



Technology & Development Status Report

Aviation Program

FY 2000



Date Last Edited: 1-14-2001

Date Completed: 10-31-2000

PROJECT: **Helicopter Dip Tanks** **CENTER:** **SDTDC**
Number: 6E61P02 **PROGRAM LEADER:** Carl Bambarger
SPONSOR: WO-F&AM **Project Leader:** Carl Bambarger
Proposer:

PROJECT OBJECTIVES

In fighting wildland fires, Type I helicopters have shown that they are a cost-effective, productive tool. This a result of carrying large volumes of water and foam, short turn-around times by using water sources close to the fire. As use of Type I Helicopters continues to grow, so will the need for support systems, dip tanks, in the delivery of long and short term fire retardants. Current dip tanks are either narrow cylinders on wheels, shallow framed tanks, or the pumpkin tank. Each of these has unique issues when used with type I helicopters. The narrow cylinder tank on wheels requires precision vertical reference flying in order to place a bucket into the tank. The shallow framed tanks contain relatively small quantities of water for Type I helicopters, are shallow, and thus do not support 1000 gallon buckets. These tanks are very light and subject to the aircraft's rotor wash. The pumpkin tank, while containing a substantial volume, quickly drops the water head height as its contents are removed. This results in each successive bucket dip being less if more liquid is not added to the tank fast enough to support the helicopter's turn around time.

The goal of this project is to investigate and develop Type I helicopter portable tank system(s) which are compatible with long and short term fire retardants, dispatch and set up quickly, meets operational needs, and are cost effective to procure and operate.

Changes to objectives:

SIGNIFICANT ACCOMPLISHMENTS

- The dip tank is developed and available in several sizes from 5,000 gallons to 15,000 gallons.

Output:

Planned: 8/1999 Completion of Tank Development

Actual: 10/2000 Tank