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**SMALL BUSINESS' ROLE AND OPPORTUNITIES IN RESTORING AFFORDABILITY TO THE DEPARTMENT OF DEFENSE**

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HEARING

BEFORE THE

SUBCOMMITTEE ON TERRORISM, UNCONVENTIONAL  
THREATS AND CAPABILITIES

OF THE

COMMITTEE ON ARMED SERVICES  
HOUSE OF REPRESENTATIVES

ONE HUNDRED ELEVENTH CONGRESS

SECOND SESSION

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SUBCOMMITTEE ON TERRORISM, UNCONVENTIONAL THREATS AND  
CAPABILITIES

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#### SMALL BUSINESS' ROLE AND OPPORTUNITIES IN RESTORING AFFORDABILITY TO THE DEPARTMENT OF DEFENSE

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**SMALL BUSINESS' ROLE AND OPPORTUNITIES IN RESTORING AFFORDABILITY TO THE DEPARTMENT OF DEFENSE**

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HOUSE OF REPRESENTATIVES,  
COMMITTEE ON ARMED SERVICES,  
SUBCOMMITTEE ON TERRORISM, UNCONVENTIONAL THREATS  
AND CAPABILITIES,

*Washington, DC, Wednesday, September 29, 2010.*

The subcommittee met, pursuant to call, at 2:06 p.m., in room 2212, Rayburn House Office Building, Hon. Loretta Sanchez (chairwoman of the subcommittee) presiding.

**OPENING STATEMENT OF HON. LORETTA SANCHEZ, A REPRESENTATIVE FROM CALIFORNIA, CHAIRWOMAN, SUBCOMMITTEE ON TERRORISM, UNCONVENTIONAL THREATS AND CAPABILITIES**

Ms. SANCHEZ. The subcommittee will now come to order.

Good afternoon. I would like to welcome all of you, and thank you for joining us this afternoon. Today, we are here to further examine the opportunities and the challenges for small technology firms to compete in defense acquisition.

The purpose of today's hearing is to answer some of the questions that I know I am asked, and my colleagues must be asked all the time, by small business owners in our districts. Many small businesses do not know how to navigate or approach the Department of Defense [DOD] bureaucracy. And so, this subcommittee has held a number of hearings on small businesses this past year because, as I have stated before, small businesses are the key driver of innovation for the Department of Defense.

And that is where the jobs are located and that is what we are trying to do in our nation, so this is one of the areas where I hope we can have some effect. And I cannot stress enough how pertinent the success of small businesses are to the U.S. economy and, of course, to our daily responsibilities in the Department of Defense.

Small businesses have different perspectives on key national security issues particularly compared to their large counterparts. One of the goals for this hearing is to understand how our national security requirements and goals are interpreted by small business and how better the Department of Defense can guide small businesses to the current technological needs of the department.

Currently, this nation's small businesses encounter a lot of challenges. I have known so many businesses have come out here and have tried for years and years and have come up with nothing. And so, it is important for them to know how to navigate because that

is where some of our critical technology and innovation can come from.

I hope, today's hearing, our witnesses will address these challenges, and also to highlight effective tools and resources that we can take back to our communities to help these small businesses access these contracts. For example, I am sure that my colleagues are constantly approached about more information about who they call.

Everybody thinks there is always some person, that they are just missing the right person's name or their phone number, and that they would get a contract if they could just get to that person. So maybe you can shed some light on who that person is and what their phone number might be, or maybe what the real process is for our small businesses.

And I know these sound like small requests, but when you are a small business, you think you have a great idea, and you just can't seem to break through, it can become very frustrating. And that is a frustration that many of the members hear.

Another issue that could be discussed during this hearing is the ongoing challenge of reauthorizing the Small Business Innovation Research [SBIR] program. The underlying law authorizing that program expired in 2008, and we have been having many fits and starts trying to get that underway to reauthorize it. However, it hasn't been successful, and I find it very disturbing, and I am extremely concerned, and it is very time-consuming. So we are trying to figure out how to get that on track.

So I think it would be particularly helpful for our witnesses to explain the consequences of not passing a comprehensive reauthorization bill and the effect that it will have on our overall strategic effectiveness of the SBIR program.

And finally, I would like to point out that the Department of Defense has invested nearly \$5 billion in SBIR over the last 5 years across thousands of projects but doesn't get full value for this investment because proper funding isn't available to field and transition these technologies to the warfighter or to the commercial marketplace. And that is why this committee established a new program in the pending fiscal year 2011 defense bill called the Rapid Innovation program.

The Rapid Innovation Program authorizes \$500 million for the purposes of developing innovative solutions to defense needs and to accelerate insertion of those technologies into weapons programs or into the marketplace. This program is intended to primarily support small, high-tech private firms. So I would welcome your comments on how the department would execute this new authority if it becomes law.

So today, we have two distinguished witnesses before us. The first, we have brought back the Honorable Zachary Lemnios, the director of defense research and engineering at the U.S. Department of Defense—welcome again, Doctor—and Ms. Linda Oliver, the acting director of the Office of Small Business programs in the U.S. Department of Defense. Welcome.

And once again, I would like to thank the witnesses for being here today. I am looking forward to your testimony. Without objection, we will accept the written testimony into the record. I would

like to tell you that each of you will have 5 minutes to summarize your testimony, or tell us something that is not in there that you think we need to know, and then we will ask some questions, and we will be observing the 5-minute rule.

So I will now yield to my very capable ranking member from Florida, Mr. Miller, for his opening statement.

[The prepared statement of Ms. Sanchez can be found in the Appendix on page 19.]

**STATEMENT OF HON. JEFF MILLER, A REPRESENTATIVE FROM FLORIDA, RANKING MEMBER, SUBCOMMITTEE ON TERRORISM, UNCONVENTIONAL THREATS AND CAPABILITIES**

Mr. MILLER. I thank the chairwoman for yielding for an opening statement.

This morning, the full committee heard testimony on Secretary Gates' Department of Defense initiative on efficiency, targeted to finding cost savings and to improving general business operations within DOD. Now, many of us, I am sure, have questions and concerns regarding the secretary's initiative, as we have got to ensure that critical capabilities are not sacrificed in the name of blind cost-cutting.

The threats to our great nation are varied, so really a fine balance must be struck between identifying effective savings and protecting needed capabilities. And at the end of the day, we must be fiscally responsible while not failing in our responsibility to ensure that our country has the ability to defend its interests.

I believe DOD can find many solutions by turning to the small business community. Small business men and women are constantly developing innovative solutions to the myriad of challenges that exist in today's world, and they do so precisely while operating efficiently and effectively. They are truly an invaluable source of talent and technology creation increasingly important to the department's operations.

With this in mind, we as a Congress must work with DOD to improve small business availability to access the department. We must improve the information flow and engagement between the department and the small business community and eliminate remaining contracting obstacles that deter small business from working with the department.

By leveraging the expertise, creativity and passion that exists among small business owners and their companies, the department will find improved efficiencies often without significant disruption or impact to current DOD functions.

Madam Chairman, I have additional information that I would like entered into the record in regards to my opening statement, but because we do have votes coming, I would like to yield back the balance of my time.

[The prepared statement of Mr. Miller can be found in the Appendix on page 22.]

Ms. SANCHEZ. Okay. So first, we will hear from the Honorable Lemnios, please, for five minutes.

**STATEMENT OF HON. ZACHARY J. LEMNIOS, DIRECTOR, DEFENSE RESEARCH AND ENGINEERING, U.S. DEPARTMENT OF DEFENSE**

Mr. LEMNIOS. Well, thank you very much, and good afternoon, Chairman Sanchez, Ranking Member Miller, and subcommittee members. It is a pleasure to be back before you again today. And I know we have talked about a number of technology issues in the past, and we will continue that dialogue as we move forward. I am pleased to be here today on behalf of the dedicated men and women working across the Department of Defense who discover, develop, engineer and field critical technologies in defense of our nation.

As a chief technology officer for the Department of Defense, I am also honored to be joined today by Ms. Linda Oliver, the acting director of the Office of Small Business Programs in the office of the under secretary of defense for acquisition, technology and logistics. Ms. Oliver will speak specifically to the Small Business Innovation Research program.

My comments this afternoon are a summary of my written testimony, and they will center on the importance of the small business community in driving invention and innovation to quickly launch new capabilities that support our warfighters. I will keep this opening statement brief so we will have plenty of time for questions during our session this afternoon.

The department of science and technology, our S&T enterprise, encompasses a remarkable pool of talent and capabilities. Our footprint includes 67 DOD laboratories in 22 states with a total workforce of 61,400 employees. We operate 10 federally funded research and development centers, 13 university-affiliated research centers, and 10 information-analysis centers across critical disciplines for the department.

Coupled to this enterprise, the department enjoys a strong relationship with the small business community through a variety of programs designed to foster invention and innovation. It is these programs that I would like to discuss today, which include the Defense Acquisition Challenge, the Rapid Reaction Fund, the Quick Reaction Fund, and the Open Business Cell, as well.

The Defense Venture Catalyst Initiative is our way to couple with the small business communities, specifically with companies that aren't the traditional contracting vehicles for the department and offer us new opportunities to see new ideas. Each of these represent an avenue of innovation and a path to bring ideas into the department and transition concepts developed in our laboratories in these small business environments to commercial use.

The small business community is an engine of innovation. It attracts entrepreneurial talent and the agility to rapidly form new teams with the speed of the commercial marketplace. It has been my goal to move the department's innovation cycle to that of the commercial sector, and Chairman Sanchez, when we met last time, we spoke exactly on those terms.

In many cases, simply providing access to a field unit, our operators, our testing facilities provide small businesses with insight and fundamental technical and operational challenges that we face. To that end, we have provided these companies with access to our S&T advisors across the combatant commands, and we have

strengthened our S&T engagement to support the department's joint urgent operational needs environment. And because small businesses typically have fewer resources to test and operationalize their techniques, we have provided access to the department's training facilities and test results.

One example of this type of access is the Joint Experimental Range Complex at the U.S. Army Yuma proving ground. This facility allows a number of small companies to test a wide range of technologies in a realistic environment and has open channels of innovation to provide us with new capabilities.

The department provides other paths for small businesses to respond to time-critical challenges. These include our Rapid Reaction fund, our Quick Reaction fund, and our Defense Acquisition Challenge. Each of these programs addresses a different opportunity for the small business community to connect with the department, and it is precisely that connection that I think many of you have asked about.

As an example, the Open Business Cell uses a Web interface to solicit solicitations to a defined set of problems. Over the past several months, we have received over 7,000 inquiries on our Web site. We are evaluating those concepts now, many of which wouldn't come through a normal acquisition process, a normal solicitation process.

This nontraditional approach allows companies that are not familiar with the DOD acquisition process to understand our needs and our future in terms that they can relate to in a very, very simple fashion. Our Defense Venture Catalyst Initiative, or DVCI, targets small companies with emerging technologies that meet our warfighter needs and are ready to go directly from the commercial marketplace.

In addition to the activities already in place, the department continues to drive the participation of small business across all of our programs. My office, DDR&E [Director, Defense Research and Engineering], is investigating and developing and implementing new small business initiatives. We are looking into ways that we can exploit our existing authorities under the SBIR program to couple to those identified needs from our combatant commanders and either augment ongoing projects or accelerate projects that are underway to tie them directly to our combatant commanders' needs.

As part of our defense industrial base, small businesses represent a cadre of entrepreneurial innovation who bring new technology solutions and the agility to take on technical challenges that we face today and will face for years to come. The efforts that I have highlighted in my written testimony discuss in detail how we are connecting broadly across this community and how we are providing our department's needs to the small business community.

Madam Chairwoman, thank you for the opportunity to present these brief remarks, and I look forward to your questions.

[The prepared statement of Mr. Lemnios can be found in the Appendix on page 24.]

Ms. SANCHEZ. Thank you, Director.

And now, I would like to have Ms. Linda Oliver, acting director for the Office of Small Programs, please.

**STATEMENT OF LINDA B. OLIVER, ACTING DIRECTOR, OFFICE  
OF SMALL BUSINESS PROGRAMS, U.S. DEPARTMENT OF DE-  
FENSE**

Ms. OLIVER. Thank you, Chairwoman Sanchez, Ranking Member Miller. It is a pleasure to be here, and how nice for me to be the fourth person to say something, and every single one of you have just said nice things about small business. This is my very favorite kind of hearing.

My testimony is a description, in quite excruciating detail, of what the Department of Defense does to sort of seed innovation in the Department of Defense through the SBIR program. You are entitled, and we are happy to provide this detail, what we spent, where it went, broken down in a hundred ways.

However, I would like today to present a different way of looking at how it works, how we seed innovation in the Department of Defense and perhaps, Chairwoman Sanchez, to answer for at least one of the programs how people get in.

I have an SBIR product here. Somebody—yes, thank you. Good. Thanks. The black ones are prototypes. The khaki colored ones are the most recent developments.

A little company in Seattle—now, see, I brought these because this is one that could get through the security and was concrete and all that kind of thing. This is actually a very high-tech set of gloves. These gloves are used in Afghanistan, are allowing our service people to be able to function in those high elevations.

These were made by a little company called Outdoor Research, Inc. This company is in Seattle, had been in business for 19 years before it thought about an SBIR project. It came in with a discussion of what—we had a topic, a concern about—

Ms. SANCHEZ. But it came in.

Ms. OLIVER. Yes.

Ms. SANCHEZ. Here is the question. It came in. What does that mean, it came in? How did it get to you?

Ms. OLIVER. That is a—

Ms. SANCHEZ. That is the question the small businesses back at home want to know. Hey, I got this great idea. I am making gloves. I think I can make them for people in Afghanistan. They came in. Don't gloss over that. They came in. What does that mean?

Ms. OLIVER. Okay. The SBIR program consists of what are sort of like broad agency announcements. There are general topics we need to know more about. The companies respond to the proposal, and the SBIR program is in two parts.

The first part is here is kind of what we propose to do. This is sort of the concept, and then there is a proof of concept. And then, the second part, the phase two part, would be the prototype, in this case the gloves.

Everybody understands gloves, I guess, but these are new materials, a new way to process. And the ones that you have on, Chairwoman Sanchez, are in fact ten years old. Representative Miller has the more developed ones, the ones that are now under contract. We got the prototype so that you could see there—we have, and I would be happy to send this to your staff, Tim, particularly—

Ms. SANCHEZ. Well, Tim wants to know if he can keep them to go skiing.

Ms. OLIVER. No. Sorry, Tim. These don't belong to us.

Ms. SANCHEZ. So you put out a thing saying, "Hey, we are looking at this. We are looking for some ideas about this." You put it on the Web. These people answer back.

Ms. OLIVER. Yes.

Ms. SANCHEZ. You like their answer.

Ms. OLIVER. Well, because SBIR is a particularly small-business friendly process, Dr. Lemnios's people look at the questions before they even go out to make sure that all of it is clear. The process is set up so that, during one period of time before the competition itself starts, there are experts available for each of those topics. The small business can actually—and this is very unusual in a procurement—can actually talk to the person who is responsible for the topic and who will determine—who answered best for the topic.

Let's see. I am not sure. That is about half of the small businesses that are selected for phase one go on to phase two. At that point, our SBIR funds are finished, and the scramble is to find what we call phase three, but which really means finding—

Ms. SANCHEZ. Somewhere that it fits in the—

Ms. OLIVER. Exactly.

Ms. SANCHEZ [continuing]. In the defense or somewhere that they can get funds to actually do the things that you can buy.

Ms. OLIVER. Right. And in the case of this company, for example, there are 146 people working, making gloves in Seattle that the company representative told me yesterday would not be there making those gloves but for the SBIR program, that it was there at the right time. They have a couple of large—see, the contracts with very large ceilings, meaning the Department of Defense can order from them. They went from a little, I don't know, \$1.5 million company 20 years ago, 25 years ago, to a \$50 million company now.

And most importantly, according to this company, they are actually helping our service members. They keep their hands from freezing. These gloves keep their hands from freezing, and one of the sets makes it possible for them to operate machine guns, for example, and not burn their hands.

Ms. SANCHEZ. Great.

Ms. OLIVER. Those are just the kinds of things that we want, and we have a very well developed Web site. And I will send Tim the site.

[The prepared statement of Ms. Oliver can be found in the Appendix on page 34.]

Ms. SANCHEZ. Right. I am going to stop you here only because we have got some votes that are going to be called on the floor, so I want to make sure that we get at least a round of questions in, and then we will decide whether you guys want to stick around while we spend our time over on the floor.

I am going to ask my ranking member, Mr. Miller, if he would like to ask his 5 minutes' worth of questions first.

Mr. MILLER. Thank you.

Ms. Oliver, I know you have got to be aware that insourcing has been a contentious issue for many private contractors in this country. Thousands of individuals have either lost their job or really have been forced into accepting government positions, many times at less pay.

So could you expand a little bit on what your office is doing to assist the hundreds of small businesses around the country who are being directly impacted by insourcing efforts?

Ms. OLIVER. I would be happy to take the question back to the Department of Defense. The piece of the Department of Defense that is doing all the policy and the process for insourcing is called Personnel and Readiness. I will ask them to specifically ask what we are doing with—to try and make this impact not as great on small businesses. I will take that back for you.

[The information referred to can be found in the Appendix on page 51.]

Mr. MILLER. Mr. Lemnios, the importance of small business in America is obvious to each of us up here on the dais, and I understand your role, that you want to get the best and most cost-effective product to the warfighter and to their enabler. Please explain which programs you think best bring our highly innovative and successful small businesses into DOD's marketplace of ideas.

Mr. LEMNIOS. Congressman, let me give you one example. I was at Fort Bliss yesterday and the White Sands Missile Range yesterday with Army units that were training with a variety of components.

One of the components that I saw there was built by a company called iRobot. You may have seen it. These are robotic platforms. This has given our warfighters tremendous capability. It has kept young kids out of the fight where they can operate this tele-operated vehicle to clear a room, to clear a building, to provide initial insight into very dangerous areas. And quite simply, it saved lives.

That was a capability that came out of a small company initially developed maybe 5, 6 years ago. It was at the very forefront of cutting-edge technology at the time. That company has since driven that equipment set with additional sensors, additional tele-operated, and in some cases autonomous capability.

I have talked to these 19-, 20-, 25-year-old kids that are using it, and it is intuitive because it is in their framework. They understand how to use video games, and they understand how to use this piece of equipment very much in the same way.

There are many examples like that. And five years ago, eight years ago when I was at DARPA [Defense Advanced Research and Projects Agency], there were very few companies that had that capability in their mainstream technology base, that had that capability in their current product offerings. And the department made an investment in this small company, and that investment has paid off that it is now a core capability in our department. Just one example of many.

Ms. OLIVER. And that is an SBIR company, was an SBIR company.

Ms. SANCHEZ. Thank you. Okay.

As I mentioned in my opening statement, delays in passing a comprehensive reauthorization act must impact the department's ability to run a \$1.2 billion effort. Could either of you comment on some of the challenges the department faces in planning and executing the SBIR program as a result of the reauthorization delays or the 30 and 60 temporary extensions that the agencies have had to live with over the past 2 years?

And I know that last year, House was able to give DOD–SBIR a 1-year extension, which ends tomorrow. What can you tell me? What would you prefer to see, and how is it affecting your work?

Mr. LEMNIOS. Chairman Sanchez, let me just start by maybe clarifying and exemplifying—amplifying an answer to your previous question and then how this reauthorization applies. And I think it is actually helpful to step back a little bit and give you some insight into how the SBIR topics come forward, how the selection is done, and how we couple with the small business community.

The SBIR program has been remarkably successful in holding grassroots conferences—in fact, I have spoken at many of these—that engage the small business community to understand what the needs of the department are. The topics that are then solicited actually come through my office for technical review.

But we work with the service community to really make sure that the topics that these companies respond to reflect the current needs of the department. And that is a very broad process.

When I go to the service laboratories, they are all involved, again, at the grassroots level with the local small companies, constituents, to really get the best and the brightest ideas. I really want to make sure that you folks understand that this just isn't a vertical program. It is one that has enormous breadth, enormous context across many, many states.

Now, with regard to the reauthorization, Ms. Oliver will speak to that. But I wanted to make sure you understood that the connection, the critical front-end connection is really a one-to-one connection with these small companies that have innovative ideas. It is critically important.

Ms. OLIVER. It is very disruptive to have a stop-and-start, stop-and-start kind of program. We have now, I am sorry to say, standard plans for what we would do if it were not reauthorized.

But a much more optimum way—and thank you so much. I know it was this committee, this subcommittee specifically that gave us a year of a sort of freedom to think about our programs instead of thinking about reauthorization.

It would be so much better to have the authorization of the SBIR program match with practically anything, our budget planning, which is about 5 years, the amount of time it takes to—since with each reauthorization, usually there are changes. The time it takes to implement the changes and then see how the changes go, measure whether they are good changes or bad changes, again for 5 years, or even with the cycle of the SBIR program itself from the time that somebody thinks up an idea and it gets into this sort of broad agency announcement status. After Dr. Lemnios's people have done their work, from the time that phase one is awarded and carried out, phase two is awarded and we start to find a home for it at phase three, that is at least 4 years.

The reauthorizations would be so much more—they would make so much better use of our time, of our resources, if we could stay focused on the results of the program. So I thank you for the question. Every 30-day reauthorizations are a huge waste of resources.

Ms. SANCHEZ. Thank you.

In your turn on page six of your written testimony, Ms. Oliver, I see that the services have available, and on average, \$300 million for SBIR collected via a statutory tax. I also understand that the current law does not allow the agencies to spend the tax dollars to administer the SBIR program. Is that correct?

Ms. OLIVER. That is correct.

Ms. SANCHEZ. And if so, how do you fund this effort?

Ms. OLIVER. We beg, borrow and steal the resources insofar as we can. And we would have a better program if we were able to use program resources to run the program.

Ms. SANCHEZ. What should that percentage be?

Ms. OLIVER. The National Academy of Science has estimated 6 percent in its study to look at that very problem it looked at, from 15 to 3 percent. Six percent is an average for overhead that needs to be spent on a program in order to have it be effective.

Ms. SANCHEZ. And Ms. Oliver, on the last page of your written testimony, you mentioned that a policy memorandum was issued clarifying SBIR phase two responsibilities. Could I get a copy of that memorandum? I don't think that I have seen it. And who was it addressed to, and can you give us examples of what you meant by SBIR two responsibilities?

Ms. OLIVER. Yes, ma'am. Dr. Findley was the official who signed that out. He was in the prior administration. He was—and we will surely provide you with a copy of it—signed out in 2008.

The responsibilities he was talking—that he was reiterating are that prime contractors have responsibilities to be—in the way they treat the intellectual property of the small businesses, as do program managers, and there is a responsibility on the part of the program managers, and actually the prime contractors, to help find the most cost-effective way to carry out programs, and that very frequently is through SBIR projects. So that is what that letter was about.

Ms. SANCHEZ. Okay.

The gentleman from—Mr. Conaway. I was trying to think of what state you were from.

Mr. CONAWAY. Exactly, the state of confusion, Madam Chairman. I have only been around a short period of time, so don't worry about it.

You mentioned your prime contractors, and their supply train contractors many times are not small businesses. What kind of incentives and/or requirements do they have for providing—I mean, I can figure out how small business can be the glove manufacturer, because that is, start to finish, their deal. But how do they plug into the bigger programs where we spend more money? And how does the—we hold the prime contractor responsible, and their supply chains responsible for any of that? And if so, how do you go about doing that?

Mr. LEMNIOS. Congressman, let me—so each of those is on a case-by-case basis. In fact, that issue is one that has been the subject—or one of the elements of the directive that Secretary Carter signed out on September 24 to actually look at how we can do that more effectively, more efficiently to protect the innovation of the small business community in the context of a lead system integrator.

But let me give you one example that I saw just, again, last week. I don't travel every week, but last two weeks it has been pretty heavy. I was up at Fort Drum, New York. And in that case, we had a capability that we are putting on our H-60 Black Hawk helicopters to detect small arms fire.

This is a capability that doesn't exist today. And the Army has a similar capability. It is called Boomerang, and you may have seen this. It is a system that acoustically detects a gunshot, and again, it has protected many lives in theater.

This system will triangulate on a gunshot, will allow the operator to know he is being shot at. It is a very effective system.

Through a DARPA program, we funded—DARPA funded an effort to take the same contractor—this is a small company, BBN is the company. They are in the Boston area—to apply that same acoustic signature, acoustic detection system, to our H-60 Black Hawks. And we are now testing that. In fact, we will be deploying four of these special helicopters to theater shortly.

But the innovation there was coupling the small company, BBM, with the lead system integrator, Sikorsky. Sikorsky—

Mr. CONAWAY. Yes, but Sikorsky didn't do that. You guys did that.

Mr. LEMNIOS. Well, we worked with Sikorsky as the lead system integrator, and we directed that they use this small company because this small company had the capabilities that were needed. They had the technology that Sikorsky did have.

Mr. CONAWAY. But you directed Sikorsky to do that. I guess my question was—and that fly that you brought with you, by the way, is your friend, not ours.

Mr. LEMNIOS. We have noticed.

Mr. CONAWAY. Exactly, so he will be hanging around you a lot.

How does Sikorsky—I understand how you could direct them to say we want this capability. We have got a company over here. You guys figure out how to—but how does the system—or should the system work in such that Sikorsky, as it is building its base model of the UH-60, is plugging in small businesses where that makes sense, or should they?

Mr. LEMNIOS. Well, there are many examples where large companies don't have an innovative technical concept that they need to complete a full system build. We see this all the time. I have seen this in propulsion. I have seen it, in this case, with this acoustic sensor. Even the robotics system that I mentioned earlier is part of a larger system that is being integrated by a much larger set of companies.

So the glue that brings all that together are discussions that we have in the department with this full set of companies. We do that through conferences. We do that through solicitations. And when these companies come together, they in fact see the value in taking that small idea and integrating it into a larger system.

Mr. CONAWAY. Okay. Give us about a half a minute on contract bundling, as that phrase is used, and the restrictions in last year's NDAA [National Defense Authorization Act] that said you are supposed to notify Congress when that happens. Have you actually notified Congress that there was an intent to bundle, as that phrase is used?

Ms. OLIVER. Yes. I am sure we have. I should say that bundling is sort of a misused word, has been a misused word. We keep track of every—in the Department of Defense, we keep track of every bundled contract that must be identified, and my office actually looks at every single one to see, rather, whether there has been a full justification.

However, when people use the term “bundling,” usually they are thinking of consolidating, thinking of contract consolidation as opposed to bundling, which is a much more narrow aspect of consolidation. There is—I think this has been signed—there is new legislation, which I think was signed yesterday, which redefines consolidation—which treats consolidation as we have in the past treated bundling, which will go a long way.

Mr. CONAWAY. Right. Would you mind checking and, for the record, getting back to us—

Ms. OLIVER. I would be happy to.

Mr. CONAWAY [continuing]. On compliance with the director—

Ms. OLIVER. Notification.

Mr. CONAWAY [continuing]. Notification that you notify us?

Ms. OLIVER. Yes, certainly.

Mr. CONAWAY. Thank you, Madam Chairman. I yield back.

Ms. SANCHEZ. Great.

Do you have any other questions?

I have one more before we—actually we will break for votes, and I think, since we have no other members who came, I am sure that they will have questions to submit for the record and would appreciate your answers.

Mr. Lemnios, you mentioned that you have increased your outreach to the industrial base. Can you give us some examples of how that is, or what you mean by that?

Ms. SANCHEZ. Well, as I mentioned earlier, the critical part of the engagement with the small business community is right up front. It is providing insight into the department’s challenges, the areas where we need new technical ideas and new capabilities.

We have a Web site, defensesolutions.com, one-stop shopping. Companies can come on board, take a look at what we have—defensesolutions.com. They can take a look at what is there. We regularly post challenges that the department has, areas where we need new innovation, areas where we need new ideas. This is on the DTIC, Defense Technology Information Center portal, so it is government-wide. It provides access to a wide range of challenges.

So the Web-based portals have been very helpful. There are many small companies that simply can’t afford to go to conferences, and they can’t afford to travel to Washington, and this is a simple way for them to get some insight into areas that we need new ideas.

The other way that we have reached out, my full staff and the staffs that I see across the service laboratories, we have conferences. We speak and meet with small business community regularly. In fact, many, many times for me, that is an enlightening moment, because you see new ideas that you wouldn’t see otherwise.

I will give you an example. I was at Aeros Aviation in Tustin, and in fact this small company is building an airship that we are

funding. It is called Pelican, and it was originally funded as a DARPA project, and we are now transitioning it to first flight the end of next year.

And this small company has an idea for building an airship that can transition from lighter than air to heavier than air so you don't have to carry ballast. It is a tremendous operational capability.

Our value in that is connecting that company with technical resources at NASA [National Aeronautics and Space Administration] Ames for additional simulation and connecting them to the end user. So they are not just developing the concept. They are thinking about how that concept will be used.

So this outreach is more than just publishing a set of needs. It is connecting this community with technical resources and operational insight so that the products that they develop, whether it is gloves or whether it is 100-yard airship, has a transition path that is in the framework of what the end-use case will look like.

The last thing I will say that has tremendous value to this community is coupling these small companies with our test ranges and with our test resources so they can get the same insight that I saw the last two days at Fort Bliss and White Sands, giving that insight to companies that wouldn't normally have that ability to see what an operational environment actually looks like.

It changes their way of thinking, and it changes the ability and the speed and the context of how they develop a product. Critically important, and we have done that through a number of avenues—companies all the time that we try to make those connections.

Ms. SANCHEZ. Okay, great.

Well, I thank you for your testimony before our committee and for your written testimony. We will be submitting some more questions for the record, and thank you both for at least enlightening me about some of the things going on with the program. Thank you.

And the committee is now adjourned, I think in time for some votes that are about to be called. Thank you.

[Whereupon, at 2:49 p.m., the subcommittee was adjourned.]



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**A P P E N D I X**

SEPTEMBER 29, 2010

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**PREPARED STATEMENTS SUBMITTED FOR THE RECORD**

SEPTEMBER 29, 2010

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**Opening Statement of Chairwoman Loretta Sanchez**  
**Subcommittee on Terrorism, Unconventional Threats and Capabilities**  
**Hearing on Small Business' Role and Opportunities in Restoring**  
**Affordability to the Department of Defense**  
**September 29, 2010**

Good afternoon. I would like to welcome you all and thank you for joining us this afternoon. Today, we are here to further examine the opportunities and challenges for small technology firms to compete in defense acquisition.

The purpose of today's hearing is to answer some of those questions that my colleagues are frequently asked by small business owners in their district. Many small businesses do not know how to navigate or approach the DOD bureaucracy. This Subcommittee has held hearings on small businesses this past year because as I have stated before small businesses are the key driver of innovation for the Department of Defense and economic strength for the nation. I cannot stress enough how pertinent the success of small businesses are to the U.S. economy and the daily responsibilities of the Department of Defense. Small businesses have different perspectives on key national security issues, particularly compared to large industries.

One of the goals for this hearing is to understand how our national security requirements and goals are interpreted by the small business, and how better the Department of Defense can guide small businesses to the current technological needs of the Department. Currently, this nation's small businesses encounter endless challenges as they venture to participate in the development and procurement of innovative technologies critical for national security.

I hope in today's hearing, our witnesses will address these challenges and highlight effective tools and resources that we can take back to educate our communities' small businesses. For example, I'm sure my colleagues are constantly approached by small businesses in their districts requesting information about who to call if these businesses seek to participate and advance their innovative ideas within the DOD acquisition system. Additionally, I am approached all the time by small business owners asking me how they can find out and address the technological needs of the Department. These are seemingly simple requests that if appropriately addressed, would immensely assist our nation's small business community.

Another issue that should be discussed during this hearing is the ongoing challenge of reauthorizing the Small Business Innovation Research (SBIR) program. The underlying law authorizing the SBIR program expired in 2008 and efforts have been underway in order to reauthorize the program. However, these efforts have not been successful and I find this disturbing and extremely concerning. I believe it would be particularly helpful for our witnesses to briefly explain the consequences of further delaying or not passing a comprehensive reauthorization bill and the effects it will have on the overall effectiveness of the SBIR program.

And finally, I would like to point out that the DOD has invested over \$5.0 billion in SBIR over the last five years across thousands of projects, but doesn't get full value of this investment for various reasons, including a shortfall in available funds to transition these technologies to the warfighter or the commercial marketplace.

This committee, as I'm sure you do as well, finds effective and rapid technology transition an imperative. That is why we, in our pending Fiscal Year 2011 defense authorization bill, established a new program called the Rapid Innovation Program. The Rapid Innovation Program authorizes \$500M for the purposes of developing innovative solutions to defense needs and accelerate insertion of these technologies into weapons programs or the marketplace. The program is intended to primarily support small high-tech private firms. We welcome your comments on how the Department would execute this new authority.

So today, we have two distinguished witnesses before us:

- First, we have brought back the Honorable Zachary Lemnios, the Director of Defense Research and Engineering at the U.S. Department of Defense.
- And Ms. Linda Oliver, the Acting Director of the Office of Small Business Programs in the U.S. Department of Defense.

Once again, I would like to thank all of our witnesses for being here today, and I look forward to hearing your testimonies.

**Opening Statement of Ranking Member Jeff Miller**  
**Subcommittee on Terrorism, Unconventional Threats and Capabilities**  
**Hearing on Small Business' Role and Opportunities in Restoring Affordability to**  
**the Department of Defense**  
**September 29, 2010**

This morning, the full committee heard testimony on Secretary Gates' Department of Defense efficiency initiative, targeted to finding cost savings and to improving general business operations within the department. Many of us have questions and concerns regarding the Secretary's initiative, as we must ensure that critical capabilities are not sacrificed in the name of blind cost-cutting.

The threats our great nation faces are varied, so a fine balance must be struck between identifying effective savings and protecting needed capabilities. At the end of the day, we must be fiscally responsible while not failing in our responsibility to ensure the country has the ability to defend its interests.

I believe the Department of Defense can find many solutions by turning to the small business community. Small businessmen and women are constantly developing innovative solutions to the myriad challenges that exist in today's world, and they do so precisely by operating efficiently and effectively. They are an invaluable source of talent and technology creation—increasingly important for the Department's operations.

With this in mind, we, as Congress, must work with the Department of Defense to improve small business' ability to access the Department. We must improve the information flow and engagement between the Department and the small business community, and eliminate remaining contracting obstacles that deter small business from working with the Department. By leveraging the expertise, creativity, and passion that exist among small business owners and their companies, the Department will find improved efficiencies—often without significant disruption or impact to current Department functions.

Several weeks ago, Under Secretary of Defense for Acquisition, Technology and Logistics Ash Carter briefed the committee on several acquisition-related sections of the initiative that spoke to increasing opportunities for small businesses. I would be very interested in hearing more of the specifics behind his comments and how the Department plans to increase engagement with the small business community and ameliorate the many challenges that remain for businesses seeking to work with the Department.

Small business is a valuable resource standing at the ready; the Department must be able to tap into the community, especially given the fiscal considerations we face today and the Secretary's desire to identify and institute increased efficiencies within the Department.

I want to thank our witnesses for joining us today. I look forward to your testimony on how the Department can leverage small businesses.

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**Statement Testimony of**

**The Honorable Zachary J. Lemnios  
Director, Defense Research and Engineering**

**Before the United States House of Representatives  
Committee on Armed Services  
Subcommittee on Terrorism, Unconventional Threats and Capabilities**

**29 September 2010**

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### **Introduction**

Good afternoon Madam Chairwoman, Ranking Member Miller and Members of this Committee. I am pleased to be here today on behalf of the dedicated men and women working across the Department of Defense (DoD), who discover, develop, engineer, and field the critical technologies for our Service Members, and civilians deployed in the defense of our Nation. I would like to thank the members of Congress for your continued support of the Department's science and technology (S&T) program and our broader research and engineering (R&E) program<sup>1</sup>.

I am also honored to be joined today by Ms. Linda Oliver, Acting Director of the Office of Small Business Programs in the office of the Under Secretary of Defense (Acquisition, Technology and Logistics); she will speak specifically to the Small Business Innovation Research (SBIR) Program.

My comments today will center on the critical role of the small business community in driving invention and innovation to quickly launch new capabilities that support our warfighters and protect our nation. I will specifically address the scope of the Department's engagement with the small business sector, which complements the SBIR program and which is providing key capabilities for our warfighters in harm's way. Across the Department in FY09, this amounted to \$63.9B in funding<sup>2</sup>.

### **An Integrated S&T Enterprise**

The Department's S&T enterprise encompasses a remarkable pool of talent and resources. Our footprint includes 67 DoD laboratories in 22 states with a total workforce of 61,400 employees. Of these, 35,400 are degreed scientists and engineers leading their fields and reporting their work in peer-reviewed conferences and journals. We operate 10 Federally Funded Research and Development Centers (FFRDCs), 13 University Affiliated Research Centers and 10 Information Analysis Centers (IACs) across critical disciplines for the

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<sup>1</sup> Science and Technology (S&T) is defined as the sum of basic research (6.1), applied research (6.2) and advanced technology development (6.3). Research and Engineering (R&E) is S&T plus Advanced Component Development and Prototyping (6.4). Both S&T and R&E are activities that occur before initiation of formal acquisition programs.

<sup>2</sup> Website: Department of Defense Office of Small Business Programs, Program Goals and Statistics; <http://www.acq.osd.mil/osbp/statistics/goals.htm>

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Department. These institutions enable the Department to connect with top technical talent across the Nation in fields ranging from cyber security to ballistic missile defense to advanced microelectronics and more. They provide first class system engineering talent, objective red team assessments, gold standard test and evaluation, deep research talent and innovative paths for rapid prototyping.

Coupled to this enterprise, the Department also enjoys a strong relationship with the small business community through a variety of programs designed to foster collaboration. These include the SBIR program, the Defense Acquisition Challenge, the Rapid Reaction Fund and Quick Reaction Fund, the Open Business Cell and the Defense Venture Catalyst Initiative Program about which more details are included below. Each of these represents an avenue of innovation and a path to bring ideas into the Department and transition concepts developed in DoD Laboratories to commercial use.

#### **Role of Small Business in Driving Invention and Innovation**

The Department needs new capabilities for our warfighters to operate effectively against current threats and in anticipation of future challenges. In this context, much has been written about the small business model of driving invention and innovation<sup>3 4 5</sup>. The small business community attracts entrepreneurial talent who enjoy tackling difficult multidisciplinary challenges, where the role of the individual investigator as integrator often makes the difference between success and failure. The ability of the small business community to rapidly form new teams or launch new companies, which deliver accelerated adaptation with the speed of the commercial marketplace, offers new opportunities for the Department in its rapid fielding acquisition strategy.

To extend innovation speed to the warfighter, we have focused on better connecting the small business community with the needs of the Department through a variety of mechanisms. Through these activities, small businesses are able to understand the capability and technology

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<sup>3</sup> Block, Fred and Matthew R. Keller, "Where Do Innovations Come From? Transformations in the U.S. National Innovation System, 1970-2006", *The Innovation Technology & Innovation Foundation*, Jul 2008, p 2- 22 [http://www.itif.org/files/Where\\_do\\_innovations\\_come\\_from.pdf](http://www.itif.org/files/Where_do_innovations_come_from.pdf)

<sup>4</sup> Chesbrough, Henry W., "The Governance and Performance of Xerox's Technology Spin-off Companies", *Research Policy*, Mar 2003, Vol. 32 Issue 3, p403, 19p [http://www.fep.up.pt/disciplinas/ce714/Chesbrough%20\(2002\).pdf](http://www.fep.up.pt/disciplinas/ce714/Chesbrough%20(2002).pdf)

<sup>5</sup> Taylor, E. Jennings, Ph.D., "A Small Business Model for Facilitating Partnerships in the Innovation Ecosystem", a White Paper, Faraday Technology/Physicals Sciences, Inc. [http://www.psicorp.com/pdf/open\\_inn-business\\_model.pdf](http://www.psicorp.com/pdf/open_inn-business_model.pdf)

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requirements of large system users (e.g., the Combatant Commands (COCOMs)) and have access to ranges and training facilities to conduct real-time field experimentation.

#### **Tighter Connection to the Department's Needs**

Through publications, conference speaking engagements, field site visits and hosted meetings with operators, the Department's S&T leadership continues to engage the small business community with an understanding of the Department's current and future challenges. In many cases, simply providing access to a field unit or operator has opened channels of innovation for new capabilities. We have provided small business with access to our S&T Advisors across the Combatant Commands and are strengthening our S&T engagement to support the department's Joint Urgent Operational Needs. In both cases, early engagement with the small business community has resulted in key accomplishments.

One such example is the recent development of the Army Helicopter Alert & Threat Termination – Acoustic (HALTT-A) system. I was honored last week to spend a day with the Army Combat Aviation Brigade who will soon be deploying with this capability. This technology, developed by a then small business, allows pilots to initiate evasive maneuvers, or return fire, by identifying the direction from which the rounds were fired. This effort took just eight months from the initial funding decision to finalization of the deployment package. The success of this effort was due, in large part, to collaboration between engineers, integrators and service men and women who, as a multi-functional team incorporated technical depth and end-user inputs from the initial development at Fort Eustis, to testing at Fort Rucker and Aberdeen Proving Ground. This eight month timeline was not easy, but it was due to the tenacity and problem-solving of this team and exemplifies the need for a tight connection to the warfighter.

#### **Access to the Department's Training Facilities and Test Results**

While their size allows for speed and agility, small businesses operate with fewer resources to test and operationalize their technologies. Access to the Department's training facilities and test results is just as important to a small business as access to the warfighter. Without this access, industry in general, and the small business sector in particular, have little insight into the fundamental technical and operational challenges to address.

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One example of this type of access is the Joint Experimental Range Complex (JERC) at the U.S. Army Yuma Proving Ground. This facility allows small businesses to test a wide range of technologies in a realistic environment. By operating low-cost ground and intelligence, surveillance, and reconnaissance (ISR) test platforms, the Department has been able to offer new opportunities to demonstrate and refine urgently-needed capabilities in real-world conditions at modest cost. This has enabled the Department to reach out to businesses that have not traditionally done business with DoD. As a result, companies have been able to test, obtain their results and refine their technologies in an environment representative of the current areas of ongoing conflict. Joint services testing support is offered one week of every two months for technologies without enough funding for testing to show their capabilities in a real world setting. Work at the JERC has involved many offices within the Navy and Marine Corps, as well as the primary customer, US Central Command. Successful demonstrations are presented to appropriate organizations to take the technology to the next stage and ultimately transition. Unsuccessful but promising technologies are invited back when improvements are completed.

#### **Exemplar Small Business Successes**

Examples of unique ways in which the Department couples with the small business community on time-critical challenges include the Rapid Reaction Fund (RRF), the Quick Reaction Fund (QRF), the Defense Acquisition Challenge (DAC), the Open Business Cell (OBC) and the Defense Venture Catalyst Initiative (DeVenCI) program. The Department's RRF and QRF efforts focus on small business solutions for operational challenges. One example is the Augmented Reality Visualization of the Common Operating Picture (ARVCOP) project. This concept was funded through RRF and resulted in an augmented reality tactical display that allows sailors to visualize hazards, sea lanes, markers, etc., in reduced visibility. In a similar engagement model with industry, the QRF funded the Inflatable Satcom Antenna, which developed 1.8m and 2.4m satellite antennas that can be folded into duffel bags for transportation. The antennas can be quickly set up and broken down for storage. This capability greatly reduces the logistics requirements (size and weight) when compared to moving similar sized traditional satcom antennas. The Marine Corps is using the Inflatable Satcom Antenna systems.

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The DAC program was designed to reach out to small businesses and those companies that do not normally work with the Department. The program allows anyone to demonstrate a product or process, which can enhance a current warfighting tool or deliver a new capability. This approach serves as an "on-ramp" to companies who may not be major DoD contractors. To date 60 percent of the successful DAC projects have been with technology providers at the small- or mid-sized enterprise level. Thirty-six DAC projects have yielded technology that is now in use by our warfighters in Iraq, Afghanistan, or at U.S. facilities. Two noteworthy DAC successes conducted with small businesses are the Mini-Combat Trauma Patient Simulator (Mini-CTPS) and the Portable Oxygen Generator. The Mini-CTPS, with physiological models tailored for training mass casualty and triage, allows students to see it, hear it, breathe it and live it with the patient. More than 3500 corpsmen deployed in OIF/OEF have trained on the Mini-CTPS with over 50 training units fielded worldwide, including Kuwait. The Portable Oxygen Generators are in Army MRAP and Stryker ambulances where they replace the bulky and hazardous oxygen bottles that could explode during an encounter with an IED. The Portable Oxygen Generator produces patient oxygen from the air and weighs one-tenth of the oxygen bottle it replaced, reducing the logistical burden and increasing the safety of soldiers. Over 2,700 units are deployed in Iraq and Afghanistan.

In February 2009, we launched an Open Business Cell, which uses a web-based interface to more effectively couple the Department with small business. The approach has lowered the barrier for small, non-traditional businesses to engage DoD directly to resolve some of its needs. In its first year, the OBC solicited novel open, public solutions for battlefield forensics problems. Forty-four percent of the 96 responses were from small businesses, entrepreneurs, and inventors that had never done business with DoD. Avett, Inc. (Maryland) was competitively selected to develop a prototype solution to a Battlefield Forensics problem. The OBC's current challenge set - methods for non-lethal stopping of vehicle - has generated 30 solution ideas, 55% of which are from non-traditional, small businesses.

Lastly, the DeVenCI program identifies small companies with emerging commercial technology products that solve current DoD needs. Under DeVenCI sponsorship, CommsFirst (Peachtree City, GA) developed a compact communication capability that links tactical radios to cell phones. After initial introduction and deployment with the Defense Intelligence Agency, Customs and Border Protection personnel procured sixty units.

There are many examples of outstanding success stories in the DoD's acquisition of advanced technology from small businesses. In many cases we develop initial technologies in

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our DoD laboratories and then work with small businesses to license those technologies for further development and production. Three examples of successful technology transfer between DoD and small businesses include the following:

- The Pelican hybrid airship, an advanced technology demonstrator in development by Aeros, a small company based in Tustin, California. Supported with an interagency agreement between the Rapid Fielding Directorate (RFD) of DDR&E and NASA, Aeros is developing a new technology to demonstrate variable buoyancy control of an airship. This technology will provide a solution to the tyranny of distance that can be employed by TRANSCOM and other COCOMs. This engagement has provided Aeros with engineering depth from the technical expertise of NASA engineers and a direct connection to the end user through inputs from TRANSCOM to help define a meaningful capability.
- Lewis Machine & Tool Company, Milan, IL, was issued a partially exclusive license by Naval Surface Weapon Center Crane to produce an innovative firearm butt stock design that incorporates two watertight removable storage tubes, providing improved performance for the warfighter and extra storage space for small items. More than 30,000 units have been sold to the military and 10,000 have been sold commercially, resulting in patent royalties in excess of \$67,000.
- SKEDCO, Inc, Tualatin, OR, has a Patent License Agreement and a Cooperative Research & Development Agreement with the US Army Medical Research and Materiel Command to produce the Field-Expedient Bleeding Simulation System, a remote operated bladder system that simulates realistic bleeding wounds while providing the illusion of treatment. This system provides improved medic training for soldier and civilian responders for traumatic, bleeding wound treatment in the field. 61 systems have been sold to 32 different organizations in the U.S. Army, Navy and Air Force in 18 states. Another 30 systems have been sold to academia and industry both in the U.S. and abroad.

**Summary: Increased Opportunities for Small Business**

The Department has implemented a diverse set of programs aimed specifically at the small business community. For example, the SBIR program solicits new ideas three times a year. The Small Business Technology Transfer program, which solicits participation twice a

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year, uniquely offers small businesses and universities the opportunity to team and bid on projects. The Department also monitors and strives for compliance with the specific and targeted goals established for small business participation in DoD contracting.

The Department recognizes the unique and important roles that small businesses can play in assisting us to improve acquisition efficiency, support the warfighter and promote real competition. In his recent memo entitled "Better Buying Power: Guidance for Obtaining Greater Efficiency and Productivity in Defense Spending"<sup>6</sup>. Dr. Ashton Carter, Under Secretary of Defense (Acquisition, Technology and Logistics), further emphasized the importance of small businesses when he directed that:

- the acquisition community increase the role of small businesses in defense marketplace competition;
- the Components significantly increase their understanding of small business capabilities and ensure small business utilization is maximized;
- the Components emphasize small business utilization through the use of weighting factors in all competitive and non-competitive procurement actions; and
- the Defense Office of Small Business Programs be included as a member of the Office of the Secretary of Defense peer reviews of service acquisitions.

DDR&E is also investigating the development and implementation of our own small business initiatives. Although we are already significantly engaged in the existing OSD SBIR program, my staff and I believe that there is a broader set of programs that we can employ to take advantage of the unique capabilities found in the small business community. For example, we are now looking into ways that we can exploit SBIR authorities to address identified COCOM requirements, either augmenting ongoing projects or developing new solicitation topics.

As part of the Defense Industrial Base, small businesses represent a cadre of entrepreneurial innovators who bring new technology solutions and agility to the challenges we face. The efforts, I have highlighted above center on connecting small business invention and innovation to quickly launch new capabilities that support our warfighters and protect our nation. Thank you very much for this opportunity to describe the Department's engagement strategy for small businesses.

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<sup>6</sup> The Office of the Under Secretary of Defense (Acquisition, Logistics and Technology), Washington DC. September 14, 2010, Memorandum for Acquisition Professionals  
[http://www.acq.osd.mil/dccs/USD\\_ATL\\_Guidance\\_Memo\\_September\\_14\\_2010\\_FINAL.PDF?transcriptid=4648](http://www.acq.osd.mil/dccs/USD_ATL_Guidance_Memo_September_14_2010_FINAL.PDF?transcriptid=4648)

### Zachary J. Lemnios

#### Director, Defense Research & Engineering for Department of Defense

The Honorable Zachary J. Lemnios was confirmed by the United States Senate on June 19, 2009, and sworn in as Director, Defense Research and Engineering (DDR&E) on July 2, 2009. The DDR&E is the principal staff advisor for research and engineering matters to the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)) and the Secretary and Deputy Secretary of Defense. In this capacity, Mr. Lemnios serves as the Chief Technology Officer (CTO) for the Department of Defense charged with the development and oversight of DoD technology strategy in concert with the Department's current and future requirements. The goal of DDR&E is to extend the capabilities of current war fighting systems, develop breakthrough capabilities, hedge against an uncertain future through a set of scientific and engineering options and counter strategic surprise. In cooperation with the Deputy Under Secretary of Defense for Acquisition and Technology (DUSD(A&T)), DDR&E also provides advice and assistance in developing policies for rapid technology transition.



Mr. Lemnios is a Principal member, Committee on Technology of the National Science and Technology Council; Advisor, Defense Acquisition Board; Chairman, Radiation Hardened Oversight Council (RHOC); Chairman, Defense Science and Technology Advisory Group (DSTAG); Chairman, Armed Services Biomedical Research Evaluation and Management Committee; Chairman, DoD Combat Feeding Research and Engineering Board (CFREB); and Chairman, DoD Biometrics Executive Committee.

Before assuming this position, Mr. Lemnios was the Chief Technology Officer of MIT Lincoln Laboratory, responsible for coordinating technology strategy across the organization and for establishing and growing external strategic relationships to support current and future Laboratory missions. He also served as Assistant Division Head of the MIT Lincoln Laboratory Solid State Division, as a member of the Laboratory's Senior Management Council and as the Co-Chair of the Laboratory's New Technology Initiative (NTI) Board.

Between 2002 and 2005, while at the Defense Advanced Research Projects Agency (DARPA), Mr. Lemnios was Director of the Microsystems Technology Office (MTO), and previous to that, the Deputy Director of the Information Processing Technology Office

(IPTO). In these positions, he oversaw the development of future research thrusts, analyzed and evaluated program proposals and engagements with commercial, academic organizations and represented DARPA on various national committees.

Mr. Lemnios held various positions within industry at Hughes Aircraft Company, Westinghouse Electric Corporation and Ford Microelectronics, Inc. that led to the development and demonstration of advanced microelectronic components. He has served on numerous DoD, industry and academic committees.

Mr. Lemnios received his BSEE from the University of Michigan and his MSEE from Washington University in St. Louis. He has authored over 40 papers, holds 4 patents in advanced GaAs device and MMIC technology and is a Senior Member of the IEEE.

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TESTIMONY OF

MS. LINDA OLIVER

ACTING DIRECTOR, OFFICE OF SMALL BUSINESS PROGRAMS

OFFICE OF THE UNDER SECRETARY OF DEFENSE

(ACQUISITION, TECHNOLOGY & LOGISTICS)

BEFORE THE

HOUSE SUBCOMMITTEE ON TERRORISM,

UNCONVENTIONAL THREATS AND CAPABILITIES

September 29, 2010

HOLD UNTIL RELEASED BY THE COMMITTEE

Good afternoon Chairwoman Sanchez, Ranking Member Miller and Members of the Subcommittee on Terrorism, Unconventional Threats and Capabilities.

Thank you for the opportunity to testify on the Department of Defense (DoD) Small Business Innovation Research (SBIR) Program. I welcome this opportunity to provide a perspective on how the program is implemented and managed within the Department. The program is used as a tool for the Department to seed innovation in our industrial base, and, in so doing, develop leading-edge technologies with the potential to meet warfighter needs today and in the future. Now, more than ever, we need to leverage our nation's small businesses responsiveness, efficiency, and capacity to innovate.

One of our central obligations as public officials is to ensure that we are using taxpayer dollars as productively and efficiently as possible for their intended purpose. In that vein, today I will provide an overview of the SBIR program and its impact, and also highlight some actions the Department has undertaken to improve the program. We at the Department are always ready to work with the congressional oversight committees, and other participating federal agencies, including the Small Business Administration (SBA) to ensure the SBIR program is as effective as possible.

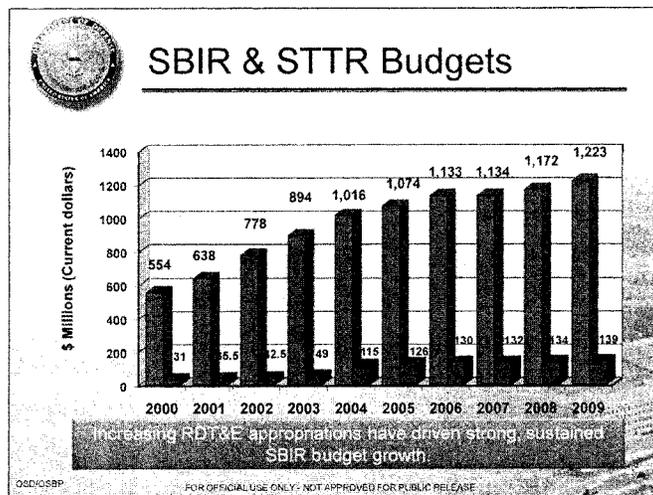
#### **SBIR at DoD**

The DoD SBIR Program comprises twelve Military Department, Defense Agency, and other Defense Activity programs, with oversight provided by the DoD Office of Small Business Programs. These participating elements, hereafter referred to as "Components," in order of largest to smallest budget in Fiscal Year 2009 (FY09), are the:

Navy, Air Force, Army, Missile Defense Agency (MDA), Office of the Secretary of Defense (OSD), Defense Advanced Research Projects Agency (DARPA), Joint Science and Technology Office for Chemical and Biological Defense (CBD), US Special Operations Command (SOCOM), Defense Threat Reduction Agency (DTRA), Defense Logistics Agency (DLA), Defense Microelectronics Activity (DMEA), and National Geospatial-Intelligence Agency (NGA).

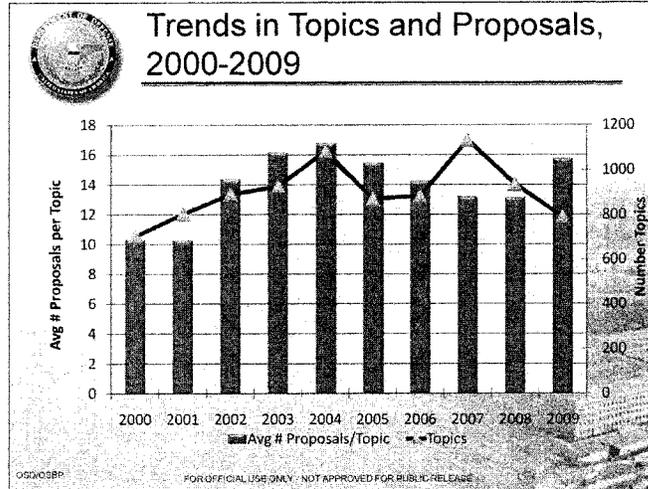
The Department's minimum SBIR budget is determined by a statutory 2.5 percent assessment of the extramural research, development, test and evaluation (RDT&E) budget. In addition, the related Small Business Technology Transfer (STTR) program is funded by a statutory 0.3 percent assessment against the same base. Each Component's portion of the overall program is managed to be responsive to specific mission and corresponding technology research and development needs while also being consistent with overarching Department science and technology guidance. In terms of budget, the Department's Program represents over 50 percent of the total federal SBIR budget, which exceeds two billion dollars.

As shown in the chart below, the DoD SBIR Program has experienced substantial growth in recent years, more than doubling in size from FY00 to FY06 to over one billion dollars, and it continued to grow through FY09 to over \$1.2 billion. This expansion is driven directly by growth in the underlying RDT&E budget, as the SBIR percentage has remained constant over this period of time. The number of SBIR solicitations has also increased from two to three per year, spaced almost evenly throughout the year.



Likewise, the number of proposals received and contracts awarded have increased proportionally with budget growth. The number of topics, statements of research and development needs, solicited annually has not grown as much. This reflects a trend towards a greater number of Phase I and II contract awards<sup>1</sup> per topic; effectively increasing the relative degree of investment focus. To illustrate, in FY00, 701 topics attracted 7,201 Phase I proposals; while for FY09, 789 topics drew 12,434 proposals. As shown below, for several years, topics received about 14 proposals each, on average. After a brief dip in FY07 and FY08, we saw a substantial surge in FY09. This increased interest in the program is not surprising as SBIR remains a stable source of innovation capital and opportunity during this time of economic downturn.

<sup>1</sup> Phase I contracts fund effort to assess the technical feasibility of a proposal while Phase II efforts fund technology development and demonstration and typically result in a prototype. Phase I guidelines are currently \$150,000 and six months duration and Phase II guidelines are currently \$1,000,000 and two years duration.



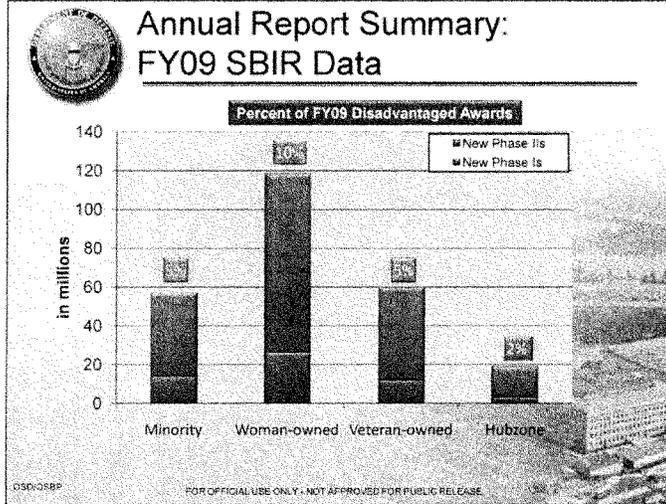
The SBIR program funds a great deal of research and development in a given year. The charts below summarize program activity by DoD component for FY09. In total, 12,434 Phase I and 1,581 Phase II proposals were received and evaluated, and 2,017 Phase I and 972 Phase II contracts were awarded. These contracts were awarded to 1,285 different firms. Additionally, 553 FY07 Phase II contracts continuing into FY09 received funding and 73 Phase II “Enhancements” were done to co-fund additional development with sources of non-SBIR federal funding or other non-federal funds.

 **Annual Report Summary:  
FY 2009 SBIR Program Activity**

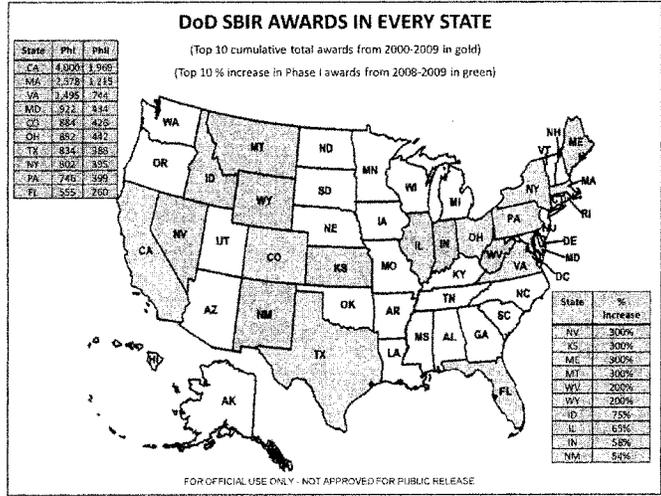
DoD Component	SBIR Budget	# Topics	# Ph I proposals	# Ph I awards	# Ph II proposals	# Ph II awards
Navy	\$332,871,000	224	3,555	414	351	208
Air Force	\$331,831,000	184	2,359	598	505	245
Army	\$265,653,000	204	3,449	334	339	226
MDA	\$111,418,000	40	584	150	97	86
OSD	\$74,522,000	61	932	161	111	56
DARPA	\$70,426,000	45	947	288	132	72
CBD	\$13,220,000	10	192	31	14	9
SOCOM	\$10,206,000	5	95	14	9	5
DTRA	\$8,076,000	12	198	12	10	7
DLA	\$3,229,750	1	63	9	8	5
DMEA	\$907,000	3	60	6	3	1
NGA*	\$499,049	0	0	0	2	2
All DoD	\$1,222,856,799	789	12,434	2,017	1,581	922

SBIR is a voluntary program. OSD/CSBP FOR OFFICIAL USE ONLY - NOT APPROVED FOR PUBLIC RELEASE

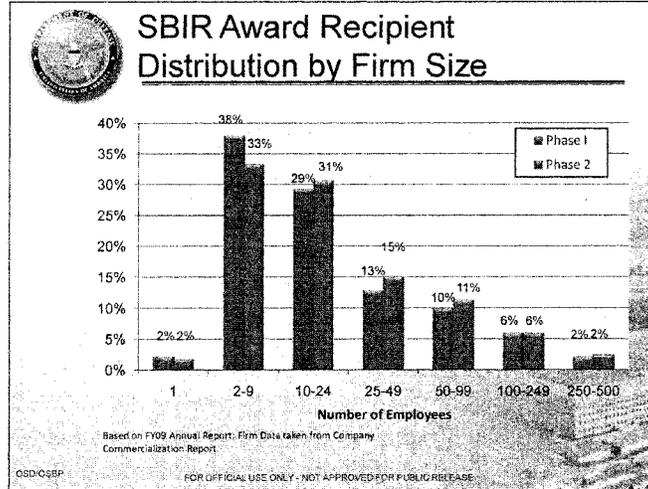
All SBIR Phase I awards are based on the soundness, technical merit, and innovation of the proposed approach. No preference is given to small business concerns owned or controlled by socially or economically disadvantaged individuals, Woman-owned small business concerns, Veteran-Owned small business concerns (VOSB), and Small Business Administration (SBA)-certified small business concerns located in Historically Underutilized Business Zones (HUBZone). However, awards to these firms account for about 22% of all Phase I awards in FY09, as shown below. WOSB and VOSB firms, in particular, are capturing an increasing percentage of SBIR contract awards. Within the VOSB category, there has been dramatic growth in the percentage of total awards going to Service-Disabled Veteran-Owned small business concerns.



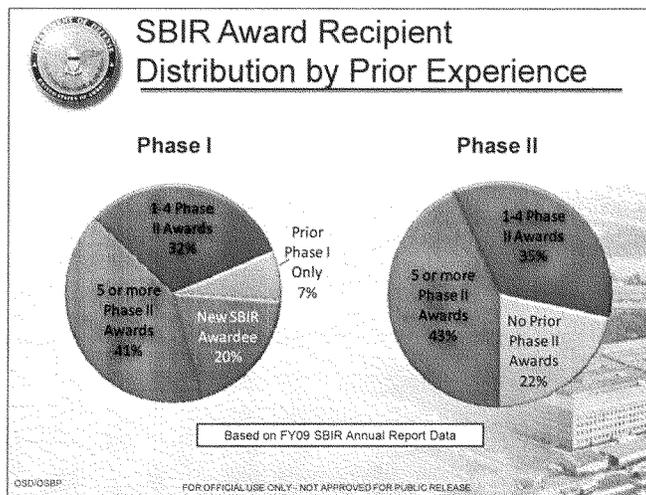
While program participation occurs throughout the United States and awards are made to firms from every state, participation from a few states stands out, as shown below. The states with firms receiving the most awards from 2000 through 2009, in descending order, are: California, Massachusetts, Virginia, Maryland, Colorado, Ohio, Texas, New York, Pennsylvania, and Florida. States that have experienced the greatest percentage increase in the number of awards over this period, starting with the greatest percentage increase are: Nevada, Kansas, Maine, Montana, West Virginia, Wyoming, Idaho, Illinois, Indiana and New Mexico.



Looking at the size of firms among the DoD SBIR award base, historically, a high percentage are very small. The chart below shows the distribution of firms receiving Phase I and Phase II contracts in FY09 by number of employees. Sixty-nine percent of Phase I award winners had fewer than 25 employees at the time of contract award. Similarly, 65% of Phase II award recipients had fewer than 25 employees at the time of award. The distribution suggests that firm size is not a strong determining factor with respect to reaching Phase II.

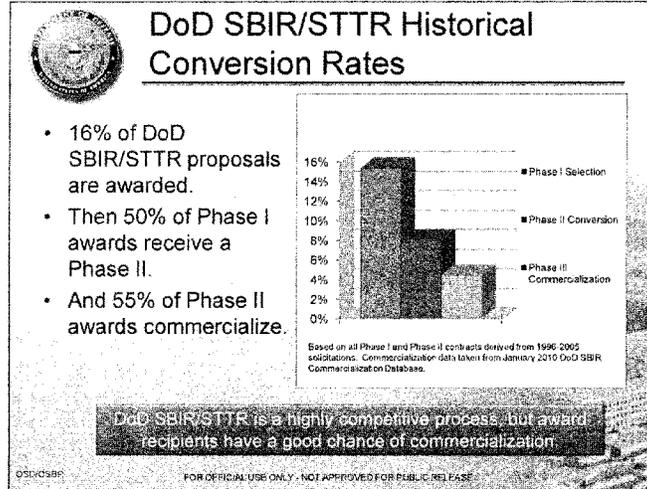


The next chart shows the prior experience level with the DoD SBIR Program of FY09 award recipients. 20% of Phase I award winners had never received a DoD Phase I award, while an additional 7% had never received a Phase II award. Among Phase II award recipients, 22% of Phase II award recipients had never before been awarded an SBIR Phase II contract by the Department, while an additional 35% had received four or fewer Phase II awards. These statistics show that the SBIR program is attracting a significant number of new or relatively new program participants.

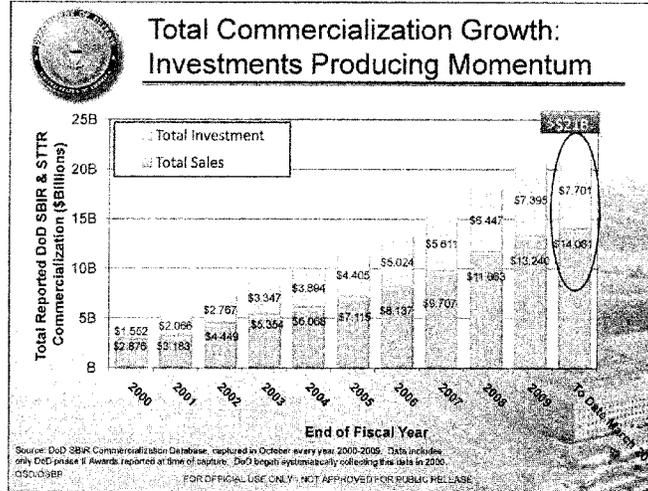


The SBIR Program is quite competitive. The chart below shows that the Phase I proposal selection and funding rate for a ten-year window of program activity is about 16%, or approximately one in six. While this can be a daunting figure for candidate firms, the percentage that “convert” to Phase II is much higher, almost 50%. Since 2000, the Department has collected data on “Phase III” activity to gauge commercialization<sup>2</sup> of Phase II technology efforts. 55% of Phase II contracts deriving from solicitations conducted between 1996 and 2005 report receiving non-SBIR revenue or investment which derives from, extends or concludes the Phase II work.

<sup>2</sup> The Small Business Administration (SBA) SBIR Program Directive, September 24, 2002, section 3(f) defines 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 the Government or commercial markets.” Phase III is defined in section 4(c) as “...work that derives from, extends or logically concludes effort(s) performed under prior SBIR funding agreements, but is funded by sources other than the SBIR Program.”



The Department has many efforts underway to promote more SBIR commercialization in the defense and broader marketplaces. As the next chart illustrates, the DoD SBIR Program has over \$21 billion in cumulative commercialization reported by over 7,500 projects since the inception of the Program. As a rough comparative indicator the direct SBIR investment over the 2000-2009 period was \$9.6 billion.



The Military Departments are implementing Commercialization Pilot Programs (CPP), under authority granted by section 9(y) of the Small Business Act, as amended by section 252 of the National Defense Authorization Act for Fiscal Year 2006, to accelerate the transition of certain SBIR-funded technologies to Phase III and into the acquisition process, where the successful transition is expected to meet high priority requirements. The Army, Navy and Air Force are taking different approaches to this challenge and efforts to date show great promise with initial commercialization rates exceeding those of the broader SBIR Program. The Department plans to transmit our comprehensive annual report to Congress on FY09 CPP activity soon.

The Department just held its fifth *Beyond SBIR Phase II Conference and Technology Showcase* from 13-17 September 2010 to bring together key technology and acquisition personnel from government and industry to enable the commercialization of

SBIR-funded research and development into products. Recent Phase II award recipients from across the country were invited to showcase their technologies at this conference, which featured pre-scheduled "technology matchmaking" meetings between these firms and representatives of prime contractors, government technology and acquisition activities, the investment community and manufacturing firms. This annual conference event is open to all federal agencies and their recent contract or grant recipients.

With regard to policy, we have taken several steps to improve SBIR program utilization as a source of innovation within the Department. A policy memorandum was issued clarifying SBIR Phase II responsibilities to reinforce the imperative of SBIR data rights protection and highlight SBIR as a source of innovation to address Department needs. Additionally, the DoD regulation governing the acquisition system was modified to require that program managers include SBIR in program technology planning and give favorable consideration to successful SBIR technologies. We plan to roll out a new Continuous Learning Module at the Defense Acquisition University and incorporate the module into the training curricula for personnel in systems planning, research, development and engineering, acquisition, and contracting.

### **Conclusion**

In summary, again I thank you for the opportunity to testify on the DoD SBIR Program, its value, and impact. I hope my testimony has provided you with an understanding of how the program is implemented at the Department of Defense. I would be happy to answer any questions you may have.



Ms. Linda B. Oliver  
Acting Director, Office of Small Business Programs  
U.S. Department of Defense

Ms. Oliver became the Acting Director of the U.S. Department of Defense Office of Small Business Programs on January 21, 2009, serving in the position for the second time. (She also "acted" from December 2006 until May 2007.) She began her tenure at the office as Deputy Director in December 2001.

The office she leads is responsible for establishing and enforcing Department of Defense policies so as to provide maximum practicable opportunities for small businesses to successfully compete for Defense contracts. Achieving this central goal entails advising the Office of the Secretary of Defense on small business matters, working with the military departments and with the Defense agencies to ensure that the policies and programs established by the Defense Department are properly carried out, as well as working with industry groups to improve contracting and subcontracting opportunities for small businesses. She also coordinates with the leaders of other Federal organizations on small business matters and she advises members of Congressional staffs.

Linda previously served in the Office of Management and Budget where she was the Associate Administrator for Procurement Law, Legislation and Innovation in the Office of Federal Procurement Policy. When the Administrator position was unfilled or when the Administrator was unavailable, she was Acting Administrator. In her Associate Administrator position, she advised on procurement policy for the Federal government. She and her staff reviewed all Federal procurement legislation, Executive Orders and regulations, in addition to dealing with issues concerning labor, economic and social program and international matters related to Federal procurement policy.

Ms. Oliver began her Federal Government career as an attorney with the U.S. Department of the Navy. During most of her Navy service she specialized in Federal procurement law. Her positions included a tour at the Pentagon, where she was Assistant General Counsel at the Office of the General Counsel advising on contract claims resolutions and a tour at the Naval Air Systems Command where she provided contracting advice to program managers. She also served as Counsel at the Naval Criminal Investigative Service. She has additionally held attorney positions at the Naval Research Laboratory, the Naval Electronic Systems Engineering Center, San Diego, and at the Office of Naval Research. Prior to joining the Government, she was in private practice in Honolulu, Hawaii and in Bremerton, Washington.

She has been a member of the Senior Executive Service since 1998. Her honors include Presidential Rank Award of Meritorious Executive and the U.S. Department of the Navy Superior Civil Service Medal.



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**WITNESS RESPONSES TO QUESTIONS ASKED DURING  
THE HEARING**

SEPTEMBER 29, 2010

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#### **RESPONSE TO QUESTION SUBMITTED BY MR. MILLER**

Ms. OLIVER. It is important to note that the Department's insourcing efforts are focused on services and not individual firms or contractor positions. To that end, the Department's insourcing efforts (under the purview of the Under Secretary of Defense for Personnel & Readiness) are intended to:

- reduce inappropriate reliance on contracted services;
- help shape the workforce by ensuring that work that is inherently governmental, closely associated with inherently governmental, or otherwise exempt from private sector performance (to mitigate risk, ensure continuity of operations, build internal capacity, meet readiness needs, etc) is performed by government employees;
- ensure the Department has the necessary capabilities and skills to meet its missions; and
- generate efficiencies and savings.

The Department greatly values the contributions made by private sector firms, particularly small businesses, to the Department's missions. The private sector is, and will continue to be, a vital source of expertise, innovation, and support to the Department's Total Force. In fact, we have seen continued growth of contracted services in our budget requests. Insourcing impacts less than 1% of currently contracted services, and the net growth in contracted services this past year was still more than \$5 billion.

At the same time, we are conscious of the impact our insourcing decisions may have on private sector firms and their employees. The DOD Office of Small Business Programs is committed to assisting small businesses and maximizing their participation in DOD acquisitions. [See page 8.]



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**QUESTIONS SUBMITTED BY MEMBERS POST HEARING**

SEPTEMBER 29, 2010

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#### QUESTIONS SUBMITTED BY MS. SANCHEZ

Ms. SANCHEZ. I understand you helped develop Secretary Gates' recently announced "Efficiencies Initiative." It is my understanding that the premise of the initiative offers specific guidelines to Pentagon acquisition folks for how to make smarter contracting decisions that don't waste taxpayer dollars. I believe the Secretary stated something to the effect that if successfully executed, the plan would save around \$100 billion over the next five years.

Mr. LEMNIOS. In August, the Under Secretary of Defense for Acquisition, Technology and Logistics announced the fact that the acquisition community would be intimately involved in supporting Secretary Gates' Efficiencies Initiative. Throughout August, culminating in a formal announcement on September 14 by Under Secretary Carter, I served on a senior integration group led by Secretary Carter. This group includes the senior acquisition leadership from OSD, the Services, and select Defense Agencies. One of my specific tasks was to represent the DOD small business enterprise and suggest options to support the Secretary's initiative.

Ms. SANCHEZ. What was your specific task in the development of the Efficiencies Initiative?

Mr. LEMNIOS. In August, the Under Secretary of Defense for Acquisition, Technology and Logistics announced the fact that the acquisition community would be intimately involved in supporting Secretary Gates' Efficiencies Initiative. Throughout August, culminating in a formal announcement on September 14 by Under Secretary Carter, I was involved in a senior integration group led by Secretary Carter. This group included the senior acquisition leadership from OSD, the Services, and select Defense Agencies. My specific task was to represent the science, technology, systems engineering and developmental test communities, and suggest options to support the Secretary's initiative.

Ms. SANCHEZ. What will your role or roles of your office be, if any, with implementing the initiative?

Mr. LEMNIOS. My responsibilities include leading how we are looking at ways to strengthen the Industrial Research and Development linkages to the DOD, ways to strengthen technology maturity assessments, and ways to strengthen test and evaluation.

Ms. SANCHEZ. What roles can/should small high-tech businesses play toward reaching the goals of this new initiative?

Mr. LEMNIOS. It is still too early to make specific comments as the initiatives are being developed. I will say that we are also looking at ways to strengthen the small business interactions with the Department and warfighter. Small business has long been the innovation engine of the Department and the nation. We recognize this and wish to continue to strengthen the relationship. We are also outlining a range of options that would allow us to use the current structure and authorities of the small business innovative research program to address time-critical warfighter needs; if successful, this will strengthen both the small business community and the Department.

Ms. SANCHEZ. What do you view as the biggest hurdles, particularly for small high-tech firms, with supporting this initiative?

Mr. LEMNIOS. It is still premature to discuss specific hurdles in depth, but over the years, the Department has recognized there are special needs for small business. These include ensuring access to information, competitive equity and getting funds contracted. In part to address this, my office initiated a pilot program, called the Open Business Cell, to specifically reach out to small business. This office serves to marry small business solution providers with program offices and requirements generators to streamline the process. Information on this program can be found at [www.defensesolutions.mil](http://www.defensesolutions.mil).

Ms. SANCHEZ. Are there or will there be metrics developed and put into place to measure the progress of this initiative?

Mr. LEMNIOS. We are still developing implementation plans and are looking at how to put metrics in place. These will be highlighted in the implementation roll-out.

Ms. SANCHEZ. Does the new initiative leverage existing cost-savings efforts or is it dependent on the development of new methodologies, procedures, program, personnel adjustments, etc?

Mr. LEMNIOS. Since we are developing implementation strategies, I can't give specifics. I can say, however, that we are looking very broadly at methodologies, procedures, program and personnel adjustments, and so forth.

Ms. SANCHEZ. How can DOD leverage capabilities of small high-tech firms to drive better outcomes for the department on major weapon system acquisition?

Mr. LEMNIOS. Achieving better outcomes on major weapon system acquisitions is a top priority for the Department. Though small business prime contracting opportunities in support of major systems programs are pursued, most of the opportunities for these programs will continue to be in subcontracting. A total of \$49.5 billion dollars in subcontracts went to small businesses in FY2009. The subcontracting goal, established by the Small Business Administration, is 31.7% for FY2011. We anticipate small, high-tech firms will continue to develop new technologies to feed major systems. The Small Business Innovation Research and Small Business Technology Transfer programs alone involved awards totaling over \$1.4 billion in FY2009. The Department's SBIR Commercialization Pilot Program exists to identify SBIR technologies that have the greatest potential for transition to production.

Ms. SANCHEZ. Can you summarize the role SBIR plays in defense acquisitions? How does the Milestone Decision Authority ensure and monitor SBIR participation in all Milestone activities? Is it through the Milestone A Review and/or other governance processes? Are there incentives to drive inclusion of SBIR solution or penalties for failure to consider SBIR solutions?

Mr. LEMNIOS. It is critical that promising technologies be identified from all sources domestic and foreign, including government laboratories and centers, academia, and the commercial sector. This includes consideration of the use of technologies developed under the Small Business Innovation Research (SBIR) program. The risk of introducing these technologies into the acquisition process must be reduced through coordination, cooperation, and mutual understanding of technology issues. DOD Acquisition Programs are required to provide maximum practicable opportunities to small business, including small disadvantaged business, women-owned small business, veteran-owned small business, service-disabled small business and Historically Underutilized Business Zones. Acquisition Program Managers document their utilization of small businesses in their Technology Development Strategy and their Acquisition Strategy. At Milestone A, the Milestone Decision Authority (MDA) reviews the proposed materiel solution and the draft Technology Development Strategy (TDS). The Technology Development Phase begins when the MDA has approved a materiel solution and the TDS, and has documented the decision in an Acquisition Decision Memorandum. SBIR technologies are pursued based on merit relative to all alternatives available to the program manager. There are no penalties for failure to use SBIR solutions. However, DOD encourages use of SBIR technologies and small businesses in order to meet subcontracting goals established by the Small Business Administration, which is 31.7% for FY2011.

Ms. SANCHEZ. Are there documented guidance or procedures that define how Program Managers should evaluate and, more importantly, plan for insertion of SBIR technologies into Major Defense Acquisition programs?

Mr. LEMNIOS. The Department of Defense Acquisition Instruction, DOD5000.01 requires that Major Defense Acquisition Programs develop acquisition strategies to facilitate small business participation throughout a program's life cycle through direct participation or, where such participation is not available, through fostering teaming with small business concerns. In addition, DOD5000.02 requires Major Defense Acquisition Programs to identify promising technologies from all sources domestic and foreign, including government laboratories and centers, academia, and the commercial sector. DOD5000.01 also requires the program manager to give small business the maximum practical opportunity to participate during the technology development phase and succeeding acquisition phases. Further guidance for inserting SBIR technologies into Defense Acquisition programs is defined in the Dec 2008 AT&L policy memorandum "SBIR program Phase III guidance."

Ms. SANCHEZ. How can SBIR participation in later-stage acquisition program activities, as occurred with the *Virginia*-class submarine, be ensured and what is the proper balance of responsibility between the prime contractor and the government program manager?

Mr. LEMNIOS. The Department of Defense Acquisition Instruction, DOD5000.01 requires that Major Defense Acquisition Programs develop acquisition strategies to facilitate small business participation throughout a program's life cycle through direct participation or, where such participation is not available, through fostering teaming with small business concerns. The Acquisition Strategy guides program

execution across the entire program life cycle, focusing primarily on the upcoming phase. The strategy evolves over the phases and continuously reflects the current status and desired end point of the phase and the overall program. An MDA-approved update to the Acquisition Strategy is required prior to Milestone C and Full Rate Production. This Acquisition Strategy developed by the government program manager translates into the provisions of their contract with the prime contractor. Integration and use of SBIR technologies on major programs can best be achieved when the program manager and prime contractor(s) proactively seek SBIR solutions. However, the program manager has overall responsibility for the outcome of the program, balancing requirements against affordability and time.

Ms. SANCHEZ. You mentioned areas where you are seeking to improve either the government acquisition process or the SBIR program. Could you provide the committee more detail on your key initiative? Does it involve adding dollars to seed the initiative? Do you need additional authorities? Will you change or cancel failing redundant initiatives?

Mr. LEMNIOS. It is still too early to provide specific details. However, at this time, I do not foresee the need for additional funds or new authorities. The Department will continue to look to the small business community in driving invention and innovation to quickly launch new capabilities that support our warfighters and protect our nation.

Ms. SANCHEZ. I understand you helped develop Secretary Gates' recently announced "Efficiencies Initiative." It is my understanding that the premise of the initiative offers specific guidelines to Pentagon acquisition folks for how to make smarter contracting decisions that don't waste taxpayer dollars. I believe the Secretary stated something to the effect that if successfully executed, the plan would save around \$100 billion over the next five years.

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Ms. OLIVER. It is still too early to make specific comments as the initiatives are being developed. I will say that we are also looking at ways to strengthen the small business interactions with the Department and warfighter. Small business has long been the innovation engine of the Department and the nation. We recognize this and wish to continue to strengthen the relationship. We are also outlining a range of options that would allow us to use the current structure and authorities of the small business innovative research program to address time-critical warfighter needs; if successful, this will strengthen both the small business community and the Department.

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Ms. OLIVER. We are still developing implementation plans and are looking at how to put metrics in place. These will be highlighted in the implementation roll-out.

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Ms. OLIVER. Since we are developing implementation strategies, I can't give specifics. I can say, however, that we are looking very broadly at methodologies, procedures, program and personnel adjustments, and so forth.

Ms. SANCHEZ. Your testimony suggests that DOD should actively seek out and support small business contractors. What are some of the special or unique capabilities that small business brings to defense acquisition?

Ms. OLIVER. Small businesses generally have lower overhead than large companies and are more cost-effective in delivering goods and services to DOD. Small businesses are more agile and flexible than large companies in meeting DOD requirements, including highly technical solutions to complex problems. Consequently, DOD encourages small businesses to participate in the Small Business Innovation Research Program (SBIR).

The SBIR program was established to help promote innovation and commercialization from small businesses through Federal research and development budgets. These programs are intended to harness the enthusiasm and innovation inherent in small, high-tech American firms to develop and commercialize critical technologies in order to meet the needs of our American and Allied Warfighters. This sector of our industrial base is a key element of our nation's military and economic strength, and it is also often found at the heart of regional economic development or cluster initiatives.

The SBIR Program sets aside a significant amount of funds for research and development for small businesses in a given year. For example, during Fiscal Year 2008 a total of 12,280 Phase I and 1,672 Phase II proposals were received and evaluated, and 1,826 Phase I and 1,072 Phase II contracts were awarded at an aggregate value of \$1.2B dollars. Competition among small firms is used for all Phase I awards, which provides funds to explore ideas that could move to the second developmental phase.

Ms. SANCHEZ. How significant a problem for small business is contract bundling at DOD and what can be done to address this?

Ms. OLIVER. The table below summarizes contract bundling in DOD acquisitions for Fiscal Years (FY) 2006 through 2009 and is indicative of the significance of contract bundling for small businesses at DOD. In 2009 for example, there were only 18 out of a total of more than 3.5M contract actions that were classified as bundling. In terms of dollars, this represents less than 1% of the total DOD small business eligible procurement dollars. The DOD Office of Small Business Programs regularly reviews contract bundling in DOD acquisitions through the standard bundling report from the Federal Procurement Data System (FPDS) that is generated on a quarterly basis. The report tracks all DOD bundled actions for the time period. Our goal is to eliminate all unjustified bundling within DOD.

Department	FY	DoD Total # Actions	Total # Bundled Actions	DoD SB-Eligible \$ *	DoD \$ Awarded to SB	Total Bundled Dollars
DEPT OF DEFENSE	2006	3,350,312	5	\$234,951,480,470	\$51,316,934,021	\$159,926,275
DEPT OF DEFENSE	2007	3,529,595	25	\$269,312,039,976	\$55,047,209,461	\$1,622,530,680
DEPT OF DEFENSE	2008	3,653,199	16	\$314,555,539,523	\$62,471,471,402	\$6,193,632,827
DEPT OF DEFENSE	2009	3,559,134	18	\$302,376,720,694	\$63,894,421,489	\$2,730,226,674

\* SB-eligible dollars are the dollars remaining after SB goaling criteria have been applied

Ms. SANCHEZ. Are primes and their supply chains specifically incentivized to identify and include small business solutions in acquisition planning, and how are SBIR solutions specifically reflected in a prime contractor's Subcontracting Plan, which has traditionally pointed generally towards "small business" but not SBIR?

Ms. OLIVER. DOD source selection regulations and policy incentivize prime contractors to identify and include small business as part of meeting contract requirements. In accordance with DOD regulations and policies, when a subcontracting plan is required, the contracting officer must evaluate the extent to which small businesses will participate in the performance of the contract. DOD policy and regulations regarding acquisition plans also require a discussion of market research and identification of small business opportunities for subsystems, components, and serv-

ices at the first tier subcontracting level. Additionally, while the Federal Acquisition Regulations regarding subcontracting plans does not require identification of SBIR technologies to be used in the performance of the contract, DOD policies require that the use of SBIR technologies be addressed in acquisition planning.

If there is work that can be subcontracted, prime contractors (unless they are small businesses) are required to have a portion of their subcontracted work to small businesses. However, there is nothing in the current policy that requires the small businesses to be Small Business Innovation Research (SBIR) Firms.

Ms. SANCHEZ. You mentioned areas where you are seeking to improve either the government acquisition process or the SBIR program, could you provide the committee more detail on key initiatives? Does it involve adding dollars to seed the initiative? Do you need additional authorities? Will you change or cancel failing redundant initiatives?

Ms. OLIVER. We are proud of our successful initiative to motivate program managers (PMs) to consider SBIR technology. As a result of our efforts, DOD Instruction 5000.02 Operation of the Defense Acquisition System has been updated to include the following statement: "PMs shall consider the use of technologies developed under the Small Business Innovation Research (SBIR) program, and give favorable consideration to successful SBIR technologies."

Another initiative to improve the program is our ongoing effort to improve and update a Defense Acquisition University (DAU) course on integrating SBIR projects through a specific training module. In addition to this effort that is intended to increase understanding of the program for DOD program managers, we host special training for DOD acquisition personnel at the Annual DOD SBIR Training Workshop. Additional training is provided to industry and the academic community at the Annual DOD SBIR Beyond Phase II Conference.

My office also leads a DOD SBIR program managers working group. The group identifies, evaluates, and shares best practices and efficiencies. The DOD SBIR Program is evaluated for best practices and efficiencies on a regular basis.

#### QUESTIONS SUBMITTED BY MR. JOHNSON

Mr. JOHNSON. Numerous studies that have been placed before Congress have demonstrated that minority- and women-owned firms continue to face numerous barriers in the marketplace that non-minority and male-owned firms do not confront. These barriers include denial of the capital that is essential to forming or expanding a business; higher interest rates for loans that minority- and women-owned businesses *are* able to obtain; exclusion from contracting opportunities by prime contractors; inflated pricing by suppliers; and inability to obtain bonding. Hearings held during this Congress and previous Congresses make clear that there is substantial evidence that these barriers are the result of discrimination against minorities and women and that they would be exacerbated in the absence of government programs to level the playing field. This is why programs like the 8(a) program are so critical: they are the government's means to assure that it will not perpetuate prior discrimination or allow the federal contracting process to be infected by market discrimination. Do you agree that these are important goals for the government to achieve?

Ms. OLIVER. Yes. The Department of Defense (DOD) believes strongly in the SBA's 8(a) program and continues to use it in our procurement activities.

Mr. JOHNSON. The Department of Defense has the largest volume of contracts of any agency of the government. Its actions therefore have significant impact on the opportunities available for minority- and women-owned firms to participate in federal contracting.

a. What percentage of contract dollars did the Department award to minority and women-owned firms in FY 2009 and (if the data is available) FY 2010? Please make clear whether the answer includes all Defense Department contract dollars, including those spent on contracts that were not let competitively. If this percentage does not include all contract dollars, please explain which contracts are included in your calculation.

b. What percentage of contract dollars awarded to minority-owned contractors were awarded through the 8(a) program in FY 2009 and (if the data is available) FY 2010? Please make clear whether the answer includes all Defense Department contract dollars, including those spent on contracts that were not let competitively and were not restricted to small businesses. If the percentage does not include all contract dollars, please explain which contracts are included in your calculation.

Ms. OLIVER. For the purposes of answering questions a and b, we have equated "small disadvantaged businesses" with minority-owned small businesses because the two terms are often used interchangeably. However, it is possible for a small dis-

advantaged business to be owned by someone who is not a minority and it is possible for a minority to own a small business but not be disadvantaged. In FY 2009, the Department of Defense obligated 7.2% (\$21.7B) of its dollars on contracts awarded to small disadvantaged businesses. It obligated 3.4% (\$10.2B) on contracts awarded to small businesses owned and controlled by women. That Fiscal year, the Department obligated on contracts \$302.4B dollars, including those spent on contracts that were not let competitively and were not restricted to small businesses.

According to the dynamic Small Business Goaling Report, in FY 2010 the Department obligated 7.2% (\$21.0B) of its dollars on contracts with small disadvantaged businesses. It obligated 3.6% (\$10.5B) on contracts awarded to small businesses owned and controlled by women. That Fiscal year, the Department obligated \$290.1B dollars. The FY 2010 figures are still preliminary, unofficial, and may change. The Small Business Administration (SBA) determines small business achievements by removing certain categories of contracts from a base of appropriated dollars. Typical examples are: contracts awarded to sheltered workshops and similar non-profit organizations, foreign military sales, utilities, and leases.

A more exhaustive list of exclusions can be found in the Appendix to the Small Business Goal Report at [www.fpds.gov/Reports/manage/html/preview\\_Small\\_Business\\_Goaling\\_Report.html](http://www.fpds.gov/Reports/manage/html/preview_Small_Business_Goaling_Report.html). Except for the adjustments made by SBA, the answers to question b include all DOD contract dollars. In FY 2009, 60.39% of DOD dollars awarded by contract to small disadvantaged businesses were awarded through the 8(a) program. Preliminary figures for FY-2010 indicate that approximately 56.5% of the dollars were awarded through the 8(a) program.

Mr. JOHNSON. What percentage of contract dollars goes to minority-owned firms through subcontracting? Please make clear whether the answer includes all Defense Department contract dollars, including those spent on contracts that were not let competitively and were not restricted to small businesses. If the percentage does not include all contract dollars, please explain which contracts are included in your calculation.

Ms. OLIVER. In FY 2009, 4.1% (\$6.0B) of the subcontracted dollars under DOD prime contracts were awarded to small disadvantaged businesses; the total dollars in FY 2009 was \$144.5B. The FY 2010 numbers have not yet been compiled. The source of the Department's subcontracting figures is the Electronic Subcontracting Reporting System. The system collects total dollars that are subcontracted as reported by prime contractors. The FY 2009 figure of \$144.5B includes subcontracts to small businesses as well as subcontracts to other-than-small entities.

Mr. JOHNSON. Is the 8(a) program an important and necessary tool for providing minority- and women-owned firms a fair opportunity to compete for federal contracts?

Ms. OLIVER. Yes. The DOD continues to use the Small Business Administration's (SBA) 8(a) program as the primary means of providing contracting opportunities to small, disadvantaged businesses. The majority of contracts awarded to small and disadvantaged businesses in 2009 and 2010 were let through the 8(a) program. The program is a critical means of helping small, disadvantaged businesses gain a foothold into the federal contracting arena, through which they can grow and become competitive firms in our economy. While the Section 8(a) program does not include a presumption of social disadvantage for businesses owned and operated by non-minority female owners, non-minority female business owners can, and do, participate in the program by demonstrating social disadvantage. The SBA has recently issued final regulations, implementing the Women-Owned Small Business Program that will provide women-owned businesses contracting benefits similar to those afforded by the SBA's 8(a) program.

Mr. JOHNSON. What else could Congress do to further explore the barriers facing minority- and women-owned businesses in federal contracting?

Ms. OLIVER. The Department of Defense would prefer to have time to evaluate the effectiveness of the implementation of the new SBA rule pertaining to women-owned small businesses before making further recommendations.

Mr. JOHNSON. Does the Department of Defense have in place the ideal set of tools authorized by Congress to address potential inequities in small business contracting?

Ms. OLIVER. No, there can always be improvement. For example, the authorization for the Department's SBIR program expired in 2008 and since then has been reauthorized in multiple small increments of time. A longer-term reauthorization of the SBIR program would ensure continuity of operations enabling the department to streamline the efficiency and effectiveness of the program.