

# REQUEST FOR INFORMATION

## Bridge Tanker Program

19 July 2021

### **1.0 Description**

1.1 The United States Air Force, Air Force Life Cycle Management Center, in support of the Bridge Tanker Program Office (AFLCMC/WLQ), is seeking information from interested companies with the capability to deliver approximately 140-160 Commercial Derivative Tanker Aircraft to supplement the Air Force Tanker Aircraft fleet at the end of KC-46 production to bridge the gap to the next Tanker recapitalization phase. The Commercial Derivative Aircraft must be operational by 2030. The Air Force is still finalizing the requirements for this acquisition, but the baseline for aircraft capability will be based on the KC-X (awarded as KC-46A) requirements from phase one of tanker recapitalization, with subsequent and emerging requirements defined by the Air Force.

1.2 THIS IS A REQUEST FOR INFORMATION (RFI) ONLY. This RFI is issued solely for information and planning purposes; it does not constitute a Request for Proposal (RFP) or a promise to issue an RFP in the future. This RFI does not commit the Government to contract for any supply or service whatsoever. Further, the Air Force is not at this time seeking proposals and will not accept unsolicited proposals. Respondees are advised that the U.S. Government will not pay for any information or administrative costs incurred in response to this RFI; all costs associated with responding to this RFI will be solely at the interested party's expense. Not responding to this RFI does not preclude participation in any future RFP, if any is issued. If a solicitation is released, it will be synopsisized on the [Federal Business Opportunities \(FedBizOpps\) website](#) and the [www.beta.sam.gov](http://www.beta.sam.gov) website. It is the responsibility of the potential offerors to monitor these sites for additional information pertaining to this requirement.

### **2.0 Background**

The Secretary of the Air Force has committed to a continuous recapitalization of the 479 legacy tanker fleet and this includes replacement of the aging KC-135 fleet. The KC-135 will be 70 years old when the Air Force receives its last KC-46 delivery in FY 2029. Therefore, the Air Force intends to move forward with a Bridge Tanker air-refueling aircraft acquisition program.

The Bridge Tanker is planned as a non-developmental program, based on existing and emerging technologies. The Bridge Tanker acquisition is expected to be a full and open competition. The quantity of the procurement is still under analysis for 140-160 aircraft, with possible future options

for additional aircraft. The tanker will bridge the gap between the capabilities offered by the Boeing KC-46A and the future follow-on Advanced Air Refueling (AAR) Tanker.

The Tanker Recapitalization planned to replace 479 legacy tankers in three phases known originally as KC-X, KC-Y, and KC-Z. The concept remains the same, but there is some updated terminology:

- KC-X was awarded to Boeing in 2011 with deliveries beginning in 2019 and became the aircraft designated KC-46A. It is expected to deliver the last of 179 aircraft by 2029.
- KC-Y, now called Bridge Tanker, plans to acquire approximately 140-160 aircraft starting no earlier than 2029 via a competitive award for a commercial derivative solution.
- KC-Z is now Advanced Air Refueling (AAR) and is the planned future development and acquisition of new air refueling capabilities. The precise requirements and timeframe are still being determined.

2.1 Planned Production: Production of the Bridge Tanker aircraft is desired to begin no earlier than 2029.

2.2 Delivery Period: Delivery of Bridge Tanker aircraft is desired to begin no earlier than 2029 and continue at a rate of ~12 aircraft per year until all aircraft are delivered.

2.3 Limitations: This is planned to be a commercial derivative program.

2.4 Security Requirements: Approval to handle and store classified information up to and including Top Secret material is required.

2.5 US-Only Manufacturing: Buy American Act provisions will apply for this program.

### **3.0 Requested Information**

3.1 The Air Force is seeking companies that have the capability to deliver approximately 140-160 Commercial Derivative Tanker Aircraft to supplement the Air Force Tanker Aircraft fleet at the end of KC-46 production and bridge the gap to the next Tanker recapitalization phase. The Commercial Derivative Aircraft must be operational by 2029. Interested parties are requested to respond to this RFI with a white paper addressing the following questions:

3.2 General Capabilities:

- 3.2.1 What candidate aircraft(s) are you considering offering. What % of your candidate aircraft(s) is commercial? What companies are currently

flying/operating this aircraft(s) as a refueling aircraft? What (if any) additional development does this aircraft(s) require?

- 3.2.2 What stage of “new” development is your candidate aircraft(s) at today? What is the current technology readiness level(s) for any new systems/technologies, and how much development do you anticipate is required in order for these systems/technologies to be made fully operational?
- 3.2.3 What is your candidate aircraft(s) fuel offload capability at ranges from 0-3,000 nautical miles radius assuming the following ground rules: Radius is defined as standard day takeoff, fly to the AR track, orbit for one hour, offload fuel, and return to original base with required reserve fuel. Aircraft should operate with maximum fuel efficiency within current aviation technology, without any degradation to mission/aircraft performance (please respond with a table/graph showing increments of at least 500 nautical miles).
- 3.2.4 What and how could your candidate aircraft(s) increase its fuel offload capacity at range? Do your candidate aircraft(s) have the capability to increase fuel offload by 5,000 to 50,000 lbs.? What is the capability and what (if any) tradeoffs to the aircraft(s) technical performance would come with this increased offload capacity?
- 3.2.5 Does your candidate aircraft(s) have main deck cargo carrying capabilities including cargo door(s), or do you have designs in place to add a main deck cargo door including cargo capability? Is your cargo approach Federal Aviation Authority (FAA) or European Union Aviation Safety Agency (EASA) approved? What is the max cargo capacity (in size and weight) for your proposed design? Will your cargo design accommodate a standard 463L pallet? What methods are available for onloading and offloading cargo, to include door(s) location(s) and required handling equipment?
- 3.2.6 How does your candidate aircraft’s cargo solution allow for the main deck to be configurable for passenger, cargo, and Aeromedical Evacuation (AE) equipment? Describe maximum capacity of each available configuration.
- 3.2.7 How does your candidate aircraft approach enable Command and Control (C2) and Air Battle Management System (ABMS) implementation?
- 3.2.8 Does your candidate aircraft(s) have a NVIS-compatible / IR exterior lighting mode? If so, do aircrew have the capability to individually control each light or set of lights? Are the lights compatible with receiver NVIS devices and air refueling formation station-keeping positions for fighter and heavy aircraft? Is the cockpit lighting and displays NVIS compatible? Cargo compartment?

- 3.2.9 What maintenance reliability capabilities does your candidate aircraft(s) possess? Does your candidate aircraft(s) have any health monitoring systems? Does your candidate aircraft(s) have any on-board prognostic, diagnostic, or predictive maintenance system features and technologies? Will the predictive system (or the use of that system) be a deliverable to the government, and will Government engineers be able to use the predictive system (or will it be limited to OEM engineers)? What data is available to support Condition Based Maintenance (CBM+)?
- 3.2.10 Does the aircraft have a predictive maintenance system, will that system (or the use of that system) be a deliverable to the government, and will Government engineers be able to use the predictive system (or will it be limited to OEM engineers)?
- 3.2.11 Does the aircraft design use modern digital engineering (esp. Digital Twins)/Model Based Systems Engineering (MBSE), and would those digital models be made available to the Government for long-term (60+yr) support of the aircraft?
- 3.2.12 Does the aircraft design use modern (tool-less, reconfigurable tooling, or additive manufacturing) production methods that would facilitate improved long-term on-demand production of spares? Would that intellectual property be available to the Government for long-term on-demand production of spares?
- 3.2.13 Does the OEM outsource any of the software development or maintenance for the offered aircraft, and how would the OEM propose to partner with USAF Depots for long-term sustainment of the software?
- 3.2.14 What (if any) provisions are there for a federated mission system that will be GFE but able to utilize displays and input devices yet not impact certification?
- 3.2.15 Does your aircraft comply with the Open Mission System (OMS) specification, to what level? Open Communication System (OCS) specification? Universal Command and Control Interface (UCI)?
- 3.2.16 Does your aircraft record data that could be used for preventative maintenance, and what model for data ownership should the government expect?
- 3.2.17 In addition to information about product capabilities and timelines, the potential vendor is requested to provide a summary of their Digital Engineering business practices, including: the primary IT systems used for key engineering functions (requirements management, systems engineering, configuration management, modeling, and simulation); the vendor's willingness to allow Government access

to those systems for teaming, design reviews, and collaboration; and the vendor's approach to providing digital engineering data to the Government at the end of the contract period. What business practices will support these requirements?

- 3.2.18 What (if any) provisions are there for "Mission Teams" (passengers that accomplish a distinct or separate mission while airborne) to have connectivity, a workspace, and utilize the federated missions system(s)?
  - 3.2.19 What (if any) provisions are there for accommodating multiple beyond-line-of-sight data pathways in a fashion that allows the government to change hardware and service providers rapidly?
  - 3.2.20 What additional technologies/systems are not yet fully developed and operational that you believe would be beneficial to the USAF. Are any of these capabilities being used, or are planned for use with US allies/partners?
- 3.3 Regarding Air Refueling:
- 3.3.1 What visual method(s) are provided to the boom operator, and what are the known limitations today? What (if any) adjustments are expected before production begins? If a visual system to support the in-flight air refueling operator is included in your design, what are the capabilities, to include effectiveness and reliability, of your candidate aircraft(s) visual system(s), including 3-dimensional and night vision? What back-up/redundancy system is part of your design?
  - 3.3.2 What is the maneuvering envelope for your candidate aircraft(s) air refueling boom system (please provide a diagram with specific limitations for up, down, left, and right movements of the boom)? Will the proposed solution be capable of maneuvering throughout the entire refueling envelope, IAW applicable Air Refueling (AR) manuals and Standardization Agreements (STANAGs), of any compatible current and programmed fixed-wing? If not, what fixed-wing platforms are not supportable?
  - 3.3.3 What are the features or attributes of your candidate aircraft(s) air refueling boom system that help prevent contacts outside the receptacle to reduce damage to the receiving aircraft to include stealth fighters and bombers?
  - 3.3.4 What are the features and status of your candidate aircraft(s) ability to assist/facilitate fifth-generation fighters to facilitate real-time data information exchange with other fifth-generation and fourth-generation fighters and bombers?
  - 3.3.5 What (if any) receiver aircraft (either US or Foreign) are currently qualified for air refueling with your candidate aircraft(s) using boom, centerline drogue, and

wing pod drogue systems--including any capability with F-35A/B/C, A-10, VC-22, and, un-manned air vehicles per ATP 3.3.4.2? What is the max weight limit for wing hard points for the pod drogue refueling systems and are the hard points equipped with power and signal interface connections to support employment of auxiliary communication/sensor pod systems?

- 3.3.6 What additional aircraft do you believe are capable of earning refueling qualification and what (if any) changes to your candidate aircraft(s) are required to achieve this qualification?
  - 3.3.7 What are the features and development status of any automated air refueling systems developed or being developed for your candidate aircraft(s)?
  - 3.3.8 Does your candidate aircraft(s) offer a centerline drogue capability? If not, what is required to provide this capability?
  - 3.3.9 What EMP hardness level of protection does your candidate aircraft offer for flight-critical aircraft systems in order to meet MIL-STD 3023?
  - 3.3.10 Does your aircraft have any structural and/or air worthiness limitations as a tanker or receiver for the life of the aircraft? If so, what are your anticipated limitations?
- 3.4 Regarding Avionics and Other Systems:
- 3.4.1 What are the systems, extent, and status of open interfaces and modular architectures on your candidate aircraft(s) (e.g., Modular Open Systems Architecture)?
  - 3.4.2 What front-end communications systems or capability does your candidate aircraft(s) have? What back-end/cargo communications systems or capability does your candidate aircraft(s) have?"
  - 3.4.3 What defensive systems does your candidate aircraft(s) currently have, or any plans for future installs/upgrades?
  - 3.4.4 What existing capability does your candidate aircraft have to mount and enable employment of auxiliary communication/sensor pod-based systems on left and right wing outer most hard points? To what level of power and signal cable bandwidth are such wing hard points already provisioned to enable crew members to receive pod data and to provide command and control of auxiliary pods? If auxiliary pod employment capability does not already exist, what is required to provide this capability on both wings?
  - 3.4.5 How is your candidate aircraft designed to prevent, mitigate and/or recover from a cyber-attack? What mechanisms are in place for the candidate aircraft(s) to

survive a cyber-attack? Does the candidate aircraft(s) have published cyber-attack response procedures and TTPs for alternate means of aircraft operability in the event of a successful cyber-attack? What are the mitigations to prevent a cyber-attack while maintenance on the aircraft is being performed?

### 3.5 Regarding Production & Certification:

3.5.1 Where do you intend to build and finish your candidate aircraft(s)? What is your production facility status? How long will it take you to stand up production capability? Are you able to initiate production in time to support deliveries starting in 2029? What are your current and projected production capabilities and delivery rates? Is there a minimum production rate (quantity per year) that you would need to realize in order to consider competing for this requirement; if so, what is it?

3.5.2 What is the type and status of your aircraft's Airworthiness Certification? What development timeline is required to provide two FAA/EASA Certified aircraft? What are the major drivers to schedule? What are the impacts of the pending FAA/EASA regulations regarding engine emissions that take effect in 2028?

3.5.3 In your strategy for achieving USAF Airworthiness Certification for your candidate aircraft(s), do you plan to leverage your FAA/EASA Certifications for compliance to all applicable sections of MIL-HDBK-516C? If not, for what systems/subsystems on your candidate aircraft(s) do you plan to use only MIL-HDBK-516C methods of compliance to achieve USAF Airworthiness Certification for your aircraft(s)?

### 3.6 What are your perspectives on the advantage to the Government regarding?

3.6.1 Component breakout and GFE. Specifically address: Engines, training systems, ground support systems, refueling PODs, C3I, defensive systems. How might the Government maximize competitive pricing without undue total system integration risk?

3.6.2 What are the features, status and arrangement (with subcontractors, if any) of your training device/systems? What are the type and quantity of training devices currently available?

## 4.0 Responses

4.1 Interested parties are requested to respond to this RFI with a white paper.

4.2 White papers in Microsoft Word compatible format are **due no later than 02 August 2021, 17:00 EDT**. Responses shall be limited to 30 pages of text (excluding pictures and graphs) for Section 2 of the white paper and submitted via e-mail only to [jessica.cook.8@us.af.mil](mailto:jessica.cook.8@us.af.mil). Proprietary information, if any, should be minimized and **MUST BE CLEARLY MARKED**. To aid the Government, please segregate proprietary information. Please be advised that all submissions become Government property and will not be returned. If any responder does not currently have a Proprietary Data Protection Agreement (PDPA) that would permit the support contractors listed below to review and evaluate white papers submitted in response to this RFI, the responder is requested to sign PDPA's with these Air Force support contractors for this purpose. Results will be reviewed and retained by the government and Government support contractors. Solicitation does not obligate the government to issue an RFP or award a contract. Responses must be at responders expense. The following is a list of support contractor companies who will review the responses.

KBR

Whitney, Bradley and Brown (WBB) – Wholly-owned subsidiary of Serco North America  
COLSA

4.3 Section 1 of the white paper shall provide administrative information, and shall include the following as a minimum:

4.3.1 Name, mailing address, overnight delivery address (if different from mailing address), phone number, fax number, and e-mail of designated point of contact.

4.3.2 Recommended contracting strategy.

4.3.3 Either 1) copies of executed non-disclosure agreements (NDAs) with the contractors supporting Air Force and USAF supported PEOs and PMs in technical evaluations (listed in 4.2 above), or 2) a statement that the responder will not allow the Government to release its proprietary data to the Government support contractors. In the absence of either of the foregoing, the Government will assume that the responder does NOT agree to the release of its submission to Government support contractors.

4.3.4 Business type (large business, small business, small disadvantaged business, 8(a)-certified small disadvantaged business, HUBZone small business, woman-owned small business, very small business, veteran-owned small business, service-disabled veteran-owned small business) based upon North American Industry Classification System (NAICS) code 541512, Computer Systems Design Services. "Small business concern" means a concern,



including its affiliates, which is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria and size standards in 13 CFR part 121. Please refer to Federal Acquisition Regulation [FAR 19](#) for detailed information on Small Business Size Standards. The FAR is available at <http://www.arnet.gov>.

4.3.5 The facility security clearance of the offeror.

The number of pages in Section 1 of the white paper shall not be included in the 50-page limitation, which applies only to Section 2 of the white paper.

4.4 Section 2 of the white paper shall answer the issues addressed in Section 3 of this RFI and shall be limited to 50 pages of text (excluding pictures and graphs).

## **5.0 Industry Discussions**

Bridge Tanker Program Office representatives may or may not choose to meet with potential offerors. Such discussions would only be intended to get further clarification of potential capability to meet the requirements, especially any development and certification risks.

## **6.0 Questions**

Questions regarding this announcement shall be submitted in writing by e-mail to the Contracting Officer [jessica.cook.8@us.af.mil](mailto:jessica.cook.8@us.af.mil) and [eric.cassatt.1@us.af.mil](mailto:eric.cassatt.1@us.af.mil). Verbal questions will NOT be accepted. Questions will be answered by posting answers to the [www.beta.sam.gov](http://www.beta.sam.gov) website; accordingly, questions shall NOT contain proprietary or classified information. The Government does not guarantee that questions received after 27 July 2021 will be answered. To access the website, go to [www.beta.sam.gov](http://www.beta.sam.gov). Interested parties are invited to subscribe to the website to ensure they receive any important information updates connected with this RFI.

## **7.0 Summary**

THIS IS A REQUEST FOR INFORMATION (RFI) ONLY to identify sources that can provide Bridge Tanker aircraft. The information provided in the RFI is subject to change and is not binding on the Government. The Air Force has not made a commitment to procure any of the items discussed, and release of this RFI should not be construed as such a commitment or as authorization to incur cost for which reimbursement would be required or sought. All submissions become Government property and will not be returned.