post-award monitoring program, EPA has increasingly focused on taking actions against non-profit recipients that are poorly performing from either an administrative or programmatic standpoint. While non-profit recipients play a vital role in disseminating information to communities on EPA's voluntary programs, it is true that some of these recipients have not managed their grants properly. In calendar year 2003 alone, EPA conducted 408 advanced monitoring reviews of non-profit recipients, or 37% of the total 1093 advanced monitoring reviews conducted. Moreover, a recent GAO report on EPA monitoring entitled **Grants Management: EPA Actions Taken Against Nonprofit Grant Recipients in 2002**, analyzes grants management problems that EPA identified with non-profit recipients in 2002 and the corrective actions taken. The analysis indicates that in many cases EPA successfully

required recipients to correct their financial management systems or placed controls on recipient expenditures pending resolution of audit issues.

We have continued to take significant actions against specific non-profit grant recipients to address grants management performance problems. In 2003, our advanced monitoring reviews revealed that about 22% of our reviewed non-profit recipients had one or more grants management problems. In these cases, under EPA's post-award monitoring policy, we require recipients to develop corrective action plans to address the deficiencies. If the grant management weaknesses are not addressed in the specified time frames through corrective action plans, we take more significant action. This includes placing recipients on reimbursement payment, issuing stop work orders, imposing special terms and conditions, terminating awards, and making referrals to the OIG to initiate comprehensive audits. For example, the Agency recently placed two large non-profit recipients on reimbursement payment while we conduct further investigations into apparent financial irregularities involving commingling of Federal grant funds, statutory consultant cap violations, and violations of the Federal Cash Management Act. We are currently in the process of modifying our Grantee Compliance Database to track the number of significant actions that we have taken against grantees, including non-profits.

While post-award monitoring is an important objective under Goal 4, the Plan also commits the Agency to take a variety of "early warning" approaches to prevent problems from occurring. This includes revamping EPA's internal grants management reviews, increasing technical assistance and training to recipients and developing a pre-award review program.

EPA is making substantial progress in all of these areas. For example,

- In 2003, the Agency instituted a new approach to internal reviews that provides

EPA with an early warning system to detect emerging grant weaknesses. The approach consists of three types of reviews: Comprehensive Grants Management Reviews performed by the Office of Grants and Debarment (OGD); Grants Management Self-Assessments performed by Headquarters and Regional offices based on OGD guidance; and Grants Performance Measure Reviews conducted by OGD, which use information in Agency databases to assess progress against Grants Management Plan performance measures. OGD conducted ten comprehensive reviews in 2003/2004. In addition, EPA's program offices conducted six self-assessments in 2004. If problems are identified in these reviews, program offices must develop and carry out corrective action plans.

- To educate recipients about their grants management responsibilities, OGD: 1) conducted several classroom training sessions for non-profit and Tribal recipients in 2003 and 2004; 2) in partnership with the OIG, distributed an instructional video to non-profit grantees in January of this year; 3) recently issued guidance to non-profit recipients on how to purchase supplies, equipment, and services under EPA grants; and, 4) developed an informational CD containing applicable regulations and guidance materials.
- The Agency is developing a pre-award policy to help ensure that grants are not awarded to non-profit organizations that have weaknesses in their administrative capability to manage grant funds or the programmatic capability to carry out a project. Non-profit organizations seeking funds above a specified threshold (e.g., \$100,000) will be required to document their administrative capability to properly

manage grant funds. Documentation may be through a questionnaire which would require OMB approval under the Paperwork Reduction Act. Non-profit applicants with identified weaknesses will be required to correct them before receiving a grant award or drawing down on grant funds. Further, non-profit applicants that repeatedly refuse to take appropriate corrective action will be referred to EPA's Suspension and Debarment program for consideration. At its June 29, 2004, meeting, the Agency's Grants Management Council recognized the need for the policy, which OARM expects to have in place in 2005.

A major objective under Goal 4 is to strengthen accountability for quality grants management. Historically, the Agency has not always managed its grants in accordance with sound business principles, which has contributed to accountability problems. However, as evidenced by our work in the following areas, EPA is beginning to create a culture of accountable grants management.

First, in 2002, then Deputy Administrator Linda Fisher issued two directives requiring senior managers to hold employees accountable for effective grants management and to include compliance with grants management policies as part of mid-year performance discussions, which occurred in July 2003.

Second, starting with calendar year 2004, the performance standards of all staff and managers involved in managing grants must include their grants management responsibilities. End-of-year performance evaluations are required to include a discussion of the employee's performance against these grants management standards. OGD monitors compliance with these requirements through its comprehensive grants management reviews.

Third, as agreed to by the Agency's Grants Management Council, EPA will be issuing a policy directive in late 2004 that will clarify the roles and responsibilities of employees involved in managing grants, including project officers, grant specialists and senior resource officials. This policy directive will strengthen accountability for effective grants management by reducing confusion regarding roles and responsibilities of staff and managers and promote consistency in the administration of grants.

Fourth, in FY 2003, the Agency required the Assistant Administrators (AAs) and Regional Administrators (RAs), for the first time, to outline in their assurance letters under the Federal Managers' Financial Integrity Act (FMFIA) the steps they are taking to address the grants management weakness. In these letters, the AAs and RAs commit to the Administrator of EPA that they will ensure effective grants management in their offices. This requirement has been carried forward into the FY 2004 FMFIA process, and will include a certification from AAs and RAs that grants management performance standards are in place.

Fifth, the Agency created in April 2003, an Excellence in Grants Management Program to recognize and reward EPA offices that substantially exceed the performance targets in the Grants Management Plan. The winners of the 2003 competition were announced at the June 29, 2004, Grants Management Council meeting, and the Agency will continue the program in 2004 focusing on competition, post-award monitoring and closeouts.

Sixth, EPA's new Strategic Plan includes language emphasizing the importance of grants management and links the activities in the Grants Management Plan with the attainment of the Agency's strategic goals. The need for this linkage is reinforced by the Agency's FY 2003

Annual Report, which, as recommended by GAO, outlines performance targets and results achieved under the Grants Management Plan.

Seventh, to ensure senior management attention to grants issues, EPA established in 2003 the Grants Management Council which is composed of the Agency's Senior Resource Officials. The Council has held three meetings to date, and provides coordination, accountability and leadership as the Agency implements the Grants Management Plan.

Eighth, we have developed a Tactical Action Plan, which outlines commitments and milestone dates under the Grants Management Plan and identifies who is responsible for completing these commitments. OGD reviews this Tactical Plan on a quarterly basis to monitor progress.

Finally, the Agency is addressing resource issues for accountable grants management on two fronts. To determine the most efficient use of existing resources, EPA initiated in 2003 an analysis of grant specialist and project officer workloads. The Agency expects to complete the analysis in 2004 and based on the results, will make appropriate changes to the structure of its grants work force. Additionally, as part of the President's FY 2005 budget, we plan to invest an additional \$1 million to further strengthen grants management. These resources will assist Regional Grants Management Offices by providing funding for an additional 60 on-site reviews, an on-line training program for at-risk recipients, and critical indirect cost rate negotiations for non-profit recipients. This investment also will enhance accountability by supporting mandatory Agency-wide training for managers on their grants management responsibilities.

While we are making progress in enhancing accountability, significant challenges remain. For example, restructuring the Agency's grants management workforce, where nearly 35% of the

Agency's 2,000 plus project officers manage one or two grants, is a difficult undertaking that will take years to complete. Further, employees are understandably concerned about the cumulative impact that new grants management policies and procedures will have on their already heavy workload. Addressing these challenges will require time, commitment and a sound strategic approach.

Achieving Environmental Results -- Goal 5: EPA has made some progress in achieving environmental results in its grants programs. For example, the Brownfields Program was evaluated recently by OMB using the Program Assessment and Rating Tool (PART). In this evaluation, OMB focused on program design, management, and performance. The Brownfields Program achieved a "results demonstrated" score, largely through the strength of "property assessment" performance measures. Brownfields program grantees report on the outcome of their activities, specifically completing property assessments, which is compiled in this program performance measure. As of July 2004, 1,052 assessments have been completed, 5,023 jobs have been leveraged and \$1.49 billion dollars have been leveraged.

Nevertheless, Goal 5 recognizes that EPA must improve its ability to plan, measure, and report the results of its grants and align them with the achievement of goals and objectives in the Agency's Strategic Plan. This is a subset of a larger issue faced by EPA under the Government Performance and Results Act (GPRA) in assessing how its programs contribute to realizing environmental outcomes. Goal 5 commits the Agency to incorporating outcome measures in grant work plans and strengthening performance reporting by grantees.

In support of Goal 5, EPA issued an interim policy on environmental results in January 2004. Under the interim policy, EPA's Grants Management Offices (GMOs) do not award grants

unless the program office funding package includes a description of how a project or program will further the goals of EPA's Strategic Plan.

Effective January 1, 2005, EPA will replace the interim policy with an EPA Order on environmental results under assistance agreements. Responding to concerns of Congress, GAO and the OIG and to the findings of OMB's PART reviews, the Order will ensure that EPA grants are results-oriented and aligned with the Agency's strategic goals.

The Order will affect the entire grant process starting with competitive solicitations through the review of final recipient performance reports. Specifically, it will require that:

- Competitive grant announcements describe expected outputs and outcomes and how the grant program is linked to EPA's Strategic Plan/GPRA architecture;
- Competitive grant announcements contain ranking criteria for evaluating an applicant's ability to identify, track and measure expected outcomes and an applicant's past performance in reporting on outcomes;
- Program offices negotiate grant workplans that contain well-defined outputs, and to the maximum extent practicable, well-defined outcomes that can be linked to the Agency's Strategic Plan/GPRA architecture;
- GMOs return program offices' funding packages that do not provide required assurances of well-defined outputs and outcomes or describe Strategic Plan linkages; and
- Program offices review interim and final recipient performance reports to assess progress in achieving agreed-upon outputs and outcomes.

The Order also will require EPA's National Program Offices to report on significant results information from completed grants as part of the Agency's Annual Report process and in their internal evaluation systems.

Measuring the results of EPA grants is one of the greatest challenges faced by the Agency. We had anticipated having the EPA Order, and associated grantee tutorials, in place by January 2004. We were unable to do so due to the complexity of the technical issues involved. Further, given the delay in the issuance of the Order, the Agency may be unable to meet the 2004 performance target under the Grants Management Plan (i.e., 70% of grant workplans/decision memoranda/terms and conditions containing a discussion of environmental outcomes.) Nonetheless, we recently submitted the Order into the Agency's directives clearance process and are on track to have a final policy in place by January 2005. To ensure effective implementation, we will provide training for project officers at our National Grants Management Training Conference in November and develop an Agency-wide, environmental results training curriculum under our long-term Training Plan.

CONCLUSION

Under the long-term Grants Management Plan, EPA has put in place a comprehensive system of management controls and initiatives to address its grants management weakness. We have been careful to make adjustments in the design and implementation of the system to incorporate GAO, OIG and Congressional recommendations. Given EPA's past uneven performance in reforming grants management, it is fair to ask whether this system will be any more successful than previous efforts. The answer, I believe, lies in the cultural shift that is beginning to develop within the Agency towards accountable grants management. As with any

major cultural change, this shift will not occur overnight, and it will require the Agency to adopt a new way of thinking about how grants are managed. In carrying out our 5-year plan, we are putting in place the pieces necessary for success, including:

- Strong senior leadership, as evidenced by Deputy Administrator directives, Assistant Administrator/Regional Administrator commitments in the FMFIA process, and the aggressive role being played by the Agency's Senior Resource Officials on the Grants Management Council;
- Effective communication, as demonstrated by the ongoing efforts of National Program Managers to emphasize the importance of accountable grants management to staff; and
- Enforcement of new grants policies and procedures through internal reviews and performance evaluations.

In short, EPA believes that this emerging culture of accountability will allow the Agency, over time, to become a "best practices" agency for grants management. As we continue to implement our long-term Plan, we remain committed to working with Congress, GAO, the OIG, and our partners, including States, Tribes, local governments, non-profit organizations and educational institutions, to eliminate the grants management weakness.

Thank you for providing me the opportunity to discuss these important issues with you today. I would be happy to respond to any questions that you may have.

**EPA'S RESPONSES TO FOLLOW-UP QUESTIONS
FROM THE JULY 20, 2004 HEARING BEFORE THE
TRANSPORTATION AND INFRASTRUCTURE COMMITTEE
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT**

“Ensuring Value From EPA Grants”

QUESTION 1: What is being done to hold EPA employees accountable for poor grant oversight?

ANSWER: A major objective under Goal 4 of EPA's Grants Management Plan is to strengthen accountability for quality grants management. As evidenced by our work in the following areas, the Agency is beginning to create a culture of accountable grants management for its oversight activities.

First, in 2002, then Deputy Administrator Linda Fisher issued two directives requiring senior managers to hold employees accountable for effective grants management and to include compliance with grants management policies as part of mid-year performance discussions. These discussions occurred in July 2003.

Second, starting with calendar year 2004, Agency policy requires that the performance standards of all staff and managers involved in managing grants include grants management responsibilities. End-of-year performance evaluations are required to include a discussion of the employee's performance against these grants management standards. The Office of Grants and Debarment will be monitoring compliance with these requirements through its comprehensive grants management reviews.

Third, to ensure senior management attention to grants issues, EPA established in 2003 the Grants Management Council (GMC) which is composed of the Agency's Senior Resource Officials (SROs). The Council has held three meetings to date, and provides coordination, accountability and leadership as the Agency implements the Grants Management Plan. SROs continue to communicate to staff the importance of accountable grants management, as evidenced by a September 8, 2004 grants management forum for project officers held by the Deputy Assistant Administrator for Water.

Fourth, as agreed to by the GMC, EPA will be issuing a policy directive in late 2004 that will clarify the roles and responsibilities of employees involved in managing grants, including project officers, grant specialists and SROs. This policy directive will strengthen accountability for effective grants management by reducing confusion regarding roles and responsibilities of staff and managers and promote consistency in the administration of grants.

Fifth, in FY 2003, the Agency required the Assistant Administrators (AAs) and Regional Administrators (RAs), for the first time, to outline in their assurance letters under the Federal Managers' Financial Integrity Act (FMFIA) the steps they are taking to address the grants

management weakness. In these letters, the AAs and RAs commit to the Administrator of EPA that they will ensure effective grants management in their offices. This requirement has been carried forward into the FY 2004 FMFIA process. In accordance with guidance issued by the Office of the Chief Financial Officer, AAs and RAs must describe in their FY 2004 assurance letters the steps they have taken to develop/implement grants management performance standards.

Sixth, the Agency created in April 2003, an Excellence in Grants Management Program to recognize and reward EPA offices that substantially exceed the performance targets in the Grants Management Plan. The winners of the 2003 competition were announced at the June 29, 2004 GMC meeting, and the Agency has continued the program in 2004 focusing on competition, post-award monitoring and closeouts.

Seventh, in 2004, the Agency continued its Assistance Management Awards program, which is designed to recognize EPA employees involved in quality grants management. This year's winners included five individual awards and one group award. These awards will be presented at the Office of Administration and Resources Management (OARM) awards ceremony in the fall.

Eighth, the Agency is addressing resource issues for accountable grants management on two fronts. To determine the most efficient use of existing resources, EPA initiated in 2003 an analysis of grant specialist and project officer workloads. The Agency will be completing this analysis shortly and discussing the results of the analysis at the next GMC meeting in November. Additionally, as part of the President's FY 2005 budget, we plan to invest an additional \$1 million to further strengthen grants management. These resources will assist Regional Grants Management Offices by providing funding for additional on-site reviews, an on-line training program for at-risk recipients, and critical indirect cost rate negotiations for non-profit recipients. This investment also will enhance accountability by supporting mandatory, Agency-wide training for managers on their grants management responsibilities.

QUESTION 2: What is being done to hold grantees accountable?

ANSWER: In implementing its post-award monitoring program, EPA has increasingly focused on taking actions against non-profit recipients that are poorly performing from either an administrative or programmatic standpoint. While non-profit recipients play a vital role in disseminating information to communities on EPA's voluntary programs, it is true that some of these recipients have not properly managed their grants. In calendar year 2003 alone, EPA conducted 341 advanced monitoring reviews of non-profit recipients, or 29% of the total 1093 advanced monitoring reviews conducted. Moreover, a recent GAO report on EPA monitoring entitled Grants Management: EPA Actions Taken Against Nonprofit Grant Recipients in 2002, analyzes grants management problems that EPA identified with non-profit recipients in 2002 and the corrective actions taken. The analysis indicates that in many cases EPA successfully required recipients to correct their financial management systems or placed controls on recipient

expenditures pending resolution of audit issues.

We have continued to take significant actions against specific non-profit grant recipients to address grants management performance problems. In 2003, our advanced monitoring reviews revealed that about 22% of our non-profit recipients had one or more grants management problems. In these cases, under EPA's post-award monitoring policy, we require recipients to develop corrective action plans to address the deficiencies. If the grant management weaknesses are not addressed in the specified time frames through corrective action plans, we take more significant action. This includes placing recipients on reimbursement payment, issuing stop work orders, imposing special terms and conditions, terminating awards, and making referrals to the OIG to initiate comprehensive audits. For example, the Agency recently placed two large non-profit recipients on reimbursement payment while we conduct further investigations into apparent financial irregularities involving commingling of Federal grant funds, statutory consultant cap violations, and violations of the Federal Cash Management Act. We are currently in the process of modifying our Grantee Compliance Database to track the number of significant actions that we have taken against grantees, including non-profits.

While post-award monitoring is an important objective under Goal 4, the Plan also commits the Agency to take a variety of "early warning" approaches to prevent grantee compliance problems. This includes providing technical assistance and training to recipients and developing a pre-award review program.

EPA is making substantial progress in these areas. For example,

- To educate recipients about their grants management responsibilities, OGD: 1) conducted several classroom training sessions for non-profit and Tribal recipients in 2003 and 2004; 2) in partnership with the OIG, distributed an instructional video to non-profit grantees in January of this year; 3) recently issued guidance to non-profit recipients on how to purchase supplies, equipment, and services under EPA grants; and 4) developed an informational CD containing applicable regulations and guidance materials.
- The Agency is developing a pre-award policy to help ensure that grants are not awarded to non-profit organizations that have weaknesses in their administrative capability to manage grant funds or the programmatic capability to carry out a project. Non-profit organizations seeking funds above a specified threshold (e.g., \$100,000) will be required to complete a questionnaire documenting their administrative capability to properly manage grant funds. On August 19, 2004, EPA published in the Federal Register a notice of this proposed information collection. Non-profit applicants with identified weaknesses will be required to correct them before receiving a grant award or drawing down on grant funds. Further, non-profit applicants that repeatedly refuse to take appropriate corrective action will be referred to EPA's Suspension and Debarment program for

consideration. At its June 29, 2004 meeting, the Agency's Grants Management Council recognized the need for the policy, which OARM expects to have in place in 2005.

QUESTION 3: Please discuss how the number of grants currently subject to competition compares to all grants. Also discuss what category of grants should not be competed, as well as whether more grants should be made subject to competition?

ANSWER: In FY 2003, EPA awarded 3,514 grants of which 1,243 or 35% were subject to the competition order.

The number of grants currently subject to competition under EPA's Grants Competition Policy is small in comparison to all grants awarded by the Agency. This is primarily because EPA's Grants Competition Policy specifically exempts certain programs from coverage. Major program exemptions include State/Tribal assistance agreement programs that support continuing environmental program grants or restoration (e.g., Clean Water Act section 106 program grants and State Revolving Fund capitalization grants). These grants are in excess of \$3 billion annually. In addition, the Grants Competition Policy exempts a number of other programs, including congressional earmarks to identified recipients, senior environmental employment program cooperative agreements, and assistance awards to foreign governments and to United Nations and similar international organizations.

The Grants Competition Policy also permits Program Offices to submit requests to the Grants Competition Advocate (GCA) to exempt other grant programs from competition. These grant programs may be exempted from competition only when the Program Office can demonstrate that (1) there is an unusual and compelling urgency that precludes competition, (2) the interests of national security justify a non-competitive award, or (3) competition is not in the public interest.

Further, the Grants Competition Policy identifies circumstances which may justify the non-competitive award of individual grants that are not part of a grant program. These are based in large part on the exceptions to competition that are contained in the Federal Acquisition Regulations that apply to Federal procurement. For example, the policy allows individual awards to be made non-competitively: based upon a finding that there is only one responsible source; where urgent and compelling circumstances or national security considerations preclude competition; for unsolicited proposals that meet certain requirements; or if competition is determined not to be in the public interest. In addition, non-competitive awards may be made to co-regulator organizations performing co-regulator activities (e.g., awards to the Environmental Council of States (ECOS) to provide comments on EPA policies affecting the States).

As part of evaluating the effectiveness of EPA's Grants Competition Policy that went into effect in October 2002, the GCA analyzed whether the exemptions and exceptions **from competition mentioned above were properly** used. The GCA also considered ways to increase

the number of grants subject to competition. As a result of this evaluation, and in order to increase the number of grants subject to competition, the Agency intends to lower the dollar value threshold for competition of grants from \$75,000 to \$10,000, and impose more stringent requirements for the award of certain non-competitive grants. This should increase both the numbers and dollars of grants subject to competition.

QUESTION 4: What is being done to use a risk-based approach in selecting grants for advanced monitoring?

ANSWER: Agency policy (*EPA Order 5700.6 A1, Policy on Compliance, Review and Monitoring*) requires that each EPA Headquarters and Regional Office prepare a Post Award Monitoring Plan (PAMP) that outlines the steps the office will be taking in the coming year to monitor and assess its grant recipients. Headquarters and Regional offices are required to conduct advanced monitoring reviews on 10% of their active recipients.

Recipients are selected for advanced monitoring reviews based on risk criteria that are documented in the PAMPs. Suggested criteria may include, but are not limited to: referrals, audit findings, agency priority, recipient experience, project(s) cost, risk, recipient location, statutory or other requirements, earmarks, and funding by multiple programs. Each recipient for a potential review is evaluated against the defined criteria and assigned a point value. Those recipients with the highest total point values are most likely to be selected for advanced monitoring reviews.

The table below describes in more detail the suggested criteria that may be used in selecting recipients for advanced reviews.

**Suggested Criteria for Identification of Recipients
For Advanced Monitoring**

1. Desk Review Referral	Findings from desk reviews indicate that a site visit may be needed
2. Other Referrals	Grant specialist, project officer, Office of General Counsel, Las Vegas Financial Management Center, etc. (i.e. late reports -- FSRs, progress, poor performance) referrals.
3. Unstable Organization	EPA Grants Management Office (GMO) aware of internal management problems.
4. Audit Findings	Available audit or evaluation findings or financial stability data on an organization. An audit report which indicates serious internal control problems. (i.e. A-133, IG).

5. Type of Recipient	Non-profit, state, tribe, university, county, sub-state, city/municipality. GMO determination of recipient priority due to regional concerns.
6. Agency Priority	Projects of high visibility/priority within the Agency.
7. Experience of Recipient	New organization or one that has not had grants for three years.
8. Cost	High-cost projects (grants totaling \$1 million or greater).
9. Multiple Program Support	Recipients with assistance agreements from several different funding authorities within an agency.
10. Geographic Location	Proximity to other recipients scheduled for monitoring (limited points).
11. Recurring Recipient	Recipients with a large number of assistance agreements awarded.
12. Earmarks	Congressional line items and add-ons.
13. Statutory/Regulatory Requirement	Additional post-award administrative and performance management and review required by statute or regulation.
14. Local Factors	Discretionary points awarded due to extenuating circumstances (i.e., management concerns, current high priority issues -- human subjects, Congressional oversight)

As an alternative to the 10% advanced monitoring requirement, EPA is developing a statistical approach to selecting grantees for advanced monitoring. The approach will involve performing a statistical analysis to determine what percentage of the recipient population would have to be sampled in order to make valid inferences about the entire population. As part of this effort, we will be exploring how risk-based factors can be used in the sampling process.

QUESTION 5: Can you provide some assessment of the nature and extent of the resistance to change in policy from within EPA and from grantees?

ANSWER: As noted in the answer to Question 1 above, the Agency is beginning to make a cultural shift toward accountable grants management. However, as with any major cultural change, this shift will not occur overnight and will require a new way of thinking about how grants are managed. In this context, employees are understandably concerned about the

cumulative impact that new or revised policies in the area of grants competition, pre-award reviews and environmental results will have on their already heavy workloads. To address those concerns, the Agency is performing a workload analysis of project officer/grant specialist workloads, proposing to invest additional resources in grants management as part of the President's Fiscal Year 2005 budget, and seeking program office input as new policies are developed.

As noted in the answer to Question 2 above, in administering its post-award monitoring program, EPA continues to identify non-compliance issues on individual grant agreements, particularly agreements with non-profit organizations. However, to date, the Agency has not received adverse comments from the grantee community at large on its new policies and procedures. The comment period on EPA's Federal Register Notice proposing to collect information on the administrative capability of non-profit applicants will close on October 18, 2004. At that time, we will evaluate whether and to what extent non-profit organizations object to the information collection. Similarly, as EPA begins to implement its new environmental results policy in January 2005, the Agency will need to assess the reaction of grantees to the new emphasis on outcome measures in grant work plans.

United States Government Accountability Office

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Testimony
Before the Subcommittee on Water
Resources and Environment, Committee
on Transportation and Infrastructure,
House of Representatives

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GRANTS MANAGEMENT

EPA Continues to Have Problems Linking Grants to Environmental Results

Statement of John B. Stephenson, Director
Natural Resources and Environment



July 20, 2004

GRANTS MANAGEMENT

EPA Continues to Have Problems Linking Grants to Environmental Results



Highlights of GAO-04-983T, a testimony to the Subcommittee on Water Resources and Environment, Committee on Transportation and Infrastructure, House of Representatives

Why GAO Did This Study

The Environmental Protection Agency (EPA) has faced persistent challenges in managing its grants, which constitute over one-half of the agency's budget, or about \$4 billion annually. These challenges include achieving and measuring environmental results from grant funding. It is easier to measure grant activities (outputs) than the environmental results of those activities (outcomes), which may occur years after the grant was completed. In 2003, EPA issued a 5-year strategic plan for managing grants that set out goals, including identifying and achieving environmental outcomes.

This testimony describes persistent problems EPA has faced in addressing grants' environmental results and the extent to which EPA has made progress in addressing problems in achieving environmental results from its grants. It summarizes and updates two reports GAO issued on EPA's grant management in August 2003 and March 2004.

www.gao.gov/cgi-bin/gettrpt?GAO-04-983T.

To view the full product, including the scope and methodology, click on the link above. For more information, contact John B. Stephenson at (202) 512-3841 or stephensonj@gao.gov.

What GAO Found

EPA's problems in identifying and achieving environmental results from its grants persist. The agency is still not consistently ensuring that grants awarded are clearly linked to environmental outcomes in grant workplans, according to GAO's analysis and EPA's internal reviews. For example, EPA's 2003 internal reviews found that less than one-third of grant workplans reviewed—the document that lays out how the grantee will use the funding—anticipated environmental outcomes. Not surprisingly, given the lack of outcomes in grant workplans, the Office of Management and Budget's recent review of 10 EPA grant programs found that 8 of the grant programs reviewed were not demonstrating results. Furthermore, not every EPA program office has yet developed environmental measures for their grant programs.

EPA's progress in addressing problems in achieving environmental results from grants has been slower and more limited than planned. While EPA had planned to issue an outcome policy—a critical ingredient to progress on this front—in 2003, the policy's issuance has been delayed to the fall of 2004, and will not become effective until January 2005. In the meantime, EPA has issued a limited, interim policy that requires program offices to link grants to EPA's strategic goals, but does not link grants to environmental outcomes. Furthermore, as a result of the delay in issuing an outcome policy, EPA officials do not expect to meet the 5-year plan's first-year target for the goal's performance measure. The draft policy we reviewed appears to be moving EPA in the right direction for addressing environmental outcomes from its grants. For example, the draft policy emphasizes environmental results throughout the grant life cycle—awards, monitoring, and reporting. Consistent and effective implementation of the policy will, however, be a major challenge. Successful implementation will require extensive training of agency personnel and broad based education of literally thousands of grantees.

Mr. Chairman and Members of the Subcommittee:

We are pleased to be here today to discuss how the Environmental Protection Agency (EPA) manages its grants to achieve a better environment and improved public health. My testimony is based primarily on our recent reports on EPA grants management issued in 2003 and 2004, as well as additional work we conducted for this testimony.¹

As you know, EPA has faced persistent challenges for many years in managing its grants, which constitute over one-half of the agency's budget, or about \$4 billion annually. To support its mission of protecting human health and the environment, EPA awards grants to a variety of recipients, including state and local governments, tribes, universities, and nonprofit organizations. As of June 2004, EPA had about 3,700 grant recipients. Given the size and diversity of EPA's programs, its ability to efficiently and effectively accomplish its mission largely depends on how well it manages its grants resources and builds accountability for results into its efforts.

Planning for grants to achieve environmental results—and measuring results—is an important but difficult challenge. It is far easier to measure environmental activities (outputs) than the results (outcomes) of those activities. However, as we pointed out in an earlier report,² it is important to measure outcomes of environmental activities rather than just the activities themselves. It is critical that EPA be able to demonstrate the results achieved through its \$4 billion annual investment in grant programs, particularly their impact on protecting the nation's human health and environment.

¹See U.S. General Accounting Office, *Grants Management: EPA Needs to Strengthen Efforts to Address Persistent Challenges*, GAO-03-846 (Washington, D.C.: Aug. 29, 2003) and U.S. General Accounting Office, *Grants Management: EPA Needs to Better Document Its Decisions for Choosing between Grants and Contracts*, GAO-04-459 (Washington, D.C.: Mar. 31, 2004).

²U.S. General Accounting Office, *Managing for Results: EPA Faces Challenges in Developing Results-Oriented Performance Goals and Measures*, GAO/RCED-00-77 (Washington, D.C.: Apr. 28, 2000).

In April 2003, EPA issued a comprehensive 5-year grants management plan to address its long-standing grants management problems.³ In the plan, EPA identifies five major goals to address major challenges, which are similar to those we identified in our 2003 report, including the goal of “identifying and achieving environmental outcomes.”⁴

Our testimony today describes (1) persistent problems EPA has faced in addressing grants’ environmental results, and (2) the extent to which EPA has made progress in addressing problems in achieving environmental results from its grants.

As noted earlier, the work for this testimony is based primarily on two previously issued GAO reports on grants management.⁵ To identify persistent problems EPA has faced in addressing environmental results from grants, we also reviewed EPA’s Office of Inspector General reports, EPA’s internal reviews, and Office of Management and Budget’s (OMB) reviews using its Program Assessment Rating Tool. To determine the extent to which EPA has made progress in addressing problems in achieving environmental results from its grants, we interviewed officials at EPA’s Office of Grants and Debarment, reviewed EPA’s policy, guidance, and Strategic Plan. The additional work for this testimony was based on work performed in April through June 2004 in accordance with generally accepted government auditing standards.

In summary, we found the following:

- EPA’s problems in identifying and achieving environmental results from its grants persist. EPA is not consistently ensuring that environmental

³U.S. Environmental Protection Agency, *Grants Management Plan, 2003-2008*, EPA-216-R-03-001 (Washington, D.C.: Apr. 2003).

⁴The plan’s other goals are (1) enhancing the skills of EPA personnel involved in grants management, (2) promoting competition in the award of grants, (3) leveraging technology to improve program performance, and (4) strengthening EPA oversight of grants.

⁵For these reports and a description of their methodologies see GAO-03-846 and GAO-04-459.

outcomes are identified in the grant workplan—the document that lays out how the grantee will use the funding—according to our analysis and EPA’s internal reviews. For example, EPA’s 2003 internal reviews found that less than one-third of grant workplans reviewed identified anticipated environmental outcomes. Not surprisingly, given the lack of outcomes in grant workplans, OMB’s recent reviews of 10 EPA grant programs found that 8 of the grant programs examined were not demonstrating results. According to program and regional officials, it is difficult to measure outcomes, in part, because of the time lapse between grant activities and a cleaner environment. These concerns demonstrate the need for guidance that addresses the complexities of measuring and achieving environmental results. Furthermore, not every EPA program office has yet developed environmental measures for their grant programs.

- EPA’s progress in addressing problems in achieving environmental results from grants has been slower and more limited than planned. While EPA had planned to issue an outcome policy—a critical ingredient to progress on this front—in 2003, the policy’s issuance has been delayed to the fall of 2004 and will not become effective until January 2005. In the meantime, EPA has issued a limited, interim policy that requires program offices to link grants to EPA’s strategic goals,⁶ but does not link grants to environmental outcomes. Furthermore, as a result of the delay in issuing an outcome policy, EPA officials do not expect to meet the 5-year plan’s first-year target for the goal’s performance measure—increasing the percentage of grant workplans with environmental outcomes from about 31 percent in 2003 to 70 percent in 2004. According to our review of a draft of the forthcoming outcome policy, EPA is making progress at the policy

⁶EPA’s strategic plan has five goals that address (1) clean air and global climate change; (2) clean and safe water; (3) land preservation and restoration; (4) healthy communities and ecosystems; and (5) compliance and environmental stewardship. See U.S. Environmental Protection Agency, *2003-2008 EPA Strategic Plan: Direction for the Future*, EPA-190-R-03-003 (Washington D.C.: Sept. 2003).

level in addressing outcomes.⁷ The major challenge EPA faces will be in successfully implementing the policy throughout the agency. Realistically, EPA has a long road ahead in educating its managers, supervisors and staff, as well as thousands of potential grantees, about the complexities of identifying and achieving environmental outcomes.

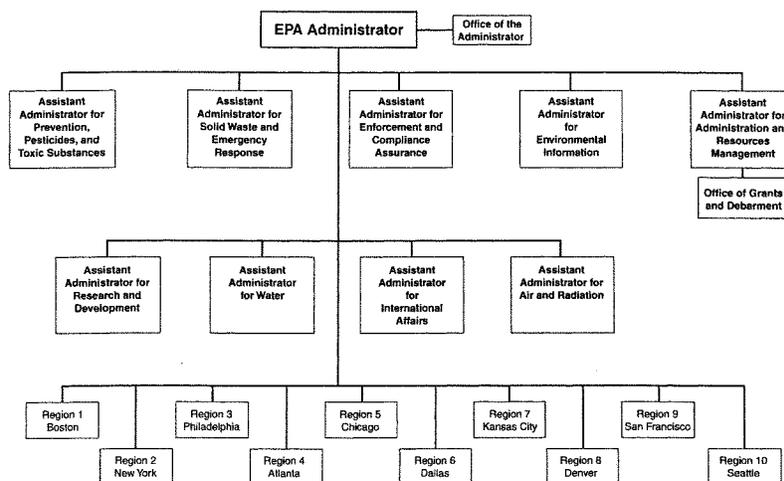
Background

EPA administers and oversees grants primarily through the Office of Grants and Debarment, 10 program offices in headquarters,⁸ and program offices and grants management offices in EPA's 10 regional offices. Figure 1 shows the key EPA offices involved in grants activities for headquarters and regions.

⁷As of July 12, 2004, the draft policy, *EPA Order: Environmental Results under EPA Assistance Agreements*, has not undergone the agency's directives clearance process—a review for comment and approval by EPA's high-level management, and therefore it is still subject to change.

⁸According to EPA officials, two headquarters' offices, EPA's Office of General Counsel, and the Office of the Chief Financial Officer conduct limited grant activity.

Figure 1: EPA's Key Offices Involved in Grant Activities



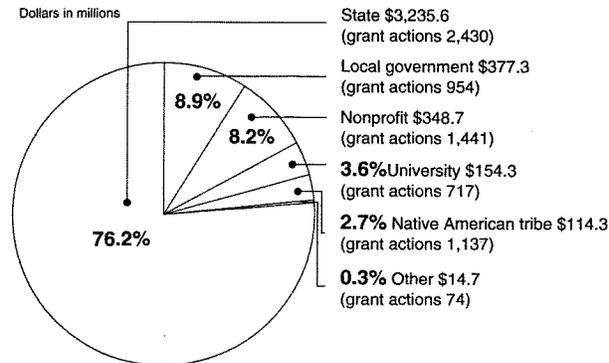
Source: GAO analysis of EPA information.

The management of EPA's grants program is a cooperative effort involving the Office of Administration and Resources Management's Office of Grants and Debarment, program offices in headquarters, and grants management offices in the regions. The Office of Grants and Debarment develops grant policy and guidance. It also carries out certain types of administrative and financial functions for the grants approved by headquarters program offices, such as awarding grants and overseeing the financial management of grants. On the programmatic side, headquarters program offices establish and implement national policies for their grants programs and set funding priorities. They are also responsible for the technical and programmatic oversight of their grants. In the regions, grants management offices carry out certain administrative and financial functions for the grants, such as awarding grants approved by the regional program offices, while the regional program staff provide technical and programmatic oversight of their grantees.

As of June 2004, 134 grants specialists in the Office of Grants and Debarment and the regional grants management offices were largely responsible for administrative and financial grant functions. Furthermore, 2,089 project officers were actively managing grants in headquarters and regional program offices. These project officers are responsible for the technical and programmatic management of grants. Unlike grant specialists, however, project officers generally have other responsibilities, such as using the scientific and technical expertise for which they were hired.

In fiscal year 2003, EPA took 6,753 grant actions involving funding totaling about \$4.2 billion.⁹ These awards were made to six main categories of recipients, as shown in figure 2.

Figure 2: Percentage of EPA Grant Dollars Awarded by Recipient Type, Fiscal Year 2003



Source: GAO analysis of EPA data.

EPA offers two types of grants—nondiscretionary and discretionary:

⁹Grant actions involving funding include new awards, increase and decrease amendments. The 6,753 grant actions involving funding were composed of 3,512 new grants, 2,416 increase amendments, and 825 decrease amendments. In addition, EPA awarded 3,344 no cost extensions, which did not involve funding, in fiscal 2003.

- Nondiscretionary grants support water infrastructure projects, such as the drinking water and clean water state revolving fund programs, and continuing environmental programs, such as the Clean Air Program for monitoring and enforcing Clean Air Act regulations. For these grants, Congress directs awards to one or more classes of prospective recipients who meet specific eligibility criteria; the grants are often awarded on the basis of formulas prescribed by law or agency regulation. In fiscal year 2003, EPA awarded about \$3.6 billion in nondiscretionary grants. EPA has awarded these grants primarily to states or other governmental entities.
- Discretionary grants fund a variety of activities, such as environmental research and training. EPA has the discretion to independently determine the recipients and funding levels for these grants. In fiscal year 2003, EPA awarded \$656 million in discretionary grants. EPA has awarded these grants primarily to state and local governments, nonprofit organizations, universities, and Native American tribes.

To highlight persistent problems and, it is hoped, to focus greater attention on their resolution, we designated EPA's grants management, including achieving environmental results, as a major management challenge in our January 2003 performance and accountability report.¹⁰ In August 2003, we further addressed the question of environmental results. We reported that EPA (1) had awarded some grants before considering how the results of the grantees' work would contribute to achieving environment results; (2) had not developed environmental measures and outcomes for its grants programs; and (3) often did not require grantees to submit workplans that explain how a project will achieve measurable environmental results. We also found that EPA's monitoring efforts had not called for project officers to ask grantees about their progress in using measures to achieve environmental outcomes.

¹⁰See U.S. General Accounting Office, *Major Management Challenges and Program Risks: Environmental Protection Agency*, GAO-03-112 (Washington, D.C.: Jan. 2003).

Problems Persist in Addressing Grants' Environmental Results

For its grants programs, EPA is still not effectively linking grants to environmental results. The problems we identified in our previous 2003 report continue.

Further, in our recent report, in 2004, we identified an additional problem. That is, we could not determine from EPA's databases the types of goods and services provided by grants. To identify goods and services obtained from discretionary grants, we surveyed discretionary grant recipients.¹¹ On the basis of our survey responses, we identified a total of eight categories (see table 1).¹² We estimated that of all the goods and services indicated by grant recipients, 59 percent were in three of these categories: (1) research and development; (2) training, workshops, and education; and (3) journals, publications, and reports.

¹¹EPA uses two databases for grant management purposes—the Grants Information and Control System and the Integrated Grants Management System. In 2004, we reported that these databases are useful for retrieving information about specific grants but that neither is useful in analyzing the kinds of goods and services funded by discretionary grants.

¹²These results apply to discretionary grants closed out in fiscal years 2001 and 2002 that had projects starting after October 1, 1997.

Table 1: Types of Goods and Services Reported by Surveyed Discretionary Grant Recipients, 2004

Dollars in millions

Types of goods and services	Percentage of grants listing this category of goods or service	Estimated dollars for goods or service category
Training, workshops and education	34	\$40 ^a
Research and development	24	67 ^b
Journals, publications and reports	20	54 ^b
Cleanup, monitoring, and site assessment	15	56 ^b
Meetings, conferences and presentations	15	27 ^a
Project support and assistance	10	19 ^c
Web sites	7	14 ^c
Other	8	18 ^a

Source: GAO analysis of survey responses.

Note: Percentage totals are greater than 100 because many grants provided more than one good or service.

^aSampling error is between one-third and one-half of the value of this estimate.^bSampling error is between one-fourth and one-third the value of this estimate.^cSampling error is between 60 and 70 percent of the values of this estimate.

While we were able to identify goods and services from survey responses, we could not link them to results. We reviewed the files of 67 grantees to identify if there was any link between goods and services and program measures or outcomes in grant workplans.¹³ We found that none of the 67 grants identified measures and only 9 of the 67 grants identified anticipated outcomes in their workplans.

EPA has also found that grantee workplans often do not identify environmental outcomes. In 2003, EPA began conducting internal reviews that—for the first time—quantified the extent to which its grant-issuing offices, including program and regional offices, ensured that environmental outcomes are identified in grant

¹³These files were not a statistical sample. They were the universe of grant files where survey respondents had identified that their grants were beneficial to EPA.

workplans.¹⁴ EPA reported that, overall, less than one-third of the 93 grant workplans reviewed identified environmental outcomes. (See table 2.) Among EPA's offices, the percent of workplans that identify environmental outcomes ranged from 0 to 50.

Table 2: Results of EPA's 2003 Review of EPA Grant Workplans

EPA office	Number of workplans reviewed	Number of workplans with outcomes	Percent
Office of the Administrator	15	7	46.7
Office of Air and Radiation	12	6	50.0
Office of Environmental Information	8	2	25.0
Office of Solid Waste and Emergency Response	10	3	30.0
Region 4	15	4	26.7
Region 5	16	7	43.8
Region 9	17	0	0
Total	93	29	31.2

Source: GAO analysis of EPA data.

In 2004, EPA plans to review seven other offices. As of July 2004, EPA had completed reviews of three offices. Among these three offices, EPA found environmental outcomes in a little less than half of grant workplans. Final agencywide data will not be available until the end of 2004, when EPA completes its internal reviews.

Not surprisingly, given the lack of outcomes in the workplans, OMB found that EPA grant programs are not demonstrating results. In February 2004, OMB found that 8 of the 10 EPA grant programs it reviewed were "not demonstrating

¹⁴In 2003, EPA's Office of Grants and Debarment began to conduct "comprehensive grant management reviews" on the 21 EPA offices that award grants—one-third of these offices will be reviewed annually. As part of this review, reviewers select a judgmental sample of grant files to identify the extent to which grants workplans identify environmental outcomes, among other things.

results.”¹⁵ These programs total about \$2.8 billion. (See table 3.) OMB rated the two remaining grant programs—Brownfields and Tribal Assistance Programs—totaling \$224 million as “adequate” in demonstrating results.

Table 3: EPA Grant Programs OMB Rated As “Not Demonstrating Results”

Dollars in billions

Grant program	Fiscal Year 2003 Funding
Clean Water State Revolving Fund	\$1.341
Drinking Water State Revolving Fund	.850
Nonpoint Source	.237
Leaking Underground Storage Tanks	.072
Ecological Research	.132
Environmental Education	.009
Particulate Matter Research	.061
Pollution Prevention and New Technologies	.049
Total	\$2.751

Source: GAO analysis of OMB data.

According to EPA’s Inspector General, EPA’s failure to consistently identify environmental measures and outcomes can weaken grant oversight. For example, the Inspector General recently reported that EPA Region 6 could not determine whether its oversight of water, hazardous waste, and air programs in Louisiana was effective because, in part, Region 6 had not linked these programs to environmental outcomes.¹⁶ Region 6 had focused only on program outputs; it

¹⁵OMB evaluated these programs using its Program Assessment Rating Tool (PART), a questionnaire that evaluated four critical areas of performance: purpose and design, strategic planning, management and results and accountability. These assessments, which were part of the President’s fiscal year 2005 budget submission, were published in February 2004. Although we are using OMB data, GAO has identified concerns about OMB’s PART. See U.S. General Accounting Office, *Performance Budgeting: OMB’s Performance Rating Tool Presents Opportunities and Challenges for Evaluating Program Performance*, GAO-04-550T (Washington D.C.: Mar. 11, 2004).

¹⁶These programs are the National Pollutant Discharge Elimination System, the Resource Conservation and Recovery Act, and the Title V programs. See EPA Office of Inspector General, *EPA Region 6 Needs to Improve Oversight of Louisiana’s Environmental Programs*, Report No. 2003-P-00005 (Washington, D.C.: Feb. 3, 2003).

therefore could not determine whether it was using its resources wisely and achieving program results.

EPA's program and regional grants officials have identified difficulties in measuring and achieving environmental outcomes. For example:

- In response to EPA's internal reviews, Region 9 officials noted that it is costly and difficult to measure outcomes when there is a substantial time lag between implementing the grant and achieving environmental outcomes. Moreover, it is difficult to attribute environmental outcomes to one specific grant when dealing with complex ecosystems. In addition, Office of Environmental Information project officers stated that environmental outcome requirements should not apply to support functions like information management.
- Responding to the recent Inspector General report faulting Region 6 for its oversight of Louisiana's environmental programs, Region 6 officials indicated that they had been unfairly criticized for not implementing environmental measures since the agency, as a whole, had been unable to do so.

These concerns demonstrate the need for guidance that addresses the complexities of measuring and achieving environmental results.

Furthermore, not every EPA program office has yet developed environmental measures for their grant programs. For example, in June 2004, the Inspector General found that EPA has been working on developing environmental measures for the Clean Water State Revolving Fund program since 1998.¹⁷ However, EPA

¹⁷According to the Inspector General, as of 2003, the Clean Water State Revolving Fund had about \$47 billion dollars available for projects since 1988. Through the program, all 50 states have a revolving loan fund that provides sources of low-cost financing for a range of water quality projects. Initially, EPA provides grants to states to establish and further fund the states' Clean Water State Revolving Fund programs; states are required to provide matching funds. The states run their programs and make loan to communities. Loan repayments are recycled back into each individual state's program to fund new water

has not yet developed these measures or a comprehensive plan on how it plans to develop these measures, although it plans to develop these measures by February 2005.

EPA's Plan Focuses on Results, but Initial Implementation Has Been Slow and Limited

In 2003, we reported that EPA's new 5-year grants management plan was promising. In the plan, EPA had established the goal of "identifying and achieving environmental outcomes" with the objectives and associated milestones shown in table 4. As table 4 shows, EPA's progress in implementing the plan's environmental outcomes objectives is behind schedule.¹⁸

quality projects. See EPA Office of Inspector General, *Stronger Leadership Needed to Develop Environmental Measures for Clean Water State Revolving Fund*, Report No. 2004-P-00022 (Washington, D.C.: June 23, 2004).

¹⁸EPA's Office of Grants and Debarment formed an agency-wide Environmental Results Workgroup to develop policies, guidance and other steps to achieve these objectives, which includes representatives from headquarter and regional offices and representatives from grants administration as well as program offices.

Table 4: EPA Progress in Meeting Grants Management Plan's Objectives for Environmental Outcomes

Objectives ^a	Original plan date	Revised date
Objective 1: Ensuring that grantees include expected environmental outcomes and performance measures in grant workplans		
Issue grants policy guidance to ensure that all grant workplans, decision memoranda, and /or terms of condition include environmental outcomes and measurements for them	2003	2004 ^b
Develop a tutorial for grantees on how to develop performance measures for workplans	2003	2005
Require a discussion of expected environmental outcomes and performance measures in grant solicitations	2004	2005
Objective 2: Improving reporting on grantee progress made in achieving outcomes.		
Establish reporting on environmental outcomes as a criterion for approval of grantee interim and final reports	2005	2005
Incorporate success in reporting on outcomes into the criteria for awarding new grants	2005	2006
Address Paperwork Reduction Act requirements to enable cooperative agreement recipients to easily collect information on environmental results and outcomes ^c	2004	2004

Source: GAO analysis of EPA data.

^aEPA also plans to incorporate into its grants management plan our August 2003 report recommendation that the agency modify the suggested protocols it uses to monitor grantees to include questions about their progress in measuring and achieving environmental outcomes.

^bEPA expects the policy to become effective January 2005.

^cAccording to EPA officials, OMB's implementation of its rules under the Paperwork Reduction Act can be an impediment to identifying results in cooperative agreements because cooperative agreement recipients must obtain the approval of OMB to survey nine or more parties.

EPA plans to issue its environmental outcomes policy—a key objective originally scheduled for 2003—in fall 2004, but the policy will not become effective until January 2005. EPA officials stated that the policy was delayed because of the difficulty in addressing environmental outcomes. Furthermore, as a result of this delay, EPA has delayed meeting the objectives of developing a tutorial for grantees, requiring outcomes in solicitations, and incorporating success on achieving outcomes into the criteria for awarding grants—objectives that are contingent on the issuance of the policy. EPA is also delaying the objective of incorporating grantee's previous success in identifying outcomes into the criteria for awarding new grants in order to give grantees a year to understand the new policy.

In the absence of a final outcomes policy, EPA issued an interim policy in January 2004.¹⁹ The interim policy is a positive step in that for the first time EPA is requiring project officers to identify—at the pre-award stage—how proposed grants contribute to achieving the agency’s strategic goals under the Government Performance and Results Act of 1993 (GPRA).²⁰ (See fig. 3, example 1.) As we reported, project officers were linking the grant to the agency’s goal after the award decision, so that the linkage was a recordkeeping activity rather than a strategic decision.²¹

¹⁹The policy went into effect on funding packages submitted on or after February 9, 2004.

²⁰Pub. L. No. 103-62, 107 Stat. 285 (1993).

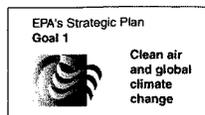
²¹U.S. General Accounting Office, *Environmental Protection: Information on EPA Project Grants and Use of Waiver Authority*, GAO-01-359 (Washington, D.C.: Mar. 9, 2001) and GAO-03-846.

Figure 3: EPA's Interim Policy Requires Linking Grants to Strategic Goals, but It Does Not Require Linking Grants to Environmental Outcomes

EXAMPLE 1

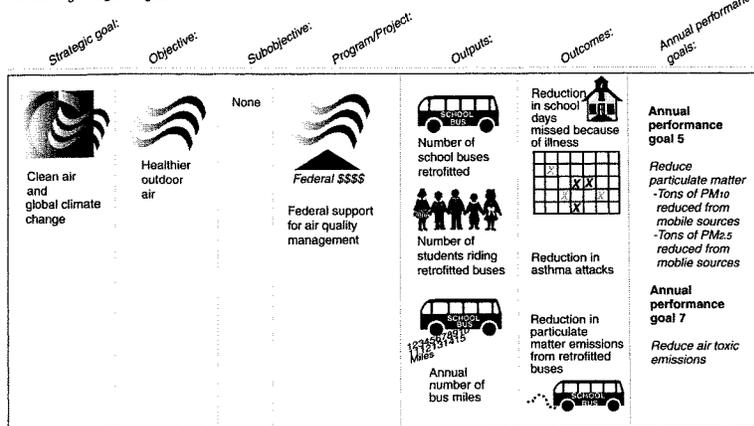
Interim policy requires project officers to link grants to EPA's strategic goals as illustrated below:

This project supports EPA's Strategic Plan Goal 1: Clean air and global climate change. Specifically, the recipient will retrofit school buses with certified diesel retrofit technology and use diesel fuel with 30 parts per gallon sulfur in support of improving air quality.



EXAMPLE 2

Interim policy encourages but does not require program officers to link grants to GPRA architecture. Such a requirement would result in the following linkages for goal 1:



Source: GAO analysis of EPA interim policy.

While the interim policy is a positive first step, it does not require project officers to link grant funding to environmental outcomes. Instead, it “encourages” project officers to link grant funding to outputs, outcomes, and performance goals, as illustrated in figure 3, example 2. EPA officials explained that the interim policy did not require the full strategic plan/GPRA “architecture”—goals, objectives, subobjectives, program/project, outputs, outcomes, and annual performance goals—because not all EPA staff are trained on how to implement the strategic plan/GPRA architecture. However, when EPA’s outcome policy becomes

effective, it will require every grant workplan to address the full strategic plan/GPRA architecture, including outcomes.

Finally, EPA will not meet the grant management's plan first-year (2004) target for the performance measure of the environmental outcomes goal—the percentage of grant workplans, decision memoranda, and terms of conditions that discuss how grantees plan to measure and report on environmental outcomes. For this performance measure, using 2003 as its baseline year, EPA determined that, as previously discussed, less than one-third of its grant workplans had environmental outcomes. EPA established targets that progressively increase from this baseline to 70 percent in 2004, to 80 percent in 2005, to 100 percent in 2006. EPA officials do not expect that EPA will meet its target for 2004 because its outcome policy is not yet in place.

EPA has drafted a policy and guidance on environmental outcomes in grants. As drafted, this policy appears to have EPA moving in the right direction for addressing environmental outcomes. The policy

- *Is binding on managers and staff throughout the agency, according to EPA officials.* Previously, the Office of Grants and Debarment targeted only project officers through brief guidance on outcomes in their training manual.²²
- *Emphasizes environmental results throughout the grant life cycle—awards, monitoring, and reporting.* In terms of awards, the draft policy applies to both competitive and noncompetitive grants. For example, program offices and their managers must assure that competitive funding announcements discuss expected outputs and outcomes. In terms of grant monitoring, the policy requires program offices to assure that grantees submit interim and final grantee reports that address outcomes.

²²U.S. Environmental Protection Agency, *Managing Your Financial Assistance Agreements: Project Officer Responsibilities, Fifth Edition*, EPA 202-B-96-002 (Washington, D.C.: Feb. 2003).

- *Requires that grants are both aligned with the agency's strategic goals and linked to environmental results.* Specifically, the draft policy requires that EPA program offices (1) ensure that each grant funding package includes a description of the EPA strategic goals and objectives the grant is intended to address and (2) provide assurance that the grant workplan contains well-defined outputs, and to the “maximum extent practicable,” well-defined outcome measures. According to an EPA official, while the policy requires that program offices assure that there are well-defined outputs and outcomes, the grant funding package—an internal EPA document—will not identify each output and anticipated outcome. EPA is concerned that certain types of grants have too many outputs and outcomes to enumerate. Potential grant recipients also will not be required to submit workplans that mirror the strategic plan/GPRA architecture, owing to EPA’s concern that such a requirement would cause the grant to be for EPA’s benefit, and thus, more like a contract. EPA included the provision to “the maximum extent practicable” because it recognized that some types of grants do not directly result in environmental outcomes. For example, EPA might fund a research grant to improve the science of pollution control, but the grant would not directly result in an environmental or public health benefit.

EPA’s forthcoming policy and guidance faces implementation challenges. First, while the guidance recognizes some of the known complexities of measuring outcomes, it does not yet provide staff with information on how to address them. For example, it does not address how recipients will demonstrate outcomes when there is a long time lag before results become apparent. Second, although the policy is to become effective in January 2005, all staff will not be trained by that time. EPA has planned some training before issuing the policy and has issued a long-term training plan that maps out further enhancements for training grant

specialists and project officers on environmental results.²³ Finally, EPA has not yet determined how environmental results from its program will be reported in the aggregate at the agency level. EPA's forthcoming order establishes that program offices must report on "significant results" from completed grants through existing reporting processes and systems, which each program has developed. EPA plans to convene an agencywide work group in fiscal year 2005 to identify ways to better integrate those systems.

In conclusion, we believe that if fully implemented, EPA's forthcoming outcome policy should help the agency and the Congress ensure that grant funding is linked to EPA's strategic plan and to anticipated environmental and public health outcomes. We believe that the major challenge to meeting EPA's goal of identifying and achieving outcomes continues to be in implementation throughout the agency. Realistically, EPA has a long road ahead in ensuring that its workforce is fully trained to implement the forthcoming policy and in educating thousands of potential grantees about the complexities of identifying and achieving environmental results.

Given EPA's uneven performance in addressing its grants management problems to this point, congressional oversight is important to ensuring that EPA's Administrator, managers, and staff implement its grants management plan, including the critical goal of identifying and achieving environmental results from the agency's \$4 billion annual investment in grants.

Mr. Chairman, this concludes my prepared statement. I would be happy to respond to any questions that you or Members of the Subcommittee may have.

²³U.S. Environmental Protection Agency, *Long-Term Grants Management Training Plan, 2004-2008*, EPA-216-R-04-001 (Washington, D.C.; Feb. 2004).

Contacts and Acknowledgments

For further information, please contact John B. Stephenson at (202) 512-3841. Individuals making key contributions to this testimony were Avrum I. Ashery, Andrea W. Brown, Tim Minelli, Carol Herrnstadt Shulman, Rebecca Shea, Bruce Skud, and Amy Webbink.

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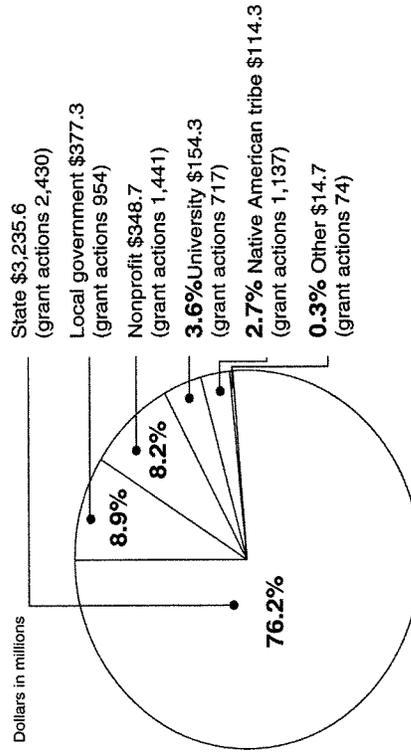


Ensuring Value From EPA Grants

Grants Management:
EPA Continues to Have Problems Linking
Grants to Environmental Results

July 20, 2004

Figure 2: Percentage of EPA Grant Dollars Awarded by Recipient Type, Fiscal Year 2003



Source: GAO analysis of EPA data.



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Pollution Prevention and New Technologies	.049
Total	\$2.751

**Subcommittee on Water Resources and Environment
Ensuring Value From EPA Grants—July 20, 2004**

FOLLOW-UP QUESTIONS

Follow-up Questions for John Stephenson, Director, Natural Resources and Environment, GAO

1. What needs to change at EPA to consistently get value from EPA grants?

The biggest change needs to be in the mindset of how EPA managers view the results of grant. It is far easier for EPA to measure grants activities than the results of those activities. Grants need to be viewed and used as a resource for advancing EPA's mission to protect human health and the environment.

2. What is GAO's assessment of the grant reforms to date?

EPA's grants management plan is the first time EPA has addressed the grant problems in a systematic way. The plan is a step in the right direction, especially since it includes goals with specific measures. In its plan, EPA included the critical goal of identifying and achieving environmental outcomes. However, as I have testified today, EPA is behind schedule in meeting this goal.

3. What challenges does EPA face in making these reforms permanent?

The grants management plan and forthcoming environmental outcome and policy guidance, if fully implemented should help EPA and the Congress ensure that grant funding is linked to anticipated environmental and public health outcomes. We believe that the major challenge to meeting EPA's goal of identifying and achieving outcomes continues to be implementing them agency-wide. EPA needs to hold all managers and staff accountable for managing for results to ensure lasting improvements.

4. What are GAO's plans in continued oversight of EPA grant programs?

At this time, we believe that the best way to determine whether improvements to the grants process are having any real effect is to look at specific grant programs and identify what results those programs are having compared with the intended results as outlined by the Congress in legislation. We plan to continue to monitor EPA's implementation of our previous recommendations and progress EPA is making in implementing its 5-year grants management plan.

**Statement of Nikki L. Tinsley
Inspector General
U.S. Environmental Protection Agency
Before the
Subcommittee on Water Resources
and the Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
July 20, 2004**

Good afternoon, Mr. Chairman and Members of the Subcommittee. I am pleased to be here today to discuss the work the Office of Inspector General (OIG) has done in reviewing the Environmental Protection Agency's (EPA) management of assistance agreements, more commonly known as grants, and the need for ensuring value from EPA grants.

I'd like to begin by reading the Committee a quote. "First the good news: I believe EPA has the most talented, dedicated, hardest working professional staff in the Federal government. What's more, I think this Agency does an exemplary job of protecting the nation's public health and the quality of our environment. Now the bad news: I can't prove it..." You might be surprised to know that the author of that statement was the then EPA Administrator William K. Reilly, and he said it in 1989.

Since it's creation in 1970, protecting human health and improving the environment has always been the reason for EPA and its programs. With the enactment of the Government Performance and Results Act in 1993, Congress made it clear that it expected Agencies to plan for and measure results. This Administration has further focused attention on program results through the Program Assessment Rating Tool (PART) evaluations. As part of many of our audits, we look to see how EPA is measuring results and whether programs are having an environmental impact. Also, we have stressed cost accounting in our financial audit work and EPA has made great strides in its efforts to provide program managers cost information to use in managing their programs. By pairing program results or impacts with cost information, both EPA and Congress can make informed judgments on which programs, or which approaches to delivering environmental programs, provide the most environmental impact for each tax dollar spent. Unfortunately, the news is still bad, as we frequently find that EPA had not planned to measure for results when it designed its programs or, if it does try to measure, it does not have the data necessary to do so.

EPA uses grants as the primary means of fulfilling its mission of protecting human health and the environment. In fiscal year 2003, EPA awarded approximately \$4.4 billion dollars in grants to state, local and tribal governments; universities; and non-profit organizations. This represents more than half of the Agency's budget. Given this large amount, it is imperative that EPA be able to measure how these grants contribute toward fulfilling its mission. Our work indicates that while EPA has made progress in

this area over time, more can be done to ensure that the grants awarded are better managed and that they produce their intended results.

Grants Management

Grants management refers to how well EPA oversees the grants it awards to various entities. We have made grants management and results a focus of our attention and have noted this as a management challenge facing EPA since 1997. Specifically, the OIG has focused on four major issues in this area: 1) competition; 2) oversight; 3) financial accountability; and 4) measuring environmental results.

Grant Competition

In my testimony before this Committee last summer, I reported that past OIG reviews have found that EPA did little to promote competition and often failed to provide adequate justifications for not competing grant awards. For example, our 2001 report, *"EPA's Competitive Practices for Assistance Awards,"* we reported that EPA did not have a policy in place requiring that program officials competitively award discretionary grant funding. Grants were awarded without competition based on the project officer's opinion that the recipient was uniquely qualified. Without competition, EPA cannot be assured that it is funding the best products based on merit, or accomplishing its mission with a reasonable return on the taxpayer's investment. In 2002, EPA established a policy that promoted competition to the maximum extent possible. We are now in the process of doing a follow up review to see how well the new competition policy is working, and we plan to issue our report later this year.

Grant Oversight

The OIG has reported more than once that project officers were not adequately overseeing grants. Despite EPA guidance, project officers were not adequately monitoring recipient activities or project progress. Senior EPA resource officials also did not ensure that adequate controls were in place over grants and did not emphasize the importance of post-award monitoring to their staffs (*"Additional Efforts Needed to Improve EPA's Oversight of Assistance Agreements," September 2002*). These deficiencies in grant oversight were not due to a lack of policies but rather, existing policies and guidance were not being followed, and people were not being held accountable. In response to our audits, EPA issued an Order in 2002 on compliance review and monitoring with the goal of providing more effective oversight of recipient performance and management. In addition, in 2003 EPA conducted a review of the performance agreements for all project officers and their supervisors to ensure that the agreements properly reflected grants management responsibilities.

Financial Accountability

The OIG has found that EPA is not ensuring that grant recipients are using funds in accordance with all applicable Federal regulations. We have testified before this Subcommittee and others about several financial audits we conducted that resulted in questioned costs of over \$8.2 million¹. In these reports, we identified problems with the recipients not adequately separating the costs associated with lobbying activities from those allowable under the EPA grant. We also found that the recipients were not following Federal procurement regulations when obtaining contractual services under the grant. In one instance, the recipient claimed that it had not always followed Federal regulations because EPA directed them to use a particular contractor.

Measuring Environmental Results

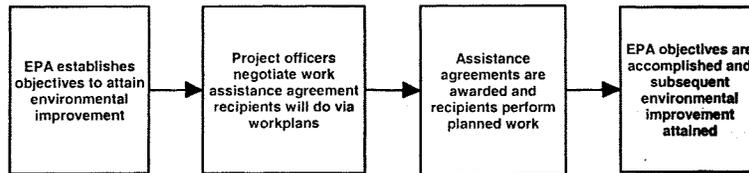
While much of the systematic analysis of grants management issues the OIG has performed has focused on grants to non-profits, the issue of measuring environmental results is not limited to these grants. EPA faces formidable challenges in measuring results for all grant-supported programs, including those programs operated by state, local and tribal governments. We have not evaluated EPA's measurement of results for all of its grant programs, but we have reviewed the adequacy of measures and program impact in many of our recent audits and evaluations. Our work shows the following common reasons why EPA has not always been successful in measuring the results of its grants:

- EPA project officers did not identify expected results and a means of measuring whether these results were achieved in grant award documents;
- EPA program managers either had not worked with grant recipients or had been unable to reach an agreement on what measurement data was needed and how it would be used;
- EPA program managers did not include an environmental performance measurement component when establishing new assistance programs.

Include Expected Results and Measurement Activities in Grant Award Documents

It is important to establish requirements to measure grant results prior to awarding the grant. This is when EPA is most able to influence how recipients measure and report their results. EPA needs to include expected results and a means of measuring environmental results in grant award documents. Project officers in particular play a key role in ensuring that EPA is able to measure the results from projects funded through grants as diagrammed in the figure below.

Project Officer Negotiations Link EPA Objectives to Environmental Improvement



Prior to awarding a grant, project officers are required to: 1) consider how well proposed projects would help achieve program priorities; 2) recommend funding the projects that will contribute most effectively to EPA program objectives and priorities; and 3) document the link between the projects funded and EPA's mission. Project officers are also responsible for negotiating what recipients will accomplish and setting appropriate timeframes for completion.

A 2003 OIG review (*"EPA Must Emphasize Importance of Pre-Award Reviews for Assistance Agreements,"*) found that project officers were not linking projects to the achievement of EPA goals and were not negotiating outcomes. In 19 percent of the grants we reviewed, project officers did not determine the relevance of the proposed work plans to EPA program objectives and in 42 percent of the grants reviewed, project officers did not negotiate outcomes. For example, EPA awarded a recipient \$200,000 to analyze, discuss and promote energy efficiency and renewable energy. The work plan only provided possible activities, and stated specific projects would be established later. The project officer wrote on the application, "Why this, why now?" yet still approved the work plan. Without outcomes, it was not clear how these Federal funds would benefit the public or contribute to EPA's mission.

Work With Grantees to Identify Necessary Measurement Data

EPA's largest grant program is the Clean Water State Revolving Fund. EPA annually allocates funds to states for their revolving loan fund programs. No one would argue that the program contributes to public health and a healthy environment. Nevertheless, EPA is struggling to determine how it will measure program results. To successfully measure the results of this \$47 billion grant program, it is critical that EPA work closely with its State partners to agree on results to be achieved with EPA grant funds and a means for measuring whether these results were achieved. When the program began in 1988, funds were used to construct or update wastewater treatment facilities. More recently, States and communities have begun using the funds for a broader range of projects including non-point source projects, such as developing stream bank buffer zones, and estuary management projects, such as restocking fish. In fact, 35% of the loans and 4% of the funds have been for nonpoint and estuary projects. EPA and the states have been working on developing environmental measures for this program since 1998. Unfortunately, they still have not established a uniform set of measures to

assess the environmental impact of the program. While it is recognized that the revolving loan funds play a vital role in achieving and maintaining water quality, EPA does not yet have the ability to measure or quantify the environmental impact of these funds. Even worse, neither EPA nor its partners can compare the environmental benefits of funding different types of projects or determine how they can achieve the most impact per dollar spent (“*Stronger Leadership Needed to Develop Environmental Measures for Clean Water State Revolving Fund*,” June 2004).

Include Performance Measurement Component When Establishing Grant Programs

Obviously, it is best for EPA to determine what environmental results it intends to achieve when it creates a grant program, then environmental goals and components for measuring the environmental results of the program can be built in. While EPA has agreed with our recommendations that it should measure program results, it did not include performance measures in major grant programs.

The 1996 amendments to the Safe Drinking Water Act created EPA’s second largest grant program, the \$8 billion Drinking Water State Revolving Fund. From the Drinking Water State Revolving Fund, Congress provided funding for capacity development to address the significant challenges facing community water systems including aging infrastructure, under-funding, and meeting drinking water regulations. Capacity development is a way of structuring drinking water protection programs to assist water systems in attaining the technical, managerial, and financial capacity to achieve and maintain long-term sustainability. The amendments identified accountability as an attribute necessary to ensure that capacity development programs were successful, and Congress directed that EPA annually assess states’ capacity development programs and withhold part of their drinking water state revolving fund grant if they were making insufficient progress developing the capacity of utilities. The withholding determination is meant to give EPA some control over states’ progress in designing and implementing capacity development programs.

As a part of our evaluation of the capacity development grant program, “*Impact of EPA and State Drinking Water Capacity Development Efforts Uncertain*,” we looked to see how EPA planned to assess the performance of capacity development initiatives. We found that EPA has not developed or implemented a plan to assess the performance of the initiative, and is currently unable to report on the results that the program is achieving on a national basis. Specifically, EPA has not:

- Identified capacity development goals;
- Developed performance measures to assess progress toward the goals;
- Collected data on capacity development performance measures; and
- Analyzed data and reported on capacity development performance results.

Further, due to inadequate review of the program, EPA has not made effective grant withholding determinations. We recommended that EPA ensure states’ accountability for their capacity development programs by strengthening its annual assessments and withholding determinations.

In response to our draft report, EPA also did not support measuring capacity development progress. However, we think that having an established national measure for capacity is critical for EPA and Congress to determine the extent to which systems are becoming and staying healthy. Without this information, EPA cannot report to Congress on its success in implementing the capacity development provisions of the 1996 SDWA Amendments. Further, EPA ultimately does not know whether it is, in fact, maximizing its efforts to improve the ability of water systems to deliver safe water to the public. Given the severe budgetary circumstances that many States face, EPA and the States must be able to demonstrate that the financial investment in capacity development is yielding results and deserves continued support. EPA has not yet provided an adequate response to this recommendation from our September 2003 report.

Our May 2004 report on source water assessment, *"States Making Progress on Source Water Assessments, But Effectiveness Still to Be Determined,"* also highlights the need to develop results measures early in the life of a program. States used drinking water state revolving loan funds to pay for source water assessments. We found that EPA measures seem to evaluate the process rather than the result, and those interviewed believed that the current measures are not a good way of capturing the true value of the program. This is due to a wide variety of approaches, criteria, and level of detail used by states to assess susceptibility and protections; difficulty in quantifying such concepts as susceptibility and protection; lack of baseline data from which to evaluate trends; and challenges and limitations (technical, financial, time) in trying to conform the data collected to fit the EPA format. At the outset of the program, EPA did not identify how to measure various outputs or outcomes. Consequently, when EPA did establish the measures, states had to re-categorize and re-analyze their databases to conform to the EPA-required format.

EPA does not yet know what type of environmental results have been obtained from the \$1.5 billion Brownfields grants program, although the program has been in existence since 1995. In 2002, we reported that EPA's measures for the Brownfields program were only defined in terms of activities completed or economic outputs, such as jobs generated (*"Observations on EPA's Plan for Implementing Brownfields Performance Measures,"* May 2002). These measures did not indicate EPA's progress in reducing or controlling the risk to human health or the environment; EPA's stated objective of the program. In our June 2004 evaluation, *"Substantial Progress Made, But Further Actions Needed in Implementing Brownfields Program,"* we reported that EPA still had not revised the program measures to incorporate environmental results, even though it had obtained the approval of the Office of Management and Budget to collect data that would allow EPA to measure numerous aspects of the environmental results of the Brownfields program.

EPA Actions to Improve Results Measurement

EPA is taking action to improve the measurement of grant results, in part, in response to OIG recommendations. EPA developed a Grants Management Plan in 2003 that contains five goals designed to strengthen the management and oversight of grants.

One of the goals in this Plan is to “Support Identifying and Achieving Environmental Outcomes,” a reflection of EPA’s new focus on environmental results. Key objectives EPA has identified to achieve this goal are: 1) including expected environmental outcomes and performance measures in grant work plans; and 2) improving reporting on progress made in achieving environmental outcomes. EPA must determine what data is needed, how it will be used, and then hold its staff accountable not just for getting the information but also for using it effectively. The OIG will monitor EPA’s progress in implementing this Plan and will evaluate whether the actions are effective in improving the accountability of recipients.

EPA also issued an interim policy in 2004 designed to improve the environmental results obtained by grant recipients. Under this policy, all grants funding packages must describe how the project/program work plan supports the Agency’s strategic plan. In addition, while not required under this interim policy, offices are encouraged to identify specific EPA goals the grant project will support or its anticipated outputs or outcomes. However, this interim policy does not require EPA to ensure that grants include methods for measuring the environmental results of the funded project or program. EPA is currently working on a new Order on environmental outcomes, and we will evaluate its effectiveness once it is issued.

Conclusion

Mr. Chairman, our work has brought to light the need for EPA to improve grants management and the measurement of environmental outcomes as areas where EPA can and should do better. This Subcommittee, through hearings and other oversight activities, has had an impact on moving EPA forward in these areas as well. The OIG is committed to working with you and EPA to ensure that the billions of dollars awarded every year produce their intended environmental and public health benefits.

This concludes my prepared remarks. I would be happy to respond to any questions you may have.

1. Costs Claimed by Tribal Association on Solid Waste and Emergency Response Under EPA Assistance Agreement No. CR827181-01, Sept. 2003.
Geothermal Heat Pump Consortium, Inc. Costs Claimed Under EPA Assistance Agreement Nos. X828299-01 and X828802-01, Sept. 2003.
Consumer Federation of America Foundation Costs Claimed Under EPA Cooperative Agreements, March 2004.

Question 1: What can EPA do to assess a grant's benefits prior to awarding the grant?

At all stages of the grant-making process, EPA needs to focus on a single objective: getting results from the grant that support accomplishment of EPA's strategic goals. Focusing on results must start before the grant is awarded. When soliciting grant proposals, EPA needs to clearly identify the strategic goal the proposed project intends to support. Once it receives a grant proposal, EPA needs to thoroughly assess: (a) the grant's intended benefits; (b) how those benefits will advance EPA's goals; (c) the capability of the grantee to achieve the intended benefits; and (d) how the results will be measured and reported. In addition, EPA also needs to ensure that it has cost-effective systems with reliable data so it can determine whether the intended outcome(s) of a grant were actually achieved. Until EPA develops measures for its programs, grants will continue to focus on outputs rather than outcomes. Finally, when EPA competes more of its grants it benefits from being able to compare the merits of multiple projects and select those that will best support its goals.

EPA is developing a new policy on measuring the results of grants. The extent to which expected outputs and outcomes are reflected in grant funding announcements, which are the basis for the grant applications and workplans, will be key. However, our work has shown that program offices have not always established outcome measures for major programs, particularly the state revolving funds.

Question 2: What is your assessment of EPA's reforms to date and what challenges remain to making lasting improvements?

EPA has revised its policies on grants management and updated its training for Project Officers to reflect these new policies. These changes have resulted in increased requirements for competing grants, monitoring of grant recipients, and reviewing grants management at program and regional offices. However, previous updates to EPA grants management policies have failed to result in lasting change due to a lack of accountability for following Agency policy. In order to have lasting improvements, EPA needs to allocate adequate resources to grants management, hold staff accountable for adhering to Agency policies, and continually assess the effectiveness of its grants operations to determine if additional improvements are warranted.

Question 3: What future activities does the IG have planned with regard to grants management at EPA?

Grants management has been a high priority for the OIG over the years and will continue to be until EPA makes sufficient progress in this area. The OIG has several on-going audits of EPA's management of grants that we plan to complete before the end of the calendar year. We are currently looking at EPA's implementation of its Competition Order. Additionally, we are also assessing the competitive process EPA implemented for awarding \$157 million in grants under the 2002 Brownfields law. We are also reviewing EPA's management of grants for the Alaska Village Safe Water program. In early FY 2005 we will begin an assessment of EPA's efforts to hold staff accountable for managing assistance agreements.

In addition to the audits of EPA's management of grants, we will continue to perform financial audits of discrete grantees. Such audits help to identify award and oversight weaknesses, and helps us determine whether EPA's new policies result in improved financial accountability and measurable results by grantees.

Question 4: Can you provide some assessment of the nature and extent of the resistance to change in policy from within EPA and from grantees?

The OIG has not issued any reports specifically addressing this issue. However, our concern is that while EPA management has an appreciation of the need for good grants management, this may not result in improvements due to competing priorities of Project Officers. The Project Officer function is often considered a collateral duty rather than a primary activity. Until Project Officers are able to devote sufficient time to grants management, EPA is likely to experience continued grants management challenges.

Regarding grantees, we did find some reluctance on the part of states to measure results in our recent audit of the Clean Water State Revolving Loan Fund. EPA had not defined what should be measured, and states did not see how the information would be useful and were concerned about the cost to measure results. We made several recommendations to EPA on how to address states' concerns, which they have agreed to implement.