

## VH-92A Presidential Helicopter Replacement Program

### Executive Summary

- The VH-92A program is progressing on or ahead of schedule.
- The VH-92A system-level Critical Design Review was held July 18 – 21, 2016, and resulted in minimal action items, which are all progressing to closure.
- Modifications to two Sikorsky S-92A aircraft to produce two VH-92A aircraft continue on schedule with modification completion projected in FY17. This effort includes the Lockheed Martin integration of the Mission Communications System (MCS) designed by Naval Air Systems Command (NAVAIR) at St. Inigoes, Maryland.
- Contractor flight testing is projected to commence in mid-FY17.
- VH-92A-unique fuel bladders did not pass drop tests and mitigation efforts are ongoing. The program intends to qualify the bladders for flight partially full so flight tests will not be delayed.
- There are some challenges relative to connection to the Crisis Management System and the Executive Airlift Command Network. Work on solving these challenges is ongoing.

### System

- The VH-92A aircraft will replace the current Marine Corps fleet of VH-3D and VH-60N helicopters flown by Marine Helicopter Squadron One to perform the presidential airlift mission.
- The VH-92A is a dual-piloted, twin-engine helicopter based on the Sikorsky S-92A. The Navy intends the VH-92A to maintain Federal Aviation Administration (FAA) airworthiness certification throughout its lifecycle.
- The VH-92A is planned to be capable of operating worldwide in day, night, or adverse weather conditions. The VH-92A will be air-transportable to remote locations via Air Force C-17 cargo aircraft.
- The government-designed MCS will provide the ability to conduct simultaneous short- and long-range secure and non-secure voice and data communications. It can exchange



situational awareness information with outside agencies, organizations, and supporting aircraft. The MCS will be integrated into the VH-92A by Lockheed Martin in Owego, New York.

- Delivery of the first two Engineering Development Models (EDM-1 and EDM-2) is planned for 2018, followed by four System Development Test Article aircraft in 2019.

### Mission

- Marine Helicopter Squadron One equipped with the VH-92A aircraft will provide safe and timely transport of the President of the United States and other parties as directed by the White House Military Office.
- The VH-92A is required to operate from commercial airports, military airfields, Navy ships, and austere sites throughout the world.

### Major Contractors

- Sikorsky Aircraft Corporation (owned by Lockheed Martin since November 2015) – Stratford, Connecticut
- Lockheed Martin – Owego, New York

### Activity

- The VH-92A program completed co-site risk reduction tests in September 2015 using a Sikorsky S-92A modified with antennas planned for the VH-92A configuration. Tests on this aircraft (designated at the time as EDM-0) provided data that led to refinement of the VH-92A design early in the program.
- Modifications to EDM-0 and a second S-92A aircraft into EDM-1 and EDM-2 (the VH-92A configuration) are on schedule.
- NAVAIR at St. Inigoes is designing the MCS software. NAVAIR has delivered MCS hardware and initial software

to Lockheed at Owego for EDM-1 and EDM-2. Lockheed Martin is integrating the MCS into the VH-92A system architecture and is assembling installation kits for each aircraft.

- Systems integration laboratories, which replicate the MCS for development, test, and training, are up and running and MCS software development is on schedule.

# FY16 NAVY PROGRAMS

- The VH-92A System Critical Design Review was held July 18 – 21, 2016. All requests for action and information are resolvable to bring the Critical Design Review to closure.
- The VH-92A-unique fuel bladders failed during drop testing. Mitigation efforts are progressing with the assistance of NAVAIR experts and Sikorsky engineers. In order to maintain FAA certification and not delay flight testing, the bladders will initially be qualified at a reduced fuel level.
- Live fire testing is proceeding well without major concerns.

## Assessment

- The program is progressing on or ahead of schedule. Maintenance of FAA airworthiness certification is a key emphasis area.
- Lockheed Martin is on schedule to deliver MCS kits for EDM-1 and EDM-2 in 1QFY17.
- Sikorsky is on schedule to complete modification/manufacture of EDM-1 and EDM-2 in FY17.
- Contractor testing is projected to commence in mid-FY17.
- Delivery of EDM-1 and EDM-2 is projected for FY18 followed by the commencement of integrated testing.
- An operational assessment is planned for 4QFY18 to support a Milestone C decision in 2QFY19. A two-aircraft operational

assessment is planned for 30 flight hours over 30 days using HMX-1 aircrews. The Commander, Operational Test and Evaluation Force (COTF) will function as the Operational Test Agency and testing will be overseen by COTF and DOT&E. Timing of EDM-2 delivery in time for this operational assessment is a watch item.

- Fuel bladder deficiencies are being appropriately addressed and are expected to be resolved in the near future.
- The program is facing some challenges meeting the Net Ready Key Performance Parameter for the MCS relative to connection to the Crisis Management System and connection to the Executive Airlift Command Network. Work is continuing on resolving these integration issues.

## Recommendations

- Status of Previous Recommendations. This is the first annual report for this program.
- FY16 Recommendations. The program should:
  1. Complete mitigation efforts for fuel bladders.
  2. Complete plans for the operational assessment planned for 4QFY18.
  3. Continue planning efforts for HMX-1 transition to VH-92A.