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Before

THE HOUSE SMALL BUSINESS COMMITTEE

On

Reform of the Small Business Innovation Research Program

**Washington, D.C.
22 April 2009**

Madame Chairwoman Velazquez, Mr. Graves and Members of the Committee, it is with great pleasure that I appear before you today to offer Lynntech's views on the need to reform the Small Business Innovation Research Program (SBIR). Lynntech, headquartered in College Station, Texas, is the largest SBIR contractor in the State and one of the largest in the country. It is fair to say that we have found the program to be beneficial for our company.

Lynntech was founded in 1989 by two former faculty members of Texas A&M University. Lynntech's primary objective is to intensify its efforts to transition the many technologies the company has developed into the marketplace. These technologies are concentrated in the areas of electrochemical synthesis, energy storage and conversion, chemical/biological defense systems, and environmental remediation. Two-thirds of Lynntech's contracts are with the Department of Defense.

As a result, Lynntech's interest in the debate regarding the SBIR Reform legislation is quite high as our efforts to transition technologies will be driven by the framework of future reforms.

In sum, Lynntech believes that the debate regarding last year's bill, H.R. 5819, has focused on the wrong set of issues. Ownership of SBIR companies by venture capital firms should not be guiding our discussion regarding reform of the program. In fact, venture capital firms and other private capital resources should be available to SBIR firms to grow their technology development efforts. The only ground rule should be that large corporations should not directly benefit from a small business program. The issue that the debate should be focused on, in Lynntech's opinion, is that of technology transition.

Lynntech has found that significant applied research and engineering remains to be performed in its technologies before those technologies result in demonstrable prototypes suitable for testing and pre-manufacturing design. Many agencies, such as the National Science Foundation, believe that once technologies reach the end of Phase II, that those technologies are capable of being launched into the marketplace. The typical result of a Phase II project is a very preliminary prototype that where internal components are shown to be capable of producing the desired result, but in no way are these prototypes capable of being transitioned to the marketplace without significant system design and development (engineering).

Due to the early stage technology level of most Phase II projects, it is unlikely that private capital resources will be motivated to support further development and bridge the market entry costs, due to the fact that too many unknowns exist in the technology. Without a clearly defined path to technology transition, SBIR programs will not achieve the ultimate objective of taking new and innovative technologies to market.

Part of the problem is that Government is not well-organized to assist in the transition effort. There is no definable path available to technologists to move their product forward. For example, Lynntech's success in moving some of their defense technologies into the hands of the warfighters has been the result of ad hoc efforts by the company to reach out to acquisition managers. We have developed a technology for producing hydrogen peroxide in the field that can be used in conjunction with a system that cleans interior spaces and sensitive equipment that have been exposed to biological agents. This system, which requires electricity, air, and water, could be deployed in forward areas and would not require the logistics support in transporting and storage of hydrogen peroxide liquid in glass bottles, which is hazardous in handling. We have a customer in the Defense Department who wants the device. However, due to the long lead time in DOD's planning and budgetary process, our customer is scrambling to find the resources needed to fund continued development because we have fallen into the cracks of the budgeting process.

Therefore, the following represents a path forward. The proposed solution has been discussed with the National Venture Capital Association and has been shared with the Biotech community. It represents Lynntech's attempt to bridge the gaps in the debate and develop a program that makes sense for all players.

SBIR Reform Recommendations

With the SBA's SBIR program expiring in July 2009, the new Congress and Administration have the opportunity to make improvements to the program that will vastly improve the introduction of emerging technologies to the market by small businesses. Since the inception of the SBIR program in the early 1980's there has not been any significant changes in administrative procedures to the program to help keep pace with technological innovation. This includes the methods to finance that innovation which have changed enormously over the last several years. It has also led to situations where technology development has not been optimized.

Allow SBIR dollars to cover administrative and contract processing costs.

Allow the SBIR program offices in each of the Federal agencies to withdraw up to 3% of SBIR funding to cover administrative and contract processing costs. Currently, agencies have to absorb the cost of management and many in Government are not enthusiastic about providing "free services" to the SBIR program. If the perception of the provision of "free services" could be changed, then agencies would support a more aggressive pursuit of the broad capabilities and talents of the SBIR community. In lieu of withdrawing a piece of the allocation, a direct appropriation in the 11 agencies would be required.

Ensure that maximum effort to "commercialize" technologies is adopted within agencies.

A common agency complaint is that many SBIR technologies are never utilized because once the contract tasks are completed then the benefits of the research, even in failed projects, never result in a “lessons learned” exercise or in an attempt to link the research to downstream procurement activities. In a recent mark-up of the Department of Homeland Security appropriation bill, Congressional leaders complained that there was no “business plan” developed within the Agency to link innovative research to a downstream need. This complaint is probably widespread, but it specifically exists in the Department of Defense, where Program Executive Offices are unaware that there are technologies developed in the SBIR program that could improve or enhance future combat system development. Thus, the Defense Department should examine the inclusion of acquisition executives in the development of the SBIR topics by the Government labs to ensure that SBIR topics are truly addressing future warfighter needs and the result of SBIR research should be broadly disseminated within the acquisition community. Programs that utilize SBIR research should be rewarded.

SBIR dollars should stay focused on applied research.

The Government should keep the focus of SBIR on applied research. Basic Research is the purview of the nation’s Universities. The combination of basic University-centered research and the applied R&D within the SBIR community contributes to the overall achievement of the science and technology professions in the United States. R&D funding should be expanded to help maintain and strengthen the U.S. lead in the science and technology arena. It takes all elements of the science and technology community, Universities, Government labs, and the SBIR firms to ensure this leadership. However, whether it is measured in patents issued or in fielded technology, the SBIR community has established a leadership position within the applied research environment. Universities should conduct basic research, while SBIR granted companies should continue their focus on applied R&D governed by a commercial business plan to bring projects to market.

The allocation of dollars to the SBIR program and the average size of a Phase I and II contract award should be increased to keep pace with inflation.

The SBIR program is funded through an allocation of funding from the Federal Agencies extramural R&D budgets. The allocation was last increased in 1998. Given the need for the US economy to continue to rely on the small business community for economic development, it is vital that another allocation increase should be considered. It is proposed that the allocation be increased by .25% per year over the next six years to reach a level of 3.75% by FY 2016. An allocation increase is budget neutral since it does not increase the overall funding level for extramural Federal R&D, but only directs the Agencies to devote the allocation percentage to the SBIR program. If there is an allocation increase then the average size of a contract award should be increased. Currently, Phase I contracts are typically \$100,000 in size while Phase II are \$750,000. These award sizes have not been adjusted since 1992, which means that the real dollar size of the contracts have

been diminished with more than 15 years of inflationary impact. Contract awards should be increased to \$250,000 in Phase I and to \$2 million in Phase II. Extraordinary authority to award in excess of these levels should be vested in the Senior Acquisition Executive of each Department with specific reporting to the Congress on a semi-annual basis of these “outside the norm” awards.

Do not allow companies to evade Phase I efforts.

The Phase I SBIR contract is a real opportunity to test concepts and it should be accepted that failure will be endemic. Phase I failures will lead to greater knowledge. Once proof of concept has been accepted then make the Phase II more meaningful by requiring expansion of technology application. However, if SBIR firms have privately supported Phase I-like research, they should be allowed to submit a Phase I level report to the acquiring agency and to have that report considered for invitation to a Phase II competition.

The SBIR program should encourage the participation of venture capital (VC) firms rather than limit their participation.

In keeping with the intent of the Small Business element of the SBIR program, venture capital firms that participate in the program should follow clearly defined rules that maintain the small business qualifications of their participation and should not be penalized by the mere presence of multiple firms in their portfolio. In fact, the SBA should not be permitted to “look through” an SBIR grantee company to determine eligibility in regard to size. The clear intent should be that SBIR companies should not simply be “fronts” for large firms or “non profit” research institutions trying to access Federal funds to simply reduce their risk exposure.

Venture capital firms have the practical experience in discovering and financing emerging technology companies in both the commercial or government markets and have the best chance for success. They help move the project from the Phase II applied research and development stage, to the development, testing, and evaluation stages that will deliver a manufacturing prototype. While, the SBIR program initiates applied research, VC firms and Government agencies working together with the SBIR firms can become more successful in moving projects to commercialization.

The government should also recognize that not all SBIR opportunities lend themselves to situations where very large markets will develop; however, there may be a public interest in supporting applied research and engineering in a market where the dominant interest is in the achievement of a public good. For example, there is little likelihood that many of the Defense Department’s developments in the Chemical Biological Warfare arena would be attractive in commercial market terms (i.e., large numbers of units produced and sold), but there is clearly extensive societal value in these projects. Therefore, SBIR projects that have been identified by Program Executive Offices as having an important impact on the mission would be

supported. This does not mean that a VC controlled firm could not be a participant but that the paramount concern of the Agency takes precedence over the achievement of a large market presence. In other words, there will be SBIR topics and programs that will always stress the public good as opposed to the economic good.

Furthermore, the issue of a VC presence in the SBIR program needs to be guided by an understanding that holding an equity stake in a company's ownership does not equate to control over day-to-day management operations.

If the above issues are incorporated into the legislation that is currently on Capitol Hill, it should help to trigger a revitalization of the SBIR program and continue to improve an already stellar level of performance.

On behalf of Lynntech, Inc., I want to thank the Committee for the opportunity to appear here today and stand ready to answer any questions that you may have.