JUSTIFICATION FOR OTHER THAN FULL AND OPEN COMPETITION

(In accordance with the Federal Acquisition Regulation (FAR) Part 6.3- Other than Full and Open Competition)

1. **This document is a justification for other than full and open competition prepared by NASA's Goddard Space Flight Center's Wallops Flight Facility (WFF):**

   WFF proposes to modify the Indefinite Delivery, Indefinite Quantity (IDIQ) task order contract with the Virginia Commercial Space Flight Authority (VCSFA) operating under the name Mid-Atlantic Regional Space Port (MARS) for launch site services supporting missions conducted from WFF. While the MARS III statement of work expressly contemplates launch site services for Government missions, the statement of work does not specifically contemplate support for commercial launch operations. This modification will increase the contract ceiling value by $5M to $53,886,593, and will increase the scope of the MARS III contract (NNG15WA45B) to include commercial launch site services in support of NASA's mission and/or NASA requirements.

   This document justifies the determination for using other than full and open competition.

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

   WFF operates NASA's only launch range at WFF in support of NASA's space operations, science, and technology research programs. The WFF supports launch operations sponsored by other Government agencies, commercial industry, and educational institutions. Among the services provided by WFF to NASA and its partners are mission management, range safety, tracking and data services, launch vehicle and spacecraft processing, and launch pad services.

   The VCSFA is a non-profit Government Agency of the Commonwealth of Virginia that receives base-level funding from the state. In 1997, VCSFA and NASA entered into a Space Act Agreement (including a use permit called the Facilities and Access Support Sub-agreement (FASS), which enabled VCSFA to provide services and carryout launch range improvements and provide launch services at WFF for the purposes of supporting the commercial launch industry through the provisions of the Commercial Space Launch Act. The Agreement was renewed in 2007. On September 10, 2003, VCSFA and NASA entered into a sole source contract for launch site services and construction supporting Government launches conducted at WFF. On May 4, 2009, and then again on December 8, 2014, sole source follow-on contracts were awarded to the VCSFA for similar services.

   VCSFA currently owns two orbital launch complexes and supporting equipment located at WFF, maintains significant specialized technical knowledge related to national launch system designs and processes, provides specialized launch service capabilities, and maintains substantial arrangements with regional suppliers and providers of logistical services, in support of prospective VCSFA commercial and Government customers.

VCSFA also currently maintains the only Federal Aviation Administration (FAA) license to conduct commercial launches from the WFF. WFF is permitted use of VCSFA owned launch services, capabilities and infrastructure under the contract cited above. To enable use of VCSFA capabilities and infrastructure in support of NASA and other federally-sponsored organizations, WFF requires VCSFA's specialized expertise and services.

The current MARS III contract provides WFF the ability to issue task orders for launch site and other specialized services supporting GSFC's commitments to government launch range customers. WFF defines all task, technical and schedule requirements. The period of performance of this contract is 5 years, which ends December 7, 2019. This action will expand the scope of NASA's existing contract with VCSFA for supporting government launches to expressly include support for commercial launches that support NASA's mission objectives such as the Commercial Resupply Services (CRS) program missions, as well as increase the IDIQ ceiling by $5,000,000 to account for commercial launch capability support. The CRS program missions support ISS operations by utilizing commercial medium-class launch vehicles (generally identified as those capable of delivering 3,000 to 30,000 pounds to earth orbit). These vehicles are expected to be used not only for ISS-related missions, but also for delivery of NASA's science payloads to their desired orbits. In addition to the launch range maintained by the Air Force, the CRS program requires resupply of ISS from the NASA range at WFF. VCSFA is the only entity capable of satisfying this requirement.

The objective of this contract modification is to increase the current and long term capability of WFF to provide launch services and capabilities to safely and successfully launch missions for NASA, other federal organizations, and NASA's commercial partners. The schedule for these missions is both critical and very compressed, as is delivery of supplies and scientific payloads to the ISS. The ability to resupply ISS in a timely fashion from two distinct launch sites, including a NASA-owned range, is critical. The existence of the VCSFA at WFF is fortuitous for NASA and provides WFF with an existing contractor which has the demonstrated capability, licensing, and baseline capabilities to accomplish ISS resupply tasks.

As described above, specific mission services and capabilities are required for NASA to meet the requirements of NASA's CRS program missions. Other commercial mission follow-on support efforts are possible for the 2015 to 2019 timeframe. This contract will provide those services required to support NASA in these critical program initiatives.

While the MARS III statement of work expressly contemplates launch site services for Government missions, the statement of work also indicates that launch site support services will be provided to government launch range customers. The contract modification will expand the scope of work to specifically include support for commercial launch operations at VCSFA.

Finally, and fundamental to the nature of the action being described here, NASA, by nature of the proposed investment in the described medium class launch capability to be procured, will obtain substantial benefit from its development of this VCSFA capability.

Specifically, NASA will, as a part of its investment, receive preferential pricing and use-priority for the capabilities for which NASA provides funding. For the launch pad and related capabilities, the oversight/approval role means that NASA will concur with operational standards and operational plans to ensure that they meet ongoing NASA mission requirements. This will help ensure that the quality of services provided will meet NASA's standards for current and future mission sets.

3. Description of the supplies or services required, including an estimated value:

The contract modification will expand the scope of work to specifically include support for commercial launch operations that support the NASA Mission and/or NASA requirements at VCSFA, and increase the contract ceiling value by $5,000,000.

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)(1), as implemented by FAR 6.302-1, "only one responsible source and no other types of 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:

The rationale supporting the use of 10 U.S.C. 2304(c)(1) is the current absence of technically acceptable alternatives to the launch capabilities available at the VCSFA.

Presently, there are only four U.S. launch sites fully capable of providing orbital and large suborbital launch services. These sites are the USAF's Eastern and Western Ranges, Alaska Aerospace Development Corporation's Kodiak Launch Complex, and WFF. This list excludes the vehicle-specific capabilities offered by Boeing's Sea Launch platform. Each of these launch sites have specific capabilities and varying abilities to accommodate the spectrum of launch customers and their requirements. Generally, the launch sites located on the western portion of the U.S. cannot provide the same mission trajectory options as those on the East Coast, because of safety considerations. For orbital missions, the only potential alternative to WFF as a launch site for inclined orbit missions could be the Eastern Range. Although WFF and the Eastern Range can technically accommodate some of the same orbital and suborbital missions, there is invariably a technical advantage of one site over another for each given mission.

Technical and programmatic discriminators may include the maximum spacecraft weight available to a specific orbit, proximity to ground-based instrumentation stations, availability of unique launch-site equipment, safety-of-flight considerations, coordination with other missions, ability of a launch site to accommodate schedule requirements, and treaty considerations. While in many cases only 1 launch site can meet the specific requirements of a given mission, the Eastern Range's strengths include the ability to support low-to-mid inclination launches for large launch vehicles. WFF's strengths include its ability to support research and development missions, mid-to-higher inclination

launches, and small/medium class launch vehicles. This unique role makes WFF the ideal site for its current mission set of suborbital and small/medium orbital missions and perfectly leverages that experience base for the CRS Program missions. This experience base, combined with the already existing infrastructure capability owned by NASA and VCSFA, creates a strong base for the mission set required now that Shuttle systems are retired. There is also a financial advantage to 1 launch site over another, as a result of the cost of transporting and maintaining mission-support equipment and personnel at a particular launch site, the need to make mission-specific improvements at a particular site, and the cost of delays due to schedule conflicts at a particular site. NASA, the Department of Defense, and other Federal Agencies evaluate these technical and financial considerations, and ultimately make a programmatic selection of a launch site.

Multiple launch site users expect launch site operators like WFF to provide an integrated set of vehicle and payload processing and launch pad facilities, safety, tracking and data, launch pad, range management, and logistical services, through a single organization. It is highly impractical and inefficient for launch range customers to enter into multiple agreements and contracts for services at WFF. As the responsible authority, owner of the WFF Launch Range, and the dominant provider of services to launch site customers, WFF must serve as the launch site service provider.

In addition to the use of this infrastructure, NASA requires supporting specialized services associated with knowledge of particular launch vehicle designs, specialized logistical support of various launch vehicles, and specialized knowledge and capabilities associated with the use of VCSFA-owned launch infrastructure.

Having completed the lengthy spaceport licensing process with FAA as well as associated environmental studies and assessments, VCSFA stands ready to support rapid development and extension of VCSFA capabilities at WFF. Any conceivable alternative would require years of delay and would be unacceptable.

VCSFA has accumulated this specialized knowledge over a 23-year period, beginning in 1992, when key VCSFA personnel initially began planning for the establishment of a spaceport at WFF. In order for an alternative source to be able to meet the intent of this contract, the source would be required to:

- Acquire critical launch complex design information for Pad 0A and 0B either from VCSFA or from NASA. NASA does not currently retain a complete set of this data, and would be required to obtain it from VCSFA;
- Use this design information to develop generic and mission-specific procedures, compliant with NASA's requirements;
- Accumulate requirements from potential launch vehicle suppliers concerning requirements of the launch site provider to handle, transport, and process components and the integrated system in order to define processes for implementation at WFF;
- Establish relationships with suppliers capable of providing for transportation (rail, sea, air, and road), logistics (e.g., specialized cranes, fuels), and other similar services;

- Provide WFF-certified personnel qualified to conduct or oversee hazardous operations; and,
- Acquire knowledge of specific WFF-unique environmental, physical, safety, and technical capabilities required to be applied to generic or mission-specific implementations and studies, necessary to support the government.

It is the determination of WFF that alternative sources could not reproduce these capabilities in less than three years of continuous cooperative internal investments by both the contractor and GSFC. As further detailed herein, this would involve unacceptable delays in fulfilling the Agency's requirements, and would also entail substantial duplication of costs to the government that would not be expected to be recovered through competition. This determination is based upon WFF knowledge of the scope of the efforts, as well as insight of VCSFA's efforts in achieving these capabilities. VCSFA has developed these capabilities over a 23-year period. The ability to sufficiently develop an adequate understanding of VCSFA's launch infrastructure and establish comparable plans and procedures for its use is predicted to take one to two work years. This estimate reflects the time necessary to develop detailed understanding of architectural drawings for two separate and unique launch pads and associated equipment, as well as perform engineering analyses concerning structural capabilities associated with various flight systems and local weather contributions. It reflects necessary time to analyze and develop modification concepts for mechanical, electrical, communications, and other interfaces between VCSFA launch complexes and various flight systems. It also reflects the time necessary to evaluate modifications, testing, certification, construction of new facilities, and maintenance of the infrastructure as needed prior to Governmental use.

The accumulation of comprehensive launch vehicle specific design information necessary to support infrastructure and mission planning is estimated to take approximately one work year. There are many different launch vehicle configurations that could potentially launch from VCSFA-owned launch infrastructure at WFF. Each vehicle is unique, and for strategic, facility, and mission planning purposes, all must be understood by WFF to some level of technical detail.

The establishment of necessary relationships with commercial providers of logistical services, including transportation, expendables, and handling equipment is projected to take one to two work years. Numerous emerging launch vehicle concepts anticipate the use of either cryogenic and/or hypergolic liquid fuels which are not readily available in the WFF region. The use of these fuels requires the establishment of relationships with numerous suppliers and requires specialized knowledge, training, and equipment. The support for use of these fuels is complicated by the distance from distributors. Plans must be developed for the legal and safe transport, storage, launch vehicle fueling, defueling, and disposal of these substances and coordination of these plans with producers and their distributors. Numerous large solid rocket producers often transport vehicles via railroad or by sea. These shipments are hazardous and often require handling/unloading in remote locations with specialized handling equipment and procedures. VCSFA negotiations and coordination with railroad and railsiding site owners took in excess of one year to complete. Additionally, a contractor would have to work with multiple State and local

governmental organizations to establish plans for the transportation from a rail or sea unloading location to WFF. A contractor would also have to develop knowledge of special considerations for transport on-site at WFF, such as over the WFF Causeway Bridge.

The time required for a source to design and construct infrastructure, develop personnel competently trained to perform safety insight and monitoring, understand NASA environmental considerations including completing the required NEPA process, and participate/contribute to other critical mission support functions according to NASA's GSFC, FAA, and other Federal/Commonwealth policies is projected to be in excess of 3 years which substantially exceeds the timeframe needed to support CRS missions. WFF will require multiple contractor personnel to be properly trained and certified to monitor hazardous operations associated with launch site operations. This certification is the result of formalized safety classes, examination, and work experience. Additionally, contractor personnel must be certified to several professional standards and well versed in numerous NASA and GSFC policies, and numerous Federal, State, and local regulatory policies, as well.

Many of these requirements are interdependent and must be met through multiple entities, each capable of executing several of the elements described previously. Because of these interdependencies, as well as the time required to develop the capabilities associated with several of these key functions, it is expected that the cumulative time period for an alternative source to be capable of performing these services is approximately 5 years. This would result in unacceptable delays in fulfilling agency requirements.

In addition to the delay inherent in utilizing an entity not currently present at, operating with, and integrated into the WFF Range, any other approach would result in an unnecessary duplication of cost due to the need to replicate existing VCSFA infrastructure and equipment already at WFF. This infrastructure and equipment currently comprises capital assets estimated by NASA to be in excess of $88,000,000 and includes the value of launch structures, support equipment, and communications infrastructure which would have to be duplicated. Not included in this estimate is the labor involved to secure environmental and safety analyses sufficient to establish a new spaceport at WFF Island.

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

A notice to the Federal Business Opportunities (FedBizOpps) was published on March 13, 2015, in accordance with Federal Acquisition Regulation Subpart 5.2. This posting is to inform potential sources of NASA's intent to award this effort to VCSFA, and to provide potential sources with the opportunity to be considered based on their qualifications and capabilities. The results of this publication are contained in Paragraph 10.

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

By signature on this document, the CO determines that the anticipated cost to the Government will be fair and reasonable. VCSFA will be required to submit a proposal for each task order to be evaluated and negotiated by the Government based on previously negotiated not to exceed direct and indirect rates established in the contract. After the contract is modified, the cost of individual missions and tasks will be determined. The GSFC CO and the Contracting Officer's Representative (COR) will monitor VCSFA's performance. VCSFA will be required to submit technical progress reports and financial management reports to be reviewed and analyzed by the Government, and the Office of Naval Research (ONR) will review all costs incurred for allowability.

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

Due to fact that VCSFA owns and successfully operates geographically fixed infrastructure that is directly related to the performance of tasks to be issued under this contract and this infrastructure is immovable by its very nature, and that VCSFA constructed that infrastructure with non-NASA funds (i.e., VCSFA owns it), as well as the infrastructure being unique, VCSFA possesses a totally unique capability to provide this support. The COR has in depth knowledge of the market related to this requirement and no additional market survey was performed.

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

In anticipation of commercial launch opportunities, VCSFA has in recent years acquired specialized knowledge, experience, and unique capabilities. VCSFA maintains detailed knowledge of the technical capabilities, critical design characteristics, and technical issues associated with its infrastructure. VCSFA also maintains specialized expertise and valuable commercial arrangements associated with ground processing and launch pad activities, not otherwise resident within NASA's GSFC or its existing support contractors. This expertise was acquired as part of VCSFA's Business Plan to provide value-added services in addition to NASA-supplied services, envisioned primarily in support of commercial launch customers. VCSFA has been accumulating specialized knowledge of commercial and Governmental launch vehicles designs, developing means for interfacing those vehicles to its launch infrastructure, establishing relationships with critical suppliers, and establishing an integrated series of processes with GSFC organizations to carry out an efficient set of launch-site specific services. VCSFA is the only current source sufficiently knowledgeable and with these capabilities to meet near-term mission requirements.

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

A notice to FEDBizOpps was published to announce NASA GSFC's WFF's intentions to increase the ceiling value and scope of the MARS III contract to include Commercial Launch support on March 13, 2015. The 15 day response period expired on March 30, 2015, and no firms expressed interest nor challenged the synopsis.

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

This authority is used to satisfy an agency requirement where no technically acceptable alternative solutions currently exist, and are unlikely to exist in the near future. If any other entities express an interest in performing this work in the future, WFF will communicate with them and provide the necessary support to foster that possibility.

JUSTIFICATION FOR OTHER THAN FULL AND OPEN COMPETITION
For the Virginia Commercial Space Flight Authority

SIGNATURE PAGE

TECHNICAL DIRECTORATE:

I certify that the facts presented in this Justification are accurate and complete.

[redacted] 3/31/2015

Signature Date

CONTRACTING OFFICER:

I certify that the Justification is accurate and complete to the best of my knowledge and belief.

[redacted] 3/31/15

Signature Date

PROCUREMENT OFFICER:

[redacted] 4/2/15

Signature Date

GSFC COMPETITION ADVOCATE: (APPROVAL)

[redacted] 4/6/15

Signature Date