

DISPOSITION OF PUBLIC COMMENTS
DRAFT AC 25.857-X, Class B and F Cargo Compartments
 Prepared by Steve Happenny, ANM-112

No.	Comment	Requested Change	Disposition
Commenter: Shakir Jamaldeen, Amsafe Bridport			
1	<p>Paragraph 6.3.1.3.4 states that “If FCCs are used as the sole means of compliance, they should completely surround all cargo, including underneath the cargo”. In our experience developing and testing FCCs for Class E and Class F cargo compartments in accordance with SAE AS6453 (August 2013) FCC performance standard and FAA TSO-C203, we’ve found that FCCs when used and tested over palletised loads i.e. over certified aluminium aircraft pallets (as is common practice in Class E and Class F compartments), the pallets sufficiently prevent damaging heat transfer to the aircraft floor/structure without the use of a base FCC cover/sheet. This case is further supported by FCC testing conducted by the FAA Fire Safety team at the William J. Hughes Technical Center. The use of a base cover will not provide any added benefit when an FCC is used in conjunction with a certified aluminium pallet not to mention being prone to frequent damage (being typically fabric based) from the tons of cargo placed on top of it, load shift etc particular in fully loaded pallets possibly requiring regular repair/replacement is thus cost ineffective and impractical. FCCs would be used without pallets in very small cargo compartments and over small loads (US/UK/Euro pallet size) and in these instances a base cover should be used.</p>	<p>For these reasons we recommend that AC 25.857-X consider that FCCs be allowed to be used without a base cover if an FCC is used in conjunction with pallets approved for this purpose and a base cover be recommended only in the absence of an approved pallet.</p>	<p>The Federal Aviation Administration (FAA) agrees with the intent of the comment. We are aware that some operators do not use a pallet when placing bulk cargo in their airplane. In those circumstances, the FAA has required that the fire containment covers (FCC) completely enclose the bulk cargo. However, we agree that for bulk cargo shipped with an approved pallet, the FCC should meet requirements as the commenter describes. We revised the text, which is now in paragraph 6.3.3.4, to read as follows:</p> <p><i>If FCCs are used as the sole means of compliance, they should be used with a pallet that demonstrates adequate fire performance so that the cargo is surrounded by fire protection equivalent to that of the FCC. If no pallet is used, the FCC should completely surround all cargo, including underneath the cargo, except for obviously nonflammable items, such as metal stock, machinery, and nonflammable fluids without flammable packaging.</i></p>

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Commenter: Embraer S.A.			
1	<p>Section 5.6 states: “Class F cargo compartments should also be limited to the main deck for accessibility.”</p>	<p>Some aircraft designs allow main deck cargo compartment accessibility from inside the cabin and from outside the aircraft (external cargo door). Is this condition still categorized as Class F?</p>	<p>The FAA created the Class F cargo compartment as a means to carry cargo on the main deck of an airplane that is engaged in the carriage of passengers. A Class F cargo compartment is required to meet the requirements specified in the revised rules, i.e., §§ 25.851, 25.855, 25.857, and 25.858. Transport airplane main deck cargo compartments that meet these requirements and have accessibility from inside the cabin or from the outside can be designated a Class F cargo compartment. The FAA acceptance of the accessibility of the cargo compartment will depend on the specific design and intended operation.</p> <p>No change to the advisory circular (AC) is requested by the commenter.</p>
2	<p>“A Class F compartment (see § 25.857(f)) is one that has means to control or extinguish a fire without requiring a crewmember to enter the compartment. However, a Class F cargo compartment must be readily accessible in flight and located on the main deck of the airplane.”</p> <p>Class F cargo compartments that include a built-in fire extinguisher/suppression system should incorporate some sort of feature that could monitor the access means to ensure it is going to be closed when the flight-crew decides to discharge the extinguishing agent inside the compartment.</p> <p>On the Section 6.3.1.1 from the AC states that: One suppression method might be to use a</p>	<p>Therefore, performing flight test for measuring concentration does not look to be practical for Class F cargo compartment unless a built-in fire suppression system is provided. Further guidance for this type of installation is desirable.</p>	<p>The FAA does not agree. The specific example that the commenter is focused on is too restrictive – the commenter refers to an example in the AC but interprets the use of a hand fire extinguisher to contain traditional Halon 1211, which is a streaming agent used in the cabin for fighting fires. Halon 1301 (flooding agent) is currently used in Class C cargo compartments. Class F compartments with built-in suppression systems should also use a flooding agent.</p> <p>Applicants will be required to conduct tests to show that all fire suppression means that are used in Class F cargo compartments meet their intended function. If the means incorporates an active fire suppression system then a flight test demonstration will be required per § 25.855(h). Whether the source of fire extinguishing agent is permanently installed (i.e., in a typical Class C</p>

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	<p>plumbing and nozzle distribution system within the compartment that would provide acceptable suppression capability throughout the volume of the compartment. The source for such a system could be hand fire extinguishers, which interface with the distribution system through a suitable interface nozzle.</p> <p>In addition, for certification purposes, the extinguishing agent concentration should be measured in flight, following airplane flight manual (AFM) procedures, and the length of protection time afforded by the system recorded. This time of protection should be used to establish AFM limitations for cargo or baggage compartment fire protection times.</p> <p>However, hand fire extinguishers are typically charged with Halon 1211. While the minimum volumetric concentration to control a fire is established for Halon 1301 used in built-in systems (5-percent for initial fire knockdown and 3-percent to prevent fire from re-igniting), there is not a clear guidance to define required concentration for Halon 1211 (fire fighting capacity for hand fire extinguishers is defined by UL 711 rating or equivalent).</p> <p>In addition, hand extinguisher have limited discharging time (i.e. 13 seconds for a large UL 2A:10B:C extinguisher as presented in AC 20-42D) and it is not intended to keep discharging to prevent restart of a fire.</p>		<p>cargo compartment fire suppression system) or temporarily connected (i.e., in the example in the AC referred to by the commenter) to the agent distribution system is immaterial. All means which incorporate active fire suppression systems must show compliance via flight test demonstration as required in § 25.855(h). Regulatory guidance for fire suppression systems provides a strategy for compliance for most types of systems. An applicant using a new fire agent should contact the local FAA ACO to seek additional guidance.</p> <p>We do concur with the comment regarding airplane flight manual (AFM) limitation(s) appropriate to the time a specific means of fire protection has been shown to provide. However, this guidance is included in section 6.3.1 of the AC:</p> <p><i>This time of protection should be used to establish AFM limitations for cargo or baggage compartment fire protection times.</i></p> <p>The regulations for Class F cargo compartments afford industry great flexibility. Class F cargo compartments must have a means to control or extinguish a fire without requiring a crewmember to enter the compartment. The means to accomplish this requirement could be by various methods including: (a) an airplane installed fire suppression system; (b) an airplane installed plumbing and nozzle system that relies on crew action to insert a hand fire extinguisher into a designed receptacle to supply the source of agent (e.g., Halon 1301); (c) an enhanced unit load device (ULD) that includes a built-in fire extinguisher/suppression system; (d) other means</p>

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			<p>acceptable to the FAA.</p> <p>The FAA acknowledges that compliance demonstration may be challenging depending on the means selected to meet the requirement for fire extinguishment/suppression. The FAA may decide that traditional concentration flight tests are not appropriate for a specific design and operation. In those cases, we may rely on other means (e.g., live fire extinguishing tests) to show compliance. Alternatively, the FAA may require a combination of ground and inflight concentration tests and fire extinguishing tests to thoroughly investigate the behavior of the specific design. Because Class F cargo compartments provide great flexibility to industry, it is not possible for the FAA to include in the AC examples of all possible design options that may be acceptable. We are aware of a number of companies developing improved fire safety devices for the carriage of cargo in all cargo/freighter airplanes.</p>

No.	Comment	Requested Change	Disposition
Commenter: J.J. Machon, ISO TC20 SC9			
1	<p>General.</p> <p>It is understood the AC is only intended for future class F cargo compartments. However, some of its requirements might be construed as also applying to use of FCC or FRC in other existing compartments.</p>	<p>Suggest the AC to clarify non-applicability, or if necessary identified limited applicability, to other compartments classes might avoid misunderstandings while class F compartments do not yet exist.</p>	<p>The FAA believes that this commenter may have misunderstood the applicability of this AC and the process for issuing a new AC. The commenter appears to be concerned that the AC could be misunderstood to apply to other existing cargo compartments. However, as the Purpose paragraph states:</p> <p><i>This AC provides guidance concerning compliance with</i></p>

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	All the following comments, though applicable to class F, are based on FCC and FRC use in present cargo compartments, primarily class E.		<p><i>the airworthiness standards for transport category airplanes pertaining to Class B and Class F cargo compartments.</i></p> <p>In addition, this AC will not be issued <i>while class F compartments do not yet exist</i>, as the commenter states. This AC will be issued concurrently with the final rule that creates Class F compartments.</p>
2	<p>6.3.1.3.4 <i>" If FCCs are used as the sole means of compliance, they should completely surround all cargo, including underneath the cargo "</i>: an FCC also covering the base pallet is both useless with current aluminium pallets, and prone to severe operating difficulties due to repeated damage to be expected from cargo stacking and unstacking.</p> <p>Aluminium plate pallets, practically universal today, were always demonstrated at testing as meeting minimum performance requirements by themselves. FCC extending underneath is unnecessary, but also going to result in damage. The requirement should be limited to FCCs used with e.g. composite pallets (possible in the future) where such did not pass minimum performance testing.</p>	<p>Add:</p> <p><i>" If FCCs are used as the sole means of compliance, they should completely surround all cargo, <u>unless the base pallet was successfully tested / approved to required minimum performance standard.</u>"</i></p>	<p>The FAA agrees with the intent of the comment. However, we are aware that some operators do not use an aluminum pallet when placing bulk cargo in their airplane. In those circumstances, the FAA has required that the FCC completely enclose the bulk cargo. However, we agree that for bulk cargo shipped with an approved pallet, the FCC should meet requirements as the commenter describes. We revised the text, which is now in paragraph 6.3.3.4, to read as follows:</p> <p><i>If FCCs are used as the sole means of compliance, they should be used with a pallet that demonstrates adequate fire performance so that the cargo is surrounded by fire protection equivalent to that of the FCC. If no pallet is used, the FCC should completely surround all cargo, including underneath the cargo, except for obviously nonflammable items, such as metal stock, machinery, and nonflammable fluids without flammable packaging.</i></p>
3	<p>6.3.1.3.4 <i>"... except for obviously nonflammable items, such as metal stock, machinery, and nonflammable fluids without flammable packaging."</i> seems hardly justifiable as regards</p>	<p>Delete:</p> <p><i>"... except for obviously nonflammable items, such as metal stock, machinery, and nonflammable fluids without flammable</i></p>	<p>The FAA disagrees. We believe that the commenter misinterpreted the intent of the paragraph 6.3.1.3.4, which is 6.3.3.4 in the final AC. The intent of the sentence in question was to provide some limited examples of nonflammable items, provided they are</p>

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	<p>liquid packagings.</p> <p>A quite common commodity carried is plastic bottles of water (e.g. airline catering). Such were never considered a fire hazard.</p>	<p>packaging."</p>	<p>shipped in nonflammable packaging. It was not intended to be all-inclusive. The material used in the carriage of the shipped items is important as it could be highly susceptible to ignition, and it could add to the overall intensity of a fire. Also, the example the commenter uses would be considered nonflammable provided it was shipped in nonflammable packaging. However, we did revise the sentence as quoted above.</p>
4	<p>6.3.1. 4 "... FRCs and/or FCCs placed over palletized loads or non-fire hardened containers)...": placing an FCC over a regular container was considered and rejected for safety reasons.</p> <p>1. An FCC over a container does not allow its airworthiness inspection prior to aircraft loading. 2. It reduces air flow capability to the extent smoke detection may be significantly delayed. 3. FCC are tested and TSO-C203 approved with minimum air contents, i.e. collapsing when the load collapses. They are not tested with a large empty volume as could be the case for a partially empty container.</p>	<p>Delete: "... FRCs and/or FCCs placed over palletized loads or non-fire hardened containers)...":</p>	<p>The FAA disagrees. We acknowledge within the AC some of the difficulties in using FCCs, fire resistant containers (FRC)s, and enhanced ULDs when considering the regulations requiring fire detection, fire suppression, and containment. The example of an FCC placed over a ULD/cargo container would create some challenges to FAA approval. However, one path for approval would be to require inspections to be completed during the loading of the ULD/cargo container and then appropriate surveillance maintained until this unit was loaded into the airplane. Once loaded, the airplane-installed means to detect a fire would have to meet its function with this cargo; or the FCC-covered ULD/cargo container would have to have a means to detect a fire and to alert the flightcrew of the presence of a fire within the cargo.</p> <p>Fire suppression would also need to be ensured either through a dedicated airplane-installed system that would be shown to be effective against a fire in the FCC-covered ULD/cargo container. Or the FCC-covered ULD/cargo container would have a fire suppression system that would be shown to be effective. Or the fire resistant capabilities of the FCC-covered ULD/cargo container would have to be shown to be effective in</p>

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			<p>containing a fire for the maximum duration of any flight. The FAA could approve other acceptable means.</p> <p>The FAA is aware of development work on alternate methods of carrying cargo on airplanes. We have written the regulations and associated guidance to provide flexibility while retaining the appropriate level of safety. For the reasons explained above, no changes are made.</p>
5	<p>6.3.1. 5.2 <i>"Operational procedures, such as requiring airplane crew verification of cargo loading before every flight;"</i>: while this is likely to be the preferred class of methods, it does not specify how the crew can check.</p> <p>A universal graphic symbol (8 x8 inches minimum, on two opposite sides) was agreed in ISO 19281 (AS 6453) to allow immediate identification of an FRC.</p> <p>It is intended the same symbol be added to a revision of ISO 14186 (AS 6278) on FCCs as soon as the FRC standard is finally published.</p>	<p>Add: <i>"Operational procedures, <u>such as unambiguous visual identification and</u> requiring airplane crew verification of cargo loading before every flight;"</i>:</p>	<p>The FAA concurs with the intent of this comment. However, the guidance that the commenter describes is still in draft form and has not been formally issued. While we would like to include reference to the draft ISO and SAE standards on FRCs, we cannot until they are formally issued, and we have completed our review.</p>

No.	Comment	Requested Change	Disposition
Commenter: IATA Unit Load Devices Panel (ULDP) Comments			
1	<p>6.3.1.3.4 "If FCCs are used as the sole means of compliance, they should completely surround all cargo, including underneath the</p>	<p>Comments: 1) With the current aluminum pallet there is no need to place FCC underneath the</p>	<p>The FAA agrees with the intent of the comment. However, we are aware that some operators do not use a pallet when placing bulk cargo in their airplane. In those</p>

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	cargo, except for obviously nonflammable items, such as metal stock, machinery, and nonflammable fluids without flammable packaging.”	cargo. 2) Placing FCC underneath the cargo might damage the FCC itself and hence reduce the performance of the FCC.	<p>circumstances, the FAA has required that the FCC completely enclose the bulk cargo. However, we agree that for bulk cargo shipped with an approved pallet, the FCC should meet requirements as the commenter describes. We revised the text, which is now in paragraph 6.3.3.4, to read as follows:</p> <p><i>If FCCs are used as the sole means of compliance, they should be used with a pallet that demonstrates adequate fire performance so that the cargo is surrounded by fire protection equivalent to that of the FCC. If no pallet is used, the FCC should completely surround all cargo, including underneath the cargo except for obviously nonflammable items, such as metal stock, machinery, and nonflammable fluids without flammable packaging.</i></p>
2	6.3.1.4 “Class F cargo compartment designs that rely on fire containment (e.g., fire hardened containers/pallets, FRCs and/or FCCs placed over palletized loads or non-fire hardened containers) should be considered with regard to the possibility of incorrect usage or cargo loading errors.”	Comments: 1) Fire hardened container should be changed to read Fire Resistant Container (FRC) for consistency. 2) Placing the FCC over a container does not allow its airworthiness inspection prior to aircraft loading. 3) Placing the FCC over a container, whether or not fire resistant, would reduce air flow capability and may significantly delay the smoke detection. 4) FCCs are tested and TSO-C203 approved with minimum air contents, i.e. FCC collapses when the load collapses; FCCs are not tested with a large empty volume as could be the case for a partially empty container.	The FAA disagrees. 1) Currently there are no industry standards defining FRCs. While we are aware of draft standards, these have not been formally issued at this time. In addition, we are aware of research being conducted by industry on multiple means to improve the fire resistance/fire hardening of cargo containers/ULDs. Some of these are referred to by those industry participants as enhanced ULDs, not FRCs. 2) and 3), the FAA acknowledges within the AC some of the challenges in using FCCs, FRCs, enhanced ULDs when considering the regulations requiring fire detection, fire suppression, and containment. The example referred to by the commenter of the use of an FCC placed over a ULD/cargo container would require inspections to be completed during the loading of the ULD/cargo container and then appropriate surveillance until this was loaded into the airplane. Once loaded, the

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			<p>airplane-installed means to detect a fire would have to meet its function with this cargo; or, the FCC-covered ULD/cargo container would have to have a means to detect a fire and to alert the flightcrew of the presence of a fire within the cargo. In addition, fire suppression would also need to be ensured either through a dedicated airplane-installed system that would be shown to be effective against a fire in the FCC-covered ULD/cargo container; or the FCC-covered ULD/cargo container would have a fire suppression system that would be shown to be effective; or the fire resistant capabilities of the FCC covered ULD/cargo container would have to be shown to be effective in containing a fire for the maximum duration of any flight.</p> <p>4) The FAA acknowledges that whatever fire testing is accomplished to show compliance, that it is representative of a realistic fire scenario. However, the specific details of compliance testing for an FCC should be conducted per industry standards as recommended within TSO-C203. It should be noted that additional testing may be required for FAA approval.</p> <p>Note: We have revised this paragraph in the final AC. It is now paragraph 6.3.3.9 and reads:</p> <p><i>If an applicant's proposed design for a Class F cargo compartment relies on fire containment (e.g., fire hardened containers/pallets, FRCs and/or FCCs placed over palletized loads or non-fire hardened containers), then the applicant should be prepared to demonstrate the continued effectiveness of those means after incorrect usage or cargo loading errors.</i></p> <p>In summary, the FAA has written the regulations and</p>

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			associated guidance to provide flexibility while retaining the appropriate level of safety.

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Commenter: David Waigh, Bombardier			
1	<p>p. 2, para 5.2, p. 5, para 6.2.1, p. 5, para 6.2.1.1, p. 5, para 6.2.1.1.1 Clarification: The assumption, with regard to the revisions to Class B classification, is that the intended purpose is to protect a crewmember by ensuring that fire-fighting may be performed entirely from outside the compartment. This intention is made less clear by the discussions relating to ‘reach’. Is it intended that a crewmember may reach into the compartment to place the extinguisher nozzle closer to the fire and even perhaps to move baggage around, within the compartment? Is the intention not that fire-fighting takes place ‘while not physically entering the compartment’ (ref 6.2.1.1.1), meaning that no part of the body should be placed into the compartment? Or is reaching or leaning into the compartment considered to be less dangerous than placing one foot into the compartment in order to reach and move baggage, and is therefore acceptable?</p>	<p>Clarify what is considered entering the cargo compartment; clarify the exact definition of fire-fighting activities and post-fire inspection activities; clarify whether it is permitted to enter the compartment when inspecting the cargo compartment after fire-fighting.</p>	<p>These comments may be summarized as requesting additional guidance on (a) what is considered entering the cargo compartment; and (b) exact defined fire-fighting procedures and post-fire inspection activities. The FAA does not agree with these comments for the following reasons:</p> <p>(a) The guidance in the AC describes that the crewmember must have sufficient access to a Class B compartment to effectively fight a fire with a hand fire extinguisher in any part of the compartment when standing within the access door, but allowed to move laterally within the access door, without stepping into the compartment. The FAA uses the term “reach” to indicate a reasonable effective distance that the crewmember can extinguish the source of a fire located in the compartment. This is based on harmonization with the guidance provided by the European Aviation Safety Agency (EASA) Certification Specifications for Large Aeroplanes (CS-25) and the associated Acceptable Means of Compliance (AMC); the recommendations of the Aviation Rulemaking Advisory Committee (ARAC) Cargo Standards Harmonization Working Group (CSHWG); and service history of airplanes with small Class B cargo compartments. The AC describes this reach as a combination of (1) the</p>

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	<p>If ‘reach’ is used only as a tool to determine the physical limitations of a compartment and is not suggestive of a fire-fighting practice, perhaps use of that word should be removed, or an explanation to that effect added.</p> <p>With a full compartment, it may not be possible to visually determine if a fire is extinguished without moving baggage. It is necessary to visually determine that there is no possibility of re-ignition.</p> <p>If the crewmember is not permitted to lean, reach or step into the compartment to ‘fight a fire’, then logically the required inspection, to determine that there is no possibility of re-ignition, may only take place once the fire-fighting process is complete. Since fires within luggage have been shown by test to smolder for hours without sign of visible flame (ref. US CAA Technical Development Report No. 146) then inspection of individual articles is needed. Therefore movement of baggage is necessary.</p> <p>If inspection is not a component of the fire-fighting process, then a determination of what constitutes the end of fire-fighting is required. Is the fire-fighting process over, for instance, when there is no visible flame?</p> <p>In the case of smoldering material within a piece of luggage, where smoke detection has occurred but no flame is visible, can it be considered that;</p> <ul style="list-style-type: none"> • there is no need to ‘fight a fire’ and only inspection and dousing of the smoldering material is necessary • since there is no need to ‘fight a fire’, 		<p>physiological reach of a 50th percentile female as defined in Harrison, Catherine R., Robinette, Kathleen M., “CAESAR: Summary Statistics for the Adult Population (Ages 18-65) of the United States of America,” AFRL-HE-WP-TR-2002-0170, United States Air Force Research Laboratory, June 2002; and, (2) a reasonable value that a hand fire extinguisher can be accurately directed (i.e., no more than two feet) based on engineering judgment. The FAA has provided guidance on this subject, which is harmonized with EASA, and we believe that it provides sufficient explanation and a reasonable means of compliance.</p> <p>(b) Part 25 ACs provide generic guidance applicable to all transport category airplanes. The commenter would like the <i>exact definition of the fire-fighting activities</i> to be in the AC. However, the exact activities to be followed in a specific airplane Class B cargo compartment are airplane design and operation specific. This information should be contained in the (1) AFM and (2) flightcrew operations manual (FCOM) and/or flight attendant & cabin crew manuals (FAM-CCM). The airplane manufacturer should work with the airline operator(s) to develop complete instructions for fire-fighting activities and post-fire inspection activities. This work will involve discussions with the FAA to obtain approval of the AFM.</p> <p>In addition, the FAA questions the potential benefit from post-fire activities (i.e., whether a crewmember is permitted to enter the compartment when inspecting the cargo compartment after fire-fighting). The FAA recommends that, in the event of a fire in a transport category airplane from any source, the airplane should</p>

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2	<p>Page 6, para 6.2.1.2 Effectiveness and clarity. Testing It is not clear whether testing has been conducted in order to ensure that Class B cargo compartments, meeting the criteria included in this AC, have an acceptable level of safety. If testing has been conducted, then the test conditions should be noted in this AC, so that they may be considered by applicants wishing to certify larger compartments. If there has not been any testing, in order to ensure a level playing field for all applicants across the many FAA regional jurisdictions, basic test requirements should be established. Criteria such as fire load and pass / fail criterion need to be defined. For instance, testing reported in DOT/FAA/AR-TN99/29, <i>Effectiveness of Flight Attendants Attempting to Extinguish Fires in an Accessible Cargo Compartment</i>, reported that fire could not be sustained in normal pieces of luggage, so a fire</p>	<p>Provide details on realistic fire-extinguishing test procedures.</p>	<p>The FAA does not concur with this comment. Historically, FAA-approved fire extinguishers for use in Class B cargo compartments have been based on the ability to extinguish certain classes of flammable materials and the area of the compartment/expected fire. The commenter referenced, DOT/FAA/AR-TN99/29, <i>Effectiveness of Flight Attendants Attempting to Extinguish Fires</i>, which contains results of live fire extinguishing testing in two mockups of small Class B cargo compartments. The conclusions stated in the report were disputed by industry. Subsequent discussions with industry led the FAA Technical Center to reconsider the conclusions.</p> <p>In addition, FAA has issued AC 20-42, which contains additional guidance on using hand fire extinguishers on transport airplanes. Earlier versions required a 13-pound bottle of Halon 13 to be present for a small Class B cargo compartment. Current regulatory language in § 25.851 for hand fire extinguishers or built-in fire suppression systems require that the quantity of fire extinguisher agent present must be sufficient to</p>

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	<p>Commenter: David Waigh, Bombardier</p> <p>load of cardboard boxes filled with paper was used in order to create the desired flaming environment. For the majority of tests conducted with that fire load, fire extinguishment was not possible. It is important that a characteristic fire load be specified so that certification testing produces realistic fire-fighting and inspection scenarios and results.</p>		<p>extinguish fires likely to occur. The FAA is currently researching this issue as part of the work on improvements in cargo compartment fire safety. Pending completion of this research, the FAA may initiate new rulemaking, which may include defining more realistic fire threats.</p> <p>Currently, the FAA expects the applicant to perform a safety evaluation to ensure that the quantity of agent(s) will address the potential fire threat from the expected cargo/baggage carried, as it is the responsibility of the airplane manufacturer and airline operator to collaborate on the intended fire threat. The FAA's expectation is that industry will use appropriate (i.e., realistic) fire threats in demonstrating compliance to our performance-based standards. The FAA will check that compliance to the regulations is met according to the specific fire threat being evaluated. While we do not envision requiring additional live fire extinguishing testing, if the proposed quantity is insufficient or the type of fire extinguishing agent(s) has unique properties that may not afford suitable fire protection in the specific application, then the FAA may require additional live extinguishing testing. In addition, as noted in the AC 25.857-1, paragraph 6.2.3 (formerly 6.2.1.3):</p> <p><i>Should an applicant request FAA certification of an airplane with a Class B cargo compartment that exceeds the criteria included in this AC, the FAA will expect the applicant to perform full scale fire extinguishing tests. These tests will be used to demonstrate compliance to the regulations and to establish the quantity of fire extinguishing agent that</i></p>

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DRAFT AC 25.857-X, *Class B and F Cargo Compartments*
Prepared by Steve Happenny, ANM-112

No.	Comment	Requested Change	Disposition
	Commenter: David Waigh, Bombardier		
			<i>must be provided to ensure an acceptable level of safety.</i>