

U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE AND TECHNOLOGY
SUBCOMMITTEE ON TECHNOLOGY AND INNOVATION

HEARING CHARTER

“SBIR and STTR – How are the Programs Managed Today?”

June 26, 2007

2:00 p.m. – 4:00 p.m.

2318 Rayburn House Office Building

1. Purpose

On Tuesday, June 26, the Subcommittee on Technology and Innovation of the Committee on Science and Technology will hold a hearing to review the Small Business Innovation Research (SBIR) and Small Business Technology Transfer Program (STTR) programs. This is the second hearing the Subcommittee has held on the SBIR program in anticipation of reauthorization. The purpose of this hearing is to examine trends in agency programs since the last reauthorization of SBIR and STTR, and agency enhancements to meet statutory program goals and support agency missions.

2. Witnesses

Mr. Michael Caccuitto is the SBIR/STTR Program Administrator in the Office of Small Business Programs, Department of Defense.

Ms. Jo Anne Goodnight is the SBIR/STTR Program Coordinator in the Office of Extramural Research, National Institutes of Health, Department of Health and Human Services.

Mr. Larry James is the SBIR and STTR Program Manager at the Department of Energy.

Mr. Doug A. Comstock is the Director of the Innovative Partnership Program Office at the National Aeronautics and Space Administration.

Dr. Kesh S. Narayanan is the Director of the Division of Industrial Innovation and Partnerships in the Directorate for Engineering, National Science Foundation.

3. Hearing Issues:

- **Program Trends.** What has changed in your agency program since reauthorization of SBIR (2000) and STTR (2001), including program enhancements to support your agency mission? What are the trends in your agency extramural R&D funding, award applications, and awards?

- **Outreach.** Describe the outreach programs your agency uses to encourage new program applicants, participation of socially and economically disadvantaged persons, and broader geographic participation?
- **Research Topics.** How are your agency research topics selected, and how does this process support your mission?
- **Applicant Pool, Eligibility, and Selection Criteria.** How has your applicant pool changed for SBIR & STTR, and what factors may be contributing to the changes? What process and criteria are used to select the best applications?
- **Program Databases.** What program databases does your agency maintain? What data is made available to the public upon completion of each Phase which would help the public identify potential products to purchase or opportunities to partner with award recipients?
- **Financing, Commercialization & Procurement.** Describe the major programs your agency uses to address financing gaps in the phased award structure, to encourage private equity participation, to provide commercialization assistance, and increase small business's share of non-SBIR/STTR federal R&D and federal procurement?

4. Background - SBIR and STTR Programs.

SBIR was established in 1982 by the Small Business Innovation Development Act [P.L. 97-219] to increase the participation of small, high technology firms in Federal research and development (R&D) activities and to develop commercializable technologies. The Act outlined four broad congressional goals:

- To stimulate technological innovation.
- To use small business to meet federal R&D needs.
- To foster and encourage participation by socially and economically disadvantaged persons in technological innovation.
- To increase the private sector commercialization of innovations derived from federal R&D investment.

SBIR has been reauthorized twice, in 1992¹ and 2000, with authorization extended through September 30, 2008.

STTR was established in 1992 by the Small Business Research and Development Enhancement Act (P.L. 102-564) and reauthorized in 1997 and in 2001, through

¹ In 1992, Congress expanded the purposes to include to “emphasize the program’s goal of increasing private sector commercialization developed through Federal research and development and to improve the Federal government’s dissemination of information concerning the small business innovation, particularly with regard to women-owned business concerns and by socially and economically disadvantaged small business concerns.”

September 2009. It funds cooperative R&D conducted jointly by small businesses and research institutions [universities, federally funded R&D centers (FFRDCs) or domestic nonprofit research organizations].

Under SBIR, departments and agencies with extramural R&D budgets of \$100 million or more are required to set aside 2.5 percent of these budgets to sponsor research at small businesses through the SBIR program. For STTR, agencies with extramural RDT&D budgets in excess of \$1 billion are required to set aside 0.3% of these budgets.

Since its inception in 1982 to 2005, over \$18.9 billion in SBIR awards have been made for more than 88,800 research projects. In fiscal year 2005, SBIR made 6,171 awards, totaling \$1.86 billion; STTR made 832 awards totaling \$220.3 million. The award levels for Phase I and II awards have not been adjusted for inflation since 1992 for SBIR and since 2001 for STTR.

Currently, eleven departments and agencies sponsor SBIR programs. The five largest programs are in the Department of Defense (DoD), Health and Human Services (HHS), Energy (DOE), and the National Aeronautics and Space Administration (NASA) and the National Science Foundation (NSF). Together these five programs accounted for 96% of SBIR program awards in FY05. DoD and HHS alone accounted for 81%, with the National Institute of Health (NIH) 98% of HHS). Other departments and agencies with SBIR programs are Commerce, Education, Housing and Urban Development, Homeland Security, Transportation, and the Environmental Protection Agency. The five largest SBIR programs, DoD, HHS/NIH, DOE, NASA and NSF, also have STTR programs.

5. Hearing Issues

Program Trends. Both DoD and NIH experienced rapid double-digit increases in their R&D budgets between FY01 and FY04. And NIH's budget doubled between FY99 – FY03. But, NIH SBIR funding levels have only increased .3% and 1.4% in FY05 and FY06, while growth at DoD slowed to 5.6% in FY05 and FY06. The smaller DOE, NSF, and NIST SBIR programs may experience significant increases in the future due to the growth in physical sciences R&D under competitiveness legislation [H.R. 2272 and S. 761] pending in the 110th Congress.

Outreach. Agencies are mandated to implement outreach programs to encourage the participation of new applicants and the participation of women and socially and economically disadvantaged persons. Agency outreach activities include conferences and one-on-one meetings, but may be limited by the availability of funds to cover travel.

In addition, SBIR/STTR legislation encourages agencies to do a better job of partnering with states via the creation of the Federal and State Technology Partnership (FAST) program and Rural Outreach Program (ROP). FAST is a competitive grants program that allows each state to receive funding in the form of a grant to provide services to promote participation in the SBIR program. ROP provides federal assistance to support statewide outreach to small high-tech business located in 25 states that are underrepresented in

SBIR/STTR awards. However, support for FAST and ROP has not been included in the Administration budgets since FY05. In FY04 and FY03 the Administration requested \$3 million for FAST; \$500,000 for ROP. But only \$2 million was appropriated for FAST in FY04 and \$250,000 for ROP in the same year. Both programs were unfunded in FY03.

Research Topics. Agencies employ a variety of approaches for identifying research topics in support of their mission. Within DoD and NASA, topics may be identified by the acquisition needs of the agencies in order to increase the likelihood technology will be incorporated in agency programs. For the Navy, over 80% of topics are recommended by acquisition personnel. Some agencies include a mix of defined topics aligned with their mission as well as opportunities for the applicant to define their own topic consistent with the broad mission of the agency.

Applicant Pool, Eligibility, and Agency Selection Criteria. An agency's applicant pool may include entirely new applicants to the SBIR program, and multiple award winners – with or without a record of commercialization success. Agencies can adjust award selection criteria to address their priorities including attracting new applicants to the program in Phase I, and focusing on applicants with the best commercialization potential by evaluating an applicant's past commercialization record in Phase II award decisions.

Some agencies have experienced a decline in the number of applicants. This may be due to a number of reasons including award size (which has not been adjusted for SBIR since 1992), and the cost to prepare a Phase I application relative to the size of the awards.

Program Databases & Public Access. The SBIR Reauthorization in 2000 (P.L. 97-219) mandated the Small Business Administration (SBA) establish a database of SBIR activity to help track and assess the performance of the SBIR program. The STTR reauthorization in 2001 (P.L. 102-564) mandated conforming information for that program as well. The SBA Tech-Net database compiles this information for both programs.²

However, this database, as well as agency databases, is largely designed for program management and evaluation. The information that is accessible to the public from the databases is of limited value in facilitating commercialization. Project reports are confidential and company data rights from the project are protected. This is a significant barrier to “matchmaking” between award recipients and potential business partners who want buy, invest, or partner on R&D.

This problem is addressed to a certain extent by agency matchmaker programs which showcase company SBIR projects to potential partners. In these programs, companies prepare information specifically tailored to the needs of potential partners. An example is

² See GAO Report, *Small Business Innovation Research: Agencies Need to Strengthen Efforts to Improve the Completeness, Consistency, and Accuracy of Awards Data*, October 2006, GAO-07-38.

the Navy Opportunity Forum where each company prepares a standard package of information³

Financing, Commercialization & Procurement. Federal agencies have implemented innovative programs to help SBIR and STTR firms address the financing gap between Phase I and II awards, to provide incentives to attract third party funds in Phase II and III, to match/showcase SBIR/STTR technologies with private companies and government agencies, and to encourage incorporation of SBIR/STTR developed technologies into agency procurement programs. Here are programs DoD, NIH and NSF have implemented to address these needs:

Financing Gaps Between Phases I and II.

- **DoD. Fast-Track Program** – offer of gap funding to qualified proposals that attract external matching funds.
- **NIH. Fast-Track Option** - simultaneous review of Phase I & II applications to eliminate a funding gap between Phase I and II for projects with high commercialization potential.
- **NSF. Phase IB** – supplements active SBIR/STTR Phase I awards which attract outside funding (maximum supplement of \$50,000 if \$100,000 of outside funding).

Financing/Commercialization Gaps in Phase II and III.

- **DoD. Phase II Enhancement** - attracts matching cash from outside investors; **Commercialization Pilot Program (CPP)** – to accelerate the transition of SBIR technologies, products and services to Phase III, including DoD acquisition; **Navy Opportunity Forum** – helps match award recipients with potential business partners.
- **NIH. Competing Renewal Awards** - permits competing renewal to address FDA regulatory requirements; **Commercialization Assistance Program (CAP)** - to advance the most promising Phase II life science projects to the marketplace; **Pilot Manufacturing Assistance Program** - partner with NIST Manufacturing Extension Program (MEP) program to address manufacturing issues when commercializing products; and **Technology Niche Assessment Program** - help identify other niche applications for products.
- **NSF. Phase IIB** - helps bridge the gap between Phases II and III by matching up to 50% of additional funds from third parties; **Phase IIA** and **IICC** - opportunities to team with minority institutions or minority serving community college research team; **Phase IIR** – SBIR/STTR collaboration with NSF university based

³ May 2007 Navy Opportunity Forum, **Virtual Acquisition Showcase**, posts four items for each company: Abstract, Narrative Briefing, Capabilities Brochure, and Quad Chart [need/customer requirement; agency sponsorship, technology development milestones, and technology transition opportunities]
<http://www.virtualacquisitionshowcase.com/browse.php>

Engineering Research Centers (ERC)⁴; and the **Matchmaker Program** - refers Phase II participants to interested, accredited investors and strategic partners for financing and potential commercialization assistance.

⁴ NSF Engineering Research Centers Website www.erc-assoc.org/centers.htm and www.erc-assoc.org/factsheets