Flight Aircrew Qualifications

Aerostar flight operations are based on a crew concept. The minimum flight crew consists of an Internal Pilot (IP) and External Pilot (EP) one which will be designated as the Pilot-In-Command (PIC). As required, a non-flying crewmember, Payload Operator (PO), is added to operate the sensor package. As required due to mission length or complexity, a separate Mission Commander (MC) can be added to provide overall supervision of the flight. In this case, the MC would assume duties as PIC.

NMSU Aerostar Unmanned Aircraft (UA) Pilots have varying degrees of qualifications and experience which include FAA qualifications and ratings, Department of Defense (DoD) qualifications and training, and manufacturer's training/certification.

All UA Pilots and Observers will have an understanding of Federal Aviation Regulations applicable to the airspace the UA will operate.

If the UA is operating on an instrument flight plan, the PIC will have an instrument rating in a manned aircraft category.

If not FAA rated as Private or Commercial Pilots, UA pilots will maintain a passing Private Pilot Knowledge Test Report. This will be a biennial requirement.

DoD Certified/Trained: One UA Pilot has received formal training on the RQ-2B, Pioneer system, 10 years in operational assignments, and served as an UA instructor for the US Navy. The Pioneer system is similar in operating characteristics and procedures to the Aerostar system.

Other Certified Training: Two UA Pilots have received manufacturer's training from Aeronautics Defense Systems (ADS) in Israel.

Medical Qualifications

UA Pilots holding Commercial Pilot ratings will maintain a current second class airman medical certificate. All other UA Pilots and Observers will maintain a current third class airman medical certificate. Medical certificates will be issued under 14 CFR 67, Medical Standards and Certificates. 14 CFR 91.17, Alcohol or Drugs, applies to all UA Pilots and Observers.

Currency Requirements

- To be considered current, an Internal Pilot (IP) must –
    - Perform three qualified proficiency events within the preceding 90 days with the Aerostar system or a compatible simulator. A

proficiency event will include a takeoff and landing and 1 hour of flight operations.

- To be considered current, an External Pilot (EP) must –
    - Perform three qualified proficiency events within the preceding 90 days with the Aerostar system or a compatible simulator. A proficiency event will include a takeoff and landing, maneuvers at pattern altitude, approaches to land, handoff to and from the IP and touch-and-go landings.
- To be considered current, a Pilot-In-Command and/or Mission Commander must –
    - Perform three qualified proficiency events within the preceding 90 days with the Aerostar system or a compatible simulator. A proficiency event will include a takeoff and landing and 1 hour of flight operations.
- To be considered current, a Payload Operator (PO) must –
    - Perform three qualified proficiency events within the preceding 90 days with the Aerostar system or a compatible simulator. A proficiency event will include 1 hour of flight operations.

- To be considered current, an Observer must –
    - Perform three qualified proficiency events within the preceding 90 days with the Aerostar system or in a similar flight environment.

Duty Time Restrictions:

Crew rest: Adequate crew rest is necessary for safe and effective operation of the system. Crewmembers that are fatigued are more likely to make mistakes and jeopardize the mission and crew. Crewmembers should monitor their schedules and raise awareness if they cannot achieve adequate crew rest. Crew rest time is 8 hours of uninterrupted time where the crewmember does not have taskings to accomplish and is allowed to rest. Should a crewmember change shift from one cycle (day or night or defined shift) to another, 12 hours of rest shall be used instead of 8.

Duty Day: The duty day is the period of time where the crewmember is present and engaged in system setup, planning, briefing, mission flight, debriefing, postflight and cleanup. Excessive time on duty leads to fatigue and decreased effectiveness. Periodic breaks including extended breaks for meals should be afforded the crewmembers to allow them to refresh their efforts and not become task-saturated. A duty day less than 10 hours with periodic breaks should not overly fatigue the crew. Such a schedule should allow sufficient time to recover and be sustainable for a 6 day work week. A duty day between 10 and 16 hours with periodic breaks should be sustainable so long as 8 hours of crew rest is provided each day. Crewmembers should evaluate their tasking and rest schedule to determine their ability to perform their duties. Crewmembers should work a reduced week if continually tasked at this level. A duty day greater than

16 hours will be fatiguing to the crewmember and will also disrupt their sleep cycle, contributing to greater fatigue. Should a duty day greater than 16 hours be necessary, care should be exercised that the crewmember be adequately rested before the day, be afforded periodic breaks and recovery time during the day, and have a minimum of 12 hours of crew rest after the duty day to recover.

UAS Control

UA Pilots and Observers will not perform crew duties for more than one UA at a time.