

## LIMITED SOURCES JUSTIFICATION/FEDERAL SUPPLY SCHEDULES

1. The NASA/Goddard Space Flight Center proposes to enter into a contract with **ai-solutions, Lanham, MD**. This document justifies the determination for restricting consideration of schedule contractors to fewer than required in Federal Acquisition Regulation (FAR) 8.405-1 or 8.405-2.

2. Describe the nature and/or description of the actions being approved.

**This PR is for yearly renewal of software maintenance for existing FreeFlyer licenses used by the Earth Observing System (EOS) missions (Aqua/Aura/Terra) and TRMM missions for daily operational support in their individual Flight Dynamics Systems (FDS). The EOS Constellation Coordination System (CCS) is a software system based on FreeFlyer that provides for the exchange of critical data between the Morning and Afternoon Constellation missions. These legacy FDS software systems were funded and are used by Earth Science Mission Operations (ESMO) and have been in place since launch.**

3. Describe the supplies or services required to meet the agency's needs. Include the estimated value.

**Renewal of maintenance on existing FreeFlyer licenses used by the EOS and TRMM missions for daily operational support. The total estimated cost of this effort is \$156,428 and the estimated period of performance is for one year maintenance renewal starting on 10/1/2014 – 9/30/2015. An additional new FreeFlyer license is required for TRMM this year with delivery requested as soon as possible. An additional 3 months of maintenance for this license is requested to synchronize all the Free Flyer renewals in Fiscal Year (FY) 2016.**

4. Identify the regulatory authority justifying restriction.

**The regulatory authority justifying limiting competition is FAR 8.405-6 (b) (1), Only One Source.**

- **ai-solutions is the only source for maintenance support of their proprietary software**
- **This software (FreeFlyer) is currently required in four legacy operational FDSs used to provide daily and long-term flight dynamics support for existing Earth science missions (Terra, Aqua, Aura, and TRMM)**
- **FreeFlyer is also the core of the CCS used by several NASA, USGS, JAXA, CNES missions for exchange of critical data products and coordination of Constellation operations.**
- **The FreeFlyer software can't be replaced in the existing EOS, TRMM, and CCS operational systems without extensive, very costly, and time-consuming modifications with the associated testing**

5. A determination by the contracting officer that the order represents the best value consistent with FAR 8.404(d).

**By signature of this document, the Contracting Officer determines that the anticipated cost to the Government will be fair and reasonable. AI Solutions will be required to submit a proposal to be evaluated and negotiated by the Government. The proposal will contain sufficient information to determine reasonableness of the price.**

6. Describe the market research conducted (see FAR Part 10) among schedule holders and the results, or state why market research was not conducted.

**AI-solutions is the only vendor of this product and is the only option for license renewal for ongoing software maintenance and support**

7. Document any other facts supporting the use of limited source(s), such as:

(i) An explanation of why technical data packages, specifications, engineering descriptions, statements of work, or purchase descriptions suitable for schedule competition have not been developed or are not available.

- **AI-solutions is the only source for maintenance support of their proprietary software; therefore no technical data packages, specifications, engineering descriptions, statements of works would be suitable to release for competition. Additionally, the FreeFlyer software can't be replaced in the existing EOS and TRMM operational systems without extensive, very costly, and time-consuming modifications with the associated testing.**

(ii) When FAR 8.405-6 (b) (1) (Only One Source) is cited for follow-on acquisitions, an estimate of the cost, to the Government, that would be duplicated and how the estimate was derived is required, or;

- **A ROMI for the development and testing costs to replace FreeFlyer in both the CCS and four FDS systems conservatively is 15 Full-Time Employees (FTEs) @ ~\$170K/FTE = ~\$2.5M. This estimate is based on a discussion with the current FDS/CCS software development task lead and my personal experience with requirements and testing of operational flight dynamics systems. This estimate far exceeds the total FreeFlyer licensing renewal costs during the best-case extended mission lives for all the missions and does not consider the recurring license costs for a replacement software system.**

8. State the actions, if any that the Agency may take to remove or overcome any barriers to schedule competition before any subsequent acquisition for the supplies or services are required.

**There are no Project /ESMO plans, NASA funding, or a justifiable reason to change the institutional flight dynamics systems used for EOS and TRMM operational mission support at this late stage in the extended mission lives of the four missions. The cost to purchase new licenses from an alternate vendor, test and replace the existing customized flight dynamics software systems would be prohibitive.**

Technical Officer: I certify that the supporting data presented in this justification are accurate and complete.

David Tracewell  
(David Tracewell), (EOS FDE)

7/29/14  
(6/3/2014)

Contracting Officer: I hereby determine that the anticipated cost to the Government will be fair and reasonable and certify that this justification is accurate and complete to the best of my knowledge and belief.

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(Typed Name) Contracting Officer

7/30/14  
(Date)