AN/APQ-187 Silent Knight Radar

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Program Manager
Program Overview


BOI: 211 + 20% Spares
- 69 MH-47G, 72 MH-60M, 50 CV-22, 20 MC-130H
- Under consideration for 2nd LOS radar on 50 MC-130J
Vision

Develop and field the most advanced TF/TA capability to SOF aircrews to enhance operational effectiveness and combat survivability in high-threat environments and under all-weather conditions.

Objectives

• Provide Airborne Forces Safe Low-Level Flight In Adverse Environments
  – Safe Terrain Following Over Water And All Types Of Terrain, Including Sand, Ice, And Snow Covered And Man-Made Obstacles
  – At 100 To 1000 Feet Above Ground Level In Straight And Turning Flight, From 5 To 300 Knots, With Rain Up To 10 Millimeters/Hour
• Provide Navigation Support, Ground/Maritime/Skin Paint/Windshear/Turbulence/Weather Information To Air Crews
• Radar Weight Less Than 175 Pounds
Material Solution

- **Operational**
  - Terrain Following/Terrain Avoidance
    - *Higher* Turn Rate, *Lower* Velocity, *Coupled*
    - *LPI-LPD* Weather Penetration Operation
  - Weather Detection
    - *LPI-LPD* Weather, Windshear, Turbulence
  - Ground Map
    - *LPI, LPD* Ground Map
    - Selectable x2 or x4 Magnification
    - Selectable Azimuth Resolution Improvement
  - Skin Paint Detection and Tracking
    - Air-to-Air Lookdown Capable
  - Maritime Detection and Tracking
    - High Sea States (Sea State 5) Capable
  - Adds Anti-Ice Radome Capability (MH-47G/MH-60M)
  - 800 Hours Mean Time Between Failures
  - Replaces AN/APQ-174, AN/APQ-186 and AN/APQ-170 (Ku)

- **Physical**
  - *One box Radar*, Air Cooled, **162 lbs**
  - Ruggedized for Gunfire Vibration
  - Room for future growth

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New Capabilities
*In Blue Italics*
Program Milestones

- Developmental Testing – Started Jan 2012
- Low Rate Production Milestone C – 3rd Quarter FY13
- Operational Testing – 2nd Quarter FY15
- Full Rate Production – 3rd Quarter FY15
- Initial Operational Capability – 3rd Quarter FY15
Accomplishments/Plans

• FY 2012 Accomplishments
  – Installed Pre-Production Radar And A-Kit On MH-60M
  – Conducted Developmental Flight Testing On MH-60M and MH-47G
  – Completed Software Development Of All Radar Operational Modes
  – Demonstrated Specification Compliance Over Foliated and Unfoliated Terrain, Mountains, Snow, Sand Dunes, and Over Water

• FY 2013 Plans
  – Continue Radar Developmental Flight Testing
  – Complete SKR A-Kit Installation Design On 2.3-Modified MH-47G Aircraft
  – Execute Milestone C Brief
  – Award LRIP I Contract
AN/APQ-187 Radar Installations

Radar Installation On MH-47G

Radar Installation On MH-60M
Accomplishments Developmental Testing (DT)
Questions?