

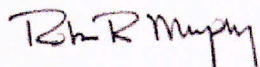
Robin R. Murphy, Ph.D.
Raytheon Professor of Computer Science and Engineering

January 7, 2012

Texas Engineering Experiment Station (TEES) is a public institution, to which the Center for Robot-Assisted Search and Rescue belongs, and the AirRobot AR-100 is consequently a public aircraft. For the purposes of this Certificate of Authorization (COA) we therefore propose to self-certify the AR-100 as an airworthy vehicle. We believe that the AR-100 is airworthy and that we can ensure the safety of flight based on the flight test results provided by the manufacturer, the access controlled test range where the vehicle will be operated, and adherence to manufacturer training, checklists, and all appropriate Standard Operating Procedures (SOPs).

In addition to using a proven, commercially available platform, the second layer of our safety of flight assurance is the access controlled test range where the vehicle will be flown. As described in Flight Operations Area the AR-100s are to be operated at the Disaster City emergency response training facility. The Disaster City facility is property of the university and as it is routinely used for hazardous operations training (fire, collapsed building, heavy equipment operation, etc) it is fenced and gated to ensure access to the facility is restricted to appropriate personnel only. Operating the AR-100 at Disaster City will be little different than any other operations conducted at the site: all onsite personnel will be appropriately informed and trained regarding potential hazards and any personnel in proximity to vehicle will be required to wear appropriate Personal Protective Equipment (PPE) (eg: hardhats).

In addition to an established flight record and a controlled test range, the third layer of safety of flight assurance is the use of SOPs, checklists, and compliance with manufacturer training. In addition to the SOPs available in the Procedures and Performance Characteristics sections of this application, the next critical operation in maintaining safety of flight is inspection and verification by the Pilot in Command (PIC). The AR-100 is a commercial platform and we plan to operate it in the manufacturer approved configuration with no alterations to the manufacturer supplied vehicle or avionics control software. During the preflight inspection the PIC will verify that all elements of the vehicle and airframe are in good working order, free of damage or defect, and attached to the vehicle in the method specified by the manufacturer. By operating a commercially available vehicle with a known flight test record in a controlled test range and adhering to relevant SOPs, checklists, and manufacturer training to maintain airworthiness, we believe we will be able to maintain safety of flight for the purposes of this COA.

A handwritten signature in black ink that reads "Robin R. Murphy".

Professor Robin R. Murphy
Raytheon Professor of Computer Science and Engineering
Director, Center for Robot-Assisted Search and Rescue
Lead, Community for Emergency Informatics
www.c-emergencyinformatics.tamu.edu

Department of Computer Science and Engineering
333 H.R. Bright Bldg.
3112 TAMU
College Station, TX 77843-3112

Tel. 979.845.8737 Fax 979.845.1420
murphy@cse.tamu.edu
<http://faculty.cs.tamu.edu/murphy/>