S. HRG. 113–469

SBIR/STTR: MEASURING THE EFFECTIVENESS OF THE REAUTHORIZATION ACT AND MAXIMIZING RESEARCH DOLLARS TO AMERICA'S SMALL BUSINESSES

ROUNDTABLE

BEFORE THE

COMMITTEE ON SMALL BUSINESS AND ENTREPRENEURSHIP UNITED STATES SENATE

ONE HUNDRED THIRTEENTH CONGRESS

FIRST SESSION

DECEMBER 18, 2013

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SBIR/STTR: MEASURING THE EFFECTIVENESS OF THE REAUTHORIZATION ACT AND MAXIMIZING RESEARCH DOLLARS TO AMERICA'S SMALL BUSINESSES

WEDNESDAY, DECEMBER 18, 2013

UNITED STATES SENATE,
COMMITTEE ON SMALL BUSINESS
AND ENTREPRENEURSHIP,
Washington, DC.

The committee met, pursuant to notice, 2:09 p.m., in Room 428–A, Russell Senate Office Building, Hon. Mary L. Landrieu (Chair of the Committee) presiding.

Present: Senators Landrieu, Shaheen, and Risch.

INTRODUCTORY REMARKS OF HON. MARY L. LANDRIEU, CHAIR, AND A U.S. SENATOR FROM LOUISIANA

Chair LANDRIEU. Good afternoon to everyone. Thank you for joining us for this important roundtable on the SBIR and STTR program, one of the important programs coordinated by the Small Business Administration that affects all the agencies and departments of the Federal Government. I want to welcome everyone here.

I am going to give an opening statement just briefly, and then I am going to ask each of you to introduce yourself and give a one-minute name, title, and why you are excited to be here, what you hope to contribute.

And then, as many of you know who have participated in our roundtables, we have a very informal exchange of information that is going to help us to understand how this important program is working, where it is strong, where it is weak.

We have just been through a six-year authorization and there will be a lot of back and forth. This is not like a regular hearing where people read off of a piece of paper and submit it for the record.

There is going to be a lot of back-and-forth questioning, and we are going to try to go to about 3:30. If we can exit a little bit early, that would be good. If you need to go all the way to 4:00, we are authorized to do so.

But let me again thank you for joining us today to examine the comprehensive Small Business Innovation Research and Small Business Technology Transfer Reauthorization Act that we passed through this Committee and on the House floor two years ago this month. It is a good time to look back over the last two years and to see how our new authorization is working.

As many of you know, this program was created back in the 1980s. I always like to go back to our roots in the beginning with Warren Rudman and Congressman LaFalce. Some of you were around when it was started, and all of you are familiar with its beginnings.

The purposes of these programs were as important then as they are today. They are, one, to stimulate technological innovation; number two, to encourage greater utilization of small businesses to meet federal research and development needs which are quite extensive; three, to foster and encourage participation by minority and disadvantaged persons in innovation; and four, to increase private sector commercialization of innovations derived from federal research and development.

I think this last point is so important. The Federal Government spends billions and billions of dollars on research. How can we take that good research and commercialize it appropriately, giving small businesses an opportunity to grow and expand and create jobs in America. There is no sense in discovering innovations only to have them lay on the shelf and not create jobs and not get into the marketplace.

So, this is a very important program of the Federal Government, and I have taken a particular interest in it. So, as you all know, when I took over as chair of this Committee in 2009, the SBIR program had literally exhausted its authorization. It was sputtering.

It was reauthorized temporarily 14 times until, with all of your help, compromise was reached between the House and the Senate, and between all the stakeholders, so that we could lay down a longer-term six-year authorization—and increase the allocations.

It is very important, in my view, to have the Federal Government be sensitive that there are some very high-quality small businesses out there inside this Beltway and outside this Beltway that are extraordinarily well positioned to bring value to the taxpayer, to commercialize new products. This partnership I think is one that should be encouraged.

I want to particularly give special credit to Jere Glover, who is here as a strong supporter of this program, Dr. Chuck Wessner, Dr. David Green, our program managers and state SBIR directors like Dr. Jain, who are also here with us today.

Now, there were challenges to the reauthorization. I do not want to review those now. You all know what they were. But the important take away from today is, is that it seems, in the last two years in particular, the overall SBIR program is exceeding its goal by over $100 million in 2011 and over $200 million in 2012.

We also have some information about agencies that are not quite, or departments, meeting their goal, but overall the numbers of the last two years look particularly encouraging.

Ranking Member Risch has come. I just want to see if there is anything else that I want to add.

Let me say during today's discussion, I look forward to hearing from many of you about the real-life impact of the changes that we made to the SBIR and STTR program, how they are impacting your sphere of influence, how many more research and development dollars are getting to small firms, and what some of the agencies can do to increase that pipeline to small businesses.

We need to be perfectly clear, though, that the allocation that we have in our law is a minimum, not a maximum. We want people to understand that because the Federal Government believes, and the members of Congress on both sides of the aisle, that small businesses have a great deal of expertise and value to bring to the Federal Government and it is not just large businesses that make all of the discoveries. In fact, the record would show the opposite.

So, let me turn to Ranking Member Risch for opening remarks and then I want to acknowledge additional SBIR program managers who are here to listen, even though they are not on the panel—John Williams from the Office of Naval Research, Mary Clague from the National Institute of Standards and Technology, Alan Rhodes from the National Oceanic and Atmospheric Administration, Natalie Seiling from Defense Logistics Agency, Rachel Sack from the Department of Transportation, and Ed Metz from the Department of Education.

So, they are not on the panel but they are here listening. We have many, many other people focusing in through the web and we appreciate their participation as well.

Let me turn it over to my Ranking Member for any opening remarks that he might have.

OPENING STATEMENT OF HON. JAMES E. RISCH, A U.S. SENATOR FROM IDAHO

Senator RISCH. Thank you, Madam Chairman.

First of all, I apologize. I cannot stay. I have other commitments this afternoon but this is an important hearing for all of you who are here to address these issues.

These goals are not a suggestion. If the board of directors of a private entity gives the executing authorities direction as to what to do, the board of directors expects that those directions will be followed; and so, I kind of view this hearing as what is wrong here, how come we are not getting to where we need to be.

So, for those of you who are not getting to where you are required to be, I will be really interested to hear why and I will be interested to hear what the plans are to get there.

And particularly, I know how things work in the government. Promises are wonderful but what I am looking for is some very specific statements and facts as to how everybody intends to get where the board of directors has said that you need to be.

So, thank you very much.

Chair LANDRIEU. Thank you, Senator. We appreciate your participation. Let us begin with Dr. Bobby Savoie, a very good friend and a constituent from Louisiana.

Thank you, Bobby, for being here and please again one minute. I know how you can be.

[Laughter.]

No. I am just teasing him. He is very efficient. Just one minute and then we will go around the room.

Mr. SAVOIE. Thank you——

Chair LANDRIEU. You have to lean into your mic to pick up any volume here. So, if you would just lean into it, that would be great.

Mr. SAVOIE. Will do. Thank you, Madam Chairman. My name is Dr. Bobby Savoie. I am the CEO of a company called Geocent, headquartered in New Orleans, Louisiana, with offices in Charleston, South Carolina, Huntsville, the Stennis Space Center, Baton Rouge, Tulsa, Dallas, and a few other places.

We are primarily an IT and engineering company. This is the third technology company that I have started and built, all headquartered in Louisiana, although usually doing a lot of work elsewhere in the country.

We have done quite a number of SBIRs from Phase I through Phase III which I am sure we will have a chance to talk about later.

Chair LANDRIEU. Good. So, your company has actually benefitted from an SBIR program. We will come back to that in a minute.

Dr. Wessner.

Mr. WESSNER. Thank you, Senator. My name is Chuck Wessner. I am the Director of the Technology, Innovation, and Entrepreneurship program, which I founded at the National Academy of Sciences, but I wouls emphasize that I am speaking in a personal capacity.

Thanks to the Congress and with the help of our friends in key agencies, we have the assignment of assessing the SBIR program. The good news is that we have brought some empirical rigor to that assessment and the other good news is that what we found, after a lengthy assessment led by Dr. Jacques Gansler, the former Under Secretary of Defense, is that the program is sound in concept and effective in operation.

We, of course, have suggestions on how the program can be improved but I think one of the most compelling points is that the rest of the world is copying the program for their own use.

I look forward to the discussion and thank you for the time.

Chair LANDRIEU. Thank you, Doctor, for your input.

Mr. Glover.

Mr. GLOVER. Our members have several concerns. One is the capital access. It is still critically hard for small business venture capitalists really have withdrawn from an early stage and seed fundings.

Lending is still very tough, very hard. The patent legislation that is pending in the House and coming over to the Senate is very anti-small business and small businesses are very concerned about that for the future of innovation. Things like the Transfer Act, which is taking basically 22 percent of the STTR program away from small business.

Again, those are all major concerns. But when we look at the SBIR reauthorization where Congress took a great step forward, we are going to do a much better job of transitioning SBIR technology into the commercial space and especially at DOD. The law was very specific requiring goals, requiring incentives, requiring plans, requiring accountability—all of those things would help fill some of the gaps that venture capital pulling out of the market has created and lending has been challenging.

Unfortunately, that has been slow in transitioning. It is just not happening very quickly and our members are very concerned. They think that compliance with the law should be happening much better, much faster, and we should see the agencies much more involved in transitioning this technology.

Chair LANDRIEU. Thank you, Jere, I appreciate it.

Mr. Rusco.

Mr. RUSCO. Thank you, Madam Chairman. I am Director of Natural Resources and Environment of the US GAO. As you know, in the past number of years we have written a number of reports on various aspects the SBIR and STTR programs, and most recently we have, responding to mandates in the Reauthorization Act, reported on fraud, waste, and abuse on data protections and also on spending requirements and agencies' adherence to those.

Chair LANDRIEU. Good. We will look forward to getting some of that information today.

Dr. Jain.

Mr. JAIN. Thank you, Madam Chair. My name is Mahendra Jain and I am Senior Vice President of the Kentucky Science and Technology Corporation. It is a nonprofit, 501(c)(3) organization that works with all the faculty and all the small technology businesses throughout the State.

Kentucky has been very fortunate to have had the Kentucky Innovation Act passed in 2000 that created several programs, a couple of which fall into my portfolio—Kentucky Science and Engineering Foundation and Kentucky Commercialization Fund.

But on top of these is the SBIR/STTR program that I have been leading since 2001 in the State. I have been the host of two national conferences. One of these was the National SBIR Conference in 2006. That was when NSF used to underwrite the conference and then last year in 2012 when I hosted in Kentucky the NIH National SBIR Conference. And I have continued to work with that program.

Chair LANDRIEU. Thank you very much.

Mr. Rinaldi.

Mr. RINALDI. Thank you, ma'am. My name is Chris Rinaldi. I am the DOD SBIR/STTR program administrator.

As you may be aware, DOD represents over half of the SBIR program in the Federal Government. We have 13 program managers, some of whom you named when you listed the attendees.

In DOD, although we have 13 program managers, I am responsible for implementation policy for the reauthorization, which we have been working vigorously to achieve.

SBIR is a bright spot and I think that when we see the public discussion of how Congress and the Federal Government is not working, SBIR is one program that we can point to as working well.

Chair LANDRIEU. Great. You have a big part in that, so we thank you. We will come back to what you all are doing because your numbers look very, very good.

Mr. RINALDI. Thank you.

Chair LANDRIEU. Mr. Gudger.

Mr. GUDGER. Yes, thank you, Madam Chairwoman, and thank you, Ranking Member Risch. I am the Director of Small Business and Senior Advisor to the Secretary of Defense on matters of small business.

I would like to thank you for your support. I think Chris was exactly right about the quantum leap in the right direction over the past few years that we have taken in infusing some of our more innovative programs into programs of record and getting more small business involvement.

We made tremendous strides with several big policy initiatives over the past couple of years that aligns with the direction that Congress set forth for us. I think that we have seen tremendous positive results as a result of you getting feedback from all the folks that you named earlier as well as industry. So, thank you for that.

Chair LANDRIEU. Okay. Thank you.

Mr. Oliver.

Mr. OLIVER. Thank you, Senator. I am Manny Oliver, the Director of the SBIR and STTR programs at the Department of Energy. I joined the department about three years ago and I come from the private sector and was looking forward to bringing a new approach to the way we run the programs at DOE. I got here before reauthorization and have been caught up in it and made a lot of changes to be both responsive to small businesses as well as improve the outcomes for the Department of Energy.

Chair LANDRIEU. Thanks.

Mr. Portnoy.

Mr. PORTNOY. Thank you, Madam Chairwoman. My name is Matt Portnoy and I am the Director of the NIH, National Institutes of Health, SBIR and STTR program in the Department of Health and Human Services.

So, we have been working amongst ourselves, with our colleagues at agencies and with the SBA vigorously over the past two years to implement the provisions of the Reauthorization Act, and we have made a good deal of progress, and we are happy to continue to talk about that.

Thank you.

Chair LANDRIEU. Okay. I am not sure in my data, staff, do we have the NIH broken out from HHS; and if not, if we could get that data that would be good.

Overall the department is up, you know, over the required allocation.

Mr. PORTNOY. That is right. NIH is around 98 percent of the HHS program and we are meeting and exceeding our set-aside.

Chair LANDRIEU. Right. Okay. If you would turn your placards a little bit toward me so I can recognize you.

Ms. Raghavan.

Ms. RAGHAVAN. Thank you, Chair Landrieu and Ranking Member Risch. My name is Pravina Raghavan. I am the Deputy Associate Administrator for the Office of Investment and Innovation at the SBA.

I extend my apologies of our Associate Administrator Javier Saade. Unfortunately, he was not able to attend today, but he looks forward to working with all of you.

As you correctly said, the SBIR and STTR programs are extremely important for small businesses in America. Over $38 billion has been provided in funding and it has funded companies like QUALCOMM and Symantec but also funded research that would not normally be commercialized like GPS which is now an award-winning and a tremendously competitive industry.

The reauthorization was extremely critical, and the SBA has been supportive of it, and actually has made it one of its top priorities, in fact, including moving me down from New York to sit here and help with the transition.

We have been working diligently with all the agencies. We have done a lot but we have a lot more to do, and we look forward to working with them in a collaborative manner as they have been in getting some of these issues tackled and making sure that we all hit and exceed our goals.

Thank you.

Chair LANDRIEU. Thank you very much.

Ms. Sobolewski.

Ms. SOBOLEWSKI. You got it. Great.

I certainly appreciate the opportunity to be here. My name is Lisa Sobolewski. I am the Director of the SBIR program within the Department of Homeland Security. We have two programs within DHS.

One is in my directorate, the Science & Technology Directorate. The other one is in the Domestic Nuclear Detection Office, and we coordinate very closely with the two. But I am really passionate about helping small businesses meet their dreams, and especially that dream of getting to Phase III. I think our directorate is pretty successful in helping companies get there, including Geocent.

We utilize the SBIR program within DHS to actually meet the needs of the DHS components, the FEMAs, the ICE, the Coast Guard, the Secret Service, because we are an operational department and so small business that provide those innovative solutions are very important to us.

So, I work with my colleagues very closely to make sure that we implement the program in such a way to get good technology solutions for those components.

Thank you.

Chair LANDRIEU. Excellent. Very well said.

Ms. Houston.

Ms. HOUSTON. Thank you, Senator. I am Jenny Houston from Warwick Mills in New Hampshire. I have been with the company for 18 years and we have done several SBIR projects—two Phase IIs, one with the Navy and one currently with NSF that we are on the brink of commercializing.

Warwick Mills is a manufacturer and an engineering company of high-performance, flexible materials that are used in body armor for both military and law enforcement both in the U.S. and internationally.

We also do recreational and industrial protective garments and we do quite a bit of aerospace including the successful crash bags that were used for NASA's missions.

So, we view the SBIR program as a very important leg up and a partnership with the agencies that we are working with. Every technological innovation has its roots somewhere, and we feel like the advancements that we have made in our SBIR programs have been very important in our commercial programs and feel like it is a very good program.

Chair LANDRIEU. Thank you.

Dr. Green.

Mr. GREEN. I work for Physical Sciences, a science and engineering company that takes ideas from concept through to demonstration and sales.

We have performed SBIRs for a great many agencies. As the technology matures, we most often partner with either venture or large businesses to transition the technology effectively.

We thank you for your strong leadership in the reauthorization of 2009. What I would like to talk to today is the definition of success. What are those metrics? Is it revenue, is it patents, is it jobs, is it of a societal benefit? I hope to have time to illustrate a number of success stories that we would share with you.

Chair LANDRIEU. Excellent point. Let us begin. I am just going to make a note that one of the key goals of the reauthorization, one of my personal goals, was to get a longer reauthorization so that we all had a chance to do our best work on behalf of the taxpayer and the small businesses that we are trying to work for.

I would remind you all that if we had gotten the two-year authorization which some people wanted, we would be finished right now instead of really just getting started.

So, I think we were proven correct, those of us who held out for a six-year authorization. The wisdom of that. I would have loved to have had an eight-year authorization. We tried a 14-year authorization. Could not get that far. But we did get past two years which is really, really important to this particular program.

I am going to continue to push hard for a longer reauthorization because this is a long lead time and you have got to get through the politics from one administration to the next and try to focus like a laser on the technology, what the market is, how the market is moving, et cetera, and what opportunities there are.

So, let me start with you Dr. Wessner. The way this works is, I am going to throw out a question. If you want to comment or if I do not call on you and you want to comment, just put your plaque up like that and I will call on you in as fair an order as I possibly can when I recognize that you want to speak. If you want to ask a question or respond to someone, put up your plaque as well.

We are going to go for about an hour, maybe a little bit longer.

But Dr. Wessner, let me start with you because I think you have one of the biggest overviews of this program. What can you tell us about in the last two years, based on the tweaks that we did in the reauthorization? What are some of the things that you are seeing that are really paying off, either in a particular agency or a particular best practice or a particular method that is emerging that is promising to you. And then I am going to ask you if there is anything that you see that is concerning to us that we should focus on now.

And again, you have to speak into your mic.

Mr. WESSNER. Well, thank you, Senator, and let me join Dave Green in emphasizing that, while I am speaking in a personal capacity, it is unquestionable that the Nation owes you a great debt in having this program reauthorized, and getting it reauthorized with a timeframe that provides the necessary stability to let it actually work. This stability, of course, is one of the attributes of the program.

Thanks to this program, our war fighters in the field are better served, as are those suffering from health challenges. Valuable products are going into the market that would not otherwise be going into the market.

Also the program is a great way of improving our nation's procurement. It increases competition both in quality and price and, as you know, our procurement system is, to put it mildly, a little bit sclerotic. So, having new companies come in with new initiatives is really important and we thank you for that.

There are a number of things that I think you will hear about. One of the problems that you managed to eliminate was the question on venture capital firms where an effective compromise was reached.

But with your permission, I always take these invitations very seriously and we have a number of quick points that we would like to make.

Chair LANDRIEU. Go ahead.

Mr. WESSNER. If I may, I want to demonstrate some figures and it is hard to do that.

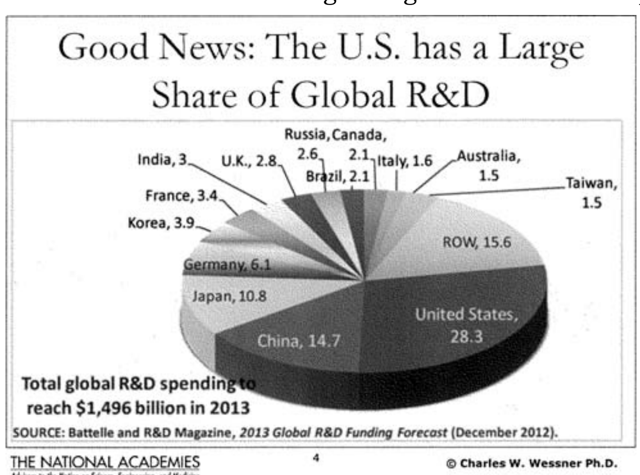
Chair LANDRIEU. That would be terrific. If you want to do that. I do not know if everybody can see this.

Mr. WESSNER. It is on both sides.

Chair LANDRIEU. Okay.

Mr. WESSNER. It is just a quick couple of points. In a sense, what I am really interested in, Senator, is encouraging the Committee to take a broader view of innovation and entrepreneurship other than SBIR per se. The SBIR program is a key part but it is only one part of our innovation system. These are a couple of quick points.

I am going to cut this presentation back. There is a good news, bad news story here. The red is the good news. The other challenge is China, but China was not there 10 years ago in any meaningful way. And there has been this huge surge in their R&D spending.



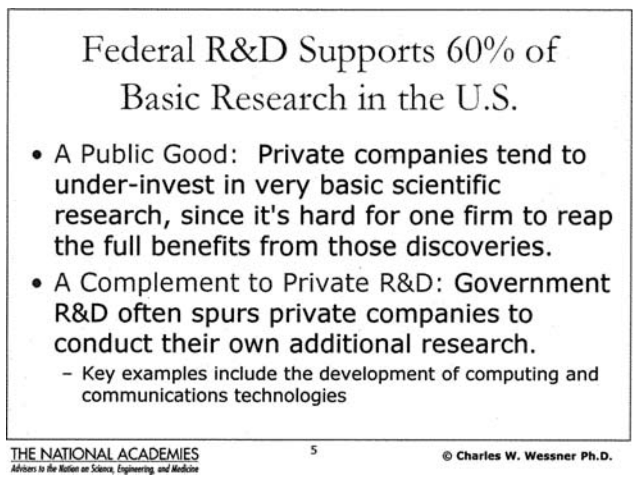
Chair LANDRIEU. Let us make sure we get that onto the audio record. Go back and let me just put that into, go back, okay. The

United States has 28.3 percent of the global share of R&D. China has a 14.7 and they were not there 10 years ago.

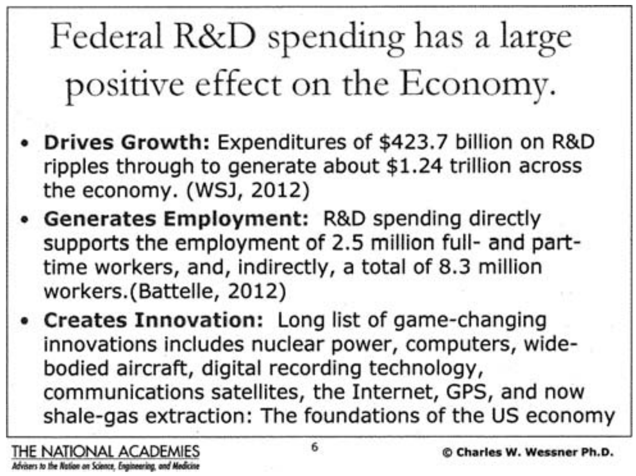
Mr. WESSNER. You see Germany and Korea are spending huge amounts of money and it is interesting. You have those challenges from East Asia but you also have mature economies in Europe which are really putting in the money.

What I want to emphasize is that sometimes you hear a debate which is fundamentally silly is whether the public sector or the private sector should do it and it is sort of the importance of mothers versus fathers. There is no versus. They are both essential.

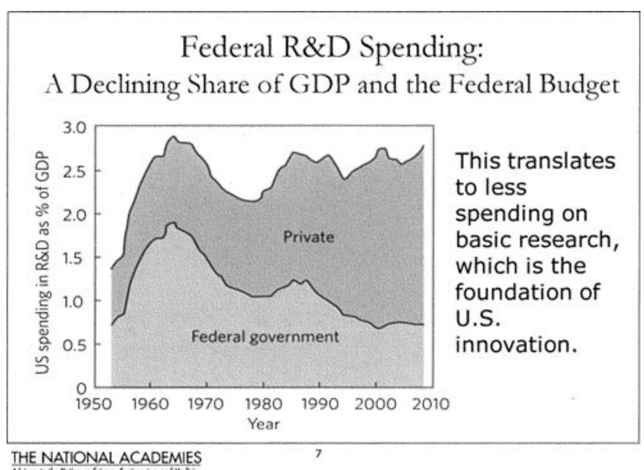
Federal research is a public good particularly basic research which provides the foundation for future innovation. Some people question whether it is a worthwhile investment.



And that is, of course, it is a good investment. It drives growth. It actually generates directly employment, and the innovations that you have the list of there, I mean, one of the funniest things I remember hearing here up in the Senate was a young staffer once asked me, why do you think semiconductors are so important. Well, what do you think is in this box. [Cell phone]

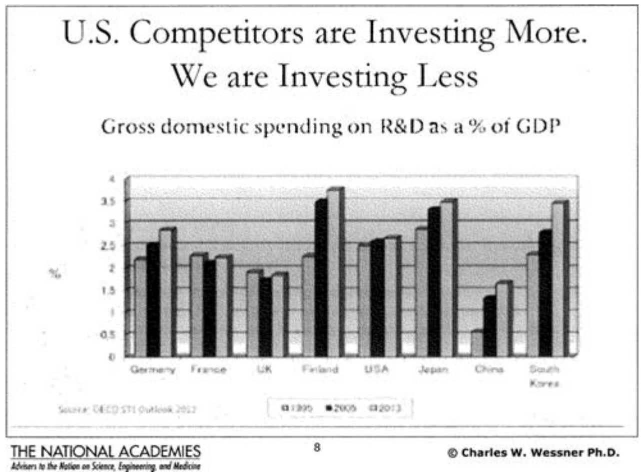


But if I could go on, there is some troubling news here and the most troubling is that recently there has been a relatively steady decline in the U.S. R&D position. You hear a lot of people talk positively about the Reagan years. Well, during those years, the U.S. was spending significantly more on public R&D as a proportion of GDP. Perhaps we should return to that public level of investment in R&D. I do not think the world is that much safer than it was then.



If you go to the next one, this is the most disturbing. If you look at this just briefly, Germany under Chancellor Merkel has been pushing very hard. They have a goal of 3 percent of GDP for R&D and 7 percent for higher education.

On the other hand, the UK is coasting and not in a good direction. But if you look at Finland, a small country, with major high-tech industries, there has been a huge increase. Look at Japan. Large country, large increase. Look at China and Korea, shooting right up off the map. These are really major.



I do not like a position where we are flat in terms of our R&D expenditures and other countries are moving up their investments really fast. That is not a promising situation.

What is key about this is it is a question of what are we going to give our children. In 20 years, if God forbid there is another war, what kind of equipment are we going to have. Let me go on there very quickly.

Chair LANDRIEU. Let me just ask you though to clarify, and if someone has a question to Dr. Wessner because we do want to move around and I will give you just a few more minutes.

But is this data from just government funding or is it a combination of government and private sector funding and university funding in those countries, what you just showed us?

Mr. WESSNER. What we are showing you is a combination of private R&D expenditure and of public R&D expenditure——

Chair LANDRIEU. And public R&D.

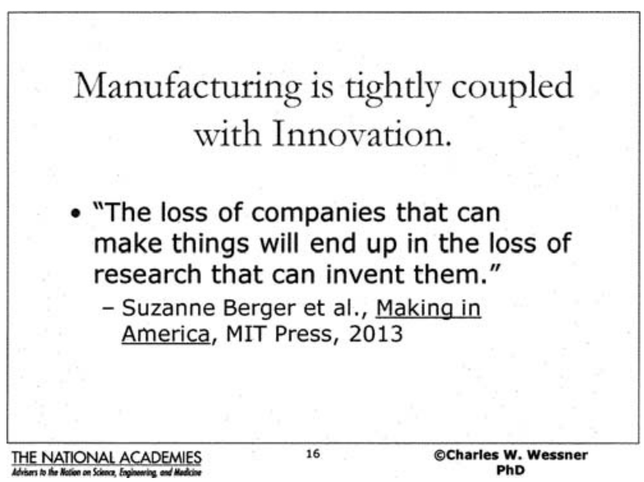
Mr. WESSNER [continuing]. On this last slide which is from the OECD, an international organization.

Chair LANDRIEU. All right.

Mr. WESSNER. And a key point there is that you need both, and often public expenditure in R&D drives private R&D.

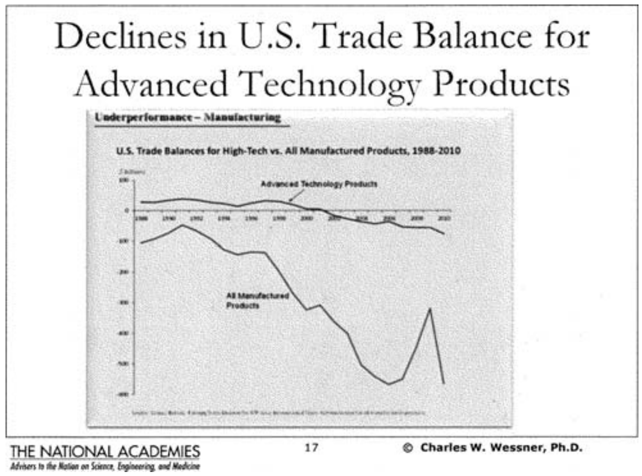
One of the things I wanted to mention just very quickly is that there is sometimes a discussion of SBIR versus universities, and I would simply argue that that is again a mistake. The universities are the sources of many innovations, but the private sector excels in bringing those to market.

One of the things that we have to work harder at is growing the SBIR/university link. I have been out recently to some of the leading institutions like Carnegie Mellon University and Case Western in Ohio, and it is just discouraging to see how few SBIR applications are coming from these top-notch universities. So, we need to have a better outreach there and I would be eager to hear how we can do better.



One of the things I want to emphasize is that we need to pay more attention to the manufacturing element in the SBIR program, and there are two ways to do that.

One is, I just want to breakthrough the idea that we can put less emphasis on manufacturing and rely on services.



Well, and the point is that in agriculture we feed ourselves and we export to the world but we are not doing that in manufacturing.

If we could go to the next one please.

The point is simply that we are losing both in traditional manufacturing, we are also losing in high-tech manufacturing.

Chair LANDRIEU. This is the side that is up.

Mr. WESSNER. Yes. Exactly. I used to work in Treasury back here when we were not worried about this; and everybody always told us, oh, we could lose these. Do you know what low-tech manufacturing it is is that is where no one in my family works. That is the usual definition of it.

But up here is where you start to find that where we are losing at is at the very cutting-edge. So, this is alarming. If you are interested in national security—well, if we cannot make things, we cannot defend ourselves. We have to make better things than anyone else.

And if you want jobs, which we all do, then we have to do something about that.

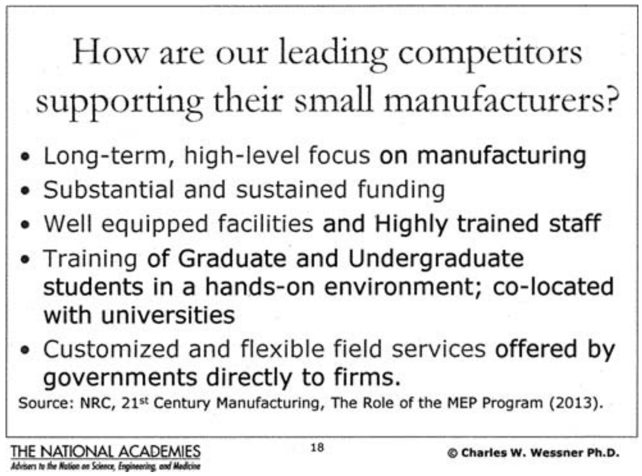
Chair LANDRIEU. When did that red line start to go down, in what year?

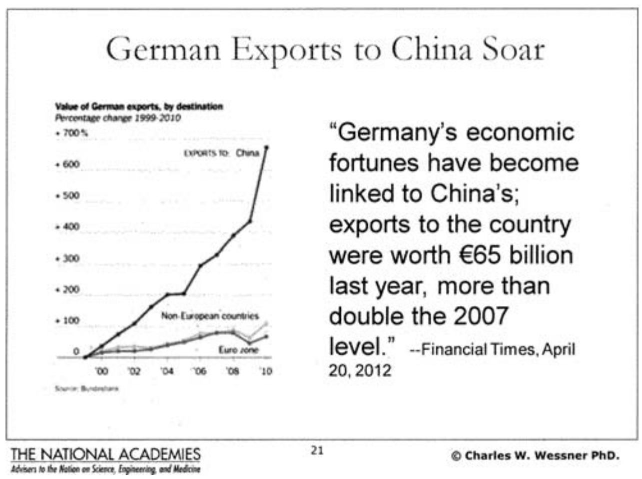
Mr. WESSNER. In 2000. But could I suggest that this is a very nonpartisan process. There are a number of long-term trends, and this is what I am going to get to next is what the rest of the world is doing.

You know, people ask, how do the Germans do this? Well, because they have programs that are long-term, with a high level focus on manufacturing. That is where this Committee has been a great strength in focusing on small companies and how to help them. They have substantial and sustained funding.

There is a huge training component. We talk about workforce. This is what the rest of the world is doing. They are training at the high end, they are training at the middle, and they are training at the lower end.

They offer customized and flexible field services.





If you look at this overhead, Germany has a balanced trade account with China. Now, German workers make substantially more than U.S. manufacturing workers make. They have heavy environmental regulations.

Their unions have representatives on company boards. It is not an unfettered capitalist environment, and yet they have a balanced trade account with China. One reason for this is that they have the Fraunhofer systems, which has over 60 research institutes and 22,000 employees and is funded at two and a half billion dollars annually.

These programs are not confined to Germany. Canada, for example, is one-tenth our size in population and in the size of economy. Yet, they outspend our Manufacturing Extension Partnership program two to one.

I would argue that there is a message here. Functionally speaking, we are trying to compete with a good college team against the pro-teams; and guess what, that does not work so well.

So, if you look here at the next slide, we have the problem that we are home alone. A company with an awful lot of promise cannot get the support it needs out of the industrial commons, and the contribution of the industrial commons is something that has been identified by Professors Pisano and Shih up at the Harvard Business School.

So, one other thing I want to really bring to your attention looking forward is how do we find a better way of supporting an industrial commons. And a second point which is a real challenge for some of the smaller forum that has been brought to my attention by the Department of Defense is the cyber security element.

When a firm wins an SBIR award, that is a signal to some places of the world to hack them immediately and persistently; and our firms are entrepreneurial, focused on products and they are not spending all of their time in cyber defense.

So, we need to have an industrial commons where you can have a manufacturing institute that provides testing equipment, that provides advice that you need and at the same time can provide you advice on how to keep your intellectual properties.

Chair LANDRIEU. Excellent point.

Does anybody else want to comment? Okay. I see you go ahead, Ms. Houston, because this has spurred a lot of thinking in my head. I hope it does for yours.

Go ahead, Mr. Houston.

Ms. HOUSTON. I just want to say how much I appreciate——

Chair LANDRIEU. You have to speak into your mic. You have got to lean into it please.

Ms. HOUSTON. I apologize.

Chair LANDRIEU. That is okay.

Ms. HOUSTON. Small businesses have two choices if they want to do innovative research. They can do IRDD, internal research and development dollars, or they can get a program like the SBIR or other programs.

If you get a Phase I and a Phase II and you have close to a million dollars worth of research dollars that you are doing, to be able to fund that as a small company means that you, say you get, you put aside 10 percent of your profits.

You would have to be making $10 million and spend every nickel of your profits to get the same amount of research. That is a very tall order for a small business that only makes 10 million to come up with all of the money toward research.

Without these programs, companies will not do the internal research and development dollars.

Chair LANDRIEU. Dr. Oliver.

Mr. OLIVER. Thank you. I wanted to comment on the connection between SBIR and universities. That is something we have given a lot of thought at DOE, since the science agencies pump a lot of money into the universities and federal labs.

Something we started last year was trying to reach out to the tech transfer offices at universities and federal labs. We fund the basic science but we do not track what happens when it goes over to the tech transfer office.

Now we are working with the tech transfer offices, both at Federal labs and universities, and taking some of those tech transfer opportunities and putting them directly in our solicitations to help move them out from the universities and labs into the private sector. Last year we started with the DOE national labs. This year we have included three research universities, a total of 12 tech transfer opportunities from those universities, in our SBIR solicitations.

Chair LANDRIEU. Mr. Glover.

Mr. GLOVER. I just want to totally amplify what Dr. Wessner said. One of the great frustrations for me is this reauthorization bill did tremendous things to try to encourage and in some cases require the agencies to do more commercialization.

My frustration is two years after that bill was passed, we still do not see the results and things are getting worse internationally. Exports, high technology exports in the world, 457 billion for China, 221 billion for the United States, less than half. Germany, 186, almost as much as us and a much smaller country. Japan, 126, exporting high technology.

Exports are jobs. We are not creating the jobs in America. If we do not create the jobs in America, the next generation is going to suffer.

So, when some agencies see my frustration, it is because I had great expectations. I had great hopes that we could make a huge transition and prove some of these things can really work, and we are going to have to do that for the next generation.

Chair LANDRIEU. Okay. And I am going to ask some of the agencies present here to specifically respond to this about what you have done in your agency or what you have not done but what you plan to do.

But, Dr. Jain, let me respond to you and also, when you are answering, could you tell me what other states besides Kentucky have a statewide SBIR program; and if not, if you could submit that to the Committee within two weeks.

Mr. JAIN. I can. There are several states that I talked with for their input—before I came here including South Dakota, Wisconsin, Minnesota, Michigan, Louisiana, and Virginia. And, I also talked with a couple of the service providers as well.

Of course, Kentucky is doing well as you recognized. But Wisconsin, for example, has an innovation center, the Center for Technology Commercialization, that works through the Wisconsin Entrepreneurs Network throughout the State. They are working with the University of Wisconsin—WARF—which is very well known for holding and commercializing the IP by transferring the technologies.

And so, if you can transfer the technologies out of the university and somehow create new startup businesses, and then you work with those companies through programs like SBIR, you can develop a good link between the university and small business because the faculty is getting involved there.

In Kentucky, there are two major research universities, the University of Louisville and the University of Kentucky. I have been working with those universities for 10 years now.

Now, they have developed and implemented at least for the last five years, a policy called Entrepreneurial Leave. So, a faculty who has a technology that can be transferred and commercialized can go on entrepreneurial leave for six months, commit 51 percent of their time to the company, and manage the SBIR/STTR grant. And, during the gap period of Phase I and Phase II, they can come back to the university.

So, it is a leave policy that is working very well at these universities and I think other universities can also learn from their experience and see how their faculty can benefit from such policies, because they are worried about their benefits. They are worried about their tenure. If faculty can get credit for what they do and if they can get benefits, more and more faculty would look at the SBIR/STTR program.

Chair LANDRIEU. Interesting, and I really want the staff to make a note of that. It is sort of a more flexible approach to kind of a partnership with our professors and inventors on our university campuses to allow them to do what they want to do which is to teach but also so that they can promote a technology that creates jobs and benefits.

And I want to get back to Dr. Green's question to all of us is how do we measure success in this program? Is it the number of jobs created? Is it jobs plus wealth? Or is it the general public's benefit, a greater good or a quality of life? But Ms. Lisa, go ahead. Ms. Sobolewski.

Ms. SOBOLEWSKI. So, I wanted to comment, go back to Jere's comment about the commercialization. As many of you know, and I am not here to make excuses for sure; but we had what? Over 40 some provisions of the reauthorization to implement from an agency perspective, and many of us had solicitations in the works. So, it took a little bit of time. But what DHS has done and what I wanted to go on record to say is what is very important to us is the 10 percent civilian commercialization pilot program because within DHS especially, we are a medium size agency.

My S&T directorate SBIR budget is about $14 million; DNDO is roughly 2- to 4,000,000. So, we are not talking billions of dollars here. And what myself and my colleague have seen is that we invest in the technology in Phase I and Phase II and then we just do not have the funding to take it further with non-SBIR funds to take it into operation. So, that 10 percent is really helping us get some of these companies over the hump and do some further testing and evaluation.

And in response to Jere's question, because of some of the other priorities that we were all working on with the implementation, we responded to SBA's request for our civilian commercialization business pilot program in the July time frame of this year.

So, yes, Jere, it was a year and a half into it but we had all these other things that we were implementing at the time. We did receive approval fairly quickly, and we will be implementing that starting in 2014, and we already had initial discussions with several of our technical divisions that will provide funding into that program to help these companies.

So, I wanted to let you know that that civilian commercialization readiness business pilot program is extremely important for DHS especially to be able to use that 10 percent of our SBIR funds for such purposes.

Chair LANDRIEU. Great. Dr. Green, and I am going to ask anybody else who wants to follow up on that comment how this 10 percent is working either at your agency or how you have observed it at an agency or department that you are familiar with.

But, Dr. Green, go ahead.

Mr. GREEN. First, I wanted to return to the comment that Dr. Wessner did about cyber security.

As part of the reauthorization, there is an increased amount of training and education for new businesses; and I think that, in addition to transition philosophy and all, adding a cyber security component to that to help "three guys in a garage" figure out what the minimum they ought to do would be a very good course to add for that community.

I wanted to touch again on successes, if I may. Some of them where you create licenses to another company is a powerful pathway. We had an NIH-funded SBIR which had to do with obtaining better images of your retina.

We partnered with a large company. In the last six years, they sold 12,000 units. There is no way we could have scaled up to that, and those units perform tens of millions of eye exams.

I really do not know how to quantify that as a societal benefit or a monetary value but it is something where the technology has gotten inserted, and I am very proud of that.

Under an EPA SBIR, we have developed a natural gas leak detector, partnered with another company. They have sold 2400 units. As a result of this, there are now 2000 quality jobs in 49 states surveying the gas lines and in a dozen other countries.

We won an R&D 100 award. We had a Phase II SBIR but the revenue in return is rather modest; nonetheless, our partner is benefitting and society is benefitting by having greater safety.

One more technology that is on the verge of being a success: last week I was here in Washington and the EPA gave out its 2013 Presidential Green Chemistry Awards.

One of our subsidiaries, Faraday Technology, won that award for a technology that will replace toxic hexavalent chrome (chrome six) with chrome three.

There is a long way to go but the EPA and the partners are all advocating that we need to make this change to reduce carcinogens in our world, and so I am very pleased with that.

Another path we take is to partner with the venture community once the technology has been matured and developed and a certain amount of risk removed.

We have spun out five companies partnering with the venture community most often: A kidney stone lithotriper under NIH funding; an environmental emissions monitor that is still in place based on NASA and NSF SBIR, that is in use today monitoring combustion products; A telecom technology for dense wavelength division multiplexing which had NASA and Air Force SBIR funding.

Again, often neither we nor the funding agency can see the path that will ultimately be the successful commercial incarnation. We are currently working in digital cinema, based on an Air Force SBIR; and that is a small company currently operating in New Hampshire.

It has received 35 million in venture funding, has 30 employees, and is making progress toward reaching the marketplace.

Chair LANDRIEU. Okay.

Mr. GREEN. The third path we follow is whether it is such a small market that no single-product company could exist. Every material that has gone into space has been tested in an atomic oxygen facility that we developed with a NASA SBIR—either at our facility or in space facilities around the world in Europe and Japan and in this country.

A company would not exist that could only build those four devices. So, having a company that is able to do that and many other things is our goal.

Chair LANDRIEU. I am going to have to ask you to wrap up. Those are very good examples of successes; and if anybody wants to comment about basically this technology transferring to a larger company that just improves and makes more efficient and grows and expands and how do we count those and is that the same as launching technology that grows a whole new business out of the garage and then may become 10,000.

But let me get the Director of Small Business for DOD. Go ahead, Andre.

Mr. GUDGER. Thank you. There were some very good points. I mean Jere made some very good points and Dr. Wessner made some great points as well.

In 2011 when I took over this job, one of my biggest rocks, I will call it, was to modernize our industrial base. I knew the importance of our industrial commons in gaining affordability out of our programs and gaining significant capability so that we can not only win future or potential conflicts but we can deter them with that capability.

And I looked at our industrial base and saw where we had areas of vulnerability and where we could be weak, and I knew that we had to make those, make a significant change.

So, we started this process called the five-star transformational process that focused on outreach, commercialization——

Chair LANDRIEU. Can you repeat that please? The what process?

Mr. GUDGER. The five-star transformational process.

Chair LANDRIEU. Five-star transformational process.

Mr. GUDGER. And Chris is going to talk a little bit more about that later. I give him the hard stuff to do.

Mr. RINALDI. Thank you, sir.

Mr. GUDGER. But, you know, the importance of that was figuring out how do we perform outreach, how do we increase commercialization, how do we streamline the programs we have, move them from the 20th century into the 21st, how do we have reporting and compliance.

And so, one of the first things we did was address capital. That was a very significant thing since the DOD is not necessarily a lending institution but we can pay our small businesses faster. And that is when you saw the accelerated payments kick in because I knew that small businesses, and we knew at DOD that small businesses would do more with more.

So getting money in their pockets they would make investments in technologies, improve their products and hire the right people because innovation is not just technology. Sometimes it is people.

And so we have to make investments in our critical thinking, sequential thinking, personnel so that we can make tremendous improvements.

Chair LANDRIEU. Good. I am looking forward, Chris, to you filling in some of that on some specifics but thank you all. We will get back to that in a minute.

Mr. Portnoy, you wanted to say something. Go ahead.

Mr. PORTNOY. Yes, thank you, Madam Chairwoman.

I would like to bring a couple of points together that were brought up by both Dr. Green and Mr. Glover about commercialization in general and what we at the NIH have been doing and will be doing with newer authorities.

And so, as Dr. Green said, commercialization is not necessarily a linear path. It rarely is, and it takes many forms including direct sales from the company that gets the award but frequently and especially in life science space, depending on the technology, it is long in time and high in dollar investment to get technology into the marketplace.

There are frequently partnerships, licensing deals, strategic partners, FDA clearance, et cetera. All of this can take a very long time to get technology to the market.

And so, we at the NIH have developed many programs over the years to help this commercialization along and will be using newer authority provided under the reauthorizations.

So, we have had what we call a Phase IIB. Many agencies have Phase IIBs. Everybody's is slightly different. Ours is a sequential Phase II that we have been doing for nearly 10 years now to provide a second Phase II to companies that are really moving their technology by and large towards FDA approval and that really has helped companies move further along to get them to the inflection point where they can attract the next level of investment, be it venture, angel, or strategic partner.

We have had under the discretionary technical assistance authority both in the former and the current reauthorization, we have had a Phase I and a Phase II program. Our Phase II program, called commercialization assistance program, really helps our Phase II companies learn about to "B" in SBIR about business.

Frequently, many of our companies, especially our new companies to the program which are around one third of our companies every year are new, they are great scientists and they do great research, but they do not quite understand "B" in how to take their research and get it into the commercial marketplace.

So, we provide lots of guidance, training, and principal advisers to help them along the way, and we are going to be continuing that program.

We have expanded it to STTR companies as we are allowed to do and increase the amount per company per the reauthorization, and we have been excited to do that.

And then just finally, along with the Department of Homeland Security, we applied to SBA over this past summer to institute a Civilian Commercial Readiness Pilot Program and received approval, and we are working on that and hope to roll it out either later in fiscal year 2014 or early fiscal year 2015 depending on the timing.

Chair LANDRIEU. And this would be a good time to call on the SBA because they have got their plaque up, but also I want to, we have been trying to help them to maintain some ability within their budget to really promote entrepreneurship, development, and training based around the country.

So, I am hoping that you all are making the connections here with some of these companies emerging out of what we are talking about here, getting them the opportunities for either a mentorship through the SCORE program which are at 350 chapters that work voluntarily to do exactly that, to help somebody that is wanting to start a business, get it up and started or through some of our partnership programs with the likes of Goldman Sachs and American Express or with some of our other programs that you all operate internally.

So, go ahead and maybe you could comment about that.

Ms. RAGHAVAN. Thank you. So, first, I would like to say that the Civilian Commercialization Pilot Program, we have four agencies actually apply and all have been approved. So, we are looking forward to working with them to ensure that we have more commercialization.

In fact, it is NIST and NASA which are the other two agencies as well; and it is really based on what DOD has done with their commercialization so that we can increase more of these businesses, small businesses in particular, to get to the next phase.

And everyone is right. The next phase is very different for different companies. Some it is, some will become the next Googles of the world, you know, three guys in a garage who then go and get a billion dollar IPO, and the others will get bought.

We see quite a lot of that, and one of the things that we are working with the SBA in conjunction with all the partner agencies is to figure out ways to get people to understand to be in business, because it is great to have a wonderful idea, but then how do we make you commercialize it.

And part of it is that we have monthly webinars where the actual program managers themselves come all on and talk. The last one was NIH had over 600 people across the country.

We have been doing these webinars due to travel restrictions. It is a great way, and people can listen at any time that they want.

Also, we are trying to kind of marry what is going on in the commercialization process with other resource partners. So, involving our SBDCs, our SCORE, Women's Business Centers, for them to understand what an SBIR company is and how can they help them get through the business cycle.

And then on top of that, we are trying to do demo days where we actually bring in SBIR recipient and have them mentor with accelerators across the country because it is sometimes a local touch that you need. It is not, okay, I am going to listen to a webinar. I know how to do a website, and I can figure out how to do a business plan but who is that person who is actually going to accelerate my growth in the next six months.

And so, working with those accelerators who also have funding mechanisms which is very important so that these businesses can get additional funds.

Chair LANDRIEU. Well, the SBA has a very important role, coordinating, cheerleading, facilitating, et cetera, in this. I want to hear from the Department of Defense.

But, Jere, your plaque has been up for a while. So, do you want to comment?

Mr. GLOVER. Just quickly. Dr. Green's examples where all things that would, under the DOD commercialization achievement index, would be counted as follow-on funding. The law is very clear. Anything that logically flows from or extends SBIR technology counts. I have been told informally by SBA that they are going to use that broader DOD definition.

So, I think all of that will be included hopefully. That is what we have been told and that is the way the instructions will be reading.

Pravina is nodding yes so I think some of your concerns have already been alleviated. So, thank you.

Chair LANDRIEU. I would love to hear from the Department of Defense and then we will get back to you, Dr. Wessner. You started all of this conversation with your excellent presentation.

But can Defense talk about some of the successes that you all have had, and Chris, we really thank you for your leadership on that.

Mr. RINALDI. Well, let me see if I can put it in the context of the reauthorization, which may be helpful.

I want to begin by saying you were corect in getting the longer-term reauthorization. The longer term was most helpful because it gave us time to steer this big ship. The DOD is a huge ship and it takes time to change direction.

Let me walk you through quickly what happened since Congress put the reauthorization in place. The reauthorization is quite voluminous and it added many new positive revisions to the program but it increased the complexity by an order of magnitude.

Then on top of that, the SBA put out a large SBA policy directive which also put good things in place, but also increased the complexity of the program.

Fortunately, the basic program is still intact, Phase I, Phase II, Phase III, the way we have been doing it for years. But as we go through the implementation, we may encounter unintended consequences.

To responsibly implement this program across the department, we separated out tactical imperatives from strategic imperatives, which I would like to describe.

The tactical imperatives are upgrades that we needed to make in the department to keep the ball rolling, and they were things such as processes, IT systems, and websites.

We completely rewrote our solicitation so that it complied with the legislation and the FAR and the DFAR requirements. We had to keep the program going. We were flying the plane and building it at the same time.

Since the reauthorization, we put out a year's worth of solicitations: five of them, and that amounts to about 700 topics, 11,000 proposals, and 3,000 awards. So, we successfully kept everything moving.

And DOD SBIR implementation is a high priority notwithstanding sequestration, furloughs, and budget challenges.

Now, we are talking about strategic imperatives that are in the reauthorization legislation. This represented excellent strategic foresight, which is why Andre mentioned the five-star program.

The five pillars are outreach, commercialization, streamlining, reporting, and policy compliance; and to really understand how this program works, we need to understand the interrelationships between all of them.

If we do outreach well, we are going to get new people into this program, and we are going to get new ideas. DOD currently gets roughly 30 percent of new businesses in every single solicitation. So, we are creating businesses at the rate of about 30 percent.

Streamlining. When we talk about getting money out the door to small businesses, streamlining is very important. We have to make sure that we get awards and money out as quickly as possible.

Commercialization. I know Jere is big on commercialization. Jere's model is to sell Phase III back to DOD. I believe the broader model is: have small businesses work on megatrends that sell to the world. That is what I think the broad model is, and the gentleman who spoke earlier, Mr. Green, pointed that out exactly.

Chair LANDRIEU. But this is an important subject to think about why the model is, and maybe there is one best model or maybe there are several equal models.

Let us talk a little bit about that. And I want to come back. I do not mean to interrupt you, Chris.

Mr. RINALDI. Yes, ma'am.

Chair LANDRIEU. If there are portions of our law that are more complicated than they need to be, please let us know. Just submit that in writing. I mean, our goal, and I really want to welcome Senator Shaheen, who has been an absolutely spectacular partner and former governor, and former chief economic development officer of her State. She understands this very well.

I mean, you do need to have some kind of organizational structure in an industrial commons. I love that term. An industrial commons. There have got to be some rules as to how people operate in that commons so that it works well but you want to have as few rules and regulations as possible, as much freedom and flexibility to reach the goals. So if there is something in our reauthorization that you think is unnecessarily complicated, please let us know.

Dr. Wessner, let me get to you. His presentation was extraordinary. He is going to give it to us. I may have you come speak to the whole Senate about this. I think the whole Senate would be interested, but go ahead, Doctor.

Mr. WESSNER. Well, thank you, ma'am. I am always very pleased when a Senator is pleased.

Chair LANDRIEU. Yes, it is good to keep Senators happy because when we are not, we get very grumpy.

[Laughter.]

Mr. WESSNER. Let me make this one very quick overview observation. I think that one key question that has arisen here is what are we doing for the innovation ecosystem around the SBIR award winners, how can we improve that industrial commons.

And there are three things that are worth mentioning. One is we just completed a study which is outside the door in the Manufacturing Extension Program and the answer of that evaluation was that that program works pretty well but it is 123 million in a 16 trillion economy; and our competitors, as I illustrated earlier, are outspending us vastly.

Secondly, Senator Brown and Senator Blunt have introduced legislation for a network for manufacturing innovations and that would be a way of addressing this.

You know, in the 1960s we had the missile gap which was more or less real. We certainly have a manufacturing support gap that we need to address if we are going to compete.

Thirdly, you mentioned accelerators or several have mentioned accelerators and incubators. We would like to do some work. We just approved that on our board on Science Technology and Economic Policy, to figure out what works.

You could put a lot of money in an incubator and not accomplish much. So, we need to be very careful about what best practice is. But my point is that there is a whole series of things with a network that the Senators have proposed, with strengthening MAP, getting a better grasp on best practice to support.

You raised a very good question. Is there one best practice model or equal models? And I would submit that there are many appropriate models.

The diversity of the agencies is what it is. Just the—very quickly, you asked the question of Dr. Green about metrics. You can look at publications, patent applications, patent granting and licensing. That is one group.

The second group that you can look at is commercialization. About 60 percent in our last study of the SBIR firms actually reach the market.

Now, in some cases that may mean they sold their mother one; but in other cases, 3 to 5 percent of those, they are making serious money and that is normal.

You know, our joke that the venture capitalist with all their money and all their expertise, they succeed 2 out of 20 times whereas our poor colleagues here only succeed one out of 10. So, you see the difference.

Chair LANDRIEU. Yes.

Mr. WESSNER. The other is that I think it is important to understand that with the commercialization you get the cost-effective procurement that you do not get otherwise.

You get the hard mission solved. I mean, I think, ma'am, I just have enormous respect. You know, we would like to throw a small car under the planet Mars and could you figure out some way of cushioning that. I mean, that is the most amazing task. Yes. And successfully being a key point.

Ms. HOUSTON. A very difficult public display of R&D that did not go well. It would have been quite hard on the company of whose fault it was that it went splat.

Mr. WESSNER. The way things usually go it would have been hard on the president in many cases.

Ms. HOUSTON. That is true.

Mr. WESSNER. The other thing that I think Dr. Portnoy raised which is really important to understand is the unexpected outcomes. I mean, the LASIK eye surgery. You had a technology designed to hold spacecraft together and in so naturally that was going to end up in LASIK eye surgery. I mean no one had any idea.

And that is one of the great geniuses of the systems is that you put these technologies out there and the private sector picks them up and enables them.

So, let me stop there but I really want to emphasize the importance of the broader ecosystem. We cannot just drive SBIR companies and then have a foreign power come in and hack their stuff and take it away. I really like the idea that you suggested of operational——

Chair LANDRIEU. Absolutely. We need a security, we need a parameter, we need a perimeter around this. We have to think through that and we need this ecosystem which our Committee talks a lot about.

But, let me recognize Senator Shaheen for some comments and she may have a question for some of you.

Senator SHAHEEN. Well, thank you very much, Senator Landrieu, and thank you all very much for being here, and I want to recognize Jenny Houston, who is the Executive Vice President at Warwick Mills in New Ipswich, New Hampshire.

It is very nice and clearly you have already let the panel know all of the great things you do at Warwick Mills. I could tell by the response from Mr. Wessner so I do not need to say more about what you are doing there.

But let me also recognize Dave Green from PSI as well because you have a facility in New Hampshire also, Laser Light Engines. So, we are delighted to have both of you here.

I am sure you all have spoken to the importance of SBIR and STTR and innovation. I could hear it just since I came in and the remarks that I had a chance to hear you talk about.

I am especially proud of this program from New Hampshire because Senator Warren Rudman was the author of the legislation originally from New Hampshire, and so we have been watching it closely, and New Hampshire companies have benefitted greatly from the legislation.

I think that speaks to the innovation that is going on there. And one of the things that we have heard, Senator Ayotte, my other Senate colleague from New Hampshire and I did a small business hearing when we were working on reauthorization for SBIR.

One of the concerns that we heard was around the accounting and regulatory compliance and you may have already addressed this in your discussions but what we heard was concern that the different federal agencies have different standards and was there a way to make all of those standards compliant in a way that would reduce the unnecessary paperwork and overhead.

I do not know if anybody has had an experience with that and you want to speak to that but that is my question. Is there a way for us to be able to reduce the paperwork to make the programs easier for small businesses who, as you know, often do not have a lot of people who do compliance but we want the people that they have working on innovation as opposed to working on paperwork, and so what can we do to streamline the programs in a way that make them work better for small business?

Chair LANDRIEU. Anybody. Jere.

Mr. GLOVER. Well, Senators Landrieu and Shaheen, I want to commend you folks for drawing attention to a concern. Your staff and armed services staff met with DCAA. That agency in particular was having trouble being consistent with itself.

Things small businesses had done two or three years ago that were perfectly acceptable now are not, and so your staff had a meeting with them. SBTC has had five meetings with them now, SBDC has, and I am pleased to report that DCAA is recognizing that they should not be applying the same standard to a small business that they do to Boeing.

They should not be doing the same kind of auditing, the same kind of concerns on small business that they do with big companies. DCAA has 1,000 new auditors to train. This is a success story.

Senators, you focused the attention on them. SBTC has met with the head of DCAA five times, explaining the problems. They are working with us. Hopefully, we are going to see some real positive results coming out of that.

So, thank you Senators Landrieu and Shaheen for drawing the attention. Thank you for having your staffs and Armed Services staff meet with DCAA. I am pleased to say at this stage we have had five meetings and they are very promising.

Chair LANDRIEU. Okay. Senator, another question?

Senator SHAHEEN. No.

Chair LANDRIEU. Do you want to comment?

Ms. RAGHAVAN. I was just actually going to say that simplification is a very important part and all of us have been looking at it—at reauthorization.

And one of the things from doing the Interagency Policy Committee reports and working together is that we have decided to have working groups start off in the new year to look at some of the other aspects, and one of them is looking at simplification and how do we actually get to more companies and make it easier for them and is it using technology that we already have such as using things that make it just easier to read a solicitation or just having at one place and really looking at that and all the agencies have been great on coming on board and working on these groups to make sure that we do make it easier for small businesses to participate and actually become successful.

Chair LANDRIEU. Okay. We have about 10 or 15 minutes left. We are going to end our meeting a little bit shorter than 4:00. But let me call your attention to the graph which you can see are in Mardi Gras colors. We are in great anticipation of Mardi Gras celebrations soon in Louisiana and other places, other lucky places.

You all can see that the green states are the states that receive the most number of awards. That would be Washington State, California on the West Coast, New York, Massachusetts, Virginia, North Carolina on the East Coast, Texas, South.

Then, of course, the yellow are the middle 16 states, and then the bottom 18 are in the purple which would be unfortunately Louisiana, Mississippi, South Carolina, West Virginia, four of our poorest states in the union, and then up towards the north central part of our country.

I want to ask each of you representing a department or agency here. What are you doing to meet the new goals of our reauthorization which were to reach out more aggressively to some of these states? And whoever wants to start with what you have done or what you are planning to do would be very helpful.

Go ahead, Manny.

Mr. OLIVER. Yes, I think that there are a couple of things we have done and one thing that we are planning to do with regard to outreach. In terms of what we have done, I think Pravina mentioned webinars before. Starting in 2012, we implemented webinar-based outreach; and over the last two years, we have reached almost 3,000 potential applicants through that program. This is much greater than the number of people we meet through National SBIR Conferences.

Applicants from every state in addition to D.C. and Puerto Rico have attended those webinars. So, we are getting to those underrepresented states. For how DOE defines underrepresented states, about 30 percent of the webinar participants have come from those states. So, webinars are a much more cost-effective way to do outreach, and we align them with our solicitations.

When you go out and do outreach, if you do not have a topic ready for somebody to apply to, it just goes to the back of the mind and then they forget about it. So, we time our webinars to occur when we release topics. We get our program managers in front of applicants to tell them what they are looking for in terms of technology and try to make it a much more personal process even though it is still a webinar. We have found that to be very successful.

For particular states, we have also reached out to the SBDCs, the Small Business Development Centers, and also other organizations. For DOE, a lot of the clean tech organizations exist in some of these states and we have gone out to those states to do personal visits and talk to those communities. Now, we have not visited all the underrepresented states but we are working our way through the list.

Finally, what we are planning to do for this year with the administrative funds is to implement a Phase Zero assistance program similar to that in Kentucky. That program is focused on applicants from Kentucky but we would like to include all of the underrepresented groups. These include the minority-owned businesses, woman-owned small businesses, and especially first-time applicants to government R&D.

Chair LANDRIEU. All right. That is at the Department of Energy. Are there any other departments that want to speak up about what they are doing or planning to do?

Go ahead, Mr. Portnoy.

Mr. PORTNOY. Thank you. So, at the NIH, we have been doing many of the similar things; and in fact, I would say also we are and will be coordinating with SBA on both webinars and on more or less an outreach plan across all agencies.

But we have also been working with our IDeA program, the Institutional Development Award program which represents within NIH the 23 states plus D.C. and Puerto Rico which are underrepresented in NIH funding and coordinating with that program to present at their regional meetings in the purple states across the country.

In addition, we held our large annual conference this past year a few months ago in Sioux Falls, South Dakota, a purposeful attempt to hit both geographically regions of the country we do not get to and also to a place where we do not have a lot of awards.

The conference was one week after the shutdown so we lost attendees but we did manage to get all of us out there and we did have over 370 plus attendees. Of course, quite a number from South Dakota, over 100, and other various places.

Chair LANDRIEU. That is a very good strategy too, holding your conferences in the purple states to just give them more exposure. That is a good idea.

Mr. PORTNOY. Thank you.

Chair LANDRIEU. Homeland Security.

Ms. SOBOLEWSKI. Sure. Thank you, Senator.

Along with Manny from DOE and Matt, we are doing very similar things with webinars. We reach out to several women-owned small business organizations and try to leverage some of that and some of the socially and economically disadvantaged.

We go out and speak or do webinars or webcasts to any organization that reaches out to us including states.

What is more puzzling to us in some of those purple states because I firmly believe you can send me to, I will not pick one but any one that does not typically do Homeland Security-type of technologies and we would not get one proposal.

But what is puzzling to us are states like Ohio or Florida or Idaho that we know have technologies that are as strong as in some of these other agencies, and for some reason they are submitting proposals to us but they are not being successful.

And so, we are trying to scratch our heads and figure out how can we communicate our needs better so that they have higher success rates along that way too.

So, we reach out to underrepresented groups and in states as well but also those states that we think should be having more success with DHS but for whatever the reason are not.

Chair LANDRIEU. Okay. Dr. Jain.

Mr. JAIN. Madam, as I was indicating earlier, 2006 was the last year when federal agencies really were underwriting the National SBIR Conference. NSF used to underwrite the national conference.

After that year, holding the National SBIR Conference fell upon states. States do not have resources to hold these conferences. They require a big commitment: financial and personal. Very few states can make these commitments. Certainly not those states that are in purple and even in yellow on the map. They do not really have enough manpower or resources.

Yes, agencies have been doing their own conferences. For example, Kentucky hosted the annual NIH conference in 2012 but I know did not get any financial support from NIH. It is hard to come up with a program that can be supported financially.

You make commitments for hotels, you make commitments for speakers and for other things. For the last two years or beginning this year (2013), the national SBIR conference is being held here in Washington, D.C., thanks to the leadership of John Williams, who has been named the SBIR person of the year. He has taken the lead to coordinate the national SBIR conference also in 2014.

But for a small business person to come to D.C. for four days, is nearly impossible. There are a lot of travel costs for him or for her.

I think we need to bring back the conferences in the fall and the spring. These can be held at different geographical locations, and I think you will see a lot more businesses will come.

Outreach has taken a hit. Yes, the SBIR funding level has gone up. The SBIR/STTR program reauthorization is now there but I think that outreach has been overlooked. That part has to be taken up by all the agencies.

I agree that webinars are good and have a place, but they are not the alternative for in person contact at national conferences. I know what happens in Kentucky and how we have been successful. We meet with people one on one, hold their hands, and tell them their ideas can work.

If there is a high risk, Federal agencies will take that risk for you but you need to develop your proposal. We teach them how to do this. We bring them on board.

They do not listen to me anymore because I repeat things like a broken record. But they will listen to the federal agencies because they know that they control the purse. That is where the money is coming from.

Yes, we got support from the governor and the legislators in Kentucky. We have a Kentucky Matching Funds Program that is supporting our businesses but first they have to win the federal SBIR/STTR program before they can apply for that. That is number one. So, federal agency ownership is missing here for the national conference.

The second one is the SWIFT tours that we used to have at one time. There was a bus tour that program managers used to take to go to specific geographical locations. A couple of program administrators will board on the bus and they would be in one city today, another the next morning. The tours brought managers together but at the same time they used to cover the area that otherwise would not be covered through the National SBIR Conferences. By holding national conferences in a city with good airline connections and with big hotels you miss other geographical areas.

Chair LANDRIEU. Those are excellent points because we really have to make this a national program, all 50 states, all communities, urban, suburban, rural, minority, and women; and that is a big focus on the leadership of this Committee.

Mr. JAIN. One more minor point if I can add it here.

Chair LANDRIEU. Yes, go ahead, one more and then we are going to get Dr. Wessner.

Mr. JAIN. The FAST program that we were fortunate to get but it is just a $2 million program covering only 20 states. As you are showing there, there are many more states that need help, particularly for businesses in rural areas, the women-owned businesses, and other targeted businesses.

Every state needs money. My state may contribute some money if we get federal money. We need to increase the FAST funding level to cover more states, not just 20. This program is for every state.

Thank you, ma'am.

Chair LANDRIEU. Thank you.

Dr. Wessner.

Mr. WESSNER. Thank you, Madam Chairman.

I would just like to elaborate quickly. It is not only a geographical challenge but we have a volume coming out from our meeting last February on minorities and women outreach.

And we have a growing cohort of women engineers, particularly in the biomedical space, and we do not seem to be able to capitalize on that. I mean a part of the problem seems to be you may be familiar with that joke about, particularly these days, about the old guy who keeps praying every night to win the lottery; and finally there is a flash of light and a request for a little help, buy a ticket.

Women, if they are going to win the awards, have to apply; and that seems to be where one of the problems is. So, we need to have a targeted outreach both in geographically disadvantaged areas. But even in some of the leading schools, we are simply not getting the applicants we need. I think with modest sums, we could address that.

Lastly, could I just invite both of you Senators and your staff and my colleagues here, on February 5 we are organizing a meeting at the National Academies on the SBIR/STTR and the commercialization of university research where we want to highlight the crucial role this program plays in moving research from the university and into the market.

Chair LANDRIEU. Thank you.

Mr. WESSNER. We would be deeply flattered if either of you could join us.

Chair LANDRIEU. Thank you. I would love to. I will mark it on my calendar now. So will Senator Shaheen, and we will see if we can be there. We will try to get other members of our Committee.

I think this is a really important subject for the whole country, not just this program but the ramifications of research and development and commercialization for the future economy of our Nation and in keeping us competitive with the rest of the world.

Now, Mr. Rusco, you have not said anything.

Dr. Savoie, you have not added anything. I do not want to close this meeting without giving you a chance. Did you want to add anything from your perspective on any of the things that we have mentioned?

Mr. RUSCO. Thank you. As you know, GAO is performing oversight of this program and we are nibbling on the edges of it because the program essentially is achieving many of its goals. We have reported on that over the years.

There are some areas that we think could be improved, and I would like to just name a couple right now. There is some confusion in some agencies as to how to calculate the required spending, and only three of 11 agencies over a six-year period from 2006 through 2011 actually achieved the full spending of their requirements.

Some of the reasons we got when we asked the agencies this was that they were saying, well, we average it over two years. Well, that is not what the law says. It is a yearly thing.

Others say, well, you know, as a program manager I am told to spend this amount and they think of it as what they are told to spend, a maximum, not as a minimum.

It is a cultural issue. I can see their point. If you are a program manager and you are told to spend $3 million or $30 million, you are not going to go back to your boss and say I spent $35 million, give me a raise.

So, there are some issues there that are not at the program level, that are at the agency level and they need to be addressed.

Secondly, and I think this maybe ties in to the outreach and as well as measuring the effects of the program and the benefits of the program.

SBIR.com needs some work. There are still many, many areas where you have data that are inconsistently input or missing data about awards or types of recipients and/or commercialization.

These things have been problems for the program for many, many years and I think it would help to have a better database that would allow people to act on that.

Chair LANDRIEU. Who is responsible for that? Which agency? Is that Small Business?

Ms. RAGHAVAN. [Indicating.]

[Laughter.]

Chair LANDRIEU. There she goes. All right. But thank you and we will get your full report.

Bobby Savoie. Dr. Savoie.

Mr. SAVOIE. Well, I did not say much because most of the conversation was focused on Phase I or even Phase II SBIRs. I would like to focus more on Phase III.

We did receive a Phase I SBIR from the Department of Homeland Security to develop an open source common operating picture because post-Katrina many of the agencies were not able to speak to one another or exchange information.

So, we developed a geospatial information system that allowed information on a geospatial level to be exchanged between agencies.

As you mentioned, the Department of Homeland Security is not in a position to really fund a lot of Phase III grants. However, we were able to obtain a Phase III SBIR grant from the Navy to tie in their METOC, meteorological and oceanographic data, which we developed for the Navy and tied that into our Opencop program and then were able to provide that information to not just the Navy but multiple other entities.

That is now led—we also, I should say, used that same program to tie together a number of very different geospatial entities, or asset lists would be the best way to describe it, during the BP oil spill.

The reason I bring all of that up is that has now led to a joint venture that we are working with a small company to tie in weather data with a geospatial system to look at the impact of, say, a hurricane, the damage from flood versus wind. It is now a requirement to determine that to a certain degree of certainty which is not possible without some additional information.

So, we are currently working on that, and I bring that up because I am very familiar with the Fraunhofer system in Germany. We do not have any such thing here unfortunately.

However, I have found that the Phase III SBIRs do provide small businesses with the ability to take technology to the next level and possibly even approximate some of what Fraunhofer system does in Germany. It does not get us anywhere near as good as the Fraunhofer system is but it is a good start.

The issue here is that numerous people in the different agencies do not really know what a Phase III SBIR is all about. So when we go forth and talk to different program managers and they love the technology and they love the way we can pull data together, but they do not realize that they can use the Phase III SBIR to issue a contract for that work. They may have the money and the need but then we get stuck.

Again, I am not trying to propose that as a replacement for a Fraunhofer-type system but it is something that would be very helpful to larger small businesses that know what the "B" stands for and know how to take something to market but would need that little extra push. It is also something that could be of great value to other agencies where we are sharing information that we developed for the Department of Homeland Security with the Department of Defense, in this case the Navy, and the Army is very interested in the same thing for its helicopter program.

Eighty percent of the crashes in Afghanistan are due to non-enemy fire. They are due to lack of power via the changes in weather, and that is something that the system we have would address.

So, my only, and again I did not bring that up because we were primarily focused on Phase I and Phase II, but if we focus more on Phase III, I think we can generate more of a commercial output.

Chair LANDRIEU. Thanks. And Senator Shaheen wants to follow up on that, and this may be our last word.

Senator SHAHEEN. Well, thank you. Mr. Gudger, this is actually a question for DOD and it has to do with the Phase III awards because Section 5122 of the Defense Authorization Act in 2012 requires the Secretary of Defense to establish goals and incentives for DOD and its large prime contractors to increase the number of Phase III SBIR awards to small businesses.

It is my understanding that DOD to date has not put in place the incentives and goals that are required by that legislation. Do you know if that is the case and what is being done to address that?

Mr. GUDGER. First, that is a great question but that is not the case. In 2012, the Secretary of Defense added in his defense planning guidance specific language that goes out. This is a classified document but it goes out to the Chairman of the Joint Chiefs, the directors of field agencies and activities and the military departments.

It specifically called out the development of our goals and incentives for SBIR and STTR, and we further implemented that here——

Senator SHAHEEN. For Phase III?

Mr. GUDGER. For all phases but Phase III in particular.

And we further implemented that guidance with our DOD 5002, just released here recently, where we were very specific not only to develop goals and incentives for industry but we also are working with our PEOs, our program executive offices, where program managers sit that oversee these Phase IIIs. It is very deliberate, very clear language and it is going well.

Senator SHAHEEN. Good. Well, I am very pleased to hear that because, as you know, that could make a difference for thousands of small businesses across the country.

Mr. GUDGER. It is a quantum leap in the right direction.

Senator SHAHEEN. Good. That is great.

Chair LANDRIEU. Okay. I just am going to conclude with, just to stay on this Phase III, because in our legislation there was a requirement for all of the agencies to provide some accountability on this subject.

I sent a letter in March regarding the commercialization section of the law to get an update from all of you on how you have established your Phase III goals, are the acquisition agencies complying with the SBIR/STTR preference and sole source, you know, requirements.

So, we will get some more information about that. I am going to get a brief with the members of the Committee that want to from our GAO specifics about weaknesses in the program that we have to strengthen, and we will follow up very specifically on all of the very good suggestions that you all made today on making sure that we are really squeezing every benefit we can out of this federal program but recognizing that universities—and let me just say this before we close—are funded primarily by the states.

You know, the United States government does not have a line item for universities. There are line items in every state budget for the University of New Hampshire, the University LSU, the university here, and we are seeing some very tough budget cuts coming down from the states to the universities.

I want to say we have seen it unfortunately more than I would like to in the State of Louisiana, which is really affecting the bottom line here because the Federal Government is a partner. State governments have to be a partner, and then local, you know, economic development, Chamber of Commerce, local incubators, accelerators that are sometimes and very often at the local or county level, not just at the state level, are a big part of creating this ecosystem.

While we may not be as organized as Germany is right now on this and we may not even want to organize ourselves the way they do, it is important that we recognize the trend lines that are worrisome, Dr. Wessner in this regard for the future economic growth of this country.

Our Committee has a certain role to play. We are, of course, not the only Committee but I think we have a particularly important role to play in this space.

So, I really thank Senator Shaheen. She has just been a terrific partner and many of the other members have expressed a great interest in this program.

So, keep them briefed as you all go about your business and we will follow up with you all sometime in the months ahead to see where we are headed.

All right. Thank you all so much and the meeting is adjourned.

[Whereupon, at 3:42 p.m., the Committee was adjourned.]

APPENDIX MATERIAL SUBMITTED

Statement of Senator Edward J. Markey
Senate Small Business and Entrepreneurship Committee
Roundtable on the SBIR Program
December 18, 2013

First, I would like to welcome David Green, President and CEO of Physical Sciences in Andover, Massachusetts, to this SBIR roundtable. Physical Sciences has used the SBIR program to develop advanced technologies for aerospace, chemical, defense, energy, environmental, manufacturing and medical applications. The company's core technologies have been developed with more than 30 SBIR awards worth more than $15 million.

America's innovation, competitiveness and job creation depend upon businesses,

especially small businesses, developing new ways to foster innovative and cutting edge research and then commercializing their technological innovations. To meet this challenge, our nation's small businesses turn to the Small Business Innovative Research Program, the most successful research and development program in our nation's history.

The SBIR program promotes technological innovation and economic growth through the investment of federal research funds in small businesses. This funding allows small businesses to explore their technological potential and profit from its

commercialization. It stimulates high-tech innovation it meets its specific research and development needs. Since 1982, the program has played a critical role in the emergence of thousands of companies like Qualcomm, Symantec, and many others.

My state, which I call the Brain State – not just the Bay State – is among the world's leading areas for in research and innovation. The SBIR and STTR programs have been the lifeblood for small business research in Massachusetts. Since the SBIR program began, Massachusetts companies have received more than 20,000 research

grants worth more than $5 billion. In 2011, Massachusetts received twice as much funding per capita than any other state and companies have created thousands of jobs as a result.

This roundtable will review the implementation of the SBIR/STTR Reauthorization Act of 2011 to see if the changes are delivering the benefits to small businesses and the taxpayers as intended. Back in 2011, the future of the SBIR program was in doubt. After fourteen short-term extensions of the SBIR program there was a growing uncertainty about the

future of this program, especially by the small businesses that depend upon these programs to help create jobs.

Chairman Landrieu, I was so proud to work with you and Congresswoman Niki Tsongas when I was a member of the House of Representatives to lead the effort enact a six-year reauthorization of the SBIR and STTR program. Together, we developed strong, bipartisan support in to Congress preserve and provide stability for these critical programs

As a result of our efforts, more money from these programs will go directly to some of America's most promising small research and development companies. This law is helping to drive innovation, strengthen U.S. competitiveness, and create jobs. It has increased allocations and award levels, shortened timelines for award decisions, and increased the focus on commercializing innovative products that will create jobs. Today, the Small Business Innovation Research and Small Business Technology Transfer programs currently invest about $3 billion each year in small research and development companies.

I look forward to hearing from the witnesses today about the progress that the SBIR and STTR programs have made since the enactment of the reauthorization bill. I hope we can learn more about what the federal government can do to help small businesses get access to the research funding they need to compete in the global economy.

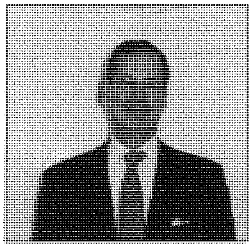
Dr. Robert A. "Bobby" Savoie currently serves as the Chief Executive Officer of Geocent, LLC, an Information Technology (IT), Engineering and Science company headquartered in New Orleans, Louisiana. Geocent was formed in August of 2008 to acquire and integrate several related firms in the fields of IT, engineering services, and defense and aerospace manufacturing support. Geocent is working with government and commercial clients throughout the United States. Since its formation in 2008, Geocent has grown more than 400% and added over 200 IT and engineering professionals. Some of Dr. Savoie's recent honors include:

- University of New Orleans Distinguish Alumnus of the Year, 2013/2014
- NASA's Distinguished Public Service Medal, 2011
- Laureate of the Junior Achievement Hall of Fame, 2011
- Eward Best Application of Technology, 2010
- Eward Growth Company of the Year President, 2009

Dr. Savoie recently received an "honorable discharge" after serving three terms (nine years) as a member of the National World War II Museum Board of Trustees. He currently serves on the Boards of Loyola University, the UNO Foundation, Greater New Orleans, Inc., New Orleans Business Council and was recently appointed by Governor Bobby Jindal to represent the State of Louisiana on the Aerospace Alliance Board.

In 1986, Dr. Savoie founded Integrated Resources Group (IRG) and served as CEO until 1997 when IRG merged with Science & Engineering Associates (SEA). Dr. Savoie became President and then Chief Executive Officer of SEA and guided the company through an extraordinary growth period during which the company transitioned from a boutique consulting firm into a $124 million per year technology corporation with four subsidiaries and 14 offices in 10 states nationwide. Under Dr. Savoie's leadership, SEA's revenue grew 700% in five years. In August 2004, after a 28 year career as an engineer and corporate executive, Dr. Savoie returned to school to complete his Ph.D. and devote more time to civic and humanitarian activities. In the spring of 2009, Dr. Savoie received his Ph.D. in Engineering and Applied Sciences with a specialization in Engineering Management and Systems Engineering from the University of New Orleans. He previously earned an MBA from Loyola University ('81) and a Bachelor of Science degree in Industrial Engineering from Louisiana State University ('80).

While serving as CEO of successively larger companies, Dr. Savoie continued his work as an engineer and consultant, primarily in nuclear power and defense. Most recently this has expanded to include NASA's next-generation Space Launch System and numerous economic development activities. Dr. Savoie previously served as the general manager of a 25-company management and integration contractor team for the Navy's Information Technology Center. Dr. Savoie has served as a principal consultant to the U.S. Department of Energy Office of Nuclear Energy, the Office of Civilian Radioactive Waste Management, the DOE Hanford Facility, the Waste Isolation Pilot Plant, the Idaho National Engineering Laboratory, Lawrence Livermore National Laboratories, Sandia National Laboratories, Argonne National Laboratory, and Oak Ridge National Laboratory. Dr. Savoie has facilitated the resolution of issues ranging from the reengineering of military information systems and NASA space systems to medical isotope production, nuclear regulation, and non-lethal lasers.



CHARLES W. WESSNER
Director, Technology, Innovation, and Entrepreneurship
U.S. National Academies

Dr. Charles Wessner is a distinguished scholar and a powerful advocate of effective innovation policies. As the founder and Director of the National Academy of Sciences Technology, Innovation, and Entrepreneurship Program, he is recognized nationally and internationally for his expertise on innovation policy, including public-private partnerships, entrepreneurship, early-stage financing for new firms, and the special needs and benefits of high-technology industry. He works closely with the U.S. Congress, the White House, and major agencies and departments of the U.S. government. As an outgrowth of his work with the U.S. government, he advises technology agencies, government ministries, and the Prime Ministers of countries in Europe and Asia. In addition, he cooperates closely with international organizations and lectures at major universities in the U.S. and abroad. Drawing on his experience with national and international policymaking, Dr. Wessner provides pragmatic advice on questions of innovation policy, including support for basic science, applied research, the role of the 21st Century University, and principles of cooperation between universities and industry. Reflecting his commitment to international cooperation, he was recently named an Officer of the Order of Merit by the President of France.

Recent Policy Briefings

Reflecting the strong global interest in innovation and Dr. Wessner's policy expertise, he is frequently asked to address issues of shared policy interest with foreign governments, universities, and research institutes, often briefing government ministers and senior officials. He frequently gives keynote addresses and presentations to international organizations, such as UNCTAD, the U.N. Economic Commissions for Europe and for Latin America, the World Bank, the Inter-American Development Bank, the OECD, and the European Investment Bank, as well as the European Commission. In Washington, he works closely with Congressional staff, the White House, and major departments and agencies in the Executive Branch on the formulation of effective innovation policy.

Advisory Roles

Dr. Wessner has served as an advisor to the 30-nation OECD Committee on Science and Technology Policy, as a member of the Canadian Council of Academies' Expert Committee on Science and Technology in Canada, as an advisor to the National Technology agencies of Finland (TEKES) and of Sweden (VINNOVA), and as a member of the Norwegian Technology Forum. He was nominated by the U.S. Government as an Innovation Expert for UNCTAD and advises WIPO on its new innovation initiative. He was also recently named Deputy Chairman of the Innovation Advisors to the UNECE. He has participated in the Prime Minister of Taiwan's Science and Technology Advisory Group and as a member of the Lithuanian Prime Minister's International Innovation Advisory Committee, a member of the Board of the National Association of Seed and Venture Funds, and the Board of the Vilnius Sunrise Valley S&T Park. He has served as an Innovation Advisor to the Prime Minister and to the Minister of Research and Education of the Czech Republic. The National Academies' Technology, Innovation, and Entrepreneurship program has ongoing relationships with officials in countries as diverse as India, China, Taiwan, Vietnam, Mexico, France, Sweden, Finland, the Czech Republic, Slovakia, Hungary, and Saudi Arabia.

The overarching goal of his work is to develop a better understanding of how we can bring new technologies forward to address global challenges in health, climate, energy, water, infrastructure, and security.

JERE W. GLOVER
Executive Director
Small Business Technology Council

Jere is an attorney with the Brand Law Group in Washington, DC representing small businesses on SBIR and False Claims Act related issues. Jere Glover also serves as the Executive Director of the Small Business Technology Council (SBTC), a group of small high tech companies most of who are involved in the Small Business Innovation Research (SBIR) program. In 2006 Jere was selected as SBIR Man of the Year.

Jere's experience with the SBIR is extensive, as he is one of the fathers of the program. As counsel to the House Small Business Committee, he directed an extensive set of hearings on small business and innovation that laid the ground work for the SBIR in 1978. He was also the lead-off witness before Congress in 1982 when the SBIR was first proposed. Throughout the laws existence, he has been one of its most active supporters. Jere was also on the board and the investment committee of the Telecommunications Development Fund. Jere also was counsel to the Senate Small Business and Entrepreneurship Committee in 2001 and work on STTR Reauthorization.

Jere has a unique blend of private and public sector experience. A former CEO and attorney in private practice, Jere also spent many years in government service, most of it focused on minimizing the regulatory burden on business. For more than six years, he was the federal government's lead defender of small businesses in the regulatory process. In that capacity, he systematically analyzed hundreds of regulatory actions by federal agencies, identifying flaws and shortcomings in many of those actions and helping the affected businesses seek relief. Information developed by Jere's team led to rollbacks of dozens of regulations and formed the basis of a number of successful lawsuits. The work that Jere directed saved the private sector more than $20 billion in annual regulatory costs, and it cut a wide swath across many types of businesses – including mining, fishing, telecommunications, transportation, financial services and agriculture. He has testified before Congress over 30 times and appeared in over 100 agency proceedings, including rulemakings, adjudications, enforcement proceedings and others.

In the private sector, Jere previously was the CEO or principal of a biotech company, a medical technology company and a group of medical clinics. Since re-entering the private sector last year, he has become the managing director of another medical technology company and counsel to a variety of SBIR and technology companies.

Jere obtained his undergraduate and law degrees from the University of Memphis and an L.L.M. in Administrative Law and Economic Regulation from George Washington University.

Jere can be reached at 202-662-9700 or Jereglover@brandlawgroup.com. His address is Brand Law Group, 923 Fifteenth St. NW, Washington, DC 20005

BIO for Frank Rusco

Frank Rusco is a Director in GAO's Natural Resources and Environment team, leading work on a broad spectrum of energy and science issues, including federal oil and gas management; DOE's energy, science, and loan programs; intellectual property rights issues; NRC oversight; and government-wide science programs and activities. Mr. Rusco holds both a master's degree and doctorate in economics from the University of Washington in Seattle.

Mahendra K. Jain, Ph.D.

Dr. Mahendra Jain is the Senior Vice President of the Kentucky Science and Technology Corporation (KSTC) and the founding Executive Director of the Kentucky Science and Engineering Foundation (KSEF) in Lexington, Kentucky. In his present position, Dr. Jain is fostering partnerships between academic, industrial, and state institutions in building and expanding Kentucky's scientific and engineering capacity to attract external research funds from all sources, to help advance research ideas and to build a pipeline of technologies. He is involved in making R&D investments in novel ideas for innovation and commercialization through various state-funded programs. Dr. Jain has proactively pursued the growth of the Federal SBIR and STTR Programs in the state through outreach and state-funded assistance programs such as the Kentucky SBIR-STTR Matching Funds Program. In addition, Dr. Jain was been the recipient of the Tibbetts Award in 2006.

Before joining KSTC, Dr. Jain worked at several universities in the USA, Europe and India. He also worked at MBI International, a biotechnology R&D organization in Lansing, Michigan where he was involved in the technology development and transfer. Dr. Jain is a Fellow of the American Academy of Microbiology (AAM Fellow), a Fellow of AMI (FAMI), a member of Royal Society of Chemistry, and has served as a consultant to the United Nations Development Program, Food and Agriculture Organization and the Organization of American States. After receiving his Ph.D. in microbiology in 1972, Dr. Jain received and managed research grants and contracts in several million dollars from federal, state, and industrial sources. He is the author of 11 United States patents and one Canadian patent, as well as over 120 research papers, articles, and book chapters.

Christopher S. Rinaldi, P.E.

Program Administrator
Small Business Innovation Research (SBIR) and
Small Business Technology Transfer (STTR) Program
U.S. Department of Defense

Mr. Rinaldi is the Program Administrator for the Department of Defense (DoD) Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Program. He is responsible for policy and execution of an annual $1.4B research program designed to provide small high-tech businesses the opportunity to propose innovative research and development solutions to critical war-fighter needs.

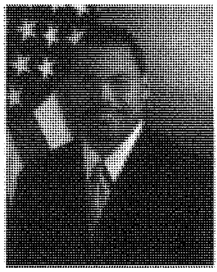
Before joining DoD, Mr. Rinaldi served as the Program Manager for the Army SBIR program. There he directed and managed an approximately $300M annual program and a unique Venture Capital (VC) arrangement for the Army SBIR Commercialization Pilot Program (CPP).

Mr Rinaldi has held many critical positions in the Army throughout his career. His experience spans all phases of product development to include technology, acquisition and logistics. He was a key leader in the creation of the US Army Research, Development and Engineering Command (RDECOM) and the Army's Life Cycle Management Centers (LCMCs).

Mr Rinaldi has broad experience in a variety of warfare products to include armament, vehicles, communications, electronics, sensors, rotorcraft, missiles, soldier, biological and chemical systems, training and simulation. He has in-depth technical knowledge in weapons, munitions, fire control, heat transfer and advanced composites. He holds multiple patents and authored numerous publications in product development of weapon systems.

Mr. Rinaldi has received numerous honors and awards for his professional accomplishments including the Secretary of Defense Team Excellence Award, the US Army Research, Development and Engineering Award, and the US Army Acquisition Streamlining Excellence Award.

Mr. Rinaldi has a Bachelor of Science in Mechanical Engineering from Manhattan College and a Master of Science in Engineering Management from Rensslaer Polytechnic Institute. He is also a licensed Professional Engineer (PE).



Mr. André Gudger
Department of Defense
Director, Office of Small Business Programs

André J. Gudger currently serves in the Obama administration as the Director of the Department of Defense (DoD) Office of Small Business Programs (OSBP) and is the principle advisor to the Secretary of Defense on all small business matters. As Director, Mr. Gudger oversees more than $120 billion of annual awards to small business. In addition, he assists the Joint Chiefs of Staff, Secretaries of Military Departments, Under Secretaries of Defense, Directors of Defense Agencies and Major Commands in including small business planning into the readiness of the Department. These efforts aim to modernize and restore the nation's industrial commons through focusing on advanced manufacturing, applied research, and innovative programs that align small business capabilities with the DoD's current and future needs.

In addition to his role as OSBP Director, Mr. Gudger also serves as the DoD lead for the White House Business Council, Business USA, the National Export Initiative, the American Supply Chain Working Group, Reinvest in America, the SBA Regional Clusters Initiative, the i6 Challenge and the Manufacturing Extension Partnership. He also serves as a co-lead of the Interagency Task Force on Veteran's Employment, the Interagency Task Force on Veterans Small Business Development, the White House Asian American and Pacific Islander Initiative, the GSA Task Force on Procurement Sustainability and an advisor to DoD's Strategic Sourcing Board. Of these initiatives Mr. Gudger is most proud of his support for our Veterans. As a co-lead for the DoD-VA Taskforce on Veteran's Employment Mr. Gudger developed the first entrepreneurship curriculum for separating service members who are interested in starting their own business, which is now integrated into the Transition Assistance Program. He also developed the first ever Veterans Entrepreneurship Portal on BusinessUSA.gov, which provides a single portal to government resources for veteran entrepreneurs. Additionally, under Mr. Gudger's leadership DoD increased small business prime contracting awards to service disabled veteran owned small businesses by $1.1 billion since 2010. This led him to be recognized by the Veteran Community as a leader in government contracting reform and honored by the Vietnam Veterans of America for Leadership in service disable veterans and wounded warriors support.

Prior to his appointment, Mr. Gudger had a distinguished career serving the defense, national intelligence, and investment banking industries. He worked on key technical and financial initiatives with the Federal Deposit Insurance Corporation, Union Bank of Switzerland, and AT&T. As the first Director of Small Business from industry Mr. Gudger served as Chairman and Chief Executive Officer of Solvern Innovations, a corporate entity that provided acquisition support and cyber solutions through training, unique research and sponsored product innovation. Solvern Innovations was acquired by TeleCommunication Systems Inc.'s in 2009 where Mr. Gudger served as the Senior Vice President of TeleCommunication Systems Cyber Security Group.

Mr. Gudger received his Bachelor's of Science degree from the University of Maryland Baltimore County and performed his Master's in Business Administration studies at the University of North Carolina Chapel Hill, Chinese University of Hong Kong, Erasmus University in Rotterdam, Tec de Monterrey in Mexico, FundacaoVargus University in Brazil, and Gdansk University in Poland.

Biography of Manny Oliver

Manny Oliver has been serving as the Director of the SBIR/STTR Programs Office within the Department of Energy since 2010. Prior to joining DOE, Manny spent 16 years leading applied R&D and technology commercialization efforts at Motorola. He performed R&D in Li ion polymer batteries, biochips, haptics, wearable user interfaces and mobile surveillance and holds 16 patents. He previously held positions as an Assistant Professor in the Department of Materials Science and Engineering at MIT and as a Member of Technical Staff at AT&T Bell Laboratories. He received both his B.S. and Ph.D. degrees in Materials Science from MIT.

Biography

Dr. Matthew Portnoy is the NIH SBIR/STTR Program Coordinator and Director, Division of Special Programs, Office of Extramural Programs, Office of Extramural Research, Office of the Director, NIH. In this role, he manages the SBIR/STTR programs at NIH and coordinates the 24 NIH Institutes/Centers that receive funding for the programs. Additionally, as the Director, Division of Special Programs, Dr. Portnoy and his staff provide scientific program management and oversight of the Academic Research Enhancement Award (AREA) Program, and support for conferences and scientific meetings (R13/U13), ensures that NIH extramural staff are trained to meet the ever-changing demands of their job, and communicates funding opportunities and critical information concerning NIH's programs, policies, and procedures to the biomedical research and training community through the NIH Guide for Grants and Contracts.

Dr. Portnoy received his B.S. in molecular and cell biology from Penn State University. He received his Ph.D. in biochemistry and molecular biology from Johns Hopkins University School of Public Health. Matt then joined the Intramural Program of NIH National Human Genome Research Institute as a post-doctoral fellow. Dr. Portnoy made the leap to the extramural side of NIH in 2005 and joined the NIH's National Institute of General Medical Sciences (NIGMS) as a program director. Over his time at NIGMS, he managed R01 grant portfolios in DNA repair, recombination and replication, SBIR/STTR grants, F32 post-doctoral fellowships, cooperative agreements, and R25 education grants. Dr. Portnoy also served as SBIR/STTR program lead for NIGMS for 6 years prior to his current post.

U.S. SMALL BUSINESS ADMINISTRATION
WASHINGTON, DC 20416

Statement of

Pravina Raghavan
U.S. Small Business Administration

Before the

U. S. Senate Committee on Small Business and Entrepreneurship

December 18, 2013

Chair Landrieu, Ranking Member Risch, and distinguished members of the Committee, thank you for the opportunity to participate in today's roundtable on the Small Business Innovation Research (SBIR) and the Small Business Technology Transfer (STTR) programs.

Thanks to the hard work of many on this Committee, a long-term, comprehensive reauthorization for SBIR and STTR was signed into law on January 1, 2012. As you know, this reauthorization provided essential stability to the programs and also made a number of improvements that will allow them to grow and prosper over the coming years. At SBA, we have been working diligently with our sister agencies to implement the law, which has already benefited countless small businesses.

As the agency in charge of policy and oversight guidance for the SBIR and STTR programs, SBA understood from the beginning that a timely and collaborative process to implement the bill would be essential to its overall success.

SBA made it a point of reaching out to SBIR/STTR Program Managers (PMs) for insight and feedback throughout the process. Early on, SBA determined that the best mode of attack in implementing the substantial changes to the programs would be for SBA and PMs to meet bimonthly to (1) update the SBIR and STTR Policy Directives and (2) establish new Size Standard Rules to address the new provisions expanding participation by venture capital/hedge fund, and private equity firms.

As part of the process, and to maintain complete transparency, SBA hosted webinars, participated in a Congressional Roundtable discussion, and published proposed changes to both the Policy Directives and the Size Standard Rules in the Federal Register for public comment.

SBA reviewed the comments and is proud to say that it published the SBIR and STTR Policy Directives in the Federal Register in a timely manner on August 6, 2012. The Size Standard Rules were published on January 28, 2013.

Specific guidelines for operationalizing the Reauthorization were incorporated in the Policy Directives and Size Rules outlined above, including:

- award size increases for both SBIR/STTR
- new standards for agency waiver requests above the award guidelines
- standards for new pilot allowing for the use of funds for Administrative costs
- new transitional and commercialization benchmark framework
- standards for the new Civilian Commercialization Readiness Pilot Program
- rules for eligibility of firms with substantial investment from multiple venture capital, hedge funds, or private equity firms

A few of the provisions (e.g. actual listing of benchmarks, new benchmark language) have been included in a more recent update to the SBIR/STTR Policy Directives which is currently pending.

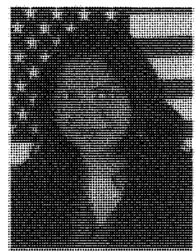
Another major emphasis for SBA has been improving our data collection across agencies for the programs and having better systems for accessing and utilizing that data. SBA has taken a number of steps to make this a reality and continues to work with agencies.

Other key provisions that SBA has worked with other agencies to implement include:

- Allocation increases for both the SBIR and STTR programs, gradually increasing the amount of funds that go to both of these programs.
- 3% administrative funding: the reauthorization provided for a pilot program to allow agencies to use up to 3% of their SBIR funding to help move agency performance forward in several areas (e.g. Outreach, Commercialization, Streamlining, fraud reduction, etc.). To participate in the pilot, agencies were required to submit plans to SBA for approval (most agencies are participating).
- Increased outreach: Working to achieve this through a number of means, including the 3% administrative funding, FAST grants, and an outreach working group.
- Venture capital participating: Two agencies have "opted in" to allow firms with substantial investment from multiple VC/hedge fund/private equity firms: NIH (HHS) and ARPA-E (DOE).
- Commercialization database: SBA is currently building a database to capture information such as sales, patents and employees for SBIR and STTR awardees which is scheduled to go live in April.

Since the passage of SBIR and STTR reauthorization, SBA has made implementing the bill a top priority. The work is not yet done, and we will continue to with all of the participating agencies to make these programs a continued success.

SBA Office of Investment and Innovation
Deputy Associate Administrator
Pravina Raghavan



Pravina has over 15 years of experience in providing advisory services to businesses in the start-up, growth, expansion and maturity phases of development. In that time, she completed over 100 Mergers and Acquisitions (M&A) transactions and has advised companies on strategy, marketing, sales development, capital raising, mergers and acquisitions, divestures, outsourcing, joint ventures and partnerships, and international development. Pravina is the Deputy Associate Administrator for Office Investment and Innovation.

Pravina was previously the Director, Technology & Innovation for the Small Business Administration (SBA) which was responsible for the Small Business Innovation Research Program (SBIR) and High Growth Entrepreneur initiatives and she was also the District Director for SBA New York District Office which supported over $800 M in small business lending and assisted over 3M small businesses in NYC.

Prior to joining the SBA, Pravina was a Vice President with MTV and BET Networks in Content Distribution and Marketing where she was responsible for contract negotiations and marketing for 23 channels. Previously, she was a small business owner of a strategic advisory firm that assisted companies in their quest for growth. Prior to owning her own business, Pravina was the Business Development Director for Misys PLC, one of the largest banking software companies in the world. She was also an associate at an investment bank, Broadview International, in London. Prior to Broadview, Pravina worked for seven years at AT&T in several finance and management roles, including her last five years as M&A Director for Europe.

Pravina has an MBA in Finance from Seton Hall University and a BS in Finance from The Pennsylvania State University. She has worked in over 15 countries around the world and is familiar with five languages.

Pravina is advisory board member of Seton Hall University - Center of Entrepreneurship and also a member of the International Executive Resource Group (IERG), the Women's Bond Club of New York (WBC), The Penn State Alumni Association, Venture Association of New Jersey (VANJ), Women in Telecommunications and Cable (WICT), and National Association of Minorities in Communications (NAMIC).

Bio for Jenny Houston, Warwick Mills for SBIR Round Table

Jenny Houston is Executive Vice President of Warwick Mills based in New Ipswich, NH, and has worked for the company for 18 years. Warwick Mills engineers and manufactures high-performance materials, with end products including body armor for the police and military, recreational and industrial protective garments, and aerospace materials including the tough material used in the crash landing bags for NASA's successful missions to Mars of Pathfinder, Spirit and Opportunity.

Warwick Mills' facility is the site of the oldest textile facility in New Hampshire, started in the early 1800s. As a small business with over 130 people, it is only through continuous innovation that Warwick remains competitive. The Small Business Innovative Research grants have helped Warwick to gain technological advantage and provide valuable products. Warwick has participated in several SBIR awards with the Navy, Missile Defense, SOCOM and NSF. All of these SBIR grants resulted in progress toward the objectives, and advanced Warwick's competitive technological edge in protective materials. Every technology innovation has its roots in prior advancements, and the SBIR programs Warwick has worked on are building blocks to developing new commercial and military products, and meeting federal research and development needs. Warwick views the SBIR program as a crucial benefit to us as a small business.

Biography of B. David Green Physical Sciences Inc. Andover MA

Dave was educated in the public school system in Philadelphia; graduated Magna cum Laude with a Bachelors of Science degree in Chemistry from the University of Pennsylvania; and then received a Ph.D in Physical Chemistry from MIT. His research involved the spectroscopic detection of trace gases in the environment. The appeal of applied research and excitement and energy of a small business culture led him to join Physical Sciences directly from MIT in 1976. He has held positions of increasing responsibility as he has helped PSI grow over three decades. Dr. Green became President and CEO in 2008. He has published nearly 100 journal articles, over 80 technical reports in several technical fields, and is an author on 5 issued patents.

QUESTIONS FROM CHAIR LANDRIEU

Length of Reauthorization: The most important change of the Reauthorization Act was reauthorizing the program. The Senate wanted permanency originally, and its final version passed with 8 years. The House wanted 2 years. The compromise was 6 years. If the House version had been enacted, the programs would be expiring on expiring Sept. 30, 2014.

Question for All participants – As a business owner, SBIR expert or advocate, or SBIR program manager, would a two-year reauthorization period, with an expiration approaching in September, be good or bad? Please explain why. This is important for informing the next reauthorization.

As the CEO of a technology company I think a two year extension would be better than nothing but not by much. If you break down the process of issuing a SBIR into its major elements it is easy to see that a two year extension will do little good. It takes time for a Federal Agency to determine what type of technology it would like to have tied to the SBIR program. That often involves discussions with industry, both small and large businesses. It may also involve a small business that has developed a "laboratory scale" technology presenting it to an Agency as a potential SBIR topic. This first part of the process can take anywhere from a few months to a year. Once the topics are chosen and approved, the SBIR notice must be published, proposals received and evaluated, and winners chosen. This step can also take anywhere from a few months to a year. Then the research itself must be performed, which is normally a six to nine month endeavor. All totaled the time to complete a Phase I effort and prepare for a Phase II response alone could consume two years from proposing to completion. If those results are positive and of value to the Government, Phase II could easily surpass the two-year window before it could get started, this will become progressively worse as the SBIR topics are released beyond the initial start date of the authorization. As such, a two-year extension would definitely present a challenge for SBIR Phase I actions while crippling or eliminating Phase II activities. Obviously, Phase III would not come into play at all, thereby eliminating on of the key value drivers for the SBIR program. If that is the case, Government entities would have little incentive to put much effort into Phase I SBIRs since they would have no guarantee that even the most positive results could provide any value in the future.

I would strongly urge the Committee to seek at least a six year extension if they wish to continue to gain value from the SBIR program.

QUESTIONS FROM CHAIR LANDRIEU
Answers from Mr. Jere Glover

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A two-year reauthorization period would have been horrible for small business owners. Remember that it took 4 years and over ten continuing resolutions after the last long-term reauthorization expired before the current reauthorization was passed. Additionally, an SBIR Ph I/Ph II cycle in most cases takes longer than 2 years to complete, so we wouldn't be able to properly determine whether or not the changes to the program included in the latest reauthorization have had a positive or negative impact on small businesses.

One of the biggest concerns for small businesses during the 4 years it took to pass a reauthorization bill was the uncertainty it created. Businesses that rely on the SBIR program didn't know whether or not the program would be continued, and even if it was, whether or not it would be drastically changed. Businesses like predictability. They want to know that this program that has worked well for over 30 years will continue to be around so they can have one less variable to worry about. Reducing the reauthorization period to 2 years creates more uncertainty that the program will be continued, which makes it more difficult for business owners to justify and hiring new employees investing in their companies for the future.

Another reason the two year reauthorization wouldn't have worked is that two years after reauthorization, many agencies still haven't implemented a lot of the changes to the SBIR program. DOD only recently announced that they are going to implement goals & incentives to encourage commercialization, as they are required by law to do. Agencies are also required to collect commercialization data from prime contractors, but as far as we can tell, little to nothing has been done.

SBTC has always wholeheartedly agreed with the Senate's original plan to permanently reauthorize the SBIR. As a program with a 30-year track record of success that has garnered near universal praise, we feel the SBIR has moved beyond the need to prove its worth as a program every 6, 8, or even 14 years.

<u>Commercialization Provisions:</u> The law included several provisions designed to increase the transition of technologies developed by small business firms in the SBIR and STTR programs. For example, the law created an SBIR/STTR acquisition preference to try and ensure that Federal agencies and prime contractors give Phase III awards to the small firms that developed the technology through the SBIR and STTR programs. And to provide some accountability if they are doing it, and planning to do it, the law required the agencies and departments to establish goals and reporting requirements on Phase III awards.

Question for Jere Glover -- The commercialization goals are a priority for the small business community, and you and your members have focused on the commercialization improvements of reauthorization. Explain briefly why this is so important to SBIR and STTR firms and the country's investments in research and development.

The SBIR has an outstanding track record in helping small business develop their ideas into innovative new technologies, but companies who have proven their technologies work still have to raise funds to bring their technologies to the marketplace. While there are avenues for private investment, companies often have to prove they are profitable before venture capital gets involved, creating the missing step in the product development ladder, the so-called "valley of death" of seed-stage funding. Venture capital investment in startup and seed-stage companies accounts for less than 1% of all venture capital investments (according to PWC Money Tree), a relatively microscopic amount.

Setting commercialization goals & incentives helps promising seed-stage companies cross this "valley of death" and puts them in a position where they can start generating revenue in the marketplace, which in turn will make them more attractive to private investment. Without these goals, agencies have shown very little interest in follow-on funding for commercialization.

GAO U.S. GOVERNMENT ACCOUNTABILITY OFFICE
441 G St. N.W.
Washington, DC 20548

January 31, 2014

The Honorable Mary L. Landrieu
Chair
Committee on Small Business and Entrepreneurship
United States Senate

Dear Madam Chair:

We appreciate having had the opportunity to appear before your committee on December 18, 2013, for the roundtable discussion on the Small Business Innovation Research and Small Business Technology Transfer programs. Enclosed are GAO's responses to your questions for the record related to our current work and reports issued since the programs' reauthorization. If you or your staff have any questions, please contact me at (202) 512-3841 or ruscof@gao.gov.

Sincerely yours,

Frank Rusco

Frank Rusco
Director, Natural Resources and Environment

Enclosure

GAO Response to Questions for the Record

Senate Committee on Small Business and Entrepreneurship

Roundtable on SBIR/STTR: Measuring the Effectiveness of the Reauthorization Act and Maximizing Research Dollars to America's Small Businesses

December 18, 2013

Response to Questions Submitted by Senator Mary Landrieu

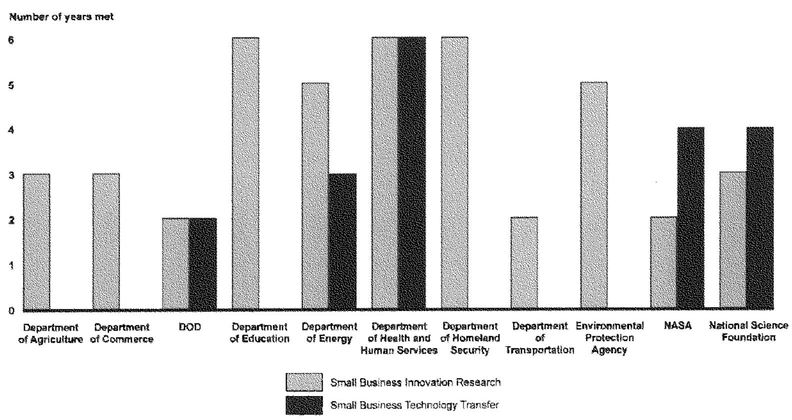
1. **As a business owner, SBIR expert or advocate, or SBIR program manager, would a two-year reauthorization period, with an expiration approaching in September, be good or bad? Please explain why. This is important for informing the next reauthorization.**
We have not conducted the work necessary to answer this question.

2. **The reauthorization Act required the GAO to review the SBIR and STTR budgets of the relevant agencies to see if they were complying with the allocation percents and how they calculated the percents, starting with FYs 2006-FY2011, and then each year after that. Please tell us the findings - which agencies have been complying?**

We found in our first annual report on these issues that, using data agencies had submitted to the Small Business Administration (SBA), 3 of the 11 agencies participating in the Small Business Innovation Research (SBIR) program and 1 of the 5 agencies participating in the Small Business Technology Transfer (STTR) program consistently complied with spending requirements each year for fiscal years 2006 to 2011.[1] Figure 1 shows the number of years that each of the participating agencies complied with spending requirements for fiscal years 2006 through 2011; this time period includes 6 years in total. For fiscal year 2011, 10 of the 11 agencies complied with spending requirements for the SBIR program and 3 of the 5 agencies complied with spending requirements for the STTR program.

[1]GAO, *Small Business Research Programs: Actions Needed to Improve Compliance with Spending and Reporting Requirements*, GAO-13-421 (Washington, D.C.: Sept. 9, 2013)

Figure 1: Number of Years Agencies Met Spending Requirements for the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs for Fiscal Years 2006 to 2011



Sources: GAO analysis of agency annual report data submitted to SBA.

Note: Data are from agency annual reports to SBA, except for those of DHS, DOE, and EPA; those agencies submitted revised data to us, which we incorporated into our analysis. Agencies for which STTR data are not shown did not have STTR programs.

Additionally, in our first annual report we found that the participating agencies and SBA did not consistently comply with certain reporting requirements for fiscal years 2006 to 2011 that are relevant to calculating or overseeing the spending requirements. Specifically, we found that the participating agencies—with the exception of the National Aeronautics and Space Administration (NASA) in certain years—were late in submitting their reports describing the methodology used to calculate the agency's extramural research and development (R&D) budget. Agencies are required to submit their reports within 4 months of the enactment of appropriations. Additionally, we found that six of the participating agencies either did not fully itemize exclusions to their extramural R&D budgets or did not include an explanation of the exclusions, as directed by SBA guidance. Moreover, SBA is required to report annually to Congress on the SBIR and STTR programs. We found that SBA had not submitted an annual report for fiscal years 2009 to 2011 and the reports that were submitted contained limited or inaccurate analyses.

3. What are the recommendations to increase compliance?

In our first annual report on agencies' compliance with spending and reporting requirements, we made four recommendations to the SBA Administrator that were designed to ensure that participating agencies and SBA comply with spending and reporting requirements for the SBIR and STTR programs. Specifically, we recommended that the SBA Administrator:

- Provide additional guidance on how agencies should calculate spending requirements when agency appropriations are received late in the fiscal year and the format agencies are to include in their methodology reports.
- Provide timely annual feedback to each agency following submission of its methodology report on whether its method for calculating the extramural R&D budget used as the basis for the SBIR and STTR spending requirements complies with program requirements including an itemization of and an explanation for all exclusions from the basis for the calculations.
- Direct participating agencies to include in their annual reports the calculation of the final extramural R&D budget used as the basis for their SBIR and STTR spending requirements and, if they did not meet the spending requirements, the reasons why not and how they plan to meet the spending requirements in the future.
- Provide Congress with a timely annual report that includes a comprehensive analysis of the methodology each agency used for calculating the SBIR and STTR spending requirements, providing a clear basis for SBA's conclusions about whether these calculations meet program requirements.

In a letter dated November 25, 2013, an SBA Deputy Associate Administrator said the agency will take actions to implement the recommendations.

4. What are the preliminary findings for FY2012?

We are currently finalizing our analysis of the data that agencies submitted to SBA for fiscal year 2012 to determine their compliance with spending and reporting requirements. Based on our preliminary analyses, our findings for compliance with spending levels in fiscal year 2012 are fairly similar to compliance levels in fiscal years 2010 and 2011. Also, our preliminary analysis shows that agencies generally reported to SBA on fiscal year 2012 expenditures later than required. We plan to finalize our analysis and issue a report to you and the other committees, as mandated in the Small Business Act, in April 2014. You will also receive a copy of the draft report when it goes to the agencies for comment, expected in March 2014.

QUESTIONS FROM CHAIR LANDRIEU

Response provided by: Mahendra K. Jain, Kentucky Science and Technology Corporation, Lexington, KY.

Length of Reauthorization: The most important change of the Reauthorization Act was reauthorizing the program. The Senate wanted permanency originally, and its final version passed with 8 years. The House wanted 2 years. The compromise was 6 years. If the House version had been enacted, the programs would be expiring on expiring Sept. 30, 2014.

Question for All participants – As a business owner, SBIR expert or advocate, or SBIR program manager, would a two-year reauthorization period, with an expiration approaching in September, be good or bad? Please explain why. This is important for informing the next reauthorization.

A two-year reauthorization would not be a good idea since it generally takes 3.5 to 4 years to complete both Phase I and Phase II awards for a project. Potentially, each new reauthorization of the Program may introduce some uncertainty and bring new changes to the program. This uncertainty may de-motivate new as well as already participating small businesses in the SBIR and STTR programs. Congress rarely passes bills in a timely manner. Even if the reauthorization bill is passed, additional time will be required to implement the changes, if any. Thus, in a two-year cycle of reauthorization, a company cannot apply, be awarded grants and complete both Phase I and Phase II SBIR or STTR project work. Very likely, there will be a pause either after Phase I or in the middle of Phase II grant period. Innovations and technology-based economic development are only realized over long-term. Thus, no one (federal agencies, companies, or state support system) benefits by short-term reauthorizations. By having program reauthorizations for longer term (for example, 10-year period) and eliminating any confusion caused by frequent changes, companies can focus on the development of high-risk technologies, plan and execute business strategies for manufacturing and commercialization, and attract private capital for growth and job creation. Likewise, participating federal agencies can develop their agency-specific program and administer the program stably through knowledgeable and experienced program staff. Further, just knowing that the Programs are authorized for longer-term, states can develop appropriate strategic approach and tools necessary for out-reach and training of all businesses in the state irrespective of their geographic locations.

In summary, a longer term program reauthorization will bring stability to the administration of the programs; allow businesses to deal with technical, business and market risks; help create high-paying jobs for college graduates; enable America to compete well in a global market; and, more importantly, it will result into local, regional and national economic development.

Diversity and Geographic Distribution of Awards: Most of the awards are won by firms competing on the west coasts, but we know we have good science and innovation in all our states. Also, we know the programs aren't meeting the Congressional objectives of participation of women and minorities, as demonstrated by the map I presented at the roundtable.

Question for SBA, SBIR Agencies and Dr. Jain -- We need a coordinated, targeted and sustained plan with benchmarks to improve geographic distribution of awards. What coordinated plans does the Administration have in the works or in place to improve geographic distribution of awards?

Other than the national SBIR Conferences and efforts to reach out through webinars, no other coordinated plan is in place or apparent. The Department of Energy (DOE) is in the process of developing a Phase 0 program for outreach and education assistance. With agencies having a 3% of the SBIR funds at their disposal, any targeted, coordinated and sustainable plan from the agencies will go a long way to improve the geographic distribution of awards. The program needs to retain its competitive nature and high integrity to select the best innovative technologies for award through a peer review process. No quotas (funds or number of awards) should be put in place to increase the share of awards to the underrepresented groups. Instead, enhanced efforts should be made to reach out to minority-owned businesses, woman-owned businesses and businesses in underrepresented geographical areas to make them more competitive so that the credibility or quality of the programs is not compromised.

The assistance made available by state and local agencies for training, networking, mentoring, and enabling university-business interactions should be improved in "have not" states by encouraging travel by the federal agencies program staff to these states and by holding multiple regional conferences each year to cover broader geographical area.

Question for Dr. Jain -- As the representative of the state SBIR directors, and a representative of Kentucky, which has funding from the Federal and State Technology Outreach (FAST) program, where does the FAST program fit into the Agencies' plans to improve geographic distribution of awards?

The Federal and State Technology (FAST) Partnership program is central to the Agency's plan for outreach by states to improve geographic distribution of awards.

It has helped in making a difference in raising the level of awareness among targeted businesses, developing tools for training, providing small financial assistance in the form of Phase Zero and Double Zero grants, and enhancing the quality of proposals that were submitted. But the FAST grant is too small to be effective and it only funds about 20 states. The amount of funding barely supports a qualified, knowledgeable, and experienced person for a year to achieve the goals. With FAST awards being made annually on a competitive basis, it is difficult to retain the person on a regular basis since there is an uncertainty before an award can be received for the following year. With the inherent uncertainty, it is a challenging task to get non-federal matching funds. Some of the tools developed under the FAST have been adopted and sustained through state programs, but the amount of FAST funding which is critical for outreach needs to be increased and be provided to many more states at least for a three year period at a time to maintain the continuity. The annual FAST budget should be increased to $10 Million. For any other targeted focus areas, agencies can use part of their 3% administrative funds with or without the help of state resources. Currently, no agency is supplementing FAST grants but they have participated in national and regional/state SBIR conferences when the program staff travel has been permitted.

DoD response to:
Post-Hearing Questions for the Record
From Senator Mary Landrieu
Chair

Length of Reauthorization: The most important change of the Reauthorization Act was reauthorizing the program. The Senate wanted permanency originally, and its final version passed with 8 years. The House wanted 2 years. The compromise was 6 years. If the House version had been enacted, the programs would be expiring on expiring Sept. 30, 2014.

Q1. Question for All participants – As a business owner, SBIR expert or advocate, or SBIR program manager, would a two-year reauthorization period, with an expiration approaching in September, be good or bad? Please explain why. This is important for informing the next reauthorization.

A1. Two year reauthorization would be detrimental to maintaining the long-term viability of the SBIR and STTR Programs. DoD recommends that the programs be made permanent; the increased stability would facilitate long term program planning and create certainty for small business. Frequent reauthorizations are especially disruptive to DoD SBIR/STTR Programs, because the Department is so large; it requires time to promulgate implementation throughout the Department.

Diversity and Geographic Distribution of Awards: Most of the awards are won by firms competing on the west coasts, but we know we have good science and innovation in all our states. Also, we know the programs aren't meeting the Congressional objectives of participation of women and minorities, as demonstrated by the map I presented at the roundtable.

Q2. Question for SBA, SBIR Agencies and Dr. Jain -- We need a coordinated, targeted and sustained plan with benchmarks to improve geographic distribution of awards. What coordinated plans does the Administration have in the works or in place to improve geographic distribution of awards?

A2. Participation in DoD's SBIR program by small businesses identifying themselves as women-owned or as minority-owned is higher than the small business procurement goals set by SBA for all Federal procurement. For FY 2011 and FY 2012 the Department made approximately 15 percent of SBIR/STTR awards to women-owned companies and approximately 6 percent to minority-owned companies. By comparison, the Federal Government goal for participation of women-owned small businesses in all Government contracting was 5 percent in FY 2011 and FY 2012; the goal was not achieved either year (achieving 3.9 in 2011 and 4.0 in 2012). Similarly, the goal for small disadvantaged businesses was also 5 percent each of those years; the achievement in FY 2011 was 7.7 and was 8.0 in FY 2012.

DoD Outreach includes numerous activities designed to provide equal opportunity to all offerors, with particular emphasis on the SBA's list of underrepresented states. DoD coordinates outreach activities externally with the SBA and other Federal agency SBIR programs through the SBA Outreach Working Group. Internally, the DoD Component SBIR programs work together to make optimum use of their resources. Outreach is being conducted through national, state, and regional conferences, development of web-based tools such as social media, websites, listservs, webinars, and one-on-one assistance. Many activities are aimed at informing new applicants how to prepare and submit proper applications.

3. 3% Funding for Administrative, Outreach & Oversight Purposes: For the first time in the history of the SBIR and STTR programs, Congress allowed the agencies to use a portion (up to 3%) of their SBIR funds (not STTR funds) for new initiatives to help the program managers do their jobs and make the programs better and more diverse. On a three-year pilot basis, agencies are allowed the money, and a big emphasis for the Senate is outreach. P.L. 112-81 named a national conference as an allowable expense, and the Senate would like to see the Administration build on the work that John Williams of the Navy SBIR program did last year to restart a national conference. The Senate emphasized that the funds should be used to make conferences affordable for students and start-ups. The law also required agencies to have a plan approved by the SBA before they could use the money. The Congress wanted plans to have metrics to be able to measure and assess in three years, at the end of the pilot, whether the pilot should be continued or return the money to the general SBIR funding for awards to small businesses.

Q3. Question for the SBA and agencies -- Provide a chart to the Committee that breaks down the plans for each agency's use for the money

Question for the SBA and the SBIR Agencies -- Please provide in the chart above the dollar amount of the 3% for each participating agency, and also provide how much of the 3% funding is going to outreach for diversity and geographic distribution (dollars and percent of the 3%)?

A3. The SBA approved DoD work plan for FY 2013 SBIR administrative funds follows.

Administrative Funding Category	FY 2013 plan approved by SBA
Outreach	12-17%
Commercialization	40-50%
Streamlining	8-13%
Reporting	5-10%
Policy Compliance	18-33%

Thus far, DoD has obligated 16 percent, or $4,877,932 of the authorized FY 2013 SBIR administrative funds available (3 percent equates to $30.1M) under this plan. For outreach activities, DoD has obligated $1,090,670 or 22 percent of the FY2013 authorization. The remaining funds will be obligated in accordance with the SBA approved plan; any nonexpended funds under this authority will be used to award small business SBIR contracts. The diversity and distribution issues were addressed in question 2. With regard to the obligation rate, note that DOD has 2-year money. Please see question 1: "How is the DOD planning on complying with the mandated language that SBIR/STTR spending be reported every fiscal year, rather than over the course of two fiscal years?" from Senator Risch for a fuller explanation on how the Department expends appropriated funds in the SBIR and STTR Programs.

4. Commercialization Provisions: The law included several provisions designed to increase the transition of technologies developed by small business firms in the SBIR and STTR programs. For example, the law created an SBIR/STTR acquisition preference to try and ensure that Federal agencies and prime contractors give Phase III awards to the small firms that developed the technology through the SBIR and STTR programs. And to provide some accountability if they are doing it, and planning to do it, the law required the agencies and departments to establish goals and reporting requirements on Phase III awards.

Q4a. Question for the SBA and Agencies – I sent a letter to the agencies on March 5, 2013, regarding the commercialization sections of the law to get an update on implementation. Have the agencies established Phase III goals? Please be specific of what the goals are.

A4a. Yes, DoD has Phase III goals. The recently released DoD 5000.02 acquisition instruction requires acquisition program managers to "establish goals for applying SBIR and STTR technologies in programs of record. For contracts with a value at or above $100 million, program managers will establish a goal for the transition of Phase III technologies in subcontracting plans, and report the number and dollar amount of contracts entered into for Phase III SBIR or STTR projects. At each milestone indicated, the Program Manager will provide a detailed plan for the use of SBIR and STTR technologies and associated planned funding profile (Phase I, II, and III)."

Q4b. Are the acquisition agencies complying with the SBIR/STTR preference and sole source?

A4b. Anecdotal feedback from contracting officers and program managers indicates that the acquisition agencies are in compliance with USD AT&L guidance, established several years ago, on SBIR/STTR preference and sole source. The policy letter "Small Business Innovation Research (SBIR) Program Phase III Guidance," Dec 8 2008, states the following: "For Phase III, Congress intends that agencies or Government prime contractors that pursue R&D or production for agencies utilizing technology developed under the SBIR Program, give preference, including sole-sources awards, to the awardee that developed the technology. Consistent with DoD policy, program managers should include SBIR as part of ongoing program planning and give favorable consideration, in technology and acquisition planning processes, for funding successful SBIR technologies."

Q5. Question for DoD/Mr. Gudger: The Committee got complaints that DoD was reluctant to establish goals, but I understand they are now moving forward. Does DoD agree with that characterization, and is the Agency supporting the program managers and contracting officers to make progress on Phase III awards? Please give specifics.

A5. See response to question 4

QUESTIONS FOR DOE (OLIVER) FROM CHAIR LANDRIEU

Length of Reauthorization: The most important change of the Reauthorization Act was reauthorizing the program. The Senate wanted permanency originally, and its final version passed with 8 years. The House wanted 2 years. The compromise was 6 years. If the House version had been enacted, the programs would be expiring on expiring Sept. 30, 2014.

Q1. Question for All participants–As a business owner, SBIR expert or advocate, or SBIR program manager, would a two-year reauthorization period, with an expiration approaching in September, be good or bad? Please explain why. This is important for informing the next reauthorization.

A1. From the perspective of an SBIR program manager, longer reauthorizations are important for implementing new initiatives to improve these programs. Under a two-year reauthorization, an administrative funding pilot would be impractical, since only one year of administrative funds could be authorized and there would still be insufficient time to report on the pilot prior to the next reauthorization. Engaging with external organizations on new initiatives would also be more challenging if these organizations perceive the initiatives may only exist for two years. For example, DOE recently engaged with technology transfer offices at universities to facilitate the use of the SBIR/STTR funding to commercialize DOE-funded research at these universities. This initiative required the university and DOE to first reach agreement on a memorandum of understanding. Universities are less likely to make this investment in time if the initiative would have been in place for FY 2014 only.

Longer reauthorizations are also important to agency efforts to expand the applicant pool to include new small businesses so that we can obtain the highest quality applications. If these businesses perceive the programs to be of only short duration, they may not invest the effort to learn about these programs and submit applications.

VC Majority-Owned Small Businesses: The law changed the eligibility of these small business programs to allow, for the first time, firms majority owned by entities—venture capital firms, private equity firms and hedge funds—instead of individuals, to compete for a portion of SBIR funds. It was not a mandate on each agency; it gave flexibility to agencies to determine if it was needed for their technology problems and then opt in. This was very controversial, and we need to make sure it is working and controls are in place to make sure the firms are American-owned and are small businesses, not puppets of corporations and foreign firms.

Q2. Question for NIH/Dr. Portnoy and Department of Energy/Dr. Oliver—When did or when will your agency start making VC SBIR awards? And how much and what percent of the VC portion has been used so far?

A2. Within the Department of Energy, the Advanced Research Projects Agency - Energy (ARPA-E) has exercised the authority to make awards to small businesses that are majority-owned by multiple venture capital operating companies, hedge funds, or private equity firms (section 5107 authority). ARPA-E provided notice to the Small Business Administration and Congress in August 2013 of its intent to utilize section 5107 authority and started utilizing the authority for its FY 2013 SBIR awards. While award negotiations for the FY 2013 SBIR awards remain ongoing, approximately $1.7 million—and no more than 25%—of ARPA-E's FY 2013 SBIR set aside is expected to be awarded to small businesses that are majority-owned by multiple venture capital operating companies, hedge funds, or private equity firms. For the remainder of the Department's SBIR/STTR programs, administered within the Office of Science (which handled approximately 96% of the Department's FY 2013 SBIR funding), there was no use of section 5107 authority.

Diversity and Geographic Distribution of Awards: Most of the awards are won by firms competing on the west coasts, but we know we have good science and innovation in all our states. Also, we know the programs aren't meeting the Congressional objectives of participation of women and minorities, as demonstrated by the map I presented at the roundtable.

Q3. Question for SBA, SBIR Agencies and Dr. Jain—We need a coordinated, targeted and sustained plan with benchmarks to improve geographic distribution of awards. What coordinated plans does the Administration have in the works or in place to improve geographic distribution of awards?

A3. An Outreach & Communications working group, chaired by John Williams (Navy SBIR/STTR program manager) and Ed Metz (Department of Education SBIR program manager), will address opportunities to improve outreach, particularly to under-represented groups, starting in January, 2014. This working group includes a representative from SBA and SBIR/STTR program staff from DHS, DOD, DOE, NIH, and NSF. This group plans to collect information on outreach efforts at the agencies, including existing and planned outreach targeted at improving geographic distribution. The goals for the working group have not been established but it is anticipated that one of those goals will be the implementation of a coordinated outreach strategy that will include improving geographic distribution of awards.

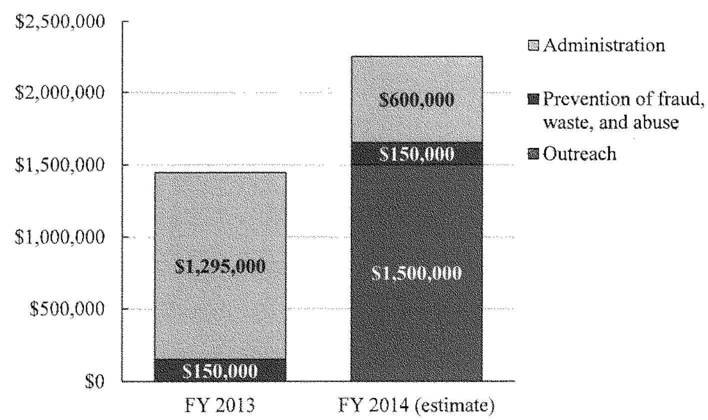
The Department of Energy has implemented two practices that have improved outreach to under-represented states: webinars and state outreach meetings. These are examples of individual agency efforts that the Outreach and Communications working group will evaluate as part of a coordinate federal outreach strategy. Our webinars, which discuss both our technical topics and the application and award process, have reached 3,000 potential applicants over the past two years, a number far higher than we can reach through in-person meetings. Attendees from all 50 states, the District of Columbia, and Puerto Rico have attended our webinars.

We have also contacted Small Business Development Centers from under-represented states to identify opportunities to do conduct outreach meetings with small businesses. One example was a February 2013 meeting, hosted by the South Carolina Clean Energy Business Alliance. I provided an introduction to the DOE SBIR and STTR programs, while Earl Wagener, CEO, Tetramer Technologies and Michael Lake, Co-founder, Liquid Lignin, two South Carolina small businesses that have received DOE SBIR Phase I and Phase II awards, discussed their experiences with these programs and how they were able to leverage these programs to bring new innovations to market.

3% Funding for Administrative, Outreach & Oversight Purposes: For the first time in the history of the SBIR and STTR programs, Congress allowed the agencies to use a portion (up to 3%) of their SBIR funds (not STTR funds) for new initiatives to help the program managers do their jobs and make the programs better and more diverse. On a three-year pilot basis, agencies are allowed the money, and a big emphasis for the Senate is outreach. P.L. 112-81 named a national conference as an allowable expense, and the Senate would like to see the Administration build on the work that John Williams of the Navy SBIR program did last year to restart a national conference. The Senate emphasized that the funds should be used to make conferences affordable for students and start-ups. The law also required agencies to have a plan approved by the SBA before they could use the money. The Congress wanted plans to have metrics to be able to measure and assess in three years, at the end of the pilot, whether the pilot should be continued or return the money to the general SBIR funding for awards to small businesses.

Q4. Question for the SBA and agencies—Provide a chart to the Committee that breaks down the plans for each agency's use for the money.

A4. The chart below provides the FY 2013 (actual) and FY 2014 (estimated) use of administrative funding by DOE. Within DOE, ARPA-E administers an independent SBIR program, and used its SBIR funding for awards only, with no SBIR funding used for administrative, outreach, or oversight purposes; so ARPA-E funding is not included within the chart.



Q5. Question for the SBA and the SBIR Agencies—Please provide in the chart above the dollar amount of the 3% for each participating agency, and also provide how much of the 3% funding is going to outreach for diversity and geographic distribution (dollars and percent of the 3%)?

A5. In FY 2013, DOE made $1,445,000 available for administrative and oversight, and did not have any funding for outreach. The maximum amount DOE could have made available for these purposes was $4,849,743 (three percent of the SBIR total of $161,658,110, which includes $6,121,110 of ARPA-E funding).

For FY 2014, DOE is planning to implement a Phase 0 Assistance program that is targeted at three under-represented groups: small businesses that are majority-owned by socially and economically disadvantaged individuals, small businesses that are majority-owned by women, and small businesses from under-represented states. This assistance program will be executed by a contractor at an initial annual estimated cost of $1,475,000. Because we don't yet have our FY 2014 SBIR budget, we cannot provide the exact percentage of the maximum allowable administrative funds that this figure represents. We estimate it to be approximately 25–30% of the maximum allowable administrative funds.

<u>Commercialization Provisions</u>: The law included several provisions designed to increase the transition of technologies developed by small business firms in the SBIR and STTR programs. For example, the law created an SBIR/STTR acquisition preference to try and ensure that Federal agencies and prime contractors give Phase III awards to the small firms that developed the technology through the SBIR and STTR programs. And to provide some accountability if they are doing it, and planning to do it, the law required the agencies and departments to establish goals and reporting requirements on Phase III awards.

Question for the SBA and Agencies–I sent a letter to the agencies on March 5, 2013, regarding the commercialization sections of the law to get an update on implementation.

Q6. Have the agencies established Phase III goals? Please be specific of what the goals are.

A6. Phase III goals, as stated in 15 USC § 638 (y)(4)(A), are applicable only to the Department of Defense.

Q7. Are the acquisition agencies complying with the SBIR/STTR preference and sole source?

A7. The Department of Energy is not an acquisition agency.

Dr. Matthew Portnoy
National Institutes of Health
United States Senate Committee on Small Business
Roundtable on SBIR/STTR
December 18, 2013

QUESTIONS FROM CHAIR LANDRIEU

Length of Reauthorization: The most important change of the Reauthorization Act was reauthorizing the program. The Senate wanted permanency originally, and its final version passed with 8 years. The House wanted 2 years. The compromise was 6 years. If the House version had been enacted, the programs would be expiring on expiring Sept. 30, 2014.

Question for All participants – As a business owner, SBIR expert or advocate, or SBIR program manager, would a two-year reauthorization period, with an expiration approaching in September, be good or bad? Please explain why. This is important for informing the next reauthorization.

NIH/HHS response: There are many benefits associated with a longer reauthorization period. A two-year reauthorization creates challenges as Federal SBIR agencies need time to implement the reauthorization and evaluate the program. Examples include time for:

1. SBA to issue revised Policy Directives, which provides agencies the frame work of how to implement any reauthorization provisions (typically 3-6 months with required public comment period/s, perhaps longer if eligibility rules change which is a Size Rule change).
2. After SBA issues revised Policy Directives and/or Eligibility Rules (can take 3-6 months) reflecting any statutory changes, depending on the nature of the change, agencies may take months or more to implement agency-specific systems, regulations, timelines, and resources. Then agencies would need to issue new or revised solicitations (funding opportunity announcements) and guidance to the small business community.
3. Once changes are implemented, then applicants can take advantage of them at their next application submission and then go through a review and funding cycle until awards are made.

For the current reauthorization, given all of the above, it has taken NIH/HHS these past two years to implement the majority of the provisions in the Reauthorization Act of 2011, with the remainder of implementation on track to occur in 2014. To give a reasonable amount of time for the SBIR community to utilize the new provisions and flexibility afforded by the current reauthorization, it will be a few years before the Agencies may reasonably assess the impact and outcomes of these new provisions and flexibility.

VC Majority-Owned Small Businesses: The law changed the eligibility of these small business programs to allow, for the first time, firms majority owned by entities – venture capital firms, private equity firms and hedge funds – instead of individuals, to compete for a portion of SBIR funds. It was not a mandate on each agency; it gave flexibility to agencies to determine if it was needed for their technology problems and then opt in. This was very controversial, and we need to make sure it is working and controls are in place to make sure the firms are American-owned and are small businesses, not puppets of corporations and foreign firms.

Question for NIH/Dr. Portnoy and Department of Energy/Dr. Oliver – When did or when will your agency start making VC SBIR awards/ And how much and what percent of the VC portion has been used so far?

NIH/HHS response: NIH implemented the ability for VC-backed Small Business Concerns (SBCs) to apply to the SBIR program with the re-issuance of its 2013 SBIR Omnibus solicitation in May 2013 and for all NIH SBIR solicitations issued since SBA issued the revised Size Rule on January 28, 2013. On May 30, 2013, NIH issued a notice to the Guide for Grants and Contracts to inform the community about this change.[1] Prior to this, as required by the Reauthorization Act, NIH submitted its written determination that it will exercise the VC-SBIR authority to SBA and the Congress in March 2013.

From NIH's August 5, 2013, due date and beyond, all NIH SBIR solicitations have been opened up to VC-backed SBCs. At this time, no VC SBIR awards have been made, as the earliest funding date for applications submitted in August 2013 will be March 2014.

Diversity and Geographic Distribution of Awards: Most of the awards are won by firms competing on the west coasts, but we know we have good science and innovation in all our states. Also, we know the programs aren't meeting the Congressional objectives of participation of women and minorities, as demonstrated by the map I presented at the roundtable.

Question for SBA, SBIR Agencies and Dr. Jain -- We need a coordinated, targeted and sustained plan with benchmarks to improve geographic distribution of awards. What coordinated plans does the Administration have in the works or in place to improve geographic distribution of awards?

NIH/HHS Response: NIH is actively engaged with SBA and the other SBIR agencies in developing a coordinated outreach plan. NIH has increased its own outreach, within the context of current travel guidelines for Federal Agencies.

NIH's SBIR/STTR outreach activities during Fiscal Years (FY) 2012 and 2013 were directed at identifying new SBIR/STTR applicants, with a special emphasis on women-owned businesses, socially and economically disadvantaged businesses, and under-represented states.

NIH conducted targeted outreach to these under-represented groups through collaboration with SBA and partnering SBIR and STTR Governmental Agencies, including NSF, DOD, DOE, and NASA. NIH participated in webinars, conferences, and in-person events throughout the country as part of our outreach effort.

Below is a high-level summary of NIH outcomes for FYs 2012–2013 (overall attendance, IDeA state, WOSB and SDB tracking began in mid-FY 2013):[2]

[1] http://grants.nih.gov/grants/guide/notice-files/NOT-OD-13-071.html

[2] IDeA states include Alaska, Arkansas, Delaware, Hawaii, Idaho, Kansas, Kentucky, Louisiana, Maine, Mississippi, Montana, North Dakota, Nebraska, New Hampshire, New Mexico, Nevada, Oklahoma, Puerto Rico, Rhode Island, South Carolina, South Dakota, Vermont, West Virginia, and Wyoming.

- 45 events *total* (webinars and in-person conferences) hosted in 21 states (including 6 IDeA states).
  - 35 in-person conferences/events hosted in 15 states (including 4 IDeA states*).
  - 10 webinars with hosts from 8 states (including 3 IDeA states).
- 15th Annual NIH SBIR/STTR conference, hosted in South Dakota in October 2013, reached 366 people in 37 states plus Puerto Rico and DC (13 of the states including Puerto Rico were IDeA states; and 144 attendees (39 percent) were from IDeA states including Puerto Rico).
- * Over 3,200 attendees reached through 19 events
- * 254 WOSB reached through 6 events
- * 149 SDB reached through 5 events
- 16 IDeA States and PR reached through events and conference, including: Alaska, Arkansas, Delaware, Hawaii, Idaho, Kansas, Kentucky, Maine, Montana, North Dakota, Nebraska, New Hampshire, Oklahoma, Puerto Rico, South Dakota, Vermont, and Wyoming.
- 42 states plus DC and PR reached, include: Alaska, Arkansas, Arizona, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Hawaii, Iowa, Idaho, Illinois, Indiana, Kansas, Kentucky, Maine, Maryland, Maryland, Massachusetts, Michigan, Missouri, Minnesota, Montana, New Jersey, Nebraska, New Hampshire, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Puerto Rico, South Dakota, Texas, Utah, Vermont, Virginia, Washington, Wisconsin, and Wyoming.

NIH outreach activities included:

- Holding webinars, including SBA webinar on July 15, 2013: http://sbir.gov/content/sbir-webinars-posted-online;
- Organizing and attending conferences;
- Developing promotional materials for distribution at outreach events;
- Revising NIH SBIR/STTR website content;
- Utilizing social media to connect with the SBIR/STTR community – created and managed @NIHsbir Twitter account, and several new NIH Institute SBIR twitter accounts;
- Hiring an outreach specialist; and
- Collaborating with SBA and other SBIR and STTR governmental agencies, including NSF, DOD, DOE, and NASA.

<u>3% Funding for Administrative, Outreach & Oversight Purposes:</u> **For the first time in the history of the SBIR and STTR programs, Congress allowed the agencies to use a portion (up to 3%) of their SBIR funds (not STTR funds) for new initiatives to help the program managers do their jobs and make the programs better and more diverse. On a three-year pilot basis, agencies are allowed the money, and a big emphasis for the Senate is outreach. P.L. 112-81named a national conference as an allowable expense, and the Senate would like to see the Administration build on the work that John Williams of the Navy SBIR program did last year to restart a national conference. The Senate emphasized that the funds should be used to make conferences affordable for students and start-ups. The law also required agencies to have a plan approved by the SBA before they could use the money. The Congress wanted plans to have metrics to be able to measure and assess in three years,**

at the end of the pilot, whether the pilot should be continued or return the money to the general SBIR funding for awards to small businesses.

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>
> **Question for the SBA and the SBIR Agencies -- Please provide in the chart above the dollar amount of the 3% for each participating agency, and also provide how much of the 3% funding is going to outreach for diversity and geographic distribution (dollars and percent of the 3%)?**

NIH/HHS Response: The SBA-approved HHS work-plan for FY 2013 SBIR administrative funds is below.

Administrative fund category	**FY13 plan for 3%, approved by SBA**
Outreach	40%
Commercialization	15%
Streamlining and Simplification	10%
Reporting – Administrative, Congressional, and inter-Agency	10%
Administration and Implementation of Reauthorization	25%
	100%

In FY 2013, NIH spent 0.51 percent, or $3,185,000, in SBIR administrative funds of the available 3 percent, or $18,822,697, under the authority. NIH started spending SBIR administrative funds in April 2013 after SBA approved Agency SBIR administrative fund plans and the Agency had final numbers for FY 2013 and associated reductions from the Budget Control Act. NIH also set up the appropriate tracking and controls for these funds and adhered to travel limitations under the Efficient Spending Policy. The remainder of the funds was spent on SBIR awards.

For the Outreach activities described above (some of which occurred in FY 2013) and additional activities by NIH Institutes, a total of $401,161, or 12.6 percent of the 0.51 percent NIH spent (not the full 3 percent).

<u>**Commercialization Provisions:**</u> **The law included several provisions designed to increase the transition of technologies developed by small business firms in the SBIR and STTR programs. For example, the law created an SBIR/STTR acquisition preference to try and ensure that Federal agencies and prime contractors give Phase III awards to the small firms that developed the**

technology through the SBIR and STTR programs. And to provide some accountability if they are doing it, and planning to do it, the law required the agencies and departments to establish goals and reporting requirements on Phase III awards.

Question for the SBA and Agencies – I sent a letter to the agencies on March 5, 2013, regarding the commercialization sections of the law to get an update on implementation.

Have the agencies established Phase III goals? Please be specific of what the goals are.

Are the acquisition agencies complying with the SBIR/STTR preference and sole source?

NIH/HHS Response: As NIH stated in its April 23, 2013, reply to Sen. Landrieu's' letter:

NIH does not fund or issue many Phase III awards in the SBIR/STTR programs. Beyond Phase I and II awards, NIH's intention is that these projects are supported in the private sector by venture capitalists, pharmaceutical, and biotechnology companies because of the significant amount of capital and development times necessary for clinical trials and federal regulatory approval. The overall goal of NIH's SBIR/STTR program is to commercialize the biomedical technology in the open market as a means for improving health and saving lives.

Approximately 95 percent of the SBIR awards and 100 percent of the STTR awards are made in the form of grants-in-aid to small business concerns. The remaining approximately five percent of the SBIR awards are in the form of contracts. The technology funded by those contracts is rarely directly acquired by NIH. Several agencies outside of HHS award a substantial amount of their SBIR/STTR funds through Phase I and II contracts and eventually award Phase III contracts with the goal of purchasing the technology for the Agency's use in the future. These agencies carefully oversee the development of the technologies in the contracts and will directly benefit from the Phase III special acquisitions preference in section 5108 of the 2012 NDA. However, NIH awards almost all grants for Phases I and II. Unlike a contract, NIH does not direct the development of any specific technology with the goal of purchasing it in the future. NIH funds grants that will further support the overall NIH mission and will be commercialized in the open market. As a result, and according to the statutory language in section 5108 "to the greatest extent possible," the Phase III special acquisition preference is not as applicable to NIH, since few products, services, or further research are intended to be purchased and used by NIH.

NIH and HHS are not acquisition agencies.

QUESTIONS FROM CHAIR LANDRIEU

Question 1:

Length of Reauthorization: The most important change of the Reauthorization Act was reauthorizing the program. The Senate wanted permanency originally, and its final version passed with 8 years. The House wanted 2 years. The compromise was 6 years. If the House version had been enacted, the programs would be expiring on expiring Sept. 30, 2014.

Question for All participants – As a business owner, SBIR expert or advocate, or SBIR program manager, would a two-year reauthorization period, with an expiration approaching in September, be good or bad? Please explain why. This is important for informing the next reauthorization.

U.S. Small Business Administration (SBA) Response:

The reauthorization period of six years best serves the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs. The longer reauthorization period allows agencies a reasonable amount of time to implement the new provisions for the SBIR and STTR programs that were included in the Defense Authorization Act for Fiscal Year 2012, Pub. L. 112-81, 125-Stat. 1298, which contains the SBIR/STTR Reauthorization Act of 2011 (Reauthorization Act) and is interpreted in SBA's Policy Directives. Additionally, the longer reauthorization period is a more reasonable timeframe for small businesses to become acquainted with those new provisions.

A longer reauthorization period, also allows ample time for new statutory provisions to be utilized and a track record of data established to measure the usefulness of those provisions. As a result, metrics and data can be analyzed for discussions regarding the next reauthorization.

Question 2:

VC Majority-Owned Small Businesses: The law changed the eligibility of these small business programs to allow, for the first time, firms majority owned by entities – venture capital firms, private equity firms and hedge funds – instead of individuals, to compete for a portion of SBIR funds. It was not a mandate on each agency; it gave flexibility to agencies to determine if it was needed for their technology problems and then opt in. This was very controversial, and we need to make sure it is working and controls are in place to make sure the firms are American-owned and are small businesses, not puppets of corporations and foreign firms.

Question for SBA/Pravina Raghavan -- Have any agencies other than HHS/NIH and Energy's ARPA-E division opted in to the SBIR VC Majority-Owned Small Business program?

SBA's Response:

No, at this time, the U.S. Department of Health and Human Services (HHS)/National Institutes of Health (NIH) and Advanced Research Projects Agency-Energy (ARPA-E) are the only two agencies/components that have opted to take advantage of this authority.

Question 3:

Diversity and Geographic Distribution of Awards: Most of the awards are won by firms competing on the west coasts, but we know we have good science and innovation in all our states. Also, we know the programs aren't meeting the Congressional objectives of participation of women and minorities, as demonstrated by the map I presented at the roundtable.

> **Question for SBA, SBIR Agencies and Dr. Jain -- We need a coordinated, targeted and sustained plan with benchmarks to improve geographic distribution of awards. What coordinated plans does the Administration have in the works or in place to improve geographic distribution of awards?**

SBA's Response:

SBA has been working with agencies to address the issues of diversity and geographic distribution of awards. Efforts have included joint outreach programs (e.g., recent Historically Black Colleges and Universities (HBCU) program at the National Institute of Standards and Technology (NIST) and SBA's efforts to include diversity as the focus of its annual Federal and State Technology (FAST) program. In this regard, SBA has made providing assistance to women, minorities and underserved states a focus of FAST outreach efforts over the past three years. In addition, SBA, in cooperation with participating SBIR agencies, has established an Outreach Working Group, which has as one of its goals, the coordination of efforts and improvement of results in the areas of diversity and geographic distribution of awards. SBA has also initiated a very successful monthly webinar series on cutting edge SBIR and STTR topics. A special effort has been made to encourage participation by underserved groups. Discussions have been held to consider best practices already being utilized by agencies, as well as program wide initiatives such as a National Conference focusing on the underserved. Past webinar sessions may be listened to by going to www.sbir.gov. Furthermore, SBA's Office of Investment and Innovation has been coordinating efforts with SBA's Office of Entrepreneurial Development and Office of Women's Business Ownership to help facilitate and expedite better connections and enable "cross pollination" between various sectors and demographics to ensure information and resources are identified and shared with larger communities of interested and relevant stakeholders. Other outreach efforts may be viewed as part of agency outreach plans to utilize administrative funding in the chart below.

Question 4:

3% Funding for Administrative, Outreach & Oversight Purposes: For the first time in the history of the SBIR and STTR programs, Congress allowed the agencies to use a portion (up to 3%) of their SBIR funds (not STTR funds) for new initiatives to help the program managers do their jobs and make the programs better and more diverse. On a three-year pilot basis, agencies are allowed the money, and a big emphasis for the Senate is outreach. P.L. 112-81named a national conference as an allowable expense, and the Senate would like to see the Administration build on the work that John Williams of the Navy SBIR program did last year to restart a national conference. The Senate emphasized that the funds should be used to make conferences affordable for students and start-ups. The law also required agencies to have a plan approved by the SBA before they could use the money. The Congress wanted plans to have metrics to be able to measure and assess in three years, at the end of the pilot, whether the pilot should be continued or return the money to the general SBIR funding for awards to small businesses.

> **Question for the SBA -- With Senator Snowe, I sent a letter on July 23, 2012, to the agencies to emphasize the allocation increase and the priority of outreach for the 3% funds. How many of 11 agencies applied to use money?**

SBA's Response:

In Fiscal Year (FY) 2013, ten of the eleven SBIR agencies had Administrative Funding Plans approved by SBA.

In FY 2014, eight of the eleven SBIR agencies had Administrative Funding Plans approved by SBA. SBA is in discussions with the Department of Education (ED), Environmental Protection Agency (EPA), and the Department of Homeland Security (DHS) about the submittal of Administrative Funding Plans for FY 14.

Question for the SBA and agencies -- Provide a chart to the Committee that breaks down the plans for each agency's use for the money

SBA's Response:

2014 Administrative Funds Breakdown (Currently)

Agency	Outreach for Diversity and Geographic Distribution	Commercialization	Streamlining & Simplification	Prevention & Detection of Fraud, Waste, & Abuse	Reporting: Administrative, Congressional & Interagency	Administration & Implementation of SBIR/STTR Policy Directives	Total
USDA	$93,600	$326,400	No Budget at this time (To be handled by Staff)	No Budget at this time (To be handled by Staff)	No Budget at this time (To be handled by Staff)	$150,000	$570,000
NIST	$3,875	No Budget at this time (To be handled by Staff)	No Budget at this time (To be handled by Staff)	No Budget at this time (To be handled by Staff)	No Budget at this time (To be handled by Staff)	$1,125	$5,000
NOAA	$29,500	No Budget at this time (To be handled by Staff)	No Budget at this time (To be handled by Staff)	No Budget at this time (To be handled by Staff)	No Budget at this time (To be handled by Staff)	No Budget at this time (To be handled by Staff)	$29,500
DOT	$20,640	$4,300	$4,300	No Budget at this time (To be handled by Staff)	$1,500	$4,300	$86,000(allocated)
DOD	$2.96-$4.4 M	$11.84-$14.8M	$1.48-$2.96M	$888K-$2.368M	$1.48-$2.96M	$4.44-$7.4M	$29.6 M
DOE	$1.5M	No Budget at this time (To be handled by Staff)	No Budget at this time (To be handled by Staff)	$150,000	No Budget at this time (To be handled by Staff)	$600,000	$2.25M
HHS	$7.296M	$2.88M	$1.92M	$384,000	$1.92M	$4.8M	$19.2M
NSF	$2.7M	$750,000	$200,000	No Budget at this time (To be handled by Staff)	$100,000	No Budget at this time (To be handled by Staff)	$3.75M
NASA	No Budget at this time (To be handled by Staff)	No Budget at this time (To be handled by Staff)	No Budget at this time (To be handled by Staff)	Up to $100,000	Up to $1.1M between Reporting and Administration (Not broken down specifically)	Up to $1.1M between Reporting and Administration (Not broken down specifically)	$1.2M

Question for the SBA -- Is the 3% money reaching program managers, or is the money being diverted for costs the agencies should be covering?

SBA's Response:

It is SBA's understanding that the money is reaching program managers and is not diverted for costs the agencies should be covering.

Question for the SBA and the SBIR Agencies -- Please provide in the chart above the dollar amount of the 3% for each participating agency, and also provide how much of the 3% funding is going to outreach for diversity and geographic distribution (dollars and percent of the 3%)?

Question 5:

Commercialization Provisions: The law included several provisions designed to increase the transition of technologies developed by small business firms in the SBIR and STTR programs. For example, the law created an SBIR/STTR acquisition preference to try and ensure that Federal agencies and prime contractors give Phase III awards to the small firms that developed the technology through the SBIR and STTR programs. And to provide some accountability if they are doing it, and planning to do it, the law required the agencies and departments to establish goals and reporting requirements on Phase III awards.

Question for the SBA and Agencies – I sent a letter to the agencies on March 5, 2013, regarding the commercialization sections of the law to get an update on implementation.

Have the agencies established Phase III goals? Please be specific of what the goals are.

SBA's Response:

Certain agencies such as the National Science Foundation (NSF), Department of Defense (DOD) and Department of Energy (DOE) have instituted methodologies for measuring commercialization. As a more coordinated effort is underway with the establishment of five working groups (Outreach & Communications, Commercialization, Award Efficiency & Efficacy, Interagency Databases & Exchange of Information, and Asset Mapping) amongst the SBIR/STTR Program Managers, more clarity and goal setting/alignment will come about with respect to Phase III goal achievement.

Are the acquisition agencies complying with the SBIR/STTR preference and sole source?

SBA's Response:

It is our understanding that agencies are in compliance. Additionally, from time to time, SBA receives feedback from SBIR awardees that an agency is unclear about the SBIR/STTR preference and SBA provides guidance to agencies and awardees via the language of the SBIR and STTR Policy Directives.

Question 6:

Awards: We significantly increased the awards amounts and gave agencies more resources to meet the cost of research and move firms with promising research further along the technology readiness levels. But we needed to balance that with the program's intent to test an idea quickly and without losing too much money – succeed or fail fast and fail cheap.

Question for the SBA - How is SBA handling waivers? Which agencies use waivers, how many waivers approved, purposes, dollar value and proportion of SBIR allotment by pertinent agency?

SBA's Response:

SBA analyzes each topic associated with an individual waiver request to determine if exceeding the guideline award amount is appropriate.

Two agencies have sought waivers for awards above the guidelines: U.S. Department of Health and Human Services (HHS) and the U.S. Department of Defense (DOD).

In this regard, in FY13 DOD submitted one waiver request covering two topics (Transparency Sensory Systems and Inlet and Exhaust Damage Sensory Systems.). The request was to make two awards of up to $4 million each (total of $8 million). SBA granted the requested waiver, which amounted to less than 1% of the DOD extramural budget.

HHS made six waiver requests in FY13, and one request in FY14. Among the topics included in the requests are: biomedical technologies, gene therapy, biologic therapeutics, bio markers, and biosignatures. SBA approved all of HHS's requests in FY13 and FY14 (to date).

The FY13 HHS request noted above was for awards to be funded in FY14. As of now, 21 awards have been made. It must be noted that of the 21 awards made to date, none of the awards have exceeded the award guidelines.

QUESTIONS FROM CHAIR LANDRIEU

Length of Reauthorization: The most important change of the Reauthorization Act was reauthorizing the program. The Senate wanted permanency originally, and its final version passed with 8 years. The House wanted 2 years. The compromise was 6 years. If the House version had been enacted, the programs would be expiring on September 30, 2014.

Question for All participants – As a business owner, SBIR expert or advocate, or SBIR program manager, would a two-year reauthorization period, with an expiration approaching in September, be good or bad? Please explain why. This is important for informing the next reauthorization.

DHS response: *From an SBIR program manager's perspective, longer reauthorizations are preferred. Stability in the program is important for spurring innovative ideas among the small business research and development community. Short reauthorization periods, such as a two-year reauthorization, do not provide sufficient time for implementation and assessment of administrative changes in the program. For example, the SBIR/STTR Reauthorization of 2011 authorized civilian agencies to implement a Commercialization Readiness Pilot Program (CRPP). Guidance to implement such a program was provided by the SBA to the agencies in FY2013. DHS received approval from the SBA for its CRPP on August 29, 2013 and will implement it in FY2014. Results and outcomes of the DHS CRPP may not be available until FY2015 or later. Longer reauthorizations also enable an agency to conduct more effective outreach to the small business community, particularly to underrepresented groups and states. Small businesses in these groups and states are not as familiar with the SBIR program as more seasoned SBIR firms. It takes time to cultivate and educate them so that they are comfortable enough to submit to an agency's solicitation (or funding opportunity). Oftentimes, they are not successful with their initial submission and they need the feedback that an agency provides to improve their future submissions. Longer term reauthorizations of the SBIR program provide certainty to the small business community, affording them multiple opportunities to seek SBIR funding for their innovative ideas to meet an agency's needs.*

Diversity and Geographic Distribution of Awards: Most of the awards are won by firms competing on the west coasts, but we know we have good science and innovation in all our states. Also, we know the programs aren't meeting the Congressional objectives of participation of women and minorities, as demonstrated by the map I presented at the roundtable.

Question for SBA, SBIR Agencies and Dr. Jain – We need a coordinated, targeted and sustained plan with benchmarks to improve geographic distribution of awards. What coordinated plans does the Administration have in the works or in place to improve geographic distribution of awards?

DHS response: *The DHS SBIR Program Director is a participant in the SBA Outreach and Communications Working Group that was recently established to coordinate and improve* *outreach, particularly to underrepresented groups. DHS looks forward to actively participating in this Working Group and sharing its outreach best practices.*

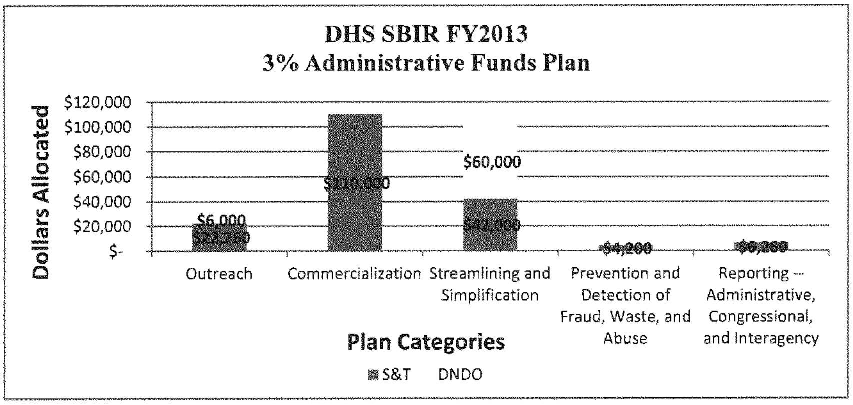
DHS SBIR has an active outreach program. To date, the DHS SBIR Program has received proposals from every state in the United States, including the District of Columbia and Puerto Rico. Since 2004 through FY2013, ~22% of the Phase I proposals were submitted by women-owned small businesses. In addition, ~14% of the proposals were submitted by socially and economically disadvantaged small businesses, while ~9% of the proposals were received from HUBzone certified small businesses. Through FY2013, Phase I awards have been made to small businesses located in 42 states. Of these, ~16% of the DHS SBIR Phase I awards were made to women-owned small businesses, ~10% of the awards were made to socially and economically disadvantaged small businesses, and ~4% of the awards were made to HUBZone-certified small businesses. The DHS percentages in these underrepresented groups compares favorably with data derived from SBA's SBIR.gov award data (which shows that, over the same timeframe, 9% of the Phase I awards were made to women-owned small businesses, while 4% and 2% were made to minority-owned and HUBZone certified small businesses, respectively). Overall, although the DHS SBIR topics and projects are specifically focused to meet the needs of the homeland security enterprise, DHS SBIR is able to at least maintain or slightly surpass the national SBIR averages.

The DHS SBIR Program Office actively conducts outreach in-person and via webinars and email mailings. In FY2013, DHS SBIR participated in 32 events in 11 states, including two underrepresented states (Maine and Oklahoma), as well as the District of Columbia and Puerto Rico. In addition, the SBIR Program Office participates in webinar events and plays an integral part in the National Council of Entrepreneurial Tech Transfer's (NCET2) webinar series which reaches out to encourage university researchers and entrepreneurs to prepare them to transition their research to the market.

<u>3% Funding for Administrative, Outreach & Oversight Purposes:</u> For the first time in the history of the SBIR and STTR programs, Congress allowed the agencies to use a portion (up to 3%) of their SBIR funds (not STTR funds) for new initiatives to help the program managers do their jobs and make the programs better and more diverse. On a three-year pilot basis, agencies are allowed the money, and a big emphasis for the Senate is outreach. P.L. 112-81 named a national conference as an allowable expense, and the Senate would like to see the Administration build on the work that John Williams of the Navy SBIR program did last year to restart a national conference. The Senate emphasized that the funds should be used to make conferences affordable for students and start-ups. The law also required agencies to have a plan approved by the SBA before they could use the money. The Congress wanted plans to have metrics to be able to measure and assess in three years, at the end of the pilot, whether the pilot should be continued or return the money to the general SBIR funding for awards to small businesses.

Question for the SBA and agencies – Provide a chart to the Committee that breaks down the plans for each agency's use for the money.

DHS response: *DHS sought SBA approval for its FY2013 3% administrative funds pilot program plan on November 27, 2012 and received approval of that plan on December 17, 2012. The plan covered both the DHS Science and Technology (S&T) Directorate's SBIR Program and the DHS Domestic Nuclear Detection Office's SBIR Program. Funds were planned, and approved by the SBA, as shown in the following chart.*



Due to circumstances that occurred in the late winter/early spring 2013, and the need to fully fund technology projects that have the potential to meet the needs of the homeland security enterprise, the funds set-aside for the S&T Directorate's SBIR Program portion of the 3% Administrative Funds Plan were used instead to pay the balances on pre-awarded DHS S&T Directorate SBIR Phase II contracts (i.e., fully fund projects by exercising contract options). The S&T Directorate's SBIR Program then implemented many of the activities of its 3% Administrative Funds Plan using non-SBIR funds.

Question for the SBA and the SBIR Agencies – Please provide in the chart above the dollar amount of the 3% for each participating agency, and also provide how much of the 3% funding is going to outreach for diversity and geographic distribution (dollars and percent of the 3%)?

DHS response: *The dollar amounts for the categories of the DHS SBIR FY2013 3% Administrative Funds Plan is shown in the chart above. As discussed in the above response, the DHS S&T Directorate's SBIR Program Office did not use the 3% Administrative Funds Pilot Program funding for activities described in its approved plan. Instead, the S&T Directorate's SBIR Program implemented many of the activities of its 3% Administrative Funds Plan, including outreach for diversity, using non-SBIR funds. In FY2013, the DHS SBIR Program made concerted efforts to contact organizations that focused specifically on women-owned small businesses, participated in a minority serving institution conference,* *and conducted outreach in 11 states (including the underrepresented states of Maine and Oklahoma, as well as Puerto Rico and the District of Columbia).*

Commercialization Provisions: The law included several provisions designed to increase the transition of technologies developed by small business firms in the SBIR and STTR programs. For example, the law created an SBIR/STTR acquisition preference to try and ensure that Federal agencies and prime contractors give Phase III awards to the small firms that developed the technology through the SBIR and STTR programs. And to provide some accountability if they are doing it, and planning to do it, the law required the agencies and departments to establish goals and reporting requirements on Phase III awards.

Question for the SBA and Agencies – I sent a letter to the agencies on March 5, 2013, regarding the commercialization sections of the law to get an update on implementation.

Have the agencies established Phase III goals? Please be specific of what the goals are.

DHS response: *Within the Science and Technology Directorate's SBIR Program, SBIR is viewed as a continuum. That is, topics are developed with the Phase III end goal in mind. Assuming successful Phase I and Phase II projects for a given topic, the technical program manager for the topic plans to expend non-SBIR funds for Phase III projects to either continue or extend the work begun under the Phase II effort, or complete the Phase II effort, in order to move towards commercialization of the SBIR-funded research/technology. In FY2013, two new Phase III contracts were awarded and additional non-SBIR funds were added to four previously awarded Phase II contracts for a total of $5.2M to extend efforts begun under previously awarded Phase II projects. In general, 16% of the DHS Phase I proposal submissions receive an award; then ~37% of those move on to Phase II with ~21% of the Phase IIs receiving a Phase III award. Specific goals for the transition of Phase III technologies have not been established; however, Phase III awards are made by DHS to the extent practicable.*

Are the acquisition agencies complying with the SBIR/STTR preference and sole source?

DHS response: *DHS has eight major buying activities: DHS HQ (for HQ organizations and CIS), CBP, FEMA, FLETC, ICE, TSA, USCG, and USSS. Small business specialists within the DHS components have been briefed on the SBIR program and Phase III in particular, and Phase III contracts have been awarded by the DHS components.*

QUESTIONS FROM CHAIR LANDRIEU

Length of Reauthorization: The most important change of the Reauthorization Act was reauthorizing the program. The Senate wanted permanency originally, and its final version passed with 8 years. The House wanted 2 years. The compromise was 6 years. If the House version had been enacted, the programs would be expiring on expiring Sept. 30, 2014.

Question for All participants – As a business owner, SBIR expert or advocate, or SBIR program manager, would a two-year reauthorization period, with an expiration approaching in September, be good or bad? Please explain why. This is important for informing the next reauthorization.

Dear Chair Landrieu,

Thank you again for your strong leadership role in the last reauthorization of the SBIR program. A two-year reauthorization period would be very bad.

The goal of the SBIR program is to mature and transition technology for use in the commercial market or for use providing value to the government. The small business cannot perform this transition alone; they need the active participation of a partner such as a large commercial business, investor, or government agency. These transition discussions begin during the Phase 1 program (or before), but tech transition takes time. The SBIR program fosters the development (increasing the technology readiness level) for the first few years.

The program manager at the partner organization must decide whether to commit resources to further SBIR technology transition. Continuity and stability of the small business is already a significant concern and no partner will commit to invest their internal energy and funds if the small business' resources (from the SBIR program) may be cancelled in the near future.

Times from conception to marketplace introduction are typically 6 years for commercial products and 10 years for government programs. Our experience matches these times.

Product impact and success only becomes evident after that time. The SBIR reauthorization period should be long enough to permit assessment of any changes introduced. For a six-year reauthorization, the first transitions will just be reaching the commercial marketplace and the "rest of the story" not known. A ten-year reauthorization would permit government program transition successes and a few cycles (years) of commercial products to be introduced and market sales as evidence.

B. David Green, Ph.D.
President and CEO
Physical Sciences Inc.,
Andover MA

DoD response to:
Post-Hearing Questions for the Record
From Senator James E. Risch
Ranking Member

1. The Department of Defense has the largest R&D portfolio of the participating SBIR/STTR agencies. I understand DOD reports its SBIR/STTR funding as the combined total over two fiscal years, however, the SBIR reauthorization language from 2011 requires that you spend a certain amount *each fiscal year*. Section 9(f) of the Small Business Act (15 U.S.C. 638(f)) titled "Federal Agency Expenditures for the SBIR Program" states, with tiered percentages and fiscal years, "...each Federal agency...shall expend with small business concerns....[X] percent of such budget in fiscal year [X] and each fiscal year thereafter." The mandate is clear that Congress asks each participating agency to quantify its spending per fiscal year.

   How is the DOD planning on complying with the mandated language that SBIR/STTR spending be reported every fiscal year, rather than over the course of two fiscal years?

   We believe that the Department of Defense (DoD) is in compliance with 15 U.S.C. 638(f). The Small Business Administration (SBA) Policy Directive, Small Business Innovation Research (SBIR) Program dated October 10, 2012, at 2(b) on page 3, explains that each Federal agency must "reserve the following minimum percentages..." This helpful and reasonable interpretation is appropriate implementation language; DoD is following the SBA Policy Directive.

   DoD has consistently reported SBIR obligated dollars to SBA and to Congress by fiscal year. SBIR funds are RDT&E funds that are available for obligation for two years. Hence, in any given year DoD obligates dollars that were appropriated in two different fiscal years. Historically, DoD has exceeded the minimum thresholds regardless of how that amount is calculated and expended.

FY2012 SBIR Awards By STATE

State Code	State Name	Phase I Awards	Phase I Dollars	Phase II Awards	Phase II Dollars	Total Awards	Total Dollars
CA	California	832	$ 134,298,137.28	355	$ 295,870,045.76	1187	$ 430,168,183.04
MA	Massachusetts	479	$ 77,216,068.59	219	$ 179,193,349.56	698	$ 256,409,418.15
NY	New York	174	$ 30,634,780.88	92	$ 73,671,743.18	266	$ 104,306,524.06
VA	Virginia	237	$ 29,781,479.80	91	$ 70,704,701.35	328	$ 100,486,181.15
MD	Maryland	200	$ 34,860,669.52	76	$ 64,935,096.52	276	$ 99,795,766.04
OH	Ohio	162	$ 25,611,261.00	80	$ 67,033,261.00	242	$ 92,644,522.00
CO	Colorado	143	$ 19,499,716.00	82	$ 65,942,718.00	225	$ 85,442,434.00
TX	Texas	173	$ 26,145,782.00	73	$ 58,998,095.00	246	$ 85,143,877.00
PA	Pennsylvania	136	$ 22,742,876.56	75	$ 59,871,646.64	211	$ 82,614,523.20
FL	Florida	109	$ 14,357,033.87	60	$ 43,309,768.30	169	$ 57,666,802.17
NC	North Carolina	76	$ 14,429,070.38	33	$ 37,188,141.00	109	$ 51,617,211.38
NJ	New Jersey	94	$ 13,539,827.00	42	$ 32,685,532.77	136	$ 46,225,359.77
WA	Washington	85	$ 16,558,683.00	33	$ 28,773,973.00	118	$ 45,332,656.00
OR	Oregon	62	$ 13,112,585.00	33	$ 31,246,033.00	95	$ 44,358,618.00
IL	Illinois	89	$ 12,960,230.53	35	$ 31,010,099.00	124	$ 43,970,329.53
AL	Alabama	75	$ 9,206,420.06	38	$ 30,898,769.19	113	$ 40,105,189.25
MI	Michigan	78	$ 12,035,037.93	30	$ 25,361,342.00	108	$ 37,396,379.93
AZ	Arizona	52	$ 6,340,222.00	35	$ 28,726,859.00	87	$ 35,067,081.00
NH	New Hampshire	54	$ 9,848,071.00	25	$ 22,817,428.00	79	$ 32,665,499.00
WI	Wisconsin	42	$ 7,163,776.00	21	$ 23,851,317.00	63	$ 31,015,093.00
MN	Minnesota	56	$ 9,855,123.00	23	$ 21,043,945.00	79	$ 30,899,068.00
GA	Georgia	50	$ 10,534,347.00	20	$ 20,066,729.00	70	$ 30,601,076.00
NM	New Mexico	48	$ 6,051,237.00	24	$ 20,117,507.00	72	$ 26,168,744.00
CT	Connecticut	51	$ 8,542,735.00	21	$ 16,394,450.00	72	$ 24,937,185.00
TN	Tennessee	15	$ 2,032,557.00	13	$ 16,076,270.00	28	$ 18,108,827.00
UT	Utah	27	$ 5,104,440.00	12	$ 11,209,984.00	39	$ 16,314,424.00
MO	Missouri	20	$ 3,104,690.00	14	$ 11,866,512.00	34	$ 14,971,202.00
IN	Indiana	29	$ 4,374,869.00	14	$ 10,425,504.00	43	$ 14,800,373.00
KY	Kentucky	25	$ 4,526,180.00	7	$ 7,320,914.00	32	$ 11,847,094.00
AR	Arkansas	19	$ 4,472,971.27	10	$ 7,234,116.00	29	$ 11,707,087.27
RI	Rhode Island	9	$ 2,638,379.00	10	$ 8,320,515.00	19	$ 10,958,894.00
OK	Oklahoma	12	$ 2,454,209.00	6	$ 8,382,333.00	18	$ 10,836,542.00
HI	Hawaii	22	$ 3,327,192.00	8	$ 5,423,111.00	30	$ 8,750,303.00
VT	Vermont	10	$ 1,659,580.00	7	$ 6,895,378.00	17	$ 8,554,958.00
MT	Montana	14	$ 2,361,543.00	6	$ 5,834,196.00	20	$ 8,195,739.00
NE	Nebraska	7	$ 996,388.00	4	$ 6,115,046.00	11	$ 7,111,434.00
DE	Delaware	16	$ 2,084,796.00	7	$ 4,789,538.00	23	$ 6,874,334.00
KS	Kansas	15	$ 2,188,772.00	5	$ 4,676,626.00	20	$ 6,865,398.00
SC	South Carolina	15	$ 2,599,419.00	4	$ 3,466,831.00	19	$ 6,066,250.00
ID	Idaho	9	$ 1,052,436.00	5	$ 4,619,952.00	14	$ 5,672,388.00
IA	Iowa	8	$ 1,302,998.00	5	$ 4,201,810.00	13	$ 5,504,808.00
ME	Maine	9	$ 1,035,125.14	5	$ 4,116,423.76	14	$ 5,151,548.90

NV	Nevada	6	$	677,650.15	6	$	3,717,149.00	12	$	4,394,799.15
LA	Lousiana	8	$	1,383,887.00	3	$	1,886,750.00	11	$	3,270,637.00
ND	North Dakota	6	$	2,177,893.00	0	$	-	6	$	2,177,893.00
WV	West Virginia	7	$	688,433.00	2	$	1,356,333.00	9	$	2,044,766.00
WY	Wyoming	3	$	374,613.00	3	$	1,489,629.00	6	$	1,864,242.00
MS	Mississippi	7	$	764,356.00	2	$	869,347.00	9	$	1,633,703.00
SD	South Dakota	4	$	499,375.00	1	$	377,704.00	5	$	877,079.00
AK	Alaska	3	$	443,177.00	1	$	300,000.00	4	$	743,177.00
DC	Dist. Of Columbia	4	$	695,415.00	0	$	-	4	$	695,415.00

STTR Increase over 6 Years

in U.S. dollars

	Agency R&D Extramural Budget*	% of Total Budget	Base Year .3%	2012 .35%	2013 .35%	2014 .4%	2015 .4%	2016 .45%	2017 .45%
DOD	47,955,244,000	7%	143,865,732	167,843,354	167,843,354	191,820,976	191,820,976	215,798,598	215,798,598
USDA	890,325,920	1%	NA	NA	NA	NA	NA	NA	NA
HHS	24,965,770,000	30%	74,897,310	87,380,195	87,380,195	99,863,080	99,863,080	112,345,965	112,345,965
DOT	330,210,000	31%	NA	NA	NA	NA	NA	NA	NA
ED	346,000,000	1%	NA	NA	NA	NA	NA	NA	NA
DOE	5,983,053,000	23%	17,949,159	20,940,686	20,940,686	23,932,212	23,932,212	26,923,739	26,923,739
NASA	4,935,700,000	26%	14,807,100	17,274,950	17,274,950	19,742,800	19,742,800	22,210,650	22,210,650
DOC	280,570,000	52%	NA	NA	NA	NA	NA	NA	NA
EPA	190,530,000	2%	571,590	666,855	666,855	762,120	762,120	857,385	857,385
NSF	4,824,000,000	70%	14,472,000	16,884,000	16,884,000	19,296,000	19,296,000	21,708,000	21,708,000
DHS	804,200,000	58%	NA	NA	NA	NA	NA	NA	NA
TOTAL	**91,505,602,920**		**266,562,891**	**310,990,040**	**310,990,040**	**355,417,188**	**355,417,188**	**399,844,337**	**399,844,337**

Differential from 0.3% Base	2012	2013	2014	2015	2016	2017
	44,427,148	44,427,148	88,854,297	88,854,297	133,281,446	133,281,446

* Data from FY2010

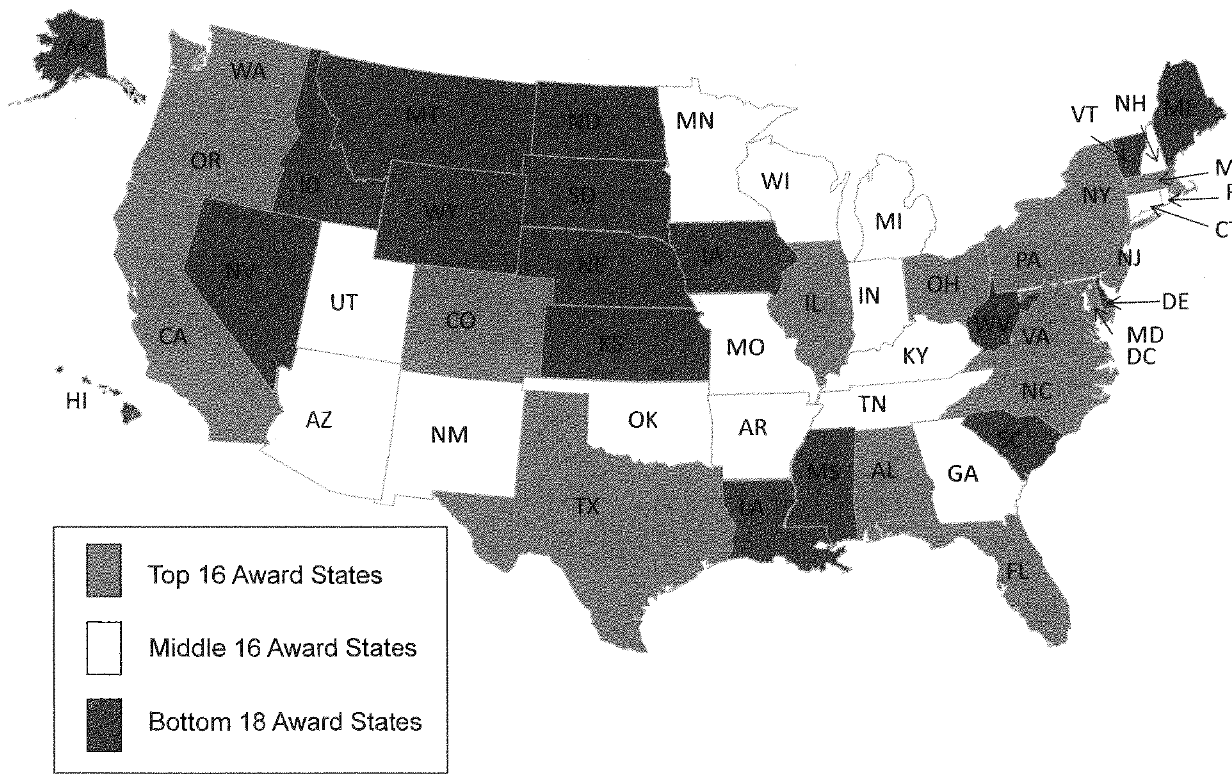
SBIR Increase over 6 Years

in U.S. dollars

Agency R&D Extramural Budget		% of Budget	Base Year 2.5%	2012 2.6%	2013 2.7%	2014 2.8%	2015 2.9%	2016 3%	2017 3.1%	2017 3.2%
DOD	47,955,244,000	7%	1,198,881,100	1,246,836,344	1,294,791,588	1,342,746,832	1,390,702,076	1,438,657,320	1,486,612,564	1,534,567,808
USDA	890,325,920	1%	22,258,148	23,148,474	24,038,800	24,929,126	25,819,452	26,709,778	27,600,104	28,490,429
HHS	24,965,770,000	30%	624,144,250	649,110,020	674,075,790	699,041,560	724,007,330	748,973,100	773,938,870	798,904,640
DOT	330,210,000	31%	8,255,250	8,585,460	8,915,670	9,245,880	9,576,090	9,906,300	10,236,510	10,566,720
ED	346,000,000	1%	8,650,000	8,996,000	9,342,000	9,688,000	10,034,000	10,380,000	10,726,000	11,072,000
DOE	5,983,053,000	23%	149,576,325	155,559,378	161,542,431	167,525,484	173,508,537	179,491,590	185,474,643	191,457,696
NASA	4,935,700,000	26%	123,392,500	128,328,200	133,263,900	138,199,600	143,135,300	148,071,000	153,006,700	157,942,400
DOC	280,570,000	52%	7,014,250	7,294,820	7,575,390	7,855,960	8,136,530	8,417,100	8,697,670	8,978,240
EPA	190,530,000	2%	4,763,250	4,953,780	5,144,310	5,334,840	5,525,370	5,715,900	5,906,430	6,096,960
NSF	4,824,000,000	70%	120,600,000	125,424,000	130,248,000	135,072,000	139,896,000	144,720,000	149,544,000	154,368,000
DHS	804,200,000	58%	20,105,000	20,909,200	21,713,400	22,517,600	23,321,800	24,126,000	24,930,200	25,734,400
TOTAL	91,505,602,920		2,287,640,073	2,379,145,676	2,470,651,279	2,562,156,882	2,653,662,485	2,745,168,088	2,836,673,691	2,928,179,293

Differential from 2.5% Base	91,505,603	183,011,206	274,516,809	366,022,412	457,528,015	549,033,618	640,539,220

Geographic Distribution of SBIR Award Dollars
-- FY2012--



Department of Energy
Washington, DC 20585

December 16, 2013

Lena Postanowicz
Senate Committee on Small Business & Entrepreneurship
Washington, DC 20510-6350

Dear Lena,

Please find below the requested information concerning the critical issues to be discussed in reviewing the effectiveness of the Reauthorization Act and bringing more resources to America's small businesses.

Sincerely,

Manny Oliver

Director, SBIR/STTR Programs Office
U. S. Department of Energy

Potential Topics for discussion

Outreach to under-represented groups: How big is the problem?

There is a strongly perceived need to increase outreach to under-represented groups in the SBIR/STTR programs. These include minority-owned small businesses, women-owned small businesses, and under-represented states. However, agencies lack data that would indicate the target levels for representation of these groups. In the case of under-represented states a definition of the "low number of awards" specified in the statute would be beneficial. For example, we don't know today whether the percentage of applications coming from women-owned small businesses is equal to the percentage of women-owned small businesses in the applicant pool? Similarly, we don't know if the percentage of applications coming from a state is representative of the percentage of the applicant pool that resides in that state? This currently does not stop us from doing outreach, but this information is essential for knowing the magnitude of the problem and for knowing when we have solved it.

Outreach: How do we reach new applicants and under-represented groups?

Agencies currently participate in a number of outreach events at the national, regional, and state level. Although there is the potential to do more with administrative funds, the question remains at to what is the most effective means to perform outreach, particularly to under-represented groups. DOE is focusing on the three approaches below.

1. **Webinars:** Beginning in FY 2012 DOE implemented its own webinar-based outreach that is timed to coincide with our solicitations. Thirty-two percent of the 2516 webinar participants in FY 2012 & 2013 have been from the 25 states that are under-represented in the DOE SBIR/STTR programs. We believe that through webinars (both live and recorded) we are able to reach a much broader audience than through in-person events.
2. **State & Other Directed Outreach:** DOE contacts state SBDCs, Clean Tech organizations, and organizations devoted to women & minorities in science and engineering to explore outreach opportunities.
3. **Phase 0 Assistance:** In FY2014, we plan to implement a Phase 0 (application assistance) program to encourage participation by under-represented groups. This program will be based on the Phase 0 programs that have been implemented by some states. We don't intend to duplicate existing state programs, but to provide assistance where it is currently not available and to tailor the assistance to the DOE SBIR/STTR programs.

Administrative Funding Pilot: What is slowing agency use of these funds?

Please be aware that there are two issues that slow down an agency's ability to expend these funds:

1. Use of these funds requires SBA approval
2. Because SBIR/STTR funds are not appropriated, SBIR/STTR program managers do not typically receive funds until later in the fiscal year (especially when operating under a CR).

In FY 2013, although DOE submitted its administrative funding plan to SBA by August 31, 2012, the plan was not approved until May 23, 2013. The approval process for FY 2014 was completed by September 30, 2013.

Implementation of Key Reauthorization Provisions Applicable to DOE

Section	Description	Status
5102	Increase in Allocations	Implemented immediately.
5103	Award Size	DOE has implemented awards at the new guideline levels ($150,000/$1,000,000) and 50% above the guideline levels ($225,000/$1,500,000) in FY 2013.
5105	Phase II Invitations	DOE has always invited all Phase I awardees to apply for Phase II and will continue to do so.
5107	VC Participation	Authority has been exercised by the ARPA-E SBIR/STTR Programs in DOE beginning in FY 2013. The DOE SBIR/STTR programs have not exercised this authority at this time.
5109	Collaboration with Federal Labs	Implemented. In addition, DOE has included technology transfer opportunities from the DOE National Labs in its SBIR/STTR solicitations.
5111	Sequential Phase II Awards	Implemented in FY 2014.
5122	Technical Assistance	Implemented increased technical assistance amounts and applicant-specified commercialization assistance vendor in FY 2012. ARPA-E has leveraged its Tech to Market program for SBIR/STTR.
5123	Commercialization Readiness Pilot Program	Not implemented—initial focus has been on use of the Sequential Phase II to facilitate additional R&D for commercialization.
5126	Shortening Decision Period	Implemented with FY 2013 solicitations—final notifications provided in less than 90 days.
5132-35	Databases	Have initiated modification to data collection efforts to support expanded government and public databases.
5137	NAS Study	Contract awarded in September 2013.
5140	Release of Applicant Info to Economic Development Organizations	Request submitted to grants.gov.
5141	Administrative Funding Pilot	Implemented in FY 2013; plan to continue through FY 2015.
5143	Reducing Fraud, Waste, and Abuse	Implemented in FY 2013.
5161	Report on SBIR/STTR Program Goals	Under review in collaboration with other agencies.
5165	Commercialization Success	Metrics implemented in conjunction with SBA.
5167	Enhancement of Manufacturing	Implemented.

KENTUCKY
SCIENCE & TECHNOLOGY
CORPORATION | KSTC

December 16, 2013

Honorable Senator Mary L. Landrieu, Chair
Senate Committee on Small Business and Entrepreneurship
Washington, DC 20002

RE: Roundtable – "SBIR/STTR: Measuring the Effectiveness of the Reauthorization Act and Maximizing Research Dollars to America's Small Business", Wednesday, December 18, 2013

Dear Honorable Senator Landrieu,

Thank you for the invitation to participate in a roundtable entitled "SBIR/STTR: Measuring the Effectiveness of the Reauthorization Act and Maximizing Research Dollars to America's Small Business" to provide input on implementation of the 2011 SBIR/STTR Reauthorization Act. This is a great honor for the Commonwealth of Kentucky, the Kentucky Science and Technology Corporation (KSTC), and for me personally to present a state perspective on the 2011 Reauthorization Act.

Led by the Cabinet for Economic Development and the Council on Postsecondary Education through a contract with KSTC (a nonprofit, 501 (c)(3) organization founded in 1987), The Commonwealth of Kentucky has benefitted from the Federal and State Technology Partnership (FAST) Program and its own programs initiated under the 2000 Kentucky Innovation Act to encourage growth of new ideas into technologies and new technology businesses for knowledge-based economic development. Some of these programs include the Kentucky Science and Engineering Foundation (KSEF, for providing peer-review based seed funding for R&D to universities for developing new ideas), the Kentucky Commercialization Fund (for facilitating technology transfer of innovative technologies from universities to marketplace), the Kentucky Enterprise Fund (for providing early-stage seed investment to grow businesses), and the Kentucky Innovation Network (for providing business acceleration services). Beginning in 2004, Kentucky started providing proactive SBIR/STTR assistance to its innovators and entrepreneurs in several ways. It also started providing competitive, peer-review based Kentucky SBIR/STTR Matching Funds Program grants to Federal SBIR/STTR awardees to bridge the gap between Phase I and Phase II, help protect intellectual property, and undertake additional technical and business tasks that are complimentary to the federal grant, with an overall goal of further de-risking the technology and preparing the SBIR/STTR companies to become attractive for private capital investment.

The above referenced proactive initiatives have helped Kentucky rise in national ranking from 44-45 in 2004 to 29-30 in 2012 in SBIR/STTR awards among other states.

The SBIR/STTR Reauthorization Act of 2011 has been effective in increasing the availability and amount of funding for both SBIR and STTR programs. Federal agencies have been trying to implement the required changes but the pace has been slow, apparently because the Policy Directive was only published in mid 2012. Some of the critical issues that we feel are important for discussion at the roundtable from the states perspectives include:

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1. **Travel Restrictions for Federal Program Managers Affecting the Outreach** – Limited travel budgets affect outreach significantly. Events must be scheduled too far in advance to request program manager's participation.
2. **Limited FAST Funds** – $2 M in FAST funds to states for outreach is not sufficient for a highly competitive 11-agency $2.5 B program resulting in low participation and successes of targeted businesses from women-owned, small disadvantaged and rural businesses. Funding is limited to only 20 states. Grant size is insufficient for the targeted goals. Good proposals are needed but FAST grants are also needed for more states and in higher amounts. A $10M per year FAST grant program is needed with federal agencies sharing their outreach plans with state agencies.
3. **National Conferences** – There have been no regular federally funded national conferences since 2007. In their absence, it is an unreasonable burden on states to hold a national conference twice yearly. States in the southeast, where these are needed most, can't afford to host. In addition, SWIFT-SBIR/STTR Where Innovation Focuses Technology Conference (bus tours covering a few states in a few days) that covered a specific geographical area should be reinstituted. Webinars and social media are good but should never be replacements for in-person contacts and outreaches that provide one-on-one meetings, encourage partnerships for technical and business needs, and make available opportunities to meet with primes, state economic development agencies, university innovators and other service providers.
4. **Many Layers of Complexity** – Under the Reauthorization Act, a business has to be formed, DUNS number obtained and, before submission of an application, the new business registered within SAM and at sba.gov, adding layers of complexity to application submissions. Earlier, registration and formalization of business was only required upon award of the federal grant.
5. **Fraud, Abuse and Waste** – Reauthorization has provided a negative tone in this regard requiring Inspector Generals for finding abuses and taking money back from the abusers. States agree that those who intentionally violate the law should be punished, but the focus should be directed to educating the new businesses about what might constitute fraud, abuse and waste, and not target minor problems and unintentional action. Investigations should be fast and completed in a shorter time, but not reaching so far into the past that the energy needed for innovations is adversely impacted. Otherwise, these investigations discriminate against new comers who do not have resources to ensure compliance and favor those who have been doing business for a few years and are familiar with the government rules and regulations. The same could be said about women-owned businesses (WOB) and minority-owned businesses (MOB).
6. **Encourage Participation by Women and Minority Owned Businesses** – Reauthorization Act desires agencies to involve more WOB/MOB but it has little positive effect. States can target unsuccessful WOB and MOB applicants for additional and targeted assistance if the states can obtain a list of such identified unsuccessful applicants from federal agencies. In addition, specific assistance programs should be created to reach to new WOBs and MOBs.
7. **Commercialization Assistance** – Universities receive significant federal funds for R&D and are considered powerhouses for innovations. A lot of intellectual property sits on their shelves, waiting to be commercialized. A new initiative to facilitate technology commercialization from universities will create new businesses and bring many innovative ideas from bench side to marketplace. Federal programs such as the EPSCoR Program can be expanded to provide funding to business incubators or non-profit organizations engaged in facilitating research commercialization, but funds should not be taken out of the current STTR program.
8. **Support Innovation in Rural Counties** – Currently, assistance is limited to a 50-mile radius of Tier I universities. Creation of a new pilot program to support innovations at non-Tier I universities and support for companies in 50-mile radius will bring significant benefits.

I look forward to participating and expanding on the above referenced issues at the roundtable on December 18, 2013.

Again, thank you for this timely opportunity.

Sincerely,

Mahendra K. Jain

Mahendra K. Jain, Ph.D.
Senior Vice President, KSTC, and
Executive Director, KSEF

United States Government Accountability Office

GAO

Statement

For the Committee on Small Business and Entrepreneurship, U.S. Senate

Wednesday, December 18, 2013

SMALL BUSINESS RESEARCH PROGRAMS

Summary of GAO Reports Since Programs' Reauthorization

Statement of Frank Rusco, Director
Natural Resources and Environment

DRAFT

GAO Highlights

[illegible]

Why GAO Did This Study

[illegible]

December 18, 2013

SMALL BUSINESS RESEARCH PROGRAMS

Summary of GAO Reports Since Programs' Reauthorization

What GAO Found

With regard to new fraud, waste, and abuse requirements, GAO's November 2012 report found that the Small Business Administration (SBA) issued revised policy directives for the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs in August 2012 that included new requirements designed to help agencies identify and prevent potential fraud, waste, and abuse in the programs. The revised directives identified 10 actions that each participating agency is required to implement, such as developing policies and procedures to avoid funding essentially equivalent work already funded by another agency. The revised SBIR and STTR policy directives include elements of GAO's fraud prevention framework, which consists of three crucial elements: (1) up-front preventive controls, (2) detection and monitoring, and (3) investigations and prosecutions. However, the effectiveness of the new requirements in helping agencies identify and prevent potential fraud, waste, and abuse will depend on how participating agencies implement these requirements.

In GAO's September 2013 report on agencies' compliance with certain spending and reporting requirements for fiscal years 2006 to 2011, GAO found that most agencies did not consistently comply with these requirements. First, 8 of the 11 agencies participating in the SBIR program and 4 of the 5 agencies participating in the STTR program did not consistently comply with requirements to spend a certain percentage of their extramural research and development (R&D) funding on the programs. Although the SBIR and STTR spending requirements apply to each fiscal year, some agency officials said they "carry over" funding appropriated in one year to spend in the next year, following the practice of most R&D funding which can be spent over a 2-year period. Additionally, officials said that delays in receiving appropriations can delay awarding SBIR or STTR contracts, which can make it difficult for an agency to spend the full amount of its SBIR or STTR spending requirement in a year. Second, GAO found that participating agencies have not consistently complied with requirements to report on their methodologies for calculating their extramural R&D budgets. Specifically, GAO found a majority of the agencies did not include an itemization of each R&D program excluded from the calculation of their extramural R&D budget and a brief explanation of why it was excluded, even though these items are required to be included in the methodology report.

With regard to data rights protections, GAO's November 2013 report stated that SBA was in the process of amending the provisions of the SBIR policy directive that pertain to data rights. Because the update to the policy directive has a bearing on the issue of whether laws and policy directives are sufficient to protect SBIR awardees, GAO plans to study the data rights issue once SBA has completed its update. SBA officials estimated the updates to this policy directive would be completed in late 2013 or early 2014.

GAO U.S. GOVERNMENT ACCOUNTABILITY OFFICE
441 G St. N.W.
Washington, DC 20548

For 30 years, federal agencies have made awards to small businesses for technology research and development (R&D) through the Small Business Innovation Research (SBIR) and, more recently, Small Business Technology Transfer (STTR) programs.[1] The National Defense Authorization Act for Fiscal Year 2012 (the act), enacted on December 31, 2011, reauthorized the SBIR and STTR programs through September 30, 2017.[2] As part of the reauthorization, the act made a number of changes to the programs, including enacting requirements related to identifying and preventing fraud, waste, and abuse in the programs; increasing the amount that agencies are required to spend each year on the programs; and amending provisions related to data rights protections. In addition to reauthorizing the SBIR and STTR programs, the act mandated GAO to undertake a series of reviews of different aspects of the SBIR and STTR programs.

This statement summarizes our work on the SBIR and STTR programs since the programs were reauthorized and is based on the three reports we have issued to date.[3] No new audit work was performed. The work upon which this statement is based was conducted in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Further details about the scope and methodology can be found in each of these related products.

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[1]Federal agencies with a budget of $100 million or more for extramural R&D—which is generally conducted by nonfederal employees—are required to establish and operate an SBIR program. Agencies with an extramural R&D budget of $1 billion or more are required to establish and operate an STTR program. Currently, 11 agencies participate in the SBIR program: the Departments of Agriculture, Commerce, Defense (DOD), Education, Energy (DOE), Health and Human Services (HHS), Homeland Security (DHS), and Transportation (DOT); the Environmental Protection Agency; the National Aeronautics and Space Administration (NASA); and the National Science Foundation (NSF). Of these, 5 agencies also participate in the STTR program: DOD, DOE, HHS, NASA, and NSF.

[2]Pub. L. No. 112-81, Div. E.,Title LI, 125 Stat. 1823 (2011).

[3]GAO, *Small Business Research Programs: Agencies Are Implementing New Fraud, Waste, and Abuse Requirements*, GAO-13-70R (Washington, D.C.: Nov. 15, 2012), GAO, *Small Business Research Programs: Actions Needed to Improve Compliance with Spending and Reporting Requirements*, GAO-13-421 (Washington, D.C.: Sept. 9, 2013), and GAO, *Small Business Innovation Research: Data Rights Protections*, GAO-14-116R (Washington, D.C.: Nov. 4, 2013).

GAO Has Reported on Three Aspects of the SBIR and STTR Programs Since Reauthorization

As mandated in the act, GAO has completed reports on three aspects of the SBIR and STTR programs since the fiscal year 2012 reauthorization of the programs: (1) new fraud, waste, and abuse requirements; (2) certain spending and reporting requirements; and (3) data rights protections.

Small Business Administration's Revised Policy Directives to Include Fraud, Waste, and Abuse Requirements, and Some Agencies Have Implemented Changes

The act mandated that we establish a baseline of changes made to the SBIR and STTR programs to fight fraud, waste, and abuse by December 31, 2012, and that, every 4 years thereafter, we evaluate the effectiveness of agencies' strategies to fight fraud, waste, and abuse.[4] We issued our first report on these issues in November 2012.[5]

In our November 2012 report, we found that the Small Business Administration (SBA) issued revised policy directives for the SBIR and STTR programs in August 2012 that included new requirements designed to help agencies identify and prevent potential fraud, waste, and abuse in the programs. The revised directives identified 10 actions that each participating agency is required to implement, such as requiring award recipients to certify they are in compliance with specific program requirements at the time of the award, as well as after the award and during the life cycle of the funding agreement, in addition to developing policies and procedures to avoid funding essentially equivalent work already funded by another agency.

We found in our November 2012 report that the revised SBIR and STTR policy directives include elements of our fraud prevention framework, which consists of three crucial elements: (1) up-front preventive controls, (2) detection and monitoring, and (3) investigations and prosecutions.[6] However, the effectiveness of the new requirements in helping agencies identify and prevent potential fraud, waste, and abuse will depend on how participating agencies

[4]Pub. L. No. 112-81 § 5143(b).

[5]GAO-13-70R.

[6]For more information on GAO's fraud prevention framework, see GAO-13-70R.

implement the requirements. For example, the requirement to self-certify compliance with certain program regulations—including eligibility—addresses our "detection and monitoring" element; however, the effectiveness of the certifications will depend, in part, on whether agencies implement verification processes to supplement the required certifications.

Even before SBA began revising the policy directives, each of the 11 participating agencies already had in place some tools that addressed or partially addressed the new fraud, waste, and abuse requirements in the revised policy directives. Additionally, even though they were not required to do so, 8 of the 11 participating agencies began implementing additional tools to address expected requirements between the time SBA began revising the directives in January 2012 and the time SBA issued them in August 2012. At the time of our review, each of the agencies needed to modify some existing tools and implement new tools to meet all of the requirements in the revised policy directives. At that time, the agencies were determining their planned time frames for implementing the new requirements. We plan to review agencies' progress in implementing the new fraud, waste, and abuse requirements as part of our future mandated reviews of these issues.

Agencies Have Not Consistently Complied with Certain Spending and Reporting Requirements

The act mandated that we review agencies' compliance with certain spending and reporting requirements and administrative costs, among other issues, each year for 5 years.[7] In September 2013, we issued our first report on these issues, which included information for fiscal years 2006 to 2011.[8] We are currently reviewing agencies' compliance with these spending and reporting requirements for fiscal year 2012.

In our September 2013 report, using data that the agencies reported to SBA, we found that 8 of the 11 agencies participating in the SBIR program and 4 of the 5 agencies participating in the STTR program did not consistently comply with spending requirements for fiscal years 2006 through 2011.[9] Although the SBIR and STTR spending requirements apply to each fiscal year,

[7]Pub. L. No. 112-81, § 5136.

[8]GAO-13-421.

[9]The three agencies that complied with spending requirements for all 6 years for the SBIR program were the Department of Education, HHS, and DHS, and the agency that complied with spending requirements for all 6 years for the STTR program was HHS.

some agency officials said they "carry over" funding appropriated in one year to spend in the next year, following the practice of most R&D funding which can be spent over a 2-year period. Additionally, officials said that delays in receiving appropriations can delay awarding SBIR or STTR contracts, which can make it difficult for an agency to spend the full amount of their SBIR or STTR spending requirement in a year. Moreover, agencies decide on a mix of Phase I and Phase II awards to meet program objectives, and the collective value of these awards may not equal their spending requirement.[10]

Additionally, in our September 2013 report, we found that participating agencies have not consistently complied with requirements to report on their methodologies for calculating their extramural R&D budgets. First, with the exception of NASA in certain years, agencies did not submit their methodology reports to SBA within the time frame required by the Small Business Act for fiscal years 2006 through 2011. Rather than submitting their methodology reports to SBA within 4 months of the enactment of their respective appropriations acts, as required by the Small Business Act, most agencies submitted them to SBA after the end of the fiscal year with their annual reports. SBA officials said they have not held the agencies to the act's deadline for submitting methodology reports, in part because continuing resolutions enacting final appropriations have sometimes not been passed until the middle of the fiscal year, pushing the required reporting date until late in the fiscal year and making it more convenient for agencies to support the methodology report with the annual report. Further, SBA officials said that the agency uses the methodology reports for their annual reports to Congress. By not having the methodology reports earlier in the year as specified by law, however, SBA does not have an opportunity to promptly analyze these methodologies and provide the agencies with timely feedback to assist agencies in accurately calculating their spending requirements.

More significantly, we found in our September 2013 report that a majority of the agencies did not include an itemization of each R&D program excluded from the calculation of their extramural R&D budget and a brief explanation of why it was excluded. Specifically, in our review of the methodology reports for fiscal years 2006 through 2011, we found that six agencies—DHS, DOD, DOE, DOT, NASA, and NSF—did not fully meet these requirements

[10] In Phase I, agencies award up to $150,000 for a period of about 6 to 9 months to small businesses to determine the scientific and technical merit and feasibility of ideas that appear to have commercial potential. In Phase II, small businesses whose Phase I projects demonstrate scientific and technical merit, in addition to commercial potential, may compete for awards of up to $1 million to continue the R&D for an additional period, normally not to exceed 2 years.

because their methodology reports either identified some excluded programs and not others or the reports omitted explanations for exclusions.

In our September 2013 report, we recommended, among other things, that SBA provide (1) additional guidance to agencies for spending and reporting requirements and provide (2) Congress with a more timely annual report with more analysis of the agencies' methodologies. In comments on a draft of the report, SBA stated that it agreed with the recommendations and will implement them.

SBA Is Amending Policies Pertaining to Data Rights

The act mandated that GAO report on certain aspects of the policies for the SBIR program related to protecting the data rights of awardees.[11] In 2012, the act required SBA to amend its SBIR policy directive to address certain amendments, including those related to data rights.[12] We issued a report in November 2013 stating that SBA was in the process of amending the provisions of the SBIR policy directive that pertain to data rights, and because the update to the policy directive has a bearing on the issue of whether laws and policy directives are sufficient to protect SBIR awardees, we plan to study the data rights issues once SBA has completed its update.[13] SBA officials estimated the update to the policy directive would be completed in late 2013 or early 2014.

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For further information about this statement, please contact Frank Rusco at (202) 512-3841 or ruscof@gao.gov. Hilary Benedict, Assistant Director; Rich Johnson; Rebecca Makar; Cynthia Norris; and Dan Semick made key contributions to this statement.

(361550)

[11]Pub. L. No. 112-81, § 5139.

[12]Pub. L. No. 112-81, § 5151.

[13]GAO-14-116R.

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

National Institutes of Health
Bethesda, Maryland 20892

Senate Committee on Small Business and Entrepreneurship

SBIR/STTR: Measuring the Effectiveness of the Reauthorization Act and Maximizing Research Dollars to America's Small Businesses Roundtable on December 18, 2013

Areas of particular interest to NIH for potential discussion on December 18, 2013 include:

- Award guidelines and waivers for specific topics over the hard cap (Section 5103)
- SBIR Direct Phase II (Section 5106)
- VC provision (Section 5107), and
- Administrative fund pilot (Section 5141).

Soon after the SBIR/STTR Reauthorization Act of 2011 (Act) was signed into law, NIH developed and launched a public SBIR/STTR Reauthorization Website to keep the small business community informed on key aspects of the Act and NIH implementation as it occurs. The website is found at http://grants.nih.gov/grants/funding/sbir/reauthorization.htm, linked from our main page http://sbir.nih.gov and regularly updated as provisions are implemented.

NIH/HHS has been diligently implementing the provisions within the Act. Given the complexity of the Act and the requirements for SBA to issue revised Policy Directive and eligibility rules, implementation has been conducted on a 'rolling basis' meaning as provisions are ready, they are implemented and the community is informed.

Some key provisions NIH has implemented include, but are not limited to:

- Immediately implementing Section 5102 – increased set-aside requirements
- Immediately implementing Section 5103 – revised budget guidelines
- Implementing ability to switch between programs at Phase II (coming January 2014) per Section 5104
- Implementing SBIR Direct to Phase II provision (coming January 2014) with targeted solicitations per Section 5106
- Providing the Written Determination to SBA and Congress to implement Section 5107 and begin allowing majority Venture-Capital-backed small businesses to apply to the NIH SBIR program for all SBIR solicitations issued January 28, 2013 or after.
- Expanding our established Discretionary Technical Assistance programs to include STTR awardees and allow SBCs to apply for their own technical assistance dollars per Section 5121
- Applied to SBA to implement a Commercialization Readiness Pilot Program per Section 5123
- Working with SBA and other Federal Agencies to implement the Interagency Policy Committee per Section 5124
- Initiating Phase 0 Proof of Concept Centers per Section 5127
- Engaging the National Academies and establishing contract for Evaluation of SBIR/STTR programs per Section 5137

- Requesting permission from SBA to implement Administrative Funds pilot and initiating pilot in mid-year FY13 per Section 5141
- Implementing Life Cycle certifications per Section 5143
- Working with SBA and Agencies to develop Phase I/II Transition Rate and Commercialization Benchmarks per Section 5165
- Coordinating with the SBIR/STTR programs with the NIH Institutional Development Award (IDeA) program to increase program awareness and participation in under-represented states and filing required Coordination Report per Section 5168

DECEMBER 16, 2013

TO: **SENATE COMMITTEE ON SMALL BUSINESS AND ENTREPRENEURSHIP**

FROM: **DR. B. DAVID GREEN, PRESIDENT AND CEO – PHYSICAL SCIENCES INC. (PSI)**

RE: **OUTLINE FOR SBIR/STTR ROUNDTABLE ON 12/18/13**

I. Introduction to Physical Sciences Inc. (PSI), background on Dr. B. David Green and success stories across multiple government agencies. See below for more information on PSI and for a bio on Dr. Green.

II. Importance of 6-year reauthorization and stability to SBIR Program.

III. Highlight concerns around implementation and new regulatory processes including;

   a. Significant increase in paperwork, time and process of filing new applications. This is ok for established participants such as PSI since they have the internal systems in place, but for first time applicants this is a major barrier to entry. SBIR needs new applicants to keep program viable.

   b. Phase III benchmark concerns around 10 year past history. This will have a negative impact on small businesses right at threshold and small businesses that lack systems to track. It is also unfair to judge retroactively versus implementing a system that is forward looking. Please see attached comment letter submitted by PSI to SBA on September 12, 2013.

   c. Concerns over view of "Multiple Award Winners" and emphasis that some multiple award winners are not a "paper mills" but are actually manufacturing devices, commercializing products and spinning out companies.

ABOUT PHYSICAL SCIENCES INC. (PSI)

PSI is a premier R&D organization with a 40 year history of performing applied research and development supporting many government agencies and commercial companies. Our talented staff largely at the PhD level includes 175 scientists, engineers, and administrative personnel. Corporate Headquarters is located in Andover MA, with employees in Pennsylvania, Tennessee, and California. We have four subsidiaries located in Massachusetts, Maryland, New Jersey and Ohio each with their own unique tech base and laboratories. PSI has created 5 spin-out companies in the fields of medical products, environmental monitoring, telecom, digital cinema, and compact infrared lasers. Our company is 100% employee owned by a beneficial trust (ESOP) - empowering and rewarding the individual and collective accomplishments. Our talented staff matures, demonstrates and transitions technologies. They then use their talent and experience to create the next invention.

BIO – B. DAVID GREEN, PRESIDENT AND CEO, PHYSICAL SCIENCES INC. ANDOVER MA

Dave was educated in the public school system in Philadelphia; graduated Magna cum Laude with a Bachelors of Science degree in Chemistry from the University of Pennsylvania; and then received a Ph.D in Physical Chemistry from MIT. His research involved the spectroscopic detection of trace gases in the environment. The appeal of applied research and excitement and energy of a small business culture led him to join Physical Sciences directly from MIT in 1976. He has held positions of increasing responsibility as he has helped PSI grow over three decades. Dr. Green became President and CEO in 2008. He has published nearly 100 journal articles, over 80 technical reports in several technical fields, and is an author on 5 issued patents.

September 12, 2013

Edsel Brown, Jr., Assistant Director
Office of Innovation
Small Business Administration
409 Third Street, SW
Washington, DC 20416

Re: Docket Number 2013 – 0008
Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs Commercialization Benchmark

To Whom It May Concern:

Thank you for the opportunity to provide comments on the above referenced notice (the Notice) regarding the "Commercialization Benchmark" for the SBIR and STTR program. I am writing on behalf of Physical Sciences Inc. (PSI) to express concern regarding:

- The use of definition terms specifically "total sales" as referenced in the Notice;
- The emphasis on the number of patents equal to or greater than 15%;
- The emphasis on $100,000 from sales and investment;
- The 10-year period of performance.

Small business concerns (SBC), such as PSI, request clarification on the definition of "sales". The Small Business Administration (SBA) should clarify the term "sales" and explain to SBCs whether "sales" are direct sales by the SBIR recipient, can stem from the transfer from an SBIR firm to a licensee, or include the commercial "sales" of the specific SBIR-developed technology by the licensee. From our perspective, PSI looks at the broader economic benefit of an entire sale, not just the royalties received from licensees.

Second, the emphasis on patents equal to or greater than 15% of the number of Phase 2 awards seems arbitrary and subject to many factors beyond the control of the small business, including patent office actions. Trade secrets have proven value as well. Patents do not equate to sales: some research firms who participate in the SBIR program may develop many patents that do not produce sales in the 10 year window. While patents should be taken into consideration, the SBA should strive to make a clearer distinction of the figure of merit.

Third, it would be useful to get clarification on how SBA came to the determination of using the $100,000 figure as a sufficient benchmark. This concern also ties into the actual definition of "sales". As not all Phase 2 awards have the same value, perhaps a percent of award value (such as 10%) might be a more fair measure of return.

Last, the 10-year period of performance could actually cause considerable burden for firms first reaching the threshold requirements. A firm having won less than two Phase 2 programs per year on average, may not have the systems in place to knowledgably track and accurately report the commercial "sales" resulting from its SBIR programs. This could create significant unintended consequences on SBIR program participants crossing this threshold. While we recognize the importance of having a structured period of performance review, SBA should be cognizant of the fact it could create a major burden for SBCs.

From our perspective, a system already exists that captures many of the goals of this Benchmark - the Commercialization Achievement Index (CAI) currently used by the Department of Defense (DoD). The CAI has many years of documented success, and it appears that the SBA is moving towards a model that achieves what the CAI is already providing DoD. Instead of duplicating efforts and making reporting more burdensome for SBCs, the SBA should consider adopting the CAI outright.

Thank you for your attention and assistance to this matter. As you proceed towards adoption/implementation of a Commercialization Benchmark, we hope you take our suggestions into consideration. PSI would welcome the opportunity to consult further on the matter referenced above. Please do not hesitate to contact me directly for additional information.

Sincerely,

B David Green

B. David Green, President
Physical Sciences Inc.

Cc:

Senate Small Business & Entrepreneurship Committee
428A Russell Senate Office Building
Washington, DC 20510

House Small Business Committee
2361 Rayburn House Office Building
Washington, D.C. 20515

United States Government Accountability Office

GAO

Report to Congressional Committees

September 2013

SMALL BUSINESS RESEARCH PROGRAMS

Actions Needed to Improve Compliance with Spending and Reporting Requirements

GAO-13-421

GAO Highlights

Highlights of GAO-13-421, a report to congressional committees

Why GAO Did This Study

The Small Business Act established the SBIR and STTR programs to use small businesses to meet federal R&D needs. The law mandates that agencies, with extramural R&D budgets that meet the thresholds for participation, must spend a percentage of these annual budgets on the SBIR and STTR programs. The agencies are to report on their activities to SBA and, in turn, SBA is to report to Congress. Eleven agencies participate in SBIR, and five of them also participate in STTR. The act's 2011 reauthorization mandates that GAO review SBA's and the agencies' compliance with spending and reporting requirements, and other program aspects, for fiscal years 2006 to 2011. GAO determined (1) the extent to which participating agencies complied with spending requirements and how the agencies calculated these requirements, (2) the extent to which participating agencies and SBA complied with certain reporting requirements, (3) the potential effects of basing the spending requirements on an agency's total R&D budget, and (4) the cost to participating agencies of SBIR and STTR program administration. GAO reviewed agency calculations of spending requirements and the required reports and interviewed SBA and participating agency program and financial officials.

What GAO Recommends

GAO recommends, among other things, that SBA provide additional guidance to agencies for spending and reporting requirements and provide Congress with a more timely annual report with more analysis of the agencies' methodologies. SBA stated that it agrees with the recommendations and will implement them.

View GAO-13-421. For more information, contact Frank Rusco at (202) 512-3841 or ruscof@gao.gov

September 2013

SMALL BUSINESS RESEARCH PROGRAMS

Actions Needed to Improve Compliance with Spending and Reporting Requirements

What GAO Found

Using data agencies had reported to the Small Business Administration (SBA), GAO found that 8 of the 11 agencies participating in the Small Business Innovation Research (SBIR) program and 4 of the 5 agencies participating in the Small Business Technology Transfer (STTR) program did not consistently comply with spending requirements for fiscal years 2006 to 2011. In calculating their annual spending requirements for these programs, some agencies made improper exclusions from their extramural research and development (R&D) budgets and used differing methodologies. SBA, which oversees the programs, provided guidance in policy directives for agencies on calculating these requirements, but the directives do not provide guidance on calculating the requirements when appropriations are late and spending is delayed, resulting in agencies using differing methodologies. This made it difficult to determine whether agencies' calculations were correct. Without further SBA guidance, agencies will likely continue calculating spending requirements in differing ways.

The participating agencies and SBA have not consistently complied with certain program reporting requirements. For example, in their methodology reports to SBA, the agencies submitted different levels of detail on their methodologies, such as the programs excluded from the extramural budget and the reasons for the exclusions. SBA's guidance states that the methodology reports are to itemize each R&D program excluded from the calculation of the agency's extramural budget and explain why a program is excluded but does not specify the format of the methodology reports to ensure consistency. Also, SBA's annual reports to Congress contained limited analysis of the agencies' methodologies, often not including information on particular agencies. Without more guidance to agencies on the formats of their methodology reports and more analysis of the contents of those reports, SBA cannot provide Congress with information on the extent to which agencies are reporting what is required. Further, SBA has not submitted an annual report on these programs for fiscal years 2009 to 2011 but plans to submit the reports to Congress later in 2013—making the data available to Congress on the programs 2 to 4 years late.

Potential effects of basing each participating agency's spending requirement on its total R&D budget instead of its extramural R&D budget include an increase in the amount of the spending requirement—for some agencies more than others—depending on how much of the agency's R&D budget is composed of extramural spending. Also, if the thresholds of the spending requirements for participation in the programs did not change, changing the base to an agency's total R&D budget would increase the number of agencies required to participate.

The agencies' cost of administering the programs could not be determined because the agencies have not consistently tracked that cost as they are not required to by the authorizing legislation of the programs. Nine of the 11 agencies in SBIR provided GAO with estimates of some of these costs for fiscal year 2011—most of which were for salaries and expenses. With the start of a pilot program allowing agencies to use up to 3 percent of SBIR program funds for administrative costs in 2013, SBA plans to require agencies to track and report administrative costs paid from program funds.

Contents

Figures

Abbreviations

DHS	Department of Homeland Security
DOD	Department of Defense
DOE	Department of Energy
DOT	Department of Transportation
EPA	Environmental Protection Agency
FTE	full time equivalent
HHS	Department of Health and Human Services
VA	Department of Veterans Affairs
NASA	National Aeronautics and Space Administration
NIH	National Institutes of Health
NIST	National Institute of Standards and Technology
NOAA	National Oceanic and Atmospheric Administration
NSF	National Science Foundation
R&D	research and development
SBA	Small Business Administration
SBIR	Small Business Innovation Research
STTR	Small Business Technology Transfer
USDA	U.S. Department of Agriculture

GAO U.S. GOVERNMENT ACCOUNTABILITY OFFICE
441 G St. N.W.
Washington, DC 20548

September 9, 2013

Congressional Committees

Small businesses are a major driver of high-technology innovation and economic growth in the United States, generating significant employment, new markets, and high-growth industries, according to the National Academy of Sciences.[1] The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs target small businesses for federal research or research and development (R&D) funding to develop and commercialize innovative technologies.[2] The SBIR and STTR programs, managed by the Small Business Administration (SBA), were established in 1982 and 1992, respectively, in amendments to the Small Business Act. Most recently, these programs were reauthorized through September 30, 2017, by the National Defense Authorization Act for Fiscal Year 2012.[3]

Every federal agency[4] with a budget of $100 million or more for extramural R&D—which is generally conducted by nonfederal employees—is required to establish and operate an SBIR program, while every federal agency with a budget of $1 billion or more for extramural R&D is required to establish and operate an STTR program.[5] The Small Business Act increases the minimum portion of an agency's R&D extramural budget that must be spent, with the SBIR funding percentage increasing from the 1997 to 2011 rate of not less than 2.5 percent to 2.6 percent in 2012 and to 3.2 percent in 2017 and beyond, and the STTR funding percentage increasing from 0.3 percent in 2004 to 2011 to 0.45 percent in 2016 and beyond.[6] From the programs' inception dates

[1]National Research Council, *An Assessment of the SBIR Program* (Washington, D.C.: National Academies Press, 2008).

[2]In this report, we refer to research or research and development activities as R&D.

[3]Pub. L. No. 112-81, Title LI, 125 Stat. 1823 (2011).

[4]In this report we refer to federal departments and agencies as agencies.

[5]The act defines "extramural budget" to generally mean the sum of the agency's total research obligations minus amounts obligated for research activities by employees of the agency in or through government-owned, government-operated facilities.

[6]In this report we refer to the amounts resulting from applying these minimum percentages to extramural R&D budgets as "spending requirements."

through fiscal year 2011, federal agencies made about 126,000 awards under the SBIR program totaling about $30.4 billion and about 9,000 awards under the STTR program totaling about $2.3 billion.

Currently, 11 agencies participate in SBIR programs: the U.S. Department of Agriculture (USDA); the Departments of Commerce (Commerce), Defense (DOD), Education (Education), Energy (DOE), Health and Human Services (HHS), Homeland Security (DHS), and Transportation (DOT); the Environmental Protection Agency (EPA); the National Aeronautics and Space Administration (NASA); and the National Science Foundation (NSF). Of these agencies, 5 also participate in the STTR program: DOD, DOE, HHS, NASA, and NSF.

The Small Business Act sets certain reporting requirements for participating agencies and SBA. Among other things, such agencies are to report to SBA on their methodology for calculating extramural R&D spending requirements within 4 months of enactment of their annual appropriations. Agencies are also directed to submit annual reports to SBA on their SBIR and STTR spending requirements and the amount spent after the end of each fiscal year. Furthermore, SBA is to annually report to Congress on all the participating agencies' SBIR and STTR programs, including an analysis of the agencies' budget calculation methodologies. The act also created a pilot program beginning in fiscal year 2013 that would allow a portion of SBIR program funds to be used for administrative costs, outreach and technical assistance, contract processing, and other specified purposes.[7] Agencies are otherwise generally not permitted to spend program funds on administrative costs.

In addition, the Small Business Act mandates that GAO review the participating agencies' compliance with spending and reporting requirements for the programs for fiscal years 2006 to 2011, as well as other aspects of the programs.[8] Our objectives were to determine (1) the extent to which the participating agencies complied with the programs' spending requirements and how they calculated these requirements, (2)

[7]An agency may not use funds for the specified purposes until after the effective date of SBA-established performance criteria to measure any benefits of using funds for these purposes.

[8]National Defense Authorization Act for Fiscal Year 2012, Pub. L. No. 112-81, 125 Stat. 1298, § 5136.

the extent to which participating agencies and SBA have complied with certain reporting requirements, (3) the potential effects of basing the spending requirements for the SBIR and STTR programs on an agency's total R&D budget instead of its extramural R&D budget, and (4) the cost to participating agencies of SBIR and STTR program administration and how agency funds were used to cover these costs.

To gather information on both programs, we reviewed the laws governing the programs and the guidance that the SBA has issued regarding the programs. We reviewed prior GAO, SBA Inspector General, and other reports related to the programs. We also met with the SBA's SBIR and STTR program staff and interviewed program and financial management officials at each of the 11 agencies participating in SBIR. To determine the extent to which participating agencies have complied with the programs' spending requirements, we compared spending requirements for fiscal years 2006 to 2011 with the amounts agencies reported spending in each annual report to SBA. We determined that an agency met its spending requirement if the agency's reported spending for these programs was equal to or greater than the reported spending requirement. We used the agencies' obligations data to represent spending for the programs in part because obligations data were readily available from each of the agencies for program purposes, and obligations provided a reasonable measure of the spending for the programs in each year. In addition, we collected data and documents from agencies and interviewed agency officials about how they calculated their extramural R&D budgets, including any amounts agencies are authorized to exclude from those budgets. To assess the reliability of the spending data, we questioned agency officials about the source and data quality control procedures and reviewed relevant documentation. We determined that these spending data were sufficiently reliable for the purposes of this report.

To determine the extent to which participating agencies and SBA have complied with certain reporting requirements for calculating their extramural research budgets, we compared the agencies' methodology and annual reports to SBA and SBA's annual report to Congress for fiscal years 2006 to 2011, to the extent available, with requirements in the

Small Business Act and SBA's related policy directives.[9] We sought documentation of SBA's review and analysis of the methodology reports and copies of SBA's annual reports to Congress on the SBIR and STTR programs to determine the extent to which SBA carried out the mandated analysis of methodologies and publication of results in its annual reports.

To determine the potential effects of basing spending requirements for the SBIR and STTR programs on an agency's total R&D budget, we used actual data on total R&D budget authority from the President's budget to calculate potential spending requirements for each federal agency for fiscal years 2006-2011.[10] In calculating these potential spending requirements, we assumed that the same funding percentages currently required by the Small Business Act would apply to total R&D budgets. We also assumed that the current spending thresholds that require agency participation in the SBIR and STTR programs— $100 million and $1 billion in extramural funding respectively—would instead apply to total R&D funding. In other words, an agency with total annual R&D funding of $100 million would be required to participate in the SBIR program, while an agency with total annual R&D funding of $1 billion would be required to participate in both the SBIR and STTR programs. We compared the spending requirements under this first scenario with the spending requirements under the current law to determine the potential effects of changing the methodology to calculate the spending requirements for fiscal years 2006 to 2011. We also developed two additional funding scenarios. We compared the potential spending requirements of these scenarios with the spending requirements under the current law for fiscal years 2006 to 2011.

[9]The prior and current policy directives citations are: Small Business Administration, *The Small Business Innovation Research (SBIR) Program Policy Directive*, (Washington, DC.: 2005); Small Business Administration, *The Small Business Innovation Research (SBIR) Program Policy Directive*, (Washington, DC.: 2012); Small Business Administration, *The Small Business Technology Transfer (STTR) Program Policy Directive*, (Washington, DC.: 2005); and Small Business Administration, *The Small Business Technology Transfer (STTR) Program Policy Directive*, (Washington, DC.: 2012).

[10]Office of Management and Budget, *Analytical Perspectives, Budget of the U.S. Government* (Washington, D.C.: FY 2008-2013). Because we could not estimate the total R&D budget of each agency and agencies did not include this amount in their annual reports, we relied on the amount of budget authority reported in the *Analytical Perspectives* volume for calculation of the required expenditures.

To determine the cost to participating agencies for SBIR and STTR program administration and how agency funds were used, we collected existing administrative cost data directly from agencies and interviewed program and financial officials at each agency to (1) learn the scope of existing data available on administrative costs, (2) identify amounts and categories of administrative costs, and (3) request existing annual cost data from them. We determined that these data were too incomplete and from such varied sources that an assessment of the available data's reliability was not possible. Thus, we could not use the data in our report. In addition, we gathered information on the agencies' implementation of the pilot program that allows a portion of SBIR program funds to be used for specific administrative costs.

We conducted this performance audit from April 2012 to August 2013 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

SBIR has four overarching purposes: to (1) use small businesses to meet federal R&D needs,[11] (2) stimulate technological innovation, (3) increase commercialization of innovations derived from federal R&D efforts,[12] and (4) encourage participation in technological innovation by small businesses owned by women and disadvantaged individuals. The SBIR program has a three-phase structure as follows:

[11]According to SBA, an eligible small business in the SBIR or STTR program (1) is organized for profit, with a place of business located in the United States; (2) is at least 51 percent owned and controlled by one or more individuals who are citizens of, or permanent resident aliens in, the United States; (3) is at least 51 percent owned and controlled by another for-profit business concern that is at least 51 percent owned and controlled by one or more individuals who are citizens of, or permanent resident aliens in, the United States; and (4) has no more than 500 employees, including affiliates.

[12]For the SBIR program as implemented during the course of our review, SBA defined commercialization as the "process of developing marketable products or services and producing and delivering products or services for sale (whether by the originating party or by others) to government or commercial markets."

- In Phase I, agencies award up to $150,000 for a period of about 6 to 9 months to small businesses to determine the scientific and technical merit and feasibility of ideas that appear to have commercial potential.
- In Phase II, small businesses whose Phase I projects demonstrate scientific and technical merit, in addition to commercial potential, may compete for awards of up to $1 million to continue the R&D for an additional period, normally not to exceed 2 years.
- Phase III is for small businesses to pursue commercialization objectives resulting from the Phase I and II R&D activities, where appropriate. Phase III is the period in which Phase II innovation moves from the laboratory to the marketplace. SBIR Phase III work completes an effort made under prior SBIR phases, but it is funded by sources other than the SBIR program. To commercialize their products, small businesses are expected to raise additional funds from private investors, the capital markets, or from non-SBIR sources within the agency that made the initial award.

According to SBA documents, STTR's purpose is to stimulate a partnership of ideas and technologies between innovative small businesses and research institutions through federally funded R&D.[13] The program provides funding for research proposals that are developed and executed cooperatively between small businesses and research institutions. Like the SBIR program, the STTR program is structured in three phases as follows:

- Phase I aims to establish the technical merit, feasibility, and commercial potential of the proposed R&D efforts and to determine the quality of performance of the small businesses. STTR Phase I awards generally do not exceed $150,000 for 1 year.
- Phase II funding is based on the results achieved in Phase I and the scientific and technical merit and commercial potential of the Phase II project proposed. STTR Phase II awards generally do not exceed $1 million total costs for 2 years.
- Phase III is for small businesses to pursue commercialization of research or technology resulting from the Phase I and II R&D

[13]Pub. L. No. 102-564, 106 Stat. 4249. Research institutions include nonprofit colleges or universities, domestic nonprofit research organizations, and federally funded R&D centers.

activities, and it completes an effort made under the prior STTR phases but is funded by sources other than the STTR program. According to SBA, Phase III work can involve commercial application of R&D financed by nonfederal capital, including STTR products or services intended for use by the federal government and continuation of R&D that has been competitively selected in Phases I and II, according to the 2012 SBA policy directive.

As noted, federal agencies with a budget of more than $100 million for extramural R&D are required to have an SBIR program, while federal agencies with extramural R&D budgets that exceed $1 billion annually are required to have an STTR program. Generally, the extramural R&D budget is defined as the sum of the total obligations for R&D minus amounts to be obligated for intramural R&D, that is, R&D conducted by employees of a federal agency in or through government-owned, government-operated facilities. In determining their extramural R&D budget, agencies have authority to exclude certain R&D programs from the extramural R&D base used for calculating SBIR and STTR spending requirements, such as facilities and equipment used for R&D and certain intelligence activities. For example, under the Small Business Act, DOE must exclude amounts obligated for its naval reactor program from its extramural R&D budget.[14] Likewise, under the act, DOD excludes programs carried out by certain elements of the intelligence community.[15] In addition, DOT must exclude funds obligated for the Federal Highway Administration State Planning and Research program from its extramural R&D budget.[16]

In fiscal year 2011, the 11 participating agencies reported spending a total of $2.2 billion for SBIR, and the 5 participating agencies reported spending a total of $251 million for STTR, with DOD spending the most on these programs—$1.1 billion and $121 million, respectively. DOD's reported spending constituted 48.8 percent of total SBIR spending and 48.2 percent of total STTR spending in fiscal year 2011.

According to SBA documents, the agency's role is to serve as the oversight and coordinating agency for the SBIR and STTR programs and

[14] 15 U.S.C. § 638(e)(1) (2006).

[15] 15 U.S.C. § 638(e)(2) (2006).

[16] 23 U.S.C. § 505(b)(3) (2006).

is to direct and assist the agencies' implementation of the programs, review their progress, collect agency reports, analyze the information in the agencies' methodology reports, and report annually to Congress on the programs. In this role, SBA issued SBIR and STTR policy directives in September 2002 and December 2005, respectively, and updated them in August 2012; these directives provide agencies with detailed guidance on implementation of the SBIR and STTR programs.

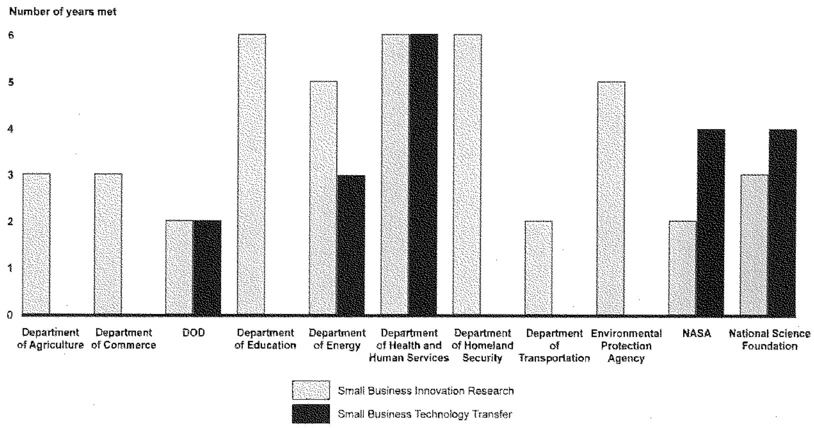
Data Indicate Most Agencies Have Not Consistently Complied with Mandated Requirements, Because of Improper Exclusions and Differing Methodologies

Data reported by the participating agencies to SBA for fiscal years 2006 to 2011 indicate that most of the agencies have not consistently complied with the mandated spending requirements for SBIR and STTR. In calculating their spending requirements, some participating agencies made improper exclusions and used differing methodologies.

Agency Data Indicate That Agencies Did Not Consistently Comply with Mandated Program Spending Requirements

Our analysis of data the participating agencies reported to SBA indicates that, from fiscal years 2006 to 2011, most agencies did not consistently comply with mandated spending requirements. Specifically, 8 of the 11 agencies did not consistently meet annual spending requirements for SBIR. Data from 3 of the agencies—DHS, Education, and HHS—indicate that they met their spending requirements for all 6 years. For STTR, 4 of 5 agencies did not consistently meet annual spending requirements. Data from 1 agency—HHS—indicate that it met its STTR spending requirements for all 6 years. Figure 1 shows the number of years that each agency met its annual SBIR and STTR spending requirements, based on the information submitted to SBA in each agency's annual reports.[17] See appendix I for further details on each agency's reported spending on these programs.

Figure 1: Number of Years Agencies Met Spending Requirements for the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs for Fiscal Years 2006 to 2011



Sources: GAO analysis of agency annual report data submitted to SBA.

Note: Data are from agency annual reports to SBA, except for those of DHS, DOE, and EPA; those agencies submitted revised data to us, which we incorporated into our analysis. Agencies for which STTR data are not shown did not have STTR programs, with the exception of DHS. DHS had an STTR program in FY 2006 and 2007. However, the agency was not required to participate, because its extramural R&D budget for each of those years was actually below the $1 billion threshold required for participation in the STTR program. The agency stated it had inadvertently used an incorrect extramural budget amount to determine its participation requirement.

[17]Three agencies—DHS, EPA, and DOE—told us that the information they submitted in their annual reports to SBA was incorrect or incomplete. The agencies provided us with revised information, which we incorporated into our analysis.

Most participating agencies that did not meet their spending requirements in a given year spent at least 5 percent less than the required amount. In commenting on this information, agency officials said that funds are frequently carried into the next fiscal year for SBIR and STTR purposes. Although the SBIR and STTR spending requirements apply for each fiscal year, some agency officials said they follow the practice for most R&D funding, which typically may be spent over a 2-year period of availability,[18] allowing agencies to "carry over" funding that was appropriated in 1 year and spend it in the next year. In addition, some agency officials said examining their performance over a number of years would provide another perspective on their spending. In response to this comment, we compared agencies' aggregated spending data for the SBIR program with their spending requirements, as calculated by the agencies, over the 6-year period of our review. When we did so, we found that seven agencies spent more than the aggregated sum of their requirements for the 6 years, and four spent less. Overall, for the 6-year period of our review, agencies' SBIR total spending was less than 1 percent or $80 million under the spending requirement, as calculated by the agencies. See table 1 for details.

Table 1: Performance of Agencies in Meeting Small Business Innovation Research (SBIR) Spending Requirements Aggregated over Fiscal Years 2006 to 2011

Dollars in billions

Agency	SBIR amount spent	SBIR spending requirement[a]	Difference between SBIR amount spent and the spending requirement	Percentage under- or over-spent
DOD	$6.754	$6.940	(0.186)	(2.68%)
HHS	3.659	3.610	0.049	1.36%
DOE	0.865	0.824	0.041	4.98%
NSF	0.648	0.678	(0.030)	(4.42%)
NASA	0.695	0.690	0.005	0.72%
DHS	0.137	0.106	0.031	29.25%
USDA	0.117	0.118	(0.001)	(.85%)
Education	0.060	0.049	0.011	22.45%
DOT	0.036	0.043	(0.007)	(16.28%)

[18]Exceptions to the 2-year period of availability for R&D appropriations include HHS.

Agency	SBIR amount spent	SBIR spending requirement[a]	Difference between SBIR amount spent and the spending requirement	Percentage under- or over-spent
Dollars in billions				
Commerce	0.043	0.039	0.004	10.26%
EPA	0.029	0.026	0.003	11.54%
Total	**$13.043**	**$13.123**	**(0.080)**	**(0.61%)**

Source: GAO analysis of agency data reported to SBA, except for those of DHS, DOE, and EPA; those agencies submitted revised data to GAO, which were incorporated into its analysis.

[a]As calculated by the agency.

Note: The differences in each row may be affected by rounding.

For the STTR program, we also compared agencies' aggregated spending with their spending requirements over the 6-year period of our review and found that three of the five participating agencies spent more than the aggregated sum of their requirements, and two spent less. Overall, for the 6-year period of our review for participating agencies, STTR spending was within less than 1 percent, or about $12 million, of the spending requirement.

Table 2: Performance of Agencies in Meeting Small Business Technology Transfer (STTR) Spending Requirements Aggregated over Fiscal Years 2006 to 2011

Dollars in billions

Agency[a]	STTR amount spent	STTR spending requirement[b]	Difference between STTR amount spent and spending requirement	Percentage under- or over-spent
DOD	$0.792	$0.833	($0.041)	(4.92%)
HHS	0.447	0.433	0.014	3.23%
DOE	0.098	0.099	(0.001)	(1.01%)
NSF	0.094	0.081	0.013	16.05%
NASA	0.086	0.083	0.003	3.61%
Total	**$1.517**	**$1.529**	**($0.012)**	**(0.78%)**

Sources: GAO analysis of agency data reported to SBA, along with annual report corrections that DHS, DOE, and EPA submitted to GAO.

[a]DHS also had an STTR program in FY 2006 and 2007. However, the agency was not required to participate, because its extramural R&D budget for each of those years was actually below the $1 billion threshold required for participation in the STTR program. The agency stated it had inadvertently used an incorrect extramural budget amount to determine its participation requirement.

[b]As calculated by the agency.

Note: Calculations may be affected by rounding.

SBIR and STTR program managers cited three reasons why spending the required amount in a given fiscal year could be difficult. First, delays in receiving final appropriations can delay agencies' awarding of contracts for SBIR or STTR projects. Some program managers said that they tend to wait to award some grants and contracts until receiving their final appropriations in case the agency's extramural R&D budget—and, therefore, its SBIR or STTR spending requirement—differs significantly from the expected amount. Because the award process can be lengthy, a delay can push the awards and spending into the following fiscal year. Over the period of our review, agencies often received final appropriations decisions after the beginning of the fiscal year and in some cases more than 6 months into the year. For example, in fiscal year 2011, many participating agencies operated under a continuing resolution until April 2011,[19] when they received their final appropriation for the remainder of the fiscal year. DOD officials noted that carrying over funds enables agencies to effectively manage contracts to accommodate the timing of the awards and delays in funding decisions. The second reason cited by SBIR and STTR managers was that in a given fiscal year, agencies decide on a mix of Phase I and Phase II awards to meet program objectives, and the collective amount of these awards may not equal their annual spending requirement—leaving the difference between the awards and the spending requirement unused. NASA officials said a third reason agencies may have difficulty spending all required funds is that changes in a company's status—through a merger, for example—could make a company that was under consideration for an award too large to be eligible for the program. According to these officials, such changes could occur too late to spend those funds in a given fiscal year.

Some Agency Calculations of Spending Requirements Show Improper Exclusions and Differing Methodologies

In calculating the programs' spending requirements, some participating agencies made improper exclusions from their extramural R&D budgets, which are the basis for calculating the requirements, and when appropriations were received late in the year, agencies used differing methodologies to calculate their spending requirements, making it difficult to determine whether agencies' calculations were correct.

[19]A continuing resolution is an appropriations act for federal agencies to continue in operation when Congress and the President have not completed action on the regular appropriation acts by the beginning of the fiscal year.

Some agencies have specific statutory authority to exclude certain subunits or programs in calculating the extramural R&D budget used for determining the spending requirements for SBIR and STTR programs, but we found that some participating agencies made exclusions that are not consistent with this statutory authority. For example, as discussed below, two agencies excluded the extramural R&D budgets of agency subunits because those budgets were lower than the threshold requirements for program participation--$100 million for SBIR and $1 billion for STTR—even though, as defined in law, the thresholds apply to the entire departmental budget and not to agency subunits:

- DOD reported excluding the Research, Development, Testing, and Evaluation budget of the United States Special Operations Command subunit from its extramural R&D budget because the budget is less than the $1 billion required for participating in the STTR program.
- HHS reported excluding the extramural R&D budgets of the Centers for Disease Control and Prevention and the Food and Drug Administration because these subunit budgets are less than the $1 billion required for participating in the STTR program.

In another example, a third agency, DOT reported excluding the Federal Aviation Administration's extramural R&D budget, which is well in excess of $100 million annually, from the SBIR program budget calculation. We asked DOT and FAA to provide the legal authority for this exclusion, but they did not supply this information.

Improperly excluding subunits reduced calculations of three agencies' respective extramural R&D and, in turn, the agencies' spending requirements for SBIR and STTR. Over fiscal years 2006 to 2011, these improper exclusions resulted in a $7.7 million reduction to DOD's STTR spending requirement, a $34.7 million reduction to DOT's SBIR requirement, and HHS' exclusions resulted in a $6.1 million reduction to its STTR spending requirement. Officials at DOD said they changed the agency's policy on exclusions as of fiscal year 2013 and that the new policy, which will not allow these improper exclusions, is currently being implemented. DOT provided no further information on its exclusion. HHS met its overall agency spending requirement even with the improper exclusions, according to the data in HHS' annual reports to SBA.

In addition to identifying improper exclusions, we found that, when appropriations were received late in the year, agencies used differing methodologies to calculate their spending requirements, making it difficult to determine whether agencies' calculations were correct. For example, some agency program managers told us that, when appropriations were received late in the year, they used their prior year actual spending to calculate their current year spending requirement, while others calculated their current year spending requirement using some other methodology. Specifically, program managers at the National Institute of Standards and Technology (NIST)—a subunit of Commerce—stated that program managers at NIST used the past year's actual SBIR spending to calculate the current year's requirement. In contrast, NASA calculated its SBIR spending requirement by determining what percentage its extramural R&D spending comprised of its total R&D spending in the prior year. NASA then applied this percentage to the current year's total R&D budget to calculate the current year's extramural budget, which it then used as the basis for calculating the SBIR and STTR spending requirements. Although SBA provided guidance in policy directives for participating agencies on calculating their spending requirements, neither SBA's prior nor its current policy directives provide guidance to agencies on how to calculate such spending requirements when agency appropriations are delayed. Without such guidance, agencies will likely continue to calculate spending requirements in differing ways.

Agencies and SBA Have Not Consistently Complied with Certain Reporting Requirements

Agencies participating in the SBIR and STTR programs have not consistently complied with Small Business Act requirements for annually reporting a description of their methodologies for calculating their extramural R&D budgets to SBA. In addition, SBA has not consistently complied with the act's requirements for annually reporting to Congress, including reporting on SBA's analysis of the agencies' methodologies for calculating their extramural R&D budgets.

Agencies' Reporting of Methodologies Did Not Consistently Comply with Requirements

With the exception of NASA in certain years, agencies did not submit their methodology reports to SBA within the time frame required by the Small Business Act for fiscal years 2006 to 2011 for the SBIR and STTR programs. The act requires that agencies report to SBA their methodologies for calculating their extramural budgets within 4 months after the date of enactment of their respective appropriations acts.[20] However, most participating agencies documented their methodologies

[20] 15 U.S.C. 638(i)(2)(A).

for calculating their extramural R&D budgets for these fiscal years and submitted them to SBA after the close of the fiscal year with their annual reports, but three agencies—USDA, Education, and DOT—did not provide a methodology report for 1 fiscal year during this period. USDA did not submit a report on its fiscal year 2007 methodology because agency officials said it was identical to prior years. Officials from Education and DOT said they typically submitted their methodology reports with their annual reports. However, they told us that for fiscal year 2011 they did not submit their methodology reports to SBA on time because that was the first year that agencies were required to submit their annual reports to SBA's automated system and there was not a place in SBA's system to submit methodology reports. SBA officials said that they nonetheless expected agencies to submit their methodology reports and that there are several methods to transmit this information, such as by memorandum or e-mail. Education officials later told us they submitted their 2011 methodology report to SBA in January 2013.

SBA officials said that they have not held the agencies to the act's deadline for submitting methodology reports, in part because continuing resolutions enacting final appropriations have sometimes not been passed until the middle of the fiscal year. This timing for appropriations has pushed the required reporting date of the methodology report—due 4 months after appropriations are set—until late in the fiscal year. SBA officials said this has made it more convenient for participating agencies to submit the methodology report with the annual report. Further, SBA officials said the agency uses the methodology reports for their annual reports to Congress. By not having the methodology reports earlier in the year as specified by law, however, SBA does not have an opportunity to promptly analyze these methodologies and provide the agencies with timely feedback to assist agencies in accurately calculating their spending requirements. SBA officials said they have provided feedback orally and through e-mails to the participating agencies about their methodology reports, but many agency program managers said that SBA has provided little feedback. By not providing such feedback, SBA is forgoing the opportunity to assist agencies in correctly calculating their program spending requirements and helping to ensure that they meet mandated requirements.

More significantly, the majority of the agencies did not include information consistent with a provision in SBA's SBIR and STTR policy directives that specifies the act's requirement for a methodology report from each agency.[21] Specifically, the SBA policy directives state that the methodology report must include an itemization of each R&D program excluded from the calculation of the agency's extramural budget and a brief explanation of why it is excluded. In our review, we found that

- two of the participating agencies—EPA and HHS—complied fully with the requirements because they included in their methodology reports an itemization of the programs excluded from the calculation of their extramural R&D budget and an explanation of why the programs were excluded for all 6 fiscal years in our review; and
- six agencies—DHS, DOD, DOE, DOT, NASA and NSF—did not fully meet these requirements for the 6 fiscal years in our review because their methodology reports either identified some excluded programs but not others that we identified or the reports omitted explanations for exclusions.[22]

As a result, agencies submitted different information, including different levels of detail on their methodologies. For example, some agencies provided itemization of each R&D program excluded, including dollar amounts and statutory authority, as part of the calculation of the agency's extramural budget and a brief explanation of why it is excluded, while other agencies only provided a brief explanation. SBA officials told us that most participating agencies' methodology reports have changed little from year to year, so SBA does not raise questions about details of their methodologies. In the absence of guidance from SBA on the format in which the methodology reports are to be presented, DOD developed a methodology template that guides the calculation of DOD's extramural R&D budget and in turn the programs' spending requirements, including the identification of any R&D programs excluded from the basis for calculating their spending requirements and a brief explanation of why they are excluded. Without guidance on the format of methodology

[21]The 2002 SBIR and the 2005 STTR policy directives were in effect during the period of our review.

[22]Three other agencies—Commerce, Education, and USDA—did not report excluding any programs from the calculation of extramural R&D for any of the fiscal years. Because existing SBA guidance in policy directives does not require agencies to affirm that no exclusions were made, we asked the three agencies if they had in fact made exclusions but just not reported them. In each case, the agencies confirmed that they had, in fact, not made exclusions.

reports, participating agencies are likely to continue to provide SBA with broad, incomplete, or inconsistent information about their methodologies and spending requirements. Furthermore, without having more consistent information from agencies, it is difficult for SBA to comprehensively analyze the methodologies and determine whether agencies are accurately calculating their spending requirements.

In addition, for the agency annual report requirement, SBA has provided a template that asks agencies for the extramural R&D budget base used to calculate the SBIR or STTR spending requirements, but it does not ask for the specific calculations used to derive that budget base. Unlike the requirement set by law and SBA policy directives for methodology reports to include a description of their methodologies for calculating extramural R&D budgets, information on actual calculations, such as identifying exclusions, is not required for agency annual reports to SBA. However, because annual reports show the results of the previously described methodology including such information in the annual reports is important. By not requesting that agencies include calculations used to derive the budget base in its template, SBA has been receiving incomplete information from the participating agencies, which limits the usefulness of data the agency reports to Congress. SBA officials told us that participating agencies' calculations of spending requirements have changed little from year to year, and so SBA does not raise questions about the calculations. SBA likewise does not request that agencies include information in their annual reports that would enable SBA to conduct better oversight, including information on (1) whether agencies met the mandated spending requirements, (2) the reasons for any noncompliance with these requirements, and (3) the agencies' plans for meeting any noncompliance in future years. By including this information, SBA could more fully oversee the programs and provide more complete information to Congress.

SBA Annual Reports to Congressional Committees Are Often Late and Incomplete

SBA has not consistently complied with the requirement for reporting its analysis of the agencies' methodologies in its annual report to Congress,[23] as required by the Small Business Act.[24] Over the 6 years covered in our review, SBA reported to Congress for 3 of those, fiscal years 2006, 2007, and 2008. Furthermore, these reports contained limited analyses of the agencies' methodologies, and some of the analyses were inaccurate. For example, SBA's analysis was limited to a table attached to the annual report to Congress that often did not include information on particular agencies; SBA provided no other documentation showing the results of its analysis of the agency methodology reports. For example, in its fiscal year 2006 annual report, SBA concluded that all of the participating agencies complied with program requirements in calculating their extramural R&D budgets but did not present the basis for its conclusion. As noted earlier, our review showed that some participating agencies improperly excluded some extramural programs from their funding base calculation and did not consistently comply with SBA's instructions in its policy directive to itemize the exclusions in their calculation of the R&D extramural budget for either the SBIR or STTR program. Without more comprehensive analysis and accurate information on participating agencies in SBA's annual report, Congress does not have information on the extent to which agencies are reporting what is required by law or if they are under spending by, for example, taking improper exclusions.

Moreover, SBA officials said they delayed submitting their annual reports to Congress for fiscal years 2009, 2010, and 2011 to reconcile significant inconsistencies the agency found between spending data submitted by participating agencies in their annual reports to SBA and data routinely collected in SBA's automated system from agencies and awardees on SBIR and STTR awards made during the fiscal year. In commenting on a draft of this report in August 2013, SBA program officials said that the three reports had been consolidated into one report that was being reviewed by the Office of Management and Budget. The agency plans to submit the reports to Congress in 2013, making the data available to Congress on the programs 2 to 4 years after the end of the fiscal year.

[23] The act directs that the SBA Administrator report not less than annually to the Committee on Small Business and Entrepreneurship of the Senate and to the Committee on Science and Technology and the Committee on Small Business of the House of Representatives.

[24] 15 U.S.C. § 638(i)(2)(B).

Basing Spending Requirements on Agencies' Total R&D Budgets Could Increase Spending and Program Participation

Changing the methodology to calculate the SBIR and STTR spending requirements based on each agency's total R&D budget instead of each agency's extramural R&D budget would increase the amount of each agency's spending requirement for the programs, some much more than others, depending on the assumptions about how the funding base change is implemented. Also, it would increase the number of agencies that would be required to participate in the programs. Some agencies reported that such a change could have effects on their R&D programs and may create challenges.

Changing the Base for SBIR and STTR Budgets to Total R&D Would Increase Agency Spending Requirements

If the SBIR and STTR spending requirements under current law were applied to an agency's total R&D budget rather than to the extramural R&D budget, the spending requirements for each agency would increase because their extramural R&D budget is a part of, and therefore smaller, than their total R&D budget.[25] Table 3 shows a comparison of the agencies' spending requirements for the SBIR and STTR programs in fiscal year 2011 under the current law, based on an agency's extramural R&D budget, and this alternative methodology.

Table 3: Comparison of Fiscal Year 2011 Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs' Spending Requirements under the Current Law and If Based on the Participating Agencies' Total R&D Budget

Dollars in millions

Agency	Agency's extramural R&D budget[a]	Agency's total R&D budget[b]	SBIR spending requirement under current law[c]	SBIR spending requirement based on 2.5 percent of the total R&D budget	Percentage difference in SBIR from current law	STTR spending requirement under current law[d]	STTR spending requirement based on 0.3 percent of the total R&D budget	Percentage difference in STTR from current law
USDA	$768	$2,284	$19	$57	200	[e]	[e]	[e]
Commerce	239	1,021	6	26	333	[e]	[e]	[e]
DOD	41,678	77,410	1,042	1,935	86	$125	$232	86
Education	346	362	8.6	9.1	6	[e]	[e]	[e]
DOE	5,857	9,915	146	248	70	18	30	67
HHS	24,714	31,099	618	777	26	74	93	26
DHS	468	512	12	13	8	[e]	[e]	[e]

[25]The SBIR and STTR spending requirements were 2.5 percent and 0.3 percent, respectively, of extramural R&D budgets for fiscal years 2006 through 2011.

Dollars in millions

Agency	Agency's extramural R&D budget[a]	Agency's total R&D budget[b]	SBIR spending requirement under current law[c]	SBIR spending requirement based on 2.5 percent of the total R&D budget	Percentage difference in SBIR from current law	STTR spending requirement under current law[d]	STTR spending requirement based on 0.3 percent of the total R&D budget	Percentage difference in STTR from current law
DOT	384	929	10	23	130	[e]	[e]	[e]
EPA	182	584	5	15	200	[e]	[e]	[e]
NASA	4,998	8,839	125	221	77	15	27	80
NSF	4,956	5,091	124	127	2	15	15	0
Total	**$84,590**	**$138,046**	**$2,116**	**$3,451**	**63**	**$247**	**$397**	**61**

Sources: GAO analysis of agencies' data.

[a]Each agency's extramural R&D budget as reported by the agencies in their annual reports to SBA.

[b]Each agency's total R&D budget authority is from the Analytical Perspectives volume of the President's Budget. The category of "Facilities and Equipment" is not included in the total shown in this table.

[c]Each agency's SBIR spending requirement under the current law in fiscal year 2011 is calculated as 2.5 percent of its extramural R&D budget.

[d]Each agency's STTR spending requirement under the current law in fiscal year 2011 is calculated as 0.3 percent of its extramural R&D budget.

[e]Agency did not participate in STTR.

Note: Calculations may be affected by rounding.

As shown in table 3, some agencies' spending requirements would increase more than others. This is due to differences in the relative proportions of the extramural and intramural R&D budgets among agencies. Examples are as follows:

- NSF used almost its entire R&D budget for extramural R&D in fiscal year 2011 and was required to spend about $124 million on its SBIR program in that year. Its spending requirement would have increased slightly to $127 million—about a 3 percent increase—if the spending requirement were based on the total R&D budget instead of the extramural R&D budget. For NSF's STTR program, the spending requirement in fiscal year 2011 would have increased about 3 percent—the same percentage increase as for SBIR.

- Commerce used a relatively small percentage of its total R&D budget—about 25 percent—for extramural R&D in fiscal year 2011, and its spending requirement for SBIR would have more than quadrupled from about $6 million to $26 million—333 percent—in fiscal year 2011 if the calculation methodology changed. While Commerce does not participate in the STTR program currently, it would have to participate in the STTR program if the calculation methodology changed. Its spending requirement would have been $3 million rather than zero.

To put these figures in perspective, if the funding percentage in law were applied to the total R&D budget instead of the extramural budget, NSF's spending on SBIR in 2011 would have increased to about 2.6 percent of its extramural R&D budget, while Commerce's spending would have increased to about 10.7 percent of its extramural R&D budget. For the STTR program, if the funding percentage in the law were applied to the total R&D budget instead of the extramural budget, NSF's spending on STTR would have increased to about 2.7 percent of the extramural R&D budget, and Commerce's spending would have increased from zero.

In addition to the changes in the dollar amount of funds available for STTR and SBIR spending requirements, agencies said that changing the base for calculation of budgets for these programs would affect agency operations, depending on assumptions about how the funding base change is implemented. For example, changing the base would increase SBIR and STTR budgets and could result in reductions in certain types of intramural R&D with corresponding reductions in full-time equivalent staffing of these programs. In addition, some agency officials said there were potential changes in the content of the agency's extramural R&D effort because of changes in the types of businesses that receive grants and contracts.

In addition to applying the same percentages as used under current law to the total R&D budget, we analyzed the potential changes to spending requirements using two other alternative scenarios that apply different percentages to the total R&D budget. In these scenarios, some agencies would have experienced an increase in spending requirements, while others would have experienced a decrease. Appendix II contains a discussion of the alternate scenarios and the results of our analysis.

Changing the Calculation Methodology Would Increase the Number of Agencies Required to Participate

Changing the calculation methodology to the total R&D budget would also increase the number of agencies that would be required to participate in the SBIR and STTR programs, assuming the same dollar thresholds for participating in the programs were applied to the total R&D budget rather than only the extramural R&D budget. For example, our analysis of the total R&D budget for all federal agencies for fiscal year 2011 indicates that

- For SBIR, two additional agencies—the Departments of Veterans Affairs (VA) and the Interior—would have been required to participate in fiscal year 2011 if total R&D budgets had been the criteria. These agencies reported total R&D budgets to SBA in excess of $100 million, which is the threshold for participation in the SBIR program. Adding these two agencies to participating SBIR agencies in fiscal year 2011 with the total R&D budget as the base, would have increased total federal SBIR spending by $48 million.

- For STTR, three additional agencies—Commerce, USDA, and VA—would also have been required to participate in the STTR program for fiscal year 2011 if total R&D budgets had been the criteria for meeting the threshold. These agencies reported total R&D budgets in excess of $1 billion, which is the threshold for participation in the STTR program. Adding these three agencies to STTR in fiscal year 2011 with the total R&D budget as the base would have increased total STTR spending by $13 million.[26]

Table 4 shows these agencies' R&D budgets and what their SBIR and STTR spending requirements for fiscal year 2011 would have been if the spending methodology was changed to the total R&D budget.

[26]In other fiscal years that we reviewed, these agencies may not have been required to participate in the STTR program as their total R&D spending fell below the threshold requirement.

Table 4: Additional Agencies That Would Participate in the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs if the 2011 Base Were Revised to Total R&D Budget Authority

Dollars in millions

Agency	Agency's total R&D budget authority[a]	SBIR spending requirement based on 2.5 percent of the total R&D budget	STTR spending requirement based on 0.3 percent of the total R&D budget
Department of the Interior	$755	$19	[c]
Department of Veterans Affairs	$1,160	$29	$3
Department of Agriculture	$2,284	[b]	$7
Department of Commerce	$1,021	[b]	$3

Source: GAO analysis of fiscal 2011 agency data.

[a]Each agency's total R&D budget authority is from the Analytical Perspectives volume of the President's Budget.

[b]Agency currently participates in the SBIR program.

[c]The agency's total R&D budget does not meet the threshold for the program.

Note: Calculations may be affected by rounding.

Agencies' Cost for the Administration of the Programs Cannot Currently Be Determined Because the Agencies Do Not Identify or Track All Costs

The participating agencies' cost of administering the SBIR and STTR programs cannot be determined because the agencies neither collect that information nor have the systems to do so. Neither the authorizing legislation for the programs nor SBA guidance directs agencies to track and estimate all administrative costs, and neither the law nor SBA guidance defines these administrative costs. Estimates agencies provided indicated that the greatest amounts of administrative costs in fiscal year 2011 were for salaries and expenses, contract processing, outreach programs, technical assistance programs, support contracts, and other purposes. With the implementation in 2013 of a pilot program allowing agencies under certain conditions to use up to 3 percent of SBIR program funds for certain administrative costs, SBA expects to require agencies in the pilot program to track and report the spending of that 3 percent but not all of their administrative costs.

Agencies Have Not Comprehensively Identified or Tracked Administrative Costs for Several Reasons

The participating agencies have not comprehensively identified or tracked the cost of administering the SBIR and STTR programs for several reasons. Agency officials said that the costs cannot be determined because the agencies do not have the systems for collecting the data. Neither the authorizing legislation for the programs nor SBA guidance directs agencies to track and estimate administrative costs, and neither the law nor SBA guidance defines these administrative costs. We found that the amount of funds that participating agencies spent administering the SBIR and STTR programs—and the way the funds were used—cannot currently be estimated because the agencies have not identified or tracked many categories of program administrative costs. Agency officials said an important reason that administrative costs for the SBIR and STTR programs are not comprehensively identified or tracked is that using SBIR or STTR budgets to fund administrative costs has been generally prohibited. The Small Business Act generally prohibits agencies, except for DOD, from using any of their SBIR or STTR budgets to fund administrative costs of the programs, including the cost of salaries.[27] Agencies reported that administrative costs of the programs were paid out of budget accounts other than the SBIR and STTR accounts.

In addition, agency officials told us that the SBIR and STTR programs cut across many agency programs and disciplines and that the staff supporting the programs may work on a full-time or part-time basis, making identification and estimation of costs more difficult. For example, DOE reported the administrative costs of the SBIR and STTR program office only, but pointed out that the programs involved the part-time efforts of 70 to 100 additional people throughout DOE, including technical program managers, grants specialists and contracting officers, whose costs were not estimated.

Similarly, HHS officials said it would be an exceptionally complex calculation to determine how much is currently spent on the administrative costs of the SBIR or STTR program because a large number of HHS staff work a fraction of their time on these programs. Officials in HHS' National Institutes of Health (NIH), which accounts for the majority of HHS' SBIR and STTR R&D programs, said there were a

[27]As previously noted, beginning in fiscal year 2013, under a pilot program a portion of SBIR program funds may become available for administrative costs, such as the provision of outreach and technical assistance, and contract processing, and other specified purposes.

small number of full-time staff on these programs; rather, NIH officials said that most staff managing the programs do so as a collateral part of their duties and are not required to track the portion of their time spent on the programs. NASA reported that its budget estimate included a separate line for SBIR and STTR program management that covers personnel costs, travel, and procurement costs. NASA officials noted, however, that other costs to operate the programs are not included in this budget estimate, including the cost of NASA technical experts to review proposals and the cost of technical and contracting representatives interacting with small businesses. NASA officials did provide a rough estimate for the number of hours and full time equivalent staff spent by NASA technical reviewers and contracting personnel in a typical year as 25 to 38 full-time equivalent staff. The officials noted that the estimate does not include hours spent by others involved: mission directorate representatives, center chief technologists, contracting officers, support contractors, procurement support, and legal support. They also said that they did not have estimates for such categories as support contracts, outreach, and technical assistance.

Most Estimated SBIR and STTR Administrative Costs Were in Salaries and Expenses, Contract Processing, Outreach and Technical Assistance, Support Contracts, and Other Categories

In response to our request for information on administrative costs for fiscal year 2011, 9 of the 11 participating agencies provided us with estimates of a portion of their costs to administer the SBIR and STTR programs in fiscal year 2011. Of the administrative costs estimated by these 9 agencies, the greatest amounts were for salaries and expenses, contract processing costs, outreach programs, technical assistance programs, and support contracts, and the "other" category.[28] In some cases, officials for some agencies identified having costs in these categories or several others but provided no estimates of the amounts. The agency with the most administrative costs estimated in the most categories for 2011 was DOD, which provided estimates in 10 cost categories.[29] Of the 11 participating agencies, Commerce and HHS did

[28]The "other" category was used to collect costs that did not fit into the categories available, or costs that were not categorized.

[29]The 10 categories of costs that DOD and its subunits were asked to estimate were: salaries and expenses, travel, contract processing costs, personnel and assistance for application reviews, outreach and technical assistance, commercialization and outreach activities, oversight and congressional reporting, oversight and quality control measures, support contracts and other.

not provide estimated administrative costs or identify having administrative costs in any category.

In response to our data requests and questions regarding fiscal year 2011, the 9 agencies provided some estimates, identified unestimated costs, or had no response in many of the costs categories for which we requested data. An overview of the information we obtained is contained in appendix III.

Participation in the Administrative Costs Pilot Program Will Require Agencies to Track Certain, but Not All Costs

As noted earlier, the National Defense Authorization Act for Fiscal Year 2012 created a pilot program beginning in fiscal year 2013 that would allow up to 3 percent of SBIR program funds to be used for administrative costs, the provision of outreach and technical assistance and contract processing, and other specified purposes.[30] Agencies are otherwise generally not permitted to spend SBIR or STTR program funds on administrative costs.

According to SBA's policy directive, funding under this pilot is not intended to and must not replace current agency administrative funding in support of SBIR activities. Rather, funding under this pilot program is intended to support additional initiatives. SBA issued its guidance for the pilot program as part of its revised policy directive of August 2012 and requires agencies to submit annual work plans to SBA for approval on spending priorities, amounts, milestones, expected results, and performance measures before agencies can begin the pilot.[31] The SBA guidance also directs agencies to report to them on the use of the funds allowed to be spent on administrative costs under the pilot program authority in their annual reports. However, agencies will not identify or track all of their administrative costs so SBA will not be able to report to Congress on total administrative costs. Of the 11 agencies participating in

[30]An agency was not to use funds for the specified purposes until after the effective date of SBA-established performance criteria to measure any benefits of using funds for these purposes, which SBA first provided to participating agencies on July 30, 2012. STTR program funds were not made available by the pilot program provision.

[31]Under Sec. 5141(a) of Pub. L. No. 112-81, the 2011 reauthorization act establishing the pilot program, the SBA Administrator was to issue rules to carry out the pilot program within 180 days of enactment of the law. The directive containing the guidance was published in the *Federal Register* on August 6, 2012—219 days after enactment of the law establishing the pilot program.

the SBIR program, 10 have submitted plans for the pilot program to SBA. SBA officials told us that, as of August 2013, all 10 of the agencies' pilot plans had been approved for implementation in the current fiscal year.

Conclusions

To help small businesses develop and commercialize innovative technologies, federal agencies have awarded billions of dollars to such businesses under the SBIR and STTR programs, which SBA oversees. In its role overseeing the programs, SBA has issued policy directives that provide agencies with guidance on the implementation of the programs. Agencies participating in the programs are required by law to spend a specific minimum portion of their extramural R&D budgets on these awards and to report certain information related to their spending to SBA. In turn, SBA is to review this information and report on it annually to Congress. However, participating agencies' compliance with the programs' spending requirements is unclear because some agencies improperly calculated their spending requirements and—in the absence of specific guidance from SBA when their appropriations were delayed—agencies used differing methodologies for calculating these requirements. Without guidance from SBA, agencies will likely continue to calculate spending requirements in differing ways, which will continue to raise questions about their compliance. In addition, most agencies' reports to SBA about their methodologies for calculating their spending requirements did not contain key details, such as the identification of any R&D programs excluded from the basis for calculating their spending requirements and a brief explanation of why they are excluded, which is required both by law and SBA policy directives. Agencies also submitted differing information in these reports because SBA's policy directives do not specify the format for the reports. Without guidance on the format of methodology reports, participating agencies are likely to continue to provide SBA with broad, incomplete, or inconsistent information about their methodologies and spending requirements. Furthermore, without more complete and consistent information from agencies, it is difficult for SBA to comprehensively analyze the methodologies and whether agencies are accurately calculating their spending requirements. Moreover, according to agency officials, SBA provided little timely feedback about the agencies' methodology reports. By not providing such feedback, SBA is forgoing the opportunity to assist agencies in correctly calculating their program spending requirements and helping to ensure that they meet mandated requirements.

In addition, for the participating agencies' annual report requirement, SBA has provided a template requesting the extramural R&D budget base that agencies used to calculate the programs' spending requirements, but the template does not request the specific calculations agencies used to derive those requirements. By not requesting such calculations, SBA has been receiving inconsistent and incomplete information from the participating agencies, which limits the usefulness of data it reports to Congress. SBA likewise does not request that agencies include information in their annual reports that would enable better oversight, including information on (1) whether agencies met the mandated spending requirements, (2) the reasons for any noncompliance with these requirements, and (3) the agencies' plans for meeting any noncompliance in future years. Finally, SBA's annual reports to Congress have been years late or contained little analysis of the methodology reports agencies submitted to describe how they calculated their spending requirements. Without more rigorous oversight by SBA and more timely and detailed reporting on the part of both SBA and participating agencies, it will be difficult for SBA to ensure that intended benefits of these programs are being attained and that Congress receives critical information to oversee these programs.

Recommendations for Executive Action

To ensure that participating agencies and SBA comply with spending and reporting requirements for the SBIR and STTR programs, we recommend the SBA Administrator take the following four actions:

- Provide additional guidance on how agencies should calculate spending requirements when agency appropriations are received late in the fiscal year and the format agencies are to include in their methodology reports.
- Provide timely annual feedback to each agency following submission of its methodology report on whether its method for calculating the extramural R&D budget used as the basis for the SBIR and STTR spending requirements complies with program requirements including an itemization of and an explanation for all exclusions from the basis for the calculations.
- Direct participating agencies to include in their annual reports the calculation of the final extramural R&D budget used as the basis for their SBIR and STTR spending requirements and, if they did not meet the spending requirements, the reasons why not and how they plan to meet the spending requirements in the future.

- Provide Congress with a timely annual report that includes a comprehensive analysis of the methodology each agency used for calculating the SBIR and STTR spending requirements, providing a clear basis for SBA's conclusions about whether these calculations meet program requirements.

Agency Comments

We provided copies of our draft report to the Secretaries of USDA, Commerce, DOD, Education, DOE, HHS, DHS, and DOT; the Administrators of SBA, EPA, and NASA; and the Director of NSF for review and comment. In response, six of the agencies—USDA, Education, DOE, EPA, NASA, and NSF—stated by e-mail that they had no technical or written comments. Five other agencies—Commerce, DHS, DOD, DOT, and HHS—provided technical comments by e-mail, which we incorporated into the draft report as appropriate.

SBA provided technical comments on the draft report and officials of SBA's Office of Technology said by e-mail through the Office of Congressional and Legislative Affairs that they agree with the findings of the report and will work to implement the recommendations. Specifically, in response to our recommendation to provide additional guidance on how agencies should calculate spending requirements, SBA said it plans a training session for all SBIR and STTR agencies to provide guidance and uniformity in the calculation of extramural budgets. In response to our finding that SBA is not receiving timely methodology reports from the agencies in order to provide feedback, SBA said it has strongly encouraged the agencies to submit their methodologies to SBA in a timely manner. We incorporated SBA's technical comments into the report as appropriate.

We are sending copies of this report to the Secretaries of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security, and Transportation; the Administrators of the Small Business Administration, the Environmental Protection Agency, and the National Aeronautics and Space Administration; the Director of the National Science Foundation; the appropriate congressional committees; and other interested parties. In addition, this report is available at no charge on the GAO website at http://www.gao.gov.

If you or your staff members have any questions about this report, please contact me at (202) 512-3841 or ruscof@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix IV.

Frank Rusco

Frank Rusco
Director, Natural Resources and Environment

List of Committees

The Honorable Mary L. Landrieu
Chairman
The Honorable James E. Risch
Ranking Member
Committee on Small Business & Entrepreneurship
United States Senate

The Honorable Lamar Smith
Chairman
The Honorable Eddie Bernice Johnson
Ranking Member
Committee on Science, Space and Technology
House of Representatives

The Honorable Sam Graves
Chairman
The Honorable Nydia M. Velázquez
Ranking Member
Committee on Small Business
House of Representatives

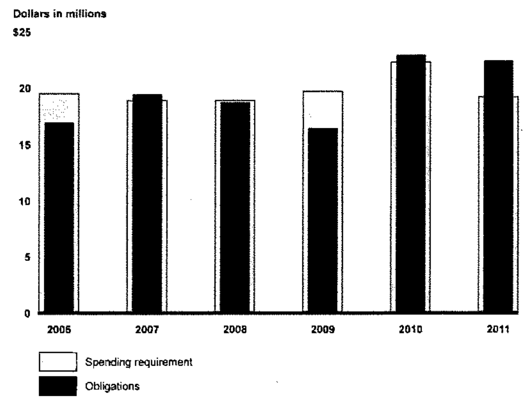
Appendix I: Comparison of Participating Agencies' Reported Requirements and Spending for the SBIR and STTR Programs, Fiscal Years 2006 to 2011

Figures 2 through 12 compare reported spending requirements of the 11 agencies participating in the Small Business Innovation Research (SBIR) program with their reported spending over fiscal years 2006 to 2011.

Figures 13 through 17 compare reported spending requirements of the 5 agencies participating in the Small Business Technology Transfer (STTR) program with their reported spending over fiscal years 2006 to 2011.[1] The Department of Homeland Security also had an STTR program in FY 2006 and 2007. However, the agency was not required to participate, because its extramural R&D budget for each of those years was actually below the $1 billion threshold required for participation in the STTR program. The agency stated it had inadvertently used an incorrect extramural budget amount to determine its participation requirement. Since the agency was not required to participate in STTR and therefore had no spending requirement, no figure is included here for its STTR expenditures.

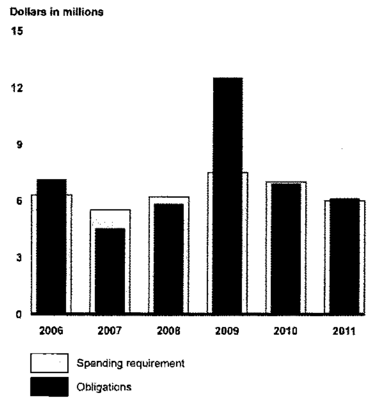
[1]We used the agencies' obligations data to represent spending for the programs because spending data were not readily available from each of the agencies. Obligations provided a reasonable measure of the spending for the programs in each year.

Figure 2: Comparison of the Department of Agriculture's Reported Spending Requirements and Spending for the Small Business Innovation Research (SBIR) Program, Fiscal Years 2006 to 2011



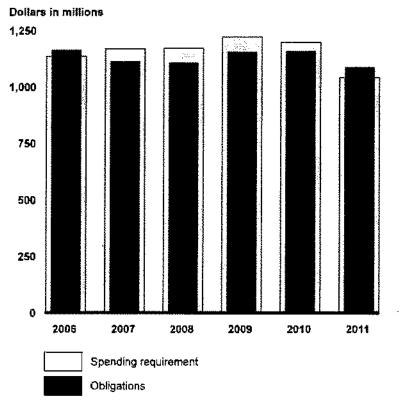
Source: GAO analysis of agency annual report data submitted to SBA.

Figure 3: Comparison of the Department of Commerce's Reported Spending Requirements and Spending for the Small Business Innovation Research (SBIR) Program, Fiscal Years 2006 to 2011



Source: GAO analysis of agency annual report data submitted to SBA.

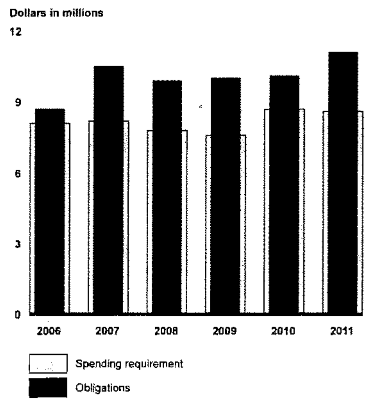
Figure 4: Comparison of DOD's Reported Spending Requirements and Spending for the Small Business Innovation Research (SBIR) Program, Fiscal Years 2006 to 2011



Source: GAO analysis of agency annual report data submitted to SBA.

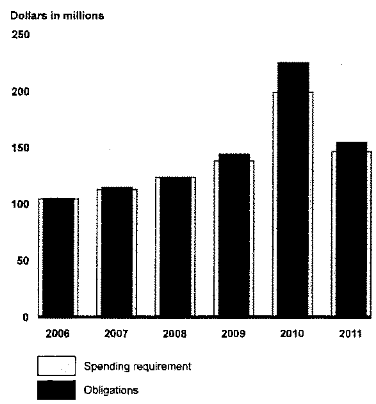
Note: Although the statutory requirement for agencies is to spend an amount equivalent to the annual spending requirement within each year, DOD officials said the agency spends approximately the full annual spending requirement over a 2-year period.

Figure 5: Comparison of the Department of Education's Reported Spending Requirements and Spending for the Small Business Innovation Research (SBIR) Program, Fiscal Years 2006 to 2011



Source: GAO analysis of agency annual report data submitted to SBA.

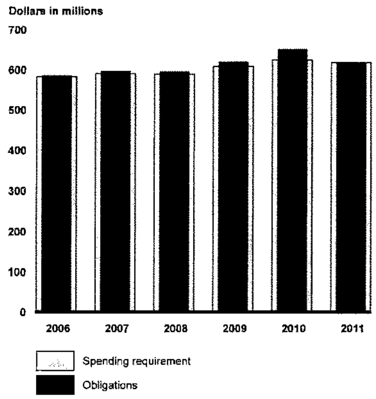
Figure 6: Comparison of the Department of Energy's (DOE) Reported Spending Requirements and Spending for the Small Business Innovation Research (SBIR) Program, Fiscal Years 2006 to 2011



Source: GAO analysis of agency annual report data submitted to SBA.

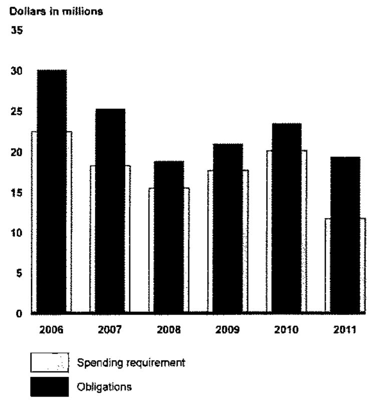
Note: DOE officials said that their annual reports to the Small Business Administration (SBA) did not include spending for Supplemental Phase II Awards or for Technical Commercial Assistance and that adding this spending eliminates under spending during this period. They also said SBA's annual report format does not include a place to report technical assistance spending. DOE supplied this additional information, which we incorporated into our analysis,

Figure 7: Comparison of the Department of Health and Human Services' Reported Spending Requirements and Spending for the Small Business Innovation Research (SBIR) Program, Fiscal Years 2006 to 2011



Source: GAO analysis of agency annual report data submitted to SBA.

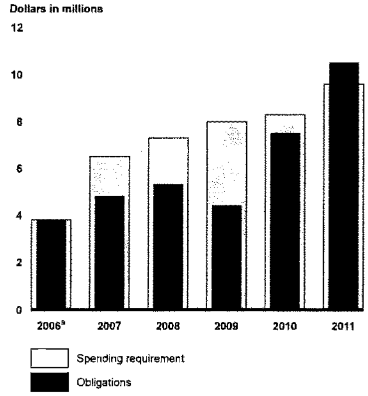
Figure 8: Comparison of the Department of Homeland Security's Reported Spending Requirements and Spending for the Small Business Innovation Research (SBIR) Program, Fiscal Years 2006 to 2011



Source: GAO analysis of agency annual report data submitted to SBA.

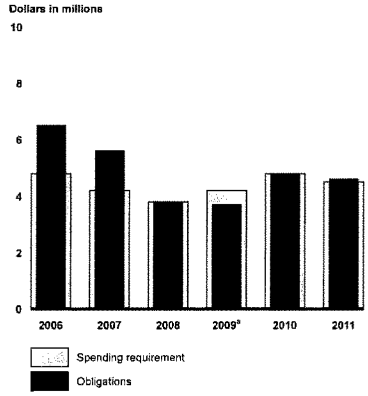
Note: DHS officials said the extramural budget reported in the agency's fiscal year 2006 annual report to SBA was incorrect and they planned to submit a corrected annual report. They said with the resulting corrected spending requirement, the fiscal year 2006 spending exceeded the spending requirement. DHS provided us with revised information, which we incorporated into our analysis.

Figure 9: Comparison of the Department of Transportation's Reported Spending Requirements and Spending for the Small Business Innovation Research (SBIR) Program, Fiscal Years 2006 to 2011



Source: GAO analysis of agency annual report data submitted to SBA.

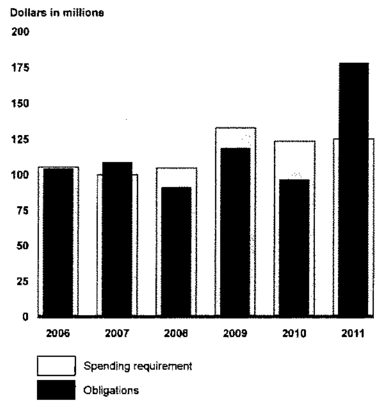
Figure 10: Comparison of the Environmental Protection Agency's (EPA) Reported Spending Requirements and Spending for the Small Business Innovation Research (SBIR) Program, Fiscal Years 2006 to 2011



Source: GAO analysis of agency annual report data submitted to SBA.

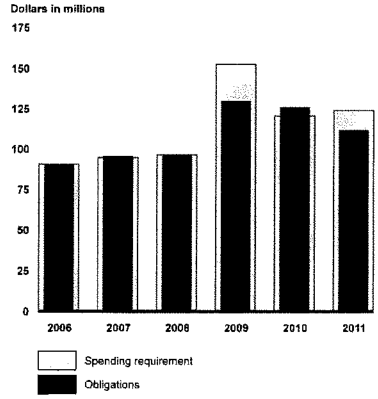
Note: EPA officials said the extramural budget reported in its fiscal year 2006 annual report to SBA was incorrect and they planned to submit a corrected annual report. They said with the resulting corrected spending requirement, the fiscal year 2006 spending exceeded the spending requirement. EPA provided us with revised information, which we incorporated into our analysis.

Figure 11: Comparison of National Aeronautics and Space Administration's (NASA) Reported Spending Requirements and Spending for the Small Business Innovation Research (SBIR) Program, Fiscal Years 2006 to 2011



Source: GAO analysis of agency annual report data submitted to SBA.

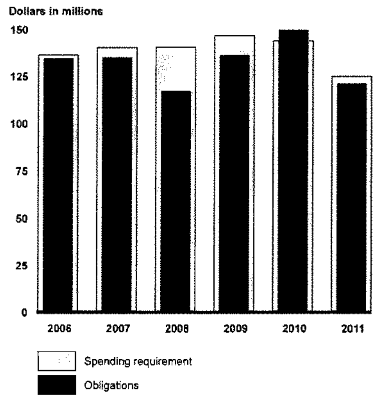
Figure 12: Comparison of the National Science Foundation's (NSF) Reported Spending Requirements and Spending for the Small Business Innovation Research (SBIR) Program, Fiscal Years 2006 to 2011



Source: GAO analysis of agency annual report data submitted to SBA.

Note: NSF officials said that the larger gap between spending requirements and spending in fiscal year 2009 was due to the additional funds made available by the American Recovery and Reinvestment Act of 2009 in June, after most of the NSF's awards had been made in the two funding cycles that fiscal year. The act's funding was subsequently used for the proposals submitted in response to the fiscal year 2010 solicitations.

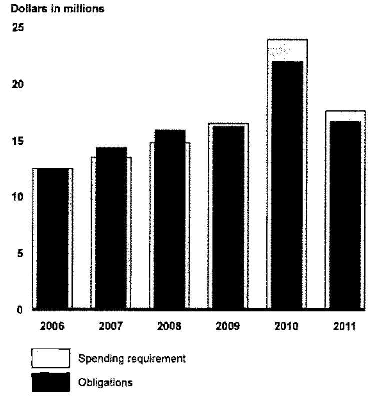
Figure 13: Comparison of DOD's Reported Spending Requirements and Spending for the Small Business Technology Transfer (STTR) Program, Fiscal Years 2006 to 2011



Source: GAO analysis of agency annual report data submitted to SBA.

Note: Although the statutory requirement for agencies is to spend an amount equivalent to the annual spending requirement within each fiscal year, DOD officials said the agency spends approximately the full annual spending requirement over a 2-year period by carrying over a portion of each year's funds to the following year.

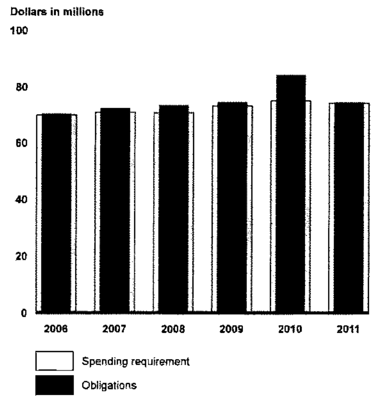
Figure 14: Comparison of the Department of Energy's (DOE) Reported Spending Requirements and Spending for the Small Business Technology Transfer (STTR) Program, Fiscal Years 2006 to 2011



Source: GAO analysis of agency annual report data submitted to SBA.

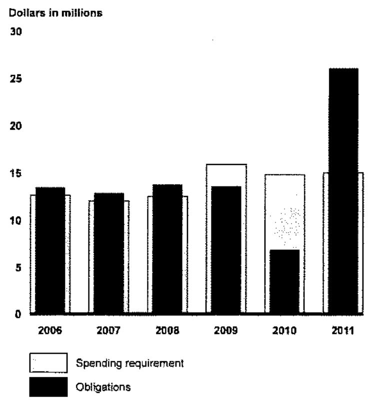
Note: DOE officials said that their annual reports to SBA did not include spending for Supplemental Phase II Awards or for Technical Commercial Assistance and that inclusion of these result in no under spending during this period. They also said SBA's annual report form does not include a place to report technical assistance spending. DOE provided us with revised information, which we incorporated into our analysis,

Figure 15: Comparison of the Department of Health and Human Services' (HHS) Reported Spending Requirements and Spending for the Small Business Technology Transfer (STTR) Program, Fiscal Years 2006 to 2011



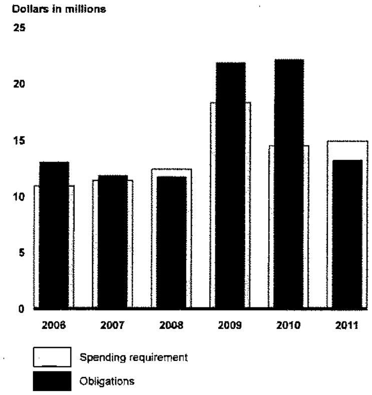
Source: GAO analysis of agency annual report data submitted to SBA.

Figure 16: Comparison of National Aeronautics and Space Administration's (NASA) Reported Spending Requirements and Spending for the Small Business Technology Transfer (STTR) Program, Fiscal Years 2006 to 2011



Source: GAO analysis of agency annual report data submitted to SBA.

Figure 17: Comparison of the National Science Foundation's (NSF) Reported Spending Requirements and Spending for the Small Business Technology Transfer (STTR) Program, Fiscal Years 2006 to 2011



Source: GAO analysis of agency annual report data submitted to SBA.

Appendix II: Analysis of Alternative Scenarios for Basing SBIR and STTR Spending Requirements on Total R&D Budget

To calculate the expenditure requirements for the SBIR and STTR programs, we used two key variables: (1) the "base," which is the research and development (R&D) funding from which the requirement is calculated, and (2) the percentage that is applied to that base. For example, for fiscal years 2006 to 2011, the base for SBIR and STTR funding is the extramural R&D budget, and the mandated percentages applied to that base were 2.5 and 0.3 percent, respectively. We tested three alternative scenarios that vary the percentage applied to the total R&D budget to illustrate the potential effects of changing the methodology to calculate agencies' SBIR and STTR expenditure requirements.[1] The scenarios analyzed were as follows:

- For scenario 1, we applied the same percentages for the expenditure requirements under the current law to the total R&D budget instead of the extramural R&D budget.
- For scenario 2, using fiscal year 2006 numbers as our base, we determined the percentage to apply to the total R&D budget of all participating agencies for fiscal years 2006 through 2011 that would hold the total expenditure requirement constant for the programs.
- For scenario 3, using fiscal year 2006 numbers as our base, we determined the percentage to apply to the total R&D budget of each individual agency for fiscal years 2006 through 2011 to hold each individual agency's expenditure requirement constant for the programs.

See the details of the three scenarios and current law in table 5, and their effects on spending requirements are in table 6.

[1]There are many other alternatives that we could have selected for this analysis; we selected these three alternatives to provide examples of how the expenditure requirements for the programs could change if Congress chose to change the methodology for calculating the requirements.

Table 5: Summary of Alternative Scenarios to Illustrate the Potential Effects of Calculating Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Program Expenditure Requirements on an Agency's Total R&D Budget Instead of Its Extramural R&D Budget

		Percentage applied to the base	
Scenario	Base	SBIR	STTR
Current law	Extramural R&D budget	2.5%	0.3%
Scenario 1	Total R&D budget	2.5%	0.3%
Scenario 2	Total R&D budget	1.6%	0.2%
Scenario 3	Total R&D budget	[a]	[b]

Source: GAO analysis of agencies' data.

[a]This would vary by agency from 0.5 percent to 2.5 percent

[b]This would vary by agency from 0.1 to 0.3 percent

Note: 2006 was selected as the base year from which to determine the new percentage to apply to the total R&D budget to more clearly show how the funding for the SBIR and STTR programs would be distributed across federal agencies.

Table 6: Comparison of Fiscal year 2011 Small Business Innovation Research (SBIR) Spending Requirements under the Current Law and the Three Alternative Scenarios

Dollars in millions

	Agency's extramural R&D budget[a]	Agency's total R&D budget authority[b]	SBIR spending requirement under current law[c]	(Scenario 1) SBIR spending requirement based on 2.50 percent of the total R&D budget	(Scenario 2) SBIR spending requirement based on 1.63 percent of the total R&D budget	(Scenario 3) SBIR spending requirement based on variable percentages by agency
USDA	$768	$2,284	$19	$57	$37	$21
Commerce	239	1,021	6	26	17	7
DOD	41,678	77,410	1,042	1,935	1,262	1,195
Education	346	362	9	9	6	9
DOE	5,857	9,915	146	248	162	137
HHS	24,714	31,099	618	777	507	637
DHS	468	512	12	13	8	13
DOT	384	929	10	23	15	4
EPA	182	584	5	15	10	9
NASA	4,998	8,839	125	221	144	102
NSF	4,956	5,091	124	127	83	121
Total	**$84,590**	**$138,046**	**$2,116**	**$3,451**	**$2,250**	**$2,255**

Sources: GAO analysis of agencies' data.

[a]Each agency's extramural R&D budget as reported by the agencies in their annual reports to SBA.

[b]Each agency's total R&D budget authority is from the Analytical Perspectives volume of the President's budget.

[c]Each agency's SBIR spending requirement was calculated under the current law in fiscal year 2011 as 2.5 percent of its extramural R&D budget.

Note: Calculations may be affected by rounding.

Appendix III: Description of SBIR and STTR Administrative Cost Data Obtained from the Participating Agencies

The following describes the administrative cost data obtained, identified, or not available from the participating agencies for fiscal year 2011.

- *Department of Commerce (Commerce)*: Officials with the two participating subunits, the National Institute of Standards and Technology (NIST) and the National Oceanic and Atmospheric Administration (NOAA), said that the administrative costs for the program included salaries and expenses but that they did not have an estimate of them. The officials said the agencies did not specifically track administrative costs. Such costs were not allowed to be charged against the SBIR funds.

- *Department of Homeland Security (DHS)*: Officials in DHS' Science and Technology Directorate, which is one of two subunits managing the SBIR program at DHS, provided a partial list of administrative costs for the fiscal year. These included salary, travel, and other costs (e.g. contracting fees, support contracts and audit costs) that were estimated at $962,000. Categories of costs that the agency identified but did not estimate included salaries and expenses of other DHS supporting staff and contractors. DHS officials in the Science and Technology Directorate said that the directorate's management and administrative budget began fully funding the administrative costs for SBIR in 2011; previously, these costs were funded from the extramural R&D budget of the directorate. The other DHS unit with an SBIR program, the Domestic Nuclear Detection Office did not identify or estimate administrative costs.

- *DOD*: Agency officials said that while DOD had not tracked administrative costs of the SBIR or STTR programs through 2011 agency-wide, such costs had been reported to various extents by the 13 DOD subunits that participate in one or both of the programs. Based on reports from some subunits, DOD's partial administrative costs totaled $30.2 million. The 13 DOD subunits varied in their identification of administrative costs. Some identified none; some identified a few; and others identified many categories but did not provide estimates for each cost category. DOD Office of Small Business Programs officials stated that the department did not track "non-legislated administrative expenses," which were described as the program administrative costs before the start of the administrative costs pilot program.

- *Department of Energy (DOE)*: Agency officials in the DOE Office of Science, which manages most of the SBIR and STTR programs in DOE, said administrative costs for these programs were in three categories: salaries and benefits, support contracts, and travel, and totaled $1.2 million in fiscal year 2011. According to these officials, these costs did not include personnel expenses for over 70 specialists who spend a fraction of their time on the programs.

- *Department of Transportation (DOT)*: Agency officials said administrative costs in fiscal year 2011 were estimated at $363,000, primarily for salaries and expenses but also including travel and other smaller categories. These program managers said this represents part of its administrative costs that directly support the SBIR program's management but not other support activities like procurement and legal services that are provided by other DOT subunits.

- *Department of Education (Education)*: Agency officials estimated administrative costs for fiscal year 2011 totaled $479,000, of which $4,000 was for travel, $174,000 for salaries and benefits of department employees who administer the program, including preparing solicitations, running competitions, performing oversight, congressional reporting, and monitoring awards. Officials said the 2011 total included $38,000 for salary and benefits of the department contracts and acquisitions management staff, and $263,000 for salary and benefits of personnel assisting with application reviews.

- *Environmental Protection Agency (EPA)*: Agency officials said that known administrative costs for fiscal year 2011 were $953,000, which included $533,000 for the salaries and expenses of four FTE staff that run the program, $350,000 for external peer review of SBIR proposals at various funding phases, and $70,000 for a contract to provide program support. Officials said there were other administrative costs that were associated with staff that also manage other grant programs and that these costs were not easily separated by program and they were not tracked.

- *Department of Health and Human Services (HHS)*: Agency officials said they do not track or report the amount of administrative costs for the SBIR and STTR programs. They said it would be very difficult to determine how much is currently spent on the administrative costs of the program. HHS officials reported that since authorizing legislation did not allow SBIR/STTR funds to be spent on administration, funding for administrative costs, such as salary and expenses, training and travel, comes from other accounts.

- *National Aeronautics and Space Administration (NASA)*: Agency officials estimated administrative costs for certain categories as roughly $11.9 million in fiscal year 2011, which included, among other things, $8.6 million for procurement costs, about $3 million for salaries and expenses, and $151,000 for travel. According to these officials, other identified unestimated and untracked costs to administer the SBIR and STTR programs include the costs of technical experts within NASA reviewing proposals, the cost of holding review panels, and the cost that technical and contracting representatives spend interacting with companies seeking and receiving funding.

- *National Science Foundation (NSF)*: Agency officials said they identified administrative costs of $4 million for the SBIR and STTR programs. These include 10 FTE within the agency costing approximately $2 million in salaries and benefits and $2 million NSF designates from its extramural research and spends for SBIR and STTR administrative costs, primarily for contracted technical and administrative support. NSF has contracted for this support for many years because of the high volume of actions in the program and the time frames that need to be met in the process. NSF officials said there were other administrative costs, including the efforts of federal staff that devote substantial time to the programs, but these have not been tracked or estimated.

- *U.S. Department of Agriculture (USDA)*: Agency officials said that in fiscal year 2011 administrative costs for SBIR included $184,000 for experts who provided peer review of project proposals to cover such costs as honoraria and travel. Officials said USDA does not break out administrative costs for the SBIR program beyond honoraria and travel.

Appendix IV: GAO Contact and Staff Acknowledgments

GAO Contact:

Frank Rusco, (202) 512-3841 or ruscof@gao.gov

Staff Acknowledgments

In addition to the individual named above, Tim Minelli, Assistant Director; Hilary Benedict; Antoinette Capaccio; Cindy Gilbert; Richard Johnson; Cynthia Norris; John Scott; Ilga Semeiks; and Vasiliki Theodoropoulos made key contributions to this report.

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I

106TH CONGRESS
2D SESSION

H. R. 5667

To provide for reauthorization of small business loan and other programs, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

DECEMBER 15, 2000

Mr. TALENT (for himself and Ms. VELÁZQUEZ) introduced the following bill; which was referred to the Committee on Small Business

---

A BILL

To provide for reauthorization of small business loan and other programs, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the "Small Business Reauthorization Act of 2000".

(b) TABLE OF CONTENTS.—The table of contents for this Act is as follows:

TITLE I—SMALL BUSINESS INNOVATION RESEARCH PROGRAM

SEC. 101. SHORT TITLE.

This title may be cited as the "Small Business Innovation Research Program Reauthorization Act of 2000".

SEC. 102. FINDINGS.

Congress finds that—

(1) the small business innovation research program established under the Small Business Innovation Development Act of 1982, and reauthorized by the Small Business Research and Development En-

hancement Act of 1992 (in this title referred to as the "SBIR program") is highly successful in involving small businesses in federally funded research and development;

(2) the SBIR program made the cost-effective and unique research and development capabilities possessed by the small businesses of the Nation available to Federal agencies and departments;

(3) the innovative goods and services developed by small businesses that participated in the SBIR program have produced innovations of critical importance in a wide variety of high-technology fields, including biology, medicine, education, and defense;

(4) the SBIR program is a catalyst in the promotion of research and development, the commercialization of innovative technology, the development of new products and services, and the continued excellence of this Nation's high-technology industries; and

(5) the continuation of the SBIR program will provide expanded opportunities for one of the Nation's vital resources, its small businesses, will foster invention, research, and technology, will create jobs, and will increase this Nation's competitiveness in international markets.

SEC. 103. EXTENSION OF SBIR PROGRAM.

Section 9(m) of the Small Business Act (15 U.S.C. 638(m)) is amended to read as follows:

"(m) TERMINATION.—The authorization to carry out the Small Business Innovation Research Program established under this section shall terminate on September 30, 2008.".

SEC. 104. ANNUAL REPORT.

Section 9(b)(7) of the Small Business Act (15 U.S.C. 638(b)(7)) is amended by striking "and the Committee on Small Business of the House of Representatives" and inserting ", and to the Committee on Science and the Committee on Small Business of the House of Representatives,".

SEC. 105. THIRD PHASE ASSISTANCE.

Section 9(e)(4)(C)(i) of the Small Business Act (15 U.S.C. 638(e)(4)(C)(i)) is amended by striking "; and" and inserting "; or".

SEC. 106. REPORT ON PROGRAMS FOR ANNUAL PERFORMANCE PLAN.

Section 9(g) of the Small Business Act (15 U.S.C. 638(g)) is amended—

(1) in paragraph (7), by striking "and" at the end;

(2) in paragraph (8), by striking the period at the end and inserting a semicolon; and

(3) by adding at the end the following:

"(9) include, as part of its annual performance plan as required by subsections (a) and (b) of section 1115 of title 31, United States Code, a section on its SBIR program, and shall submit such section to the Committee on Small Business of the Senate, and the Committee on Science and the Committee on Small Business of the House of Representatives; and".

SEC. 107. OUTPUT AND OUTCOME DATA.

(a) COLLECTION.—Section 9(g) of the Small Business Act (15 U.S.C. 638(g)), as amended by section 106 of this Act, is further amended by adding at the end the following:

"(10) collect, and maintain in a common format in accordance with subsection (v), such information from awardees as is necessary to assess the SBIR program, including information necessary to maintain the database described in subsection (k).".

(b) REPORT TO CONGRESS.—Section 9(b)(7) of the Small Business Act (15 U.S.C. 638(b)(7)), as amended by section 104 of this Act, is further amended by inserting before the period at the end ", including the data on output and outcomes collected pursuant to subsections (g)(10) and (o)(9), and a description of the extent to which Federal agencies are providing in a timely manner information needed to maintain the database described in subsection (k)".

(c) DATABASE.—Section 9(k) of the Small Business Act (15 U.S.C. 638(k)) is amended to read as follows:

"(k) DATABASE.—

"(1) PUBLIC DATABASE.—Not later than 180 days after the date of the enactment of the Small Business Innovation Research Program Reauthorization Act of 2000, the Administrator shall develop, maintain, and make available to the public a searchable, up-to-date, electronic database that includes—

"(A) the name, size, location, and an identifying number assigned by the Administrator, of each small business concern that has received a first phase or second phase SBIR award from a Federal agency;

"(B) a description of each first phase or second phase SBIR award received by that small business concern, including—

"(i) an abstract of the project funded by the award, excluding any proprietary information so identified by the small business concern;

"(ii) the Federal agency making the award; and

"(iii) the date and amount of the award;

"(C) an identification of any business concern or subsidiary established for the commercial application of a product or service for which an SBIR award is made; and

"(D) information regarding mentors and Mentoring Networks, as required by section 35(d).

"(2) GOVERNMENT DATABASE.—Not later than 180 days after the date of the enactment of the Small Business Innovation Research Program Reauthorization Act of 2000, the Administrator, in consultation with Federal agencies required to have an SBIR program pursuant to subsection (f)(1), shall develop and maintain a database to be used solely for SBIR program evaluation that—

"(A) contains for each second phase award made by a Federal agency—

"(i) information collected in accordance with paragraph (3) on revenue from the sale of new products or services resulting from the research conducted under the award;

"(ii) information collected in accordance with paragraph (3) on additional investment from any source, other than first phase or second phase SBIR or STTR awards, to further the research and development conducted under the award; and

"(iii) any other information received in connection with the award that the Administrator, in conjunction with the SBIR program managers of Federal agencies, considers relevant and appropriate;

"(B) includes any narrative information that a small business concern receiving a second phase award voluntarily submits to further describe the outputs and outcomes of its awards;

"(C) includes for each applicant for a first phase or second phase award that does not receive such an award—

"(i) the name, size, and location, and an identifying number assigned by the Administration;

"(ii) an abstract of the project; and

"(iii) the Federal agency to which the application was made;

"(D) includes any other data collected by or available to any Federal agency that such agency considers may be useful for SBIR program evaluation; and

"(E) is available for use solely for program evaluation purposes by the Federal Government or, in accordance with policy directives issued by the Administration, by other authorized persons who are subject to a use and nondisclosure agreement with the Federal Government covering the use of the database.

"(3) UPDATING INFORMATION FOR DATABASE.—

"(A) IN GENERAL.—A small business concern applying for a second phase award under this section shall be required to update information in the database established under this subsection for any prior second phase award received by that small business concern. In complying with this paragraph, a small business concern may apportion sales or additional investment information relating to more than one second phase award among those awards, if it notes the apportionment for each award.

"(B) ANNUAL UPDATES UPON TERMINATION.—A small business concern receiving a second phase award under this section shall—

"(i) update information in the database concerning that award at the termination of the award period; and

"(ii) be requested to voluntarily update such information annually thereafter for a period of 5 years.

"(4) PROTECTION OF INFORMATION.—Information provided under paragraph (2) shall be considered privileged and confidential and not subject to disclosure pursuant to section 552 of title 5, United States Code.

"(5) RULE OF CONSTRUCTION.—Inclusion of information in the database under this subsection shall not be considered to be publication for purposes of subsection (a) or (b) of section 102 of title 35, United States Code.".

SEC. 108. NATIONAL RESEARCH COUNCIL REPORTS.

(a) STUDY AND RECOMMENDATIONS.—The head of each agency with a budget of more than $50,000,000 for its SBIR program for fiscal year 1999, in consultation with the Small Business Administration, shall, not later than 6 months after the date of the enactment of this Act, cooperatively enter into an agreement with the National Academy of Sciences for the National Research Council to—

(1) conduct a comprehensive study of how the SBIR program has stimulated technological innovation and used small businesses to meet Federal research and development needs, including—

(A) a review of the value to the Federal research agencies of the research projects being conducted under the SBIR program, and of the quality of research being conducted by small businesses participating under the program, including a comparison of the value of projects conducted under the SBIR program to those funded by other Federal research and development expenditures;

(B) to the extent practicable, an evaluation of the economic benefits achieved by the SBIR program, including the economic rate of return, and a comparison of the economic benefits, including the economic rate of return, achieved by the SBIR program with the economic benefits, including the economic rate of return, of other Federal research and development expenditures;

(C) an evaluation of the noneconomic benefits achieved by the SBIR program over the life of the program;

(D) a comparison of the allocation for fiscal year 2000 of Federal research and development funds to small businesses with such allocation for fiscal year 1983, and an analysis of the factors that have contributed to such allocation; and

(E) an analysis of whether Federal agencies, in fulfilling their procurement needs, are making sufficient effort to use small businesses that have completed a second phase award under the SBIR program; and

(2) make recommendations with respect to—

(A) measures of outcomes for strategic plans submitted under section 306 of title 5, United States Code, and performance plans submitted under section 1115 of title 31, United States Code, of each Federal agency participating in the SBIR program;

(B) whether companies who can demonstrate project feasibility, but who have not received a first phase award, should be eligible for second phase awards, and the potential impact of such awards on the competitive selection process of the program;

(C) whether the Federal Government should be permitted to recoup some or all of its expenses if a controlling interest in a company receiving an SBIR award is sold to a foreign company or to a company that is not a small business concern;

(D) how to increase the use by the Federal Government in its programs and procurements of technology-oriented small businesses; and

(E) improvements to the SBIR program, if any are considered appropriate.

(b) PARTICIPATION BY SMALL BUSINESS.—

(1) IN GENERAL.—In a manner consistent with law and with National Research Council study guidelines and procedures, knowledgeable individuals from the small business community with experience in the SBIR program shall be included—

(A) in any panel established by the National Research Council for the purpose of performing the study conducted under this section; and

(B) among those who are asked by the National Research Council to peer review the study.

(2) CONSULTATION.—To ensure that the concerns of small business are appropriately considered under this subsection, the National Research Council shall consult with and consider the views of the Office of Technology and the Office of Advocacy of the Small Business Administration and other interested parties, including entities, organizations, and individuals actively engaged in enhancing or developing the technological capabilities of small business concerns.

(c) PROGRESS REPORTS.—The National Research Council shall provide semiannual progress reports on the study conducted under this section to the Committee on Science and the Committee on Small Business of the House of Representatives, and to the Committee on Small Business of the Senate.

(d) REPORT.—The National Research Council shall transmit to the heads of agencies entering into an agreement under this section and to the Committee on Science and the Committee on Small Business of the House of Representatives, and to the Committee on Small Business of the Senate—

(1) not later than 3 years after the date of the enactment of this Act, a report including the results of the study conducted under subsection (a)(1) and recommendations made under subsection (a)(2); and

(2) not later than 6 years after that date of the enactment, an update of such report.

SEC. 109. FEDERAL AGENCY EXPENDITURES FOR THE SBIR PROGRAM.

Section 9(i) of the Small Business Act (15 U.S.C. 638(i)) is amended—

(1) by striking "(i) Each Federal" and inserting the following:

"(i) ANNUAL REPORTING.—

"(1) IN GENERAL.—Each Federal"; and

(2) by adding at the end the following:

"(2) CALCULATION OF EXTRAMURAL BUDGET.—

"(A) METHODOLOGY.—Not later than 4 months after the date of the enactment of each appropriations Act for a Federal agency required by this section to have an SBIR program, the Federal agency shall submit to the Administrator a report, which shall include a description of the methodology used for calculating the amount of the extramural budget of that Federal agency.

"(B) ADMINISTRATOR'S ANALYSIS.—The Administrator shall include an analysis of the methodology received from each Federal agency referred to in subparagraph (A) in the report required by subsection (b)(7).".

SEC. 110. POLICY DIRECTIVE MODIFICATIONS.

Section 9(j) of the Small Business Act (15 U.S.C. 638(j)) is amended by adding at the end the following:

"(3) ADDITIONAL MODIFICATIONS.—Not later than 120 days after the date of the enactment of the Small Business Innovation Research Program Reauthorization Act of 2000, the Administrator shall modify the policy directives issued pursuant to this subsection—

"(A) to clarify that the rights provided for under paragraph (2)(A) apply to all Federal funding awards under this section, including the first phase (as described in subsection (e)(4)(A)), the second phase (as described in subsection (e)(4)(B)), and the third phase (as described in subsection (e)(4)(C));

"(B) to provide for the requirement of a succinct commercialization plan with each application for a second phase award that is moving toward commercialization;

"(C) to require agencies to report to the Administration, not less frequently than annually, all instances in which an agency pursued research, development, or production of a technology developed by a small business concern using an award made under the SBIR program of that agency, and determined that it was not practicable to enter into a follow-on non-SBIR program funding agreement with the small business concern, which report shall include, at a minimum—

"(i) the reasons why the follow-on funding agreement with the small business concern was not practicable;

"(ii) the identity of the entity with which the agency contracted to perform the research, development, or production; and

"(iii) a description of the type of funding agreement under which the research, development, or production was obtained; and

"(D) to implement subsection (v), including establishing standardized procedures for the provision of information pursuant to subsection (k)(3).".

SEC. 111. FEDERAL AND STATE TECHNOLOGY PARTNERSHIP PROGRAM.

(a) FINDINGS.—Congress finds that—

(1) programs to foster economic development among small high-technology firms vary widely among the States;

(2) States that do not aggressively support the development of small high-technology firms, including participation by small business concerns in the SBIR program, are at a competitive disadvantage in establishing a business climate that is conducive to technology development; and

(3) building stronger national, State, and local support for science and technology research in these disadvantaged States will expand economic opportunities in the United States, create jobs, and increase the competitiveness of the United States in the world market.

(b) FEDERAL AND STATE TECHNOLOGY PARTNERSHIP PROGRAM.—The Small Business Act (15 U.S.C. 631 et seq.) is amended—

(1) by redesignating section 34 as section 36; and

(2) by inserting after section 33 the following:

"SEC. 34. FEDERAL AND STATE TECHNOLOGY PARTNERSHIP PROGRAM.

"(a) DEFINITIONS.—In this section and section 35, the following definitions apply:

"(1) APPLICANT.—The term 'applicant' means an entity, organization, or individual that submits a proposal for an award or a cooperative agreement under this section.

"(2) BUSINESS ADVICE AND COUNSELING.—The term 'business advice and counseling' means providing advice and assistance on matters described in section 35(c)(2)(B) to small business concerns to guide them through the SBIR and STTR program process, from application to award and successful completion of each phase of the program.

"(3) FAST PROGRAM.—The term 'FAST program' means the Federal and State Technology Partnership Program established under this section.

"(4) MENTOR.—The term 'mentor' means an individual described in section 35(c)(2).

"(5) MENTORING NETWORK.—The term 'Mentoring Network' means an association, organization, coalition, or other entity (including an individual) that meets the requirements of section 35(c).

"(6) RECIPIENT.—The term 'recipient' means a person that receives an award or becomes party to a cooperative agreement under this section.

"(7) SBIR PROGRAM.—The term 'SBIR program' has the same meaning as in section 9(e)(4).

"(8) STATE.—The term 'State' means each of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, and American Samoa.

"(9) STTR PROGRAM.—The term 'STTR program' has the same meaning as in section 9(e)(6).

"(b) ESTABLISHMENT OF PROGRAM.—The Administrator shall establish a program to be known as the Federal and State Technology Partnership Program, the purpose of which shall be to strengthen the technological competitiveness of small business concerns in the States.

"(c) GRANTS AND COOPERATIVE AGREEMENTS.—

"(1) JOINT REVIEW.—In carrying out the FAST program under this section, the Administrator and the SBIR program managers at the National Science Foundation and the Department of Defense shall jointly review proposals submitted by applicants and may make awards or enter into cooperative agreements under this section based on the factors for consideration set forth in paragraph (2), in order to enhance or develop in a State—

"(A) technology research and development by small business concerns;

"(B) technology transfer from university research to technology-based small business concerns;

"(C) technology deployment and diffusion benefiting small business concerns;

"(D) the technological capabilities of small business concerns through the establishment or operation of consortia comprised of entities, organizations, or individuals, including—

"(i) State and local development agencies and entities;

"(ii) representatives of technology-based small business concerns;

"(iii) industries and emerging companies;

"(iv) universities; and

"(v) small business development centers; and

"(E) outreach, financial support, and technical assistance to technology-based small business concerns participating in or interested in participating in an SBIR program, including initiatives—

"(i) to make grants or loans to companies to pay a portion or all of the cost of developing SBIR proposals;

"(ii) to establish or operate a Mentoring Network within the FAST program to provide business advice and counseling that will assist small business concerns that have been identified by FAST program participants, program managers of participating SBIR agencies, the Administration, or other entities that are knowledgeable about the SBIR and STTR programs as good candidates for the SBIR and STTR programs, and that would benefit from mentoring, in accordance with section 35;

"(iii) to create or participate in a training program for individuals providing SBIR outreach and assistance at the State and local levels; and "(iv) to encourage the commercialization of technology developed through SBIR program funding.

"(2) SELECTION CONSIDERATIONS.—In making awards or entering into cooperative agreements under this section, the Administrator and the SBIR program managers referred to in paragraph (1)—

"(A) may only consider proposals by applicants that intend to use a portion of the Federal assistance provided under this section to provide outreach, financial support, or technical assistance to technology-based small business concerns participating in or interested in participating in the SBIR program; and

"(B) shall consider, at a minimum—

"(i) whether the applicant has demonstrated that the assistance to be provided would address unmet needs of small business concerns in the community, and whether it is important to use Federal funding for the proposed activities;

"(ii) whether the applicant has demonstrated that a need exists to increase the number or success of small high-technology businesses in the State, as measured by the number of first phase and second phase SBIR awards that have historically been received by small business concerns in the State;

"(iii) whether the projected costs of the proposed activities are reasonable;

"(iv) whether the proposal integrates and coordinates the proposed activities with other State and local programs assisting small high-technology firms in the State; and

"(v) the manner in which the applicant will measure the results of the activities to be conducted.

"(3) PROPOSAL LIMIT.—Not more than one proposal may be submitted for inclusion in the FAST program under this section to provide services in any one State in any 1 fiscal year.

"(4) PROCESS.—Proposals and applications for assistance under this section shall be in such form and subject to such procedures as the Administrator shall establish.

"(d) COOPERATION AND COORDINATION.—In carrying out the FAST program under this section, the Administrator shall cooperate and coordinate with—

"(1) Federal agencies required by section 9 to have an SBIR program; and

"(2) entities, organizations, and individuals actively engaged in enhancing or developing the technological capabilities of small business concerns, including—

"(A) State and local development agencies and entities;

"(B) State committees established under the Experimental Program to Stimulate Competitive Research of the National Science Foundation (as established under section 113 of the National Science Foundation Authorization Act of 1988 (42 U.S.C. 1862g));

"(C) State science and technology councils; and

"(D) representatives of technology-based small business concerns.

"(e) ADMINISTRATIVE REQUIREMENTS.—

"(1) COMPETITIVE BASIS.—Awards and cooperative agreements under this section shall be made or entered into, as applicable, on a competitive basis.

"(2) MATCHING REQUIREMENTS.—

"(A) IN GENERAL.—The non-Federal share of the cost of an activity (other than a planning activity) carried out using an award or under a cooperative agreement under this section shall be—

"(i) 50 cents for each Federal dollar, in the case of a recipient that will serve small business concerns located in one of the 18 States receiving the fewest SBIR first phase awards (as described in section 9(e)(4)(A));

"(ii) except as provided in subparagraph (B), 1 dollar for each Federal dollar, in the case of a recipient that will serve small business concerns located in one of the 16 States receiving the greatest number of such SBIR first phase awards; and

"(iii) except as provided in subparagraph (B), 75 cents for each Federal dollar, in the case of a recipient that will serve small business concerns located in a State that is not described in clause (i) or (ii) that is receiving such SBIR first phase awards.

"(B) LOW-INCOME AREAS.—The non-Federal share of the cost of the activity carried out using an award or under a cooperative agreement under this section shall be 50 cents for each Federal dollar that will be directly allocated by a recipient described in subparagraph (A) to serve small business concerns located in a qualified census tract, as that term is defined in section 42(d)(5)(C)(ii) of the Internal Revenue Code of 1986. Federal dollars not so allocated by that recipient shall be subject to the matching requirements of subparagraph (A).

"(C) TYPES OF FUNDING.—The non-Federal share of the cost of an activity carried out by a recipient shall be comprised of not less than 50 percent cash and not more than 50 percent of indirect costs and in-kind contributions, except that no such costs or contributions may be derived from funds from any other Federal program.

"(D) RANKINGS.—For purposes of subparagraph (A), the Administrator shall reevaluate the ranking of a State once every 2 fiscal years, beginning with fiscal year 2001, based on the most recent statistics compiled by the Administrator.

"(3) DURATION.—Awards may be made or cooperative agreements entered into under this section for multiple years, not to exceed 5 years in total.

"(f) REPORTS.—

"(1) INITIAL REPORT.—Not later than 120 days after the date of the enactment of the Small Business Innovation Research Program Reauthorization Act of 2000, the Administrator shall prepare and submit to the Committee on Small Business of the Senate and the Committee on Science and the Committee on Small Business of the House of Representatives a report, which shall include, with respect to the FAST program, including Mentoring Networks—

"(A) a description of the structure and procedures of the program;

"(B) a management plan for the program; and

"(C) a description of the merit-based review process to be used in the program.

"(2) ANNUAL REPORTS.—The Administrator shall submit an annual report to the Committee on Small Business of the Senate and the Committee on Science and the Committee on Small Business of the House of Representatives regarding—

"(A) the number and amount of awards provided and cooperative agreements entered into under the FAST program during the preceding year;

"(B) a list of recipients under this section, including their location and the activities being performed with the awards made or under the cooperative agreements entered into; and

"(C) the Mentoring Networks and the mentoring database, as provided for under section 35, including—

"(i) the status of the inclusion of mentoring information in the database required by section 9(k); and

"(ii) the status of the implementation and description of the usage of the Mentoring Networks.

"(g) REVIEWS BY INSPECTOR GENERAL.—

"(1) IN GENERAL.—The Inspector General of the Administration shall conduct a review of—

"(A) the extent to which recipients under the FAST program are measuring the performance of the activities being conducted and the results of such measurements; and

"(B) the overall management and effectiveness of the FAST program.

"(2) REPORT.—During the first quarter of fiscal year 2004, the Inspector General of the Administration shall submit a report to the Committee on Small Business of the Senate and the Committee on Science and the Committee on Small Business of the House of Representatives on the review conducted under paragraph (1).

"(h) PROGRAM LEVELS.—

"(1) IN GENERAL.—There is authorized to be appropriated to carry out the FAST program, including Mentoring Networks, under this section and section 35, $10,000,000 for each of fiscal years 2001 through 2005.

"(2) MENTORING DATABASE.—Of the total amount made available under paragraph (1) for fiscal years 2001 through 2005, a reasonable amount, not to exceed a total of $500,000, may be used by the Administration to carry out section 35(d).

"(i) TERMINATION.—The authority to carry out the FAST program under this section shall terminate on September 30, 2005.".

(c) COORDINATION OF TECHNOLOGY DEVELOPMENT PROGRAMS.—Section 9 of the Small Business Act (15

U.S.C. 638) is amended by adding at the end the following:

"(u) COORDINATION OF TECHNOLOGY DEVELOPMENT PROGRAMS.—

"(1) DEFINITION OF TECHNOLOGY DEVELOPMENT PROGRAM.—In this subsection, the term 'technology development program' means—

"(A) the Experimental Program to Stimulate Competitive Research of the National Science Foundation, as established under section 113 of the National Science Foundation Authorization Act of 1988 (42 U.S.C. 1862g);

"(B) the Defense Experimental Program to Stimulate Competitive Research of the Department of Defense;

"(C) the Experimental Program to Stimulate Competitive Research of the Department of Energy;

"(D) the Experimental Program to Stimulate Competitive Research of the Environmental Protection Agency;

"(E) the Experimental Program to Stimulate Competitive Research of the National Aeronautics and Space Administration;

"(F) the Institutional Development Award Program of the National Institutes of Health; and

"(G) the National Research Initiative Competitive Grants Program of the Department of Agriculture.

"(2) COORDINATION REQUIREMENTS.—Each Federal agency that is subject to subsection (f) and that has established a technology development program may, in each fiscal year, review for funding under that technology development program—

"(A) any proposal to provide outreach and assistance to one or more small business concerns interested in participating in the SBIR program, including any proposal to make a grant or loan to a company to pay a portion or all of the cost of developing an SBIR proposal, from an entity, organization, or individual located in—

"(i) a State that is eligible to participate in that program; or

"(ii) a State described in paragraph (3); or

"(B) any proposal for the first phase of the SBIR program, if the proposal, though meritorious, is not funded through the SBIR program for that fiscal year due to funding restraints, from a small business concern located in—

"(i) a State that is eligible to participate in a technology development program; or

"(ii) a State described in paragraph (3).

"(3) ADDITIONALLY ELIGIBLE STATE.—A State referred to in subparagraph (A)(ii) or (B)(ii) of paragraph (2) is a State in which the total value of contracts awarded to small business concerns under all SBIR programs is less than the total value of contracts awarded to small business concerns in a majority of other States, as determined by the Administrator in biennial fiscal years, beginning with fiscal year 2000, based on the most recent statistics compiled by the Administrator.".

SEC. 112. MENTORING NETWORKS.

The Small Business Act (15 U.S.C. 631 et seq.) is amended by inserting after section 34, as added by section 111(b)(2) of this Act, the following:

"SEC. 35. MENTORING NETWORKS.

"(a) FINDINGS.—Congress finds that—

"(1) the SBIR and STTR programs create jobs, increase capacity for technological innovation, and boost international competitiveness;

"(2) increasing the quantity of applications from all States to the SBIR and STTR programs would enhance competition for such awards and the quality of the completed projects; and

"(3) mentoring is a natural complement to the FAST program of reaching out to new companies regarding the SBIR and STTR programs as an effective and low-cost way to improve the likelihood that such companies will succeed in such programs in developing and commercializing their research.

"(b) AUTHORIZATION FOR MENTORING NETWORKS.—The recipient of an award or participant in a cooperative agreement under section 34 may use a reasonable amount of such assistance for the establishment of a Mentoring Network under this section.

"(c) CRITERIA FOR MENTORING NETWORKS.—A Mentoring Network established using assistance under section 34 shall—

"(1) provide business advice and counseling to high technology small business concerns located in the State or region served by the Mentoring Network and identified under section 34(c)(1)(E)(ii) as potential candidates for the SBIR or STTR programs;

"(2) identify volunteer mentors who—

"(A) are persons associated with a small business concern that has successfully completed one or more SBIR or STTR funding agreements; and

"(B) have agreed to guide small business concerns through all stages of the SBIR or STTR program process, including providing assistance relating to—

"(i) proposal writing;

"(ii) marketing;

"(iii) Government accounting;

"(iv) Government audits;

"(v) project facilities and equipment;

"(vi) human resources;

"(vii) third phase partners;

"(viii) commercialization;

"(ix) venture capital networking; and

"(x) other matters relevant to the SBIR and STTR programs;

"(3) have experience working with small business concerns participating in the SBIR and STTR programs;

"(4) contribute information to the national database referred to in subsection (d); and

"(5) agree to reimburse volunteer mentors for out-of-pocket expenses related to service as a mentor under this section.

"(d) MENTORING DATABASE.—The Administrator shall—

"(1) include in the database required by section 9(k)(1), in cooperation with the SBIR, STTR, and FAST programs, information on Mentoring Networks and mentors participating under this section, including a description of their areas of expertise;

"(2) work cooperatively with Mentoring Networks to maintain and update the database;

"(3) take such action as may be necessary to aggressively promote Mentoring Networks under this section; and

"(4) fulfill the requirements of this subsection either directly or by contract.".

SEC. 113. SIMPLIFIED REPORTING REQUIREMENTS.

Section 9 of the Small Business Act (15 U.S.C. 638), as amended by this Act, is further amended by adding at the end the following:

"(v) SIMPLIFIED REPORTING REQUIREMENTS.—The Administrator shall work with the Federal agencies required by this section to have an SBIR program to standardize reporting requirements for the collection of data from SBIR applicants and awardees, including data for inclusion in the database under subsection (k), taking into consideration the unique needs of each agency, and to the extent possible, permitting the updating of previously reported information by electronic means. Such requirements shall be designed to minimize the burden on small businesses.".

SEC. 114. RURAL OUTREACH PROGRAM EXTENSION.

(a) EXTENSION OF TERMINATION DATE.—Section 501(b)(2) of the Small Business Reauthorization Act of 1997 (15 U.S.C. 638 note; 111 Stat. 2622) is amended by striking "2001" and inserting "2005".

(b) EXTENSION OF AUTHORIZATION OF APPROPRIATIONS.—Section 9(s)(2) of the Small Business Act (15 U.S.C. 638(s)(2)) is amended by striking "for fiscal year 1998, 1999, 2000, or 2001" and inserting "for each of the fiscal years 2000 through 2005,".

TITLE II—BUSINESS LOAN PROGRAMS

SEC. 201. SHORT TITLE.

This title may be cited as the "Small Business Loan Improvement Act of 2000".

SEC. 202. LEVELS OF PARTICIPATION.

Section 7(a)(2)(A) of the Small Business Act (15 U.S.C. 636(a)(2)(A)) is amended—

(1) in paragraph (i) by striking "$100,000" and inserting "$150,000"; and

(2) in paragraph (ii)—

(A) by striking "80 percent" and inserting "85 percent"; and

(B) by striking "$100,000" and inserting "$150,000".

SEC. 203. LOAN AMOUNTS.

Section 7(a)(3)(A) of the Small Business Act (15 U.S.C. 636(a)(3)(A)) is amended by striking "$750,000," and inserting, "$1,000,000 (or if the gross loan amount would exceed $2,000,000),".

SEC. 204. INTEREST ON DEFAULTED LOANS.

Section 7(a)(4)(B) of the Small Business Act (15 U.S.C. 636(a)(4)(B)) is amended by adding at the end the following:

"(iii) APPLICABILITY.—Clauses (i) and (ii) shall not apply to loans made on or after October 1, 2000.".

SEC. 205. PREPAYMENT OF LOANS.

Section 7(a)(4) of the Small Business Act (15 U.S.C. 636(a)(4)) is further amended—

(1) by striking "(4) INTEREST RATES AND FEES.—" and inserting "(4) INTEREST RATES AND PREPAYMENT CHARGES.—"; and

(2) by adding at the end the following:

"(C) PREPAYMENT CHARGES.—

"(i) IN GENERAL.—A borrower who prepays any loan guaranteed under this subsection shall remit to the Administration a subsidy recoupment fee calculated in accordance with clause (ii) if—

"(I) the loan is for a term of not less than 15 years;

"(II) the prepayment is voluntary;

"(III) the amount of prepayment in any calendar year is more than 25 percent of the outstanding balance of the loan; and

"(IV) the prepayment is made within the first 3 years after disbursement of the loan proceeds.

"(ii) SUBSIDY RECOUPMENT FEE.—The subsidy recoupment fee charged under clause (i) shall be—

"(I) 5 percent of the amount of prepayment, if the borrower prepays during the first year after disbursement;

"(II) 3 percent of the amount of prepayment, if the borrower prepays during the second year after disbursement; and

"(III) 1 percent of the amount of prepayment, if the borrower prepays during the third year after disbursement.".

SEC. 206. GUARANTEE FEES.

Section 7(a)(18) of the Small Business Act (15 U.S.C. 636(a)(18)) is amended to read as follows:

"(18) GUARANTEE FEES.—

"(A) IN GENERAL.—With respect to each loan guaranteed under this subsection (other than a loan that is repayable in 1 year or less), the Administration shall collect a guarantee fee, which shall be payable by the participating lender, and may be charged to the borrower, as follows:

"(i) A guarantee fee equal to 2 percent of the deferred participation share of a total loan amount that is not more than $150,000.

"(ii) A guarantee fee equal to 3 percent of the deferred participation share of a total loan amount that is more than $150,000, but not more than $700,000.

"(iii) A guarantee fee equal to 3.5 percent of the deferred participation share of a total loan amount that is more than $700,000.

"(B) RETENTION OF CERTAIN FEES.—Lenders participating in the programs established under this subsection may retain not more than 25 percent of a fee collected under subparagraph (A)(i).".

SEC. 207. LEASE TERMS.

Section 7(a) of the Small Business Act (15 U.S.C. 636(a)) is further amended by adding at the end the following:

"(28) LEASING.—In addition to such other lease arrangements as may be authorized by the Administration, a borrower may permanently lease to one or more tenants not more than 20 percent of any property constructed with the proceeds of a loan guaranteed under this subsection, if the borrower permanently occupies and uses not less than 60 percent of the total business space in the property.".

SEC. 208. APPRAISALS FOR LOANS SECURED BY REAL PROPERTY.

(a) SMALL BUSINESS ACT.—Section 7(a) of the Small Business Act (15 U.S.C. 636(a)) is amended by adding at the end the following:

"(29) REAL ESTATE APPRAISALS.—With respect to a loan under this subsection that is secured by commercial real property, an appraisal of such property by a State licensed or certified appraiser—

"(A) shall be required by the Administration in connection with any such loan for more than $250,000; or

"(B) may be required by the Administration or the lender in connection with any such loan for $250,000 or less, if such appraisal is necessary for appropriate evaluation of creditworthiness.".

(b) SMALL BUSINESS INVESTMENT ACT OF 1958.—Section 502(3)(E) of the Small Business Investment Act of 1958 (15 U.S.C. 696(3)(E)) is amended—

(1) by striking "The collateral" and inserting the following:

"(i) IN GENERAL.—The collateral"; and

(2) by adding at the end the following:

"(ii) APPRAISALS.—With respect to commercial real property provided by the small business concern as collateral, an appraisal of the property by a State licensed or certified appraiser—

"(I) shall be required by the Administration before disbursement of the loan if the estimated value of that property is more than $250,000; or

"(II) may be required by the Administration or the lender before disbursement of the loan if the estimated value of that property is $250,000 or less, and such appraisal is necessary for appropriate evaluation of creditworthiness.".

SEC. 209. SALE OF GUARANTEED LOANS MADE FOR EXPORT PURPOSES.

Section 5(f)(1)(C) of the Small Business Act (15 U.S.C. 634(f)(1)(C)) is amended to read as follows:

"(C) each loan, except each loan made under section 7(a)(14), shall have been fully disbursed to the borrower prior to any sale.".

SEC. 210. MICROLOAN PROGRAM.

(a) IN GENERAL.—Section 7(m) of the Small Business Act (15 U.S.C. 636(m)) is amended—

(1) in paragraphs (1)(B)(iii) and (3)(E), by striking "$25,000" each place it appears and inserting "$35,000";

(2) in paragraphs (1)(A)(iii)(I), (3)(A)(ii), and (4)(C)(i)(II), by striking "$7,500" each place it appears and inserting "$10,000";

(3) in paragraph (3)(E), by striking "$15,000" and inserting "$20,000";

(4) in paragraph (5)(A)—

(A) by striking "25 grants" and inserting "55 grants"; and

(B) by striking "$125,000" and inserting "$200,000";

(5) in paragraph (6)(B), by striking "$10,000" and inserting "$15,000"; and

(6) in paragraph (7), by striking subparagraph (A) and inserting the following:

"(A) NUMBER OF PARTICIPANTS.—Under the program authorized by this subsection, the

Administration may fund, on a competitive basis, not more than 300 intermediaries.''.

(b) CONFORMING AMENDMENTS.—Section 7(m)(11)(B) of the Small Business Act (15 U.S.C. 636(m)(11)(B)) is amended by striking "$25,000" and inserting "$35,000".

TITLE III—CERTIFIED DEVELOPMENT COMPANY PROGRAM

SEC. 301. SHORT TITLE.

This title may be cited as the "Certified Development Company Program Improvements Act of 2000".

SEC. 302. WOMEN-OWNED BUSINESSES.

Section 501(d)(3)(C) of the Small Business Investment Act of 1958 (15 U.S.C. 695(d)(3)(C)) is amended by inserting before the comma "or women-owned business development".

SEC. 303. MAXIMUM DEBENTURE SIZE.

Section 502(2) of the Small Business Investment Act of 1958 (15 U.S.C. 696(2)) is amended to read as follows:

"(2) Loans made by the Administration under this section shall be limited to $1,000,000 for each such identifiable small business concern, except loans meeting the criteria specified in section 501(d)(3), which shall be limited to $1,300,000 for each such identifiable small business concern.".

SEC. 304. FEES.

Section 503(f) of the Small Business Investment Act of 1958 (15 U.S.C. 697(f)) is amended to read as follows:

"(f) EFFECTIVE DATE.—The fees authorized by subsections (b) and (d) shall apply to financings approved by the Administration on or after October 1, 1996, but shall not apply to financings approved by the Administration on or after October 1, 2003.".

SEC. 305. PREMIER CERTIFIED LENDERS PROGRAM.

Section 217(b) of the Small Business Administration Reauthorization and Amendments Act of 1994 (Public Law 103–403, 15 U.S.C. 697 note) (relating to section 508 of the Small Business Investment Act of 1958) is repealed.

SEC. 306. SALE OF CERTAIN DEFAULTED LOANS.

Section 508 of the Small Business Investment Act of 1958 (15 U.S.C. 697e) is amended—

(1) in subsection (a), by striking "On a pilot program basis, the" and inserting "The";

(2) by redesignating subsections (d) through (i) as subsections (e) through (j), respectively;

(3) in subsection (f) (as redesignated by paragraph (2)), by striking "subsection (f)" and inserting "subsection (g)";

(4) in subsection (h) (as redesignated by paragraph (2)), by striking "subsection (f)" and inserting "subsection (g)"; and

(5) by inserting after subsection (c) the following:

"(d) SALE OF CERTAIN DEFAULTED LOANS.—

"(1) NOTICE.—If, upon default in repayment, the Administration acquires a loan guaranteed under this section and identifies such loan for inclusion in a bulk asset sale of defaulted or repurchased loans or other financings, it shall give prior notice thereof to any certified development company which has a contingent liability under this section. The notice shall be given to the company as soon as possible after the financing is identified, but not less than 90 days before the date the Administration first makes any records on such financing available for examination by prospective purchasers prior to its offering in a package of loans for bulk sale.

"(2) LIMITATIONS.—The Administration shall not offer any loan described in paragraph (1) as part of a bulk sale unless it—

"(A) provides prospective purchasers with the opportunity to examine the Administration's records with respect to such loan; and

"(B) provides the notice required by paragraph (1).".

SEC. 307. LOAN LIQUIDATION.

(a) LIQUIDATION AND FORECLOSURE.—Title V of the Small Business Investment Act of 1958 (15 U.S.C. 695 et seq.) is amended by adding at the end the following:

"SEC. 510. FORECLOSURE AND LIQUIDATION OF LOANS.

"(a) DELEGATION OF AUTHORITY.—In accordance with this section, the Administration shall delegate to any qualified State or local development company (as defined in section 503(e)) that meets the eligibility requirements of subsection (b)(1) the authority to foreclose and liquidate, or to otherwise treat in accordance with this section, defaulted loans in its portfolio that are funded with the proceeds of debentures guaranteed by the Administration under section 503.

"(b) ELIGIBILITY FOR DELEGATION.—

"(1) REQUIREMENTS.—A qualified State or local development company shall be eligible for a delegation of authority under subsection (a) if—

"(A) the company—

"(i) has participated in the loan liquidation pilot program established by the Small Business Programs Improvement

Act of 1996 (15 U.S.C. 695 note), as in effect on the day before promulgation of final regulations by the Administration implementing this section;

"(ii) is participating in the Premier Certified Lenders Program under section 508; or

"(iii) during the 3 fiscal years immediately prior to seeking such a delegation, has made an average of not less than 10 loans per year that are funded with the proceeds of debentures guaranteed under section 503; and

"(B) the company—

"(i) has one or more employees—

"(I) with not less than 2 years of substantive, decision-making experience in administering the liquidation and workout of problem loans secured in a manner substantially similar to loans funded with the proceeds of debentures guaranteed under section 503; and

"(II) who have completed a training program on loan liquidation developed by the Administration in conjunction with qualified State and local development companies that meet the requirements of this paragraph; or

"(ii) submits to the Administration documentation demonstrating that the company has contracted with a qualified third-party to perform any liquidation activities and secures the approval of the contract by the Administration with respect to the qualifications of the contractor and the terms and conditions of liquidation activities.

"(2) CONFIRMATION.—On request the Administration shall examine the qualifications of any company described in subsection (a) to determine if such company is eligible for the delegation of authority under this section. If the Administration determines that a company is not eligible, the Administration shall provide the company with the reasons for such ineligibility.

"(c) SCOPE OF DELEGATED AUTHORITY.—

"(1) IN GENERAL.—Each qualified State or local development company to which the Administration delegates authority under section (a) may with respect to any loan described in subsection (a)—

"(A) perform all liquidation and foreclosure functions, including the purchase in accordance with this subsection of any other indebtedness secured by the property securing the loan, in a reasonable and sound manner according to commercially accepted practices, pursuant to a liquidation plan approved in advance by the Administration under paragraph (2)(A);

"(B) litigate any matter relating to the performance of the functions described in subparagraph (A), except that the Administration may—

"(i) defend or bring any claim if—

"(I) the outcome of the litigation may adversely affect the Administration's management of the loan program established under section 502; or

"(II) the Administration is entitled to legal remedies not available to a qualified State or local development company and such remedies will benefit either the Administration or the qualified State or local development company; or

"(ii) oversee the conduct of any such litigation; and

"(C) take other appropriate actions to mitigate loan losses in lieu of total liquidation or foreclosures, including the restructuring of a loan in accordance with prudent loan servicing practices and pursuant to a workout plan approved in advance by the Administration under paragraph (2)(C).

"(2) ADMINISTRATION APPROVAL.—

"(A) LIQUIDATION PLAN.—

"(i) IN GENERAL.—Before carrying out functions described in paragraph (1)(A), a qualified State or local development company shall submit to the Administration a proposed liquidation plan.

"(ii) ADMINISTRATION ACTION ON PLAN.—

"(I) TIMING.—Not later than 15 business days after a liquidation plan is received by the Administration under clause (i), the Administration shall approve or reject the plan.

"(II) NOTICE OF NO DECISION.—With respect to any plan that cannot be approved or denied within the 15-day period required by subclause (I), the Administration shall within such period provide in accordance with subparagraph (E) notice to the company that submitted the plan.

"(iii) ROUTINE ACTIONS.—In carrying out functions described in paragraph (1)(A), a qualified State or local development company may undertake routine actions not addressed in a liquidation plan without obtaining additional approval from the Administration.

"(B) PURCHASE OF INDEBTEDNESS.—

"(i) IN GENERAL.—In carrying out functions described in paragraph (1)(A), a qualified State or local development company shall submit to the Administration a request for written approval before committing the Administration to the purchase of any other indebtedness secured by the property securing a defaulted loan.

"(ii) ADMINISTRATION ACTION ON REQUEST.—

"(I) TIMING.—Not later than 15 business days after receiving a request under clause (i), the Administration shall approve or deny the request.

"(II) NOTICE OF NO DECISION.—With respect to any request that cannot be approved or denied within the 15-day period required by subclause (I), the Administration shall within such period provide in accordance with subparagraph (E) notice to the company that submitted the request.

"(C) WORKOUT PLAN.—

"(i) IN GENERAL.—In carrying out functions described in paragraph (1)(C), a qualified State or local development company shall submit to the Administration a proposed workout plan.

"(ii) ADMINISTRATION ACTION ON PLAN.—

"(I) TIMING.—Not later than 15 business days after a workout plan is received by the Administration under clause (i), the Administration shall approve or reject the plan.

"(II) NOTICE OF NO DECISION.—With respect to any workout plan that cannot be approved or denied within the 15-day period required by subclause (I), the Administration shall within such period provide in accordance with subparagraph (E) notice to the company that submitted the plan.

"(D) COMPROMISE OF INDEBTEDNESS.—In carrying out functions described in paragraph (1)(A), a qualified State or local development company may—

"(i) consider an offer made by an obligor to compromise the debt for less than the full amount owing; and

"(ii) pursuant to such an offer, release any obligor or other party contingently liable, if the company secures the written approval of the Administration.

"(E) CONTENTS OF NOTICE OF NO DECISION.—Any notice provided by the Administration under subparagraph (A)(ii)(II), (B)(ii)(II), or (C)(ii)(II)—

"(i) shall be in writing;

"(ii) shall state the specific reason for the Administration's inability to act on a plan or request;

"(iii) shall include an estimate of the additional time required by the Administration to act on the plan or request; and

"(iv) if the Administration cannot act because insufficient information or documentation was provided by the company submitting the plan or request, shall specify the nature of such additional information or documentation.

"(3) CONFLICT OF INTEREST.—In carrying out functions described in paragraph (1), a qualified State or local development company shall take no action that would result in an actual or apparent conflict of interest between the company (or any employee of the company) and any third party lender, associate of a third party lender, or any other person participating in a liquidation, foreclosure, or loss mitigation action.

"(d) SUSPENSION OR REVOCATION OF AUTHORITY.—The Administration may revoke or suspend a delegation of authority under this section to any qualified

State or local development company, if the Administration determines that the company—

"(1) does not meet the requirements of subsection (b)(1);

"(2) has violated any applicable rule or regulation of the Administration or any other applicable law; or

"(3) fails to comply with any reporting requirement that may be established by the Administration relating to carrying out of functions described in paragraph (1).

"(e) REPORT.—

"(1) IN GENERAL.—Based on information provided by qualified State and local development companies and the Administration, the Administration shall annually submit to the Committees on Small Business of the House of Representatives and of the Senate a report on the results of delegation of authority under this section.

"(2) CONTENTS.—Each report submitted under paragraph (1) shall include the following information:

"(A) With respect to each loan foreclosed or liquidated by a qualified State or local development company under this section, or for which losses were otherwise mitigated by the company pursuant to a workout plan under this section—

"(i) the total cost of the project financed with the loan;

"(ii) the total original dollar amount guaranteed by the Administration;

"(iii) the total dollar amount of the loan at the time of liquidation, foreclosure, or mitigation of loss;

"(iv) the total dollar losses resulting from the liquidation, foreclosure, or mitigation of loss; and

"(v) the total recoveries resulting from the liquidation, foreclosure, or mitigation of loss, both as a percentage of the amount guaranteed and the total cost of the project financed.

"(B) With respect to each qualified State or local development company to which authority is delegated under this section, the totals of each of the amounts described in clauses (i) through (v) of subparagraph (A).

"(C) With respect to all loans subject to foreclosure, liquidation, or mitigation under this section, the totals of each of the amounts described in clauses (i) through (v) of subparagraph (A).

"(D) A comparison between—

"(i) the information provided under subparagraph (C) with respect to the 12-month period preceding the date on which the report is submitted; and

"(ii) the same information with respect to loans foreclosed and liquidated, or otherwise treated, by the Administration during the same period.

"(E) The number of times that the Administration has failed to approve or reject a liquidation plan in accordance with subparagraph (A)(i), a workout plan in accordance with subparagraph (C)(i), or to approve or deny a request for purchase of indebtedness under subparagraph (B)(i), including specific information regarding the reasons for the Administration's failure and any delays that resulted.".

(b) REGULATIONS.—

(1) IN GENERAL.—Not later than 150 days after the date of the enactment of this Act, the Administrator shall issue such regulations as may be

necessary to carry out section 510 of the Small Business Investment Act of 1958, as added by subsection (a) of this section.

(2) TERMINATION OF PILOT PROGRAM.—Beginning on the date on which final regulations are issued under paragraph (1), section 204 of the Small Business Programs Improvement Act of 1996 (15 U.S.C. 695 note) shall cease to have effect.

TITLE IV—CORRECTIONS TO THE SMALL BUSINESS INVESTMENT ACT OF 1958

SEC. 401. SHORT TITLE.

This title may be cited as the "Small Business Investment Corrections Act of 2000".

SEC. 402. DEFINITIONS.

(a) SMALL BUSINESS CONCERN.—Section 103(5)(A)(i) of the Small Business Investment Act of 1958 (15 U.S.C. 662(5)(A)(i)) is amended by inserting before the semicolon at the end the following: "regardless of the allocation of control during the investment period under any investment agreement between the business concern and the entity making the investment".

(b) LONG TERM.—Section 103 of the Small Business Investment Act of 1958 (15 U.S.C. 662) is amended—

(1) in paragraph (15), by striking "and" at the end;

(2) in paragraph (16), by striking the period at the end and inserting "; and"; and

(3) by adding at the end the following:

"(17) the term 'long term', when used in connection with equity capital or loan funds invested in any small business concern or smaller enterprise, means any period of time not less than 1 year.".

SEC. 403. INVESTMENT IN SMALL BUSINESS INVESTMENT COMPANIES.

Section 302(b) of the Small Business Investment Act of 1958 (15 U.S.C. 682(b)) is amended—

(1) by striking "(b) Notwithstanding" and inserting the following:

"(b) FINANCIAL INSTITUTION INVESTMENTS.—

"(1) CERTAIN BANKS.—Notwithstanding"; and

(2) by adding at the end the following:

"(2) CERTAIN SAVINGS ASSOCIATIONS.—Notwithstanding any other provision of law, any Federal savings association may invest in any one or more small business investment companies, or in any entity established to invest solely in small business investment companies, except that in no event may the total amount of such investments by any such Federal savings association exceed 5 percent of the capital and surplus of the Federal savings association.''.

SEC. 404. SUBSIDY FEES.

(a) DEBENTURES.—Section 303(b) of the Small Business Investment Act of 1958 (15 U.S.C. 683(b)) is amended by striking ''plus an additional charge of 1 percent per annum which shall be paid to and retained by the Administration'' and inserting ''plus, for debentures obligated after September 30, 2000, an additional charge, in an amount established annually by the Administration, of not more than 1 percent per year as necessary to reduce to zero the cost (as defined in section 502 of the Federal Credit Reform Act of 1990 (2 U.S.C. 661a)) to the Administration of purchasing and guaranteeing debentures under this Act, which shall be paid to and retained by the Administration''.

(b) PARTICIPATING SECURITIES.—Section 303(g)(2) of the Small Business Investment Act of 1958 (15 U.S.C. 683(g)(2)) is amended by striking ''plus an additional charge of 1 percent per annum which shall be paid to and retained by the Administration'' and inserting ''plus, for participating securities obligated after September 30, 2000, an additional charge, in an amount established annually by the Administration, of not more than 1 percent per year as necessary to reduce to zero the cost (as defined in section 502 of the Federal Credit Reform Act of 1990 (2 U.S.C. 661a)) to the Administration of purchasing and guaranteeing participating securities under this Act, which shall be paid to and retained by the Administration".

SEC. 405. DISTRIBUTIONS.

Section 303(g)(8) of the Small Business Investment Act of 1958 (15 U.S.C. 683(g)(8)) is amended—

(1) by striking "subchapter s corporation" and inserting "subchapter S corporation";

(2) by striking "the end of any calendar quarter based on a quarterly" and inserting "any time during any calendar quarter based on an"; and

(3) by striking "quarterly distributions for a calendar year," and inserting "interim distributions for a calendar year,".

SEC. 406. CONFORMING AMENDMENT.

Section 310(c)(4) of the Small Business Investment Act of 1958 (15 U.S.C. 687b(c)(4)) is amended by striking "five years" and inserting "1 year".

TITLE V—REAUTHORIZATION OF SMALL BUSINESS PROGRAMS

SEC. 501. SHORT TITLE.

This title may be cited as the "Small Business Programs Reauthorization Act of 2000".

SEC. 502. REAUTHORIZATION OF SMALL BUSINESS PROGRAMS.

Section 20 of the Small Business Act (15 U.S.C. 631 note) is amended by adding at the end the following:

"(g) FISCAL YEAR 2001.—

"(1) PROGRAM LEVELS.—The following program levels are authorized for fiscal year 2001:

"(A) For the programs authorized by this Act, the Administration is authorized to make—

"(i) $45,000,000 in technical assistance grants as provided in section 7(m); and

"(ii) $60,000,000 in direct loans, as provided in 7(m).

"(B) For the programs authorized by this Act, the Administration is authorized to make $19,050,000,000 in deferred participation loans and other financings. Of such sum, the Administration is authorized to make—

"(i) $14,500,000,000 in general business loans as provided in section 7(a);

"(ii) $4,000,000,000 in financings as provided in section 7(a)(13) of this Act and section 504 of the Small Business Investment Act of 1958;

"(iii) $500,000,000 in loans as provided in section 7(a)(21); and

"(iv) $50,000,000 in loans as provided in section 7(m).

"(C) For the programs authorized by title III of the Small Business Investment Act of 1958, the Administration is authorized to make—

"(i) $2,500,000,000 in purchases of participating securities; and

"(ii) $1,500,000,000 in guarantees of debentures.

"(D) For the programs authorized by part B of title IV of the Small Business Investment Act of 1958, the Administration is authorized to enter into guarantees not to exceed $4,000,000,000 of which not more than 50 percent may be in bonds approved pursuant to section 411(a)(3) of that Act.

"(E) The Administration is authorized to make grants or enter cooperative agreements for a total amount of $5,000,000 for the Service Corps of Retired Executives program authorized by section 8(b)(1).

"(2) ADDITIONAL AUTHORIZATIONS.—

"(A) There are authorized to be appropriated to the Administration for fiscal year 2001 such sums as may be necessary to carry out the provisions of this Act not elsewhere provided for, including administrative expenses and necessary loan capital for disaster loans pursuant to section 7(b), and to carry out title IV of the Small Business Investment Act of 1958, including salaries and expenses of the Administration.

"(B) Notwithstanding any other provision of this paragraph, for fiscal year 2001—

"(i) no funds are authorized to be used as loan capital for the loan program authorized by section 7(a)(21) except by transfer from another Federal department or agency to the Administration, unless the program level authorized for general business loans under paragraph (1)(B)(i) is fully funded; and

"(ii) the Administration may not approve loans on its own behalf or on behalf of any other Federal department or agency, by contract or otherwise, under terms and conditions other than those specifically authorized under this Act or the Small Business Investment Act of 1958, except that it may approve loans under section 7(a)(21) of this Act in gross amounts of not more than $1,250,000.

"(h) FISCAL YEAR 2002.—

"(1) PROGRAM LEVELS.—The following program levels are authorized for fiscal year 2002:

"(A) For the programs authorized by this Act, the Administration is authorized to make—

"(i) $60,000,000 in technical assistance grants as provided in section 7(m); and

"(ii) $80,000,000 in direct loans, as provided in 7(m).

"(B) For the programs authorized by this Act, the Administration is authorized to make $20,050,000,000 in deferred participation loans and other financings. Of such sum, the Administration is authorized to make—

"(i) $15,000,000,000 in general business loans as provided in section 7(a);

"(ii) $4,500,000,000 in financings as provided in section 7(a)(13) of this Act and section 504 of the Small Business Investment Act of 1958;

"(iii) $500,000,000 in loans as provided in section 7(a)(21); and

"(iv) $50,000,000 in loans as provided in section 7(m).

"(C) For the programs authorized by title III of the Small Business Investment Act of 1958, the Administration is authorized to make—

"(i) $3,500,000,000 in purchases of participating securities; and

"(ii) $2,500,000,000 in guarantees of debentures.

"(D) For the programs authorized by part B of title IV of the Small Business Investment Act of 1958, the Administration is authorized to enter into guarantees not to exceed $5,000,000,000 of which not more than 50 percent may be in bonds approved pursuant to section 411(a)(3) of that Act.

"(E) The Administration is authorized to make grants or enter cooperative agreements for a total amount of $6,000,000 for the Service Corps of Retired Executives program authorized by section 8(b)(1).

"(2) ADDITIONAL AUTHORIZATIONS.—

"(A) There are authorized to be appropriated to the Administration for fiscal year 2002 such sums as may be necessary to carry out the provisions of this Act not elsewhere provided for, including administrative expenses and necessary loan capital for disaster loans pursuant to section 7(b), and to carry out title IV of the Small Business Investment Act of 1958, including salaries and expenses of the Administration.

"(B) Notwithstanding any other provision of this paragraph, for fiscal year 2002—

"(i) no funds are authorized to be used as loan capital for the loan program authorized by section 7(a)(21) except by transfer from another Federal department or agency to the Administration, unless the program level authorized for general business loans under paragraph (1)(B)(i) is fully funded; and

"(ii) the Administration may not approve loans on its own behalf or on behalf of any other Federal department or agency, by contract or otherwise, under terms and conditions other than those specifically authorized under this Act or the Small Business Investment Act of 1958, except that it may approve loans under section 7(a)(21) of this Act in gross amounts of not more than $1,250,000.

"(i) FISCAL YEAR 2003.—

"(1) PROGRAM LEVELS.—The following program levels are authorized for fiscal year 2003:

"(A) For the programs authorized by this Act, the Administration is authorized to make—

"(i) $70,000,000 in technical assistance grants as provided in section 7(m); and

"(ii) $100,000,000 in direct loans, as provided in 7(m).

"(B) For the programs authorized by this Act, the Administration is authorized to make $21,550,000,000 in deferred participation loans and other financings. Of such sum, the Administration is authorized to make—

"(i) $16,000,000,000 in general business loans as provided in section 7(a);

"(ii) $5,000,000,000 in financings as provided in section 7(a)(13) of this Act and section 504 of the Small Business Investment Act of 1958;

"(iii) $500,000,000 in loans as provided in section 7(a)(21); and

"(iv) $50,000,000 in loans as provided in section 7(m).

"(C) For the programs authorized by title III of the Small Business Investment Act of 1958, the Administration is authorized to make—

"(i) $4,000,000,000 in purchases of participating securities; and

"(ii) $3,000,000,000 in guarantees of debentures.

"(D) For the programs authorized by part B of title IV of the Small Business Investment Act of 1958, the Administration is authorized to enter into guarantees not to exceed $6,000,000,000 of which not more than 50 percent may be in bonds approved pursuant to section 411(a)(3) of that Act.

"(E) The Administration is authorized to make grants or enter into cooperative agreements for a total amount of $7,000,000 for the Service Corps of Retired Executives program authorized by section 8(b)(1).

"(2) ADDITIONAL AUTHORIZATIONS.—

"(A) There are authorized to be appropriated to the Administration for fiscal year 2003 such sums as may be necessary to carry out the provisions of this Act not elsewhere provided for, including administrative expenses and necessary loan capital for disaster loans pursuant to section 7(b), and to carry out title IV of the Small Business Investment Act of 1958, including salaries and expenses of the Administration.

"(B) Notwithstanding any other provision of this paragraph, for fiscal year 2003—

"(i) no funds are authorized to be used as loan capital for the loan program authorized by section 7(a)(21) except by transfer from another Federal department or agency to the Administration, unless the program level authorized for general business loans under paragraph (1)(B)(i) is fully funded; and

"(ii) the Administration may not approve loans on its own behalf or on behalf of any other Federal department or agency, by contract or otherwise, under terms and conditions other than those specifically authorized under this Act or the Small Business Investment Act of 1958, except that it may approve loans under section 7(a)(21) of this Act in gross amounts of not more than $1,250,000.".

SEC. 503. ADDITIONAL REAUTHORIZATIONS.

(a) DRUG-FREE WORKPLACE PROGRAM.—Section 27 of the Small Business Act (15 U.S.C. 654) is amended—

(1) in the section heading, by striking "~~drug-free workplace demonstration program~~" and inserting "~~paul d. coverdell drug-free workplace program~~"; and

(2) in subsection (g)(1), by striking "$10,000,000 for fiscal years 1999 and 2000" and inserting "$5,000,000 for each of fiscal years 2001 through 2003".

(b) HUBZONE PROGRAM.—Section 31 of the Small Business Act (15 U.S.C. 657a) is amended by adding at the end the following:

"(d) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to carry out the program established by this section $10,000,000 for each of fiscal years 2001 through 2003.".

(c) VERY SMALL BUSINESS CONCERNS PROGRAM.—Section 304(i) of the Small Business Administration Reauthorization and Amendments Act of 1994 (Public Law 103–403; 15 U.S.C. 644 note) is amended by striking "September 30, 2000" and inserting "September 30, 2003".

(d) SOCIALLY AND ECONOMICALLY DISADVANTAGED BUSINESSES PROGRAM.—Section 7102(c) of the Federal Acquisition Streamlining Act of 1994 (Public Law 103–355; 15 U.S.C. 644 note) is amended by striking "September 30, 2000" and inserting "September 30, 2003".

(e) SBDC SERVICES.—Section 21(c)(3)(T) of the Small Business Act (15 U.S.C. 648(c)(3)(T)) is amended by striking "2000" and inserting "2003".

SEC. 504. COSPONSORSHIP.

(a) IN GENERAL.—Section 8(b)(1)(A) of the Small Business Act (15 U.S.C. 637(b)(1)(A)) is amended to read as follows:

"(1)(A) to provide—

"(i) technical, managerial, and informational aids to small business concerns—

"(I) by advising and counseling on matters in connection with Government procurement and policies, principles, and practices of good management;

"(II) by cooperating and advising with—

"(aa) voluntary business, professional, educational, and other nonprofit organizations, associations, and institutions (except that the Administration shall take such actions as it determines necessary to ensure that such cooperation does not constitute or imply an endorsement by the Administration of the organization or its products or services, and shall ensure that it receives appropriate recognition in all printed materials); and

"(bb) other Federal and State agencies;

"(III) by maintaining a clearinghouse for information on managing, financing, and operating small business enterprises; and

"(IV) by disseminating such information, including through recognition events, and by other activities that the Administration determines to be appropriate; and

"(ii) through cooperation with a profit-making concern (referred to in this paragraph as a 'cosponsor'), training, information, and education to small business concerns, except that the Administration shall—

"(I) take such actions as it determines to be appropriate to ensure that—

"(aa) the Administration receives appropriate recognition and publicity;

"(bb) the cooperation does not constitute or imply an endorsement by the Administration of any product or service of the cosponsor;

"(cc) unnecessary promotion of the products or services of the cosponsor is avoided; and

"(dd) utilization of any one cosponsor in a marketing area is minimized; and

"(II) develop an agreement, executed on behalf of the Administration by an employee of the Administration in Washington, the District of Columbia, that provides, at a minimum, that—

"(aa) any printed material to announce the cosponsorship or to be distributed at the cosponsored activity, shall be approved in advance by the Administration;

"(bb) the terms and conditions of the cooperation shall be specified;

"(cc) only minimal charges may be imposed on any small business concern to cover the direct costs of providing the assistance;

"(dd) the Administration may provide to the cosponsorship mailing labels, but not lists of names and addresses of small business concerns compiled by the Administration;

"(ee) all printed materials containing the names of both the Administration and the cosponsor shall include a prominent disclaimer that the cooperation does not constitute or imply an endorsement by the Administration of any product or service of the cosponsor; and

"(ff) the Administration shall ensure that it receives appropriate recognition in all cosponsorship printed materials.".

(b) EXTENSION OF COSPONSORSHIP AUTHORITY.—Section 401(a)(2) of the Small Business Administration Reauthorization and Amendments Act of 1994 (15 U.S.C. 637 note) is amended by striking "September 30, 2000" and inserting "September 30, 2003".

TITLE VI—HUBZONE PROGRAM

Subtitle A—HUBZones in Native America

SEC. 601. SHORT TITLE.

This subtitle may be cited as the "HUBZones in Native America Act of 2000".

SEC. 602. HUBZONE SMALL BUSINESS CONCERN.

Section 3(p)(3) of the Small Business Act (15 U.S.C. 632(p)(3)) is amended to read as follows:

"(3) HUBZONE SMALL BUSINESS CONCERN.—The term 'HUBZone small business concern' means—

"(A) a small business concern that is owned and controlled by one or more persons, each of whom is a United States citizen;

"(B) a small business concern that is—

"(i) an Alaska Native Corporation owned and controlled by Natives (as determined pursuant to section 29(e)(1) of the Alaska Native Claims Settlement Act (43 U.S.C. 1626(e)(1))); or

"(ii) a direct or indirect subsidiary corporation, joint venture, or partnership of an Alaska Native Corporation qualifying pursuant to section 29(e)(1) of the Alaska Native Claims Settlement Act (43 U.S.C. 1626(e)(1)), if that subsidiary, joint venture, or partnership is owned and controlled by Natives (as determined pursuant to section 29(e)(2)) of the Alaska Native Claims Settlement Act (43 U.S.C. 1626(e)(2))); or

"(C) a small business concern—

"(i) that is wholly owned by one or more Indian tribal governments, or by a corporation that is wholly owned by one or more Indian tribal governments; or "(ii) that is owned in part by one or more Indian tribal governments, or by a corporation that is wholly owned by one or more Indian tribal governments, if all other owners are either United States citizens or small business concerns.".

SEC. 603. QUALIFIED HUBZONE SMALL BUSINESS CONCERN.

(a) IN GENERAL.—Section 3(p)(5)(A)(i) of the Small Business Act (15 U.S.C. 632(p)(5)(A)(i)) is amended by striking subclauses (I) and (II) and inserting the following:

"(I) it is a HUBZone small business concern—

"(aa) pursuant to subparagraph (A) or (B) of paragraph (3), and that its principal office is located in a HUBZone and not fewer than 35 percent of its employees reside in a HUBZone; or

"(bb) pursuant to paragraph (3)(C), and not fewer than 35 percent of its employees engaged in performing a contract awarded to the small business concern on the basis of a preference provided under section 31(b) reside within any Indian reservation governed by one or more of the tribal government owners, or reside within any HUBZone adjoining any such Indian reservation;

"(II) the small business concern will attempt to maintain the applicable employment percentage under subclause (I) during the performance of any contract awarded to the small business concern on the basis of a preference provided under section 31(b); and".

(b) CLARIFYING AMENDMENT.—Section 3(p)(5)(D)(i) of the Small Business Act (15 U.S.C. 632(p)(5)(D)(i)) is amended by inserting "once the Administrator has made the certification required by subparagraph (A)(i) regarding a qualified HUBZone small business concern and has determined that subparagraph (A)(ii) does not apply to that concern," before "include".

SEC. 604. OTHER DEFINITIONS.

Section 3(p) of the Small Business Act (15 U.S.C. 632(p)) is amended by adding at the end the following:

"(6) NATIVE AMERICAN SMALL BUSINESS CONCERNS.—

"(A) ALASKA NATIVE CORPORATION.—The term 'Alaska Native Corporation' has the same meaning as the term 'Native Corporation' in section 3 of the Alaska Native Claims Settlement Act (43 U.S.C. 1602).

"(B) ALASKA NATIVE VILLAGE.—The term 'Alaska Native Village' has the same meaning as the term 'Native village' in section 3 of the Alaska Native Claims Settlement Act (43 U.S.C. 1602).

"(C) INDIAN RESERVATION.—The term 'Indian reservation'—

"(i) has the same meaning as the term 'Indian country' in section 1151 of title 18, United States Code, except that such term does not include—

"(I) any lands that are located within a State in which a tribe did not exercise governmental jurisdiction on the date of the enactment of this paragraph, unless that tribe is recognized after that date of the enactment by either an Act of Congress or pursuant to regulations of the Secretary of the Interior for the administrative recognition that an Indian group exists as an Indian tribe (part 83 of title 25, Code of Federal Regulations); and

"(II) lands taken into trust or acquired by an Indian tribe after the date of the enactment of this paragraph if such lands are not located within the external boundaries of an Indian reservation or former reservation or are not contiguous to the lands held in trust or restricted status on that date of the enactment; and

"(ii) in the State of Oklahoma, means lands that—

"(I) are within the jurisdictional areas of an Oklahoma Indian tribe (as determined by the Secretary of the Interior); and

"(II) are recognized by the Secretary of the Interior as eligible for trust land status under part 151 of title 25, Code of Federal Regulations (as in effect on the date of the enactment of this paragraph).".

Subtitle B—Other HUBZone Provisions

SEC. 611. DEFINITIONS.

(a) QUALIFIED CENSUS TRACT.—Section 3(p)(4)(A) of the Small Business Act (15 U.S.C. 632(p)(4)(A)) is amended by striking "(I)".

(b) QUALIFIED NONMETROPOLITAN COUNTY.—Section 3(p)(4) of the Small Business Act (15 U.S.C. 632(p)(4)) is amended by striking subparagraph (B) and inserting the following:

"(B) QUALIFIED NONMETROPOLITAN COUNTY.—The term 'qualified nonmetropolitan county' means any county—

"(i) that was not located in a metropolitan statistical area (as defined in section 143(k)(2)(B) of the Internal Revenue Code of 1986) at the time of the most recent census taken for purposes of selecting qualified census tracts under section 42(d)(5)(C)(ii) of the Internal Revenue Code of 1986; and

"(ii) in which—

"(I) the median household income is less than 80 percent of the nonmetropolitan State median household income, based on the most recent data available from the Bureau of the Census of the Department of Commerce; or

"(II) the unemployment rate is not less than 140 percent of the Statewide average unemployment rate for the State in which the county is located, based on the most recent data available from the Secretary of Labor.".

SEC. 612. ELIGIBLE CONTRACTS.

(a) COMMODITIES CONTRACTS.—Section 31(b)(3) of the Small Business Act (15 U.S.C. 657a(b)(3)) is amended—

(1) by striking "In any" and inserting the following:

"(A) IN GENERAL.—Subject to subparagraph (B), in any"; and

(2) by adding at the end the following:

"(B) PROCUREMENT OF COMMODITIES.—For purchases by the Secretary of Agriculture of agricultural commodities, the price evaluation preference shall be—

"(i) 10 percent, for the portion of a contract to be awarded that is not greater than 25 percent of the total volume being procured for each commodity in a single invitation;

"(ii) 5 percent, for the portion of a contract to be awarded that is greater than 25 percent, but not greater than 40 percent, of the total volume being procured for each commodity in a single invitation; and

"(iii) zero, for the portion of a contract to be awarded that is greater than 40 percent of the total volume being procured for each commodity in a single invitation.

"(C) TREATMENT OF PREFERENCE.—A contract awarded to a HUBZone small business concern under a preference described in subparagraph (B) shall not be counted toward the fulfillment of any requirement partially set aside for competition restricted to small business concerns.".

(b) DEFINITIONS.—Section 3(p) of the Small Business Act (15 U.S.C. 632(p)), as amended by this Act, is amended—

(1) in paragraph (5)(A)(i)(III)—

(A) in item (aa), by striking "and" at the end; and

(B) by adding at the end the following:

"(cc) in the case of a contract for the procurement by the Secretary of Agriculture of agricultural commodities, none of the commodity being procured will be obtained by the prime contractor through a subcontract for the purchase of the commodity in substantially the final form in which it is to be supplied to the Government; and"; and

(2) by adding at the end the following:

"(7) AGRICULTURAL COMMODITY.—The term 'agricultural commodity' has the same meaning as in section 102 of the Agricultural Trade Act of 1978 (7 U.S.C. 5602).".

SEC. 613. HUBZONE REDESIGNATED AREAS.

Section 3(p) of the Small Business Act (15 U.S.C. 632(p)) is amended—

(1) in paragraph (1)—

(A) in subparagraph (B), by striking "or" at the end;

(B) in subparagraph (C), by striking the period at the end and inserting "; or"; and

(C) by adding at the end the following:

"(D) redesignated areas."; and

(2) in paragraph (4), by adding at the end the following:

"(C) REDESIGNATED AREA.—The term 'redesignated area' means any census tract that ceases to be qualified under subparagraph (A) and any nonmetropolitan county that ceases to be qualified under subparagraph (B), except that a census tract or a nonmetropolitan county may be a 'redesignated area' only for the 3-year period following the date on which the census tract or nonmetropolitan county ceased to be so qualified.".

SEC. 614. COMMUNITY DEVELOPMENT.

Section 3(p) of the Small Business Act (15 U.S.C. 632(p)), as amended by this Act, is amended—

(1) in paragraph (3)—

(A) in subparagraph (B), by striking "or" at the end;

(B) in subparagraph (C), by striking the period at the end and inserting "; or"; and

(C) by adding at the end the following:

"(D) a small business concern that is—

"(i) wholly owned by a community development corporation that has received financial assistance under part 1 of subchapter A of the Community Economic Development Act of 1981 (42 U.S.C. 9805 et seq.); or

"(ii) owned in part by one or more community development corporations, if all other owners are either United States citizens or small business concerns."; and

(2) in paragraph (5)(A)(i)(I)(aa), by striking "subparagraph (A) or (B)" and inserting "subparagraph (A), (B), or (D)".

SEC. 615. REFERENCE CORRECTIONS.

(a) SECTION 3.—Section 3(p)(5)(C) of the Small Business Act (15 U.S.C. 632(p)(5)(C)) is amended by striking "subclause (IV) and (V) of subparagraph (A)(i)" and inserting "items (aa) and (bb) of subparagraph (A)(i)(III)".

(b) SECTION 8.—Section 8(d)(4)(D) of the Small Business Act (15 U.S.C. 637(d)(4)(D)) is amended by inserting "qualified HUBZone small business concerns," after "small business concerns,".

TITLE VII—NATIONAL WOMEN'S BUSINESS COUNCIL REAUTHORIZATION

SEC. 701. SHORT TITLE.

This title may be cited as the "National Women's Business Council Reauthorization Act of 2000".

SEC. 702. MEMBERSHIP OF THE COUNCIL.

Section 407 of the Women's Business Ownership Act of 1988 (15 U.S.C. 631 note) is amended—

(1) in subsection (a), by striking "Not later" and all that follows through "the President" and inserting "The President";

(2) in subsection (b)—

(A) by striking "Not later" and all that follows through "the Administrator" and inserting "The Administrator"; and

(B) by striking "the Assistant Administrator of the Office of Women's Business Ownership and";

(3) in subsection (d), by striking ", except that" and all that follows through the end of the subsection and inserting a period; and

(4) in subsection (h), by striking "Not later" and all that follows through "the Administrator" and inserting "The Administrator".

SEC. 703. REPEAL OF PROCUREMENT PROJECT.

Section 409 of the Women's Business Ownership Act of 1988 (15 U.S.C. 631 note) is repealed.

SEC. 704. STUDIES AND OTHER RESEARCH.

Section 410 of the Women's Business Ownership Act of 1988 (15 U.S.C. 631 note) is amended to read as follows:

"SEC. 409. STUDIES AND OTHER RESEARCH.

"(a) IN GENERAL.—The Council may conduct such studies and other research relating to the award of Federal prime contracts and subcontracts to women-owned businesses, to access to credit and investment capital by women entrepreneurs, or to other issues relating to women-owned businesses, as the Council determines to be appropriate.

"(b) CONTRACT AUTHORITY.—In conducting any study or other research under this section, the Council may contract with one or more public or private entities.".

SEC. 705. AUTHORIZATION OF APPROPRIATIONS.

Section 411 of the Women's Business Ownership Act of 1988 (15 U.S.C. 631 note) is amended to read as follows:

"SEC. 410. AUTHORIZATION OF APPROPRIATIONS.

"(a) IN GENERAL.—There is authorized to be appropriated to carry out this title $1,000,000, for each of fiscal years 2001 through 2003, of which $550,000 shall be available in each such fiscal year to carry out section 409.

"(b) BUDGET REVIEW.—No amount made available under this section for any fiscal year may be obligated or expended by the Council before the date on which the Council reviews and approves the operating budget of the Council to carry out the responsibilities of the Council for that fiscal year.".

TITLE VIII—MISCELLANEOUS PROVISIONS

SEC. 801. LOAN APPLICATION PROCESSING.

(a) STUDY.—The Administrator of the Small Business Administration shall conduct a study to determine the average time that the Administration requires to process an application for each type of loan or loan guarantee made under the Small Business Act (15 U.S.C. 631 et seq.).

(b) TRANSMITTAL.—Not later than 1 year after the date of the enactment of this Act, the Administrator shall transmit to Congress the results of the study conducted under subsection (a).

SEC. 802. APPLICATION OF OWNERSHIP REQUIREMENTS.

(a) SMALL BUSINESS ACT.—Section 7(a) of the Small Business Act (15 U.S.C. 636(a)) is amended by adding at the end the following:

"(30) OWNERSHIP REQUIREMENTS.—Ownership requirements to determine the eligibility of a small business concern that applies for assistance under any credit program under this Act shall be determined without regard to any ownership interest of a spouse arising solely from the application of the community property laws of a State for purposes of determining marital interests.".

(b) SMALL BUSINESS INVESTMENT ACT OF 1958.—Section 502 of the Small Business Investment Act of 1958 (15 U.S.C. 696) is amended by adding at the end the following:

"(6) OWNERSHIP REQUIREMENTS.—Ownership requirements to determine the eligibility of a small business concern that applies for assistance under any credit program under this title shall be determined without regard to any ownership interest of a spouse arising solely from the application of the community property laws of a State for purposes of determining marital interests.".

SEC. 803. SUBCONTRACTING PREFERENCE FOR VETERANS.

Section 8(d) of the Small Business Act (15 U.S.C. 637(d)) is amended—

(1) in paragraph (1), by inserting "small business concerns owned and controlled by veterans," after "small business concerns," the first place that term appears in each of the first and second sentences;

(2) in paragraph (3)—

(A) in subparagraph (A), by inserting "small business concerns owned and controlled by service-disabled veterans," after "small business concerns owned and controlled by veterans," in each of the first and second sentences; and

(B) in subparagraph (F), by inserting "small business concern owned and controlled by service-disabled veterans," after "small business concern owned and controlled by veterans,"; and

(3) in each of paragraphs (4)(D), (4)(E), (6)(A), (6)(C), (6)(F), and (10)(B), by inserting "small business concerns owned and controlled by

service-disabled veterans," after "small business concerns owned and controlled by veterans,".

SEC. 804. SMALL BUSINESS DEVELOPMENT CENTER PROGRAM FUNDING.

(a) AUTHORIZATION.—

(1) IN GENERAL.—Section 20(a)(1) of the Small Business Act (15 U.S.C. 631 note) is amended by striking "For fiscal year 1985" and all that follows through "expended." and inserting the following: "For fiscal year 2000 and each fiscal year thereafter, there are authorized to be appropriated such sums as may be necessary and appropriate, to remain available until expended, and to be available solely—

"(A) to carry out the Small Business Development Center Program under section 21, but not to exceed the annual funding level, as specified in section 21(a);

"(B) to pay the expenses of the National Small Business Development Center Advisory Board, as provided in section 21(i);

"(C) to pay the expenses of the information sharing system, as provided in section 21(c)(8);

"(D) to pay the expenses of the association referred to in section 21(a)(3)(A) for conducting the certification program, as provided in section 21(k)(2); and

"(E) to pay the expenses of the Administration, including salaries of examiners, for conducting examinations as part of the certification program conducted by the association referred to in section 21(a)(3)(A).".

(2) TECHNICAL AMENDMENT.—Section 20(a) of the Small Business Act (15 U.S.C. 631 note) is amended by moving the margins of paragraphs (3) and (4), including subparagraphs (A) and (B) of paragraph (4), 2 ems to the left.

(b) FUNDING FORMULA.—Section 21(a)(4)(C) of the Small Business Act (15 U.S.C. 648(a)(4)(C)) is amended to read as follows:

"(C) FUNDING FORMULA.—

"(i) IN GENERAL.—Subject to clause (iii), the amount of a formula grant received by a State under this subparagraph shall be equal to an amount determined in accordance with the following formula:

"(I) The annual amount made available under section 20(a) for the Small Business Development Center Program, less any reductions made for expenses authorized by clause (v) of this subparagraph, shall be divided on a pro rata basis, based on the percentage of the population of each State, as compared to the population of the United States.

"(II) If the pro rata amount calculated under subclause (I) for any State is less than the minimum funding level under clause (iii), the Administration shall determine the aggregate amount necessary to achieve that minimum funding level for each such State.

"(III) The aggregate amount calculated under subclause (II) shall be deducted from the amount calculated under subclause (I) for States eligible to receive more than the minimum funding level. The deductions shall be made on a pro rata basis, based on the population of each such State, as compared to the total population of all such States.

"(IV) The aggregate amount deducted under subclause (III) shall be added to the grants of those States that are not eligible to receive more than the minimum funding level in order to achieve the minimum funding level for each such State, except that the eligible amount of a grant to any State shall not be reduced to an amount below the minimum funding level.

"(ii) GRANT DETERMINATION.—The amount of a grant that a State is eligible to apply for under this subparagraph shall be the amount determined under clause (i), subject to any modifications required under clause (iii), and shall be based on the amount available for the fiscal year in which performance of the grant commences, but not including amounts distributed in accordance with clause (iv). The amount of a grant received by a State under any provision of this subparagraph shall not exceed the amount of matching funds from sources other than the Federal Government, as required under subparagraph (A).

"(iii) MINIMUM FUNDING LEVEL.—The amount of the minimum funding level for each State shall be determined for each fiscal year based on the amount made available for that fiscal year to carry out this section, as follows:

"(I) If the amount made available is not less than $81,500,000 and not more than $90,000,000, the minimum funding level shall be $500,000.

"(II) If the amount made available is less than $81,500,000, the minimum funding level shall be the remainder of $500,000 minus a percentage of $500,000 equal to the percentage amount by which the amount made available is less than $81,500,000.

"(III) If the amount made available is more than $90,000,000, the minimum funding level shall be the sum of $500,000 plus a percentage of $500,000 equal to the percentage amount by which the amount made available exceeds $90,000,000.

"(iv) DISTRIBUTIONS.—Subject to clause (iii), if any State does not apply for, or use, its full funding eligibility for a fiscal year, the Administration shall distribute the remaining funds as follows:

"(I) If the grant to any State is less than the amount received by that State in fiscal year 2000, the Administration shall distribute such remaining funds, on a pro rata basis, based on the percentage of shortage of each such State, as compared to the total amount of such remaining funds available, to the extent necessary in order to increase the amount of the grant to the amount received by that State in fiscal year 2000, or until such funds are exhausted, whichever first occurs.

"(II) If any funds remain after the application of subclause (I), the remaining amount may be distributed as supplemental grants to any State, as the Administration determines, in its discretion, to be appropriate, after consultation with the association referred to in subsection (a)(3)(A).

"(v) USE OF AMOUNTS.—

"(I) IN GENERAL.—Of the amounts made available in any fiscal year to carry out this section—

"(aa) not more than $500,000 may be used by the Administration to pay expenses enumerated in subparagraphs (B) through (D) of section 20(a)(1); and

"(bb) not more than $500,000 may be used by the Administration to pay the examination expenses enumerated in section 20(a)(1)(E).

"(II) LIMITATION.—No funds described in subclause (I) may be used for examination expenses under section 20(a)(1)(E) if the usage would reduce the amount of grants made available under clause (i)(I) of this subparagraph to less than $85,000,000 (after excluding any amounts provided in appropriations Acts for specific institutions or for purposes other than the general small business development center program) or would further reduce the amount of such grants below such amount.

"(vi) EXCLUSIONS.—Grants provided to a State by the Administration or another Federal agency to carry out subsection (a)(6) or (c)(3)(G), or for supplemental grants set forth in clause (iv)(II) of this subparagraph, shall not be included in the calculation of maximum funding for a State under clause (ii) of this subparagraph.

"(vii) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to carry out this subparagraph $125,000,000 for each of fiscal years 2001, 2002, and 2003.

"(viii) STATE DEFINED.—In this subparagraph, the term 'State' means each of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, and American Samoa.".

SEC. 805. SURETY BONDS.

(a) CONTRACT AMOUNTS.—Section 411 of the Small Business Investment Act of 1958 (15 U.S.C. 694b) is amended—

(1) in subsection (a)(1), by striking "$1,250,000" and inserting "$2,000,000"; and

(2) in subsection (e)(2), by striking "$1,250,000" and inserting "$2,000,000".

(b) EXTENSION OF CERTAIN AUTHORITY.—Section 207 of the Small Business Administration Reauthorization and Amendment Act of 1988 (15 U.S.C. 694b note) is amended by striking "2000" and inserting "2003".

SEC. 806. SIZE STANDARDS.

(a) INDUSTRY CLASSIFICATIONS.—Section 15(a) of the Small Business Act (15 U.S.C. 644(a)) is amended in the eighth sentence, by striking "four-digit standard" and all that follows through "published" and inserting "definition of a 'United States industry' under the North American Industry Classification System, as established".

(b) ANNUAL RECEIPTS.—Section 3(a)(1) of the Small Business Act (15 U.S.C. 632(a)(1)) is amended by striking "$500,000" and inserting "$750,000".

SEC. 807. NATIVE HAWAIIAN ORGANIZATIONS UNDER SECTION 8(a).

Section 8(a)(15)(A) of the Small Business Act (15 U.S.C. 637(a)(15)(A)) is amended to read as follows:

"(A) is a nonprofit corporation that has filed articles of incorporation with the director (or the designee thereof) of the Hawaii Department of Commerce and Consumer Affairs, or any successor agency,".

SEC. 808. NATIONAL VETERANS BUSINESS DEVELOPMENT CORPORATION CORRECTION.

Section 33(k) of the Small Business Act (15 U.S.C. 657c(k)) is amended—

(1) by striking paragraph (1) and inserting the following:

"(1) IN GENERAL.—Subject to paragraph (2), there are authorized to be appropriated to the Corporation to carry out this section—

"(A) $4,000,000 for fiscal year 2001;

"(B) $4,000,000 for fiscal year 2002;

"(C) $2,000,000 for fiscal year 2003; and

"(D) $2,000,000 for fiscal year 2004.";

(2) in paragraph (2)(A), by striking "2001" each place it appears and inserting "2002"; and

(3) in paragraph (2)(B), by striking "2002 or 2003" and inserting "2003 or 2004".

SEC. 809. PRIVATE SECTOR RESOURCES FOR SCORE.

Section 8(b)(1)(B) of the Small Business Act (15 U.S.C. 637(b)(1)(B)) is amended by adding at the end the following: "Notwithstanding any other provision of law, SCORE may solicit cash and in-kind contributions from the private sector to be used to carry out its functions under this Act, and may use payments made by the Administration pursuant to this subparagraph for such solicitation.".

SEC. 810. CONTRACT DATA COLLECTION.

Section 15 of the Small Business Act (15 U.S.C. 644) is amended by adding at the end the following new subsection:

"(p) DATABASE, ANALYSIS, AND ANNUAL REPORT WITH RESPECT TO BUNDLED CONTRACTS.—

"(1) BUNDLED CONTRACT DEFINED.—In this subsection, the term 'bundled contract' has the meaning given such term in section 3(o)(1).

"(2) DATABASE.—

"(A) IN GENERAL.—Not later than 180 days after the date of the enactment of this subsection, the Administrator of the Small Business Administration shall develop and shall thereafter maintain a database containing data and information regarding—

"(i) each bundled contract awarded by a Federal agency; and

"(ii) each small business concern that has been displaced as a prime contractor as a result of the award of such a contract.

"(3) ANALYSIS.—For each bundled contract that is to be recompeted as a bundled contract, the Administrator shall determine—

"(A) the amount of savings and benefits (in accordance with subsection (e)) achieved under the bundling of contract requirements; and

"(B) whether such savings and benefits will continue to be realized if the contract remains bundled, and whether such savings and benefits would be greater if the procurement requirements were divided into separate solicitations suitable for award to small business concerns.

"(4) ANNUAL REPORT ON CONTRACT BUNDLING.—

"(A) IN GENERAL.—Not later than 1 year after the date of the enactment of this paragraph, and annually in March thereafter, the Administration shall transmit a report on contract bundling to the Committees on Small Business of the House of Representatives and the Senate.

"(B) CONTENTS.—Each report transmitted under subparagraph (A) shall include—

"(i) data on the number, arranged by industrial classification, of small business concerns displaced as prime contractors as a result of the award of bundled contracts by Federal agencies; and

"(ii) a description of the activities with respect to previously bundled contracts of each Federal agency during the preceding year, including—

"(I) data on the number and total dollar amount of all contract requirements that were bundled; and

"(II) with respect to each bundled contract, data or information on—

"(aa) the justification for the bundling of contract requirements;

"(bb) the cost savings realized by bundling the contract requirements over the life of the contract;

"(cc) the extent to which maintaining the bundled status of contract requirements is projected to result in continued cost savings;

"(dd) the extent to which the bundling of contract requirements complied with the contracting agency's small business subcontracting plan, including the total dollar value awarded to small business concerns as subcontractors and the total dollar value previously awarded to small business concerns as prime contractors; and

"(ee) the impact of the bundling of contract requirements on small business concerns unable to compete as prime contractors for the consolidated requirements and on the industries of such small business concerns, including a description of any changes to the proportion of any such industry that is composed of small business concerns.

"(5) ACCESS TO DATA.—

"(A) FEDERAL PROCUREMENT DATA SYSTEM.—To assist in the implementation of this section, the Administration shall have access to information collected through the Federal Procurement Data System.

"(B) AGENCY PROCUREMENT DATA SOURCES.—To assist in the implementation of this section, the head of each contracting agency shall provide, upon request of the Administration, procurement information collected through existing agency data collection sources.".

SEC. 811. PROCUREMENT PROGRAM FOR WOMEN-OWNED SMALL BUSINESS CONCERNS.

Section 8 of the Small Business Act (15 U.S.C. 637) is amended by adding at the end the following:

"(m) PROCUREMENT PROGRAM FOR WOMEN-OWNED SMALL BUSINESS CONCERNS.—

"(1) DEFINITIONS.—In this subsection, the following definitions apply:

"(A) CONTRACTING OFFICER.—The term 'contracting officer' has the meaning given such term in section 27(f)(5) of the Office of Federal Procurement Policy Act (41 U.S.C. 423(f)(5)).

"(B) SMALL BUSINESS CONCERN OWNED AND CONTROLLED BY WOMEN.—The term 'small business concern owned and controlled by women' has the meaning given such term in section 3(n), except that ownership shall be determined without regard to any community property law.

"(2) AUTHORITY TO RESTRICT COMPETITION.—In accordance with this subsection, a contracting officer may restrict competition for any contract for the procurement of goods or services by the Federal Government to small business concerns owned and controlled by women, if—

"(A) each of the concerns is not less than 51 percent owned by one or more women who are economically disadvantaged (and such ownership is determined without regard to any community property law);

"(B) the contracting officer has a reasonable expectation that two or more small business concerns owned and controlled by women will submit offers for the contract;

"(C) the contract is for the procurement of goods or services with respect to an industry identified by the Administrator pursuant to paragraph (3);

"(D) the anticipated award price of the contract (including options) does not exceed—

"(i) $5,000,000, in the case of a contract assigned an industrial classification code for manufacturing; or "(ii) $3,000,000, in the case of all other contracts;

"(E) in the estimation of the contracting officer, the contract award can be made at a fair and reasonable price; and

"(F) each of the concerns—

"(i) is certified by a Federal agency, a State government, or a national certifying entity approved by the Administrator, as a small business concern owned and controlled by women; or

"(ii) certifies to the contracting officer that it is a small business concern owned and controlled by women and provides adequate documentation, in accordance with standards established by the Administration, to support such certification.

"(3) WAIVER.—With respect to a small business concern owned and controlled by women, the Administrator may waive subparagraph (2)(A) if the Administrator determines that the concern is in an industry in which small business concerns owned and controlled by women are substantially underrepresented.

"(4) IDENTIFICATION OF INDUSTRIES.—The Administrator shall conduct a study to identify industries in which small business concerns owned and controlled by women are underrepresented with respect to Federal procurement contracting.

"(5) ENFORCEMENT; PENALTIES.—

"(A) VERIFICATION OF ELIGIBILITY.—In carrying out this subsection, the Administrator shall establish procedures relating to—

"(i) the filing, investigation, and disposition by the Administration of any challenge to the eligibility of a small business concern to receive assistance under this subsection (including a challenge, filed by an interested party, relating to the veracity of a certification made or information provided to the Administration by a small business concern under paragraph (2)(F)); and

"(ii) verification by the Administrator of the accuracy of any certification made or information provided to the Administration by a small business concern under paragraph (2)(F).

"(B) EXAMINATIONS.—The procedures established under subparagraph (A) may provide for program examinations (including random program examinations) by the Administrator of any small business concern making a certification or providing information to the Administrator under paragraph (2)(F).

"(C) PENALTIES.—In addition to the penalties described in section 16(d), any small business concern that is determined by the Administrator to have misrepresented the status of that concern as a small business concern owned and controlled by women for purposes of this subsection, shall be subject to—

"(i) section 1001 of title 18, United States Code; and

"(ii) sections 3729 through 3733 of title 31, United States Code.

"(6) PROVISION OF DATA.—Upon the request of the Administrator, the head of any Federal department or agency shall promptly provide to the Administrator such information as the Administrator determines to be necessary to carry out this subsection.".