



Technology & Development Status Report

Aviation Program

FY 2009



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PROJECT: SEAT Retardant Blending System
Number: 4E41P05
SPONSOR: WO-F&AM
Proposer: Leo Kern

CENTER: SDTDC
PROGRAM LEADER: Carl Bambarger
Project Leader: Joe Fleming

PROJECT OBJECTIVES

This program will develop a SEAT blending system for Wet Concentrate (WC). Recent loading of aircraft with undiluted WC have resulted in a policy that requires the WC fire retardant to be blended in a holding tank before loading into the aircraft. This results in greater capital investment (another tank, plumbing, recirculation systems, and pump for loading aircraft) at SEAT bases. For portable loading systems there is the additional problem of disposing of the unused blended retardant.

San Dimas has been successful in developing a prototype eductor blending system for use in the SEAT loading of WC. This program will examine improvements in the design for manufacturability and efficiency. The development will also assure that it is not possible to load an aircraft with undiluted WC. The design will be field tested and evaluated. Finally, the program will develop operational instructions and training for the developed product.

Changes to objectives:

SIGNIFICANT ACCOMPLISHMENTS

Output:

Planned: FY04

Develop a SEAT LC eductor blending system.

Field test and evaluate the design

FY05

Prepare a report that documents the design, and the field test and evaluation.

Actual: Two designs were developed for this project. The simple system required only one pump and a modified eductor. The second system required two pumps and a balanced pressure blending valve. Unfortunately the second system (two pump) was found to be insufficiently robust and resulted in the sticking of the blending value. The simple system is documented in a T&D Tech Tip that is in the process of being published. The prototype unit is not suitable for production and a production equivalent is being considered.