State of IAMD 2014
“IAAMD Achievements”

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Main Thing: “To develop, deliver, and sustain operationally dominant combat systems to Sailors and Marines.”
PEO IWS Portfolio

147 – Program & Projects
3 – ACAT I
5 – ACAT II
2 – ACAT III
3 – ACAT IV
8 – R&D
40 – Inactive
86 – Non ACAT
Aegis Evolution to IAMD

- Aegis Ashore
- Aegis Modernization
- DDG 59-73 & DDG 51-90
- DDG New Construction
- DDG 113-121

AEGIS IAMD is now a Common Baseline
Testing Achievements
BL 9 Events

DT events conducted during PAU periods

First BL 9.A Ship Deployment Capable – Jan 15
First BL 9.C Ship Deployment Capable – Sep 15
Detection Achievements

Major Accomplishments:

• Significant improvements in SPY-1 operational availability from 85% to 98%

• Enhanced SPY operational readiness, capability and proficiency, reduced Lost Operational Days from 25.2 days so 2.8 days per six month deployment

• The Air Missile Defense Radar finalized the Capability Development Document (CDD) and development contract was awarded to Raytheon

• Deployers routinely meet SPY Effective Transmit Power above +.5db required for BMD

• SEWIP Block II has passed Milestone C and approved for Low Rate Initial Production. System will bring enhanced EW capability to Surface Navy
Major Accomplishments:

• Certified Accelerated Mid-term Interoperability Improvement Project (AMIIP) for AEGIS, SSDS and the E2C

• Fire Control Loop Improvement Project (FCLIP) implemented on SSDS, ESSM, RAM, CEC and SPQ-9B to enhance ASCM defense on SSDS ships

• Successfully conducted a series of tracking and firing exercises of AEGIS Baseline 9 in a NIFC-CA environment.
Engagement Achievements

• By the Numbers
  – Procurement
    • 200 SM-2s (Recertified for Fleet use)
    • 89 SM-6s
    • 700 RAM
    • Over 80 Block 1B Phalanx CIWS installations
  – Flight Tests
    • 29 RAM BLK IA Missiles firings with a 94% success rate
    • 8 RAM BLK 2 missiles
    • 50 ESSM
    • 113 SM-2 firings
    • 25 SM-6 firings
    • 31 Long Range land Attack Projectile (LRLAP)

• “First of” events
  – AEGIS Baseline 9C: NIFC-CA, and SM-6 Surface-to-Air Active Missile with OTH Targeting and Integrated BMD
    • Installed on JOHN PAUL JONES (DDG 53)
    • Installation underway on BENFOLD (DDG 65) and BARRY (DDG 52)
  – AEGIS Baseline 9A: NIFC-CA and SM-6
    • Installed on CHANCELLORSVILLE (CG 62) and NORMANDY (CG 60)
    • Installation underway on PRINCETON (CG 59)
QUESTIONS?
DDG / CG Modernization
IAMD Features

Ballistic Missile Defense
AEGIS ACB
CEC
ESSM
Multi-Mission SIGPRO
SEWIP
NIFC-CA
SM-6

First Install
USS Chancellorsville (CG62)
April 2012

First Install
USS John Paul Jones (DDG 53)
September 2012
Baseline 9 Capabilities

NIFC-CA

- Distributes the AEGIS Shipboard fire control loop, via a network of remote sensors achieving independent engagement consummation Over The Horizon (OTH)
- Kill Chain: active missile, elevated sensor, sensor network, and a weapons control system

Cooperative Engagement Capability

- Increases AD capabilities by integrating sensors and weapons into a single real-time network
- Expands battle space; enhances SA; improves depth of fire; longer intercept ranges; and reaction times
- Data distribution for composite tracking

SM-6

- Self-defense, area defense and theater defense
- Supersonic missile launched from AMOD ships
- Dual Seeker (Active and Semi-Active)
- Uses the MK72 booster of the SM-2 Blk IV and the SM-3
- Supports Joint Integrated Fire Control
- OTH engagement Capability

Multi-Mission Signal Processor

- Improved Performance in Littoral Environments
- Improved Performance Against Sea Skimmers
- Dual-Beam Operation
- Improved BMD Search
- Enhanced BMD LRS&T Performance
- Aegis BSP Enhanced Range Resolution, Discrimination & Characterization
IAMD Planning and Training

Maritime IAMD Planning System (MIPS)
- Navy operational level planning system for IAMD, NIFC-CA Planner
- Provides planning function & near-real time plan monitoring function
- Supports tracking and engagement of difficult targets in a complex environment
- Located at Maritime Operations Centers of numbered Fleet commands and onboard some afloat units
- Network Communication pillar for NIFC-CA

IAMD Weapons Tactics Instructor Course (WTI)
- 19 Week NAMDC course that covers capabilities, training strategies and threats
- Train individuals to improve unit and strike group proficiency

Advanced Warfare Training (AWT)
- CSCS and ATG course covering watchstander and team scenarios

NIFC-CA Training
- Update of curriculum and NTSP in progress

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Air & Missile Defense Radar (AMDR)  
Next Generation Radar

- AMDR-S employs a Digital Beam Forming (DBF) architecture
  - FLT III version more than doubles the range over SPY-1 or VSR
  - Provides advanced robust BMD detection & discrimination
  - Efficient, precise search & track using multi-beam operation

- AMDR-X based on proven phased-array technology
  - Robust AAW horizon detection
  - Advanced illumination & link support for missiles

- Suite coordination compensates for challenging multi-mission environments

- Open systems approach allows AMDR to scale & adapt to future platforms

- AMDR will detect an object half the size at twice the distance
- AMDR will support 3 times the number of missiles in flight
- AMDR will hold over 6 times the amount of objects in track