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Fans Ops Mean Another LOA for Bizav

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by MATT THURBER

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For U.S. Part 91 business jet operators that fly to Europe, the upcoming Future Air Navigation System (Fans) mandate means not only new operational procedures but also yet another letter of authorization (LOA) requirement from the FAA. Fans and controller pilot datalink communications (CPDLC) are essentially functions that will be baked into the flight management system (FMS), yet each operator's implementation of procedures, training and a

maintenance program for Fans/CPDLC will need a formal stamp of approval from a local FAA office.

Pilots and operators are already weary and frustrated with delays in processing of RVSM LOAs by FAA Flight Standards District Offices (FSDOs). Adding another LOA to the growing pile, at a time when FAA funding can barely keep up with aviation needs and FAA inspectors are overburdened with demands on their time, isn't a welcome prospect. Currently, LOAs are required for a number of business jet activities, such as RVSM, minimum equipment lists, RNP operations and flight in North Atlantic minimum navigation performance specification (MNPS) airspace.

How Fans Works

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Controller pilot datalink communications (CPDLC), seen here in a Rockwell Collins Vision flight deck aboard a Bombardier Global Express, allows pilots and controllers to communicate effectively.

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The mandate for Fans/CPDLC is coming soon, with the two center tracks in the North Atlantic between FL360 and FL390 becoming Fans-only in February next year. Fans will not apply to all North Atlantic airspace in 2015, but it could be required in almost all MNPS airspace, not just the North Atlantic Track system. Those without Fans capability will have to fly the northern "Blue Spruce" routes or alternate altitudes, according to Carey Miller, manager of business development for Universal Avionics. For non-Fans-equipped aircraft, this could necessitate an extra stop on Atlantic crossings.

Fans/CPDLC has benefits, chief among them allowing operators to fly the optimum altitude and track when crossing the Atlantic when Fans becomes more common. Airlines have been using Fans for years. As Miller explained at a Universal Avionics seminar that he gave at last month's Aircraft Electronics Association show, "There are about 400 North Atlantic crossings a day, and [the airspace is] almost completely saturated." Fans-equipped aircraft, nearly all airliners, account for approximately 45 percent of the daily crossings. "It's already going on," he said.

What Fans does is provide an alternative to HF radio for position reporting, using a datalink system that automatically sends position reports to ATC over satcom. The early satcom links used Aero-H systems, but now that Iridium has been approved for Fans, newer systems are tapping into the lower-cost Iridium network. The Fans datalink position reporting is done through ADS-C, which stands for automatic dependent surveillance-contract. "ADS-C requires an FMS and datalink system," Miller explained.

Current North Atlantic Tracks separation standards are 10 minutes in trail and 60 nm or one degree lateral plus the 1,000 feet vertical allowed by using RVSM. If those standards could be tightened, more aircraft could fit into that airspace. Fans/CPDLC "improves the communication between the controller and pilot and provides a higher level of performance," said Miller. "Their goal is reduced separation initiatives over the area."

Trials are under way to lower the lateral separation to half a degree or 25 to 30 nm. The goal for longitudinal separation is five minutes instead of 10, Miller said, and there has been one trial to assess that capability. "The other reason they want to reduce the longitudinal separation is that it will allow aircraft to step climb in the middle of the tracks, whereas today that's kind of difficult."

Being able to make a change while in the North Atlantic tracks is where CPDLC comes in. This allows pilots and controllers to communicate effectively via datalink and negotiate and approve, for example, a step climb to a more efficient altitude or other requested changes. ACSS, the L-3/Thales joint-venture firm, has been a big part of these trials, which involve airliners carrying ACSS equipment.

New aircraft are starting to come off assembly lines with Fans/CPDLC equipment

...many aircraft. This includes the necessary FMS capability, a unit that can communicate between the FMS and the satcom such as the Universal Avionics UniLink, the satcom, a tone generator and an upgraded cockpit voice recorder that can store datalink messaging. New Fans/CPDLC-capable jets include the Gulfstream G450/G550 and the Bombardier Global 5000/6000 with Vision flight deck and soon Dassault Falcons with the EASy II avionics suite.

Chicago Jet will be the first to achieve a Fans/CPDLC retrofit, in a Falcon 50 initially and then a Falcon 900 (the Falcon 50 STC may already have been issued as this issue was printed). The Falcon 50 STC includes Universal's recently TSO'd UL-801 UniLink and CVR-120 plus ICG's ICS-220A Iridium satcom. Chicago Jet plans to develop STCs for other aircraft equipped with Universal FMSs, including Challengers, Hawkers, Falcons, Learjets and Gulfstreams.

For operators, getting the equipment is one step, but then obtaining the LOA to use Fans/CPDLC is another hurdle. To make the process easier, Chicago Jet will help customers obtain Fans LOAs as part of the installation package. "We want to deliver a complete package to make it turnkey simple," said Chicago Jet president Mike Mitera. This will include training pilots at Chicago Jet, helping draft the LOA application and showing pilots how to use Fans/CPDLC in line-oriented flight training (on the ground using the APU or ground power unit to run the avionics). This tuition will include practice diversions caused by weather, mechanical or medical emergencies, so pilots know what to do while flying in Fans airspace, Mitera explained.

Universal Avionics has partnered with Air Training International for Fans operations training, and Universal also offers a lot of useful Fans information on its company website.

More Paperwork for Operators

Meanwhile, the addition of Fans/CPDLC to the list of LOAs is not being greeted gladly by pilots, who will have to deal with the paperwork and delays inherent in the process. "The operational approval process has varied widely," said Universal's Miller. He is aware of two operators with the exact same Fans/CPDLC platform; one operator got the LOA approved in five weeks and the other in 32 weeks. "If [operators] want to meet these mandates, they're going to have to plan on not only the STC to install the equipment, but also the operational approval to get that done," he explained.

"Looking at the number of special permissions, it continues to grow," said Doug Carr, NBAA vice president of safety, security and regulation. "What we see are widely varying experiences in terms of how long it takes to get the approval, what's required to get the approval and when the process to request the approval can begin, none of which is uniform across the FSDOs. It leaves operators not much to go on." NBAA is working

...the FAA is trying to make the LOA process more efficient, in general. The challenge we face is that these kinds of approval generally stem from ICAO. The FAA is likely following international guidance.”

But ultimately, why do some operations come with LOAs while others are merely regulatory requirements? As Carr puts it, “If LOAs are required for everything out of the norm, what constitutes the norm?”

Says James Waits of J&J Aviation Services: “The approach to a known operating system with its associated STC, [certificate of airworthiness] and scheduled maintenance requirements requiring an LOA is absurd. Why not have LOAs for radar altimeters, HF radios, mode-S transponders, 406-MHz ELTs and 24-month pitot-static and transponder certification? All of those items are critical.

“The real problem is an FAA that is over-reaching with the newer technology. The truth is a large percentage of FSDO personnel do not have a fundamental understanding of these new technologies and the Washington, D.C., headquarters has in response decided to become more burdensome in response to the FSDO problems.

“It’s simple; the system is installed, it is STC’d, it has a maintenance schedule, the crew is trained. If it malfunctions, fix it. That’s all that is necessary. Does an LOA do anything to improve the in-flight operation of the aircraft? The answer is no, it does not. It is the wrong approach and it only becomes a bigger burden on the FAA, operators and flight crews.”

“Fans/CPDLC is one of those things that the FAA could make fairly simple [if handled in a businesslike manner],” asserts corporate pilot Steve Wagner, “or it can create another administrative boondoggle. My money’s on the boondoggle. I’m certain there is a way to make it a lot less painful for the applicants and FSDO.”

Wagner feels it would be easy for the FAA to create an online process for LOA application and administration. “The process should be as simple as going to a web page, downloading the application, completing the information on the form and submitting it. LOAs should not be reduced to a game of ‘guess what I’m thinking’ by FSDO inspectors. The FAA needs to eliminate the grammar-school approach to not only the LOAs, but also to many other areas of approval it is responsible for. Currently if an owner starts the LOA process, it can take anywhere from 30 to 180 days and maybe longer. This should be as simple as: 1. Click on FAA webpage for Fans/CPDLC or RVSM application. 2. Complete application (three hours...maybe). 3. Click send. The responsible agent for the applicant would state that the applicant understands and will abide by the regulations.”

“The origination of the proposal for an LOA can emanate from many different areas, but safety is ultimately the driving force,” an FAA spokesman told AIN. “Technically,

...], are not equivalent to that of business jet operations. However, an LOA usually authorizes the operator to either do something they otherwise could not under existing regulations or to utilize equipment/new technology that will allow them to have greater operational flexibility in terms of where or how they operate.”

Corporate pilot Rick Shoemaker is resigned to the current LOA process and is not unhappy with the treatment from his FSDO. “As it stands today, I suspect we [my flight department] are a few years away from having CPDLC capability,” he told AIN. “As we typically do only two to three Europe trips a year, I will not push for the equipment until the mandate is closer. When we are equipped I anticipate that I will amend my oceanic ops manuals to incorporate the CPDLC procedures and apply for the LOA as I have done for all my other LOAs. The Orlando feds have been pretty reasonable with me in the past, so I see no reason to expect otherwise in the future. Yes, it is a pain. But what choice do we have?” o

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Ann Heinke
on May 9, 2012 - 4:41pm

LOA support

The article might have mentioned that Overlook Consulting is providing the LOA support to Chicago Jet Group for this very exciting first business jet FANS upgrade in the retrofit market. Useful FANS 1/A information can be found on the Overlook Consulting website: <http://www.overlookci.com>.

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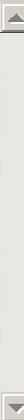
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