Serious Incident

Aircraft Type and Registration:	Tekever AR5 Evolution MK 2.3, G-TEKG	
No & Type of Engines:	2 piston engines	
Year of Manufacture:	2023 (Serial no: 514)	
Date & Time (UTC):	14 February 2025 at 0804 hrs	
Location:	Lydd (London Ashford) Airport	
Type of Flight:	Other	
Persons on Board:	Crew - None	Passengers - None
Injuries:	Crew - N/A	Passengers - N/A
Nature of Damage:	None	
Commander's Licence:	Other	
Commander's Age:	37 years	
Commander's Flying Experience:	2,364 hours (of which 1,646 were on type) Last 90 days - 29 hours Last 28 days - 27 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

During a UAS operation, power was lost to the Command Unit (CU) used to control the flight. The aircraft was reported to have had an active transponder and so was visible to ATC throughout. It flew in a holding pattern until emergency flight communications were established and was then flown back to the base of operation.

The power loss was attributed to isolation of the Uninterruptible Power Supply (UPS) when a laptop was disconnected from the power network in the CU. The combination of limited UPS endurance and sub-optimal cable labelling and schematics led to the loss of link to the aircraft for a period before sufficient control was restored to return the aircraft back to base.

Following an internal investigation, the operator has made improvements to internal procedures, wiring schematics and labelling, and has upgraded the UPS endurance.

History of the flight

The aircraft was flown from Lydd Airport (also known as London Ashford Airport) and was operating remotely when an electrical problem developed at the CU. No issues were reported with the functionality of the aircraft itself.

Mains power was provided to the communication and control systems through a UPS. The UPS was also equipped with a circuit breaker on its mains input and provides an audible warning when no mains power is being supplied.

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The onset of this event began when the UPS audible warning sounded due to the lack of input mains power. A petrol generator was started and connected to the UPS, but the UPS indicated it was still not being supplied with mains electricity and had less than six minutes of battery power remaining. A "PAN" call was declared on the relevant ATC frequency.

A different UPS was acquired from an adjacent CU and a switch over of plugs and associated extensions was carried out, but this process was hampered by a lack of labelling of what each plug powered. Sufficient power was restored to achieve a downgraded emergency control 18 minutes after the onset of the event. It was believed that full communication and control capability could have been re-established, but it was decided not to risk disruption of the adequate emergency control they had. The "PAN" status was cancelled with ATC, and the remote pilot manoeuvred the aircraft for an uneventful landing at Lydd.

The aircraft itself had highly automated capabilities to ensure it could return to base in the event of a loss of link. However, the aircraft was still receiving a communications link 'heartbeat', even though the control systems were not operational. This caused it to simply follow a holding pattern as it was configured to do. This would have persisted until the 'heartbeat' was switched off or communications were re-established.

Operator's investigation findings

Investigation by the operator established that the input power to the UPS had tripped and is believed to have occurred when a laptop power supply was disconnected. In hindsight, it was realised that the external source of electrical mains power was still available and simply resetting the UPS circuit breaker or bypassing the UPS and connecting the CU directly to mains power or the petrol generator would have restored power to the necessary systems.

Conclusion

CU communication with, and control of, the unmanned aircraft was temporarily lost due to a CU power interruption, and the aircraft entered a loiter mode as designed. Power was restored within 18 minutes, and the aircraft was landed uneventfully at its operating base.

Safety action

The operator has advised that the following safety action has been taken:

> The operator advised that it has upgraded the UPS capability in the CU, improved cable labelling and wiring diagrams, and procedures have been updated to address the issues that arose during this event.

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