



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
AVIATION APPLIED TECHNOLOGY DIRECTORATE
US ARMY RESEARCH, DEVELOPMENT AND ENGINEERING COMMAND
FORT EUSTIS, VIRGINIA 23604-5577

AMSRD-AMR-AA

26 July 2007

MEMORANDUM FOR: Chief, Systems Integration Division, ATTN: (b) (6)

SUBJECT: Flight Release for Vigilante 502 SN004 Flight Operations at Felker AAF
- Revision 7

1. References:

- a. AATD Memo 70-20, 30 Mar 05, *Airworthiness Flight Release Process for Aircraft Systems*.
- b. Draft Operator's Manual, 19 Feb 04, *Operations Manual- Vigilante VTOL UAV*.
- c. Amendment to the Airworthiness Substantiation Documentation to Support a request for a Flight Release for the Vigilante VTOL UAV for Flight Training of Government Personnel at Felker Army Airfield, Ft. Eustis, VA, 7 June 2007.
- d. Airworthiness Substantiation Documentation to support a request for a Flight Release for the Vigilante VTOL UAV for Flight Training of Government Personnel at Felker Army Airfield, Ft. Eustis, VA, 31 May 2006.
- e. FAA Memorandum, subject: "Certificate of Authorization (COA) for Vigilante VTOL Unmanned Aerial System (UAS), 23 January 2007. COA expires January 23, 2008.
- f. Memorandum of Agreement between US Army Transportation Center, Fort Eustis, VA and Aviation Applied Technology Directorate, Fort Eustis, VA, subject: "Unmanned Aerial Systems (UAS) Operations at Felker Army Air Field" 27 July 2007.

2. This memorandum constitutes a Flight Release in accordance with (IAW) Reference 1.a to conduct flight training and routine flights of the Vigilante Unmanned Air Vehicle #004. The Vigilante has not been proven to be airworthy to manned vehicle standards. This flight release allows flight operation of the vehicle within a specific area where radio communication-line-of-sight has been demonstrated and strict controls are applied for safe operation with personnel nearby. Strict controls for safe operation include stand off ranges, ground observers, and an active flight termination system. Any discrepancies with the Vigilante air vehicle configuration shall be reported prior to flight to the Safety of Flight Review Board (SOFRB) (b) (6) (b) (6).

3. Configuration. The basic Vigilante air vehicle is generally defined in reference 1b. The

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detailed air vehicle configuration for conduct of flights shall be as set forth in reference 1c including all approved Configuration Change Notices (CCNs).

4. Operations, Procedures, Limitations, and Restrictions:

a. The flight envelopes, operating instructions, and limitations for the Vigilante air vehicle shall be IAW References 1b, 1c, 1e, and this document. If there is a conflict between references 1b, 1c, 1d, or this flight release, the most restrictive document shall prevail.

b. A weight and balance form must be executed and on file.

c. The following flight limitations apply for flight at Felker Army Airfield:

- (1) Maximum altitude is 500 feet AGL
- (2) Maximum vehicle airspeed is 65 knots
- (3) Maximum rate of climb is 500 fpm
- (4) Maximum rate of descent is 300 fpm
- (5) Maximum wind (sustained plus gusts) will not exceed 15

d. Flight is restricted to day VMC.

e. The minimum stand off distance for all personnel when rotors are turning will be not less than 300 feet.

5. Special Inspections and Instructions.

a. In addition to normal inspections, a one time test demonstration of the range performance of the Flight Termination System (FTS) shall be conducted to verify proper operation at the assigned frequency. This test must be completed prior to flight of the Vigilante air vehicle. Any anomalies or degradation to performance shall be reported to the SOFRB Chairman and shall be resolved prior to flight.

b. The air vehicle shall be inspected and maintained IAW all applicable maintenance manuals. A visual inspection of the Vigilante shall be made prior to each flight to verify that no visible structural flaws in the airframe, rotor, or drive-train components exist, and that no other damage to the air vehicle exists. Any visible flaw or damage shall be assessed and reported to the SOFRB prior to further flight.

c. Any inadvertent operations beyond existing Vigilante limitations, or restrictions defined in this Flight Release shall require termination of flight and notification of the Vigilante SOFRB through the on-site Government representative. Appropriate documented actions shall be performed prior to next flight. Furthermore, in the event of an accident, incident or malfunction involving the air vehicle, the safety and emergency plans governing local area flight operations shall be utilized. In addition, the Flight Test Director or his designated representative shall immediately notify the following in the order listed:

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(1) AATD Aviation Safety Officer, (b) (6)
(b) (6)

(2) Commander, AATD, (b) (6)
(b) (6)

d. A logbook shall be maintained as a record of all flight and maintenance actions that occur during the course of all flight-testing covered by this flight release.

6. This Airworthiness Release is not valid without a current FAA "Certificate of Authorization", reference 1d.

7. This Airworthiness Release is valid until terminated by the undersigned.

(b) (6)

Commanding