LaunchPad Center for Advanced Air Mobility and Skyway Range
Request for Proposals
DRAFT

Establishment, Maintenance, and Operation of a Detect-and-Avoid (DAA), Collision Avoidance System for Uncrewed Aircraft Systems

Contact Information

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May 5, 2023

Background:

As part of Tulsa's historic Build Back Better Regional Challenge grant award, Oklahoma State University (OSU), the Osage Nation through Osage LLC, and Tulsa Innovation Labs are developing a flight test range that will allow for the testing and evaluation of AAM technologies, autonomous systems for unmanned vehicles with the intention of eventual cargo or passenger transport, as well as remotely operated extended- and beyond-visual-line-of-sight aviation. It will connect the OSU Unmanned Aircraft Flight Station, currently OSU's primary UAS flight test facility, with the Osage Nation Skyway36 Droneport. This corridor will be unique in both its breadth but also in its proximity to an urban center, the City of Tulsa. This corridor will support both the advancement of the national UAS and AAM industry and the generation of new technologies and businesses in the Tulsa region.

Project Description

The Skyway Flight Range consists of multiple legs with nodes as staging points for testing operations:

- *Leg 1: From OSU Unmanned Aircraft Flight Station to OSU-Pawnee, 14 nautical miles. This leg is already FAA approved for limited BVLOS operations.*
- *Leg 2: From Stillwater to Osage Nation Ranch, 25 nautical miles.*
- *Leg 3: From Osage Nation Ranch to Skyway36, 28 nautical miles.*
- *Leg 4: From Skyway36 to OSU Unmanned Aircraft Flight Station, 48 nautical miles.*

Each node will consist of detect-and-avoid and unmanned traffic management systems including radar, surveillance broadcast receivers, cameras, radios, and aviation weather monitoring systems to produce full coverage of aviation traffic in the area to maintain airspace safety.

The flexibility of the Corridor concept is adaptive to changes in regulation and usage of aerial vehicles, allowing its use to demonstrate safety, security, and performance in a variety of situations that will be integral to the growth of this industry over the next decade and beyond. This project builds off several existing assets such as Skyway36 in Osage Nation and OSU.

Scope of Work

This RFP is for the establishment, maintenance, and operation of a detect-and-avoid (DAA), collision avoidance system for uncrewed aircraft systems ("UAS", aka uncrewed aerial vehicles or "UAV") to enable integration of beyond visual line-of-sight flight of UAS in the US national airspace. Proposed services should meet the following requirements:

- *Mobile system with network and/or cellular connectivity (add possible SATCOM?)*
- *System to detect and track aircraft in FOV regardless of equipment onboard*
- *Provides aircraft position/state information through DAA system to remote pilot*
- *Enables due regard operations in the U.S. National Airspace System (NAS)*
- *Facilitates full and safe integration of UAS/AAM into the NAS*
- *Range and size requirements that will nominally include group 1 UAS within 1 mile and general aviation aircraft within 3 to 5 miles of mobile systems and include simultaneous use of as many systems as required to cover the entirety of the corridor range at one time.*

- *Connectivity to Command and Control Systems*

This RFP is for an initial 42-month period of performance, but this contract may be extended at the discretion of OSU and its partners.

Qualifications and Experience

Responses to this RFP must address all components of the scope of work as outlined above. Respondents may submit proposals as a single entity or in collaboration with partners, provided that the proposal clearly identifies a single lead entity who will be responsible for the performance of partners and/or subcontractors.

Respondents to this RFP must meet the following qualifications:

- Experience operating with FAA waivers and COAs
- Technical knowledge of equipment, software, and ability
- Ability to maintain all relevant equipment and software
- Detailed and up-to-date knowledge of all applicable FAA guidelines governing the use of unmanned aerial systems in the national airspace

Submitting a Response:

Responses to this RFP should be no more than 10 pages and must include:

- A technical description of proposed solution, including required hardware, software, and personnel
- Examples of current projects in which similar systems have been successfully deployed
- A timeline for implementation of the proposed solution
- Identification of any experience operating FAA-approved or similar flight test facilities
- A breakdown of anticipated costs by quarter for the 42-month period of performance, including maintenance costs
- Identification and qualifications of key project personnel (does not count towards page count)
- Anticipated annual costs beyond the initial 42-month period of performance

Proposals should be sent as a single file in PDF format via email to oaire@okstate.edu no later than **[DATE TBD]**. Respondents will receive an email confirmation upon receipt of submitted proposals within a week of submission.

Proposals will be reviewed promptly by OSU and partners and finalist interviews will be concluded no more than **30 days after the proposal submission deadline.** Respondents will be notified of final decisions by **60 days after the proposal submission deadline**. Work will be expected to begin no later than Jan. 1 2024 but may commence earlier pending approval and coordination with the selected vendor.

All questions related to this Request for Proposal should be directed to OSU.

Program Partners:

Oklahoma State University (OSU): OSU's Unmanned Systems Research Institute is a nationwide leader in UAS and AAM development. OSU is the project lead on the Flight Corridor EDA award, and currently operates Leg 1 (Nodes 1 and 2) and this will continue as part of the larger Corridor. They will also provide the technical expertise and access to research from top notch faculty and students.

Osage LLC: Osage, LLC is the economic engine of the Osage Nation. It is a tribally-owned, HUBZone-certified 8(a) business. Its mission is to identify and cultivate long-term, strategic partnerships that enhance effectiveness in the years ahead to expand the economic footprint of the Osage Nation. The BVLOS Corridor builds upon the Osage Nation's existing investments into UAS and Advanced Air Mobility UAS and Advanced Air Mobility with the conversion of Skyway 36 into a droneport and technology innovation zone. The Osage Nation will contribute to Corridor access via Osage Ranch and Skyway 36, which constitutes Nodes 3 and 4 of the planned Corridor.

Tulsa Innovation Labs (TIL): Tulsa Innovation Labs, pioneered by the George Kaiser Family Foundation, is an economic development organization committed to the growth and development of Tulsa's innovation economy across four tech clusters, including Advanced Air Mobility. TIL led strategic development for the Tulsa Regional Advanced Mobility (TRAM) Cluster, and supported the coalition through the development of three component projects under the Build Back Better Regional Challenge Phase II application. TIL will be key in developing a regional vision for the BVLOS Flight Test Corridor, bolstering its corporate and community engagement, and supporting the Corridor's integration with ongoing efforts to expand Tulsa's AAM ecosystem.

For reference, federal guidance on RFPs:

> **(1) Proposals.** A procurement method in which either a fixed price or cost-reimbursement type contract is awarded. Proposals are generally used when conditions are not appropriate for the use of sealed bids. They are awarded in accordance with the following requirements:
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> > **(i)** Requests for proposals must be publicized and identify all evaluation factors and their relative importance. Proposals must be solicited from an adequate number of qualified offerors. Any response to publicized requests for proposals must be considered to the maximum extent practical;
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> > **(ii)** The non-Federal entity must have a written method for conducting technical evaluations of the proposals received and making selections;
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> > **(iii)** Contracts must be awarded to the responsible offeror whose proposal is most advantageous to the non-Federal entity, with price and other factors considered; and
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> > **(iv)** The non-Federal entity may use competitive proposal procedures for qualifications-based procurement of architectural/engineering (A/E) professional services whereby offeror's qualifications are evaluated and the most qualified offeror is selected, subject to negotiation of fair and reasonable compensation. The method, where price is not used as a selection factor, can only be used in procurement of A/E professional services. It cannot be used to purchase other types of services though A/E firms that are a potential source to perform the proposed effort.