

TUTORIAL #20

Developing the Project Narrative – Part 1

The most important element of your response to a Department of Energy (DOE) Funding Opportunity Announcement (FOA) is the project narrative. Before beginning to work on this part of the application package, be sure that you are working from the most recent FOA, keeping in mind that DOE may update the FOA after its initial release. Therefore, always go back to the DOE website and download the most recent PDF. If you haven't bookmarked the page on which this resides, then just type in "DOE SBIR FOA" in your browser and it will take you to the right location.

If you have submitted a DOE SBIR or STTR proposal in the past, don't make the mistake of assuming that the structure of the project narrative will always be the same – as requirements are enhanced over time. To be safe, always go back to the FOA to reaffirm the structure, as the FOA is the guiding document that trumps everything else. In preparing the FOA, DOE works hard to maintain consistency with the section headings. The part that will be important to you is Part IV- Application and Submission Information, Part C – Content

and Application Forms [Phase I Only]. Now that the importance of the FOA has been established, let's explore the general sections of a responsive project narrative. The sections are listed below:

- » Cover Page
- » Proprietary Data Legend
- » Identification and Significance of the Problem or Opportunity, and Technical Approach
- » Anticipated Public Benefits
- » Technical Objectives
- » Work Plan
- » Performance Schedule
- » Facilities/Equipment
- » Research Institution
- » Other Consultants and Subcontractors
- » Bibliography and References Cited

IDENTIFICATION AND SIGNIFICANCE OF THE PROBLEM OR OPPORTUNITY AND TECHNICAL APPROACH

Please note that the following discussion is strictly from a proposer's perspective and outlines an approach for developing a responsive project narra-



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tive. Proposal writing can be an exciting undertaking if you allow yourself time to be creative and to contemplate different approaches to solving DOE's challenges. One may want to start with the item in the preceding list called the Identification and Significance of the Problem or Opportunity, and Technical Approach. In this tutorial, only this section is

addressed. Start with the assumption that the list of DOE topics represents areas of keen interest to DOE. Your priority at this point is therefore to assure that you learn as much as possible about that topic and why it is important to DOE. Let's examine how you could expand your understanding of a topic and subtopic.


Maximum Phase I Award Amount: \$150,000	Maximum Phase II Award Amount: \$1,000,000
Accepting SBIR Phase I Applications: YES	Accepting SBIR Fast-Track Applications: NO
Accepting STTR Phase I Applications: YES	Accepting STTR Fast-Track Applications: NO

DOE's [Building Technologies Office \(BTO\)](#) advances building energy performance through the development and promotion of efficient, affordable, and high impact technologies, systems, and practices. BTO's long-term goal is to reduce buildings' energy use by 50%, compared to a 2010 baseline. To secure these savings, research, development, demonstration, and deployment of next-generation building technologies in both the commercial and residential buildings sector are needed to advance building systems and components that are cost-competitive in the market. Energy efficient lighting has enormous potential to conserve energy and enhance the quality of our commercial, industrial and residential building inventory. Electric lighting now consumes ~1/10th of the primary energy delivered annually in the U.S., representing ~22% of the electricity produced. Energy storage and distributed generation technologies are used increasingly for base or peak load generation. BTO is dedicated to promoting the widespread and effective use of these technologies to meet its long term goal.

Grant applications are sought in the following subtopics:

a. Energy Efficient Solid-State Lighting Luminaires, Products, and Systems

The DOE has estimated that advancing energy efficient electric lighting in U.S. buildings could conserve more than 50% of lighting energy with corresponding savings in electricity costs to building operators. These technologies also could reduce costs with reductions in power generation load – especially during peak consumption. Although the DOE and the general illumination industry in North America have already realized substantial energy conservation in this end use, even more energy conservation is possible using advanced luminaire designs, constituent products and systems that take full advantage of the unique performance capabilities of Solid-State Lighting (SSL). This subtopic aims specifically at identifying and stimulating the commercial introduction of advanced and energy efficient SSL luminaires, SSL components and SSL systems in the three broadly defined categories below. All applications to this subtopic must:



Preparing and writing the Technical Approach section often takes the most time.

Let's use a specific topic from a previous FOA as an example – Topic 13a. In looking at the topic description, one may notice that DOE has provided a hyperlink to the Building Technologies Office (BTO) and navigate to that page.

Be sure to explore the various sections of the BTO website and look for documents and projects that relate to some of the metrics identified in the topic description. After having explored this site and bookmarked areas of interest, begin to search for key phrases taken from the topic description such as “BTO’s long-term goal is to reduce building’s energy use by 50%”. As it turns out, this is a direct quote from the BTO website. Another strategy is to search for the topic author’s name in combination with a key word such as “SSL” or “luminaires” taken from the subtopic. More often than not, this will yield one or more PowerPoint presentations given by the author. Finally, search for the technology name – in this case, SSL – in combination with the phrase “technology roadmap” and BTO. This strategy also yielded a meaningful document – the “Solid State Lighting R&D Manufacturing Roadmap”. By using this approach within less

than an hour, one can find a wealth of information regarding the interests of DOE. Let's explore how you would then use this information.

IDENTIFYING THE PROBLEM

In a review of successful DOE proposals, the section entitled “Identification and Significance of the Problem or Opportunity, and Technical Approach” averaged three pages in length. The first part of this

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section commonly presents the case for the problem or opportunity; while the balance is used to highlight the technical approach of the applicant. In drafting that first section, reference the topic and utilize what you have learned from your DOE related search to frame the problem and to demonstrate that you understand your immediate customer's need – that is DOE's needs. That said, the discussion of the problem or opportunity

can extend beyond what DOE has stated to issues discussed in the literature at large. It may be helpful to insert a subsection in the outline called “The Technical Problem Addressed”. Once this section has been written, then move on and begin the discussion of your technical approach.

DESCRIBING THE TECHNICAL APPROACH

The subsection entitled technical approach not only describes the approach that will be taken to address the identified problem/opportunity, but must also clarify what will be gained from funding your approach as opposed to an alternative. In other words, it is important to clearly identify the benefit that will accrue to DOE as a result of funding what you propose. This is accomplished by clarifying how your method will advance or address the identified topic. It is inappropriate to have this section be nothing more than a list of features of what you have already accomplished. Remember that both SBIR and STTR awards are made to small businesses to conduct innovative research. Certainly the research can build upon what you may have already accomplished – but the focus should be to address the DOE topic of interest while also addressing areas of interest to you. Keep in mind that you will discuss the objectives and specific tasks to be undertaken in subsequent sections. Therefore, the discussion of the technical approach should provide a general overview of the methods you will use, the expected outcomes, and the benefit to your immediate R&D customer – DOE.

You may find it easiest to separate the technical discussion into the following subsections:

- » Current methods used to address problem
- » [Company name]’s Technical Approach

Preparing and writing this section often takes the most time – as it is the cornerstone for everything else that follows.

DEFINING THE ANTICIPATED PUBLIC BENEFIT

Once the preliminary research on the topic has been accomplished – it is fairly easy to begin writing the next section entitled Anticipated Public Benefit. DOE frequently states the public benefit of the research that it undertakes – so if you have done your background research well, this section will be fairly easy to begin. However, the FOA also asks that you identify specific groups in both the commercial and Federal government that will benefit from your work; that you identify the product or process that will result; and, that you talk about the significance of the market. To assure that you address these points, sometimes companies add subheadings to make it easier for reviewers to see that they have identified all of these points.

You have done a good job today having completed about a quarter of the project narrative. Set your work aside for the day and work on something else. Let your ideas percolate overnight and then begin work on drafting the next sections when you resume. At this point, you will have accomplished a draft of a key section of the project narrative. If you have not taken the opportunity to speak with the topic manager yet, please review Tutorial 5 on how to speak with a topic manager and make sure that you call him or her to assure that you thoroughly understand DOE’s need. The other sections of the project narrative are discussed in detail in Tutorials 19, 22, 24, and 26.