NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)
LYNDON B. JOHNSON SPACE CENTER (JSC)

JUSTIFICATION FOR OTHER THAN FULL AND OPEN COMPETITION (JOFOC)

FEDERAL ACQUISITION REGULATION (FAR) 6.302-1 ONLY ONE RESPONSIBLE SOURCE AND NO OTHER SUPPLIES OR SERVICES WILL SATISFY AGENCY REQUIREMENTS

1. **Introduction**: The Japan Aerospace Exploration Agency (JAXA) Proximity Communication (PROX) system services are required to allow National Aeronautics and Space Administration (NASA) to continue to provide the capability for the rendezvous and berthing of the Orbital Sciences Commercial Visiting Vehicle (CVV), also named "Cygnus," to the International Space Station (ISS) through the life of the Orbital contract, NNJ09GA02B. JAXA is essential to provide operational support for their PROX system for all Orbital Services Corporation (referred to as Orbital) procured via the Commercial Resupply Services (CRS) contract, NNJ09GA02B. Currently, under NNJ10GA22C, JAXA has successfully provided PROX system support through the Demo mission and Orbital-1 mission. JAXA will also provide support for the Orbital-2 mission under NNJ10GA22C, modification 15. JAXA informed the Government that incorporating additional missions through the existing contract, NNJ10GA22C, would exceed their current dollar authority. Therefore, JAXA requires a new contract to support future Orbital missions.

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 JAXA operational support for their PROX system in order to meet NASA obligations for (ISS) resupply under International Agreements. The Memorandum of Understanding (MOU) between the NASA of the United States and the Government of Japan Concerning the Cooperation on the Civil International Space Station, Article 3.2 reads, "NASA will design, develop and provide on orbit the following flight elements including subsystems, logistics carriers which provide the delivery of water, atmosphere gases and crew supplies and delivery and return of dry cargo, including crew supplies, logistics and scientific equipment." Similar ISS resupply language is found in each of the MOU's concerning the Cooperation on the Civil International Space Station between NASA, the Canadian Space Agency, the European Space Agency, and the Russian Space Agency.

These cargo services for ISS resupply have been procured from Orbital via the CRS contract, NNJ09GA02B. Orbital has provided these cargo services using their CVV. The Orbital CVV consists of a Service Module with a pressurized cargo module: The JAXA PROX system is required to provide the capability for rendezvous and berthing of the Orbital CVV to the ISS.

3. Description of the supplies or services required, include an estimated value: The JAXA PROX system services provide the capability for the rendezvous and berthing of the Orbital CVV to the ISS. The PROX system is partially located in the Japanese Kibo module on the ISS, and is operated via JAXA's Space Station Integrated Promotion Center (SSIPC) in Tsukuba, Japan. When a CVV approaches close to the ISS, the PROX antenna initiates communications with the portion of the PROX system components located on the CVV. The PROX system will be used for communications of commands and telemetry relayed to the CVV through the PROX antenna in the Kibo module for the CVV. In addition, the PROX system will relay commands to the CVV and will provide telemetry from the CVV. The performance of work will be primarily performed by JAXA's SSIPC at Tsukuba Space Center in Tsukuba, Japan.

Services and products that may be performed under this contract include, but are not limited to:

- Program Management (JAXA/Mitsubishi Electric Corporation (MELCO) support to Technical Interchange Meetings (TIMs))
- Technical support for documentation (e.g. Software Interface Control Document Development)
- JAXA Flight Control Team Operations
- PROX On-orbit Check Out
- PROX Operation, Training, Rehearsal
- PROX Ops Planning and Procedures
- ISS joint tests
- Testing and associated support
- End to end test with Mission Control Center
- Safety Review Process (SRP)
- Post Flight Review Support
- Mission support

The cost of this effort is estimated at approximately $9.9 million.

4. Statutory authority permitting other than full and open competition: 10 U.S.C. 2304(c)(1) Only One Responsible Source and No Other Supplies or Services Will Satisfy Agency Requirements.

5. A demonstration that the proposed contractor's unique qualifications or the nature of the acquisition requires use of the authority cited: A request for Proposal allowed offerors to propose a PROX system, Orbital proposed to use the JAXA PROX system for their communication system. Orbital's Cygnus Spacecraft was designed to utilize JAXA's PROX system. When the Orbital Cygnus approaches close to the ISS, the CVV initiates communications through the PROX antenna with the portion of the PROX system components located on the CVV. The PROX system relays commands to the CVV and provides telemetry from the CVV. The JAXA PROX system is the only communication system that Cygnus can use for proximity operations with the ISS. Therefore, the JAXA PROX system is essential to allow NASA to continue to provide the

capability for the rendezvous and berthing of the Orbital CVV to the ISS through the life of the Orbital Contract NNJ09GA02B.

6. **Description of the efforts made to ensure that offers are solicited from as many potential sources as practicable:** This action was synopsized on April 1, 2014, through April 15, 2014, pursuant to FAR 5.202, with no responses received.

7. **Determination by the contracting officer that the anticipated cost to the Government will be fair and reasonable:** Pricing information will be obtained from JAXA and will be analyzed by the cognizant technical and business personnel. Historical information based on previously provided services are available to ensure the Government is receiving a fair and reasonable price for the services being acquired. Under the existing contract, the Government has negotiated the Demonstration flight and Orbital Missions 1 and 2. The negotiated costs for these missions have fallen within the Independent Government Estimate (IGE) developed by the Government Assessment Cost Estimating Scheduling Team. The ISS Program Cost Estimating Office has performed an IGE for continuing services, which will also be used to evaluate the final negotiated prices.

8. **Description of the market survey conducted, and the results, or a statement of the reasons a market survey was not conducted:** A synopsis was issued on April 1, 2014, and no response was received.

9. **Other facts supporting the use of other than full and open competition:** There is no other known commercial provider of PROX Ops services that are compatible with the hardware installed on the ISS and the Orbital Cygnus vehicle.

10. **Sources, if any, that expressed an interest in writing in the acquisition:** No sources expressed an interest in writing.

11. **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:** The intent of this procurement is to provide the JAXA PROX system services in order to meet NASA obligations for ISS resupply under international agreements. A synopsis was issued on April 1, 2014, and no responses were received. As a result, there are no barriers to overcome due to the fact that there is no other operational PROX system that can operate with the Orbital Cygnus vehicle.