

8042-2-2



Memorandum

U.S. Department
of Transportation
**Federal Aviation
Administration**

Subject: **INFORMATION:** Revised Policy on Compliance of
CFR 14 part 23.865 at Amendment Level 48 for
Structures in Adjacent Areas Subjected to Effects of
Fire in Designated Fire Zones

Date: APR 13 2000

From: Manager, Regulations and Policy Branch
Small Airplane Directorate, ACE-111

To: Manager, Project Support Branch
Small Airplane Directorate, ACE-112

This memorandum supersedes our memorandum on this subject dated January 11, 2000 with respect to your request for a policy on compliance with CFR 14 part 23.865 at amendment level 48 for structures (composite and metallic) in the adjacent areas that would be subjected to the effects of fire in the designated fire zones. Please disregard the superseded memorandum.

The revision of FAR 23.865 at amendment level 48 includes

changing the words "engine compartment" to "designated fire zones" for consistency with 23.1181 and 23.1203; and

adding the phrases "adjacent areas that would be subjected to the effects of fire in the designated fire zones."

The intent of this section is to require that the materials and components, both in the designated fire zone and its adjacent area, that are essential to flight safety, shall be capable of maintaining their integrity or performing their function under the conditions of fire.

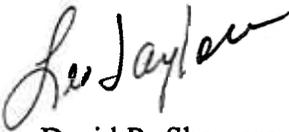
The fire condition characterized by a 2000° F flame can be treated as a failure condition that should not prevent continued safe flight and landing for at least fifteen (15) minutes. The structures (composite and metallic) behind the firewall and subjected to the heat effects of the fire shall be able to withstand the flight loads expected to occur during completion of the flight. These flight loads shall not be less than the gust loads expected to be encountered during the completion of the flight. These loads can be treated as ultimate loads. Design features, including multiple load path arrangement, can be taken into account when establishing the

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remaining structural capacity. Freedom from flutter and whirlmode should also be demonstrated.

Compliance with the above requirement must be demonstrated by tests, or by analysis supported by tests. The assessment of heat effects needs to include all heat transfer mechanisms that may occur in the area of concern. For composite structure, the long-term environmental effects that may degrade the mechanical properties of the structures also need to be considered. These may include the effects due to moisture and steam pressure.

If you have any questions or need additional information, please contact Mr. Lester Cheng, at 816-329-4120.



David R. Showers



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copies to all acds on 4/18/00.