

The MHA Nation has been awarded a Strengthening Mobility and Revolutionizing Transportation (SMART) Grant FY22N1P1G3, MHA Drone Project: Planning and Protocol Development, with the United States Department of Transportation (US DOT) to explore UAS technology in furtherance of delivering life-saving medical supplies and other beneficial health materials to members of the Three Affiliated Tribes. The MHA Nation has assembled a Project Team in this effort, including the NHS College, the University of North Dakota, the Northern Plains UAS Test Site, Airspace Link, and Thales. The Project Team, which is responsible for the implementation of a proof-of-concept protocol flight, formally requests the assistance of the MHA nation to approve the vendor selection of Valkyrie UAS Solutions to fly the protocol flight under the contract of Airspace Link. This change will result in a shifting of the original budget allocations.

BACKGROUND:

Valkyrie UAS Solutions has unique UAS experience and capabilities to support the testing, experimentation, and implementation processes. Valkyrie UAS Solutions has been active in supporting the UAS industry with Beyond Visual Line of Sight (BVLOS) operations, the preparation of BVLOS waivers, and planning for both physical and digital infrastructure needed to support BVLOS operations for clients in the rail industry performing inspections, healthcare industries wanting to better service rural and urban markets, and a multitude of package delivery organizations wanting to move goods between facilities and to consumers.

RECENT ACTIVITIES:

Valkyrie UAS Solutions supported 3 medical flight operations from Alpine to Presidio, TX in December 2023. These consisted of the following use cases:

1. Movement of Sample Medications (Expired) from Alpine, TX to Presidio, TX
2. Simulated Lab Sample movement from Presidio, TX to Alpine, TX
3. Emergency Movement (Simulated) of anti-venom from Alpine to Presidio, TX Additionally, the Swoop Aero Kite is being used in daily medical operations in Australia, Africa, and Europe (Romania and the UK).

Valkyrie's Rail Industry's BVLOS UAS Concept of Operations leveraged the rail ground right-of-way and the associated airspace above the rail to build out an integrated C2, Communication, and Sensor framework that required testing efforts for on-board and ground-based detect and avoid infrastructure from testing to implementation. Utilizing existing rail infrastructure to operate over track and retrofitting existing telecom towers to communicate with long-range aircraft, reducing air and ground risk exposure,

The BNSF UAS program achieved the following:

- Created P107 training, currency, and governance of 250+ BNSF employees leveraging drones for a range of business needs.
- Managed 500+ multi-platform UAS across 32,500 miles of rail network and facilities

- Secured FAA regulatory approval to obtain and retain 44807 and associated Certificate of Authorizations (COAs) covering 2,000+ Miles of BVLOS, non-visual observers (VO) across 3 states within the US in addition to a mobile BVLOS operation across the network in Class G airspace that meet the requirements of the authorization.
- Secured BVLOS Drone In a Box Class G airspace for automated operations within rail yards that meet the criteria of the waiver
- Conducted operations in Class G, E, and D airspace In 2023, Valkyrie UAS Logistics obtained a 4-year, 134 BVLOS mile authorization to operate from Fort Stockton to Presidio, TX without utilizing Visual Observers over rail infrastructure.

APPROACH TO MHA GRANT:

Valkyrie UAS Solutions will conduct an in-person program kick-off meeting recommended for May 13th – 15th to include the following key focus areas:

- o Strategic Goals and Outcomes
- o Mission Routes to include Launch and Recovery Locations
- o Rural Healthcare Use Case Development and Needs Assessment
- o Media and Public Relations Planning for September Demonstration
- o STEM Education and Workforce Development Planning

VALKYRIE DELIVERABLES:

- Conduct a detailed site survey to collaborate with stakeholders on the launch and recovery locations in support of the P107 BVLOS Waiver submission.
- Prepare and submit a P107 BVLOS Waiver from New Town to Twin Buttes, ND
- Prepare and provide the BVLOS Waiver associated documents to include:
 - o Operational Risk Assessment and Safety Mitigation Plan
 - o Concept of Operations document (ConOps)
- Conduct the Proof-of-Concept flight operations to test and evaluate the Swoop Aero Kite platform in support of the above-desired business requirements.
- Support and coordinate with the project participants.
- Support weekly collaboration calls.
- Support program partners and MHA Nation as needed.

PROPOSED COST:

Activity	Deliverables	Timeline	Unit Cost	Cost
Contract Award				
Draft BVLOS Waiver	Submitted Waiver to the FAA	2 weeks	\$ 5,000.00	\$ 5,000.00
	ConOps		incl	\$ -
	Operational Risk Assessment and Safety Mitigation Plan		\$ 5,000.00	\$ 5,000.00
Submit BVLOS Waiver	Approved Waiver	4 months	\$ -	\$ -
PM Support	Weekly Coordination Call	20 weeks	\$ 250.00	\$ 5,000.00
MHA Support		20 hours	\$ 250.00	\$ 5,000.00
Perform Demonstration	Initial Site Survey	1 week	\$ 5,000.00	\$ 5,000.00
	Prepared Site and Aircraft	1 week	\$ 15,000.00	\$ 15,000.00
	Demonstration of BVLOS Flight from New Town to Twin Buttes, ND	1 week	\$ 15,000.00	\$ 15,000.00
Media Support	Develop Earned Media Approach	10 hours	\$ 250.00	\$ 2,500.00
	Support Press Release		incl	\$ -
	Support Run of Show Development		incl	\$ -
	Provide Sample Press Kits and Media Release		incl	\$ -
STEM Education Event	1 STEM Event		incl	\$ -
Vantis Integration Plan	3 Technical exchanges between ASL, Thales and Valkyrie (owned by ASL)	3 hours	\$ 250.00	\$ 750.00
Simulation Capability	Provide Simulation as back-up to flight demonstration		TBC	TBC
Total			\$ 45,750.00	\$ 57,500.00