7555-01

NATIONAL SCIENCE FOUNDATION

Notice of Buy American Waiver under the American Recovery and Reinvestment Act of 2009

AGENCY: National Science Foundation (NSF).

ACTION: Notice.

SUMMARY: NSF is hereby granting a limited exemption of section 1605 of the American Recovery and Reinvestment Act of 2009 (Recovery Act), Pub. L. No. 111-5, 123 Stat. 115, 303 (2009), with respect to the purchase of the deformable mirror system that will be used in the Advanced Technology Solar Telescope (ATST). This system is required in order to achieve the requisite spatial resolution to study the finest details of magnetic features in the solar atmosphere.

DATE: [insert date of publication in the Federal Register].

ADDRESS: National Science Foundation, 4201 Wilson Blvd., Arlington, Virginia 22230.

FOR FURTHER INFORMATION CONTACT: Ms. Anna-Lee Misiano, Division of Acquisition and Cooperative Support, 703-292-4339

SUPPLEMENTARY INFORMATION: In accordance with section 1605(c) of the Recovery Act and section 176.80 of Title 2 of the Code of Federal Regulations, the National Science Foundation (NSF) hereby provides notice that on March 6, 2012 the NSF Chief Financial Officer, in accordance with a delegation order from the Director of the agency, granted a limited project exemption of section 1605 of the Recovery Act (Buy American provision) with respect to the deformable mirror system (DMS) that will be used in the ATST. The basis for this exemption is section 1605(b)(2) of the Recovery Act, in that deformable mirrors of satisfactory quality that meet the specifications required for diffraction-limited observations of the sun are not produced by vendors in the United States in sufficient and reasonably available commercial quantities. The total cost of DMS, approximately $3 million, represents approximately

2 percent of the total $146 million Recovery Act award provided for construction of the ATST and about 1 percent of the total project cost.

I. BACKGROUND

The Recovery Act appropriated $400 million to NSF for several projects being funded by the Foundation's Major Research Equipment and Facilities Construction (MREFC) account. The ATST is one of NSF's MREFC projects. Section 1605(a) of the Recovery Act, the Buy American provision, states that none of the funds appropriated by the Act "may be used for a project for the construction, alteration, maintenance, or repair of a public building or public work unless all of the iron, steel, and manufactured goods used in the project are produced in the United States."

The ATST construction is being funded under a cooperative agreement awarded to the Association of Universities for Research in Astronomy (AURA) that began in 2009. The project is currently under construction.

Subsections 1605(b) and (c) of the Recovery Act authorize the head of a Federal department or agency to waive the Buy American provision if the head of the agency finds that: (1) applying the provision would be inconsistent with the

public interest; (2) the relevant goods are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or (3) the inclusion of the goods produced in the United States will increase the cost of the project by more than 25 percent. If the head of the Federal department or agency waives the Buy American provision, then the head of the department or agency is required to publish a detailed justification in the Federal Register. Finally, section 1605(d) of the Recovery Act states that the Buy American provision must be applied in a manner consistent with the United States' obligations under international agreements.

II. FINDING THAT RELEVANT GOODS ARE NOT PRODUCED IN THE UNITED STATES IN SUFFICIENT AND REASONABLY AVAILABLE QUALITY

The science goals of the ATST require that the telescope operate at the so-called diffraction limit in order to resolve spatial features in the solar atmosphere with sizes of order 20 to 30 kilometers. Comparing this size to the average distance to the sun of about 150,000,000 kilometers leads to the conclusion that the angular size of such features as viewed from the Earth is very small. In order

to accomplish such studies, the blurring effect of the earth's turbulent atmosphere needs to be removed. This is accomplished by an advanced system of optics known generically as "adaptive optics" (AO). The heart of the AO system is a mirror that can change its shape more than 1,000 times per second with approximately 1,900 separate actuators distributed over the circular area of the mirror. Each actuator must be able to push and pull the face plate by 2.5 micrometers; by comparison, a human hair is approximately 80 micrometers wide. This mirror, along with its control electronics, cooling system, etc. constitutes the DMS. The specifications for the DMS include the following critical performance requirements:

1. Face Sheet flatness – The DMS must have initial and repeatable reflective face sheet flatness to within 15.8 nanometers (root mean square error) for a baseline reference. (For reference, 1 micrometer equals 1000 nanometers.)

2. Actuator spacing – The DMS must have an actuator spacing such that a population of at least 1,900 units are installed within the DMS footprint, which is roughly circular with 200 millimeter diameter.

3. Actuator performance – The actuators must be capable of a specific and repeatable stroke length of equal to or greater than 5 micrometers while in the ATST operational environment.

Failure to meet any of these technical requirements would have severe negative impacts on the spatial resolution performance of the ATST and therefore on its ability to meet its scientific goals.

AURA issued an Announcement of Opportunity in Federal Business Opportunities (FedBizOpps) and, subsequently, an open request for proposals for the design, fabrication, and testing of the DMS for the ATST. Proposals were received from three vendors, two of which are non-U.S. companies. The proposals were evaluated by an internal source selection evaluation board on the basis of technical performance and best value.

A selection plan and proposal evaluation criteria were created in order to equitably evaluate proposals and provide a quantitative method for selection of a "best value" proposal based on technical and managerial merit.

The selection plan was reviewed and approved per AURA's internal procedures prior to receiving the proposals. Pricing was subsequently factored in by the reviewers to assess overall, "best value." The evaluation criteria were weighted as described in the selection plan depending on the relative importance of each criteria.

After careful technical review, the selection board recommended that the ATST program pursue a contract with one of the non-U.S. vendors as a result of their finding that only that one vendor's offering meets and exceeds all critical performance requirements, particularly the specifications concerning face sheet flattening and actuator performance. Furthermore, the selected vendor is also the only one that has experience in producing mirrors that meet ATST requirements for actuator spacing. The only U.S. bidder failed to meet the critical specification on actuator stroke and could not produce a mirror with the desired 1,933 total actuators with spacing of 4.33 millimeters by 4.21 millimeters.

AURA's conclusion is that there are no U.S. manufacturers who can produce a suitable DMS that meets all of the ATST

requirements, so an exemption to the Buy American requirements is necessary.

In the absence of a domestic supplier that could provide a DMS that meets or exceeds the ATST specification, AURA requested that NSF issue a Section 1605 exemption determination with respect to the purchase of a foreign-supplied, specification-compliant DMS, so that the telescope will meet the specific design and technical requirements that are necessary to deliver the image quality necessary for successful performance of its scientific mission. Furthermore, the project's market research indicated that a DMS that meets or exceeds the ATST's technical specifications and requirements is available from a foreign vendor.

NSF's Division of Acquisition and Cooperative Support (DACS) and other NSF program staff reviewed the AURA exemption request submittal, found that it was complete, and determined that sufficient technical information was provided in order for NSF to evaluate the exemption request and to conclude that an exemption is needed and should be granted.

III. EXEMPTION

On March 6, 2012, based on the finding that no domestically produced deformable mirror system meets all of the ATST's technical specifications and requirements and pursuant to section 1605(b), the NSF Chief Financial Officer, in accordance with a delegation order from the Director of the agency signed on May 27, 2010, granted a limited project exemption of the Recovery Act's Buy American requirements with respect to the procurement of the deformable mirror system.

Dated: March 7, 2012

Lawrence Rudolph

General Counsel

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