Skydweller Aero Continues Autonomous Flight Tests with Operational Military Payloads

From Skydweller Aero, Dec. 16, 2024

OKLAHOMA CITY | 16 December 2024 – Skydweller Aero Inc., a global leader in Perpetual Flight® uncrewed solar aircraft (USA), continues its Autonomous Maritime Patrol Aircraft (AMPA) flight tests of the Skydweller unmanned aerial system (UAS) with operational military payloads integrated onboard.

“Skydweller is equipped with a variety of sensor systems and is conducting flight tests out of Stennis International Airport in preparation for operations during 2025,” said Dr. Robert Miller, CEO and Co-founder of Skydweller Aero. “The resilience and robust design of our aircraft allow us to operate a multi-INT sensor suite of payloads throughout the winter, and we expect to conduct multi-day demonstrations in early 2025 over operationally relevant areas.”

These flights build upon Skydweller Aero’s successful autonomous flight trials conducted in late summer and fall 2024. Despite the challenging Gulf Coast weather—including two hurricanes—the company completed six flights between August 22 and September 22, four of which were fully autonomous. The longest missions lasted 16 and 22.5 hours respectively, demonstrating the aircraft’s operational effectiveness over land and offshore environments, as well as at altitudes of up to 33,000 feet.

“The aircraft maintained an impressive operational tempo, flying on average one mission every five days,” Dr. Miller added. “This performance showcases the reliability and ease of maintenance of our platform.”

Operating amid peak Atlantic hurricane season, Skydweller’s Flight Operations, Weather Scientists, and Ground Support teams worked together to fine-tune the aircraft’s autonomous capabilities, ensuring a rapid response to shifting weather conditions.

“Flying in close proximity to Mississippi thunderstorms allowed us to test and enhance our weather-avoidance systems. Skydweller’s ability to navigate these conditions highlights its operational value, especially in tropical regions during hurricane and typhoon seasons.” explained Dr. Miller. “This ability to navigate around dynamic weather patterns is vital for missions that require flight in challenging environments; avoiding sudden thunderstorms is similar to evading air defenses.”

“And unlike many other uncrewed aircraft, we are not limited to clear-sky operations in controlled environments, like the Arizona or New Mexico deserts, but will operate in operationally relevant theaters,” he added.

The Skydweller is distinguished by its durable design, exceptional payload capacity and substantial power output for mission-critical systems, offering kilowatts of continuous power for payloads. This unique combination enables Skydweller to undertake extreme duration missions across diverse and challenging environmental conditions.

“Skydweller’s capabilities have been consistently validated through rigorous flight testing, achieving significant

milestones without any safety incidents," said Barry Matsumori, President & COO of Skydweller Aero. "By leveraging our team's deep expertise in aeroelastics, flight control systems, mission systems, and autonomy, we are developing what we believe to be the world's first operationally viable perpetual flight platform—designed to serve the needs of both government and commercial markets."