

**Minutes of Hand Held Extinguisher Advisory Circular (AC20-42C) Revision Task Group  
Ottawa, Canada Feb 16, 2005**

Louise – There have been concerns about unclear guidance from the MPS for the labeling of extinguishers. Louise asked Claude to express his concerns.

Claude - The appendix (in the MPS) says the fire extinguisher must have a label affixed after passing Part 1 which is the hidden fire test, but the appendix does not say a label needs to be affixed after passing the toxicity test (in the MPS).

Dick - The MPS only applies to the number of extinguishers required by the FAA (25.851). The UL will have to test the (*decomposition product toxicity*) toxicity as well as the extinguisher fire fighting performance. The hidden fire test is in addition to previous tests done by the UL. The MPS is a means to show equivalence to the rule (Far 25.851).

Louise - There needs to be a rewrite of the MPS that states in the body of the report that the FAA approval label will be granted after the extinguisher has passed both hidden fire test and seat toxicity test.

Dick - A policy letter will be coming out from the Transport Directorate offices. Dick clarified that it is the policy letter, rather than the MPS itself that provides the labeling guidance.

**Action:** Harry Webster will be contacted by Louise to find out from Steve Happenny to the status of the policy letter. All concerns for labeling of approved bottles will be brought to the attention of Steve Happenny. This will also include labeling issues for the minimum room volumes of extinguishers: for pressurized (8,000 ft) and nonpressurized (14, 000 feet) aircraft (an *agent toxicity* issue).

Claude - Will two 2B:C bottles be equivalent to one 5B:C bottle?

Louise: No. The AC and the MPS only address 5B:C as it is written.

Response 2: The fire can grow quickly before the 2<sup>nd</sup> extinguisher is obtained and discharged.

Dick- Suggested wording “In a small aircraft, use only the amount needed to put out a fire. The first effort must be to extinguish the fire. Fires can grow quickly and exponentially with time”.

**Action:** Wording will be added to provide guidance on this issue. We need to provide clear guidance that two 2B:C bottles are not equivalent to one 5B:C bottle.

Rich - The OEM's are concerned about size and weight because it may affect retrieval from an overhead bin

Claude: These Halocarbon Extinguisher bottles are larger and heavier than Halon 1211 bottles. May need some words on training and procedures for fighting the fire.

Larger bottles may be very heavy and difficult to handle. Consider where it is mounted so that a flight attendant can use it quickly. Consider if location needs to be adjusted because of added weight.

**Action:** Provide appropriate wording.

Dick: Add general guidance in the hardware section for considerations if you are replacing older, lighter bottles. Provide wording on location of mounting, bracket strength.

Howard - I think wording that the (replacement) extinguishers added weight should be mentioned in the AC in the section about locating fire extinguishers.

**Action:** Provide appropriate wording.

Claude - Is the cold soak test included somewhere? We need -40°C (-40°F).

Howard - The UL 711 version 6 Fire Test does include cold soak tests. UL 2129 is a test for the extinguisher hardware. The UL and ULC (extinguisher tests) need to be the same now that they are combined.

**Action:** Howard will check to see if they are the same.

The advisory circular is not a requirement for approval of hand held fire extinguishers, it is only guidance.

**Action:** Louise will change the wording that 5B:C extinguishers must pass to should pass.

Rich - The section on corrosion may need to be rewritten to address extinguishers containing chemicals like Monoammonium Phosphate.

**Action:** Rich will check the wording in the AC.

Rich - The section of the AC that addresses combi compartments now states that three portables of a minimum UL rating of 4A:80B:C should be readily available with a minimum of 30 minutes of protective breathing but no mention that instructions on the use of the PBE should also be included.

Dick - This AC should not have training instructions.

**Action:** Louise will check with Dave Blake on the wording on combi compartments.

Claude How is the new AC titled and how will it apply to replacements?

Louise - It is a new AC intended only for Halocarbon Agents.

Claude - Operators have concerns about agent leakage (in reference to OSHA regulations).

Howard - SNAP approval looks at toxicity hazards from short term exposure.

Rich - UL 2129 requires a minimum throw range of 8 feet but the AC calls out a Minimum of 10 feet. Does the AC conflict with the UL requirement?

Bob - The AC should not call out a (specific) throw range. The wording should state something like; A throw range that meets UL 2129 requirements or greater for larger compartments is an advantage in fighting fires in larger transport aircraft.

**Action:** Provide appropriate wording

Rich - How does the new AC handle nomograms in lieu of tables in Louise's new agent concentrations at altitude?

Louise - We will include the chart on page 17 (of Louise's presentation). This chart plots Maximum agent weight/ unit volume as a function of air change time. It also shows the agent concentration as a function of air change time. The agent concentration can be removed as it may be confusing some users of the AC. The hypoxia guidance can also be built into the chart .

Howard - The chart should only have the maximum (safe) weight/volume, not maximum safe concentration.

**Action 1:** Sham will check air exchange rate (exchanges per minute.)

**Action 2:** Louise will remove agent concentration from the chart. She will change the header of the chart to maximum safe weight/volume. The chart will be integrated into the AC.

Louise - The AC should state to use the chart when the ventilation rate is known, if not use the No Ventilation case. Show on that same chart the no ventilation maximum safe weight/volume for that agent. (Group consensus on this issue).

**Action:** Change the chart and add appropriate wording.

Rich - This chart does not give the safe exposure time for the No ventilation case.

Louise - We should add a note at the bottom of the chart that says to ventilate as soon as possible We should also note that unnecessary exposure to these halocarbon agents must be avoided. Exposures exceeding 5 minutes may have other toxicities in addition to their cardiotoxic effects. These include anesthetic and developmental toxicity.

**Action:** Add appropriate wording

Dick- The chart on page 11 (showing minimum safe volumes) should omit the halon 1211 line. It will slow the release of the AC.

Rich - I think that Halon 1211 should be left in the AC as "**reference only**" in order to provide a basis of comparison only. We may need to put Based on scientific evidence on the bottom of the chart.

Note: Tom Cortina sent an e-mail that he wanted the reference to Halon 1211 be left in the AC.

Louise - Louise discussed her hypoxia guidance.

**Action:**

Louise will request FAA toxicologists for a review of her hypoxia guidance.

Howard - The chart at the top of page 17 (Maximum weight/unit volume as a function of air change time) should have a note about hypoxia at higher altitudes. Pilot training includes hypoxia training.

**Action:**

Howard will talk to Gary Jepson about the issue of hypoxia.

*Minutes submitted by Rich Mazzone and Louise Speitel*

Handheld Task Group - Attendance

Feb 16, 2005

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