



*International Civil Aviation Organization*

**MIDANPIRG/18 and RASG-MID/8 Virtual Meeting**

*(15-22 February 2021)*

**Agenda Item 7: Any other business**

**DUE REGARD OPERATIONS, AWARENESS AND ASSOCIATED REGULATIONS**

*(Presented by the United Arab Emirates)*

**SUMMARY**

This paper presents a discussion with a view to establishing regulations for the operation of unmanned aircraft operating with due regard within controlled airspace.

Action by the meeting is at paragraph 3

**REFERENCES**

- ICAO Doc 9554 - Manual Concerning Safety Measures relating to Military Activities Potentially Hazardous to Civil Aircraft Operations
- ICAO Doc 10088 - Manual on Civil-Military Cooperation in Air Traffic Management

**1. INTRODUCTION**

1.1 Within UAE airspace, a large portion of the western FIR is over international waters and therefore not subject to the same regulations applicable to sovereign territories as dictated by the Chicago Convention of 1944 and subsequent amendments. Currently, the UAE witnesses a high concentration of aircraft operating under due regard in very busy and complex sequencing sectors for numerous major international airports. More recently, it has been observed that the proportion of these flights being operated by UAS has increased significantly, increasing complexity of separating civilian traffic due to the increased separation requirements and non-standard nature and operation of due regard traffic. This warrants affirmative control measures to be applied by UAE ATCOs to ensure safety margins are maintained. Predominantly, the large majority of these flights operate with functioning transponders and maintain radio communication with UAE ANSPs whilst operating within the UAE FIR. These flights operate as they are required to within international waters and have due regard for the safety of navigation of civil aircraft.

1.2 On occasion, due regard traffic has been observed or reported operating over international waters, within Class A & C airspace, on and around arriving airways without transponder and not in radio communication. These flights can be very difficult to recognise on radar due to the very low relative speed (50kts+) with no associated FPL information. Without a functioning transponder, these flights are detected using primary radar only, from limited/single radar sites on an intermittent basis, sometimes at the boundaries of radar coverage. Due to these limitations, the separation of civilian traffic from these flights can be very difficult to ensure and the safety margins surrounding these flights are therefore significantly decreased. Without coordination or radio communication, these flights are assumed to be conducted under

due regard principles but with the limitations detailed above, they could be considered to be operating outside the provisions associated with due regard operations.

## 2. DISCUSSION

Currently there is no international standard definition of ‘due regard’ traffic, and this term is applied to both manned and unmanned state aircraft, with or without transponders, that may or may not establish radio communication with the appropriate ATSU. Additionally, there is some guidance (see below) but there are no clear regulations that apply to the operation of this traffic over international waters. Individual states undertake that when they operate aircraft under due regard, they will do so having ‘due regard for the safety of navigation of civil aircraft’ but again this statement is not clear in setting out the obligations of the operator.

### ICAO Doc 9554, 6.1:

*In order that due regard will be given to the safe and efficient operation of civil aircraft, States should ensure that military authorities responsible for planning and conducting activities potentially hazardous to such aircraft are fully informed, and conversant with, the following in respect of the area of activity:*

- a) *the type(s) of civil aircraft operations;*
- b) *the ATS airspace organization and responsible ATS unit(s);*
- c) *ATS routes and their dimensions; and*
- d) *relevant regulations and special rules, including airspace restrictions.*

*During the co-ordination process described in paragraph 3 above, reference should therefore be made to the relevant ICAO regional air navigation plan(s) (ANP) and States’ aeronautical information publications and related documents and charts, which contain the information mentioned in b), c) and d) above. If necessary, a special briefing regarding the civil aviation infrastructure should be arranged with the assistance of ATS specialists from the State(s) concerned.*

### 2.1 SPECIFIC LIMITATIONS OF UNMANNED AIRCRAFT OPERATING UNDER DUE REGARD

Without limiting the freedom of navigation in international waters and airspace above these waters, this freedom needs to be used responsibly and with the primary goal of doing so in a way that guarantees the safety of civilian traffic. Historically, this freedom would be utilised by manned aircraft only with the obvious advantage of having a crew who will maintain a comprehensive visual scan for conflicting traffic when navigating in controlled airspace, doing so with the vested interest of protecting not only civilian traffic but their own aircraft and subsequently themselves. These aircraft are usually listening out on appropriate air-ground frequencies to aid their situational awareness.

With the rapid advancement and increased production and capability of UAS, the human factors associated with exercising freedom of navigation over international waters needs to be addressed specifically for this type of flight. There is no inherent personal risk for the operator of a UAS when

operating in congested civilian airspace and the ability for the operator to conduct a visual scan for conflicting traffic is also negated. Additionally, radio communications for these flights can have significant limitations due to the operator being based on the ground large distances away from the aircraft. Without technology onboard the aircraft to relay radio transmissions, it effectively renders all communication with the aircraft impossible.

Currently, without any specific regulations, there is no impediment to the operation of UAS being conducted within high density, controlled airspace, without prior notification, without a functioning transponder, outside reliable primary radar coverage and without radio communication. These flights could therefore be observed in areas of high traffic density at levels which can cause significant safety concerns for civilian traffic.

The rapid increase in unmanned aircraft operations will only continue and accelerate with technological advances. The safety concerns around the use of UAS for due regard operations in high density, controlled airspace will need to be addressed by the council. Ways to regulate these operations to guarantee safety of navigation of civilian traffic, without restricting the freedom of navigation in international waters, needs to be established to reduce the possibility of a serious occurrence between civilian and due regard traffic in the future.

## 2.2 DISCUSSION ON IMPLEMENTATION OF REGULATIONS TO IMPROVE SAFETY OF DUE REGARD OPERATIONS

To enhance the safety of navigation of civilian traffic through controlled airspace above international waters, a discussion needs to take place regarding the carriage of equipment and specific procedures by operators of due regard traffic in areas of high traffic density. Currently the large majority of these operators comply with guidelines set out in Doc 9554 and operate their aircraft in a way that allows the safe provision of ATS to civilian aircraft occupying the same airspace. However, there is no requirement for the operators to do this and as technology advances, unmanned aircraft will become more prevalent in these missions. The size, capability and endurance of these aircraft will also increase and without management of this, it could lead to a reduction in safety margins for civilian traffic operating within controlled airspace.

To promote safety, due regard operators should be required to notify ANSPs in advance of due regard missions, including the identification of the aircraft, the use of transponders with Mode C and direct radio communication with the appropriate ATC frequency. This does not breach any of the freedoms allowed in airspace above international waters but will enhance service provision for ANSPs and certainly increase the safety margins for civilian aircraft. In particularly high traffic density areas, consideration must be given to the increase in complexity and workload of ATCOs when operating due regard traffic in and around busy airways, at levels which could conflict with civilian traffic. Awareness of the airspace being navigated and specific traffic patterns should be mandated to be understood by operators of due regard aircraft prior to any mission being conducted. As far as practicable, the operating area and/or levels of due regard aircraft may be amended to avoid particularly busy or complex airspace/periods. When missions are observed to be operating in a way that reduces those safety margins or considered to be operating without due regard for the safety of navigation of civilian traffic, reporting and follow up measures to address the safety concerns need to be clear and consistent.

## 2.3 CONCLUSION AND CLOSING STATEMENT

The freedom of operations within international waters and the legal rights of those operators should be protected, however, consideration needs to be given to the rapid increase in due regard operations in these areas. The operations are increasingly being conducted by unmanned aircraft and the consequences of this, due to the current limitations of the aircraft and the lack of clear regulations or SOPs,

need to be recognised. Without this, significant reductions in the safety margins for civilian traffic operating within controlled airspace could be seen.

The right of conducting these missions is not being questioned or challenged but awareness of the safety implications of not conducting these flights in an appropriate manner needs to be raised.

### **3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) initiate further discussion regarding the possible future situation if the sharp increase in these operations continues without a change in regulations, to ensure and protect the safety of navigation of civilian aircraft.
- b) encourage further Civil/Military collaboration on the subject of the due regard operations.

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