

Investigation Synopsis

The UAS, a DJI M600 Pro, was being operated in an automated flight mode to survey a construction site when a GPS-compass error caused the aircraft to revert to a flight mode that required manual control. By the time that the pilot and observer realised that it was not responding to the return-to-home (RTH) function, visual line of sight was lost when the aircraft drifted with the wind beyond a line of trees. It subsequently collided with the roof of a house before falling into the property's rear garden. No persons were injured.

The pilot, and the observer who was also a pilot, had operated UASs since 2018 and had the required permissions from the UK CAA. Both pilots had relied predominantly on the automated flight capability of their aircraft and had not, nor were required to have, practised for emergencies since completing their flying training in 2018. One Safety Recommendation is made to the UK CAA.

Safety Recommendation 2020-017

The CAA required that any person or organisation operating a UAS with a mass of no more than 20 kg for commercial work in the UK required permission, which was commonly referred to as Permissions for Commercial Operations (PfCO). A PfCO was renewed annually but the CAA did not require, nor provide guidance on, practising for emergencies or maintaining manual flying skills as part of the PfCO renewal. However, manual flying is a perishable skill that UAS operators may need to rely on in the event of an emergency.

Therefore, the following safety recommendation is made:

It is recommended that the Civil Aviation Authority require that operators issued with a Permissions for Commercial Operations (PfCO) include in their operations manuals the need to practise routinely the actions to take in the event of emergencies, and specify how pilots will remain competent at maintaining manual control of their aircraft in the event that automated flight modes are lost.

Date Safety Recommendation made:

19/06/2020

Response Status

Adequate

Action Status

Planned actions completed

Safety Recommendation status

Closed

LATEST RESPONSE

Response received:

31/07/2020

The CAA accepts this Recommendation. CAA Safety Notice SN-2020/10 was issued on 22 June 2020, detailing recommendations to all Remote Pilots (RPs), National Qualified Entities and Recognised Assessment Entities. It strongly recommends that all Remote Pilots ensure they are confident in their abilities to recognise and react to likely emergencies and are familiar with the warnings generated by their UAS. It also strongly recommends that RPs regularly practice identifying and responding to emergencies, and maintain competence in reversionary flying modes.

The Safety Notice also advises that Operations Manuals will need to assure the CAA that an operation is safe enough by describing complete and effective emergency procedures, and providing schedules for RP practice of emergencies. The same advice was given to NQEs/RAEs, to ensure that they reinforce the content of the Safety Notice to their customers.

The UAS Sector Team Surveyors and Inspectors have been briefed to pay particular attention to emergency handling and pilot training currency sections of Operating Safety Cases. Additionally, checks will be made to incoming applications and renewals for Permissions for Commercial Operations for the same. RAE paperwork will be checked for the advice given to their customers when received.

AAIB Assessment – Adequate - Closed

(EU Regulation 996/2010 article 18 refers).

RESPONSE HISTORY

N/A