

**This JUSTIFICATION FOR OTHER THAN FULL AND OPEN COMPETITION  
(JOFOC) is being prepared by the**

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

**Pursuant to 10 United States Code (U.S.C) 2304(c)(1) and Federal Acquisition Regulation  
(FAR) 6.302-1**

**For the Sabatier Contract  
NNJ14GA09B with United Technologies Corporation Aerospace Systems (UTAS)**

**FAR 6.303-2(b)(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 with the current Sabatier provider United Technologies Corporation Aerospace Systems (formerly Hamilton Sundstrand), hereinafter referred to as UTAS to award a follow-on contract NNJ14GA09B. The original contract NNH08CD04C period of performance (PoP) began April 11, 2008, and ended on September 30, 2014. A follow on BPA NNJ14GA10Z was awarded to allow UTAS time to receive pricing from their subcontractors on replacement hardware. This Blanket Purchase Agreement (BPA) bridged the gap after the original contract NNH08CD04C ended on September 30, 2014, and will be in place until the pricing data for replacement hardware is received and negotiated for the follow-on.

With this approval, NASA/JSC intends to issue a contract for UTAS to continue providing on-orbit water production services using an existing Sabatier-reaction based system for the International Space Station (ISS) from December 15, 2014, until September 31, 2017.

**FAR 6.303-2(b)(3) – A description of the supplies or services required, to meet the Agency’s needs (including the estimated value):** NASA/JSC has a requirement to sustain the existing Sabatier-based reaction system currently onboard the ISS. The Sabatier system uses a catalyst that reacts with carbon dioxide and hydrogen, both byproducts of current life-support systems onboard the ISS, to produce water and methane. This interaction closes the loop in the oxygen and water regeneration cycle and provides NASA with a means to produce water without the need to transport it from Earth. Accordingly, NASA has determined that it would be advantageous to continue operating the Sabatier system on-board the ISS as continued operations will reduce the need for transporting water via available space cargo launch services.

NASA intends to issue an award for these engineering services and hardware to support the continued operation of the Sabatier system currently in the ISS utilizing a Commercial FAR Part 12 Firm Fixed-Price Indefinite-Delivery, Indefinite-Quantity (IDIQ) services contract. Under this acquisition approach, UTAS will support all sustaining activities associated with the system. NASA will continue to require minimal insight into the design, development, test, and operation to assess concerns related to the safety of flight hardware.

NASA expects a Firm Fixed-Price IDIQ services contract for three years with an estimated value not to exceed \$10,000,000.00. The anticipated period of performance will be from December 15, 2014, until September 31, 2017.

**FAR 6.303-2(b)(4) – An identification of the statutory authority permitting other than full and open competition:** 10 U.S.C. 2304 and 41 U.S.C. 3301 require, with certain limited exceptions, that agencies shall promote and provide for full and open competition in soliciting offers and awarding Government contracts. Under limited circumstances, agencies are authorized to award contracts that restrict competition on a sole-source basis.

The statutory authority for proceeding with this acquisition under Other Than Full and Open Competition is 10 U.S.C. 2304(c)(1) as contemplated by the provision of FAR 6.302-1(a)(2)(iii). FAR 6.302-1(a)(2) states, “When the supplies or services required by the agency are available from only one responsible source, or, for the Department of Defense, NASA, and the Coast Guard, from only one or a limited number of responsible sources, and no other type of supplies or services will satisfy agency requirements, full and open competition need not be provided for.”

FAR 6.302-1(a)(2)(iii) continues by stating “services may be deemed to be available only from the original source in the case of follow-on contracts for the continued provision of highly specialized services when it is likely that award to any other source would result in (A) [s]ubstantial duplication of cost to the Government that is not expected to be recovered through competition, or (B) [u]nacceptable delays in fulfilling the agency’s requirements.”

**FAR 6.303-2(b)(5)&(9) – A demonstration that the proposed contractor’s unique qualifications or the nature of the acquisition requires use of the authority cited and any other facts supporting the use of other than full and open competition:** Under the current contractual arrangement between NASA and UTAS; UTAS maintains all proprietary data, drawings and engineering knowledge as designers and providers. Contracting with another entity to re-engineer this hardware is not feasible, as all hardware is operational and on-orbit. Award to another source would require a design of new spares, which would result in unacceptable delays in fulfilling the Agency’s requirements and a substantial duplication of cost to the Government that is not expected to be recovered through competition.

UTAS is uniquely qualified to sustain, operate, and maintain the hardware required to meet the service requirements based on the fact that UTAS provided the Sabatier system presently onboard ISS. The combined uniqueness of prior experiences, including state of the art technology, personnel and the facilities, do not exist elsewhere. UTAS has developed a number of payload and ISS systems throughout their corporate history. Furthermore, their proposed supporting personnel have a long history of flight hardware development, and have been leading on-going Sabatier risk reduction projects at UTAS. Only UTAS has insight to the design, development, testing, and evaluation of the Sabatier system, and NASA requires a commercial entity with knowledge of the design and drawings of the flight hardware.

**FAR 6.303-2(b)(6) – A description of the efforts made to ensure that offers are solicited from as many potential sources as practicable, including whether a notice was or will be publicized as required by Subpart 5.2 and, if not, which exception under 5.202 applies:** On July 19, 2014, a Non-Competitive Synopsis was issued on the NASA Acquisition Internet Service (NAIS) for Sabatier services onboard the ISS with a closing date of August 13, 2014. This synopsis stated the Government's intent to procure a follow-on contract for these requirements on a sole source basis with UTAS with an anticipated period of performance from date of award, anticipated December 15, 2014, until September 31, 2017. No responses have been received to date from any companies expressing interest or stating they could provide these services.

**FAR 6.303-2(b)(7) – A determination by the contracting officer that the anticipated cost to the Government will be fair and reasonable:** In order to demonstrate that the Government has received a fair and reasonable price for these services, the Contracting Officer will rely on information including the technical evaluation performed by the requiring technical organization, an Independent Government Estimate from the ISS Assessments, Cost Estimating and Schedules Office, and other historical pricing information such as a comparison of rates for similar commercially available sustaining engineering services within the ISS procurement office. Based upon the past experience and the data and resources available to the Contracting Officer, it is anticipated that the Government will be able to negotiate a fair and reasonable price for these services.

**FAR 6.303-2(b)(8) – Description of the market survey conducted, and the results, or a statement of the reasons a market survey was not conducted:** On July 19, 2014, a Non-Competitive Synopsis was issued on the NAIS for Sabatier services onboard the ISS with a closing date of August 13, 2014, that served as a market survey for the proposed contract modification. As a result of this market survey, no company has expressed an interest in the work. By using these results, NASA will not incur the costs associated with running a full and open competition when there is only one uniquely qualified provider in the commercial market.

**FAR 6.303-2(b)(10) – A listing of the sources, if any, that expressed an interest in writing in the acquisition:** No responses received. To date, no potential contractor has contacted the Contracting Officer expressing an interest in performing this work as the prime contractor.

**FAR 6.303-2(b)(11) – A statement of 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:** Along with the previously mentioned synopsis posted to NAIS, NASA does not intend to pursue subsequent acquisitions for this type of system. If or when NASA needs another Sabatier reaction system, the state of technological development in the marketplace may have advanced to a point where there are other viable sources of supply, and any new acquisition would be performed competitively.

It has been determined that the use of this sole-source contract is in the best interest of the agency concerned.