

# Spectrum Enterprise Services & Capabilities

## Overview

- Electromagnetic Spectrum (EMS) superiority is a warfighting imperative.
- The EMS is an integral part of the “Information Battle Space,” and a comprehensive understanding of all EMS activity is essential, given the requirements for increased battle tempo, agile operations, coordination, training, and surgical targeting.
- Military spectrum requirements are extensive, diverse, complex, and growing. Successful modern military operations in all domains (air, land, maritime, space, and cyberspace) and across all joint functions (command and control, intelligence, fires, movement and maneuver, protection, and sustainment) are dependent on capabilities enabled by dominating EMS operations. Growing spectrum demand from consumers, commerce, and the military are making the most desirable portions of the EMS highly congested. It is essential for our nation to spur economic growth and satisfy consumer demand, while ensuring that the unique and vital requirements of our national security and safety are met.
- DISA provides unique services and capabilities to support the complex task of managing the DOD EMS. These capabilities must be maintained and enhanced to keep pace with the rapidly evolving EMS battle space.
- DISA performs deliberate processes to evaluate spectrum bands to ensure balanced spectrum repurposing decisions. DISA leads DOD preparations for the World Radiocommunication Conference (WRC), an international forum where radio regulations are periodically reviewed and revised, representing DOD interests at domestic and international spectrum forums, and performing international satellite network coordination.

## DOD Spectrum Support To The Warfighter

- DISA participated in a USSTRATCOM J39 sponsored service specific Joint Electromagnetic Spectrum Operations table-top exercise with participants from the U.S. Army at Offut Air Force Base, Nebraska. The intent was to identify key processes and data points that support the Joint Electromagnetic Spectrum Operations (JEMSO) architecture, providing a JEMSO cell with a clear understanding of products needed to support the component and joint force commander. Feb. 2016.
- The DISA component acquisition executive (CAE) approved the Milestone C and fielding of the following GEMSIS Increment 2, Block 2 capabilities as documented on the resultant Acquisition Decision Memorandum signed in March 2016:
  - Integrated Spectrum Desktop (ISD) v1.1
  - Stepstone v2.1.1
  - Joint Spectrum Data Repository (JSDR) v2.0
- A DISA representative led U.S. DOD satellite bilateral coordination meetings with Norway, Spain, and Korea. Bilateral coordination meetings are required by the International Telecommunication Union (ITU) to keep and use DOD satellite frequency assignments. Failure to do so could result in loss of communications capability for our warfighters. March-June 2016.

## DOD Spectrum Support To The Warfighter

- DISA representatives participated in the Combined Communications Electronics Board (CCEB) Spectrum Working Group (SWG) meeting as the DOD World Radiocommunication Conference (WRC) subject matter expert in support of the Joint Staff DOD representative in London. During this meeting, the SWG focused on WRC, to include finalizing a report on the results of WRC-15 and began CCEB preparations for WRC-19. The SWG is the CCEB group responsible for optimizing system interoperability in the spectrum domain and to mutually support Defense spectrum objectives amongst the Five Eyes militaries. March 2016.
- DISA completed electromagnetic environment measurements at Ellington Field in Houston, Texas, and Hancock Field in Syracuse, New York, to be used in Predator Unmanned Aircraft Systems C-band datalink EMC analyses to support future operations by the Air National Guard. Preliminary analysis results indicate compatible operations are possible between Predator, commercial WIFI (Unlicensed National Information Infrastructure), and other 5-6 GHz systems with proper selection of Predator antennas and Ground Terminal placement. April 2016.
- DISA participated in Joint Ordnance Commanders Group (JOCG) electromagnetic environmental effects (E3) Ordnance Safety Subgroup and the Hazards of Electromagnetic Radiation to Ordnance (HERO) Ad Hoc Meetings at Dahlgren, Virginia. DISA works with JOCG Subgroup members to develop ordnance safety policy and to implement requirements for maintaining ordnance E3 test data. The HERO Ad Hoc group reviews the Services HERO test reports for completeness and when approved the test reports are maintained in a joint ordnance database. May 2016.
- DISA participated in the annual meeting of the Link 16 Spectrum Multinational Working Group (MNWG) at Cocoa Beach, Florida. The MNWG consists of a 5-day series of briefings and workshops dealing with spectrum related issues associated with Link 16 related tactical data systems. Approximately 40 nations attended. June 2016.
- DISA representatives conducted a SPECTRUM XXI training class to the Navy developers of Afloat Electromagnetic Spectrum Operations Program (AESOP). The intent of the training was to help the AESOP developers understand SPECTRUM XXI and how it is used within the Navy. The Ops team also had discussions with the AESOP developer regarding ways AESOP can interface with Spectrum Situational Awareness System (S2AS)/Portable Receiver 100 (PR-100). June 2016.

## On the Horizon

- DISA will continue supporting the Spectrum Research and Development Program (SAR&DP) processes, including recommending a portfolio management plan, to enable the development and implementation of innovative spectrum technologies which may reduce DOD's spectrum requirements or improve its ability to share spectrum.
- DISA will continue supporting DOD's World Radiocommunication Conference-19 (WRC-19) preparation process. The Conference reviews and revises the International Telecommunication Union's (ITU) Radio Regulations (RR), which have the status of a binding treaty. Nearly every country in the world sends a delegation to the WRC. DISA plays the critical role in the DOD preparations for each WRC cycle. DISA will be leading the DOD through the assessment and prioritization of the WRC-19 agenda items and beginning the technical work to ensure continued global spectrum access for DOD systems. The agency's support is essential to ensuring DoD electromagnetic spectrum equities are considered throughout each WRC cycle.