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**Federal Aviation
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InFO

Information for Operators

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http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/info

An InFO contains valuable information for operators that should help them meet certain administrative, regulatory, or operational requirements with relatively low urgency or impact on safety.

Subject: Critical Design Configuration Control Limitations (CDCCL)

Purpose: This InFO contains information about CDCCLs mandated by Airworthiness Directive (AD).

Background: Since 1959 there have been 18 fuel tank explosions. The most notable happened on July 17, 1996 when a 25-year old Boeing 747-100 series airplane was involved in an in-flight breakup after takeoff from Kennedy International Airport in New York, resulting in 230 fatalities.

The NTSB determined the probable cause of the TWA Flight 800 accident was an explosion of the center wing fuel tank (CWT) resulting from ignition of the flammable fuel and air mixture in the tank. However, the source of ignition energy for the explosion could not be determined with certainty. All the sources evaluated, the most likely was a wiring failure outside the CWT. This failure allowed excessive electrical energy to enter the CWT through electrical wiring associated with the fuel quantity indication system (FQIS). This accident in particular, prompted the Federal Aviation Administration (FAA) to examine the underlying safety issues surrounding fuel tank explosions, the adequacy of existing regulations, the service history of airplanes certificated to these regulations, and existing fuel tank system maintenance practices.

Discussion: In 2001, the FAA issued Special Federal Aviation Regulation (SFAR) 88, requiring certain design approval holders to conduct safety reviews of their fuel tank systems. These design approval holders were also required to develop maintenance and inspection instructions, including CDCCL.

Instructions for maintenance and inspection of the fuel tank systems are designed to maintain ignition source prevention features of the fuel tank system; important for ensuring the isolation of fuel from a possible ignition source. Operators were required by Airworthiness Directive (AD) and Fuel Tank Safety operational rules to revise their maintenance or inspection programs to incorporate these instructions.

In accordance with Title 14 of the Code of Federal Regulations (14 CFR) part 91 § 91.403(c) and other operational regulations (e.g. 119.5(g)), once the operators' programs are revised, all future maintenance of fuel system components must be done as directed by the CDCCLs. Like other ADs, the ADs mandating CDCCLs include provisions for allowing alternative methods of compliance (AMOC) when approved by the responsible FAA Oversight Office.

Recommended Action: Air carriers, operators, and repair facilities should only use FAA Oversight Office-approved methods of compliance. If anyone wishes to seek approval for an AMOC, they should coordinate with the design approval holder to determine the most efficient approach to obtaining the approval. Each AD identifies the FAA Oversight Office having the authority to issue AMOCs.