

# Airborne Reconnaissance Low (ARL)

Detects, locates, and reports threat activities using a variety of imagery, communications-intercept, and moving-target indicator sensor payloads.

## INVESTMENT COMPONENT

Modernization

Recapitalization

Maintenance

### Description & Specifications

Airborne Reconnaissance Low (ARL) is a self-deploying, multi-sensor, day/night, all-weather reconnaissance, intelligence, echelons-above-corps asset. It consists of a modified DeHavilland DHC-7 fixed-wing aircraft equipped with communications intelligence (COMINT), imagery intelligence (IMINT), and synthetic aperture radar/moving target indicator (SAR/MTI) mission payloads. The payloads are controlled and operated via on-board open-architecture, multi-function workstations.

Intelligence collected on the ARL can be analyzed, recorded, and disseminated on the aircraft workstations in real time and/or stored

on board for post-mission processing. During multi-aircraft missions, data can be shared between cooperating aircraft via ultra high frequency (UHF) air-to-air data links allowing multi-platform COMINT geolocation operations. The ARL system includes a variety of communications subsystems to support near-real-time dissemination of intelligence and dynamic retasking of the aircraft.

There are currently two configurations of the ARL system:

- Two aircraft are configured as ARL-COMINT (ARL-C), with a conventional communications intercept and direction finding (location) payload.
- Six aircraft are configured as ARL-Multifunction (ARL-M), equipped with a combination of IMINT, COMINT, and SAR/MTI payload and demonstrated hyperspectral imager applications and multi-INT data fusion capabilities.

Southern Command (SOUTHCOM) operates two ARL-C and three ARL-M aircraft. United States Forces Korea (USFK) operates three ARL-M.

Planned upgrades for ARL include baselining the fleet by providing a common architecture for sensor management and workstation Man-Machine Interface (MMI). ARL-C systems will be converted from COMINT only to ARL-M Multi-INT configuration. Planned sensor improvements include upgrading the radar to provide change detection and super resolution SAR, upgrading the MX-20 EO/IR subsystem to reflect current standards, including the addition of a laser illuminator, and the addition of Digital Pan cameras across the fleet for high-resolution imaging and change detection. A new and improved COMINT payload will be fielded, increasing frequency coverage and improving target intercept probability.

### Program Status

- **4QFY05:** Federated COMINT upgrades on M4, M5, and M6 fielded
- **1QFY07:** HISAR radar replacement on M1, M2, and M3 (Korea completed)

### Projected Activities

- **3QFY07:** Begin cockpit and workstation architecture standardization across fleet
- **4QFY07:** Standardize MX-20 video sensors across fleet
- **2QFY08:** Complete Phoenix Eye upgrade on long-range Ground Moving Target Indicator/Synthetic Aperture Radar (GMTI/SAR)
- **2QFY08:** Convert ARL C1 and C2 into ARL M7 and M8

## ACQUISITION PHASE

Concept & Technology Development

System Development & Demonstration

Production & Deployment

Operations & Support

## Airborne Reconnaissance Low (ARL)

### FOREIGN MILITARY SALES

None

### CONTRACTORS

#### Aircraft modifications:

Sierra Nevada Corp. (Hagerstown, MD)

#### Aircraft survivability:

Litton Advanced Systems

(Gaithersburg, MD)

#### COMINT subsystem:

BAE Systems (Manchester, NH)

#### EO/IR subsystem:

WESCAM (Hamilton, Ontario, Canada)

#### Engineering support:

CACI (Berryville, VA)

#### Radar subsystem:

Lockheed Martin (Phoenix, AZ)

