Attachment 2 – System Characteristics

The Battalion Reconnaissance Uncrewed Aircraft System (UAS) shall have the following key System Characteristics:

1. The Battalion Reconnaissance UAS shall consist of two Air Vehicles (AVs), two Ground Control Stations (GCSs), batteries with charging station, and ancillary ground equipment (e.g., antennas and on-the-move supporting systems).

2. The Battalion Reconnaissance UAS shall have Vertical Take-Off and Landing (VTOL) capability and be capable of launch and recovery in confined areas.

3. The AV Maximum Gross Take Off Weight (MGTOW) shall not exceed 55 pounds (excluding sensors, effects, and/or cargo).

4. The AV shall have a minimum Line-Of-Sight (LOS) **datalink range of 40 kilometers with two payloads** (not including a lethal payload).

5. Each AV shall have a minimum mission endurance of five hours **with two payloads** (not including a lethal payload).

a. During this minimum five-hour endurance, the AV shall carry a minimum of five pounds of payloads (i.e., sensors, effects, and/or cargo).

b. The AV shall have the initial capability to carry and operate two sensors, effects, and/or cargo (i.e., Modular Mission Payloads (MMPs)) with an objective to carry and operate three or more sensors, effects, and/or cargo (i.e., MMPs).

c. Initial sensors, effects, and cargo are as follows: Electro-Optical/Infrared (EO/IR) camera; Laser Pointer; Modular provisions to integrate and employ lethal munitions; Additional fuel/power sources for flight; Cargo-space payload with the capability to carry two pints of usable human blood; and Communications Extension.

6. Powered by a rechargeable and quick replaceable fuel/power source. The fuel/power system shall use an energy source that does not impose a unique logistics burden to the Soldier.

7. Integrate the following interchangeable mission payloads:

a. EO/IR Sensor.

b. Communications Relay/Network Extension of the Integrated Tactical Network (ITN).

c. Lethality (Anti-Personnel, Anti-Materiel).

d. Electronic Warfare (EW).

e. Laser Target Illuminator/Laser Designator.

8. Encrypted datalink that is FIPS-140 approved, capable of both Secure but Unclassified-Encrypted (SBU-E) and Controlled Unclassified Information (CUI) data transmission.

9. The Battalion Reconnaissance UAS System tactical transport protective cases shall be transportable in a maximum space of 86 inches (length) x 56 inches (width) x 60 inches (height)

or a volume of approximately 166 cubic feet. The cases shall include all system components (i.e., two AVs (including batteries and threshold EO/IR payloads), two GCSs, Ancillary Ground Equipment to Support the System, and an Initial Spares Package (ISP)). Individual cases shall not weigh more than 102 pounds including contents. The Offeror shall provide the number and dimensions of the tactical transport protective cases.

10. Launch and recovery operation without support equipment.

11. Minimal logistics, training, AV assembly without tools in eight minutes with three people, and AV disassembly without tools within five minutes.

12. Ground Controller Interoperability with Tactical Assault Kit (TAK) and Net Warrior Control Handheld Device (HHD).

13. Position Location Information (PLI) Reporting and Tracking.

14. Autonomous/automated flight operation.

15. Object identification/classification and tracking.

16. Worldwide operational frequency capable.

17. Rugged and environmentally durable.

18. Modular and open systems architecture for payloads, lethal effects and munitions (i.e., lethal payloads), navigation, communications, software, and other support components.

a. Lethal payload delivery is defined as a munition(s) fired, dropped, or launched from the Battalion Reconnaissance AV at a mission altitude of between 800- and 1,200-feet Above Ground Level (AGL).

b. The AV shall carry and deliver a lethal payload(s) plus EO/IR payload and achieve a 20-kilometer range and 120 minutes endurance.

19. Survivable solutions for contested environments to ensure Assured Positioning, Navigation, and Timing (APNT) (e.g., Visual-Based Navigation (VBN), Sensor Fusion and Artificial Intelligence/Machine Learning (AI/ML), M-Code Receivers, etc.).