

CONGRESSIONAL TRANSCRIPTS
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House Science Committee Holds Hearing on FY2007 Budget: Science and Technology

LIST OF SPEAKERS

BOEHLERT:

The hearing will come to order.

I want to welcome everyone here today for our first hearing of the new year which is also the first hearing in Congress to bring together all the research agencies that will be participating in the American Competitiveness Initiative.

I want everyone in this room and everyone viewing this hearing to remember that phrase, American Competitive Initiative.

This is one of the most important topics that can be discussed any place at any time. It's a rare thing to think of a budget hearing as a time of celebration, but I think that that's how we should view this morning's proceedings.

For a long time, a long time, many of us, particularly on this committee, have been calling for a renewed emphasis on research in the physical sciences, a commitment that would be demonstrated not with rhetorical fakes but with genuine investments.

The eloquent words in the State of the Union recited by the president of the United States had to be followed by meaningful deeds when the budget was submitted to the Congress and the American people, and they were.

Perhaps more importantly, the nation's leaders in industry and higher education had been calling for such an investment because they see it as a must if the United States is to retain its competitive edge.

One might say that there has been a gathering storm of lobbying on this subject as an increasing number of leaders have issued thundering statements about the need to

rethink our research and education and energy policies.

But now that the storm can abate a bit, or at least blow over Capitol Hill, because in the executive branch, our words have been heard and they have been heeded, and I want especially to think Dr. Jack Marburger and Secretary Sam Bodman for their tireless efforts to bring the American Competitiveness Initiative into being.

I have to say to Secretary Bodman that I didn't think I'd ever see a Cabinet officer have such an immediate, visible and positive impact on a department.

I salute you, sir.

And let me just tell everyone. There's a new dynamic and we should all be thrilled with that new dynamic. In the past, the Science Committee would beat a path to the door of the decision makers and say, "You must, absolutely must, invest more in science on the part of the United States government." And we would say to those same leaders of government, "You must, you must invest more, and do it better in providing quality educational training, starting at the very earliest level in science and math. You must do that."

And then people like Tom Friedman issue a book and it goes to number one on the best-seller list.

But the new dynamic is this: It's not just those of us on the Science Committee promoting science, or scientists promoting science, because the people on the other end, listening, say, "Well, that's sort of self-serving, you want to broaden your portfolio, or you're after your special interests," and it's not just the education people saying, "We must invest more in K through 12 science and math education." They'd say, "Well, you've got a vested interest."

The new dynamic is that the business community is providing leadership. They are engaged, in a sense rising above the gathering storm that outstanding report issued by the National Academy of Science, business all over is saying, "You know what? We've got to be involved." And you know what? They have to be involved and the good news is that they are.

So I couldn't be happier.

Now it's our job in Congress to follow through. We're calling for leadership, but there better darn well be followership, because we've got to be on the same page, and we've got to move forward. And I think we will.

I know that everyone on this committee will be devoted to that effort. We have already been in contact with our colleagues on the Appropriations Committee, and Chairman Wolf and Chairman Hobson share our enthusiasm, and I couldn't be happier about that.

How refreshing it is for veterans of Capitol Hill to look up here and to see authorizers and appropriators marching hand in hand in common cause. That is really refreshing.

We all understand that the future employment and prosperity of the American people are at stake. In my speeches around the country I say the same thing.

We're still number one, that's a position I like, but we used to be so far ahead of the others that when we looked over our shoulders, the second and third place and beyond were way back, we could hardly see them with binoculars. Now we can't take a nanosecond to just glance over our shoulder because the competition is breathing down our neck, and boy, if that's not a signal, I don't know what is.

So we've got to move, and I'm confident that we will.

On this committee, we will also pass and enact whatever authorizing legislation will help make the proposed funding a reality both this year and years to come. That's a pledge, that's a commitment. It's not just for me, and it's not just a Republican chairman, whether Republicans enjoy the majority; it's Democrat or Congressman Gordon providing real leadership.

We're all working together in common cause and that is very, very helpful.

But I don't want to pass bills that are a laundry list of new or duplicative programs that will never come into being.

I want to focus on a few key issues and programs that will help promote and wisely use additional appropriations. But I'm sure that we'll be working more publicly on all this next month.

In developing legislation and a hearing agenda, we will be looking at the Advanced Energy Initiative as well as the American Competitiveness Initiative.

The Energy Initiative is just as important and just as promising as the efforts to increase research funding in the basic sciences.

I remain concerned that our nation still lacks a sensible energy policy. We still

haven't got it right in my estimation. And we need here to get beyond the illusion that pouring money into technology development, which we need to do, is enough to transform our energy portfolio.

The market will not adequately value the collective need to become more energy independent before prices become intolerable. So the Energy Initiative is a necessary but hardly sufficient step in the right direction.

Now, today's hearing is a celebration.

I don't want to leave the impression that there are no problems with the proposed budget. Keep in mind I'm from the executive branch, we want to have our say.

I expect that Mr. Gordon won't leave that impression anyway. But I do have concerns such as the inadequate funding for education programs at the National Science Foundation. They deal with that, and we can get to those in questions and in other statements and I won't belabor those points now.

I think it's important that our main message this morning be one of victory, because we need to communicate that message to our colleagues to turn the American Competitiveness Initiative into reality.

We're not going to declare victory and go home. We're not going to put up a sign, "Mission Accomplished." Rather, we need to think of it this way: We won the battle, and now it's time to win the war.

I look forward to working with today's witnesses and with all of my colleagues to do just that.

And I thank you for your indulgence.

I went over my five-minute limit, but I have the advantage of being in the chair and I control the clock.

(LAUGHTER)

Mr. Gordon?

GORDON:

Thank you, Mr. Chairman.

Let me first compliment you on your very sincere passion and energy into this competitiveness agenda. You have been tireless in not only your rhetoric, but also trying to make things happen, and I say that sincerely.

I also share your concerns about the lack of funding in terms of the K to 12 facts portion education within the NSF, but I also -- I'm simply -- looking at this budget, I can't share your optimism.

I'm concerned that we're going to have a situation similar to when the president rolled out his lunar Mars mission. It was a big splash one day, but then the money didn't come and we haven't heard anything about it since.

So I guess what did your -- our president say? "Trust, but verify." I think we're going to do our part to try to verify and make sure that there is follow up.

So I want to join you in welcoming our distinguished panel to this morning's hearing.

I am glad to see all of you again. However, I think it's unfortunate that we have all of you here for just one day of hearings.

I'm afraid this committee is once again acquiescing its oversight responsibility by not holding individual hearings for each of the five important agencies before us today.

The good news in this budget request is the proposed increase in the federal R&D; the bad news is that, that increase is less than the projected rate of inflation.

So once again we're investing less than the rate of inflation at a time when many of our international competitors are increasing their investment in science and technology at faster rates than ever before.

Even more alarming is the fact that the administration's science and technology investment is actually decreasing.

The federal S&T budget is the best method to evaluate research funding. S&T represents the amount of funding directed toward creation of new knowledge and technologies as opposed to development activities.

Dr. Marburger himself has stated that the federal R&D is an imperfect measure of

evaluating science technology funding and most agree that the S&T is the correct metric.

A lot of numbers will be thrown around this morning to put a pretty face on the budget. But the fact of the matter is that the administration's own Table 5-2 clearly shows, and I'll show you here, that there is a 1 percent decrease in the federal S&T investment for FY '07.

And knowing the facts and being aware of Dr. Marburger's statements in recent budget hearings, in the spirit of the Olympics, Dr. Marburger, I would like to nominate you for a gold medal. The category would be statistical gymnastics, for making a 1 percent decrease look like a 1 percent increase despite the fact that it's almost \$600 million less than FY '06 spending and \$1 billion less than the administration requested last year according to their own budget document.

So in the same breath the administration decries the earmarks in last year's budget but then counts earmarks when showing how much the S&T budget has increased during the administration from 2001 to 2007.

As for the National Science Foundation FY '07 funding, I am very pleased that the administration has proposed an 8 percent increase.

In 2002, the Congress passed, and this president signed into law, an authorization bill doubling NSF funding over five years. However, the president's requests for NSF since that signing ceremony are still \$3.8 billion short of that commitment. And when we dig deeper we find, at least in my opinion, misguided priorities.

I was very disappointed to see a continued de-emphasis of the K to 12 science education at the National Science Foundation.

Even as NSF budget grows, the administration proposes a 7 percent cut to the K to 12 programs on top of already 37 percent cuts.

NSF has been a leader in improving science and math education for over 50 years. I do not understand how ignoring NSF's expertise in education helps our competitiveness.

In my point of view, competitiveness is about keeping our good jobs and creating even more and better jobs. Yet the administration proposal to cut MEP funding by 56 percent. MEP is the only federal program designed specifically to assist small manufacturers. MEP is the only program that has a proven track record in creating and retaining manufacturing jobs.

We've lost 2.8 million manufacturing jobs since 2001. This year alone, we've lost 55,000 manufacturing jobs.

I don't see how cutting MEP by 56 percent and NIST overall by 23 percent increases America's competitiveness.

The bipartisan National Association of Governors has wholeheartedly endorsed the MEP program.

So yes, there are winners, but unfortunately there are also many losers.

Hopefully, as our nation becomes more familiar with the Augustine report, we will all recognize that when we talk about science funding, it's more than just welfare for people in lab coats looking through microscopes. It's not an academic exercise, knowledge for the sake of knowledge.

It's about jobs, competing in the global market, and our kids' and our grandkids' standard of living.

As the Augustine Commission pointed out, the thrust of our findings, and I quote, "is straightforward. The standard of living of Americans in the years ahead will depend to a large extent on the quality of jobs that they are able to hold. Without quality jobs, our citizens will not have the purchasing power to support the standard of living which they seek and to which many have become accustomed.

"Tax revenues will not be generated to provide for strong national security and health care, and the lack of a vibrant domestic consumer market will provide a disincentive for either U.S. or foreign companies to invest in jobs in America."

That means we must invest in S&T, but I'm afraid this budget simply does not make an adequate investment.

However, bipartisan legislation in the Senate includes many of the recommendations of the Augustine Commission.

I have also introduced legislation that will incorporate the education and energy recommendations of the report.

So I'm hopeful that we can mount a bipartisan, bicameral effort together with the executive branch cooperation to improve this budget into something that truly helps our nation remain strong economically now and long into the future.

Thank you, Mr. Chairman.

BOEHLERT:

Thank you very much, particularly for your close. Eloquent words, and I think you'll find we're all in agreement with those words.

And I, too -- let me observe this -- I, too, wish we had just more than one hearing with this very distinguished panel. But, guess what?

The reality is these people, everyone wants time, and we're getting them first, and we're having a good opportunity for a thorough dialogue, a meaningful dialogue, and then, as in all previous years, we have our subcommittees go into play and deal with each of the agencies in a meaningful way.

Secondly, and I know this because we participated in many joint sessions where we have one or more of these distinguished guests sitting down over a cup of coffee in the office and after we get talking about baseball -- tomorrow's the first day of spring training -- then we get down to serious business.

But these are very busy people and we're fortunate to have them. These are the leadoff hitters, we're anxious to hear from them, and I think today will be a very important start of something really significant not just for this administration or this committee, but for our beloved country.

And with that, let me introduce our distinguished panel: Dr. John H. Marburger, III, director of the Office of Science and Technology Policy, affectionately referred to as science adviser to the president; Dr. Samuel W. Bodman, secretary of energy; Dr. David A. Sampson, deputy secretary of commerce; Dr. Arden L. Bement, Jr., director, National Science Foundation; and for his farewell presentation, Dr. Charles E. McQueary, undersecretary for science and technology, Department of Homeland Security.

And, Dr. McQueary, let me say to you, I know you announced last week that you've submitted your resignation, we are going to miss you and we thank you for your significant contribution to shaping responsible public policy and having that responsible public policy implemented.

It has been a delight to work with you and we wish you well.

With that, gentlemen, let's go forward. We'll put the clock on but ignore the lights, but just -- when the red light goes on after five minutes, just say, "Well, maybe I better think about wrapping it up."

And I'm always offended -- you know, we have some of the greatest talent in the world, Nobel Laureates appear before the committee, we have some of the most dedicated and effective public servants in the world, Cabinet officers and people who are developing public policy for the nation. And we ask them on Capitol Hill to summarize in 300 seconds or less what they want to tell us.

So I couldn't agree more with Bart Gordon. I mean, we'd like to have more of your time, but we've got to deal with the reality.

With that, Dr. Marburger, you're first up.

MARBURGER:

Thank you very much, Mr. Chairman and Ranking Member Gordon, and members of the committee.

Thanks for inviting me to testify again this year on the president's research and development budget.

And I have submitted a written statement, a very detailed statement for the record, so I can be brief.

And now thanks to your remarks, Mr. Chairman, everyone here does know that President Bush's State of the Union message last month spoke to the importance of basic research for America's future economic strength and launched a new American Competitiveness Initiative in that speech.

The initiative includes multiyear increases in funding for three agencies whose programs support high-impact basic research in the physical sciences: National Science Foundation, Department of Energy Office of Science, and the National Institute of Standards and Technology.

And the figure that's showing on your screen shows how their budgets would increase over a decade.

These prioritized agencies enjoy a collective increase of 9.3 percent in this FY '07 request year and a commitment to double their total over the next decade, which

would require an average increase of 7 percent per year.

This initiative also includes enhanced incentives for corporate investments in research, improvements in immigration policy for highly-qualified technical workers and students, programs to improve the quality of math and science education experience in pre-college education, and expansion of worker training programs for 21st-century careers.

There's a copy of the brochure describing this initiative that's been distributed to the members of the committee and others that's widely available, and I direct your attention to that brochure for further information, although we'll certainly answer questions about it.

The president also announced the Advanced Energy Initiative in his State of the Union message.

And my colleague, Secretary Bodman, will have more details about that in his testimony.

I want to emphasize that while this initiative identifies priorities, it does not abandon or diminish the importance of other areas of science and technology such as biomedical research or space science.

The case for increased funding for the ACI priority agencies is documented in many reports and studies that link strong physical sciences research to progress in all fields.

And I want to thank the organizations like the president's own Council of Advisers on Science and Technology, the Council on Competitiveness and the National Academy of Sciences for their excellent reports and advocacy on themes that the president's initiative addresses.

Through our own actions, Mr. Chairman, as well as those of other committee members and members from both parties of the House and the Senate have added significantly to the favorable reception of this initiative and will continue to be important as it works its way through Congress.

My colleagues on today's panel will speak to the impact of this initiative on their agencies, but the president's proposal maintains significant strength across the breadth of science and adds new funding where it is most needed to sustain America's highly successful innovation economy.

Now, a superficial examination of the R&D section of the president's FY '07 budget will show that funding proposed for some key science areas is lower than appropriated amounts for the current year, FY '06.

In nearly all cases, this difference is due to the removal of so-called earmarks that agencies did not request for FY '06 and that do not contribute to the highest priority needs of their programs.

The budget proposal before you responds to agency priorities as determined by careful planning and consultation with scientists, engineers and educators who are experts in their fields.

This administration believes strongly that the best way to spend public funds for science is through a process that judges the merits of proposals from scientists by independent panels of experts.

I ask this committee's assistance in ensuring the best use of these scarce dollars for research upon which our future quality of life depends.

While overall this year's R&D budget exceeds last year's by 2.6 percent, establishing a new all-time high of \$137 billion, an increase of 50 percent since 2001 and the figure that's now on the screen shows the trend in nondefense R&D in constant dollar outlays.

It is true that there is a more meaningful measure of our investment in science and technology, the federal science and technology budget category. As ranking member noted, that category is down by 1 percent relative to '06 appropriations, but it's up by 3.7 percent when earmarks are set aside.

The specific request to request number, by the way, shows, which is a slightly different number -- we need more gold medals for statistics, many of us have to be experts in order to interpret this budget. But the reason for the specific number that Congressman Bart Gordon referred to is due to a change in the category of applied research within NASA for the crew exploration vehicle to development as that program matures, the nature of the work changes. And there was a more than \$2 billion transfer in categories that affects the bottom line FS&T number.

I regret to say that earmarks in the category of federal science and technology are now estimated to be \$2.7 billion, which is 5 percent of the entire federal science and technology budget.

Actually, since the NIH and NSF budgets are thankfully spared from this practice,

that \$2.7 billion is approximately 10 percent of those budgets that are earmarked.

Multi-agency initiatives such as the National Nanotechnology Initiative and Networking and Information Technology R&D also receive increases in the president's budget excluding earmarks.

Our office produces a detailed budgetary supplement document for each of these programs which we will deliver to Congress as soon as possible. One of them is available today on the Networking Information Technology R&D program. I'm glad that we were able to get that out so timely. The next one will be ready soon.

Moving on to other agencies, the \$28.4 billion top-line budget for the 27 NIH institutes and centers is being held constant in this proposal at a level that exceeds the original NIH doubling figure by \$1.2 billion.

The president strongly supports the priorities and distribution of funds within an NIH advocated by Director Zerhouni and his forward- looking road map process.

NASA's top line of 2006 to 2010 five-year budget is also maintained at the \$86.4 billion in last year's request, while NASA science increases 1.5 percent with or 2.1 percent without earmarks.

I want to say that these two agencies have outstanding directors who enjoy the confidence of this administration.

I would point out that research budgets for NASA and NIH have been more commensurate with the opportunities in their fields than have budgets of other agencies with significant basic physical science research missions.

One other important physical science and engineering agency is the Department of Defense, whose basic and applied research budget is severely earmarked with more than \$1 billion of designated funding not requested by the DOD agencies.

The president's FY '07 budget proposes an increase of 8 percent for DOD 6.1 and 6.2 research relative to its unearmarked base.

Mr. Chairman, the president's research and development budget for fiscal year 2007 demonstrates a significant commitment to science essential for the future leadership of our country.

I look forward to working with you and your committee to begin delivery on that commitment during the coming months.

And I thank you for this opportunity...

(CROSSTALK)

BOEHLERT:

Thank you very much, Dr. Marburger.

Secretary Bodman?

BODMAN:

Good morning, Mr. Chairman, Ranking Member Gordon.

I'm very happy to be here. I'm very proud to be here representing the Department of Energy today.

I hardly need to tell you that there is a great sense of excitement and enthusiasm within the entire Department of Energy and in particular the Office of Science, which deals with the subject of this morning's activity, or at least some of the subjects of this morning's activities.

Our Office of Science is responsible for 10 world-class national laboratories, and is the primary builder and operator of large scientific facilities in the United States.

And this office plays a critical role in ensuring the continued American leadership, as well as contribution to our overall economic well-being.

Investment in these facilities is a lot more than just bricks and mortar. It is an investment, if you will, in discovery and the future of our country.

As you heard in the State of the Union and as has been talked about, the president announced several new priorities in the energy area, including two new presidential initiatives.

We believe that these initiatives will significantly change the future of science in this country and will be a bold statement to our science colleagues around the world.

All of this is spelled out in detail in my formal written remarks.

Let me just take this opportunity while I have the floor to mention a few highlights.

As a part of the ACI, the '07 budget includes a \$505 million increase for the Office of Science in the Department of Energy. That is a 14 percent increase up to a level of \$4.1 billion.

Frankly, we are thrilled with that and we think we know exactly how to put that money to work.

This reflects the president's commitment to double the federal investment in the most critical basic research programs in the physical sciences over the next 10 years.

Developing revolutionary science-driven technology is at the heart of the Department of Energy's mission. And to ensure that America remains at the forefront in our very increasingly competitive world, our department is pursuing what we have come to call transformational new technologies in the cutting-edge scientific fields that will be important in this next century -- areas like nanotechnology, material science, biotechnology and high-speed computing.

The president has also announced the new Advanced Energy Initiative to increase spending on clean energy sources that will transform our transportation sector. It will really transform our entire economy and reduce our dependence on imported fossil fuel.

Specifically, the '07 budget request proposes \$149 million for biomass and biofuel programs and a like amount, \$148 million, for solar energy. Both are increases of about \$50 million, so very sizable percentage increases.

In addition, the budget requests a total of \$288 million to support implementation of the president's hydrogen fuel initiative and provides \$60 million for U.S. participation in the international thermonuclear experimental reactor, or ITR as we have come to call it.

The goal of ITR is to tap nuclear fusion as an enormous source of energy, of plentiful and environmentally safe energy. All of that is true, but it is a long-term investment that will take, it is expected, a number of decades.

As a part of the president's Advanced Energy Initiative, the department's '07 budget also features \$250 million to begin investments in the global nuclear energy partnership. This is a groundbreaking new international effort to help meet the

world's rapidly growing electricity needs with safe, emissions-free nuclear power, while enhancing our ability to keep nuclear technology and material out of the hands of those who seek to use it for nonpeaceful purposes.

Mr. Chairman, that's just a brief outline of the science and research activities that are part of this budget and that we're engaged in.

I look forward to discussing any of these matters or other issues in the budget with you.

Thank you.

BOEHLERT:

Thank you very much, Mr. Secretary.

Dr. Sampson?

SAMPSON:

Good morning, Chairman Boehlert, Ranking Member Gordon, members of the committee.

I'm delighted to join my colleagues this morning to talk about the president's R&D budget request and the critical matter of American competitiveness.

Like my colleagues, I'd also like to make a few brief comments and ask that my written testimony be a part of the hearing record.

Let me say at the outset that American companies and workers are the most competitive and innovative in the world. We have the strongest and most diversified economy, so we begin this discussion from a position of strength.

Over the past four years, the U.S. has experienced faster growth than any other major industrialized nation. Our unemployment rate of 4.7 percent is one of the lowest. Payrolls are growing in almost every single state.

And one of the major reasons for our success is the enormous improvements in worker productivity.

In fact, U.S. productivity has had one of the fastest five-year periods of growth in almost 40 years. And the reason for that is that we are a nation of innovators. We have a reputation for coming up with new technologies that make us more productive.

But the challenge is this: How do we maintain our leadership role in an increasingly competitive global economy?

We need to attack this problem on a number of fronts, as outlined in President Bush's new and ambitious American Competitiveness Initiative.

This initiative reflects many of the issues that were raised in December at a national summit on competitiveness that we hosted at the U.S. Department of Commerce that Chairman Boehlert and Subcommittee Chairman Ehlert, among many others, were very supportive of and participated in. It was a highly successful meeting with over 50 CEOs and university presidents and officials from virtually every federal research agency participating.

At the core of the president's competitiveness initiative are major increases in federal R&D funding over the next 10 years, and let me focus on what we're proposing at the Commerce Department for fiscal year '07.

First at the National Institute of Standards in Technology, the president's budget calls for a 24 percent increase in funding, over \$104 million, for our core laboratory programs and the facilities to support them.

This funding will allow scientists at NIST, who have won three Nobel prizes in recent years, to advance research in promising fields. For example, \$72 million would go for cutting-edge efforts in areas such as nanotechnology, hydrogen fuels and quantum information.

These initiatives hold the promise of leading to new cancer therapies, fuel cells for pollution-free cars, or unbreakable codes to protect electronic transactions.

We're planning to invest in critical national assets, notably the Center for Neutron Research. And we're also seeking \$32 million to maintain and upgrade our labs, including the aging facilities in Boulder, Colorado.

At the National Oceanic and Atmospheric Administration, we're requesting a \$345 million increase to our base programs in order to continue improving key predictions and warnings for a variety of weather, climate, and water conditions, working toward sustainable fisheries and supporting safe and efficient transportation.

Specifically, we're seeking increases in several high-priority areas, including \$112 million for the next generation of weather satellites that I know this committee has great interest in, \$108 million for ecosystem management, \$46 million for weather and water information, including \$12 million to operate the tsunami warning program, and \$24 million for climate services to better predict and better inform the public about droughts.

Mr. Chairman, President Bush, the Commerce Department and this administration are committed to maintaining America's leadership in the global economy, and one of the best ways to do that is by creating an environment that encourages innovation and risk-taking and that focuses R&D spending on the most promising and productive fields.

And we believe our R&D budget at the Department of Commerce significantly advances those goals.

I look forward to working with the committee as we move forward in what I believe is one of the most crucial issues we face as a nation, and I obviously look forward to answering any questions that you and the committee may have.

BOEHLERT:

Thank you very much.

Dr. Bement?

BEMENT:

Thank you, Member Gordon, and members of the committee.

Thank you for this opportunity to provide you with some context for our 2007 budget request.

As I mentioned to Chairman Boehlert before the hearing, my face muscles are getting sore from wearing a constant grin. And it's always a special pleasure to come before the committee when we have a budget request such as the one we have and will be discussing today.

As you are well aware, the president's request for NSF for 2007 is \$6.02 billion or

a 7.9 percent increase over last year. And the first installment in the administration's plan is a 10-year doubling of NSF's budget.

Mr. Chairman, we're grateful to you for your personal leadership and also for the committee's leadership on this issue, and look forward to working with you in the months and years ahead to achieve this ambitious goal.

NSF has been selected to play major roles in the president's American Competitiveness Initiative. These include investing in the generation of fundamental discoveries that produce valuable and marketable technologies, providing world-class facilities and infrastructure that are essential to transform research and enable discovery, and preparing the nation's scientific, technological, engineering and mathematics workforce for the 21st century while improving the quality of math and science education in America's schools.

By its long-standing practice of integrating graduate research with education, NSF will facilitate the direct transfer of new concepts to the private sector as graduate students involved in their discovery enter the workforce.

The president's request for NSF will increase funding for research and related activities by 7.7 percent to \$4.7 billion. This should enable NSF to reverse the decline in our success rate by providing 500 more research grants and 6,400 additional scientists, students, post-doctoral fellows, and technicians to contribute to the innovation enterprise.

This increase will also bolster our ability to fund more high- risk ideas. We already make available up to 5 percent of research funds for small grants for exploratory research. Combined with targeted activities throughout the research directorates, more than 9 percent of the research budget specifically challenges the community to take risks and engage in research at the interdisciplinary frontiers.

We will also make investments in several administration priority initiatives.

We are pleased to be the lead agency in two of the nation's major physical science research programs, the networking information and technology research and development initiative, or NITRD, and the national nanotechnology initiative, or NNI.

Funding in the requests for NITRD will increase by 11.5 percent, or \$93.4 million, and NNI will increase by \$29.4 million, or 8.6 percent.

Within our investment that supports unique tools and world-class facilities are two

new starts for major research, equipment and facility construction.

We are requesting \$56 million for the Alaska region research vessel, a ship designed to conduct essential scientific studies in waters that are home to enormous fisheries and challenged by climate change.

The budget also includes \$13.5 for the ocean observatories initiative, which will revolutionize our understanding of the complex interplay among oceans, geology and life in the seas.

Both facilities respond to recommendations from the congressionally mandated U. S. Commission on Ocean Policy.

The budget includes \$597 million, an increase of about 15 percent, for new cyber infrastructure, including \$50 million for transitioning from Terascale to Petascale computing.

In addition, \$35 million is included for NSF's cyber trust program to improve the reliability of computer systems even if under attack.

These programs will be conducted in close cooperation with the Department of Energy, DARPA and NASA.

Yet another aspect of NSF's role in the president's initiative will focus on preparing a technological workforce improving the math and science education of children.

Although the education human resources account increases \$19 million or 2.5 percent over last year, this does not reflect the total investment in education activities at NSF.

After accounting for various base changes such as the planned \$17 million phase-down in math and science partnership program, and contributions from the research account, K to 12 investments actually increase by over 10 percent and investments in undergraduate education increase by over 6 percent.

Budget request proposes significant increases in all other congressionally-mandated programs such as graduate fellowships and trainingships, research experiences for undergraduates and teachers, faculty early career development, Robert Nye (ph) scholarships, advanced technology education in two-year colleges, and informal science education.

Investments to broaden participation of women, under represented minorities and persons with disabilities in STEM will increase throughout the foundation to \$640 million with nearly \$100 million from the research account.

These investments will focus on proven programs that have shown success in increasing the pathways for broadening participation.

Mr. Chairman, I'm very aware and appreciative of the committee's long-standing bipartisan support for NSF and I'll be happy to respond to any questions that you may have.

BOEHLERT:

Thank you very much.

Dr. McQueary?

MCQUEARY:

Thank you, Mr. Chairman, Congressman Gordon, distinguished members of the committee.

It is a pleasure to be here with you today to discuss the budget for research and development activities of the Department of Homeland Security's Science and Technology Directorate.

The House Science Committee was the first congressional committee I appeared before following my confirmation in the spring of 2003. And as I am leaving my post next month, I expect this to be the last congressional committee I will testify before as DHS undersecretary for science and technology.

So, this hearing today, we've come full circle.

As this committee and many of our nation's leaders recognize, advancement in science and technology play a vital role in protecting our country from natural and manmade disasters. Making such advancements happen, carrying them from their hypothetical beginnings to real life application is the job of the Science and Technology Directorate.

We are doing this of course to get the critical tools to those who stand between us

and disasters.

In the days and weeks that followed Hurricane Katrina, the Science and Technology Directorate staff provided valuable subject matter expertise in diverse areas that included emergency responder communications, evacuation logistics, robot-assisted search and rescue, and hazardous biological materials disposal.

S&T also contributed to modeling and simulation analyses of petroleum shortages and disease impacts, critical infrastructure damage, and economic impact. And of course we all know that there were tremendous difficulties there and that continues to be discussed at great length within the Congress and our country.

Many of our ongoing efforts focus on improving tools and systems that will enhance emergency response capabilities. Some of these include standards to ensure the reliability of equipment and processes, personal protective equipment to help responders function well in contaminated environments, and a framework for wireless interoperability so the responders can communicate effectively with one another during an emergency.

I'd like to highlight a few of the many accomplishments of the R&D programs of the past year.

S&T collaborated with local partners to implement second-generation enhancements to BioWatch, a bio-aerosol monitoring system operating in more than 30 U.S. urban areas. We have significantly increased the number of air collectors in the top threat cities, extending protection to more people while fortifying our coverage of transit systems and special events.

We also commenced operation of the National Bioforensics Analysis Center, the nation's leading resource for the analysis of forensic samples to identify perpetrators of biological attacks.

We transitioned the Protect Chemical Detection System for public facilities to the New York City Metro Transit Authority and Protect is now operating in subway systems in New York City, Washington, D.C., and Boston.

In the explosives area, S&T collaborated with the Office of Domestic Preparedness, which is now called the Office of Grants and Training, on preliminary testing of blast-resistant trash receptacles. We are using the test results to write the first national standard for this technology.

S&T's Border Watch Program is advancing our border surveillance and

monitoring capabilities and supporting Border Patrol agents in remote locations. We're developing a wireless communications framework that equips field agents with sophisticated tools that enable them to quickly determine if people crossing the border illegally present a criminal or terrorist threat to the United States.

On the cyber front -- and I know that's an area you have a great personal interest as a committee -- on the cyber front, we established a cyber security test bed program to explore threats to network security without compromising the Internet.

Just as you need a secure biocontainment facility to handle live viruses, you need a secure cyber containment facility to work with computer viruses and this is what the test bed provides, and I also should say that this work was done jointly with NSF.

S&T is now participating in the Interagency Networking and Information Technology R&D program to help ensure that the department's cyber security and critical infrastructure R&D activities are coordinated with those of other federal agencies.

Manufacturers and sellers who can produce and distribute effective anti-terrorism technologies require certain protections to encourage the development of countermeasures that are critical in the fight against terrorism. Toward this end, we have certified or designated some 57 technologies as qualified anti-terrorism technologies, making them eligible for the Safety Act protections.

And we are on schedule in reviewing all applications that have been submitted to date.

A far more extensive summary of the accomplishments are in the written testimony for the record and you can read that at your leisure.

Let me just briefly mention the 2007 plan and then I'll wrap up.

We do support the department's goals and objectives for the strategic RDT&E investments that weigh the risks facing the nation and the estimated costs and benefits and solutions for accounting among them.

For FY '07, the S&T directorate proposes a budget of approximately \$1 billion and 383 full-time equivalent employees. And this year we now have the M&A account properly accounted for and it will be much more visible to the Congress and others as to how that money is being spent. And that's been discussed with your staff people, I believe, so that there's an understanding there.

Finally, the requested R&D and acquisition operations appropriation which we are requesting is \$806 million.

And I think, sir, with that I will wrap up my comments and thank you for the opportunity of appearing before you. And I look forward to trying to answer the questions you have.

BOEHLERT:

And once again, let me thank you on behalf of the entire committee for your outstanding public service.

MCQUEARY:

Thank you.

BOEHLERT:

Wish you well.

MCQUEARY:

It's been a pleasure to serve in this role, I assure you.

BOEHLERT:

Knowing you're charged, as you are, within the administration, and I am and we are in the majority up here, there's also a temptation to have this as sort of a cheerleading session, and we high-five each other and talk about all the good things, and boy, there are a lot of good things to talk about. But that produces nothing of any real value as we go forward.

So instead of focusing on all that's right in a budget that does much better by science and instead of focusing on the vision -- and it's coming into sharper focus because of the budget and the words and deeds from the administration -- I want to talk about some of the other things that are somewhat problematic, if I will.

Let me start out with one with Dr. Sampson, for you, because both Mr. Gordon and I and just about everybody we talk to are real believers in the Manufacturing Extension Partnership. And the budget submission from the administration requesting \$46 million ain't going to fly, I'll tell you.

I am determined to up that and so is he, and I think the majority in Congress are. We're talking about, relatively speaking, nickels and dimes for a program that has proven its value.

So tell me how you think the program would work if we were dumb enough to only provide \$46 million. Can you explain that to me?

SAMPSON:

Certainly.

First of all, I think what I would point out is that in the budget development process, our responsibility is to identify priorities that we believe address the most critical needs that we have.

Secondly, MEP is just one method by which NIST supports manufacturing in America.

Over half of all NIST core laboratory functions directly or indirectly benefit manufacturing. At NIST, we have somewhere in excess of 1,800 visiting scientists working from industry and from academia.

And if the Congress decides to move forward with what we believe are the right set of priorities for NIST, what we would do would be several things.

First of all, we will begin...

BOEHLERT:

Doctor, the time is limited and I'm going to hold myself to the same time. Just let me signal you so you can go back...

SAMPSON:

OK.

BOEHLERT:

... and report to everybody that we're determined to do better by MEP and we're determined to do well by NIST.

But this is something that really impacts on the small-business manufacturer right on the front lines and they're oftentimes like one- armed paper hangers, they don't have research departments, they don't have all these other departments, but they need some help and it's a good program that makes sense.

So I hope you won't be unhappy if we force more money in this program on Commerce. That's it.

Now let me go to Dr. Bodman.

As you know, this committee, particularly Chairman Biggert and I have long been concerned about the lack of any plan for the climate change technology initiative. Now that, thanks to you and I want to give you high marks for this, a draft strategic plan has finally been released, we're still kind of concerned.

There doesn't seem to be much in there to help set priorities for milestones. Could you tell us how you see that plan moving forward from here and what you hope it will accomplish?

And then just let me say I think we're finally getting to the point where people no longer think that my concern about global climate change, and the scientific community's concern about global climate change is just a figment of our imaginative imaginations.

It's for real and we've got to deal with it in a responsible way.

So I give the microphone to you, Mr. Secretary.

BODMAN:

Well, without getting into a debate about climate change, I just would observe that this administration has been doing everything it can do with respect to both science, which I was intimately involved with during my days when I had Dr. Sampson's job,

and now at Energy Department where we are responsible for the technology program that really covers a wide range of things.

Each of those programs have got very specific milestones and goals and objectives and so forth, and we lay those out each year in the budget.

And so I appreciate -- I was in receipt of the letter that you and Congresswoman Biggert sent and we are in the process and the final stages of responding to that.

But I'm comfortable that we have adequate goals and objectives, and the hope here is to develop technologies that will, when they emerge, which they're starting to do into the marketplace, will be able to make a significant contribution by reducing greenhouse gas emissions.

BOEHLERT:

Mr. Secretary, I'm comfortable that you're comfortable, because I have a very high regard for you and I'm very much looking forward to the response that is in the final stages of preparation.

But we weren't getting into a debate about global climate change, because I know that you know, even the president knows, it's for real. It's not the figment of somebody's vivid imagination. And I know, and you know, and the president knows that man has contributed to it. And I know and you know, and I think the president realizes, we have to do something about.

So the discussion would be what that doing something should represent, not whether or not the problem exists as for real.

So thank you very much for that answer. We very much look forward to your response.

And, Dr. Bement, as several of us have noted, we're not happy with the level of education commitment at NSF, which we think is critical for the nation's future.

Can you please tell us what you think the role of NSF is in education? What is the justification for reducing K through 12 programs just as the nation is focusing increasingly on the inadequacies of science and math education?

BEMENT:

Yes, Mr. Chairman.

First of all, I would like to say that education outreach diversity are core values throughout the foundation, not just in the EHR directorate. It permeates every directorate and every office within the foundation.

And the commitment right now in the '07 budget is \$816 million, in the EHR directorate, but it's \$450 million in the research and research-related activities account, and that includes activities at every level, from K to 12 to undergraduate, to graduate and early career, and also in broadening participation.

And just to give some examples, in K to 12, there's a GK12 program in the R&RA account which brings matters into the classroom. There are research experiences for teachers. Now, these programs are well-recognized by the National Science Board and they've encouraged us to put more commitment in our research directorates, because the kind of programs we can bring into the classroom is more hands-on experience, creates more motivation, creates more enthusiasm, and puts more bright minds into the pipeline for science and engineering, which is a critical need in the nation at the present time.

Without belaboring that fact, I have eight pages of examples of programs within our R&RA...

BOEHLERT:

I'm sure you have...

(CROSSTALK)

BOEHLERT:

... and I know from long experience that the administration sends its witnesses up and, boy, oh boy, you've got volumes to tell us what great work you're doing.

You know what? I think you're doing great work.

And I am a cheerleader for the National Science Foundation, but I'm anxious to get to that area where I think we want to give you an opportunity to do even better than what you are doing.

We have some dispute about how you come up with the bottom line, but the important point is that science and math education are in need of attention in this country.

BEMENT:

Yes.

BOEHLERT:

It's critical that we invest more in that.

And it's also important for everybody else in this town to recognize that you guys at NSF have a vital role to play. We just can't leave it to the Department of Education, and we've got to make darn sure you...

BEMENT:

Right.

BOEHLERT:

... at NSF and the Department of Education are working collaboratively and you're marching forward together, not like in the past.

I can recall one time when I had to introduce the secretary of education to the director of the National Science Foundation. They didn't know each other. I mean, that was really mind-boggling, but we don't have that now.

BEMENT:

Mr. Chairman...

(CROSSTALK)

BEMENT:

... I've met with the secretary of education at least twice.

BOEHLERT:

Well, that's great. Keep meeting him.

Mr. Gordon?

GORDON:

Thank you, Mr. Chairman.

I will follow your admonition and try not to be a cheerleader here today.

Let me...

(LAUGHTER)

BOEHLERT:

But you will concede there is much to cheer about.

Thank you.

(LAUGHTER)

GORDON:

I want to, as always, or not always, but most of the time I'm in such agreement with the chairman.

I understand, Mr. Bement, you know, besides being a scholar, you're also a soldier. But I know you can't be grinning about this K to 12 situation. It's been cut 37 percent.

You listed all the good things you're doing, but the funding has been cut by over a third for those.

I hope...

BEMENT:

Are you talking about MSP or K to 12?

GORDON:

K to 12.

BEMENT:

That hasn't been cut.

GORDON:

If you look at the budget over the last, I think it was 7 percent this year, it's been 37 percent I think from 2001 to 2004.

BEMENT:

Well, again, I would argue that in the EHR account, if that's the only account you're looking at, you'll see some cuts in K to 12, but you also ought to look at the total budget.

GORDON:

Well, I think, you know, if you look at the Augustine Commission report, K to 12 science education was really a major thrust there. I've put their recommendation to legislation.

Again, you've listed all the good things you're doing -- again, I'm just sorry that it's being cut by a third. You are a soldier and so you can, you know -- if you can put a grin on that one...

(CROSSTALK)

GORDON:

... you really are a good one.

Let me also say, Mr. Chairman, that concerning the MEP program, clearly I think it is a bipartisan program that is distinguished by the Governors' Association saying it's important.

And, Dr. Sampson, you pointed out a rosy picture but the fact of the matter is that all the surveys taken of our country's attitudes right now say we're going in the wrong direction and the economy is one of those areas that they say is going in the wrong direction.

And I think a part of that is the fact that since 2001 we've lost 2.8 million manufacturing jobs. The MEP program really is our only small little effort to try to save those jobs, improve those jobs.

You talked about, again, NIST -- what a good job NIST is doing. It's being cut by 23 percent.

You know, we just need more help in these areas.

And, Mr. Chairman, you pointed out, rightfully so, that this is an important group of individuals with the panel. They are also dedicated public servants and I would say all have made personal sacrifices to do what they're doing, and I congratulate them for that.

But, constitutionally, we are an equal branch of the government.

We do have the responsibility of oversight. We are busy also. But part of being busy is trying to do our oversight.

So I think we need to move forward with that.

And finally, Mr. Bodman, Jerry Costello couldn't be here today, he had another committee meeting, but he wanted me to thank you and the administration for their commitment to the future generation issue and he'll be submitting questions to the record.

I'm glad I could say something nice.

I'm going to give him because I'm sure it's going to be news to him, as well as to the world, that you stated that the administration is doing all that it can on climate change -- I'll let him know that.

And finally, let me say, Dr. Marburger, I had nominated you for the gold medal, and now I would like to present that to you. You performed with grace.

And once again, this year, it's just interesting how, when you want to prove the commitment to the administration on overall spending for science, you include earmarks, but then if there are problems, you say bad things about the earmarks.

I know in one -- this is R&D, one area you pointed out that 5 percent of the budget was earmarks. That meant that 95 percent were your priorities.

You know, I remind you that the entire administration's budget is an earmark. You are earmarking what your priorities are.

I don't think it's unreasonable that Congress, an equal branch of government going through legislative hearings, having some bit of expertise, would also like to have some role in establishing that. You got 95 percent of what you wanted.

You know, I think to say that 5 percent were earmarks that were legislative priorities, I think you came out pretty well.

So, you know, again, my congratulations at the gold medal performance and I appreciate you coming here and being with us today.

BOEHLERT:

Thank you very much.

Dr. Bartlett?

BARTLETT:

Thank you very much, gentlemen. Appreciated your comments.

We're talking today about federal R&D budget, but this is being focused on our

competitiveness agenda and that's very appropriate. Essential to that, of course, is the country turning out adequate numbers of well-trained scientists, mathematicians and engineers.

And you know the statistics. China graduates more English- speaking engineers than we do and a fair percentage of the English- speaking engineers that we graduate are Chinese students.

They're now graduating, what? I hear various numbers -- six, eight times as many engineers as we're graduating.

India, two, three times as many engineers as we're graduating.

I would submit, gentlemen, that a culture gets what it appreciates. When I was going to school, we were squares -- that's about when you went to school I guess. Now I guess bright young boys are geeks and nerds and pretty girls won't date them and really bright girls have to play dumb to get a date.

How smart is this as a society where our bright young people are clearly underappreciated?

Rarely is a scientific achiever invited to the White House to be acclaimed there.

And I submit, gentlemen, that we're not going to turn this around --money alone won't do it and the good intentions of your department won't do it. This will turn around when we, as a culture, appreciate this kind of endeavor.

I'd like to start with, Dr. Marburger, and just go down and say, But what can we do as a culture so that our bright young people -- I talk to a lot of them, and they're increasingly going into what I caution them could be destructive pursuits. They're becoming political scientists and lawyers.

(LAUGHTER)

Now, we need a few of each of those, but I would submit that we've got more than a few of each of those. And I'd like to see more of our bright young minds go into science and math and engineering, but that's not going to happen until we as a society appreciate them.

How do we send that message?

MARBURGER:

Well, Congressman, I think that one of the best ways is to have the leadership of the nation raise the visibility of science as an important function for our society.

The American Competitiveness Initiative was just an enormous stroke of publicity and positive visible leadership.

The president, following his State of the Union speech, visited a number of sites around the country, one of which was a training site that had been established by Intel Corporation in Albuquerque for bringing teachers into contact with real-life scientists and engineers.

A major part of the initiative is to create a much larger core of adjunct teachers who can come into the classroom and let students see a real, live human being and how excited they are about their work and how they feel that they're contributing to the nation's future competitiveness.

I believe that leadership is really important, and frankly, the enthusiasm that Congress has shown, including members of this committee, for this initiative has simply added to a groundswell of recognition for the importance of these professions to the nation.

So I believe we're on our way to a new era of awareness that I don't doubt will have a major impact on the graduation rates in science, engineering, math professions.

BARTLETT:

Mr. Bodman?

Dr. Bodman?

BODMAN:

I think Dr. Marburger said it very well.

I think it takes leadership. I think it takes Congress. I think it takes the president.

The president has stepped up and made proposals; has made I thought a very definitive statement about the importance of this to this country.

And that's -- you know, if you have the president talking about this, I don't know how you do much better than that, sir. So I do think that we have the potential if we get the kind of support from Congress that I hope we will get for the proposals. I think we are embarking on a new era.

I am a product of the Sputnik generation. I used to go out in the backyard as a boy -- not so young boy, I guess -- and look up in the sky and look for that light going across because the Russians had one-upped us. And that led to a number of initiatives, legislative initiatives, and Presidents Eisenhower and Kennedy did a great job of I think capitalizing on that.

I think we're at a point now where we're having a similar kind of experience, and the importance of science, of research and development, particularly in the physical sciences, is starting to -- its impact on the economy -- I think it's starting to become better known throughout our society and I'm hopeful.

I don't know what more to say than that, sir.

BARTLETT:

I remember a cartoon from that era recognizing the increased interest in engineering, science and math. It was a kid who, a freckled-face, buck-toothed kid who said that "Six months ago, I couldn't even spell engineer, and now I are one."

(LAUGHTER)

We need that...

(CROSSTALK)

BARTLETT:

... I didn't like it a lot because I was one, sir.

BOEHLERT:

Thank you very much, Dr. Bartlett. Your time has expired.

But I can't help making an observation. You guys get it, we get it, about the importance of the subject matter being discussed today.

But it warms the cockles of my heart to see this attendance here. And one of the things we have to do, Dr. Bartlett, is to get the media to focus on this very important subject in a significant way.

For example, Mr. Secretary, you and I were down at the White House -- and I don't mean to name drop -- but Monday, when the president of the United States, in a highly visible ceremony, presented the National Medal of Science and the National Medal of Technology to some very distinguished Americans and to some companies who have made a major investment and produced something of broad-ranging implication that helps fuel our economy and keeps us in our number one position, and guess what?

I picked up yesterday morning's papers -- I didn't expect to see my picture with the president but I expected to see some stories about these wonderful, wonderful deeds performed by these magnificent national treasures and it was almost ignored by the national media.

And we've got to get them enlisted. We've finally gotten the attention of the business community. I keep telling them, you know, you've got to lobby for something other than the latest tweaking in the tax policy necessary to ensure a better bottom line, or the adjustment in trade policy that's necessary to put you in a more favorable position.

You've got to tell us, in the Congress and in the executive branch, the importance of investment by the United States government in research and the importance of training the workforce of tomorrow -- we've got to start training them today.

So I hope all the media representatives in the room will take to heart what I'm saying.

We want you to partner with us in getting this message out.

With that, I'm pleased to recognize the distinguished gentlelady from Texas, Ms. Eddie Bernice Johnson.

JOHNSON:

Thank you, Mr. Chairman.

And I apologize for having to run to another meeting, but I will ask unanimous consent to submit my complete statement as well as my questions.

BOEHLERT:

Without objection, so ordered.

JOHNSON:

Thank you.

And simply say that, to the distinguished panelists, your leadership will determine where we are in this world and our setting. From K through 12, through higher education, the research, all of that, you are very, very important leaders.

And, you know, I like and respect our president, but he is a slow learner when it comes to this. And it's going to be up to you to give him as much of your information as possible.

We get comments about our attitude on global warming. We are getting to the point where our science is being doubted by other countries. That's the worst we can get.

We were told not to attend another meeting after he came into office on global weather change, and it's unfortunate because we see the results.

I'm asking all of you to spend more time educating our leadership in this area. Nothing is more critical than to educate these young people, to get our scientists out there and become a leader in the world again in this area.

We are really not right now, because we are not prepared. But we can retrieve our standing, but it's got to be with your help and your leadership.

Thank you.

BOEHLERT:

Thank you very much.

Dr. Ehlers?

EHLERS:

Thank you, Mr. Chairman.

And thank you to the panel.

Dr. Bement commented that he's having trouble because of constantly smiling ever since the announcement of the president. I've had that same problem.

In fact, the speaker appointed me chairman of the House Administration Committee to try to get rid of that smile.

(LAUGHTER)

Those of you who know the committee know why.

Anyway, congratulations to all of you and I thank you for your good work. And as you know, I've been fighting for this for 12 years now and it's very, very heartwarming to see progress on this front.

I also have to agree with the comments made about education and I'm disappointed at the cuts in the National Science Foundation and parts of their education programs. I understand the reason, I simply don't agree with it, and I want to state that on the record.

And Dr. Bartlett was quite right in commenting that, you know, being a nerd is not socially acceptable in high school. You know, he said, you know, pretty girls don't date nerds. I thought that was true when I was in high school. I, however, found out that was just because I was obnoxious.

(LAUGHTER)

And once I solved that problem, I married a pretty girl.

The point he made about being accepted, and it's also the point that Sherman made about the announcements about the winners -- I don't know what it is about the

public, they all admire scientists but don't want to get too close to them.

And that carries over in high school. I'm particularly worried about the young women in elementary and secondary grades where they somehow are conveyed this cultural idea that girls can't do science or can't do math. It's just nonsense.

We're the only country that has that culture, and we have to get rid of it. And if you have any bright ideas of how to get rid of it, it's very important.

But every time I visit a high school and speak to the students, I point out to them they're making very important decisions about their future by way of the courses they select. And I also tell them they shouldn't look down on nerds, because if they are not a nerd, they're going to end up working for one. And I think that's a very important truth that they have to recognize. That's the direction the world is going.

What I'm trying to get at is the importance of conveying that taking math and science ensures a more stable economic future and we're not communicating that to kids, and that's what we have to do. It's just not a matter of just being socially acceptable, but it affects their ability in the years ahead to take care of themselves and their family.

I also want to express my concern about what's done to the MEP program, the ATP program. We'll continue working on that. I don't want to add to that.

But getting back to the climate change research, a question for Dr. Marburger and then Dr. Sampson. The administration to its credit some time ago, I believe 2003, completed a strategic plan for the climate change science program. This was supposed to guide a coordinated strategic budget request for climate change research across the entire federal government.

Yet every year it seems we see a shift in priorities and funding requests for the various climate change programs that are a part of the climate change strategic initiative or science program.

And I'm wondering, is this really working well? Is the program really coordinated? Have you set on a strategic plan? Are you following that plan or is it still -- are you still running into the problems that because it's spread across many departments and agencies, many of them are just taking the money and running in their own direction without complete coordination?

I'm not trying to pin the donkey's tail on you, I'm just really concerned about that and whether you are having trouble getting a handle on that and keeping their nose to

the grindstone in the direction that you have decided you should go.

So, Dr. Marburger first, and then Dr. Sampson.

MARBURGER:

Thank you, Congressman.

The climate change science program is one of a very small number of federal interagency programs that has a fully staffed coordination office.

The chairman, or the director of that office, has been Dr. James Mahoney, a prominent meteorologist.

(CROSSTALK)

EHLERS:

... doing an excellent job.

MARBURGER:

And he has led that office in a very vigorous and proactive way.

And part of the function of that office is to review the climate change science programs in all the agencies every year to make sure that the budget proposals requested from those agencies are consistent with the overall strategic plan. And I believe that some of the changes and motion that you see in the budgets for those programs is a direct result of vigorous oversight and not the result of chaotic drifting.

So I would interpret the changes that are being made as a result of dedication to operating this program as well as possible.

The office has a system that they have adhered to of having their progress reviewed by external bodies, including the National Academies of Sciences.

So I believe there is oversight there and I would interpret some of these changes that you refer to as not necessarily indicating weakness.

EHLERS:

So you're saying this is really part of the annual review of the planning process and modification as you go along?

MARBURGER:

Insofar as these changes are reflected in the president's requests for these programs, they are in fact a result of deliberate review by the coordinating office.

BOEHLERT:

The gentleman's time has expired.

EHLERS:

I wondered if Dr. Sampson could...

(CROSSTALK)

BOEHLERT:

OK.

Dr. Sampson?

SAMPSON:

Well, I've chaired the climate change science program this past year. OMB sits in on those meetings.

Dr. Mahoney is, I think, a real national treasure. And so, yes, I believe there is very strong coordination among the agencies.

EHLERS:

The next question -- and I don't have time, but I just want to throw it out and you can reply in writing.

What about the technology program? Is the same thing true there?

BOEHLERT:

Thank you very much.

Mr. Miller?

Incidentally, Mr. Miller and I just about 30 days ago were down at the South Pole and advised by our good friends in the National Science Foundation that they're going to initiate a new program making us members of the Royal Order of the Ice, or something like that.

But, Dr. Bement, you know what a wonderful job NSF does with that polar program and he's got firsthand testimony.

Mr. Miller, you are recognized.

MILLER:

Thank you, Mr. Chairman.

It was wonderful to stand at the South Pole and realize that all the politicians of the world who thought the world was revolving around them were actually wrong -- it was revolving around me.

(LAUGHTER)

At least for that moment.

I was also pleased when I heard the president in his State of the Union describe a new competitiveness initiative, emphasis on science and math education, emphasis on basic research.

But this is my third, or that was my fourth State of the Union and the budget always comes a week later, and it has come to seem to me that the budget writers get

one memo and the speech writers get a different memo.

The speech writers get a memo entitled, "Paying Paul," and the budget writers get a memo entitled, "Robbing Peter."

I remember two years ago, and then again last year, the president praised community colleges for the important role they played in giving our workers the skills that they need.

Two years ago, the president announced a new \$250 million job training program in community colleges. When his budget came out, you couldn't really find it.

Now, Congress did fund at \$250 million this new initiative, but half of that, that year, half of that came dollar from dollar from a displaced workers training program that was doing pretty much exactly what the president said the new program was going to be doing.

And then last year, Congress funded the new initiative not at all, but the displaced workers program didn't get their \$125 million back.

And in fact over the last three appropriation cycles, programs in community colleges for training displaced and new workers has lost \$120 million.

So I was actually a little concerned when I heard the president talk about basic research and what that would actually mean in the longer run.

Is praising it in the State of the Union actually the first step in cutting it?

And, Dr. Marburger, I'm not persuaded by the argument that you need to back out the earmarks and that we really are spending more on science, not less.

The earmarks were undoubtedly spent on research, just research at the direction of Congress instead of research at the direction of the administration.

But fundamentally I agree that research -- what we're doing in scientific research should not be guided by politics.

But, Dr. Marburger, I am very concerned at the reports that we have heard that it is being guided by politics in the administration.

There was an article this morning in the Washington Post, an op-ed piece by

Anne Applebaum about a NASA-funded research project into the possible environmental effects of hydrogen fuel cell, the hydrogen fuel cell economy that the president pushed two or three years ago, and that a press conference and a press release announcing the results of that study were killed by your office, apparently for political reasons. That this was a favored project of the administration and this report by NASA was critical of it.

Dr. Marburger, I know that you're going to say it didn't happen, but these were all unnamed presumably NASA employees speaking not for attribution, speaking with -- under the understanding that their names not be used.

What assurances can you give us, what procedures are in place to make sure that politics does not intrude in what is being funded and what findings are acceptable coming out of the scientific research, particularly on global warming?

MARBURGER:

On the contrary, that is a case where my office did in fact ask NASA to hold up a press release on a study that indicated the impact of very large quantities of hydrogen on the atmosphere. And we did that specifically because another agency that had expertise in this area was aware that the conditions of the report were somewhat in question.

And we wanted to make sure that the Department of Energy had an opportunity to say what it thought the case was before NASA put out its own press release.

We did this in full awareness that the paper was about to be published and that the institution where the people were working was going to have its own press release.

I was struck this morning in the article, the op-ed that you refer to, by the contrast between the title of the article and the concluding sentences of the commentator saying, "I have nothing to report."

So I think this is a case where there's been an effort to make a mountain out of a molehill, and I'm not at all defensive about the actions that my office took in that instance -- it took place three and a half years ago, I believe.

So I'm very aware of the report and its implications and the problems with the study that was done, some of which were actually indicated in the op-ed article which you are referring to.

So I don't think this is an indication that supports the contention that the administration interferes with science or censors science in any way.

I think that this was an appropriate action that we took in response to a situation that needed to be clarified to the American people.

BOEHLERT:

Thank you very much.

The gentleman's time has expired.

Mr. Calvert?

CALVERT:

Thank you, Mr. Chairman.

Senator (inaudible) has a meeting with Dr. Saga (ph) here in the back, and I don't know if the question that I'm going to have, whether it's been answered or not -- if it has, let me know.

Dr. Marburger, the Office of Science and Technology policy is currently in the process of developing a national aeronautics policy, you're probably aware of, to guide research in years to come.

And the question I have -- or two questions.

One is how will this policy ensure that the United States is competitive globally in an industry that is one of the bright spots that we have left?

And the other question is why wasn't aeronautics not included in the president's competitive initiative?

MARBURGER:

Thank you, Congressman.

The president's competitiveness initiative is an initiative about priorities -- what

are the areas that have the absolute highest impact on our future competitiveness? What are the areas that need to be tuned up and need to be supported in response to studies that have taken place over the past few years? And what are the areas that are ready to use the funds, that have plans in place and detailed spending plans and projects and road maps and so forth?

And I believe that the initiative does accurately identify those priorities.

The civil aviation component of federal operations is clearly a very important component and one that is currently benefiting from activity mandated by Congress on the next-generation air transport system.

As that planning for that program matures and develops its own road maps and strategic plans for the path forward, I have every confidence that the president will propose and Congress will appropriate funds that are appropriate for that sector of our activities.

CALVERT:

I have a number of questions, but specifically that I might send to you...

(CROSSTALK)

MARBURGER:

Be glad to respond...

(CROSSTALK)

CALVERT:

I also have a question that I won't ask for an answer but for the nation we should be concerned about is the next-generation air traffic system, which seems to me we're falling behind on and we just don't seem to have any closure on that.

And the Europeans are, as you know, with their own concept that I would hate for us to see us lose that which is extremely important to maintain I think an industry that's very important to this country.

I would like to get a written response on that.

Dr. Bodman, you know, on the issue of energy independence -- and I understand with the price of oil being what it is that oil companies probably -- it isn't necessary for them to possibly get R&D money for oil sand research or oil shell research, but it seems to me that we need to do something that's immediate in order to get our supply up, in order for us to be competitive and to have better prices at the pump, quite frankly.

And I know you're up on all the initiatives and what's going on with finding better technologies to use cheaper fuel stocks and the rest -- any comment about how we can help get more oil in the pipeline and have more immediacy in some of these solutions where we can go back home and talk to folks about?

Because I tell you, in southern California, I'm sure Dana's the same way, we hear a lot about that back home.

BODMAN:

The efforts on drilling continue unabated.

There is plenty of incentive to drill oil wells at \$60 oil prices and so we have seen a response.

Part of the problem in looking at the energy system that the country has and that the world has is getting your constituents to appreciate the scale.

We had a situation where starting a year ago, we had -- right after I took this job by the way -- we had for the first time in my memory demonstrated the inability of the world producers to keep up with the demand. And so we saw an escalating oil price that started there. It was exacerbated by the hurricanes that occurred last fall.

And I'm of the belief that we will see a response from the industry as they are getting geared up and working on the appropriate expansion of their activities. Certainly that's happening abroad and I believe that it's also happening domestically.

We also have, you know, other things that have been real problems.

Getting the natural gas pipeline from Alaska constructed is part of the responsibility at least at this point of the Energy Department, getting that going, and it's been a real issue trying to get the oil and gas companies to agree to the demands

of the state government in Alaska, or vice versa.

I'm not sure who's at fault. We've got real issues there in trying to get that done.

And then you are well aware of ANWR and the situation that involves -- that emanates from there.

So there are lots of ways the Interior Department has made proposals on increasing access to parts of the outer continental shelf and the Gulf of Mexico that will help.

And I know that Secretary Norton is working hard on expanding or accelerating the processing of applications for drilling on federal land.

So there are a lot of things that we can do, and we are doing our best to try to deal with it and at the same time implementing the energy bill, which is basically looking for alternative sources of energy.

BOEHLERT:

Thank you very much.

The gentleman's time has expired.

The chair recognizes for a brief intervention Chair Biggert, because she has a compelling need to be someplace else. She just gave me a little note. She said, "This is the most important hearing so far this year." And I agree with her.

But she's got another commitment that's equally important to her personal schedule, not to the nation.

Ms. Biggert?

BIGGERT:

Thank you.

I think not only the most important this year so far, because I don't think we've had very many, or any, but I think it is the most important hearing that we're going to have this year.

I think I am just so excited about what's happened here and how the president's American competitive initiative and the prominent role that the DOE Office of Science will play in this visionary initiative.

And I really think that much of this credit for the high priority that this budget places on science is due to you, Dr. Bodman.

It balances researchers and facilities, it capitalizes on our investment in user facilities by maximizing their operations and it makes strategic investments to maintain U.S. dominance in material sciences, nanotechnology, biotechnology and high-speed computing, and I haven't even mentioned the global nuclear energy partnership, which I strongly support.

I had to be at another hearing earlier and I asked the question of the new Federal Reserve Chairman Bernanke, who was testifying before Congress -- it's the first time -- and he reiterated the importance of R&D to this U.S. economy and U.S. competitiveness. And he also endorsed one of the key components of the president's competitiveness initiative, namely to make permanent the R&D tax credit, the importance of research (inaudible).

But all of you have been working so hard on this that I wish that I'd had more time to be here. But you know how much I appreciate what all of you have done and Dr. Marburger working on this tirelessly, too.

But, Secretary Bodman, you've just, you know, been outstanding and brought I think -- well, we are really in a new revolution. We have moved, you know, agricultural, industrial, manufacturing -- we are in the high-tech era right now.

And I think that -- I don't know that we realize the place in history that this is going to be. And I think we need to continue, you know, to develop this initiative and work, all of us, I think as a Congress, as an administration, to really fulfill this and bring forward a really new economic era that we're going to see.

So I thank you all for being here.

BOEHLERT:

Thank you very much.

And I can't help but be reminded it was technology and our wise investments that

drove the dynamic '90s and we soared to new heights. And it's going to be technology that guarantees an even more promising future.

And when I think of a more promising future, I think of Mr. Honda.

The chair recognizes you for five minutes, sir.

HONDA:

Thank you, Mr. Chairman.

And you're a silver-tongued devil -- you're not a devil.

(LAUGHTER)

But I'm pleased to be here and I also have a couple of questions.

Quite frankly, I'm not as enamored with what I heard from the State of the Union because I've been here six years and there's a difference between saying something and then following it through with substantive kinds of programs and then putting the money behind it.

I'm reminded of the movie "Jerry Maguire" where the football player said, "Show me the money." And I'm not quite sure that the money's going to be coming here.

I have a question for Dr. Sampson, but a comment to Secretary Bodman. And that's a comment about our interaction between the DOE and this committee.

Ranking Member Gordon submitted a series of questions to you in advance of this hearing so that you could be prepared to submit answers to those questions at this hearing.

But from what I've been told, those answers were not available today because they're awaiting OMB approval.

The problem I have with this is that I think I am still waiting for answers to questions I submitted at a hearing back in June on reprocessing. We only have a little bit of time to ask questions verbally so I'd like a response offline afterwards.

But it just seems that you won't be answering questions when we submit them

after the hearing, so, you know, you're not responding to questions when they're submitted before our hearings.

So if there's a problem with the OMB clearance, how long before the hearing do we need to give you questions so the answers can be cleared at least?

I'll come back later for that response after this hearing, perhaps later.

Dr. Sampson, it's time for my annual question about advanced technology program, ATP.

The documents that came with the budget say that the program is unneeded, quote, "due to the growth of venture capital and other financing sources," end of quote.

Red Herring magazine published a story recently based on data from the National Venture Capital Association, which has an interest in making V.C.s look good.

According to the story, while V.C.s raised a lot more money in '05, total V.C. investment only went up about 2 percent from '04. The biggest gains went to retailers and consumer services. Meanwhile, the semiconductor, biopharmaceuticals, electronics and software sectors all secured less funding in '05 than in '04.

And during '05, V.C.s cut their state funding by 54 percent from their '04 level, from \$118.3 million down to \$54.3 million.

Based on the data, how can you possibly say that ATP isn't needed because ample V.C. funding is available?

It appears that MEP is following the same route as ATP as far as our process is concerned, and we're all concerned about MEP as we were with ATP.

And some comments were made about earmarks -- it appears to me that ATP is only being funded through our good efforts, through our earmark process and that's the only way ATP seems to be surviving.

So I'd like some sort of response to that comment.

SAMPSON:

Well, let me respond to the ATP issue first of all in several ways.

First of all, the budget that we submitted reflects what we believe are the highest priorities.

Secondly...

HONDA:

Well, it's being submitted as zero, I believe, if I'm not mistaken.

SAMPSON:

That's what I'm getting to.

HONDA:

OK.

So it's a high priority and it's -- I'm sorry, go ahead.

SAMPSON:

No. We have reflected that money in what we believe to be higher priority areas, which is the core mission of National Institute of Standards and Technology, which is basic research in the physical sciences.

And secondly, I think that without question the U.S. has the most robust venture capital market anywhere in the world. The evidence of that is clearly demonstrated around the country, whether you're going to the 123 Corridor in Boston, or Silicon Valley or other emerging innovation hot spots around the country...

HONDA:

Perhaps you can share your stats with our office to substantiate your position. Because the article that I read in the Red Herring magazine has done some research in terms of funding.

Go ahead. Thank you. If you could produce that.

SAMPSON:

We'd be happy to get back with you.

HONDA:

Yes.

Do you have a timeline for that?

SAMPSON:

As soon as our staff can work on it, we'll be happy to get back to you.

HONDA:

I've been waiting since June for the questions on reprocessing. It's about a responsiveness.

(CROSSTALK)

SAMPSON:

I am very puzzled by that and I will -- it will have my immediate attention when I get back.

To the extent that you sent a letter several months ago and have not been responded to, sir, I am unaware of it.

HONDA:

Well, the ranking member also has done this, too.

SAMPSON:

I know. The ranking member sent the list of questions in. The answers have been prepared. They are being processed through OMB and they will be forthcoming promptly.

I was prepared to deal with his questions at this meeting if you wanted to ask questions about those at this meeting.

(CROSSTALK)

SAMPSON:

... your situation, sir, I am completely unaware of it.

And it is exactly the sort of thing that I have been working hard to bring a halt to, to the extent that these issues existed, and I will see to it promptly.

HONDA:

I appreciate it.

SAMPSON:

You will have an answer, sir.

HONDA:

Thank you very much and please forgive my adamancy.

SAMPSON:

Well, perfectly reasonable question.

BOEHLERT:

Thank the gentleman.

The chair recognizes gentleman from Minnesota, Mr. Gutknecht?

GUTKNECHT:

Thank you, Mr. Chairman.

And I hope I don't take the whole five minutes but I probably unfortunately will.

First of all, let me apologize on behalf on a lot of my colleagues for these earmarks, because I do believe that they -- frankly, I think they're inappropriate in terms of science and research.

And I am a proud original co-sponsor of Representative Jeff Flake's bill and hopefully now more members will join us in that.

Let me say though, on behalf I think of the overwhelming majority of the members of this committee, for the most part we have avoided the temptations that other committees have fallen into in terms of those earmarks.

What I really want to talk about though, just briefly, with you -- and I'm delighted and Secretary Bodman, we're delighted to have you here to talk a little bit about renewable energy, because I think you made a very important point.

At \$60 a barrel, I'm not sure how much we really need to subsidize a lot of that.

But I want to come back to one of my favorite expressions is that success leaves clues.

And I think if there's one successful program in terms of advancing research that we have seen at least on this committee and that we have worked with, it's one that's run by the Defense Department -- it's called DARPA.

And I'm wondering if any of you, and particularly Secretary Bodman, if you want to talk briefly about that, how much you know about DARPA and whether or not you have considered a similar type program in any of the other agencies?

And the reason I say that is in our work both on this committee and my work representing the people of southern Minnesota, I get to encounter a number of incredibly interesting ideas and entrepreneurs.

And one of them I actually took out to the National Renewable Energy Labs out in

Colorado, which is a very impressive facility. But on the way back he said something rather interesting. He said, "You know, actually what we're doing right now is probably more advanced than what they're doing out in Colorado."

And I said why is it that it seems that private individuals, entrepreneurs and inventors seem to be able to move at a faster rate sometimes than the federal agencies?

And he gave a very interesting answer. He said, "Because we only eat what we kill." And if you think about it -- and that's why I really want to encourage you all to consider looking at that DARPA model because, you know, a few dollars invested, relatively small amounts of money invested in specialty projects have yielded enormous returns in terms of new ideas, new innovations.

When you look at the success rate of DARPA, I think it's one that deserves to be studied and wherever possible, modeled.

And Secretary Bodman, if you want to respond to that, or anybody else, I'd appreciate it.

BODMAN:

I'm very aware of DARPA and its predecessor, which was the Office of Naval Research. And that goes back to my days as a student, sir. So I am quite aware of what they've accomplished.

The budget that is before you shows sizable increases in funding for research in the Energy Department.

I commented earlier -- I believe before you arrived -- that we are thrilled with the proposal that's there and we are very hopeful. There are a number of proposals in Congress, some of them involving a DARPA-like structure.

And my answer on that is I am aware of it -- we have a lot to do, and we have a 14 percent increase, we have a half a billion dollars to put to work in the science area. We have something like a quarter of a billion dollars to put to work in additional funds in the energy area. And they have been prioritized and we worked on that.

And so I'm sure there are things in the DARPA model that make sense, and we would be happy to explore that and work with you if that's something you're interested in.

I just would observe we have a lot to do to take the money that we hopefully will be granted by Congress and put it to work effectively. We have a big job and I would rather not distract this department with additional priorities, at least right now.

Hopefully, after we get this started and more effective and operating in this sort of environment, we will be able to be more responsive to your suggestions and other suggestions about a DARPA program.

BOEHLERT:

The gentleman's time has expired.

The chair recognizes the gentleman from Missouri, Mr. Carnahan?

CARNAHAN:

Thank you, Mr. Chairman.

And I'm glad to see us having this discussion here today. This is a big idea and I think it's a big deal for our country.

We've had great bipartisan support with a lot of these initiatives. And as they say in the old saying, politics make strange bedfellows, and I'm going to talk about Bono and JFK in the same paragraph here now.

Bono was here in Washington a few weeks ago and talked about the dangers of incrementalism when you have big ideas. I think that's important to keep in mind.

And you look at the example of JFK -- and Secretary Bodman, you talked about those times when he really created this national challenge for us. And I think we need to have that same great level of national challenge with where we are today.

But I think this big idea deserves a lot more than fuzzy math or counterproductive measures. And I'm concerned about if we're just cutting science in some areas to fund science in other areas, we're really just reshuffling the chairs on the Titanic. We deserve better than that.

And I want to make a point about congressional earmarks.

Does anyone on the panel think that congressionally-earmarked dollars spend differently than an administration budgeted item?

MARBURGER:

Yes, I do.

CARNAHAN:

I'd be curious to know how.

MARBURGER:

Yes, sir.

The fact is that presidential requests are built on proposals from agencies that are developed in consultation with external committees of scientists and educators and engineers, and they are part of a coherent plan.

In many cases, earmarks are spent on activities that lie completely outside coherent plans and, not infrequently, completely outside the area of R&D for which the agencies are supposed to be responsible.

So I believe that the best possible way to spend taxpayer dollars in research is in consultation with the agencies that are responsible for providing oversight and their peer-review merit-based mechanisms.

So we would be glad to work with Congress to determine mechanisms that would make it possible for congressional concerns to be addressed in the areas of research that appear to be needed.

But I think this practice of earmarking has grown out of control and we're very concerned about it.

SAMPSON:

With respect to the Commerce Department, the majority of our funds in our construction account for the NIST laboratories are earmarked funds for activities that

are not a part of NIST's core mission.

All of this at the time when our lab in Boulder, Colorado, we have Nobel prize-winning scientists doing work in labs where they have black plastic sheeting covering the roof and cardboard placed on ventilation systems to be able to try to control the temperature and the moisture in the room. I know Dr. Bodman has been there to see those facilities.

And so I think the issue -- and Dr. Bement, the former director of NIST -- and so the issue for us is there's money in the budget, but can it be spent on the priorities that we have to facilitate core basic research?

BODMAN:

One of the big issues in the Energy Department is the production of ethanol using various biologically-based systems goes on at Enrail (ph) out in Colorado. And 57 percent of that budget has been earmarked, sir, and that has meant that we've had to lay off people at the Enrail (ph) laboratory, which we got criticized for.

And it was a direct result of congressionally-mandated programs that were not related to that which we wished to do.

CARNAHAN:

Well, I would acknowledge that we may have a difference in the vetting process, but I think the vast majority of earmarks that have come through the Congress have been thought out and have been an important part of what we do here.

Finally, I want to close with, I talked about some counterproductive policies. I'm concerned about the K through 12 cuts. I'm concerned about the measures that have just passed through the Congress that have made historic cuts in the student loan programs.

We've had several panels of distinguished business executives from around the country express concern about our education policy, and I think we cannot succeed in this innovation initiative if we don't really take a hard look at our education policy and growing those young minds to meet the need. Otherwise, we're going to see the scientists and engineers from China and India and around the world being used to fill that gap.

And I'd like to have some comment about that.

SAMPSON:

I couldn't agree more.

I believe that education is absolutely a high-priority investment for this nation.

Quality of teaching, quality of experience that young people have in the classroom, and the standards to which we hold their performance are all important and they're all features of the American Competitiveness Initiative that the president announced.

And I hope that in further hearings and as people have the opportunity to speak about them, we can learn about plans for those areas.

But the president is very concerned about the quality of education in this country and is looking for handles on it and ways to bring about improvements that we know are needed for continued American leadership in high technology.

BOEHLERT:

Thank you.

CARNAHAN:

Thank you, Mr. Chairman.

BOEHLERT:

The gentleman's time has expired.

I recognize out of order for one minute Dr. Ehlers, because he has something pertinent to the discussion at hand.

EHLERS:

Thank you, Mr. Chairman.

I am surprised to hear earmarks defended twice by the minority party.

I want to give another example where in a budget some years ago, because of the sorry state of the NIST laboratories in Boulder, we put in \$40 million to help them prevent rainwater from falling on the world's best time standard, for example.

Out of that \$40 million, in the Senate, all \$40 million was diverted to other causes. The one that comes to mind immediately was \$10 million to build a law library and a college in the state from which that senator came -- no correlation whatsoever with the original intent of that money and certainly not of general benefit to the nation as a whole.

And that sort of behavior, that sort of process, simply has to stop and I agree with the panel on that.

BOEHLERT:

Thank you very much for that intervention.

CARNAHAN:

Mr. Chairman, if I could speak for 30 seconds out of turn?

BOEHLERT:

All right, fair is fair.

The gentleman is recognized for up to one minute. Equal time.

CARNAHAN:

Clearly, there have been stupid earmarks or earmarks that are outside of good scientific policy.

But I trust you, gentlemen, there are stupid decisions made by the administration. And to hear in this room it said that all the administration earmarks made to fund this

or that policy are results of an open process, or part of a logical plan, are intelligent decisions made in the interests of the American people, and that those decisions made by Congress as to how to spend money are inherently flawed, not part of an open process, is I think insulting to the Congress.

We make decisions. The administration makes decisions. Both make wise decisions, both make stupid decisions. And to say that when Congress decides that a certain amount of money should be spent on a certain project, that, that is interference, is really a declaration that Congress is an annoying interference in the federal government.

I yield back.

BOEHLERT:

Thank the gentleman for that intervention.

Now the chair is pleased to recognized the distinguished gentleman from California, Mr. Rohrabacher?

ROHRABACHER:

Well, I will remind my friend and colleague from Missouri that cutting one program that's already in place and transferring the money to another program could well be the sign of prioritizing money so that it's going into programs that tend to work and out of programs that do not work.

So it's not necessarily a bad sign that the administration is trying to prioritize the spending that we do and transferring some money from programs that may be less effective. So that may be a plus, that may be something that the administration's doing that deserves to be applauded.

And I would just like to say that I don't know whose decision making is more flawed. I've worked in the executive branch and the legislative branch.

I will just say that it is clear that there are certain political motivations that happen here in Congress that we should recognize before we throw rocks at the administration.

With that said, earlier on in the hearing, we heard about how to get bright people,

young people, involved in science. I don't understand why the obvious is not ever mentioned, and that is, pay them more money.

Why do people go into law? Because the lawyers have all the fancy sports cars and live in the big homes. And if a kid who is very smart has to choose between driving in a jalopy and being a Ph.D. in physics versus going into law and living in a big mansion and having the good-looking girlfriend, guess what he's going to choose?

So, with that, that goes all the way back down, by the way, to education, where we pay physical education instructors the same amount of money that we pay people to teach our young people science and math and engineering.

And every study that I've seen shows that it's between fourth grade and ninth grade where we're losing the battle with our young people. Yet in those middle schools we are unable, due to some political considerations I might add, by some very strong unions, not to differentiate in pay between those people who can teach our kids the basics of math and science at that level versus paying -- they have to pay the same amount of money as you do for history or social sciences or physical education, or dance class, or basket-weaving. This is ridiculous.

So we need some reform in that area.

And making money is also something that will encourage people to get into the math and sciences when they're older. I mean, we haven't heard anyone talk about royalties from patents or the protection of patents, or the fact that people who are creative -- how they get ripped off so often of their own creative instincts, of their own creative projects by big companies who are able to violate patent rights.

Strengthening patent rights is a way to make sure America stays ahead and get people involved in the sciences.

I for example, believe that we should eliminate the taxes. If not, at least cap some sort of tax advantage for people who are making their income on royalties from patents.

With that said, I would like to make one last point and that is -- well, first of all, I applaud the administration for making it a scientific and engineering priority for America to become energy self-sufficient by 2025.

That's a bold, bold stroke by the president. And I will be anxious -- in fact, Mr. Marburger, if you will come into my office, have a discussion on that and some

viable technologies right after this hearing.

But I look forward to working with each and every one of you to achieve that goal.

But let's make sure when we talk about research, money and research, what we're doing, that when we put money in one end of the system that what comes out of the other end of the system is something of benefit to the people of the United States of America and uplifts the condition of humanity.

I am dismayed -- and here again, I'm sorry, Mr. Chairman, that I'll have to be the skunk at the lawn party, so to speak, again, but I am dismayed to see that we are spending \$1.7 billion on global warming research after billions and billions and billions and billions of dollars have already been spent trying to promote this idea versus \$1.3 billion on nanotechnology, which I understand has tremendous potential of changing the human condition for the better.

Let me note for the record at this point, Mr. Chairman, I would like to submit the names of thousands of scientists and other experts within the scientific community who are skeptical of global warming, and I'd like to place it in the record at this point in the record.

BOEHLERT:

Without objection, so ordered.

ROHRABACHER:

Thank you very much.

And with that, thank you very much. I look forward to working with you to making sure we get the most out of our research dollars and that we become energy self-sufficient in the years ahead.

Thank you very much.

BOEHLERT:

Let the chair note that he looks forward to our continued working partnership. And

I don't consider you a skunk at the lawn party. First of all, this is not a lawn party. And secondly, you referred to yourself in that manner; I refer to you as a value colleague and there's -- hope springs eternal.

One day we might succeed in convincing you that global climate change is for real.

With that, the chair...

(CROSSTALK)

ROHRABACHER:

... who causes it that's the real debate here.

BOEHLERT:

With that, the chair is pleased to recognize the gentleman from Illinois, Mr. Lipinski.

LIPINSKI:

Thank you, Mr. Chairman.

I want to start out by echoing one of the things that Mr. Rohrabacher had said in applauding the president for coming forward in the State of the Union address and talking about a vision, or making it a priority, that we do improve technology, we improve education in math and science, produce more engineers and also energy independence.

These are fantastic ideas and these are things we need to be working on.

I'm afraid that where we really are at here now is where the rubber meets the road and there's some places where already it seems to be slipping, that there isn't the commitment to this vision from the administration.

Before I get into that, I wanted to start by -- unfortunately, Dr. Bartlett is not here.

Earlier on he -- and sometimes I feel guilty, I used to be an engineer. Got the

degrees, actually a Bachelor's and a Master's in engineering, and I don't practice engineering. But I sometimes feel guilty for doing that and coming here and talk about the importance of engineers and having more engineers and I sort of -- I left all that behind.

But Dr. Bartlett even made it worse when he was talking about going from -- you know, we have too many lawyers and too many political scientists, not enough engineers.

I went from being an engineer and got my Ph.D. in political science and therefore I went from, apparently, to the dark side. But I try to redeem myself here and I think the engineering background helps me tremendously.

Engineering is about problem solving. That's what we are here to do in Congress -- we're all here -- is to solve problems.

Now, I look back at what really -- what inspired me to become an engineer. And it was really my education before I got to college. And I'm very disappointed that the Math and Science Partnership Program is being cut drastically.

The amount proposed this year will only fund those existing grants. I just think it's a tremendous way to get -- I was also a college professor. I think it's great to be able to get those at the college level involved with the high school levels, other levels, elementary education, in order to inspire kids to go ahead and go into things, science, math, engineering.

What is, ask Dr. Bement, what's the reason for -- is there some reason for cutting that? Does the administration not see it as effective? What is the purpose of that?

BEMENT:

My answer to that, Mr. Lipinski, is that the Math and Science Partnership came subsequent to systemic initiative support from the foundation, and those test buds provided a tremendous amount of understanding of good practice and also the importance of getting community involvement, as well as business sector involvement in education, to go from commitment to involvement.

Those lessons have been learned, but they've been learned in a program that could only reach a few dozen school districts. The time has come now to take those lessons learned and to implement them and propagate them more broadly among the 15,000 school districts that we have in the country. And one can't really argue that the

administration is not paying attention to education when really they're focused on implementation and propagation.

LIPINSKI:

My time's running short.

I don't think that we've figured out all the answers. Yes, I agree we need to propagate it, but I think there's more to learn, I think we could put more into that.

But I'm going to have to move on quickly. I just want to add, I'm very happy that the chairman is committed to MEP. In my district manufacturing has declined tremendously. Manufacturers are coming to me and saying, "We need some kind of help in order to compete," and this is one way that's been proven -- one program that's proven to help the American manufacturers compete.

One last thing. Mr. Gutknecht mentioned that, talking about DARPA, and I just wanted to see if Dr. Marburger maybe would comment on, there's a bill that Ranking Member Gordon introduced to create ARPA-E (ph) which is ARPA for energy. If you are familiar with that and what your thoughts are on it?

MARBURGER:

First of all, I want to declare, I am familiar with DARPA because when I was doing active science I got a lot of my research support from the early DARPA. At that time it was called ARPA. And I was doing very basic research, by the way. Similar programs were also funded by the National Science Foundation and other agencies at that time.

My view about these types of organizations that we can imagine can be effective in agencies, my view is that we should listen to the Cabinet officials and administrators and directors of those agencies to see -- whom we rely on to guide the agency, manage it to get the maximum benefit of our taxpayer dollars -- we should rely on their judgment.

And so in the American Competitiveness Initiative, we did not put in a lot of requirements on these high priority agencies that are testifying here today. We decided that we would propose to increase their budgets and then let them decide if they needed to propose additional mechanisms and reorganizations within their agencies, and they may well do that, either now or later on in the program.

After all, we have a commitment to continue to increase their budgets over a period of years. It may well be that in subsequent budgets or even in the near future, agencies may decide that they need to change their organization to spend these funds more effectively.

We're going to rely on the presidentially appointed leadership of those agencies to tell us what the most important things to do with those funds is.

BOEHLERT:

Thank you very much.

LIPINSKI:

Thank you. I thank all of you for the work that you're doing.

And, Dr. Bement, very happy that NSF is getting an increase in funding this year.

BEMENT:

Thank you.

BOEHLERT:

Thank you very much.

Dr. Schwarz?

SCHWARZ:

Thank you, Mr. Chairman.

Very briefly, I'm not going to cut into anybody's lunch time here, I know better.

First, thank you very much for the American Competitiveness Initiative. Think big, please, think big. Whether it's nuclear or nano or bio, think big and go get 'em.

And there are people out there who would set up barriers in this country. There are Luddites among us, and we know that, you know that. I can think of several, the trial bar comes to mind. But who's thinking, huh?

Question: What has happened with the rare isotope accelerator? What's going on? Secretary Bodman, Dr. Bement, perhaps, can tell me.

My interest is because I don't quite, but represent everything around Michigan State University, which has one of the largest linear accelerators in the country, and is ready, willing, and able, and then in the Midwest as well, argon, I know, was in the mix.

So what's happened, what's going on, when is this going to move forward? The research community, at least the nuclear research community, feels this is a very important project.

BODMAN:

I'm aware of the interest in Michigan, I'm aware of the interest in Illinois. We look very hard at the importance of the RIA program, it is important. As we allocated the funds and looked at the potential increases that we're dealing with, this is a \$1 billion to a \$1.5 billion project, to build it and operate it. And we simply couldn't afford it, with everything else that we're doing.

We think it's important. So we have a program in place that over the next five years, we will be spending funds in significant amounts -- \$5 million, \$6 million a year -- to fund this activity and to work with foreign-based partners who are already in this business. Both in Germany and in Canada, I know are two of the three that are being considered.

In the year 2011, that's when we are planning, at least as we look forward to the flow of funds in this department, we would be looking forward to doing preliminary engineering design.

And so, in effect, it's going to be put off five years, that's at least as we see it. And I know that's not happy news for you, nor will it be happy news for Congresswoman Biggert, who is departed, but those are the facts as we see it.

SCHWARZ:

I just want to assure you, Mr. Secretary, that Michigan State University is ready and willing whenever you are. Thank you, sir.

BODMAN:

Thank you, sir.

BOEHLERT:

Ready to go, huh?

Mr. Matheson?

MATHESON:

Thanks, Mr. Chairman.

Thanks to everybody for being here today.

And, Secretary Bodman, I appreciate you being here. We had a discussion last year about -- at this very hearing, it was right after you had become secretary -- about the uranium mill tailings pile near Moab, Utah.

And a lot has happened since we had that discussion a year ago. As you know, the environmental impact statement process was completed and the record of decision decided that the pile should be moved, which is, of course, as you may recall, what I was hoping would happen, and I'm glad that it has and that that decision has been made to move forward.

I wanted to discuss with you, though, what the next step's going to be, because it's going to be, roughly speaking, \$450 million project to move this pile, it's the largest of all the mill tailings piles the DOE's been in charge of, that they've had to move, this is much bigger in scale than the others.

And the reason I want to talk to you about it is that I was concerned with the budget that was submitted last week where we see a reduction in the recommended amount to be spent on removal of this pile. The budget rates it for this year at \$22.8 million, which is actually almost 20 percent less than what was appropriated in the current fiscal year for this project.

And I'm concerned that we may be getting into a circumstance where this is going to drag out not over eight years to move this pile, but 22 years or longer, and wanted to know if you had any insight into what the decision-making was about dropping the budgeting down and stretching this program out or if you had any information you could share with me on that.

BODMAN:

First of all, I'm happy that you seem to be happy that we made a decision to move forward with this, sir.

Secondly, I think it's an error, which often seems to happen in the government, where there is a correlation between the amount of money spent in a particular year and the physical process or the things that must be done.

I don't have all the details, I'll be happy to give them to you in writing, but I do believe that there's an environmental impact statement that has to be done and that there is work that will be done in '07, preparing the place where the tailings will be placed.

And so there is quite a rigorous program that has been laid out and that we expect to make the schedules as advertised.

If you think that it's going to be 22 years...

MATHESON:

I hope not...

BODMAN:

... I will be happy to investigate that and see to it that that's not the case.

MATHESON:

I hope it's not, and I hope that just in the name of short-term savings we don't get into a longer-term project. I'm sure you know where I'm coming from. In the long

run, sometimes you're better off spending more money up front than letting something get stretched out over time. At the end of the day we end up spending more taxpayer money when we let things get stretched out for a long period of time.

BODMAN:

Well, you are quite right about that, and we're seeing that in a number of different areas.

On the other hand, I am satisfied that this department in the past has not distinguished itself at times, particularly in the environmental management area, in having rushed into something without adequate planning and without an adequate discussion of exactly what it's going to cost and how long it will take.

And we're trying to do this in a rigorous fashion.

MATHESON:

Understood.

BODMAN:

I hope you appreciate that.

MATHESON:

I do. And I may send you just a quick written question. If we can get a sense of what the department views the schedule of the next few years for doing that, I'd really appreciate that.

BODMAN:

Be happy to do it, sir.

MATHESON:

Thank you.

And with that, I'll yield back, Mr. Chairman.

BOEHLERT:

The gentleman from Texas, Mr. Hall?

HALL:

Chairman, I thank you. And I'm looking for some happy news. I'm looking for better news than I expect.

I think all of us agree with Mr. Rohrabacher and other gentlemen and ladies that have discussed here today about economic growth in our country and how we depend on knowledge-based industries and resources.

To that end, I don't think there's any question that this year's budget proposal seeks to bolster math and science education. The president mentioned it in his speech the other evening. I've heard it from almost every podium, how important it is, and I agree with it. Provides jobs for citizens and solutions to their problems.

And one of the most important, though, and one of the greatest challenges today, I think, is energy. And all of us agree that we need to move toward what they call energy independence.

And I've heard, Mr. Bodman, you speak about the 60 percent reliability we have on people that maybe don't trust us totally or we don't trust them or we're fearful of it. I've heard the president make similar statements, and I certainly agree with them.

And I'm pleased to see that the budget highlights alternative fuel technology -- solar, biomass, nuclear, hydrogen and clean coal -- and all of these are going to help us.

But I must say that I'm a little distressed to see that the administration has also chosen to zero out some very important oil and gas research programs.

If we want to become energy independent from foreign sources we need to support innovation in this area, I think, to the hilt.

And Secretary Bodman, as you know, independent producers drill about 90 percent of the nation's wells and produce 85 percent of the nation's oil and gas, so this isn't something that we're pitching to the majors that report huge profits every year and something that maybe the people feel that they ought to be having to put some of that back into refineries or helping us with our energy problem. I subscribe to most of that.

But troubling to me is the administration's proposal to end a program that we've all passed here, this committee has passed them for the last four years. I passed the Ultra-Deep amendment three times as a Democrat, and once as a Republican. It survived the conference committee each time. And I think it's the will of this Congress.

And I won't get into the royalty waivers because Ultra-Deep program doesn't have any such waivers, we excluded those waivers from this, we knew it would be objectionable, we didn't put that in there.

But the program's designed for independent producers, not the majors. They help out by taking it over afterwards. And dozens of universities, companies all across this country and research labs everywhere are ready to move in and carry out this energy bill that we just proposed.

But I think the thing that concerns me most, and maybe you can explain it a little bit better to me, I sure hope you can, because I'm really concerned about it, in the Department of Energy FY 2007 congressional budget request and the budget highlights, on Page 50, where it lays out there fossil energy research and development. And under natural gas technologies and petroleum oil technologies, for FY 2007, congressional requests is zeroed out.

Is that correct? Is that the recommendation of the Department of Energy?

BODMAN:

It is the recommendation of the administration, yes, Mr. Hall.

HALL:

Then I won't ask you to express your opinion on it at this time, but I'm going to want to talk to you about it later and maybe ask you to give us some more information on it.

BODMAN:

I'd be happy to provide any information...

(CROSSTALK)

HALL:

You always have been, and I'm very hopeful that we can work something out on this.

But at Page 52 of the report, it says, "The FY 2007 budget proposes to terminate the oil technology and natural gas technology research and development programs. Federal staff paid from the program's direction account will continue to work toward an orderly termination of this program." What federal staff would that have been?

BODMAN:

This is the staff that is working on the research and development programs in the laboratories, and as well as in the Energy Department.

HALL:

And you have access to that?

BODMAN:

Do I have access to that?

HALL:

You have access to it?

BODMAN:

Yes, sir.

HALL:

Let me be more specific. We get to the Ultra Deepwater and Unconventional Natural Gas and Other Petroleum Research Fund that we've created. For 10 years we've been trying to pass an energy bill, for four years we've had these provisions in it.

And it states, "The Ultra Deepwater and Unconventional Natural Gas and Other Petroleum Research Fund was created by the Energy Policy Act of 2005 as a mandatory program beginning in FY 2007. The program would be funded from mandatory federal revenues from oil and gas leases. The budget proposes to repeal the program through a future legislative proposal consistent with the decision to terminate the discretionary oil and gas programs."

And FY 2005 shows the current appropriations and goes on through to see in FY 2007 that they're zeroed out. Are you aware of that?

BODMAN:

Yes, sir, I'm aware of it.

HALL:

All right, then might I ask you if you intend to try to repeal the program through a future legislative proposal, what type proposal would that be?

BODMAN:

Well, I think you'll find that you will receive from this -- the Congress will receive from the administration a proposal to rescind that portion of the energy bill that deals with this particular program.

My further understanding, sir, is that Congress, in passing the bill, and the president in signing the bill, and creating the bill, has provided for the funding of this particular program starting in the year 2007. And that to the extent Congress does not respond favorably to the proposal from the administration this department will

obey the law and...

HALL:

I know you'll do that. My argument's not directly with you, it's with the decision that's been made somewhere.

BODMAN:

I understand, but I'm just telling you that my understanding is that there is funding provided, that it's mandatory, and we will pursue the matter.

We have already done that which the law requires us to do. We have conducted the solicitation, the responses to the solicitation have been submitted, and we are in the process of evaluating those at the current time.

BOEHLERT:

Thank you very much. Gentleman's time has expired.

The chair recognizes Mr. Wu.

HALL:

I yield back my time.

(LAUGHTER)

BOEHLERT:

Mr. Wu?

WU: Thank you very much, Mr. Chairman.

I fully support the president's initiative to increase funding for greater competitiveness and innovation in America, but our budget as passed is simply not consistent with these goals.

Immediately after the president made these proposals in the State of the Union address, we cut college student financial aid by \$12 billion, and that was an administration proposal that cut college financial aid by \$12 billion. We've got to walk the walk as well as talk the talk.

Competitiveness is in large part about job creation, and I can see nothing more important than a college education. It is also about job retention and we must work to make the president's competitiveness initiative more than just words and rhetoric. Our citizens deserve that.

Research and development funding should be increased overall and not just for the favored few programs at the expense of the rest. Again, we got to walk the walk as well as talk the talk.

The administration seeks to completely gut the advanced technology program and to decrease funding for the Manufacturing Extension Partnership, two programs with a proven record of creating and retaining manufacturing jobs today and into the future.

We need results, not just empty promises and faulty reasoning. We in Congress have consistently stood our ground and increased overall science and technology investment above and beyond the administration's requests, and I encourage my colleagues to continue to do so.

Dr. Marburger, I have a couple of questions for you.

It has been two years since allegations of scientific manipulation and censorship were first made against this administration. Despite your assurances that these claims had no validity whatsoever and that you were looking into this very important matter, allegations have continued to surface.

They are not confined to a single office or agency. The recent incidents concerning Dr. Hansen at NASA, the reports about problems at NOAA, the mysterious transformation of the Technology Administration's report on off-shoring, and the suspension of a forest research grant at Oregon State University suggest that these problems are continuing in the federal government.

Despite your assurance to the contrary, it appears that this administration continues to confuse the roles of science policy and politics. It seems to many that information inconsistent with a favored political message is being suppressed.

And I submit to you, sir, that it is not just in science. That's exactly what happened in the Intelligence Committee and that's why we are stuck in a situation in the Middle East.

It is time to stop politicizing science and muzzling scientists. This incident involving the publication in Science in my home state of a forest regeneration study by students from Oregon State University is truly, truly troubling.

The Bureau of Land Management suspended the federal research grant that funded this work, suspended it based on trumped-up charges that the authors had violated a grant agreement.

BLM almost immediately reversed itself in a firestorm of controversy and the grant suspension has been lifted, but the chilling effect of the BLM action continues to reverberate in the academic community.

Dr. Marburger, this is a very serious problem. Why are we still learning about these incidents of scientific suppression two years after you wrote to this committee and this Congress assuring us that scientific integrity was not a problem in this administration?

For an administration that takes more than a dozen hours to report a shooting, two years is a very, very long time, and we still have this problem. Why is that so?

MARBURGER:

Congressman, I couldn't agree more with the undesirability of politicizing science. Unfortunately, science does have a credibility that stands by itself, and everyone who has an opinion or an idea wants to grab a little of that credibility to bolster their own opinion.

I'm not familiar with the case in Oregon State University and I would be glad to look into it and respond to you and to any other specific incidents that you would like to direct me to.

I personally believe, based on my own observation and interviews with leadership in the agencies, that there is not in fact an effort by this administration to censor science or politicize...

(CROSSTALK)

WU: Dr. Marburger, what has your office done specifically to investigate the many, many allegations?

MARBURGER:

Whenever I hear of an allegation of this sort, I ask for a briefing on it either through my staff or directly from the agency where the incident occurred...

(CROSSTALK)

WU: Since my time is expiring, maybe we could have another answer in writing addressing each of the specific incidents, and we would appreciate receiving that.

MARBURGER:

I would be glad to do so.

WU: And perhaps we could further bolster your efforts by asking for a GAO report on the same topic investigating whether these incidents are real. And perhaps we could also get the National Academy of Sciences involved at some point.

BOEHLERT:

The gentleman's time is expired.

Gentleman from South Carolina, Mr. Inglis?

INGLIS:

Thank you Mr. Chairman. I apologize for being late to this hearing. Ms. Jackson Lee and I just finished at a markup in Judiciary. So we're happy to be here now talking about these topics.

And, Dr. Bement, you have talked and the National Academy of Sciences I think has suggested that the icebreakers in the Antarctic program be owned by the Coast Guard rather than charged to the NSF. This budget this year again has the money coming from the NSF.

Any hope that we're going to get to implementing that recommendation that we get those back to the responsibility of the Coast Guard?

BEMENT:

I don't recall actually making that statement. We have established an MOU with the Coast Guard in which case the Coast Guard retains operational responsibility for the icebreakers and we have a responsibility for tasking the Coast Guard for the use of the icebreakers.

Based on that tasking, they then present us with a plan, and then we negotiate the price. And sometimes those negotiations are tough.

INGLIS:

And let me make sure, I didn't mean to indicate that you had said anything about the icebreakers being transferred back to Coast Guard. National Academy of Sciences has recommended that. And I am inclined to agree with that recommendation. It's a way of freeing up funds in your budget, would be my main goal in transferring back to Coast Guard.

BEMENT:

Well, we certainly appreciate your interest in that. And we're also looking forward to the final report by the National Research Council on the issue.

INGLIS:

That's helpful (inaudible) a question that has a direction to it, maybe, in other words, some hope that we can move back to a situation where NSF's budget is not taxed by those doing the icebreaking operations.

And for all the witnesses, one of the challenges, I suppose, in running your agencies is identifying the truly innovative projects and devoting resources to those. And these are the high-risk kind of breakthrough technologies.

(inaudible) could give us a couple of lines on how it is that in your agency you attempt to focus some resources on the truly innovative, realizing that you've got to

balance that with the things that'll be yielding practical results soon. And anybody that wants to start, I'm happy to...

BODMAN:

I'll be happy to start.

We are working on broadening the types of feedstock that can be used to manufacture ethanol from corn or sugar cane to less valuable materials, to so-called switch grass, or corn stover or other materials. And the president has asked for or provided for roughly a \$50 million increase from roughly \$100 million to \$150 million that will enable us.

Before, I think we were focusing entirely on the corn stover. We will now be able to work on a variety of feedstocks. So that's one area.

And the second one is in the solar energy. And we are quite optimistic that (inaudible) also an additional \$50 million, approximately, that has been indicated for that program. We will do a solicitation and be looking at the improvement of the efficiency of photovoltaic cells that are currently making electricity at a price of roughly 20 to 25 cents. We need to cut that in half, and there are some approaches that we have talked about that we believe have the potential, not certainly, but the potential of substantially reducing that, maybe cutting it in half.

So those would be two suggestions.

SAMPSON:

At Commerce, we're focusing in this budget increase on nanotechnology, moving from just the pure (inaudible) research on the lab bench from nanotechnology to application in the manufacturing context.

Secondly, hydrogen. The hydrogen economy, the safe manufacture, storage, sale of hydrogen.

And then thirdly, quantum information science. If we're successful in moving down the road toward quantum computing, it will result in computers that can solve the most complex cases in seconds that today's most advanced supercomputers could not solve in years.

And so those are the areas that are identified for plus-up R&D funding at NIST.

BOEHLERT:

The gentleman's time is...

(CROSSTALK)

BOEHLERT:

Go to it.

BEMENT:

If I may respond. I'm at the wrong end of the table.

(LAUGHTER)

BOEHLERT:

Well, I say you're at the beginning of the table.

BEMENT:

Let me say, Mr. Inglis, that the number one priority at the foundation is moving the frontier forward, advancing the frontier so that it would take a very long time to go through examples.

But beyond that let me say that we are trying to promote high- risk research. We do that by giving our program officers up to 5 percent of their budget to invest in new ideas that are scientifically feasible, but also entail high risk.

Each of our directorates have part of their budget set aside, peer-reviewed activities, but they are also oriented toward high-risk research.

And finally, I could mention the LIGO experiment, which is Laser Interferometer Gravity Observatory, to measure gravity waves. That is really an example of very

high-risk research in terms of the level of investment, but also the precision of measurement required.

As a result of that investment, we have advanced optics technology, we have advanced laser technology, and we have advanced active and passive damping technology beyond anyone's imagination.

INGLIS:

Thank you, Mr. Chairman.

BOEHLERT:

Thank you. And, the gentleman's time is expired.

Earlier, in an exchange with Secretary Bodman, Mr. Honda asked some very important questions, and it's our understanding now, in checking with the staff, that you did include in your testimony answers to the questions from Mr. Honda. We're going to bring those to his attention. And so we hope he will be satisfied that you have been responsive in a timely fashion.

If he's not satisfied, then we'll hold his hand, and call you up and say, we want more.

(UNKNOWN)

Here they are, sir. They were delivered on October 26, 2005.

(CROSSTALK)

BOEHLERT:

Fine. I think that was not brought to Mr. Honda's attention and it will be.

So thank you very much, Mr. Secretary, for your responsiveness.

Chair recognizes Ms. Jackson Lee.

JACKSON LEE:

Thank you, Mr. Chairman, for this very important hearing. I'm delighted my colleague shared with you that we were unavoidably detained in a markup in Judiciary. Needless to say, this is a crucial hearing for America.

As we sit here today, I think we can be very confident that China now graduates more scientists, if you will, in the multiple disciplines than we do in a year. And so we know that there are challenges that we have to confront together, and you all present in a wonderful array of disciplines.

But, as we have made the very complimentary, if you will, support statements as it relates to the president's American Competitive Initiative, might I for the record restate, which I know has already been restated, that despite these increases, the overall federal science and technology budget has been cut by 1 percent.

Even in the face of the tragedy of the tsunami, we find that NOAA R&D for oceanic and atmosphere research has declined by 8 percent, even though NASA and NIH are in fact, flat.

We also see that DOE sustains major cuts throughout the energy efficiency, and for the second year DOE would have to eliminate the gas and oil technologies program.

On the other hand, I think there are some opportunities that we have if we can shed ourselves of the partisanship that seems to plague this terrible shortage and question of science and technology prowess in America.

For example, the president's budget would double basic R&D in physical sciences in some of our agencies in 10 years. Frankly, many of us who are Democrats believe it should be done in five years. We cannot wait. Some would say that we cannot fall behind on our clock.

In addition, I think it is important to note for those of us who live in inner-city and rural districts, broadband access is paltry. There are no new federal investment in broadband access. That speaks poorly of a nation who is at the cutting edge of research.

And then, as I said earlier, this particular budget fails to provide adequate funding to invest in the development of clean sustainable energy alternatives such as bio-based fuels, as well as new engine technologies for (inaudible).

Of course I come from the energy capital of the world, and I am certainly not going to step away from that. We're proud in Houston, Texas, to have a number of major oil companies and gas companies who are on the cutting edge of technology.

But as we well know, the Internet was discovered by the wisdom of government scientists, no matter what anyone might articulate, and therefore I know that we can do a better job in alternative fuels.

So I have a number of questions that I hope I can have reasonable time for you to respond.

First of all, secretary of energy, Mr. Bodman, might I say to you we need to see you more. In these months of crisis, with energy prices soaring, the question of the environment versus energy, the question of the whole issue of, as I said, gas technology, oil technology, and alternative fuels, frankly, I don't know how the energy policy of America has been articulated.

I, frankly, don't believe it should be articulated from the administration with closed-door meetings. You're the secretary of energy, we need to see you more.

And I think there needs to be policies that are progressive and innovative, that are bipartisan. I was not sure of the line of questioning that my good friend and colleague, Mr. Hall, was approaching you with, but I know very well the details of the royalty provisions because that was passed under the Clinton administration, and at the time, I supported it, coming from Houston, Texas.

I, frankly, thought there was reason in order to encourage the domestic development here in the United States.

But I believe this administration owes a responsibility to this nation to look at those royalties and assess whether they are viable at this time when we are struggling economically, particularly in the sciences and looking at alternative sources of fuel.

Why not use those dollars, why not waive those royalties as we speak, and provide those dollars to be invested back in science and alternative fuels?

So, let me start, Mr. Marburger, and Mr. Bement can answer these as well.

Through the good graces of the committee we passed legislation signed by the president that established the Dr. Mae Jemison -- you may be familiar with her -- math and science outreach. I'd like to know your sense of whether those kinds of

programs should be funded?

When I say math and science outreach, to minorities and others and women, to void statements like the president of Harvard made, to encourage young people to be engaged in the sciences.

The bill was passed through the NASA authorization and signed by the president. Do you believe those kinds of programs should be supported?

Mr. Bement, if you would comment on that as well.

Mr. Bodman, if you would comment on why you don't have enough money for federal funding of alternative fuels and why you're continuing Yucca Mountain.

BOEHLERT:

Just let the chair observe that you used the entire five minutes to ask a series of questions, and to answer all the questions adequately, I think it would take another 10 to 15 minutes. And so the panelists will have your questions, and I would ask the panelists to respond in writing to the specific points made by Ms. Jackson Lee.

JACKSON LEE:

Well, Mr. Chairman...

(CROSSTALK)

JACKSON LEE:

If they can answer the question each in one minute...

BOEHLERT:

Yes.

JACKSON LEE:

... I think that would be appropriate, and then they can answer...

(CROSSTALK)

BOEHLERT:

But the chair would observe -- and I've been in the chair a long time, and you've been a valued member of the committee for a long time -- but that when you use all the time allotted to you just to ask a series of questions, and then have every right to expect answers to them, but that is going to be very time consuming.

There are other members of the panel who also have an interest in picking the brains of these very distinguished gentlemen and we want answers to our questions, too.

So while the chair has always been generous, and I will be generous now, and I will give them an opportunity to respond, but I also want them to respond to the last question specifically and the other questions in writing because, quite frankly, I'm not prepared to sit here until this evening to get all the answers to all the questions.

JACKSON LEE:

Well, Mr. Chairman, if the gentleman would yield...

BOEHLERT:

I'll be glad to yield.

JACKSON LEE:

If the gentleman would yield, I would like Mr. Marburger and Mr. Bement, is it -- how do you pronounce your name, sir? What is it?

BEMENT:

Bement. Bement.

BOEHLERT (?):

Dr. Marburger, Dr. Bement?

JACKSON LEE:

Yes.

To answer the question on the Dr. Mae Jemison and I'd like the secretary to answer in one minute about the royalties.

If there are other questions...

(CROSSTALK)

BOEHLERT:

Gentlemen, the floor is yours.

We'll start with Dr. Marburger.

JACKSON LEE:

This is a serious hearing, Mr. Chairman.

I thank...

(CROSSTALK)

BOEHLERT:

It is a serious hearing.

And as you've observed, you were forced out of the hearing because you had a very serious hearing in Judiciary Committee. And all of us have a lot of serious business that doesn't relate directly to this committee, but we all have to be considerate of the time constraints on our colleagues and our very distinguished

witnesses.

So with that...

(CROSSTALK)

JACKSON LEE:

I appreciate that.

I'm always considerate.

(CROSSTALK)

BEMENT:

Thank you, Congresswoman.

In fact, I do believe that programs to encourage young people from all classes and socioeconomic levels and under represented groups to study science, technology, engineering, mathematics fields, so-called STEM fields, are very important.

I think that scholarship programs like that are good and I advocate these types of programs because they have an important impact on all young people, not just under represented minorities.

MARBURGER:

Let me state that this is one of our highest priorities.

If you look at a cluster of programs that have very high impact, like Teacup, HBCU, Upcrest, AGUP, LSF and the Noyce program, collectively we have increased those budgets on the average of 23.4 percent in the '07 budget. And these programs are joined and they are cooperative collaborations both from our EHR directorate, as well as our research and related activities directorate. So we have a full-court press in this area.

BOEHLERT:

Mr. Secretary, would you respond?

BODMAN:

First of all, the Interior Department is the department that deals with the matters of royalties.

Secondly, my understanding is that President Clinton, under his leadership during the late '90s, passed a law that would relieve the oil companies as a part of their program from paying royalties in order to stimulate more oil and gas drilling. That was the object. Apparently it was successful.

JACKSON LEE:

We don't need it now.

BODMAN:

I'm sorry?

JACKSON LEE:

We don't need it now.

BODMAN:

I understand that.

On the other hand, a deal was made and a contract was drawn. We spend -- I have spent a lot of my time since I came to this administration traveling the world, visiting with other countries, talking about the sanctity of contracts and making an agreement.

And I think that if the deal were changed at this point in time, even in the face of the profitability that the oil and gas companies have, in my judgment that would be an error.

Could they live with it?

I imagine that they could.

Could I live with it?

I certainly could. But it's not something that I would advocate.

BOEHLERT:

I would hope that when we revise and extend my remarks, we talk about commitments or arrangements.

There are too many deals made in Washington that offend a lot of people.

But I must admit, Ms. Jackson Lee has touched on a subject that hits all of us right here, and she's got some merit to what she's saying, and I'm really concerned about that.

And so that's something you're going to be hearing more about from us on a bipartisan basis.

With that, the chair will recognize -- and I would note, Ms. Jackson Lee, that I've given you double the amount of time accorded some other members.

JACKSON LEE:

Thank you, Mr. Chairman.

BOEHLERT:

Thoughtful questions, and I appreciate them.

Mr. Miller?

MILLER:

Thank you.

Dr. Marburger, I know that you're in a hurry this morning, but I really urge you to go back and read this article again. It is apparent based upon your summary of the article that you read it entirely too quickly.

The last paragraph that says, "I am thus left with nothing to report," only refers to that portion of the column that begins here, and that is the discussion of how five research scientists at Cal Tech -- and I assume research scientists at Cal Tech are the real deal, and that's a pretty good school, right?

That since that report that had found such disfavor, they had never gotten a federal research grant again.

Now, the reason that this whole matter came to this columnist's attention was that there was an article just a couple, three weeks ago. There was some press coverage two or three weeks ago that one of the world's leading pre-eminent climate scientists, Jim Hansen of NASA, was being urged to soften what he had to say by a NASA spokesman, and a NASA spokesman had resigned. And that she said she'd gotten many calls of other instances that she said -- how did she describe it -- all were from people with similar tales of government- funded scientists intimidated by heavy-handed public relations departments.

And she pursued one of the stories, which was this one. What she says is that all of that part of the story is confirmed -- referring to the part above how they'd never gotten another grant, and they believed it was in retribution for what they had done in that research report.

And what was confirmed was that your office had killed a press conference and a press release just as Secretary Abraham was about to speak on the hydrogen cell research as evidence -- speaking in Europe -- as evidence that it was the Bush administration's concern for the environment.

Your spokesman does say pretty much the same thing in this article that you said this morning -- that, that was so that you could talk to the Department of Energy. Nobody at NASA, all of whom were speaking without attribution, seemed to buy that at all. They all thought it was political.

So please read this article again.

And, Dr. Marburger, also please read the report of about two and a half years ago by the Union of Concerned Scientists that there were multiple reports of intimidation

of scientists; of scientists having their grants revoked, which is Mr. Wu's tale earlier of a scientist from his district that you said you hadn't heard about; reports being edited, revised, censored, because their findings were unpalatable; of advisory panels being stacked with scientists whose views were not necessarily in the mainstream of the scientific community but were very compatible with what the administration believed.

Please read that article again this morning and that report by the Union of Concerned Scientists.

BOEHLERT:

Thank you, Mr. Miller.

I'd like to make this point to Mr. Miller.

This committee is vitally concerned with scientific inquiry. We want to be informed by scientists. We don't want to intimidate them.

And when matters are brought to the attention of the chair that question the process, that would indicate that perhaps the process is not working as desired, the chair is very active.

I would point out that I am most familiar with the Hansen case as it's now known around this town.

I want to point out that NASA took immediate action. Mike Griffin, the administrator of NASA, took immediate action to advise one and all within that agency that scientific inquiry is not to be stifled, scientific opinion is not to be stifled. I applauded him for that.

I want to point out that this committee took to task another committee because we thought that other committee, in this instance, Energy and Commerce, in dealing with Dr. Mann and his associates on the so-called hockey stick theory involving global climate change, we thought that the Energy and Commerce Committee was not proceeding in an appropriate manner.

Rather than conducting public hearings to discuss the subject and to question the science, they launched an investigation to intimidate the scientists, and I made that very public.

In this instance, there are a lot of questions to be asked and I am convinced that Dr. Marburger, in his capacity, and I am convinced that each of the gentlemen before me, in their capacity, would agree with the basic premise that science should inform us; we should not engage in trying to intimidate scientists who happen to have an opinion different from the political orthodoxy of the day.

I'd like to point out to people that you and I, Mr. Miller, both work in a town where everyone likes to say they're for science-based decision-making until the scientific consensus leads to a politically inconvenient conclusion, and then some people want to go to plan B.

But I am convinced after all the effort and energy of my staff in looking into these matters that there's no secret plot hatched on high to intimidate scientists. But there are some people who get off the reservation -- and this 24-year-old rogue assistant in the public affairs department is a case in point, thinking that he was, you know, aiding the cause and did something that was totally inappropriate.

I would further point out that, that young rogue is no longer on the payroll of the United States government and that swift, prompt, decisive, crystal-clear action was taken by the administrator of NASA. The word went out to the scientific community, as the word should go out from this chair, and from all of you very distinguished gentlemen, that we want to be informed by science; we don't want to intimidate scientists.

Thank you very much, Mr. Miller.

MILLER:

Mr. Chair, may I point back since you pointed out a few things?

BOEHLERT:

Yes, sir. I'd be glad to do it, Mr. Miller.

MILLER:

First of all, I readily concede the Democratic Party is also plagued by 24-year-olds who are remarkably self-important...

(LAUGHTER)

MILLER:

... and get us all into trouble.

I do not want to disagree with my chairman. He is certainly one of the fairest chairmen here and does preside over this committee in a very nonpartisan way, certainly a bipartisan way.

However, the Democrats on this committee have tried to make this question a subject of committee hearings. We did that two and a half years ago when the Union of Concerned Scientists issued their report.

And, Mr. Chairman, you would not agree to conduct committee hearings on that point.

We now have the issue of Jim Hansen, one of the world's pre- eminent climate scientists, who has been told by a 24-year-old to keep quiet. We have Mr. Wu's specific instance in Oregon.

Mr. Marburger says he'll look at this on a case-by-case basis, but we've heard from many others that this is not a case-by-case matter. This is something that crosses all the scientific research agencies.

We have the instance in this morning's paper of five Cal Tech research scientists who have not gotten a single research grant since they issued an unpalatable report.

Mr. Chairman, will you agree to hold hearings on this topic?

BOEHLERT:

I will agree to get an answer from Dr. Marburger after he has had an opportunity to look into the matter and report back.

I'm not reluctant to have hearings on anything.

My job is not to be a cheerleader for the administration, even though it's the administration that I gladly identify with, and proudly identify with. I stand up to the administration when I don't agree with the administration. And there are occasions

that I don't.

Secretary Bodman knows, for example, that on the energy policy that the administration advanced, I didn't think it handled the challenge in the correct way and I was a leader of the opposition trying to make something better.

But the point is I'll be glad to hold hearings when I think they are in the jurisdiction of this committee and when they involve something where there's compelling evidence that indicates that this committee has to take its time and energy to hold hearings.

And right now we're talking about the American Competitive Initiative, we're talking about the American Energy Initiative. Those are vitally important subjects.

We have very distinguished Americans before us, they're giving us their time, they're sharing with us their wisdom, and we're learning from that process.

This committee is going to have a whole series of subcommittee hearings over the ensuing weeks and months to try to bring all of this to a logical conclusion where we establish responsible public policy that's responding to the national need in the proper way.

So with that, let me tell you I will be glad to entertain any request from any member of the committee, Republican or Democrat, for hearings. I want those requests backed up by supporting documentation that the hearings are warranted, are justified.

And quite frankly, it's my sincere feeling from the heart, from the gut, from the head, that this institution, the Congress in the United States in which we proudly serve is far too partisan, is far too partisan.

The election is over. Let's get on with identifying, with shaping responsive public policy in a responsible way.

With that, let me have one last question for Dr. McQueary, because you've been sitting here all this time so patient and I want to give you an opportunity before you leave to address one question.

The president's budget contains strong new support -- wait a minute, I want to make sure I've got the right question -- there you go.

(LAUGHTER)

How are DHS -- this is very important, because it's relevant to you and it's also relevant to Commerce -- how are DHS and NIST working together with industry to ensure that high-quality standards are being developed for homeland security-related technologies such as biometrics and cybersecurity and interoperable communications?

And how will the proposed reduction in funding for standards within DHS S&T affect the future of DHS' internal program, its relationship with this and its relationship with the makers and users of homeland security technologies?

That's a big question but it's also very important.

MCQUEARY:

It's a very important question.

I need to emphasize that the relationship we have with NIST, in my judgment, could not be better. Starting with when Dr. Bement was there, we worked out that relationship.

We have a NIST person on detail to science and technology that actually heads up the standards work that we do. All the work that we deal within standards is a consistent standard approach in which we engage not only NIST, but ANSI (ph) and any other standards agency around the country to try to make sure that what we propose to do in either draft standards or in final standards represent a point of view that those who would be most affected by it could use.

And we also have a NIST person that is working with us in our critical infrastructure production area.

Now, with that said, the issue on the budget, a part of that reduction -- there are two things you see in the number.

One is we made a substantial move of monies into the management and administrative account, which we needed to do in order to properly account for how our funds are being spent. That is one issue.

The other is the D&DO or the radiation standards work. That will be paid for out of the D&DO budget. We will assist them, but fundamentally the budget for what they have to do in developing standards there.

So the combination of those two things represent the primary change in that number. I'm not concerned that we're about to start sliding standards at all with the budget level we have.

BOEHLERT:

And how about the relationship with NIST?

You...

(CROSSTALK)

MCQUEARY:

The relationship is excellent.

Bill -- I knew Bill Jeffries (ph). It was good there when we were there with Dr. Bement. Bill Jeffries (ph) I knew when he was working for Dr. Marburger.

And so we have a very good relationship with him and look forward to continue it. It's an excellent organization.

BOEHLERT:

Dr. Sampson, do you want to give us your take on that?

SAMPSON:

Well, I would concur.

We work very closely with Homeland Security on biometric standards. Dr. Jeffries (ph) is a true leader. He is an excellent scientist. He's a good manager. He's a good colleague with partner agencies and so we have a very strong relationship.

BOEHLERT:

We promised to get you gentlemen out before the sun sets today.

But as a famous talk show host used to say for the last word, I will recognize Ms. Jackson Lee for a short intervention.

JACKSON LEE:

Thank you, Mr. Chairman.

And it is an intervention to you, please.

Thank you for your kind remarks regarding the royalty payments. I do want to say that hopefully in a bipartisan manner, we can have hearings. I indicated that Houston still considers itself the energy capital of the world and I represent it proudly.

But that language and contract was passed during a time when there was a necessity to encourage development and that the energy industry was, of course, experiencing some difficult times. I hope that we'll have the opportunity to consider it and reconsider it, not on breaking contract, but on the forward-thinking of what we can do to enhance alternative fuels.

BOEHLERT:

Thank you very much...

JACKSON LEE:

And I hope we can have hearings, was my question.

BOEHLERT:

Thank you very much.

I would like to claim jurisdiction over the whole wide world. Unfortunately, this committee does not have jurisdiction. It's in the Interior Resources Committee, and I...

(CROSSTALK)

(LAUGHTER)

BOEHLERT:

And we'll go hand in hand to the Resources Committee and make the case.

But thank you very much. I appreciate all the time you've given us in your very busy schedules. I know you'll be responsive in a timely manner to the written questions we submit.

I also know from personal experience, and it's not just because I'm the chairman -- my colleagues reported the same thing -- all of you gentlemen have had dialogue over the telephone, in person, in office meetings with various members of this committee.

I commend you for your great work for the nation.

And, Dr. Bement, I'm glad to see you smiling.

This hearing is adjourned.

CQ Transcriptions, Feb. 15, 2006

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