Space and Missile Systems Center

GPS Control Segment Improvements

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GPS Control Segment Improvements

Presented at the GPS Partnership Council 2015 (GPSPC15), held April 29 to May 1, 2015, at the Los Angeles AFB, CA.
Provide GPS Partnership Council with an update on improvements being made to the fielded GPS Operational Control Segment (OCS)
GPS Ops Support and Sustainment Division

• Who We are
  – SMC/GP Logistics Professionals located at Los Angeles AFB, Peterson AFB, and Schriever AFB

• What We Do
  – Sustain and modify the fielded GPS Command and Control systems
  – Provide GPS space vehicle on orbit support
  – Assist development in acquiring and transitioning new capabilities/systems
GPS OCS Operating Locations

- Master Control Station (MCS)
- Alternate Master Control Station (AMCS)
- National Geospatial-Intelligence Agency (NGA) Tracking Stations
- Ground Antenna (GA)
- Monitor Station (MS)

Map showcasing various locations worldwide with markers for GPS OCS operating locations.
Upgrades On Contract: Complete or In Progress

- Remote Sites (RS) COTS Network (RSCN) Upgrade
  - Separated GA and MS functionality at Co-Located Sites
  - Modernized RS Network Architecture
  - Modernized COTS Software
  - Status: Completed Oct 2013

- GPS Intrusion Protection Reinforcement (GIPR)
  - Modernizes MCS/AMCS Network Architecture
  - Modernizes COTS Software
  - Status:
    - MCS Phase 1 Completed Nov 2014
    - MCS Phase 2 Completes Jul 2015
    - AMCS Phase 1&2 Completes Aug 2015
Upgrades On Contract: Complete or In Progress

- COTS Upgrade Project (CUP) Phase 2
  - Modernizes MCS/AMCS Mission Servers
  - Modernizes COTS Software
  - Status:
    - MCS Completes May 2016
    - AMCS Completes Jun 2016
Upgrades Funded But Not On Contract

- **GA/Automated Remote Tracking System (ARTS) Interface Technology Refresh (GAITR)**
  - Modernizes Front End Processors and Type 1 encryption devices
  - Relocates GA “red shelter” functionality to MCS/AMCS
  - Status:
    - Estimated contract award Jul 2015
    - Estimated 24 month period of performance
- **CUP Phase 3**
  - Modernizes remaining legacy servers and workstations at MCS/AMCS
  - Status:
    - Estimated contract award Nov 2015
    - Estimated 24 month period of performance
Upgrades Funded But Not On Contract

- LADO Modernization Program (LMP)
  - Modernizes FEPs and Type 1 encryption devices
  - Upgrades COTS operating system
  - Status:
    - Estimated contract award Jun 2015
    - Estimated 18 month period of performance
Summary

Executing OCS upgrades in order to ensure system viability until replaced by the OCX program.