



# TUTORIAL 16

## How to Prepare the Objectives and the Work Plan

In this Tutorial we will discuss the relationship between two very important sections of the Project Narrative – that is, the Technical Objectives and the Work Plan. In the sections leading up to the Technical Objectives you have already identified the research problem, as well as the anticipated public benefits that will result from solving it. The Technical Objectives take that problem statement a step further and breaks it into smaller parts that can be addressed by your research. Many Phase 0 applicants struggle with formulating the Technical Objectives often assuming that the problem statement is sufficient. However, to conduct research, you must break the broad problem statement into smaller tasks that can be addressed using the scientific method.

### FORMULATING TECHNICAL OBJECTIVES

Each Technical Objective should be measurable and time bound. When formulating Phase I Technical Objectives, it is important to keep two things in mind – your budget and the fact that some tasks are best addressed during Phase II. In Phase I, you are expected to prove that your innovation can provide a viable solution to the problem of interest to the Department of Energy. This process is referred to as “**proving the feasibility**” of your unproven innovation. Given budget constraints, applicants typically tackle no more three or four objectives during Phase I. For those applicants who would like more guidance on how to formulate objectives, please see the references in the Links section of this Tutorial. **Only when your technical objectives are clear, can you begin to develop the Work Plan.**



Although it is important to highlight the capabilities of team members in your work plan, keep in mind that Biographical Sketches go in another section of the Application Package.



### WHAT GOES INTO THE WORK PLAN?

In the Funding Opportunity Announcement (FOA), DOE defines what it expects to see in your work plan and offers the following guidance in the Phase I FOA:

- » The work plan should be a substantial portion of the overall Project Narrative
- » It should specify what will be done, by whom, where, and how
- » It should link all tasks to the objectives of the Phase I project
- » It should explain how the project will be managed, which is especially important if the small company applicant is teamed with large entities and/or with subcontractors that are doing large portions of the work. Keep in mind that in all situations, the applicant is the small business.

The Department of Energy expects the work plan to be detailed—the DOE FOA instructions state that you are to provide “an explicit, detailed description of the Phase I research approach and work to be performed.” Keep in mind that the work plan is one element of the Phase I Project Narrative and it is recommended that at a minimum, you devote 4-6 pages of a 15 page DOE Phase I Project Narrative to the work plan. To make sure you provide adequate depth and detail in your work plan, go beyond explaining “what” you plan to do in your Phase I SBIR/STTR project, by going on to thoroughly explain “how” you are going to perform each task. And don’t forget to indicate “who” will perform each task and “when” it will be done during the Phase I project period.

Indicating “when” the work will be done suggests that a timeline should be included. With some agencies, a

timeline is appropriate within the work plan. However, the DOE FOA specifies that the timeline should be placed in the following section, called the **Performance Schedule**. You may wish to represent the timeline as a graphic, rather than providing the timeline in narrative form so that the reviewer can more readily see the flow and progression of the proposed research.

With respect to explaining who will do the work, provide information that speaks to the capabilities of the team and team members. However, at the same time remember that the complete biographical sketches for the Principal Investigators, Key and Senior Personnel will be provided in another section of the application package. It is also important to demonstrate in the Work Plan that you will have access to the needed equipment and facilities to perform the proposed work. Some companies include a photo of their equipment and/or facilities in this section.

While the work plan is an important component to any SBIR/STTR proposal, it is especially valuable when the applicant company is new to SBIR/STTR or at least to this agency and its reviewers. The work plan should demonstrate the applicant’s capability for performing the research. If the work plan is detailed, and the tasks and flow of work is logical to the reviewers, then they will be inclined to conclude that the applicant is able to do the work. If the work plan is vague and/or illogical, then the reviewers may question the applicant’s qualifications or ability to perform research, which may result in a low scored proposal.

The timeline for the work plan goes in another section of the Project Narrative called the Performance Schedule.



Successful completion of the work plan should be measurable so that both the small business applicant and the DOE will know when the project is completed and whether the proposed innovation is a viable solution to the problem. This measurement can be made in two ways. First, along with a statement of what must be done to prove the feasibility of the innovation, the applicant should specify how success will be determined. It should be quantified and state (as an example) a threshold value that must be achieved to conclude the innovation provides a feasible solution. The objectives and work plan will lead to the generation of data, results, and conclusions that can be used to measure feasibility success. Second, successful completion of the work plan can be measured by showing that all of the specified tasks have been completed.

### **LINKING THE TECHNICAL OBJECTIVES AND THE WORK PLAN**

DOE asks that the applicant link the Work Plan to the Technical Objectives. In order to do this, after completing the Technical Objectives section, many applicants organize the workplan itself around the Technical Objectives and repeat the objectives in the workplan one at a time and provide the requested details under each objective. In the Work Plan section also be sure to clarify how the research of research and development effort could lead to a product, process, or service if funded beyond Phase I. Also clarify how the management direction and control of the project will be assured. Preparing a solid work plan, linked to clear objectives will increase the confidence of reviewers in your ability to execute a successful Phase I award.