

DEVELOPMENT OF A MULTI-SENSOR CARGO COMPARTMENT FIRE DETECTION ALARM ALGORITHM

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This presentation describes a project to develop a multi-sensor cargo compartment fire detection alarm algorithm. The tests were conducted in a 910 cubic foot, below floor cargo compartment in a 707-test fuselage. The sensors used included a smoke meter, ionization chamber, thermocouple and CO and CO₂ gas analyzers. A variety of flaming and smoldering fire sources were used along with dust, heat and water vapor nuisance alarm sources. The algorithm successfully detected all the fire sources in less than one minute and did not alarm in the presence of any of the nuisance alarm sources.