

## **Flight Crew Qualifications Description**

### **NASA DFRC 2007 Fire Mission UAS COA Application Attachment**

NASA Dryden Flight Research Center (DFRC) has procured from General Atomics – Aeronautical Systems Incorporated, an MQ-9 Reaper aircraft and a Ground Control Station (GCS). DFRC has assigned the number “NASA 870” to the aircraft and renamed it “Ikhana” (pronounced ee-kah-nah , a Native American word from the Choctaw Nation meaning intelligent, conscious, or aware).

The flights for the NASA 2007 Western States Fire Mission (WSFM) are expected to be 24+ hours in duration. This long duration, combined with the scarcity of NASA trained UAS pilots and the NASA restrictions of crew duty day require that outside/contractor pilots be used for some parts of the WSFM flights. A contract or contracts will be in place to provide additional pilots for these missions.

1. **UAS Pilot Qualifications** – NASA DFRC will be using several types of pilots in the NAS for the 2007 Western States Fire Mission (WSFM).

- 1.1.1. **NASA DFRC UAS Pilot Qualifications** – All NASA DFRC UAS pilots must comply with the following requirements:

All candidates must meet the minimum qualification standards set forth per the U.S. Office of Personnel Management (OPM) General Schedule Position, GS-2181: Aircraft Operations Series. Refer to the OPM standards for the full text. In summary, the following qualifications apply:

The basic education requirement is successful completion of a standard professional curriculum in an accredited college or university and have been awarded a bachelor’s degree or higher. In addition, candidates must possess an FAA commercial pilot license with instrument, single engine land rating, or possess a pilot and instrument rating from the armed services. At the time of initial appointment, candidates for all pilot positions must possess a current first or second-class medical certificate; both meet the intent of the requirement. Selected candidates must also meet the security requirements of the position.

The minimum flight hour requirements for DFRC are 1500 hours of total time, of which 250 hours must be pilot-in-command time, 75 hours of night flying, and 50 hours of instrument time. At least 5 of the required instrument hours must have been logged in actual instrument weather. The balance may have been acquired in a flight simulator or as other types of instrument flight time, e.g., hood instrument. Candidates must have logged at least 100 hours of time in the previous 12-month period.

1.1.2. **NASA DFRC UAS Pilot Currency/Proficiency Requirements** – All NASA DFRC UAS pilots will comply with DOP-O-301 NASA DFRC UAS Aircrew Flight Operations Manual - This document is currently in development and is in DRAFT form. The requirements meet or exceed FAA Part 61 and 91. The document is modeled after the existing requirements in the DOP-O-300 NASA DFRC Aircrew Flight Operations Manual.

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1.1.2.1. **Currency requirements** – Figure 2 DOP-O-301 Draft Currency Requirements contains the current draft currency requirements for NASA DFRC UAS pilots.

| REQUIREMENT               | PILOT                   | CRUISE PILOT            |
|---------------------------|-------------------------|-------------------------|
| Flight Physical           | FAA Class II (Annually) | FAA Class II (Annually) |
| Flight Evaluation         | 12 Months               | 12 Months               |
| IRC                       | 12 Months               | 12 Months               |
| Basic Sortie              | 1/45                    | 1/45                    |
| Instrument Approach (GLS) | 1/45                    | N/A                     |
| IR Camera Landing         | 1/60                    | N/A                     |
| MQ-9 Takeoff              | 1/45                    | N/A                     |
| MQ-9 Landing              | 1/45                    | N/A                     |

Figure 2 DOP-O-301 Draft Currency Requirements

1.1.2.2. **Draft Duty Day Requirements** – A DFRC UAS crewmember duty day is limited to 12 hours

1.2. **Other Government Agency or Contractor UAS pilots** – Other government agency or contractor UAS pilots will be used to support 2007 WSFM missions. NASA DFRC will review the training and currency records of prospective pilots to ensure compliance to the pilot's home organization proficiency and currency requirements (these are expected to be DOD/USAF requirements). NASA DFRC will also evaluate the prospective pilots and their proficiency/currency requirements against DFRC requirements to determine if any additional proficiency/currency work will be required prior to the pilot flying Ikhana.

2. **Chase/Observer** – The 2007 WSFM has no requirement for Chase/observer operations in the NAS. All flight operations below FL180 (class A airspace) will be performed in the R-2508/R-2515 special use airspace (SUA).