

A New Path to 777-9 Certification

By **Mike Borfitz**

The FAA's May 13 letter to Boeing's FAA-designated safety oversight liaison indicates that Boeing continues to struggle with its delegation—or authority granted by the safety agency to perform certain certification functions such as approving engineering design data on its behalf (*AW&ST* July 12-25, p. 14). The troubling situation begs the question: Is there a better way?

During certification, the FAA, or an Organization Designation Authorization (ODA) of company employees acting on the agency's behalf, will issue a Type Inspection Authorization (TIA) for regulatory compliance-testing when two general conditions are met. The applicant must demonstrate that its aircraft is safe and conforms to the design presented to the agency. TIA issuance is a turning point in any program. It is serious business. The agency has lost test pilots and engineers, and the TIA process is intended to mitigate risk. It signifies that the FAA accepts the manufacturer's declaration of safety and airworthiness and authorizes FAA flight-test pilots and engineers to begin compliance-testing.

The fact that the letter is addressed to Boeing's ODA lead administrator is troubling. That person is—or should be—the FAA's bulwark inside the company in lockstep with the FAA. Their duty includes holding the line when necessary, which can be a difficult task because of enormous financial and schedule pressure associated with all aircraft programs.

An ODA is a de facto branch of the FAA, separate from the applicant while at the same time housed within the applicant's organization and staffed by its employees. In the Boeing 777-9 case, it appears the ODA suggested to the FAA, on Boeing's behalf, that the prototype airplane is ready for certification testing. The FAA clearly disagrees and felt it necessary to scold the Boeing ODA.

The FAA's letter declares in numerous ways that the type design is not adequately "mature" for TIA issuance; the term is used six times in the letter. Ultimately, TIA issuance is a judgment call made after the FAA has gathered and reviewed all the necessary data and consulted with stakeholders. Emphasizing lack of maturity in a program that Boeing and its ODA feel is ready for certification testing is the FAA's way of expressing concern with Boeing and its ODA.

The letter raises 11 technical and process-related issues, but one stands out: an "un-commanded pitch event" in December 2020. "After the un-commanded pitch event,

the FAA is yet to see how Boeing fully implements all the corrective actions identified by the root cause investigation," the letter says.

The agency is often and correctly described as a technical organization in a political world. It must assure aviation safety with robust professional oversight while fostering a public perception of safety. The FAA is hypersensitive to public perception. It is not a stretch to see reports of an un-commanded pitch event in flight test evoking memories of the two Boeing 737 MAX accidents caused by uncommanded pitch events. The FAA's displeasure over Boeing's poor performance in implementing corrective action goes beyond technical nuance. It implies that Boeing is insensitive to the FAA's accountability to the public.

A letter such as this would certainly have been coordinated within the FAA up to the highest levels. It clearly indicates that all is not well with Boeing, their ODA and especially their relationship with the FAA.

Aircraft Certification, the FAA organization responsible for all aircraft designs, production and continued operational safety, has fewer than 1,400 employees. Although the delegation is frequently attacked as "the fox guarding the hen

house," it is absolutely essential for industry competitiveness and FAA effectiveness in assuring safety.

If the FAA letter is any indication of how unhealthy Boeing's ODA is, especially after the tragedies and difficult lessons of the Lion Air and Ethiopian Airlines 737 MAX accidents, the agency may have to examine alternatives. One option is to staff the FAA for more direct Boeing oversight, which may not be practical for various reasons.

Another viable option exists and has been highly successful in other cases: a third-party ODA. Airplane modifiers hire properly authorized ODAs to approve their supplemental type certificates in a timely manner. With slight modifications to FAA policy for ODA holders, the agency could authorize a third-party ODA, contracted by Boeing but collocated with the FAA.

Such an ODA would benefit from autonomy and physical distance from the financial pressures of a huge corporation as well as from being nested within the FAA for constant oversight and guidance. ☒

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