

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GEORGE C. MARSHALL SPACE FLIGHT CENTERJUSTIFICATION FOR OTHER THAN FULL AND OPEN COMPETITION (JOFOC)
PURSUANT TO TITLE 10 U.S.C. 2304 (C) (1) FAR SUB-PART FAR 6.302-2, (b)(1)

1. This document is a Justification for Other Than Full and Open Competition (JOFOC) prepared by the NASA Marshall Space Flight Center (MSFC) in accordance with Federal Acquisition Regulation (FAR) Part 6.3, Other Than Full and Open Competition, and NASA FAR Supplement (NFS) Part 1806.3, Other Than Full and Open Competition.
2. Nature and/or description of the action being approved:

This justification provides the rationale for contracting with Moog-Bradford, Bradford Engineering, point of contact: Mark Vilardo; Manager, Business Unit Proposal Process Facilitator; phone +17168052948; email: mvilardo@moog.com only for **Engineering consultation and support for the International Space Station (ISS) Life Science Glovebox (LSG) Project** that will be managed and implemented by the Marshall Space Flight Center. The resulting contract shall consist of a twelve-month period of performance, with an option for a second year. In addition to the initial tasks, there are additional options that could be exercised to enable MSFC to obtain information, equipment, and services from Moog Bradford related to the development and activation of the LSG on the ISS.

3. Description of the supplies or services required to meet the agency's need, including estimated value:
 - a) Support of the LSG flight/qualification hardware asset retrieval.
 - b) Support activation and checkout of the LSG systems (HiFi, Flight Unit, Qualification Unit).
 - c) Provide detailed design and assembly drawings, interface cable drawings and schematics, materials usage lists, parts lists, waivers/deviations, materials usage agreements, analysis/test reports and other information needed to support the final design and integration of the LSG.
 - d) LSG air filters for system testing and initial activation.

The contract value will not exceed \$250,000 for the initial 12 month period of performance. The second year would cost \$300,000. The total cost would be not to exceed \$550,000.

4. Statutory authority permitting other than full and open competition:

FAR 6.302-2, (b)(1) "One responsible source" and no other Supplies or Services will Satisfy Agency Requirements. The statutory authority is 10 U.S.C.2304(c)(1).
5. A demonstration that the proposed contractor's unique qualifications or the nature of the acquisition requires the authority cited:

Moog Bradford designed and built the ISS Microgravity Science Glovebox (MSG), the Middeck Glovebox and Spacelab Glovebox, both used on several prior Space Shuttle missions and on the Russian space station Mir. The Japanese Space Agency delivered the LSG to NASA as a part of a barter arrangement, but the original LSG project was cancelled in about 2007. The ISS Program Manager gave MSFC FP10, the authorization to proceed with development, delivery, sustaining engineering, and operation of the ISS LSG on March 10, 2015. Moog Bradford's unique heritage and specific experience with the LSG provide critical insights that are needed to ensure Bradford designed and built components and the system are handled appropriately and to provide technical consultation during the development of the refurbished LSG.

6. Description of the efforts made to ensure that offers are solicited from as many potential sources as practicable:

The ISS Program has directed MSFC to use the LSG assets that were already delivered to NASA from the Japanese Space Agency. The Program paid for the assets via a barter arrangement with JAXA. The LSG will be implemented as an in-house MSFC project. The project requires consultation and support from the designers of the original flight equipment, drawings, analysis, and other records developed by Bradford, ground support equipment/software required to operate the LSG in standalone mode. It is not practical from a cost or schedule perspective or to protect the company's proprietary design knowledge to solicit support from sources other than Moog Bradford.

7. A determination by the contracting officer that the anticipated cost to the Government will be fair and reasonable:

The proposed cost will be evaluated by the Contracting Officer's Technical Representative and the Contracting Officer to determine that the labor rates, hours, skill mix, other direct costs, indirect costs and fees are fair and reasonable. The contractor will submit a proposal that will contain sufficient information to determine cost reasonableness. The determination may also include support from external organizations such as the Defense Contract Audit Agency or Defense Contract Acquisition Management Agency as required. The proposed costs will be compared against any historical data from previous contract.

8. Description of the market survey conducted, and the results, or a statement of the reasons a market survey was not conducted:

- A. An ISS sponsored review of projected microgravity payloads identified that a "bottleneck" will develop for ISS science payloads which require an additional glovebox, starting when the ISS Rodent Research begins. Starting in early 2013, MSFC initiated development of a proposal for a second glovebox dedicated to life sciences to eliminate the bottleneck that leveraged assets already developed for the ISS. MSFC provided center investment funding that jumpstarted the conceptual studies and provided the foundation for the subsequent trades. In April 2014, the ISS program manager directed and funded MSFC to mature the glovebox concept to an SRR level to support a life science glovebox "down-selection" by the end of the first quarter of FY15. The downselect was conducted and on March 10, 2015, the ISS Program Manager gave MSFC an Authority to Proceed (ATP) for the Life Science Glovebox (LSG) project.
- B. The MSFC proposal was based upon the LSG Work Volume designed and manufactured by Bradford Engineering and delivered to JAXA. After cancellation of the Centrifuge Accommodations Module in 2007, the LSG assets, including a flight and a qualification unit, were turned over to NASA as a part of a barter arrangement.
- C. In addition to the LSG, Moog Bradford designed and built the ISS Microgravity Science Glovebox (MSG), the Middeck Glovebox and Spacelab Glovebox, both used on several prior Space Shuttle missions and on the Russian space station Mir. Moog Bradford's unique heritage and specific experience with the LSG provide critical insights that are needed to ensure Bradford designed and built components and the system are handled appropriately and to provide technical consultation during the development of the refurbished LSG.
- D. This procurement is considered urgent for several reasons:
- NASA-ARC is responsible for developing procedures for de-integration of the LSG flight unit from the Japanese equipment rack. Bradford's support of the handling and transportation procedures review is needed beginning in April 2015.
 - The High Fidelity Trainer was shipped from NASA-ARC to NASA-MSFC. Bradford support is needed to activate and checkout the functionality of the HiFi unit in April-May 2015.
 - The MSFC in-house team needs to have access to the Bradford proprietary detailed LSG design information, drawings, interface cable drawings and schematics, and other key data to support the Design, Development, Test, and Evaluation (DDT&E) for the LSG project.

- d. MSFC needs access to items developed by Bradford during the development of the LSG. This includes: the ADP Bradford delivered to Boeing and IHI for the Japanese, the standalone HiFi CF software, and the integration test stand(s) that Bradford still possesses.

9. Other facts supporting the use of other than full and open competition

MSFC is developing the LSG Project as an in-house project. The support from Moog Bradford is only related to the previously developed hardware and software. No new specifications or drawings are necessary for this procurement since they are not being requested to deliver new designs or hardware/software.

It is urgent that the Bradford support be available immediately to support the MSFC in-house LSG project implementation. The delivery of the LSG to the ISS is directly linked to the following NASA Agency-level Strategic goal and the National Research Council Strategic Goals/Objectives and will enhance the utilization of the ISS.

NASA Strategic Goal 1: Expand the frontiers of knowledge, capability, and opportunity in space.

Objective 1.2: Conduct research on the International Space Station (ISS) to enable future space exploration, facilitate a commercial space economy, and advance the fundamental biological and physical sciences for the benefit of humanity.

The LSG supports the need identified in the study "*Recapturing a Future for Space Exploration: Life and Physical Sciences Research for a New Era*" (published in 2011 by the Committee for the Decadal Survey on Biological and Physical Sciences in Space; National Research Council. The Decadal Survey called for dedicated support of rodent research and other life science payloads.

10. Sources, if any, that expressed an interest in writing in the acquisition:

Moog-Bradford has expressed interest in supporting MSFC on the LSG Project.

11. The actions, if any, the Agency may take to remove or overcome barriers to competition before any subsequent acquisition for the supplies or services required:

None

For the above reasons, full and open competition is not feasible. Therefore, purchase of the supplies or services from Moog-Bradford, Bradford Engineering is the only practical approach.

I hereby certify the facts in this justification and any supporting data used for this justification are accurate and complete to the best of my knowledge.



Kathy U. Jones
Life Science Glovebox (LSG) Project Manager and COR
FP10

3-20-15

Date

I hereby certify that the above justification is complete and accurate to the best of my knowledge and belief. In addition, I hereby determine that the anticipated cost to the Government will be fair and reasonable.



Belinda Triplet
Contracting Officer
PS52/Space Systems Support Office

3/27/15

Date

Approved:



Melinda E. Swenson
Contracting Officer
PS50/Science and Space Systems Office

3-27-15

Date