

Flight Crew Qualifications Description

NASA DFRC 2008 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, registered it as N870NA, and renamed it “Ikhana” (pronounced ee-kah-nah, a Native American word from the Choctaw Nation meaning intelligent, conscious, or aware).

“Track changes” is used in this document to highlight the significant differences in this attachment between the 2008 plans versus last years’ 2007 WSFM plans. Change tracking (and hence “change bars”) have been suppressed for editorial and non-philosophical changes.

The flights for the NASA 2008 Western States Fire Mission (WSFM) are expected to be up to 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 will 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 Western States Fire Missions (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 1200 hours of total time, of which 250 hours must be pilot-in-command time, 50 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 Flight Crew UAS Flight Operations Manual. The requirements meet or exceed FAA Part 61 and 91.

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

REQUIREMENT	PILOT	CRUISE PILOT
Flight Physical	FAA Class I (6 months)	FAA Class I (6 months)
Flight Evaluation	12 Months	12 Months
IRC	12 Months	12 Months
Basic Sortie	1/45 days	1/45 days
Instrument Approach (GLS)	1/45 days	N/A
IR Camera Landing	1/60 days	N/A
MQ-9 Takeoff	1/45 days	N/A
MQ-9 Landing	1/45 days	N/A

Figure 2 DOP-O-301 Baseline Currency Requirements

- 1.1.2.2. Duty Day Requirements** – A DFRC UAS crewmember duty day is limited to 12 hours when the aircraft is flown with a single qualified pilot and 14 hours when flown with two qualified pilots.

- 1.2. Other Government Agency or Contractor UAS pilots** – Other government agency or contractor UAS pilots will be used to support 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 or General Atomics 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 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).