



HSAC RP 2025-1

UAS / RPAS Offshore Gulf of America (GOA)

Deconfliction Measures between UAS/RPAS and Helicopters

PREFACE / BACKGROUND

In the past 5-7 years, there has been a significant increase in commercial drone operations supporting the Oil and Gas industry. Drones, also known as Unmanned Aerial Systems (UAS) and Remotely Piloted Aircraft Systems (RPAS), have correspondingly increased in activity in our offshore environment. The capability that UAS/RPAS provides for our industry has proven value in efficiency, cost reduction and most importantly in the reduction of risk. Some of the former “high-risk” activities that have been replaced by UAS/RPAS usage include: rope-access inspections, flare inspections, internal tank Inspections and underdeck inspections. Such advancement with these commercial offshore applications of UAS/RPAS technology also comes with challenges such as airspace deconfliction with crewed aircraft; primarily helicopters. It is critical that we establish some basic safety guidelines now as we progress with UAS/RPAS offshore to avoid mishaps in the future.

PURPOSE

To serve as a basis for:

- Developing basic offshore deconfliction procedures for both UAS/RPAS operators and helicopter pilots to avoid collisions in the terminal (facility/helideck) and transit environments.
- Providing an initial step in deconflicting offshore UAS/RPAS and helicopter traffic so that when UAS/RPAS operations continue to evolve and become more complex, these basic procedures set the foundation and process in which to correspondingly evolve to mitigate risk.

GENERAL RULES

Regulatory Compliance and Related Guidance

1. All Regulatory Compliance and Related Guidance in **HSAC RP 2015-1 and IOGP 696 should be followed.** HSAC RP 2015-1 is comprehensive concerning the operation of UAS/RPAS, and the guidance found within this RP is additional and complementary. IOGP Report 696, titled Remotely Piloted Aircraft Systems (RPAS), is part of the IOGP’s Oil and Gas Aviation Recommended Practices (OGARP) series. It provides comprehensive best-practice guidelines for the safe, effective, and efficient management of RPAS operations in the oil and gas industry.
2. Offshore RPAS operations outside a country’s territorial waters (i.e., beyond the 12NM limit) should reference IOGP 696 (Remotely Piloted Aircraft Systems) as well as ICAO 10019 (Manual on Remotely Piloted Aircraft Systems AN/507).¹
3. The following are recommended practices (RPs) for operating RPAS in the GOA:
 - a. **In situations where manned aircraft pose a potential conflict with RPAS operations, manned aircraft have the right-of-way and RPAS operations should be terminated until the potential conflict has passed.**²
 - b. All RPAS operations should be controlled by an **RPAS Pilot in Command (RPIC)**.³ This Recommended Practice (RP) does not address autonomous RPAS operations, which at this time are not being conducted in the GOA.

¹ USA: neither FAA Part 107 nor USC 49 §44807 COAs apply beyond the 12 nm limit.

² USA: FAR §107.37(a)

³ USA: FAR §107.19 (a)

- c. External RPAS operations should be conducted with **Anti-Collision Lighting**:⁴
 - i. When operating during civil twilight or night
 - ii. When operating in controlled airspace
 - iii. When operating within 3NM of an aerodrome
 - iv. **RECOMMENDED PRACTICE is to be always ON in the GOA.**
- d. Operations should not be conducted (or should be ceased) when **visibility is less than 3 statute miles from the control station**.⁵
- e. RPAS should **not be flown less than 500' below or within 2,000' horizontally of any clouds**.⁶
- f. Operations should not be conducted above 400 feet above ground level or, when flying within 400 feet of a structure, not more than 400 feet above that structure.⁷ Where the success of the operation requires flight at higher altitudes, a NOTAM will be posted within the GOA EZNOTAM / KASTrack system or equivalent notification system.

OFFSHORE / HELIDECK OPERATIONS

1. **Prior to Helicopter takeoff, communication shall take place between the Offshore Facility/Asset and the Helicopter Operator Dispatch** with an update on the status of RPAS operations and provide their estimated time of arrival (ETA).
2. At the 20-minute call, communication shall take place between the Offshore Facility/Asset and the Helicopter (PIC) to confirm that RPAS operations have ceased.
3. The **RPAS operating team**: defined as **RPIC, Visual Observer (VO) and any supporting asset personnel (HLO, etc.)** are responsible for ensuring that RPAS operations have ceased with the **Remotely Piloted Aircraft (RPA)** being “on-deck”, **secured and powered down at least 20 minutes** prior to any helicopter arrival.
4. **If RPAS operations are not secured by the 20-minute call, the Helicopter (PIC) shall remain .5nm clear of the destination Facility until it has been confirmed that all RPAS operations have ceased and are secured.**
5. **At the 5-minute call, a “green-deck” call by the Offshore Facility/Asset will confirm** that RPAS operations have ceased and are secured.
6. During transit, Helicopter (PIC) **shall remain at or above 500 feet AGL and shall remain clear of the highest structure on the Facility/Asset by 100 feet vertically and 100 feet clear laterally.**
7. RPAS operations shall not commence until after the helicopter has departed the Facility, the HLO has “handed back” the airspace to the RPIC *and* the helicopter is at least 5 minutes clear of Facility/Asset. These procedures allow for any deconfliction of potential returns in the event of helicopter contingencies and for positive communication between RPIC and HLO.
8. The Helicopter (PIC) maintains the right to refuse landing if conditions do not permit safe operations.
9. During RPAS operations where RPAS height is above 400 feet AGL and or beyond 100 feet lateral distance of Facility/Asset (i.e. Crane/Flare inspections/distance photography), the following requirements apply:
 - a. Facility/Asset will have a published NOTAM indicating that above 400 feet AGL height / 100 feet

⁴ USA: FAR §107. 29(b) requires anti-collision lights only during civil twilight. FAA Final Rule for Operation of sUAS Over People modifies FAR §107 and allows night operations with updated initial or recurrent pilot testing and anti-collision lighting requirements. This requirement does not exist for internal vessel/tank inspection work.

⁵ USA: FAR §107.51(c)

⁶ USA: FAR §10751(d)

⁷ Canada: SOR 96-433 §901.25 (1); USA: FAR §107.51(b) specifies higher limits for flying above structures, but the limits in these guidelines should be followed.

- b. RPAS flight crew will have operable aircraft detection capability (i.e. DJI AirSense/ADS-B detection).
- c. RPAS flight crew will have VHF reception capability.
- d. RPAS flight crew will have VO capability that is dedicated to airspace scanning/de-confliction.

Visual Observers (VOs)

1. All offshore RPAS operations (including night operations), shall **utilize one or more trained visual observers (VOs)** to assist the RPIC with see-and-avoid responsibilities by scanning the area around the aircraft for intruder traffic and assisting the RPIC with navigational awareness.
2. The VO(s) should have a reliable method of instantaneous communication with the RPIC such as two-way radios.
3. The RPIC and VO(s) together shall have a view of the area that is sufficient to allow enough time for the RPIC to de-conflict as required.
4. Visual observers shall:
 - a. **Be designated** as such and not share in any other duties associated with the flight;
 - b. **Be in communication** with the PIC either within speaking distance or with a portable radio;
 - c. **Establish an observation position** having a clear view of the RPAS operating area;
 - d. **Be briefed** on the hazards specific to the flight, their duties as VO, lost link procedures and procedures for lost communications with the RPIC (when radios are used) prior to the flight;
 - e. **Continuously scan** the airspace and keep the RPIC informed of possible collision hazards such as aircraft, power lines, crane/venting booms, birds, approaching workboats (when working underneath an offshore facility) and weather conditions.
5. When multiple visual observers are being used, it is important for the RPIC to know which VOs have direct visual contact on the RPAS.
6. VOs shall only be responsible for observing one RPAS at a time.
7. The RPAS operations team is responsible for implementing effective **Crew Resource Management** to ensure frequencies in the operating area are monitored. This must be done without overloading critical personnel during flight operations. If radio traffic becomes unmanageable for VO and/or PIC, **flight operations should cease** until the risk is mitigated through further measures such as adding more personnel or other solutions determined by the RPAS crew.