Attachment 7 (Emergency Procedures) to Application for Certificate of Authorization (COA) Reference COA Draft #2627 for the U.S. Army Aeroflightdynamics Directorate RMAX Unmanned Aircraft System at Fort Ord, CA

1. Introduction

The Autonomous Rotorcraft Project operates two Yamaha RMAX helicopters (Fig. 1-1). This document describes emergency procedures.

Fig 1-1. AFDD Autonomous Rotorcraft Project RMAX helicopter in operation at Fort Hunter Liggett in California.

Most emergency procedures are described in the previous attachments for lost link and lost communications.

The remaining emergency procedures are covered by the Yamaha RMAX Operators Manual and the AFDD Aircraft Accident (Incident) Alert Roster.

2. Yamaha Emergency Procedures

The RMAX is factory equipped with an extensive self-monitoring system (Ref. 1). Vehicle status and health are indicated via warning lights both on the back panel and on the underside of the vehicle (Fig. 2-1). Prior to engine start the system monitors and displays faults in the YACS, the backup control system, the signal system, the actuators, the IMU, the charging system, low fuel, and weak radio communication. The system will prevent engine start if any faults are detected. During flight the ARP system monitors and display the same faults in the ground station. These faults are displayed on the Situational Awareness display in the ground station and audibly annunciated over the ground station sound system and voice communications system.

Fig 2-1. Rear warning lights.

In the event that the External Pilot (EP), Safety Observer (SO), or Ground Station Operator (GSO), detect a fault, the EP will be notified, retake control, and land the aircraft.

3. Accident (Incident)

In the event of an accident, ATC shall be notified immediately of the accident and the need for any emergency medical attention or fire suppression.

AFDD has an established alert roster in the event of an accident or incident (Ref. 2, attached)

Any incident involving an RMAX will be a ground accident because under current US Army AR 385-40, it is a UAV. Information pertinent to completing a DA Form 285 will be gathered on scene for future reporting.

4. References

1. Yamaha RMAX Operation Manual, L15-28199-01, First edition, Jun. 1998.
2. NASA/Army AFDD Crisis Emergency Action Plan, Aug 8 2011.