NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
LYNDON B. JOHNSON SPACE CENTER

JUSTIFICATION FOR OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO 10 U.S.C. 2304(C)(1) AND FEDERAL ACQUISITION REGULATION 6.302-1

NASA Aircraft Autopilot & Electrical Systems Support

1. This document is a Justification for Other than Full and Open Competition (JOFOC) prepared by the NASA, Johnson Space Center (JSC).

2. The nature and/or description of the action being approved:

This justification provides the rationale for contracting by other than full and open competition for the acquisition of T-38N and WB-57 Autopilot Support from American Systems Corporation (ASC).

3. Description of the supplies or services required (including the estimated value):

This procurement provides direct support to the NASA JSC Aircraft Operations Division (AOD) Engineering Branch for the T-38N Autopilot Project needed for Reduced Vertical Separation Minimum (RVSM) requirements. The required services support twenty-one T-38N aircraft located at Ellington Field in Houston, Texas. The T-38A "Talon" is a two-seat, twin turbojet, swept-wing, supersonic aircraft originally designed for the United States Air Force (USAF) as a high performance trainer. NASA currently uses a modified version of the USAF T-38A aircraft designated the T-38N. The T-38N is primarily used for astronaut flight proficiency training. The T-38A and T-38N are fully aerobatic with loop and roll flight capabilities. As a flight training aircraft, autopilot systems were not included in T-38 production. No operational T-38 autopilot system currently exists in any T-38 fleet, domestically or internationally.

NASA intends to integrate autopilot systems into NASA's T-38N fleet to comply with 91-RVSM equipment and performance requirements. RVSM compliance is a Federal Aviation Administration requirement to fly in certain air spaces; lacking RVSM compliance restricts the ability of the T-38 to fly in RVSM air space and limits the full potential of T-38 fuel efficiency.

This procurement also provides direct support to the NASA JSC AOD Engineering Branch for the WB-57 Autopilot Project. Due to high altitude performance requirements, an autopilot is essential to ensure the WB-57 stays within certain limited windows of performance. The WB-57 fleet currently has operational autopilots installed, but due to obsolescence issues the autopilot systems have become unsustainable.

Because this is a research and development (R&D) effort, costs and schedule are not definite. However, the estimated value for this procurement is $9.5 million for a 3-year base period and two 1-year contract option periods. This estimate is based on the Independent Government Estimate of the cost required to develop and install all of the autopilot systems in both aircraft fleets. Autopilot systems for the T-38N and the WB-57 fleets are to be developed and installed under the

same requirement in order to produce cost efficiencies. The option periods allow for schedule flexibility should the effort take less than five years to complete.

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

The statutory authority permitting other than full and open competition is 10 U.S.C. 2304(c)(l), as contemplated by the provisions of Federal Acquisition Regulation (FAR) 6.302-1(a)(2)(ii) and FAR 6.302-1(a)(2)(iii), the supplies and services required are unique and are available from only one source, ASC. The timely fulfillment of the services required under this contract by a source that already possesses the necessary expertise and familiarity with the unique structure and complexities of both the T-38N and WB-57 aircrafts and flight control characteristics is critical to the success of the T-38N RVSM and WB-57 missions. Award to any other source would result in substantial duplication of cost to the Government that is not expected to be recovered through competition and unacceptable delays in fulfilling NASA's requirements.

5. A demonstration that the proposed contractor's unique qualifications or the nature of the acquisition requires use of the authority cited:

The NASA JSC AOD has a need for autopilot engineering support and services to meet 91 RVSM and NASA mission requirements. This service is uniquely available from ASC (formerly Science Applications International Corporation). Started under a Space Act Agreement (SAA) in 2007 (SAA-AT-07-016), ASC has worked with NASA JSC AOD on the development of an autopilot for the T-38N. ASC entered into an SAA with NASA-JSC to develop an autopilot for the T-38N at their own expense because there is a potential market of over 500 T-38 aircraft in use worldwide. In recent decades, NASA has provided leadership in development of the global T-38 fleet. The SAA ended in 2009, and ASC continued to develop the hardware and software at private expense and are thus proprietary to ASC and may not be transferable without the written consent of ASC. Duplication of this capability, if possible, would result in substantial cost to the Government and result in unacceptable delays in fulfilling NASA mission requirements.

ASC has also completed work for NASA on a T-38N autopilot feasibility study (Contract NNJ11JB28C). In the execution of the task order under this contract, ASC has demonstrated superior performance and has developed a unique understanding of the flight control characteristics of the T-38N aircraft. The engineering services supported by this JOFOC require extensive knowledge of the aircraft flight control and aerodynamic characteristics that only can be gained by direct experience. The same team that performed previous services is available to continue their work and provide the required support. Duplication of this capability from another company would result in both unacceptable delays and additional cost to the Government in fulfilling NASA mission requirements.

ASC has recently completed work for NASA for the WB-57 aircraft (Contract NNJ11JB28C). In the execution of this contract, ASC has developed a unique understanding of the aerodynamic characteristics and flight control system, of which there are only two operational WB-57s in existence. The engineering services required by this JOFOC require extensive knowledge of the aircraft characteristics that can only be gained by direct experience. The same team that

performed previous services is available to continue its work and provide the required support. Duplication of this capability from another company would result in both unacceptable delays and additional cost to the Government in fulfilling NASA mission requirements.

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

A synopsis was posted on December 7, 2012, which resulted in one inquiry from Chippewa Aerospace Incorporated. After further communications with the Government, this potential source acknowledged that they could not satisfy the procurement requirements and withdrew any further interest in serving as the prime contractor.

In addition, market research performed by the Contracting Officer's Representative did not identify any other viable sources for this requirement. The only other source that could be considered qualified for this unique task is the existing NASA AOD civil servant engineers. However, the Government does not currently have the resources, specific skills or the ASC proprietary software, hardware, and associated technical documentation required to perform these tasks.

7. Determination by the Contracting Officer that the anticipated cost to the Government will be fair and reasonable:

Upon approval of this justification, a request for proposal will be issued to ASC. The proposal will be evaluated and negotiated to obtain a fair and reasonable cost. Historical cost data, Defense Contract Audit Agency audit information, and certified cost or pricing data submitted by ASC will also be used to obtain a fair and reasonable cost.

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

In accordance with FAR Part 10, a market survey was accomplished using the following market research techniques:

a. personal knowledge of the market availability in procuring services of this type;
b. contact with other knowledgeable people in Government regarding the commercial nature of this requirement and standard industry practices, including experts with historical knowledge of the program and its evolving requirements;
c. interchange meetings with potential offerors; and
d. publication of a synopsis on December 7, 2012.

None of the market research listed above revealed any evidence that other companies exist that could perform the requirements of the statement of work.

9. Other facts supporting the use of other than full and open competition, such as:

ASC has been developing and refining the T-38N and the WB-57 autopilots for the last 5 years

and 3 years, respectively. The technical and operational expertise for these systems resides solely at ASC, and ASC has a staff of experienced engineers able to continue to perform the required tasks. The training necessary to duplicate this effort would result in a substantial duplication of cost to the Government that would not be recovered through competition as well as unacceptable delays in fulfilling NASA's requirements. Since much of the T-38N software, hardware, and associated technical documentation necessary to support autopilot is proprietary to ASC, it's in the Government's best interest to contract with them as a sole-source for this service and as the logical follow-on to the SAA, their own effort, and the feasibility study performed by ASC as a subcontractor under NASA contract NNJ11JB28C. Additionally, ASC is available for immediate response to the program and schedule of the NASA JSC AOD.

10. A listing of sources, if any, that expressed in writing an interest in the acquisition:

Chippewa Aerospace Incorporated expressed interest in the acquisition. After learning more about the unique requirements of the T-38 and WB-57 autopilot projects, the company withdrew their interest in serving as the prime contractor on this effort.

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

NASA will continue to monitor the market for companies that have developed technologies that can meet the requirements of these programs. The NASA JSC AOD Engineering Branch will continue to look for ways to reduce barriers to competition for future procurements.