

SOLE SOURCE JUSTIFICATION

1. Requisition Number (FAR 6.303-2):
2. Requesting Department (FAR 6.303-2):
MAE Department, GSEAS, NPS Main Station, Monterey, California
3. Contracting Activity (FAR 6.303-2):
Technical Support for the Segmented Mirror Telescope (SMT) Project
4. Identity of person(s) preparing justification (SUPARS 6.303-2):
Brij N. Agrawal, Distinguished Professor, Naval Postgraduate School
5. A brief description of intended use or application (FAR 6.303-2):
The Segmented Mirror Telescope (SMT) is a state-of-the-art optical system. This system was developed by the US Government at a cost of over \$50M to investigate the practical and theoretical aspects of large-aperture deployable optical systems, with an emphasis for space-based applications. The research and development topics in this project are broadly applicable to imaging spacecraft, ground telescopes, laser communication, and high energy laser applications. This contract is to provide unique professional support to the continued investigation of segmented mirror systems and improve the capabilities of such systems for various DoD applications.
6. The critical or unique features which are mandatory in its intended use or application that limit their availability to single source. The NECESSITY for these features should be clearly indicated. Minimum essential requirements must be stated (FAR 6.303-2):
The SMT is a state-of-the-art segmented mirror system developed over the past several years. The proposed vendor has been identified as the only company which can provide the requested technical support regarding SMT technology, as the vendor has directly participated and led previous development efforts for this specific hardware. The vendor's unique capabilities for this procurement are further supported by the classified and restricted nature of previous development

efforts. There are an extremely limited number of sources world-wide that may have elements of the appropriate expertise, however no sources are expected to have all of the required expertise, and furthermore, no other sources should have specific knowledge of the SMT system. Furthermore, this vendor has previously developed system-level aspects of the SMT, and has also provided control technologies and component-level improvements to the SMT at Government expense.

7. A statement that no other known product possesses one or a combination of all the required critical features. This statement should elaborate on the steps taken which led to the conclusion that only a particular source or product can meet the requirement. (i.e., market survey*, investigation of sources) (FAR 6.303-2):

This procurement is to support the investigation of advanced control techniques for segmented mirror optical systems. These systems have not yet reached the point of commercial use. Therefore, commercial suppliers would not be able to provide the necessary support. Knowledge of segmented mirror optical systems as specifically employed within the SMT is a required vendor capability within this procurement and this knowledge remains a restricted topic. Therefore, no other known vendor is available for this work and possesses the combination of all required critical features stated in (6) above.

8. The existence of patent, copyright, or limiting features:

There are limiting features to this procurement in that there are an extremely limited number of sources that may have elements of the required knowledge and capabilities. No other sources are expected to have all the knowledge and capabilities and also to be knowledgeable enough regarding the specific SMT implementation to efficiently perform these tasks. It is expected that all other vendors that may be requested to perform this work would result in an order of magnitude increase in cost, and also a greatly increased risk of research program failure.

9. Discuss, briefly, why the government does not have a specification and why it cannot write one for this procurement. Discuss also the actions, if any, the agency may take to remove or

overcome any barriers to competition before any subsequent acquisitions for the supplies or services required. (FAR 6.303-2):

The SMT is a recent technological development resulting from a formerly restricted program. This system and associated equipment is unique in the world. Integration of the upgraded SMT hardware and provision of professional technical support will require proprietary knowledge and techniques from the proposed vendor for efficient execution and lower program risk. It is not possible for the government to create in advance exact technical specifications for the proposed tasks regarding this new technological development. As research efforts proceed and results are obtained, topic areas in support of DoD applications will be further explored and used to define the specific tasks requested of the vendor within the scope of the technical, engineering and metrology support tasks.

TECHNICAL AND REQUIREMENTS CERTIFICATION REQUIRED BY FAR 6.303-2(8) I certify that the facts and representations under my cognizance which are included in this justification and which form the basis for this justification are complete and accurate.

REQUESTER:

J. Agrawa (Acting) Agrawa Distinguished Professor x-3338 8/18/11
Name/Title Phone Date

DEPARTMENT HEAD/COMMANDING OFFICER

Geetha N. Adh Dept. Chair x-3382 8/17/11
Name/Title (acting) Phone Date

FISC-SO CONTRACTING OFFICER:

Rosa de la Fuente 619-532-2889 9/7/11
Name Phone Date