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Security Classification: Unclassified
AESOP Mission

AESOP is the US Navy tool for Strike Group Radar and Communications Planning for coordinating spectrum interoperability in afloat operations worldwide.

- AESOP uses previously allocated frequencies to generate optimal Radar Plans and OPTASK COMMs that adhere to laws and numbered fleets’ emission policies.
- AESOP integrates and de-conflicts the spectrum requirements of all acquired systems in the global operational electromagnetic environment (EME).
Multi-National Strike Groups
Communication, Radar, NAVAID, EW Military Equipment
Commercial Spectrum Use

Afloat Users Need Simplicity
Afloat Spectrum Planning Involves

- Process
  - Automation to Simplify Task
  - Compliance with Military Doctrine
  - Utilizes Chain of Command
  - Effectiveness

- Tool
  - Accuracy
  - Compatibility
  - Efficiency
  - User Friendliness
Afloat Electromagnetic Spectrum Operations Program

- Integrated Spectrum Planning Tool
- Automated Information Flow of Spectrum Planning
- Automated Frequency Assignment Generation
- Analysis of EMI Involving SG and Shore Based Emitters
- Complete Deployment Frequency Plans and Operational Guidance
- Compliant with Navy Certification and Messaging Standards
- Version 2.1, October 2008

Mandated by ALCOM 33/05,ALSECONDFLT 18/04 / ALTHIRDFLT 06/04
Supporting Documents
- TM 3.13.2-04, Afloat Electromagnetic Spectrum Planning and Management (defines NSME roles and responsibilities)
- NTTP 3-51.1, Navy Electronic Warfare
- NTA 5.5.6, Perform Spectrum Management

Navy Spectrum Management Element (NSME)
- Responsible for spectrum planning and execution of plan
- Involves all SG spectrum users

Supports Information Warfare (IW) Requirements
- Centralizes the spectrum management process
- Afloat staff performing strike group radar and communications planning
Does the Strike Group (SG) have a valid OPTASK COMM and Radar Plan for the intended Op-Area?

Are all SG COMMS and radars operating in compliance with the published OPTASK COMM and Radar Plan?

Are unit Spectrum Management (SM) personnel familiar with EMI interference restrictions for assigned operations area?

Spectrum Management software updated with current ship board communications, radar and weapons systems?
Process – Chain of Command

Comprehensive Plan

Local Area Frequency Coordinator

NMCSO/Fleet/JSME

Strike Group Commander

Coalition Forces

Afloat Spectrum Management
N6 / N3 / IW Commander

INTEL
N2x

Participant Platforms

COMMO

Electronic Warfare Rep

Radar/Combat System Rep

USMC Radio Chief (ESG)

METOC

AIRWING

Radar Planning N3x
Better Defined Roles and Responsibilities

All Spectrum Users Considered
- Communication Systems (COMMs)
- Navigation Aids (NAVAIDs)
- Electronic Warfare Systems (EW)
- Local Area Assignments

Supported by Navy Doctrine
- TACMEMO
- NTA 5.5.6

External Time Constraints Met
- NMCSO Standing Plan Request
- Frequency Request
- Participant Request Message
AESOP Implements
- Validated Analytical Models
- Standard DoD Propagation Models
- Interference Prediction Between
  - Radar
  - COMM
  - EW
  - NAVAIDs
  - Local Area Assignments
Current Interfaces
- MCEB Pub 7 Standard Frequency Action Format
- Registered XML Schema
- Frequency Resources - JACS

AESOP 3.0 (2010) and beyond
- MCEB Pub 8
- True RF Environment eXtractor (T-REX), Production Grade Spectrum Sensor – Data Interface
- SPEED / AESOP
Tool – Efficiency and User Friendliness

- Automatically Incorporate Frequency Restrictions
- Populated Database Minimizes Data Entry
  - Strike Group
  - Platform
  - Equipment Inventory
  - System Data
- Import of Critical Planning Information
  - Net Assignments
  - Participant Data
- Plan Entire Deployment
- Automated Message Generation
- Intuitive Graphical User Interface (GUI)
Spectrum Management Challenges for the 21st Century

- Data Accessibility
- Data Availability
- Data Accuracy
MCEB Pub 8
Services Oriented Architecture
Web-Based
DD-1494 Measurement Techniques
Electronic Warfare Data Format
NATO Version “NEOP-2007”
Questions?
Comments?
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