

## **Attachment 12**

### **Visual Surveillance/Detection**

#### **1. Ground Observers**

Ground observers are trained members of the flight crew. Each flight crew has a licensed pilot as a member of the crew and ground observers are trained in airspace awareness and the requirement to keep the UAV deconflicted from all other airborne operations. The ground observer will visually assess other airborne operations and call for a change of heading and or altitude of the UAV should the possibility of conflict arise, independent of the observer's perception of distance or altitude. Should another aircraft's flight path appear to take it into the flight path of the A160, the A160 will alter its flight path away from the other aircraft.. Each ground observer will only monitor one (1) aircraft.

Ground observers will be employed when the UAS is within the class D airspace of the Victorville airport. One ground observer will be located outside the ground control station which is located approximately at the center of the airport. In addition to the ground observer outside the ground control station, an additional mobile ground observer is used. The mobile ground observer will be located no further away from the air vehicle that 1 nautical mile laterally and will be driven in a ground vehicle with a separate driver. When the ground observers are employed, the UAV will be within 6 nm of the GCS and below 2600 feet AGL.

The ground observer outside the ground station is on headset communications on the ground station intercom with the UAS pilot and flight crew. The ground observer within 1 nautical mile laterally of the UAS will be on radio to the UAS pilot and flight crew.

#### **2. Chase Aircraft Observers**

Chase aircraft are to be used when conducting flight operations above 2600 ft AGL and outside of the Victorville class D airspace. The chase aircraft will carry a pilot and an observer. The airborne observer is a licensed pilot. The observer will be responsible for providing deconfliction information.

The chase aircraft maintains a separation of approximately 500 feet above and 1000 feet horizontal from the A160. This distance makes the see-and-avoid perspective from the chase aircraft similar enough to the cockpit perspective of the UAV to maintain an equivalent level of safety for flight.

#### **3. Forward and side-looking Cameras on UAS**

There is a forward/down looking camera in the nose area of the A160 and video is displayed to the pilot in the HUD display. This camera is used by the pilot as a navigational aid (as the backup to the GPS navigation) only. It is NOT used to perform any "see and avoid" responsibilities.