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Before the

Senate Committee on Commerce, Science and Transportation

Mr. Chairman and Members of the Committee, I appreciate this opportunity to discuss my office's work related to the Small Business Innovation Research (SBIR) program at the National Science Foundation.

Background

The Small Business Innovation Development Act of 1982 created the Small Business Innovation Research (SBIR) program to stimulate technological innovation; use small businesses to meet federal research and development needs; foster and encourage participation by minority and disadvantaged persons in technological innovation; and increase private sector commercialization innovations derived from federal research and development. Under the SBIR program, the National Science Foundation (NSF) and ten other federal agencies currently allocate 2.5% of their extramural R&D budgets for awards to small businesses.

Each SBIR agency uses the program to address the unique needs of its mission. At NSF, the primary objective of the SBIR program is to increase the incentive and opportunity for small firms to undertake cutting-edge, high-risk, high-quality scientific, engineering, or education research that would have a high potential economic payoff if the research is successful. The SBIR program is part of NSF's Engineering Directorate, and the ultimate goal of each project is a commercially viable product, process, device, or system. The program is funded by the government in two phases, followed by a privately-funded third phase. Phase I is a 6-month grant to assess an idea's feasibility, currently supported by NSF up to \$150,000. If the Phase I project is successful, the company can apply for a Phase II award, which runs for up to 2 years and is funded up to \$750,000.

Since 1990, NSF has awarded more than 6,600 Phase I and Phase II SBIR awards totaling more than \$1.1 billion. The vast majority of the companies receiving SBIR awards spend their SBIR funds properly to carry out the research they proposed to do, and they report accurately to the agency about the results they obtained under the SBIR award. However, since my office's inception, we have conducted a number of investigations of companies that have allegedly committed fraud involving their SBIR awards.

Specifically, since 1989 we have opened 64 cases involving SBIR companies. Of those 64 cases, 16 have resulted in significant criminal, civil, or administrative action to date, and 5 are currently under investigation. While these numbers are not large, it is likely that they do not reflect the full

extent of fraud in the program due to under-reporting and other issues which I will discuss later in my statement.

It is important to note that NSF's SBIR program staff has strongly supported my office's efforts to prevent, detect, and prosecute fraud in the SBIR program. SBIR program officers regularly inform my office when they receive allegations of wrongdoing or become aware of information that indicates a possible problem within the program, and those valuable leads have been the source of many of our successful investigations.

As requested by the Committee, the following summarizes the types of fraudulent activity our office has found in NSF's SBIR program. I will also discuss processes that my office has developed and NSF has implemented that have enabled us to prevent and, if necessary, prosecute fraud in the SBIR program. Finally, I will conclude by noting some problems my office has encountered in investigating this type of fraud.

Types of Fraudulent Activity in the National Science Foundation's SBIR Program

The primary type of fraudulent activity we encounter in the SBIR program involves duplicative funding, which results in false statements, false claims, and criminal misuse of grant funds. We have also investigated cases in which research misconduct has resulted in fraud against the SBIR program. I will briefly describe our work in these areas.

Duplicative Funding

Duplicative funding, in which companies obtain payments from multiple SBIR agencies for the same work, is the most frequent violation we have found in NSF's SBIR program. This problem arises because, in order to maximize their opportunities for receiving SBIR funding for their proposals, companies may submit the same proposal to more than one of the eleven federal agencies that have SBIR programs. At NSF, these multiple submissions must be disclosed, and it is a violation of program policy for companies to accept funding from multiple agencies for the same work. NSF's proposal preparation guidance makes it clear to potential recipients that receiving duplicate SBIR funding for the same or overlapping research is prohibited, and the NSF program announcement clearly states that:

NSF will not make awards that duplicate research funded or expected to be funded by other agencies If a proposer fails to disclose equivalent or overlapping proposals . . . , the proposer could be liable for administrative, civil or criminal sanctions.

Since its inception, my office has investigated approximately 34 cases of alleged duplicative funding. We have substantiated the charge in 10 cases. Examples of our work in this area include a case in which, in addition to receiving duplicate funding from NSF's and other agencies' SBIR programs, the recipient used the SBIR funds to pay for renovations to his home and to overpay vendors so he could pocket the reimbursements. Ultimately, he paid \$1.4 million in restitution, civil damages, taxes, and penalties, and pled guilty to mail fraud and tax evasion to resolve these charges.

A second such case involved two companies with the same owner that received duplicate SBIR awards from several agencies for the same work. The companies paid \$3.45 million in restitution and civil damages, and open SBIR awards to the companies totaling \$909,000 were terminated.

Finally, we also investigated a case in which the company received funding from NSF and other federal agencies for duplicate research. The defendants were accused of knowingly and repeatedly applying for and receiving SBIR grants from agencies for research that had already been completed under grants awarded to other agencies. They were also accused of charging the government for the cost of engineering work that was not performed. As a result of our investigation, \$530,000 of the company's and the owner's bank accounts and assets, which had been frozen during the investigation, were paid to the federal government, and \$1.4 million in open SBIR awards were terminated.

Research Misconduct

We have also encountered situations where research misconduct under some of NSF's SBIR awards resulted in the program being defrauded. Research misconduct occurs when data or results are fabricated, falsified, or plagiarized. We have found some instances where companies fabricated, falsified, or plagiarized their Phase I final reports in order to obtain Phase II funding. Such misconduct in research amounts to fraud against the SBIR program because in order to obtain Phase II funding, the company's Phase I project must be successful.

In one such case we investigated, a university professor obtained an NSF Phase I award for a proposal he submitted in his wife's name on behalf of a non-existent company she allegedly owned. The professor converted all of the Phase I funds to his personal use, and then plagiarized the final Phase I report from a former student's thesis. On the basis of that report, the non-existent company received a Phase II award. As a result of our investigation, the professor pled guilty to making false statements, and he and his wife paid \$214,000 in restitution and fines.

Best Practices

As a result of our investigations involving SBIR program fraud, my office has identified two best practices that are valuable tools in preventing and prosecuting such fraud. A summary of these practices—required disclosures and certifications and mandatory attendance at awardee briefings—follows.

Required Disclosures and Certifications

In 1994, as a result of problems we had noted in our investigations involving SBIR recipients, our office made several recommendations intended to improve administration of NSF's SBIR program. The majority of those recommendations focused on strengthening existing disclosures and certifications, and on adding such disclosures and associated certifications in areas that had previously had no such coverage. NSF accepted all of these recommendations, and the resulting disclosures and certifications have helped the agency deter fraud at the outset, by making clear what the agency's expectations are. They have also helped us prosecute cases of fraud, as they make it clear to recipients that the provision of false information is a criminal offense.

Pursuant to our recommendations, NSF requires proposers seeking SBIR funding to disclose if the proposal has been submitted to another agency and to state that: (1) the company is a small business; (2) the company will perform at least two-thirds of the work under Phase I or at least half under Phase II; and (3) the Principal Investigator will be primarily employed by the company during the term of the award. The authorized organizational representative is then required to sign the following certification (referred to as a "1001 certification"):

I understand that the willful provision of false information or concealing a material fact in this report or any other communication submitted to NSF is a criminal offense (U.S. Code, Title 18, Section 1001).

When an SBIR proposal is awarded, before the company can receive its first payment, NSF requires SBIR recipients to disclose whether:

- (1) the principal investigator and the small business firm have accepted funding for the same or overlapping work except as stated in the underlying proposal,
- (2) all proposals describing the same or overlapping work have been withdrawn from other agencies,
- (3) the primary employment of the principal investigator is with the firm at the time of the award and will continue during the conduct of the research, and
- (4) the grantee is a small business.

After making these disclosures, the authorized company officer is required to sign a 1001 certification.

Finally, SBIR awardees are required to submit reports to NSF about their projects' accomplishments to receive interim and final payments. Phase I awardees submit a final report when the project is over, and Phase II awardees submit interim reports every 6 months and a final report at the end. NSF requires SBIR recipients submitting such reports to disclose whether: (1) the Principal Investigator is primarily employed by the company; (2) the work under the project has not been submitted for funding to another federal agency and has not been funded under any other federal award; (3) the work for which payment is requested was performed in accordance with the award terms and conditions; (4) the statements in the report (excluding scientific hypotheses and scientific opinions) are true and complete; and (5) the text and graphics in the report are the original work of the company—followed by a 1001 certification.

In all instances, the disclosures and certifications relate to requirements of NSF's SBIR program. If the company fails to make these disclosures or provide the required certifications, it will not receive an award or be paid. If the certifications are false, the company and its officers can more readily be prosecuted for providing material false information to the federal government because, as previously noted, the company has attested that it is aware that providing such false information is a violation of federal law.

Mandatory Attendance at Awardee Briefings

NSF requires all companies that receive Phase I awards to attend an SBIR Phase I workshop, which includes presentations on a variety of topics to help awardees comply with NSF requirements and successfully commercialize the results of their research. All Phase I award recipients must attend these workshops, and NSF retains attendance records.

More than a decade ago, the NSF SBIR program invited my office to join in the workshop and give a presentation on the work we do. The briefing presented by my staff makes it clear to awardees that violations of SBIR program requirements constitute wrongdoing, and outlines the specific criminal, civil, and administrative consequences of such wrongdoing. Further, we describe specific cases involving SBIR recipients we have investigated and that have been prosecuted. U.S. Attorneys who have prosecuted cases of fraud against SBIR have cited these briefings as an asset in prosecutive decisions. These briefings and the documentation of awardees' attendance at them help ensure that no SBIR awardee can claim ignorance of NSF's SBIR requirements and/or the consequences of violating these requirements.

Programmatic & Investigative Challenges

In addition to identifying best practices to deter and prevent SBIR program violations, my office has also identified two challenges to investigating such violations. Following is a summary of these challenges—deficiencies in databases of SBIR awards and lack of strong certifications by some federal agencies.

Deficiencies in Databases

NSF maintains comprehensive internal databases on its SBIR program from which NSF program officers and my office can easily obtain complete information about all SBIR proposals submitted to and awards issued by NSF. However, while we have full access to NSF SBIR proposal and award information, there is currently no convenient means for obtaining detailed information about SBIR proposals submitted to and awards received by companies from the other SBIR agencies. This lack of access presents a programmatic and investigative challenge to determining whether more than one federal agency has paid for the same research.

Currently, two internet databases list SBIR awards to companies—USAspending.gov and SBA TECH-net. However, neither of these databases is complete, and neither provides sufficient detail to enable NSF's SBIR program to determine whether another agency's program had already paid for the same project. These limitations also make it more difficult for us, and other OIGs, to investigate SBIR cases, because of the significant effort required to obtain SBIR proposals and reports from other agencies. Ensuring that all SBIR agencies and their OIGs have

electronic access to other agencies' SBIR proposals and awards would facilitate efforts to prevent, detect, and prosecute fraud.

Insufficient Disclosures and Certifications

As previously noted, NSF requires SBIR proposers and awardees to certify to the accuracy of required disclosures and clearly informs those entities that providing false information via those disclosures is a crime. Not all SBIR funding agencies require the number and frequency of disclosures and certifications that NSF does, and their absence can impair the government's ability to prosecute fraud in those programs. In one case our office investigated, the final report submitted to NSF contained fifteen tables and figures, twelve of which had been submitted as accomplishments in twenty previous reports to seven other SBIR agencies. However, since none of the other agencies required certifications about overlapping or duplicative work, defense counsel was able to argue persuasively that only the NSF funding should be repaid.

Conclusion

The SBIR program at NSF is a valuable tool for providing funds to small, high-tech businesses conducting innovative research to advance NSF's mission and to possibly lead to commercialization of new technologies. NSF has supported our office's efforts to prevent and detect fraud in its SBIR program, and in conjunction with our office has instituted processes that enhance both its ability to prevent fraud and our office's ability to prosecute fraud when it occurs. My office will continue to work in partnership with NSF to prevent unscrupulous companies from fraudulently obtaining SBIR funds and to investigate allegations of duplicative funding, research misconduct, and other fraud against this important program. Additionally, we will continue to recommend practices to strengthen the integrity of the SBIR program.

This concludes my statement. I would be pleased to answer any questions you or other members may have.