Aircraft Wiring

Pat Cahill

Engineer, Fire Safety Team FAA Wm. J. Hughes Technical Center Atlantic City International Airport, NJ 08405

International Aircraft Materials Fire Test Working Group Savannah, GA March1 - 3, 2010



Federal Aviation Administration

Aircraft Wiring

- Issues regarding the wiring flammability test were briefly discussed at the Triennial Conference in October, 2010. They were:
 - What is the purpose of this test?
 - What to do with small pieces of wire?
 - Are wire manufacturers aware of this proposed new test?



Aircraft Wiring

- Response:
 - This test was developed because the current 60-degree flammability test does not adequately characterize the flammability of wire.
 - This test is not a materials test.
 - Small pieces of wire will be addressed in advisory material.
 - Aircraft wire manufacturers are aware of this test.



Aircraft Wiring

- Task Group Agenda
 - A round robin was conducted last summer. We will discuss the results and problems (if any) that occurred during the testing. The data will be available to interested parties after the Task Group discusses it.
 - The test fixture, number of wires in the bundle, distance of the propane burner to the wire bundle, and position of the propane flame before and after test, are items that will be discussed.
 - Burn length vs. flame propagation is an important issue that needs clarification.
 - The most recent testing performed at the Tech Center differs slightly than previous testing. One example is the distance from the propane igniter base to the wire bundle. The latest draft (5.7) states that the distance is approximately 1.5 inches (38.1mm). Our testing has that distance at 0.75 inches (19.1mm).
 - We are aware of at least two wire holders that differ slightly from ours (FAA). We are interested in modifying the test fixture; especially the up and down "handle", which is awkward.

