

Connect Orders Hydrogen Propulsion For ATR72 Regional Fleet

Graham Warwick June 08, 2022



Credit: Universal Hydrogen

With ambitions to be North America's first zero-emission airline, startup Connect Airlines has placed a firm order with Universal Hydrogen to convert 75 ATR72-600 regional turboprops to hydrogen-electric propulsion.

Deliveries are planned to begin in 2025. The deal, which includes purchase rights for another 25 conversions, is backed by financial commitments and essentially doubles Universal Hydrogen's (UH2) order book.

A division of Boston-based Part 135 charter carrier Waltzing Matilda Aviation (WMA), Connect plans to fly short-haul regional business routes under 400 nm, replacing inefficient regional jets now being retired by the major U.S. airlines with turboprops and later transitioning to zero-emission aircraft.

Connect is in the final phase of obtaining Part 121 air carrier certification from the [FAA](#). CEO John Thomas said WMA is awaiting a show cause order from the U.S. [Transportation Department](#) (DOT) that will allow the final step in certification, proving flights with an initial fleet of De Havilland Canada Dash 8-400s.

The new agreement replaces a letter of intent (LOI) WMA signed with UH2 in December 2021 that envisioned converting a small fleet of 12 Dash 8-300s as a beta test, Thomas said. UH2 plans to fly a modified Dash 8-300 as a propulsion testbed by the end of 2022, and the original LOI assumed the -300 would be first to market.

"We did not want to miss the opportunity," Thomas told Aviation Daily. But the Dash 8-300 is out of production and the aircraft available for conversion are fairly old. "So we had some concerns," he said. "With the new LOI we go straight to the ATR72, which is an in-production aircraft." The ATR72 has the same 2-megawatt power requirement as the Dash 8-300, he added.

UH2 has re-sequenced its supplemental type certification (STC) plans to put the ATR72 first, followed by the Dash 8, said co-founder and CEO Paul Eremenko. The startup has an ATR72 at its Toulouse site for STC development while a Dash 8-300 is being modified in Moses Lake, Washington, where UH2 has established a test center with AeroTEC. First flight is planned in the fourth quarter, Eremenko said.

"We've said all along we want to be first to market with hydrogen power. This new LOI gives us that with the [ATR 72](#), but importantly allows us to not just do it as a test but to hit the ground and then build what we hope will be a fairly substantial fleet of ATRs," Thomas said. "The future of hydrogen is the [ATR](#)."

Documents provided to the DOT to support its Part 121 certification application indicate Connect plans to operate a fleet of 400 ATR72s. The airline intends to begin by acquiring used and retrofitted aircraft from lessors, but Thomas expects [ATR](#) to begin line-fitting hydrogen propulsion within a few years.

Conversion of the ATR72 will include installing the forward passenger door. This will enable UH2 to store its liquid-hydrogen capsules in the rear of the aircraft and allow the capsules to be loaded and unloaded on the opposite side of the aircraft from the baggage to maintain turnaround times, Eremenko said.

UH2 will be responsible for providing Connect with green hydrogen using its modular, shippable capsules. The company is working with producers Fortescue Future Industries and Plug [Power](#) to guarantee a global supply of green hydrogen for regional aviation.

Connect's agreement with UH2 includes a commitment that green hydrogen will be competitive on cost with jet fuel when deliveries begin in 2025, Thomas said, adding: "The whole premise of moving to hydrogen is that it has to be economic."

WMA is a member of the Connected DMV consortium pursuing the National Capital Hydrogen Center initiative to build a hydrogen hub for the DC/Maryland/Virginia region. "We see that as a significant opportunity to launch hydrogen-powered aircraft out of the DC airports," Thomas said. "We're excited that either BWI [Baltimore/Washington International Airport] or IAD [Dulles International Airport] will become the first zero-emission hub in the U.S."

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