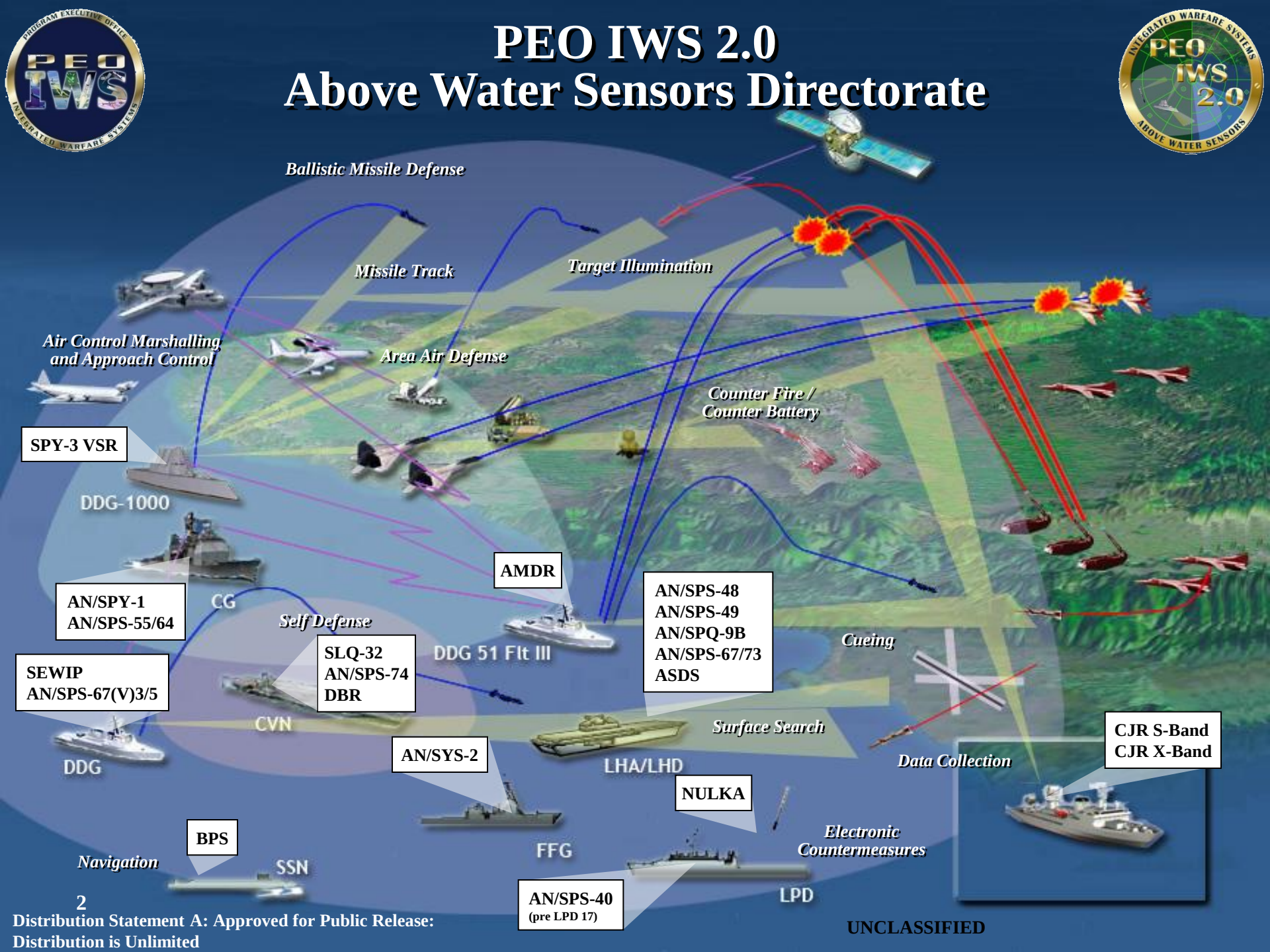
2011 Integrated Warfare Systems Conference

Above Water Sensors (IWS 2.0)
CAPT Doug Small

PEO IWS 2.0
Above Water Sensors Directorate



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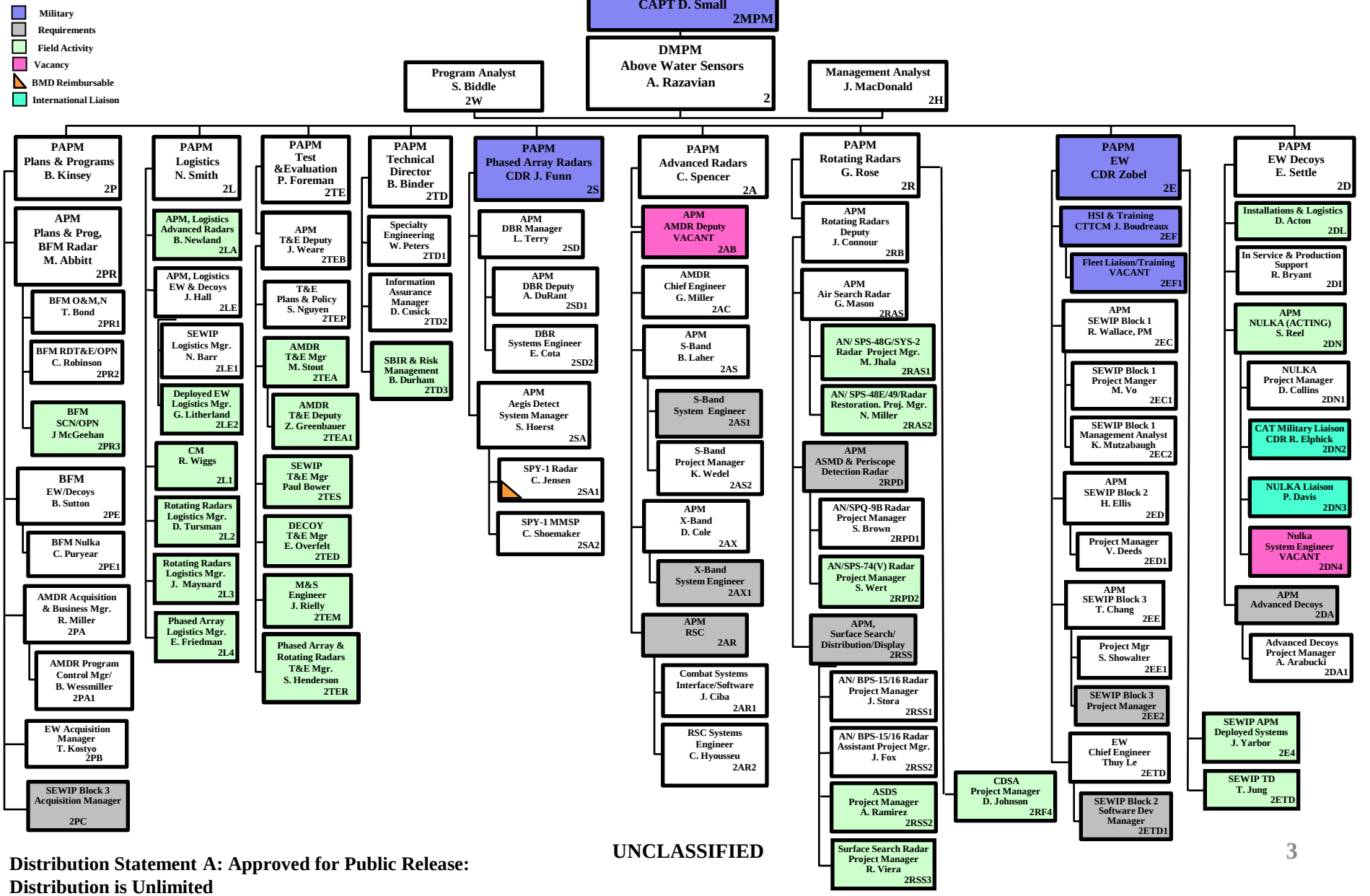

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FY12 New Start – SEWIP Block 3

- Provide upgraded Electronic Attack capability to the Fleet
  - Technique generation capable of addressing advanced threats
- 1 for 1 replacement of SLQ 32 (V) 3/4
  - CVN
  - DDG/CG
  - LHA/LHD
- Schedule
  - Pre Milestone B, ACAT II
  - Tech Dev FY10-12 (ONR InTop)
  - EMD FY13-16
  - Production/fielding FY17

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FY12 New Start – Advanced Offboard EW (AOEW)

Objective:

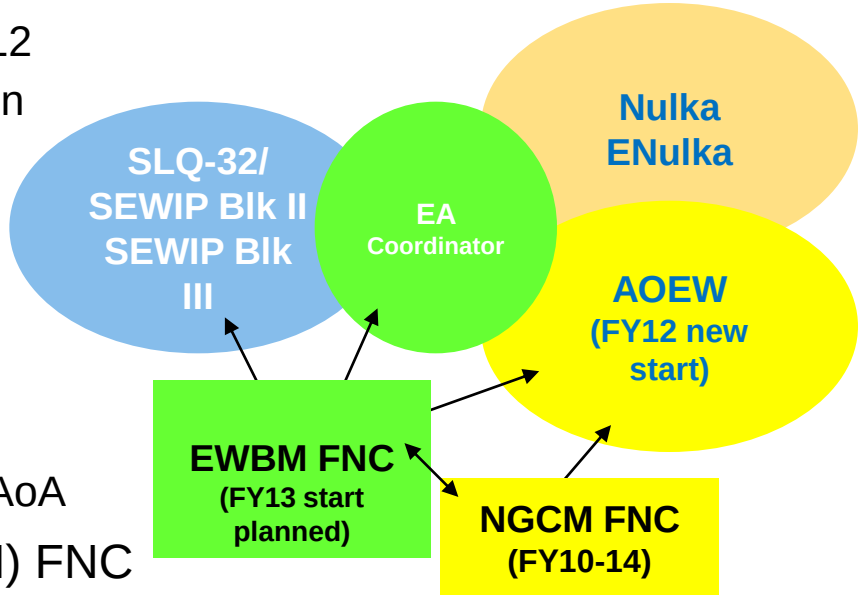
- Develop, procure and deploy multiple ship-launched, long duration platforms equipped with active or passive EW payloads for use in coordination with onboard EW systems to enhance battle group protection against current and future anti-ship missile (ASM) threats

Status:

- New Start Program of Record in FY12
  - Analysis of Alternatives (AoA) planned for FY12
  - Closely tied to SEWIP for onboard coordination

Supporting Efforts:

- RFI for Ship-launched Persistent Countermeasures for EW
  - RFI closed May 2011
  - Generated interest in the AOEW program
  - Focused on platform technologies to support AoA
- Next Generation Countermeasures (NGCM) FNC
  - FNC in progress – will transition to AOEW
  - Demo planned for FY14



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Active Investment Strategies & SBIR Technologies

- IWS 2.0 actively participates in programs where risk reduction efforts and investments can be made for future radar technology and radar system development
  - ManTech
    - The ManTech role in the DoD acquisition process is to anticipate and close gaps in defense manufacturing capabilities and provide a link between technology invention and industrial applications–from system development through sustainment
  - Title III
    - A key objective of the Title III Program is to accelerate the transition of technologies from R&D to affordable production and insertion into defense systems
  - SBIR/STTR
    - Established by Congress with a statutory purpose to strengthen the role of innovative small business concerns in Federally-funded research and development

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Title III

- Title III program has been identified as a linchpin in the AMDR development program
  - AMDR ADM identified high powered amplifiers (HPA) as a critical technology element for radar development, and requires the Navy to demonstrate acceptable risk at MS B
  - DUSD (AS&C) Title III Program and IWS 2.0 have partnered to establish the Gallium Nitride (GaN) on Silicon Carbide (SiC) Radar/EW Monolithic Microwave Integrated Circuit (MMIC) Production Capability Project ("GaN Producibility Program")
  - Title III GaN Producibility contracts totaling $39M were awarded to TriQuint and Cree in 4QCY10 to mature and refine the manufacturing processes needed to ensure this need is met
- Title III program is leveraging this work to apply to high powered amplifiers for future wide band Electronic Warfare systems

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Priority SBIR/STTR Programs

AMDR	Sundew Technologies, Broomfield, CO	MMIC Coatings and Encapsulation for Non-Hermetic, Low Cost, Transmit/Receive (T/R) Modules	Phase II.5 SBIR (N04-058)
AMDR	Group4 Labs, Fremont CA	Innovative Power Amplifier Gate Thermal Mgmt for Active Radar Systems (GaN on Diamond)	Phase II SBIR (N08-170)
AMDR	GVD Corporation, Cambridge MA	Innovative Manufacturing Processes and Materials for Affordable Transmit/Receive (T/R) Module Production	Phase II SBIR (N093-187)
AMDR	MetaMagnetics, Sharon MA	Low Loss Self-Biased Ferrite Materials for Size and Weight Sensitive Circulator Applications Requiring High Power Handling and High Temperature Stability (Circular Ferrite Improvement)	Phase II SBIR (N093-200)
AMDR	Metal Matrix Cast Composites, LLC, Waltham MA	Manufacturing and Materials for Radar/EW Power System Stability	Phase I/II SBIR (N093-209)
AMDR	Nuvotronics, Radford VA	MMIC EMI Passivation Coating	Phase II SBIR (N93-212)
Legacy Radar Rework/Repair	Resodyn Corporation, Butte MT	Repair and Restore Polymer Thermal Spray Coating and Application System	Phase I/II SBIR (N102-146)
AMDR	Arkansas Power Electonics Int'l (APEI), Fayettville, AR	High Power Density Supply for Next Generation Radar Applications Utilizing Emerging Wide-Band Semiconductor Devices	Phase I/II SBIR (N102-153)
AN/SPS-74	3 Phoenix, Chantilly, VA	Improved Clutter Management Techniques for High Resolution Radars	Phase II.5 SBIR (N07-213)
AMDR	MetaMagnetics, Sharon MA	Manufacturing and Materials for Radar/EW Power System Stability	Phase II SBIR (N093-209)
AMDR	3 Phoenix, Chantilly, VA	Advanced materials for Shipboard Radome Application	Phase II.5 SBIR (N07-213)
AMDR	Composite Technology Development, Lafayette, CO	Improved Clutter Management Techniques for High Resolution Radars	Phase I/II SBIR (N102-148)
AMDR	Nitronex, Durham, NC	Diamond on GaN Power Amplifier Processes	Phase I/II SBIR (N08-170)
AMDR	MaXentric Technologies LLC, Fort Lee NJ	High Performance Cost Effective Circulator/Isolators	Phase I SBIR (N111-035)
AMDR	TeraSys Technologies LLC Honolulu, HI	High Performance Cost Effective Circulator/Isolators	Phase I SBIR (N111-035)
AMDR	MPT Corp, Brea CA	High power monolithic microwave limiter	Phase I SBIR (N111-052)
AMDR	Nuvotronics, Radford VA	High power monolithic microwave limiter	Phase I SBIR (N111-052)
AMDR	Omega Micro, West Lafayette, IN	High Performance GaN Power Amplifier/ TR Module Packaging	Phase I SBIR (N111-034)
AMDR	Arkansas Power Electonics Int'l (APEI), Fayettville, AR	High Performance GaN Power Amplifier/ TR Module Packaging	Phase I SBIR (N111-034)
AMDR	SI2 Technologies, North Billerica MA	Wide Bandwidth High Performance Cost Effective Antenna Elements	Phase I SBIR (N111-040)
AMDR	Wang Electro-Opto, Marietta, GA	Wide Bandwidth High Performance Cost Effective Antenna Elements	Phase I SBIR (N111-040)
AMDR	Active Spectrum, Foster City CA	Tunable Bandstop Filters for Suppression of Co-site Interference and Jamming Sources	Phase I STTR(N11A-T016)
AMDR	FreeForm Wave Technologies, Los Angeles CA	Tunable Bandstop Filters for Suppression of Co-site Interference and Jamming Sources	Phase I STTR(N11A-T016)
AMDR	Indiana Microelectronics, LLC West Lafayette IN	Tunable Bandstop Filters for Suppression of Co-site Interference and Jamming Sources	Phase I STTR(N11A-T016)

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Implementation of DOD Better Buying Power Initiatives

- Target Affordability and Control Cost Growth
  - Established Should Cost estimates for AMDR and SEWIP
  - Extending methodology to Sustainment systems
  - Aggressive configuration/change control
- Incentivize Productivity & Innovation in Industry
  - AMDR competition has stimulated $100M+ in IRAD
  - SEWIP Block 2 Development stimulated IR&D in multiple suppliers which enabled a competitive selection process for EMD
  - Actively partnering small/medium businesses/products with prime contractors
- Promote Real Competition
  - AMDR competition for EMD, production
  - SEWIP Block 2 competed EMD effort, plan to compete production
  - SEWIP Block 3 will leverage competitive development of FNC effort (InTop), compete for EMD, compete production
  - Actively seeking means of inserting competition in ongoing developments
  - Actively working to compete existing production contracts
  - Aggressive on data rights, open architecture (technical and business)

Question & Answer Period