Where Do I Start?

A well written scope of work can do more for the success of a contract than any other part of the contracting process. A good scope of work is clear, complete, and logical enough to be understood by the respondent and the personnel who will administer t. Because it describes the details of performance, it is the yardstick against which the respondent's performance is measured. That is why the using department's requester/contract administrator/subject matter expert should be the focal point for developing the scope of work. The requester/administrator/subject matter expert, the person who will be responsible for monitoring the respondent's performance should start the process by contacting the Procurement Services Department well in advance of the need for the product/services to request copies of samples from previous contracts. Armed with this information, she/he should consult with appropriate experts (Police for security issues, Environmental Health and Safety for job safety concerns, ITS for computer software or hardware advice, Physical Plant for issues impacting facilities, Risk Management for special insurance needs, etc.) and enlist the assistance of other departmental personnel in drafting the scope of work. The Procurement Services Department can help identify resources for this purpose and should be contacted to assist in the development of the SOW.

Terminology and Word Choice

When drafting your scope of work, bear in mind that it must clearly communicate what you expect from the respondent. If you think a term could be misunderstood, include a definition so that both parties have the same frame of reference. Avoid using phrases or clauses whose meaning is arguable or ambiguous. The words should or may have no place in the scope of work unless there is a clear need to advise the respondent that the action requested is purely optional. When action is mandatory, use the words shall or must.

Section A - Overview of Scope of Work

A scope of work sets forth requirements for performance of work to achieve project objectives. The scope of work must be clear, accurate and complete. SOWs have to be read and interpreted by persons of varied backgrounds, including performing contractors and their suppliers, project managers representing departments or offices, and the contracting officer. Therefore, the SOW should be worded to make more than one interpretation virtually impossible. Developing a scope of work presents unique problems, because each SOW is designed for a unique procurement action. A normal procurement specification, such as a purchase or supply contract, is used to procure standard products and repeatedly used services. But a scope of work is mainly used to procure a variety of nonstandard services, as well as development of software and hardware, and construction. Thus, no uniform SOW format can be applied, but guidelines can be followed to achieve an end product that meets the specific

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objectives of the contract. The difficult and sometimes controversial function of proposal evaluation and source selection is based largely on a scope of work, which is the baseline standard for evaluating all proposals, for reconciling them to design or other requirements, and for determining the best approach to competition. Evaluation criteria are based on a scope of work that defines project objectives and requirements for their achievement. Challenges to the proposal evaluation and source selection are almost always traceable to an uninformative or ambiguous scope of work.

Definitions

A scope of work describes the work to be performed or the services to be provided. It describes tasks, directs methodologies to be used, and sets forth the period of performance. It should contain only qualitative and quantitative design and performance requirements. A specification is a clear and accurate description of the technical requirements for a material, product or service, including the procedure by which it will be determined that the requirements have been met. Specifications are used where well defined materials, products or services are to be provided, and formal specifications for the items are available. Project manager means that technical person or expert who is assigned overall responsibility for the satisfactory completion of a program or project.

Basic Requirements of a Scope of Work

The scope of work directly affects the number and quality of proposals submitted. Any scope of work must be clear, precise and complete. A well-worded definitive scope of work is essential for a vendor to accurately determine the cost of performance. A scope of work will also be the basis for measuring performance under a contract. An inadequate scope of work will lead to problems with contract administration that may result in costly contract amendments.

• Clarity: If a scope of work is not sufficiently definitive, some capable contractors may not wish to propose because of uncertainty about the risks involved or the relationship of the work to their particular capabilities. However, if a scope of work is too restrictive, competent contractors may feel that their creativity or alternative approaches will be inhibited, and therefore may choose not to respond.

• Precision: A scope of work is the contractual vehicle for expressing exactly the specific agreement of the contractor and the using agency. Since it defines the scope of work to be performed, its precision has a direct effect on efficient contract administration. Any work outside that scope will be considered new procurement with resulting increased costs.

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• Completeness: To be legal and binding, the SOW must be complete. It must delineate the entire scope of work to be performed and specify all the tasks within that scope. Any scope of work must cover the following points:

- What needs to be done
- Who will do what
- When it should be done
- Where it should be done
- How contract performance will be judged

The scope of work may also define how the job is to be accomplished. When objectives are not well described and defined, misunderstandings are likely. Ambiguous SOWs can lead to unsatisfactory performance, delays, litigation, and high costs. (Section D deals with specific SOW language.)

Flexible Nature of the Scope of Work

A scope of work can be loose (broad and general) or tight (specific and detailed), depending on the nature of the requirement. For example, a relatively loose scope of work may be needed for a service or development effort for which only objectives and guidance can be furnished. The prospective vendor would be allowed considerable latitude in structuring their approaches to the task. However, if testing or survey services are required, it is possible and desirable to spell out the amount and type of the tests or surveys needed. A SOW may be a performance-type, a design-type, or a combination of both. In a performance type SOW, the contractor is responsible for the results. This type of SOW tells the contractor the objectives to be accomplished - the end goal or desired achievement. It is up to the contractor to propose how these objectives will be accomplished. The extent to which a SOW is a performance or design-type will affect the degree of detail and flexibility needed. As a general rule, it is best to place maximum responsibility for performance on the contractor, since the contractor is being retained for its expertise and ability to perform. Any provision which takes control of the work away from a contractor, even temporarily, may result in relieving the contractor of responsibility. However, the cost of the work will be influenced by the degree to which the contractor must determine the proper services and methods. Consequently, if you believe that you already possess the methods required for performance, you should weigh the cost benefit of making them available to the contractor against the risk that the methods may not produce satisfactory results.

Contractual/Administrative Requirements

The scope of work is only part of the procurement process. Do not include in the scope of work itself provisions dealing with legal, financial, or contract administration related issues (cost estimates, designation of key personnel,

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option to extend, methods of payment, degree of confidentiality, types of contracts). Discuss these matters separately.

Do not include in the scope of work A General Provisions (i.e., Boilerplate), which consist primarily of clauses required by statute or regulation to be applied to contracts of a given type. An alternate proposal is a completely separate proposal from the vendor's basic proposal. A basic proposal must reasonably address the essential requirements of the solicitation but alternate proposals do not.

Alternate proposals may, and indeed are usually expected to, substantially deviate from the solicitation's requirements. Thus, alternate proposals may well offer novel technical approaches, and other features which would not be "responsive" if included in basic proposals. The solicitation must expressly authorize submission of alternate proposals if user intends to consider them equally with basic proposals. Provisions permitting submission of alternate proposals will plainly indicate that they are not acceptable for evaluation or further consideration unless the vendor has submitted in the time frame established.

Section B - Developing the Scope of Work

Introduction

Preparing a scope of work involves the following:

- Basic planning
- Outlining
- Organizing the SOW team
- Writing and review

Basic Planning

The "why" and "what" of a project should be answered during basic planning activity. The project manager should review the specific planning and program documents that are the basis for the project. From this background, the project manager should be able to identify other current and previous efforts. A literature search for related efforts might yield a refined scope of work and thus avoid duplication. Careful review will help the project manager assess the nature of the technical risk associated with a project and whether it is within, at or beyond the state of the art. In addition, this review should indicate the resources, schedules and compensation arrangement that may be required by a contractor for performance.

Outlining the Scope of Work Process

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Outline the entire scope of work process before attempting to write any particular part. This will help to ensure completeness, internal consistency, and good organization. The outline may be limited or elaborate, depending on the complexity of the project. The following may be considered for inclusion in a comprehensive working outline:

1. Objectives - Precisely identify desired end objectives of the project and associated technical requirements.

2. Context of Project - List background information that will aid a contractor in understanding the nature and origin of the requirements. Include a brief summary of appropriate objectives, statutory program authority, major programs,

and goals set by policy and/or procedure if relevant. Describe the relationship of the effort to major programs and goals.

3. Scope - Clearly describe the scope of required contractor efforts in support of project objectives.

a. Technical considerations - Set forth technical considerations that may influence a contractor's approach or efforts. Any known specific phenomena, techniques, methodologies, or results of previous related work that may influence a contractor's efforts or direction of approach should be specified.

b. Tasks - List specific tasks and subtasks to be accomplished by a contractor to satisfy the objectives, together with the required sequence of tasks in express order of accomplishment.

4. Acceptance - Establish milestones or management control points in the sequence of tasks where the agency takes actions for review, approval, acceptance, or rejection. Establish relevant and well-defined baselines for contractor performance measurement. These baselines will serve at least four purposes. They will: (a) prevent a contractor from drifting into areas not pertinent to the effort; (b) measure the results of completed work; (c) assist in defining whether or not subsequent changes or redirection of effort falls within the original scope of work; and (d) assist the project manager and the contracting officer in monitoring the progress of work.

This monitoring is particularly important for phase-type contracts where it is necessary to detect unsatisfactory performance at an early stage. It will allow a project manager to inform procurement personnel of unpromising contractor actions that should be dealt with promptly before their effect compromises the entire contract effort.

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5. Responsibilities - Identify all combined agency and contractor participation needed for the project, as well as the nature and extent of all task responsibilities. All tasks requiring agency support (e.g., agency-furnished equipment, facilities, materials, etc.) should be stated specifically. The nature and requirements of agency support to be provided should also be stated specifically.

6. Schedule - Generate a schedule for the sequence of tasks to be performed by a contractor and a similar schedule for related responsibilities of the agency.

7. Deliverables Identify contractor delivery requirements precisely and schedule a delivery date for each. Include details about the type and quantity of all deliverables. For instance, such details must be provided for theoretical models, computer software, drawings, documentation, reports, or other data. State precisely what a contractor is to deliver at specified times as the work progresses and on completion of contract performance. Delivery schedules may be stated in calendar or work days of elapsed time (e.g., 240 calendar days after award of contract) or in terms of a specific calendar date.

8. Data Requirements - Identify all technical data requirements, including the intended use for these data by the project manager.

9. Information Requirements - Identify management information requirements that a contractor must satisfy.

10. Person-Hours-Estimate professional and technical person-hours, -weeks, months, or -years required of a contractor to perform the contract effort. Developing the outline will: (a) allow full attention to be directed to technical content; (b) help guard against significant omissions; (c) aid in achieving smoothness and continuity; and (d) help eliminate unnecessary and redundant material.

Writing and Review

During the development of the scope of work, the agency project manager should ensure adequacy of content by coordinating the efforts of members of the SOW writing team. All concerned elements (stakeholders), including staff functional specialists, should review the SOW to ensure that all requirements being procured fulfill a common program or system objective. After all comments are incorporated, the SOW writing team will review the documents. The project manager must ensure that specific changes are coordinated before a final draft is prepared for review by the program director for consistency with program requirements.

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For less complex scope of work, an individual SOW writer may spell out program requirements and seek the assistance of the Procurement Services Department in ascertaining that the scope of work is sufficient to accomplish the procurement and to provide a sound basis for contract performance and administration.

Section C - Scope of Work Format

Introduction

Although the elements of a scope of work can vary with the objective, complexity, size and nature of the work to be performed, a flexible, seven-part format provides a practical approach to document drafting. The suggested seven parts are as follows:

I. Background II. Scope III. Technical References IV. Basic Deliverables and Essential Requirements and Schedules V. Progress/Compliance Elements – Success Goals VI. Transmittal/Delivery/Accessibility VII. Notes

The seven-part format is recommended as a guide. This does not mean that the SOW must be broken down into paragraphs with headings and subheadings. The SOW can simply reflect an orderly progression of ideas based on an underlying, not explicit, seven part structure. If the seven-part format is not quite right, you may design your own. But don't try to start from scratch each time you have to put together a SOW. In writing the final version of the scope of work, you may need to combine or rearrange elements in individual sections to fit particular circumstances. Your main objective should be to arrange and present the elements in a manner that:

- Is logical and readable
- Emphasizes the most important elements
- Conveys exactly what is required of the contractor.

A detailed description of the suggested seven key elements of a uniform but flexible SOW format is presented below. The examples provided illustrate certain points. They should not be regarded as definitive models applicable in all situations. A Checklist for Determining Adequacy of Scopes of Work is included as Exhibit 1.

Description of Format

I. Background - In this element or section:

• Provide a general description of the requirement.

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• Briefly discuss why the particular project is being pursued, and how the project will relate to previous, ongoing, and future projects.

• If applicable, discuss any known difficulties or constraints, and any techniques or methodologies that have been tried and were found ineffective.

The discussion should provide sufficient information to enable a prospective contractor to understand how the requirement arose and how it fits into a broader series of events. Keep the background scope brief. If you need to alert prospective contractors to detailed background materials or make such information available to them, you should either:

- List the materials, and state where they can be obtained or reviewed, in a separate "References" section of the scope of work; or
- Provide for the inclusion of the materials in the Request For Proposals (RFP), as an attachment to the scope of work.

II. Scope - The scope is a summary of the entire SOW. It succinctly describes the purpose of the work and end product desired. When writing this section, the SOW author should be certain that the scope and objectives as stated are consistent with the level of funding available for the effort. In the scope, the "big picture" is presented in concise form. Use broad, non-technical terms. Summarize actions to be performed by the contractor and the results or products expected. You can delineate the overall boundaries (time frames, special areas of interest, etc.) of the effort. If the work is to be divided into phases, delineate each phase and make clear the relationship between the work to be undertaken in each phase and the specific project objectives. If appropriate, given the nature or complexity of the project, first state an overall goal and then spell out specific objectives falling under that goal.

III. References - All applicable documents invoked elsewhere in the SOW should be listed in this section by document number and title. When applicable, reference relevant policies and/or procedures that are mandatory. Any document listed in this section should be selectively invoked to pinpoint what is applicable to the contract. Do not use unnecessary references. References can contribute to or hinder clarity depending on how they are incorporated. Referencing material that, in turn, refers to other references sets up a "chain" of references and frequently leads to misinterpretation of what provisions are or are not applicable to the particular SOW. If reference material is brief, consider including it verbatim in the SOW in addition to giving the reference. If it is lengthy, carefully review the data for relevancy and for material which may be contradictory to instructions contained elsewhere in the SOW.

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NOTE: Merely listing the documents in this section does not establish a contractual obligation to adhere to any of the provisions contained in them. You must state any such obligation in the Requirements section or in a separate part of the scope of work and or resulting contract.

IV. Requirements - Just as the SOW is the heart of the contract, so the requirements section is the heart of the SOW. This section tells the prospective contractor what is needed as clearly, precisely, and completely as possible. Any format may be used as long as it is the most logical and reasonable in a particular instance. Whatever format is used, the following general principles apply:

• This section is intended to indicate, as definitely as practicable, the minimum requirements that an item, service, material or process must meet to be acceptable.

• Specify only the essential necessary and attainable requirements and descriptions that apply to performance, design, reliability, personnel subsystems, etc., of the item, material, or service covered by the specification. Write the requirements section so that compliance with all the requirements will assure the suitability of the goods or services for their intended purpose, and noncompliance with any requirement will indicate unsuitability for the intended purpose.

• Requirements must be within the state of the art of the industry. You cannot push the state of the art by incorporating into the SOW requirements which cannot be met. Unrealistic or unnecessarily restrictive requirements are costly and may delay delivery. Also, they may void a contract. In addition, for many projects, the task, end result/deliverable, and schedule requirements are closely interrelated and it is most logical to discuss them together in one section (for example, describing the results of a study may be the best way of firmly and clearly defining the study tasks). For other projects, however, it may be best to discuss specific tasks and end results as one section and set forth deliverables and due dates for the delivery as a separate section.

a. Task Requirements

• Define and explain the work to be performed. Use strong "work words," examples of which are included in Exhibit 1. Be sure that you communicate the requirements clearly and completely. Don't assume that the contractor already understands what you want, or that you can give the contractor more information following contract award.

• Indicate the main steps and types of actions that the contractor will need to perform in order to conduct the project properly.

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- Indicate the sequence in which the work is to be performed. Provide a sufficient level of detail to enable the prospective contractor to plan personnel utilization and other requirements with maximum efficiency.

- If a phase-by-phase approach is to be used, clearly state, and present specific tasks within each phase.

- If, instead of phased or sequenced tasks, several broad but definable areas of work must be performed simultaneously, clearly delineate these areas and develop specific task scopes for each of them.

- For most requirements, concentrate on stating the results or end product required, allowing contractors to devise and propose various approaches to satisfy the requirements. Do not present requirements in any manner that suggests the agency believes there is only one approach to the work.

- If, however, the state of the art is such that a specific methodology or approach is warranted, indicate the desired methodology or approach.

- Provide (or refer to the documents that contain) all available information that would help to assure that a contractor conducts an effective project, e.g., known specific phenomena, constraints, operational issues.

- If you include illustrations, drawings, or diagrams to describe the requirement, be sure that they do not contradict the stated work requirements or create an ambiguity. Use such items only to supplement or clarify the stated requirements, not to add further requirements.

- If there are existing specifications or standard paragraphs that define what you require the contractor to do, present them or incorporate them by reference rather than compose an original scope (and list them in the References section of the SOW).

- If the contractor is to use any furnished data, property, or facilities in performing specific tasks, state what will be furnished and at what stage. (Provide a detailed listing of what is to be furnished, and when it is to be furnished, in a separate part of the procurement request.)

- If you want the contractor to provide a level-of-effort, define the nature of the work and estimated types and numbers of personnel required. If possible, include an estimate of the minimum number of hours or person-days required for each labor category.

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- State, when applicable, the place or places where the work is to be performed and the regions within which travel may be necessary.

- If the purpose of the project is to perform a study, clearly indicate the extent of the effort. Make clear, for example, whether you require simply a document search or whether field research and theoretical analysis, including computer modeling, is required.

- Do not obscure your presentation of requirements by mixing proposal requirements and contractual requirements. Your instructions for technical proposal preparation must be presented in a separate part of the procurement request.

• When it is important to define a division of responsibilities among the agency, the contractor, and other departments, a separate section should be included.

• When a decision regarding a matter such as task frequency or product quantity cannot be made immediately, include a procedure by which the decision will be made. The procedure need not be complicated but should assure reasonableness and control. Specify whether a judgment is to be made by the contractor or by the agency, e.g., "shall be furnished by the contractor when required in writing and countersigned by the contracting officer." (These types of contingent actions may have an impact on price and schedule and thus are not conducive to fixed-price contracting.)

b. End Result/Deliverable

• Specify some product or tangible end result that is expected from each task, stage or area of the work, and at contract completion. Specify, when applicable, the use to be made of this "deliverable." The result may be a tangible deliverable a product, such as magnetic tapes, graphics, equipment, etc., or an interim or final report. It may be an intangible yet real result completion of an analysis or evaluation, for example. For a term-type development contract, it may be whatever data has been accumulated.

• Spell out the criteria which a deliverable must meet in order to be deemed acceptable. Periodic progress reports are not deliverable products because they are not the final result of the task but only a management tool for monitoring progress toward the completion of an "end-product, i.e., product, report, study, analysis, evaluation.

- If the deliverable is data, identify and describe the specific kinds of data required and any standards the data must conform to.

- If the deliverable is a report, specify desired format and content. Example:

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Front cover to contain:

- 1. Report number and date
- 2. Title and period covered
- 3. Contract number
- 4. Contractor's name and address
- 5. Requesting department/office

Abstract to contain:

- 1. Object of report
- 2. Scope of work covered
- 3. Table of contents
- 4. Name of investigators

Main body to contain:

1. Breakdown of project functional subjects.

2. Discussion of each functional subject include for each subject a detailed narrative or analysis of the work performed or of the completed phases of study. Also include any charts, tables, or diagrams relevant to the subject. Present negative findings as well as positive findings. Identify any innovations and general advances of special interest.

V. Other sections:

1. Bibliography containing full citations for works referenced throughout the main body of the report

2. Glossary (as required) of uncommon technical terms and definitions of the terms

3. Appendices (as required) of related or additional material too bulky or detailed to include in the main body of the report.

4. Schedules - Normally, the schedule is contained in the body of the contract, but in the case of many services the schedule becomes very involved and might be confusing if it were separated from the SOW. Therefore, a schedule of delivery or period of performance might be included for every end product covered by the SOW. In any case, a date or estimated period of performance for the key tasks and end results must be stated within the solicitation and resulting contract. If elapsed time (days from contract award) is used, calendar days or work days must be specified.

5. Progress/Compliance - An important question is whether you will be able to determine compliance for a particular requirement. If you don't think the Page 12 of 20

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requirement lends itself to verification of compliance, examine the requirement closely to see if it is really valid. Depending on the nature of the service, there is a wide range of compliance options open to the SOW writer. In some cases, you may monitor a contractor's work by requiring periodic progress reports (as opposed to reports of technical results), conference with the project manager, attendance at periodic consultations or meetings, provision of oral briefings, or by having an inspector look over the contractor's shoulder from time to time. In any of these cases, the SOW must provide some means of determining that the contractor is doing its job properly. Progress reports are a fairly common option in development or service SOWs.

Examples:

The contractor will submit a detailed work outline for the development project and a plan for phasing the work by reporting period. On the first of each month the contractor shall give the Project Manager's/Contracting Officer's Technical Representative brief written reports highlighting progress. Note that the number of required reports should be limited to the minimum necessary; the contractor may charge for rendering reports. State the specific kinds of information on progress which the contractor will be required to provide generally, administration and financial information which will have to be coordinated to provide a correlation between costs incurred and state of contract completion.

Example:

A monthly status report shall include the following:

1. Problems encountered during the preceding month and steps taken.

2. A milestone chart showing work accomplished to date and work to be c completed with appropriate explanations of any variation from contract requirements.

3. A summary of significant tasks during the next reporting period.

4. A summary of funds spent to date and funds spent the preceding month.

5. Other information as appropriate and necessary to the monitoring effort.

SOW writers should also remember the following:

• Specifically state when a report is due, when a consultation will take place, etc., and the period of time or work segment to be reported on.

• The contractor shall submit a monthly status report by the 15th day of each month for the calendar month preceding.

• Brief oral reports highlighting progress for the past week " are due by noon each Monday.

• At the conclusion of a scheduled seminar program, the contractor shall furnish, to the project manager, a written report on the seminar...

• State any requirements/options for report format (e.g., "The report shall be/may be submitted in letter form").

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• State the person or office and the address to which a report must be sent, the person or office to which a briefing must be provided, etc.

• If the Board, contracting officer or other official must review information on progress/compliance and give approval, state the period of time that will be necessary for such action. Inspection and acceptance criteria must be clear and complete. The contractor can be expected to go by the wording of the document. If that wording does not clearly state by whom inspection and acceptance processes will be performed, and how and within what period they will be performed, the contractor may be absolved of responsibility for inadequate performance.

VI. Transmittal/Delivery/Accessibility

This section explains to the contractor how the end result is to be delivered or otherwise made available or accessible.

It should.

• Specify the number of copies (data or reports) to be furnished.

• State the specific person or office and the address to which delivery must be made.

• Include applicable requirements for preservation, packaging, packing and shipping of deliverable products, as well as requirements for marking of packages and containers. (The type of equipment, how it will be shipped, its destination, and available storage facilities will dictate the requirements that should be incorporated.)

• Specify any physical arrangements necessary to ensure capability to examine end products.

VII. Notes

This section is for elaboration of topics previously mentioned or for inclusion of special information that does not fit into other sections. This section might include detailed information on the following:

- Intended use
- Ordering data including where and when work is to be performed
- Definitions, if any
- Qualifications provisions
- Instructions for models and samples

Attachments to Scopes of Work

If is necessary to include lengthy materials in the solicitation itself so that prospective contractors will have sufficient information to prepare adequate proposals, these materials should be included as attachments to the scope of work.

When including attachments:

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• Limit materials to those which are necessary to the prospective contractors understanding of the requirement.

• State in the body of the SOW (in the background element or the detailed work requirements element, for example) that such attachments are provided.

• Indicate, as a prefatory note to the attachments, whether the material is provided merely as background information or whether portions of the material set forth contractual obligations.

Section D - The Language of a Scope of Work

Introduction

The written words of a contract express the obligations and rights of the parties. Each element of what the contractor agrees to do and what the Agency agrees to do must be carefully spelled out. For example, if the agency is to provide certain approvals, specific procedures and time limits should be established. If a requirement for necessary work is left out of the SOW, it makes no difference that the writer had it in mind to include the requirement. An ambiguous provision in an agreement will generally be interpreted against the drafter of that provision. The contract means what it says, not what it was meant to say.

Writing Tips

• Use proper sentence length.

- Avoid sentences which are unusually long, unnecessarily complex, or convoluted.

• Aim for simplicity.

- Look for opportunities to replace long words with shorter words that convey the same meaning (utilization/use, modification/change, initial/first, optimum/best, demonstrate/show.

- If a complex form is necessary due to the nature of your material, find the pattern or meaning that underlies the complexity.

Weed out pretentious or jargon terms (e.g., optimize, maximize, impact).
Use the technical terms of a trade or profession.

• Be concise.

- Cut any word that can be spared.

• Avoid open-ended language.

- Make an effort to be precise by searching for accurate, descriptive words.

- Although a degree of open-endedness is sometimes unavoidable, available information is often overlooked.

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- "Catch-all" phrases should be avoided. Be specific about what you want -- don't rely on broad scopes such as "good industry practice" or "workmanship shall be suitable for the purpose intended."

-Don't use open-ended requirements such as "as directed," "subject to approval," and "satisfactory to," since a contractor cannot predict in advance what will be satisfactory or approved, but must assume the risk that after the contract has been signed, the authorized personnel can be convinced that what the contractor did is acceptable.

• Use mandatory language properly.

- Use the word "shall" or "must" whenever you want to express a binding provision.

- Use the permissive terms "should" and "may" whenever you want to express a declaration of purpose or other non-mandatory provisions. "Should" and "may" are frequently misused in indicating options. For example, the scope "The data should be furnished on magnetic tape but may be provided on 80-column punch cards," contains no mandatory provisions. It would not preclude the contractor from furnishing magnetic disks. If what is meant is that tape is preferred but cards are acceptable, the provision should be stated this way: "The data shall be furnished on either magnetic tape or 80-column punch cards; however, magnetic tape is preferred."

- Use "will" in cases where simple futurity is intended: "Schedule of delivery will be provided by the Department of Public Works" or "Drawings will be supplied by the Department of Planning and Land Use."

- Use active voice where possible.
- Active voice is usually more concise, direct and readable than passive voice.
- Passive: The building is to be painted by the contractor.
- Active: The contractor will paint the building.

• Use examples carefully.

- Where examples are used to explain a definition, tell the reader whether these examples are only illustrations or whether they constitute a complete list of all examples covered by the definition.

• Be consistent.

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- Use the same words or phrases throughout to express the same meaning. Be especially careful to use descriptive labels consistently. For example, do not use "work plan" in one section and "study plan" in the next if you are referring to the same item.

• Limit use of abbreviations or acronyms.

- Limit your use of abbreviations or acronyms to those in common usage or those standing for terms which you will need to use several times per page. In any case, introduce the abbreviation or acronym the first time you use it. Give the full title, followed by the abbreviation or acronym in parenthesis. For example: "Minority-owned Business Enterprise or Women-owned Business Enterprise (MBE/WBE)."

- Avoid ambiguity.
 - Avoid using words and phrases that obscure meaning.
 - Do not use "and/or". Use "or" to indicate an alternative. Use "and" to indicate additive requirements.

- Certain types of words and phrases are especially easy to misinterpret and should be avoided. If it is necessary to use such words or phrases, define their meaning in context.

Exhibit 1: Checklist for Determining Adequacy of a Scope of Work

Does the scope of work:

- Include only what is necessary for the department to obtain required results?
- Identify the contractor's responsibilities?
- Distinguish background/introductory information from contract objectives and requirements?
- Provide enough detail to permit the prospective contractor to estimate costs of labor and other resources needed to accomplish each task or phase of the work?
- Clearly specify duties, results and performance standards so that the contractor and the authorized representative monitoring performance and signing acceptance reports can tell whether the contractor has complied with all requirements?
- Clearly relate tasks to each other and to desired results and deliverables?
- Identify constraints and limitations?
- Specify all data requirements?
- Show proper quantities?
- Properly cite and reference any standard specifications or paragraphs that apply in whole or in part?
- Properly reference (describe/cite) other documents, in part or in whole, when necessary?

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If a competitively negotiated procurement is planned, provide through its task descriptions an adequate frame of reference for the vendors technical proposals, with sufficient detail to permit equal understanding by all vendors?

Exhibit 2: Useful SOW Words This exhibit defines verbs which are often useful in SOW writing.

- ✓ analyze solve by analysis
- ✓ examine look at closely, test quality of
- ✓ annotate provide with comments
- ✓ explore examine for discovery
- ✓ ascertain find out with certainty
- ✓ extract take out, deduce, select
- ✓ attend be present at
- ✓ fabricate build, manufacture, invent
- ✓ audit officially examine
- ✓ form give shape to, establish
- ✓ build make by putting together
- ✓ formulate put together and express
- ✓ calculate find out by computation
- ✓ generate produce, cause to be
- ✓ compare find out likenesses or differences
- ✓ inquire ask, make a search of
- ✓ consider think about, decide
- ✓ inspect examine carefully or officially
- ✓ construct put together, build
- ✓ install place, put into position
- ✓ contribute give along with others
- ✓ institute -set up, establish, begin
- ✓ control direct, regulate
- ✓ integrate combine parts to make a whole
- ✓ create cause to be, make
- ✓ interpret explain the meaning of
- ✓ define make clear, set limits
- ✓ judge decide, form an estimate of
- ✓ design perform an original act
- ✓ make cause to come into being
- ✓ determine resolve, settle, decide
- ✓ manufacture fabricate from raw materials
- ✓ develop bring into being or activity
- ✓ notice comment on, review
- ✓ differentiate make a distinction between
- ✓ observe inspect, watch

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- ✓ erect put together, set upright
- ✓ organize integrate, arrange in coherent unit
- ✓ establish set up, settle, prove beyond dispute
- ✓ originate initiate, give rise to
- ✓ estimate approximate
- ✓ perform do, carry out, accomplish
- ✓ evaluate find or fix the value
- ✓ probe investigate thoroughly
- ✓ evolve develop gradually, work out
- ✓ produce give birth or rise to

Exhibit 3: Open-Ended Phrases (ambiguous--avoid if possible)

- To the satisfaction of the contracting officer
- As determined by the contracting officer
- In accordance with instructions of the contracting officer
- As directed by the contracting officer
- In the opinion of the contracting officer
- In the judgment of the contracting officer
- Unless otherwise directed by the contracting officer
- To furnish if requested by the contracting officer
- All reasonable requests of the contracting officer shall be complied with
- Photographs shall be taken when and where directed by the contracting officer
- In strict accordance with
- The finished product shall be practically free from dirt, etc.
- It is assumed that
- High rate data
- Reasonable period of time...but not limited to
- In accordance with best modern standard practice
- In accordance with the best engineering practice
- Workmanship shall be of the highest quality
- Workmanship shall be of the highest grade
- Accurate workmanship
- Securely mounted
- Installed in a neat and workmanlike manner
- Skillfully fitted
- Properly connected
- Properly assembled
- Good working order
- Good materials
- In accordance with applicable published specifications
- Products of a recognized reputable manufacturer
- Tests will be made unless waived
- Materials shall be of the highest grade, free from defects or imperfections
- Kinks and bend may be cause for rejection

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- Carefully performed
- Neatly finished
- Metal parts shall be cleaned before painting
- Suitably housed
- Smooth surfaces
- Pleasing lines
- Of approved type
- Of standard type
- As necessary
- Where feasible
- Or equal
- Free of impurities
- High quality

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