

Considerations for a Future Appendix F

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Current State

- **Appendix F has grown and evolved over 40-plus years**
- **Each successive revision has focused more specifically on a particular safety issue**
- **Many materials/parts are subject to multiple requirements**
 - Because of different usage
 - Because more than one requirement applies

Current State cont.

- **Appendix F has 7 ‘parts’**
- **Only part I establishes requirements based on material (as opposed to usage)**
- **All requirements permit ‘other approved equivalent method’**
- **Current approach, whether by usage or material, is to list applicable parts explicitly**

Main Factors in Establishing Flammability Requirement

- **Nature of threat: principally**
 - Post Crash, or
 - In flight
- **Relative ability to mitigate: principally**
 - Accessible, or
 - Inaccessible
- **Potential contribution of the item, e.g., Contribute to**
 - Propagation
 - Intensity
 - Penetration

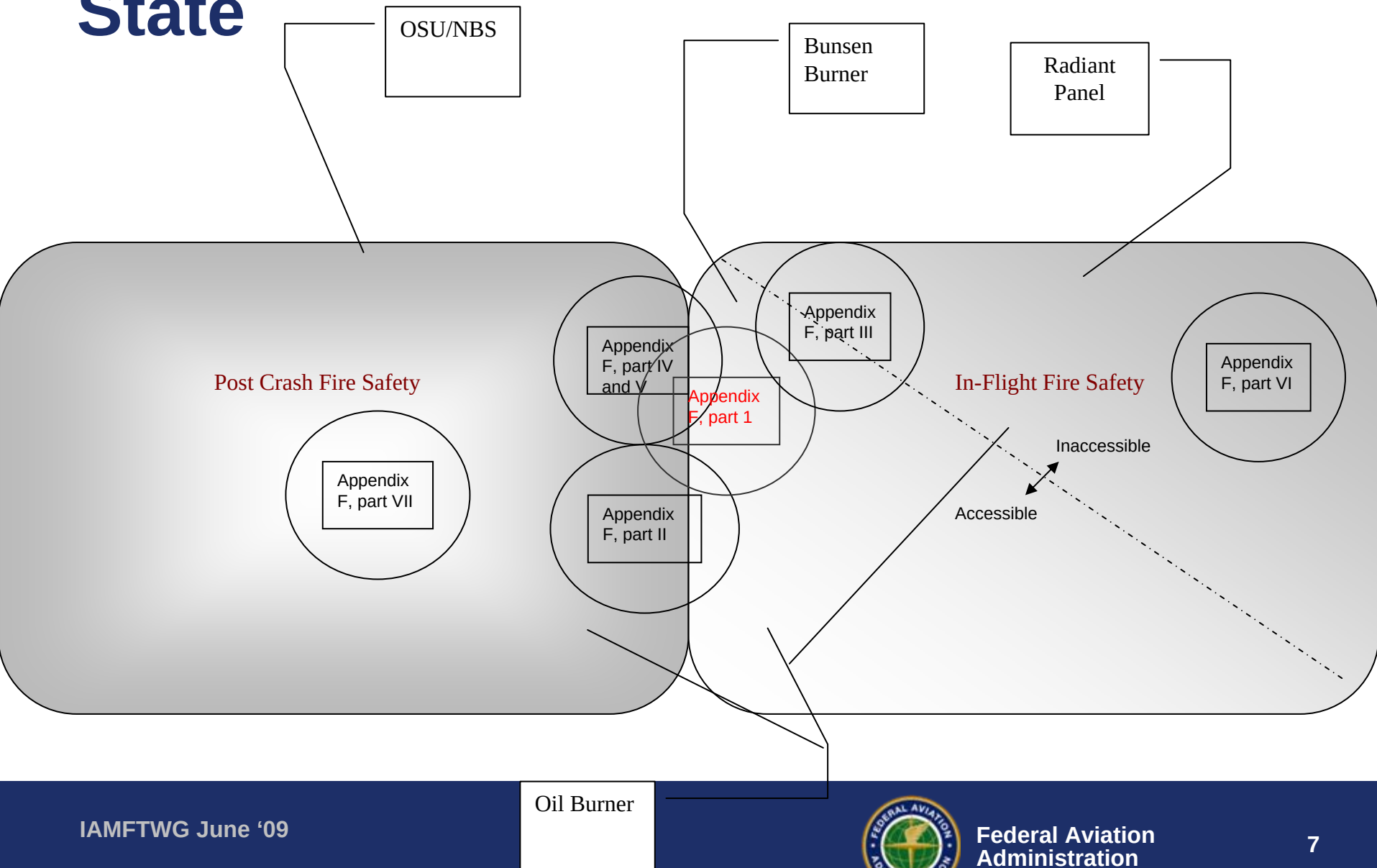
Test methods and their applicability

- **Bunsen burner: post-crash, in-flight, accessible and inaccessible materials—six possible tests/criteria**
- **Oil Burner (seats): post-crash, in-flight, accessible materials—single test method**
- **Oil Burner (cargo liner): post-crash, in-flight, accessible and inaccessible materials—single test method**

Test methods and their applicability

- **OSU/NBS Chambers: Post-crash, in-flight accessible materials—two test methods**
- **Radiant Panel: in-flight, inaccessible materials—single test method**
- **Oil Burner (insulation): post-crash inaccessible materials—single test method**

Visual Representation of Current State



Simplified Structure Might be

- Appendix F, Part:
- II: All cushions on seats, berths etc., in any location on the airplane.
- III: All cargo liners and other features for which that level of fire resistance is needed in flight (typically going to be inaccessible region with potential fire source and fire load)
- IV and V: All large surface area 'panels' in the passenger cabin (airplanes >19 pax)
- VI: Materials in inaccessible areas (insulation and downstream ducts, wire, etc.) that could contribute to the propagation of a fire
- VII: Fire barrier in the lower half

Appendix F, Part I would become...

- Things not covered by parts II-VII that could contribute to the propagation of a fire
- Likely only 1 test method (for airplanes with >19 pax)
- Simplified method to qualify common things, such as adhesive used to bond two parts together (a 'fabricated part' is covered by one of the other tests)
- Fire containment

Advantages

- **Simpler to establish which test is required**
- **Should not be as much (or any) overlap**
- **Criteria not subject to obsolescence with new materials**
- **Certain things could be qualified for general use without a specific application identified**

Very likely would be addressed through some sort of industry group—ARC or ARAC