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OCT 15 2012

## MEMORANDUM

From: P. V. NEFFENGER, VADM  
COMDT (DCO)

To: Distribution

Subj: FINAL ACTION ON THE ADMINISTRATIVE INVESTIGATION INTO THE CG-6589 LANDING MISHAP AT AIR STATION HOUSTON ON 14 OCT 2010

**1. Overview:** A flight crew composed of an Aviation Training Center (ATC) Flight Examiner (FE), CG Air Station Houston Pilot Under Evaluation (PUE), and an Air Station Houston flight mechanic (FM) were conducting an annual standardization (STAN) check flight for the PUE. They were operating an HH-65C aircraft, CG-6589. The FE pre-briefed and demonstrated a loss of engine power from a high hover to include a decrease in main rotor head RPM. At the conclusion of the maneuver, the aircraft was landed "nose down" on the runway. With no apparent damage to the aircraft, the crew elected to continue the flight. During post-flight inspection, significant damage was found on the main rotor head, the number two engine, and the landing gear. Repair costs totaled over \$500,000, classifying this incident as a Class B Mishap. There were no injuries to the crew. There was no damage to private or government property beyond the damage to CG-6589.

This document sets forth the facts that led to this incident, states my conclusions, and orders certain actions designed to prevent similar accidents in the future.

**2. Findings of Fact and Opinions:** On 14 Oct 2010, the crew of CGAS Houston aircraft CG-6589 was conducting an authorized and properly briefed standardization check flight during the unit's annual standardization visit. An ATC Mobile FE was the Pilot-in-Command (PIC). The PUE was a CGAS Houston Aircraft Commander (AC). The FM was a CGAS Houston crewmember. All crewmembers met training, currency, and personal readiness requirements. The FE had a total of 2646.2 flight hours, 2376.2 of them in an H-65 aircraft. The PUE had a total of 1073.3 flight hours, 792.8 of them in an H-65 aircraft. The FM had a total of 279.6 flight hours, all of them in an H-65 aircraft. All crew members were medically cleared for flight in accordance with the Coast Guard Medical Manual, COMDTINST M6000.1 (series). The weather was clear and not a factor in the mishap.

The aircraft was fully mission-capable with no pre-existing maintenance discrepancies contributing to the mishap. The aircraft was properly configured for the mission and maneuvers. CG-6589 had undergone a scheduled 30-day inspection 21 days prior to the mishap flight. It underwent a scheduled 7/14-day inspection seven days prior to the mishap flight. There were no significant discrepancies noted for either of those inspections. On 9 October 2010, the aircraft underwent a routine Rough Area Landing Inspection following a landing at an unprepared site.

No discrepancies were noted in that inspection. No discrepancies to the areas and components damaged as a result of the mishap were recorded during the pre- and post-flight maintenance inspections conducted from 10 October through 14 October 2010.

During a single engine training maneuver near the end of the flight, the FE landed the aircraft with an excessive nose-down attitude. The single engine training maneuver being conducted at the time was a "Minimum Speed Waveoff with Nr Droop to 320 RPM." (Nr refers to the speed of the rotor blades in number of rotations per minute.) Due to high Pilot-at-the-Controls (PAC) workload and potential risk, it is an "ATC Only" maneuver; meaning that only ATC Instructor Pilots/Flight Examiners can perform the maneuver as a demonstration. The maneuver is designed to terminate as either a wave-off or safe landing after applying enough collective to induce the Fully Automated Digital Engine Control (FADEC) to bring the simulated failed engine back on line to maintain a minimum rotor speed of 320 RPM, thereby providing enough power to prevent aircraft damage during single engine training. At the conclusion of the maneuver, the FE made several excessive cyclic control inputs upon touchdown until the aircraft was brought to a complete stop on Runway 35R at Houston's Ellington Field. The crew initially suspected aircraft damage due to the unusual aircraft attitude upon landing. The FE directed the FM to disembark and conduct an inspection. The aircraft was still operating with rotors turning during this inspection. After the FM reported no apparent damage, the aircrew resumed flying the aircraft, and completed the mission. After the mission concluded, the mishap PUE reported the episode to the CGAS Houston Operations Officer, who ordered CG-6589 grounded for a hard-landing inspection. Significant damage to the main rotor head, the number two engine, and the landing gear was found during the inspection. Repair costs totaled \$549,586.88, classifying this incident as a Class B Mishap.

The FE was administratively and medically grounded by ATC Mobile's Commanding Officer following the mishap. His medical grounding ended 12 January 2011 and he returned to flight duties at ATC Mobile.

The PUE was administratively grounded following the mishap. He was cleared to fly on 24 October 2010 and resumed flight status on 25 October 2010.

The FM was administratively grounded following the mishap. He was cleared to fly on 24 October 2010. He resumed flight status on 2 November 2010.

CG-6589 has been repaired and returned to service.

The FE's decision (and the PUE's & FM's concurrence) to continue flying the aircraft and complete the mission after suspected aircraft damage contradicts Commandant policy for continued flight with known or suspected damage.

The Operations Officer's decision to ground and inspect the aircraft was the correct action to take. Prior to the Operations Officer's decision to ground the aircraft, CG-6589 was on the flight line, scheduled for a subsequent mission.

**3. Findings and Directed Action:**

**A. I find that no misconduct was associated with the actions of the crew of CG-6589 on 14 October 2010.**

**I base this finding on the following facts:**

1. Each member of the crew was properly qualified in his role for this flight, and medically cleared for flight duties.
2. There was no evidence that any crew member's actions prior to, during, or after the mishap constituted gross negligence, recklessness, or wilfull misconduct.
3. The crew was professional and focused on the training flight prior to, during, and after the mishap.
4. There was no indication that any maintenance action or procedure factored into the mishap.
5. The landing and damage to CG-6589 was attributable to poor airmanship and loss of situational awareness by the FE rather than negligent or intentional mishandling of the aircraft.

**Action:** As a result of this finding I direct:

CG-711 develop a change to the section of the Air Operations Manual, COMDTINST M3710.1 (series) governing Training Record guidance to establish a process for making permanent Training Record entries. Permanent entries will allow commands and the Coast Guard at large to administratively document mishap histories in a much more detailed and useful fashion than currently available in an Aviator's Flight Logbook. CG-711 should consider that all significant aviation items (upgrade syllabi, remedial syllabi, all designations, serious mishaps, etc.) be permanently documented in the training jacket, and not removed after four years as authorized by existing policies.

**B. I find that this mishap was caused by pilot error attributable to the FE.**

**I base this finding upon the following facts:**

1. There is no evidence to indicate any sort of mechanical failure of CG-6589.
2. The FE landed in a nose-low attitude, damaging the airframe, and further exacerbated the damage with excessive control inputs upon landing.

3. It is unclear whether or not continuing the flight after the mishap landing caused additional damage. Regardless, continuation of the flight after suspecting damage contradicted Commandant policy.

**Action:** As a result of this finding, I direct:

FORCECOM, through the Aviation Training Center, provide fleet training to emphasize the guidance on suspected aircraft damage and proper procedures for further flight approval.

**C. Additional Findings.**

1. The aircrew – especially the FE – committed an error in judgment by continuing to fly after landing. The aircrew, by policy, was required to terminate the flight. There were no circumstances that required mission continuation.

2. Preoccupation with continuing the mission and non-assertive behavior contributed to that error in judgment.

**Action:** As a result of these findings, I direct:

FORCECOM, through the Aviation Training Center, provide fleet training to recognize when a mission should be terminated.

**4. Summary:**

While mishaps of this nature can occur during complex or demanding training missions, they must not be considered the cost of doing business. Especially concerning about this mishap is what happened after it occurred. The aircraft should have been immediately grounded. The FE's decision, and the crew's concurrence, directly contradicted Commandant policy and placed the aircraft and crew at undue risk. Safety must always be our highest priority. We cannot allow non-adherence to standards and poor decision making to put our crews in harm's way.

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