

Airworthiness Statement

The Bergen RC helicopter is owned by Virginia Tech University, and maintained by the Virginia Tech Unmanned Systems Laboratory. The vehicle will be maintained and operated under strict adherence to all recommendations made by Bergen R/C Helicopters, the helicopter manufacturer. The vehicle was purchased as a commercial off-the-shelf R/C helicopter. All configuration changes to the COTS helicopter, including the addition of the autopilot, the sensor payload, and payload carrier, have been made in consultation with Bergen R/C Helicopter and approved by Dr. Leonessa. Indeed, Bergen Helicopter integrated the autopilot prior to delivery of the helicopter to Virginia Tech. A statement by Dr. Leonessa approving configuration changes to the helicopter is included below. The statement mentions the use of a tether because several tethered ground tests are planned while this COA application is being processed. The tether will not be used in the flight operations described in this COA application.

As a final note, other researchers in the Virginia Tech Unmanned Systems Laboratory have experience flying fixed wing UAVs and R/C helicopters. This expertise will be leveraged for this research program. Most notably, Dr. Kevin Kochersberger currently has an FAA Certificate of Authorization to fly a Yamaha RMAX unmanned helicopter at Kentland Farm in the same general operational area as in this COA application.

Statement of Permission for Aircraft Modification

This statement certifies that Dr. A. Leonessa, acting in the capacity of owner of the Bergen Intrepid Gasser EB Helicopter for Virginia Tech, has approved the following modifications be made to the avionics and airframe:

- Installation of DJI Waypoint XP Autopilot System
- Attachment of extended landing gear for the purposes of payload transport
- Addition of sensor package incorporating LIDAR, GPS, IR, orientation and video capture as well as data communications link
- Attachment of GPS and data link antennas
- Incorporation of ground tether for safety purposes.


Dr. A Leonessa

Figure 1: Statement by Dr. Leonessa approving all configuration changes to the R/C helicopter.