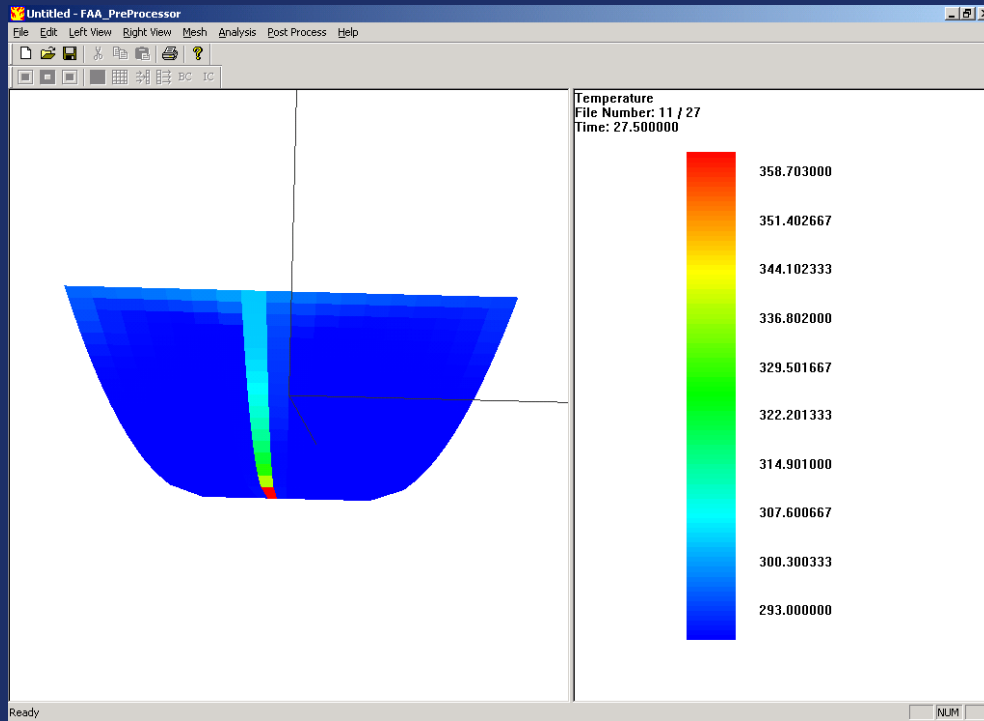


Smoke Transport CFD Code Status



Federal Aviation
Administration



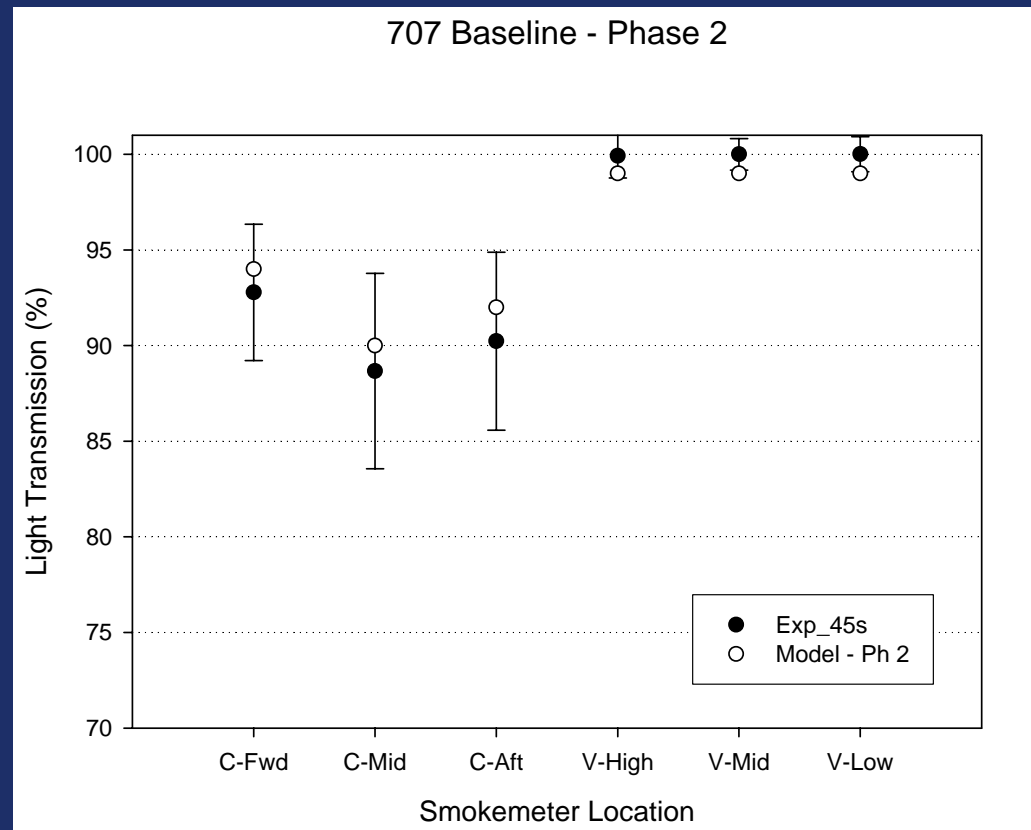
Presented to: International Aircraft Systems Fire Protection Working Group. London, UK

By: Dave Blake. FAA Technical Center. Atlantic City, NJ. Email: Dave.Blake@faa.gov

Date: May 18-19, 2010



- Sandia National Laboratories has developed a CFD code for the FAA that models the transport of products of combustion throughout a cargo compartment.
- The code was validated with numerous tests in a 707 and DC-10 below floor cargo compartment. There was good agreement between actual fire test data and code results.



- **The code was intended to be used as a tool to assist in the certification process. The code could simulate various detector placement location and alarm levels and predict the response time to varied smoke generation rates.**
- **Data from the recently completed FAA Class E Smoke Detection project is available and could be used to further validate the model under those conditions.**
- **Industry has expressed an interest in using the code. Several companies and the FAA have attempted to run simulations on their particular geometries. The results of those attempts have been largely unsuccessful.**



The FAA has given a grant to Rutgers University to identify problem areas with the Sandia code and suggest improvements. The Rutgers work is scheduled to finish by the end of June. The FAA will decide the next step, if any, after a review of the Rutgers findings.

