
SPECIAL OPERATIONS FORCES INDUSTRY CONFERENCE
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Program Manager
SILENT KNIGHT RADAR
ROTARY WING
UNCLASSIFIED

AGENDA

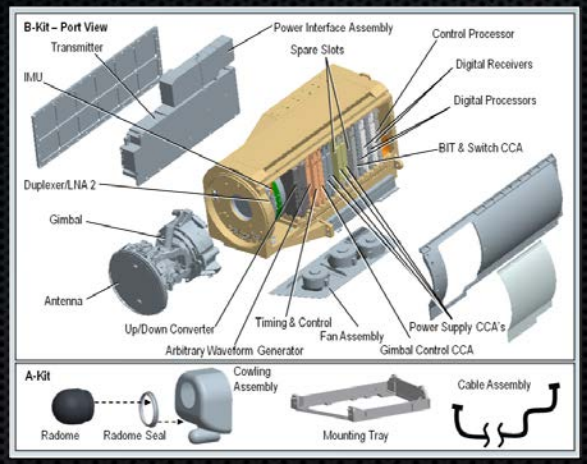
- Radar Background and Description
- Current Program Status
- Future Program Upgrades

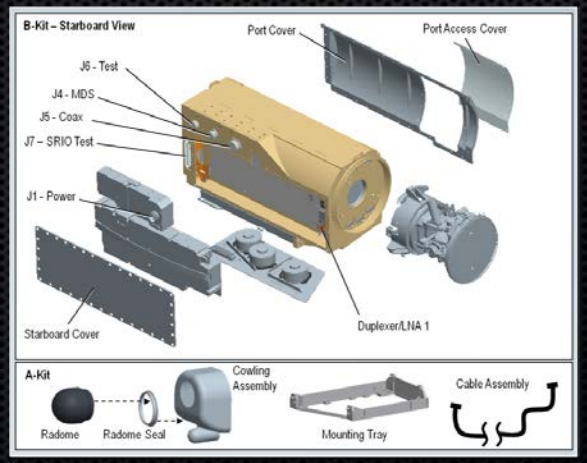
BACKGROUND

- Replace existing terrain following/terrain avoidance (TF/TA) radars in Special Operations Forces (SOF) aircraft
- Address system commonality across SOF platforms (MH-60, MH-47, CV-22 and MC130)
- Increase capability with low probability of interception/low probability of detection (LPI/LPD)
- Address obsolescence and diminishing manufacturing sources of legacy systems

SKR PROGRAM MISSION

- **Develop, integrate, test, and procure a Special Operations Forces (SOF) common multi-mode radar with low probability of intercept/low probability of detection (LPI/LPD) to defeat advanced passive detection threats while maintaining ability to fly safe terrain following/terrain avoidance (TF/TA)**





SKR PERFORMANCE OBJECTIVES

- **Allow airborne forces safe low-level flight and safe ingress and egress in adverse environments**
  - **Safe terrain following over water and all types of terrain, including sand, ice, snow, and man-made obstacles**
  - **At 100 to 1000 feet above ground level in straight and turning flight, from 5 To 290 knots, in rain up to 10 millimeters/hour**
- **Provides navigation support, ground mapping, and weather information to air crews**
  - **Integrated guidance through the flight director display capability on both head-up and head-down display devices**
- **Radar weight less than 175 pounds**

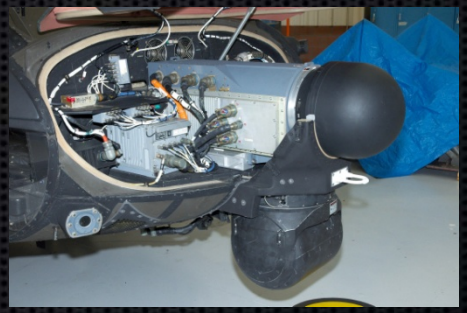
SKR CAPABILITIES

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 (MH-47/MH-60/MC-130)
- 800 Hours Mean Time Between Failures

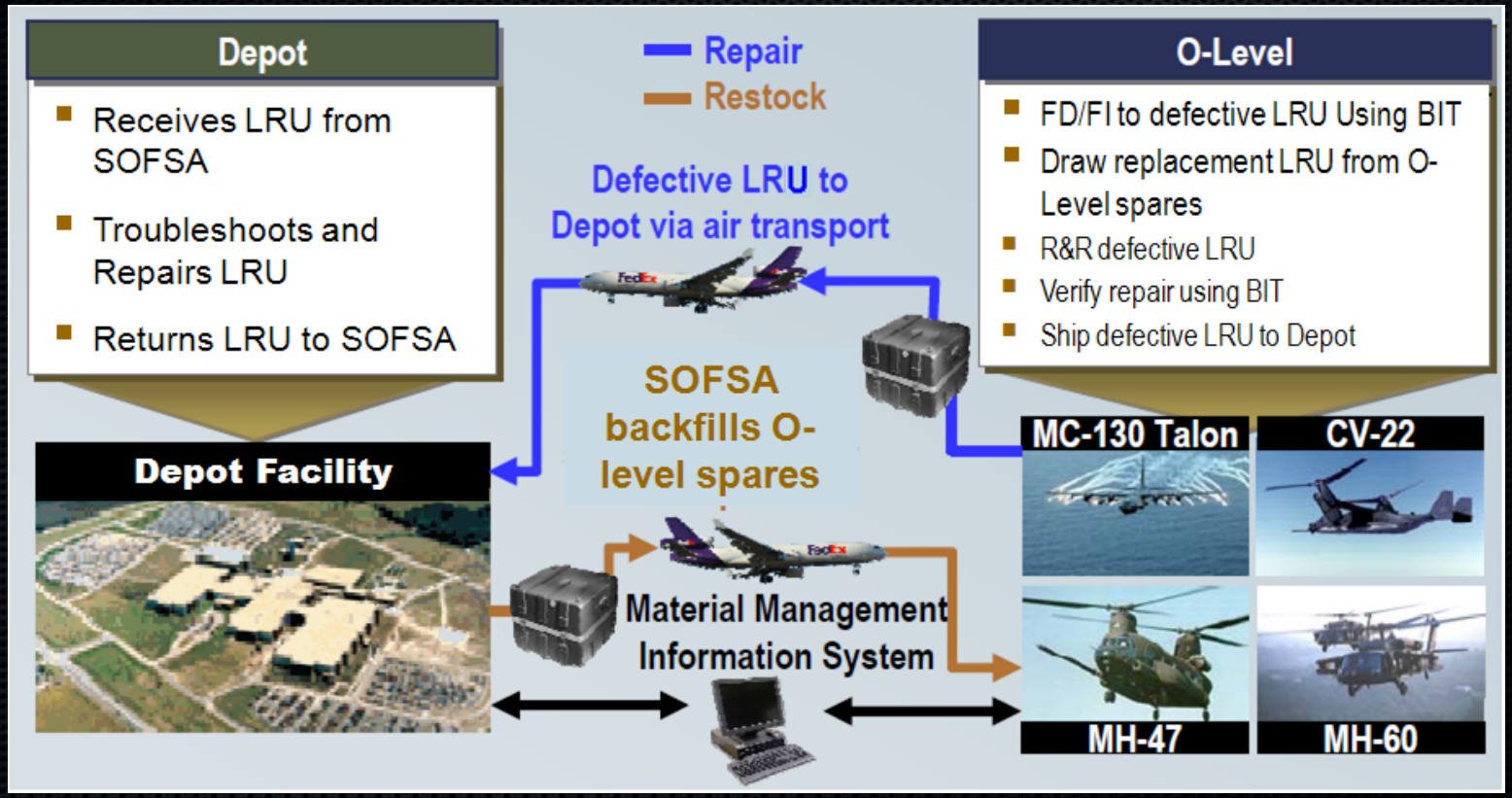
Physical

- One box Radar, Air Cooled, 175 lbs
- Ruggedized for Gunfire Vibration
- Room for future growth



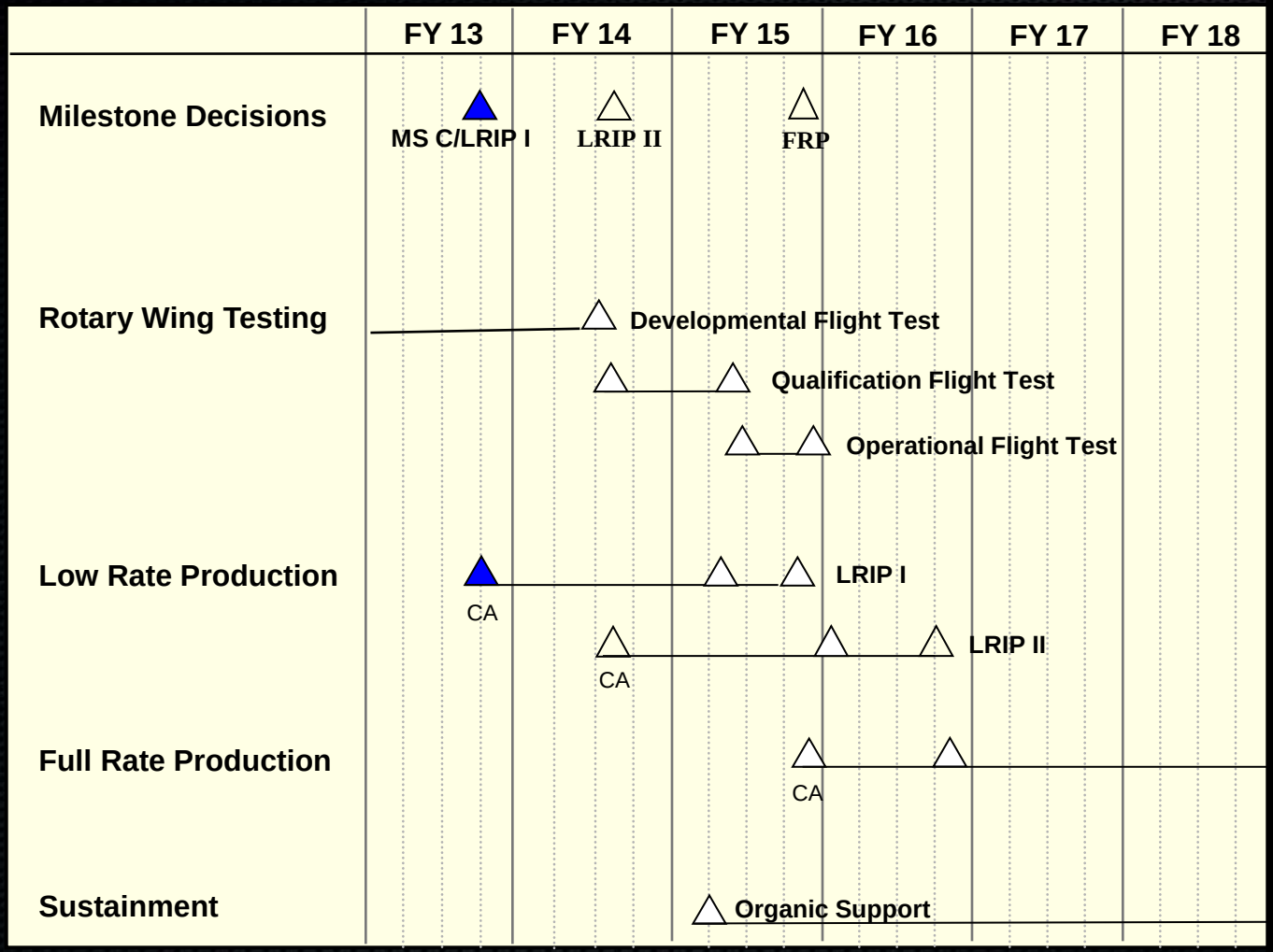
SKR SUSTAINMENT CONCEPT

The SKR utilizes a two-level maintenance concept: aviation unit maintenance (AVUM) or organizational (O-level) and depot (D-level). O-level maintenance for the SKR consists of removal/replacement of LRUs on the platform. D-level maintenance consists of repair of LRUs at the depot.



CURRENT PROGRAM STATUS

PROGRAM SCHEDULE



PROGRAM ACCOMPLISHMENTS

- **FY 2012 Accomplishments**
  - Began developmental flight testing on MH-47G
  - Began developmental flight testing on MH-60M
  - Demonstrated performance over water and foliated terrain
- **FY 2013 Accomplishments**
  - Demonstrated performance over mountainous terrain and sand dunes
  - Continued developmental flight testing on MH-47G and MH-60M
  - Focused on system integration
  - Successfully completed the program Milestone C
  - Awarded a low rate initial production (LRIP I) contract
  - USSOCOM nomination to 2013 DoD Packard Award of Acquisition Excellence

PROGRAM ACCOMPLISHMENTS

- **FY 2014 Plans**
  - **Complete developmental flight testing on MH-47G and MH-60M**
  - **Award a low rate initial production (LRIP II) contract**
  - **Begin radar formal qualification testing (FQT)**
  - **Execute technology demonstration of SAR capability**
  - **Begin MC-130J demo activities**

- **FY 2015 Plans**
  - **Complete radar FQT**
  - **Complete initial operational test and evaluation (IOT&E)**
  - **Award a multi-year full rate production (FRP) contract**

FUTURE PROGRAM UPGRADES

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- **FY 2016 and beyond**
  - **Continue FRP and fielding of SKR to the SOF RW fleet**
  - **Test and qualify the SKR on CV-22**
  - **Test and qualify the SKR on MC-130J**
  - **Field SKR to the SOF FW fleet**
  - **Develop an exportable version of SKR to capitalize on FMS opportunities**
  - **Integrate SKR into the USSOCOM's DVE solution**
  - **Develop and integrate a blended TF/DTED navigation solution**
  - **Technology refresh and obsolescence mitigation**

QUESTIONS