Smoke Source Project Plans

Federal Aviation Administration

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By: Robert Morrison, FAA Technical Center Fire Safety
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Planned Work

- **The objective is to compare different theatrical smoke generating smoke sources to a 4800 lithium primary battery fire test performed in a Class E cargo compartment that resulted in completely obscuring the flight deck in as little as 16 minutes on a Boeing 727 aircraft. (Harry Webster's May 1, 2013 Lithium Battery Test)**
- **Two smoke sources are being evaluated. A Corona theatrical smoke generator and a Rosco theatrical smoke generator discharging into the FAA Helium injection box.**
- **Two test series are planned. One test series with a ventilation rate set for 1 exchange every 5 minutes and the other test series without ventilation**

Planned Work

- **Rosco 1700 theatrical smoke generator with FAA Helium injection box series**
  - 70/30 Helium/Air mix
  - 50/50 Helium/Air mix
  - 0/100 Helium/Air mix
- **Corona theatrical smoke generator series**
  - CO2 injection with 1, 2, 3, & 4 heater bars
  - Helium injection with 1, 2, 3, & 4 heater bars
- **Smoke tests will be conducted in the FAA Seat Toxicity Test section inside the TC-10 test article. Smoke meters will be used to collect smoke plume propagation speed.**

Planned Work

- **Findings will determine next course of action.**
- **Possible adjustments**
  - Heating FAA Helium Box output
  - Changing to a higher output Rosco generator
  - Corona CO2/Helium propellant mix gas

Contact Info & Questions: robert.morrison@faa.gov (609) 485-4507