

Connect to Mission

February 6, 2024

Featuring: NSWC Crane's
Spectrum Warfare Department



Crane Regional Defense Group

Our Mission:

To elevate the strategic value of Crane and expand southern Indiana's defense innovation ecosystem through defense-related outreach and legislative initiatives that enhance military missions in the region.

Our Objectives:

Educate & Inform - Educate and inform the business, citizens, and governments of the region about the economic and cultural benefits of a strong military presence in the region and the importance of the related regional infrastructure.

Promote Defense - Serve as a catalyst to promote defense ecosystem assets within NSA Crane and throughout the Indiana Uplands region.

Stimulate Relationships - Through the diversity of the membership, coordinate with various entities who have similar interests in maintaining a healthy and stable community, economy, and DOD installations in our region.



Crane Regional Defense Group



2023 C2M EVENTS

Crane Regional Defense Group

THANK YOU

CRDG MEMBERS FOR YOUR SUPPORT!

2024 GOAL

1000

CRANE REGIONAL
DEFENSE GROUP



Crane Regional Defense Group

Board of Directors & Staff

Kent Parisien: Chair of CRDG
First Savings Bank

Shance Sizemore: Secretary/Treasurer
Bedford Chamber of Commerce

Carlos Gaitani
TRISTAR

Kim Box: Staff
Radius Indiana

Kevin Sparks
Crane Credit Union

Matt Craig
Radius Indiana

Nancy Eckerle
Jasper Chamber of Commerce

Duane Embree
Draper Laboratory

Advisory Board

Agility Consulting International - Emily Harshman

Amentum - Adam Buehler

Applied Research Institute - Brooke Pyne

Booz Allen Hamilton - Kyle Alcorn

CACI Intl. - Robert Hudson

IEDC (IN APEX Accelerator) - Chris Jeffers

JRC Integrated Systems - Greg Sapp

ManTech - Chad McGregor

NineTwelve Solutions - Alison French

Regional Opportunities Initiative - Tina Peterson

Resource Management Concepts, Inc. - Chris Peterson

S²MARTS - powered by NSTXL - Doug Crowe

WestGate Authority - Samantha Nelson (PRF Representative)

NSWC Crane - Phil Smith (Honorary Member)

“Thank you” to our
outgoing board member:

Jeff Quyle, Radius Indiana



Crane Regional Defense Group



craneregionaldefensegroup.org

CRDG MEMBER BENEFITS

	One-Star	Two-Star	Three-Star	Four-Star	Five-Star
	★	★★	★★★	★★★★	★★★★★
Investment	\$500	\$1,000	\$2,000	\$3,500	\$5,000
Complimentary ticket(s) to all Connect to Mission (C2M) events	1	2	3	4	5
Complimentary ticket(s) to all Key Leader Series (KLS) events	1	2	3	4	5
Name featured on CRDG website	✓	✓	✓	✓	✓
Receive bi-weekly DoD newsletter	✓	✓	✓	✓	✓
Invitation and recognition at CRDG Annual Meeting	Invitation only	✓	✓	✓	✓
Logo featured on CRDG website and at events			✓	✓	✓
Eligible for participation in membership and events committees	✓		✓	✓	✓
Invitation to Connect to Crane (C2C)			TBD based on # of attendees.	✓	✓
Free exhibitor table at the Buy Indiana Expo				✓	✓
Regular reposts and engagement on CRDG social media accounts				✓	✓
Eligible for participation in legislative committee					✓
CRDG Advisory Board Member - invitation to all CRDG Board Meetings					✓
Invitation to participate in Congressional Reception in Washington D.C. (up to two people at own travel expense)					✓
One submission for attendance to the Team Crane Congressional Breakfast (CRDG not responsible for final approval for attendance)					✓
Guaranteed invitation to any unplanned CRDG events with limited capacity					✓
CRDG Social Media Posts	Yearly post as part of 1-star group	Yearly post as part of 2-star group	Quarterly post as part of 3-star group	Yearly individual shoutout post	Bi-annual individual shoutout post

COMMITTIES

Membership

Events

Legislative



Crane Regional Defense Group

CRANE REGIONAL DEFENSE GROUP

Annual Report 2023

CRANE REGIONAL
DEFENSE GROUP



+ 1,000

EVENT ATTENDEES

+ 20

STATES ACROSS THE U.S.

CRANE REGIONAL
DEFENSE GROUP



Agenda

- Opening Comments: *Dr. Kyle Werner (SSTM), Deputy Technical Director*
- Spectrum Warfare Department: *Mr. Zahid Din (SSTM), Department Director*
- Spectrum Science & Technology and Force Level EW Panel:
Mr. Roger Becker, Deputy Department Director
- Networking Break
- Surface, Air, Expeditionary, and Radar Technologies Panel:
Mr. Roger Becker, Deputy Department Director
- Networking Break
- Contracting Panel: *Ms. Nancy Maloy, Technical Acquisition Deputy*
- Association of Old Crows: *Mr. Brian “Hinks” Hinkley, President*
- Closing Comments: *Mr. Kent Parisien, CRDG President*
- Networking: *Join PRF for their First Tuesday Event!*

Connect to Mission

NSWC Crane Command

Dr. Kyle Werner (SSTM), *Deputy Technical Director*

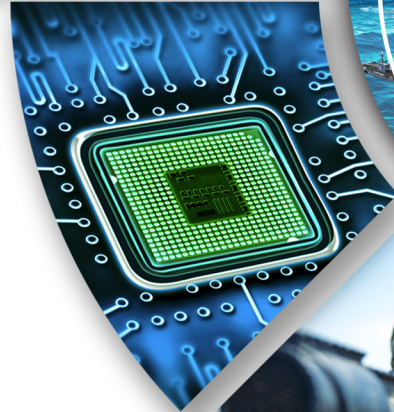


Connect to Mission

NSWC Crane Spectrum Warfare Department

Mr. Zahid Din (SSTM), *Department Director*





CAPT Rex A. Boonyobhas
COMMANDING OFFICER

Dr. Angela Lewis, SES
TECHNICAL DIRECTOR

Spectrum Warfare Department

MULTI-DOMAIN/MULTI-SPECTRAL EW WORKLOAD

Focus:

On leveraging our technical capabilities as well as our multi-domain, multi-service, multi-spectral, full lifecycle knowledge and experience to provide innovative, leading-edge technical solutions for the rapidly changing threat environment.

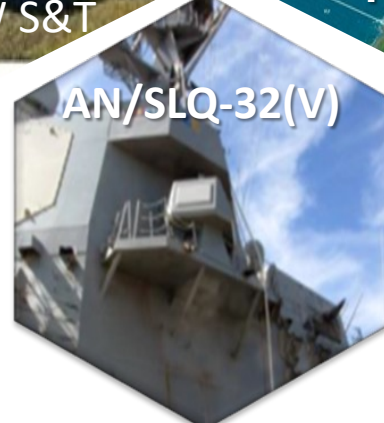
Product Areas:

- Electromagnetic Warfare Science & Technology and Advanced EW Concepts
- Naval Integrated Fire Control Model Based Systems Engineering
- Infra-Red (IR) Countermeasure S&T, R&D, Design Flares/Chaff/Lasers
- Surface Electronic Warfare Systems and Off board Countermeasures
- Counter Radio Controlled Improvised Explosive Device Warfare (CREW) Systems
- Airborne Electronic Attack Systems
- Phased Array and Solid State Technologies
- Counter Unmanned Aerial Systems

Roles:

- S&T
- Research and Development
- Design
- Modeling and Simulation
- System Engineering
- Test and Evaluation
- Threat Load Development
- In-Service Engineering
- Integrated Logistics
- Configuration Mgmt
- Sustainment
- Installations
- Fleet Support
- Software

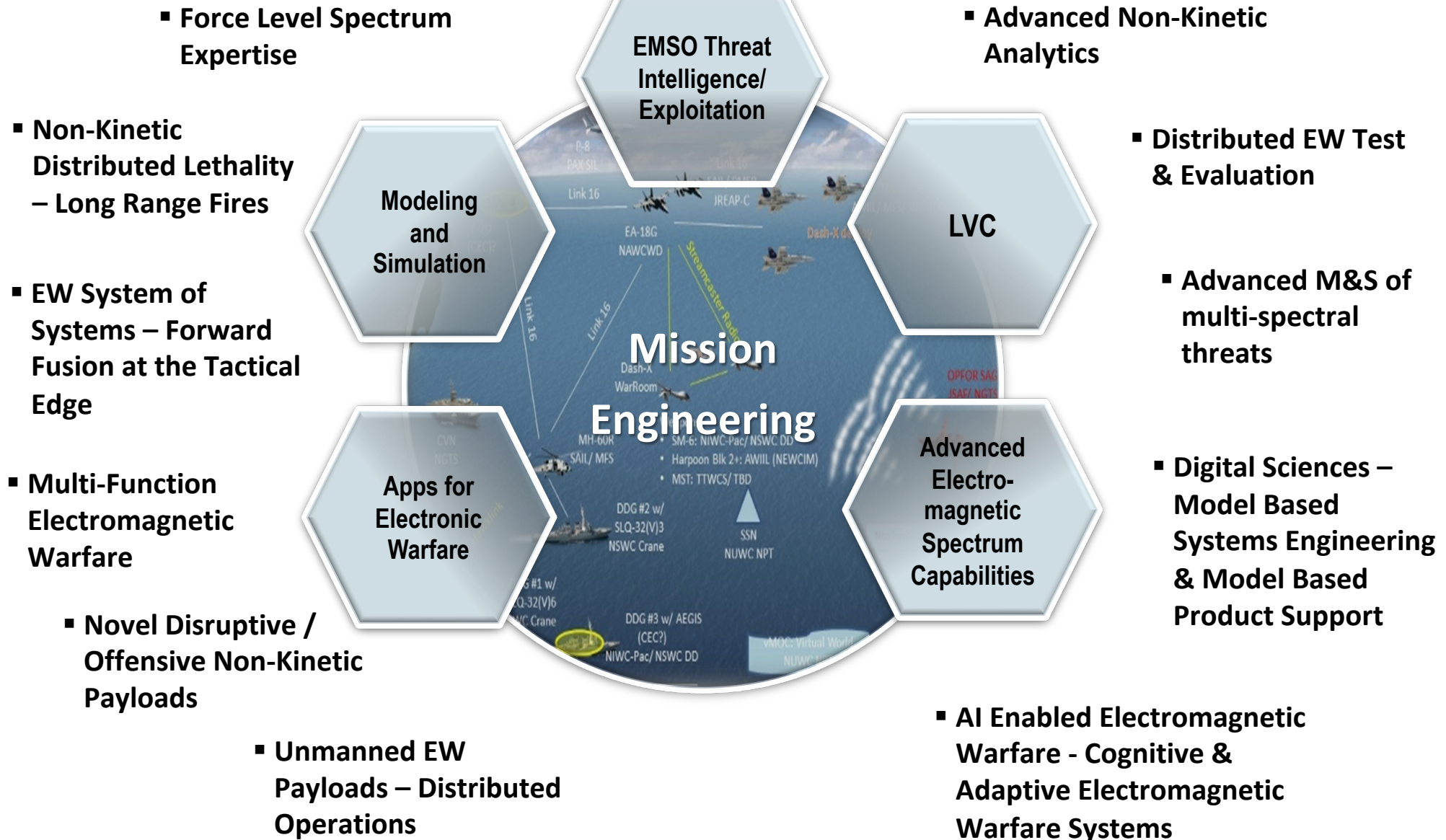
Airborne Electronic Attack



Anti-ship Missile Defense

Distribution Statement A: Approved for Public Release.

EW MISSION AREA STRATEGIC OBJECTIVES

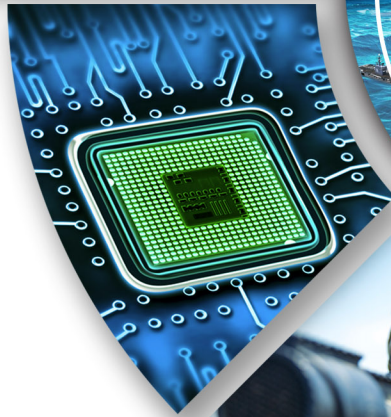


Distribution Statement A: Approved for Public Release.

Connect to Mission

Panel: Spectrum Science & Technology and Force Level EW

Mr. Roger Becker, *Deputy Department Director,
Spectrum Warfare (Facilitator)*



CAPT Rex A. Boonyobhas
COMMANDING OFFICER

Dr. Angela Lewis, SES
TECHNICAL DIRECTOR

Platform Protection and Countermeasures Technologies Division (WXR)
Connect To Mission

Technical Workforce

- 107 Government Employees
- 64% Scientists and Engineers

Main Areas of Expertise:

- Infrared Countermeasure Design, Development & Prototyping
- Modeling & Simulation
- Acceptance Testing
- Field Test Support
- Countermeasures Dispensing Systems

New Technical Areas Core to Future:

- Laser based Countermeasures
- Optical Warfare
- RF-based Countermeasures
- RF Modeling and Simulation



CHALLENGE AREAS:

- Growing workload opportunities more than resources
- Classification is Increasing due to Threat Environments (Above Secret)
- Reorganization and Increased Span and Scope

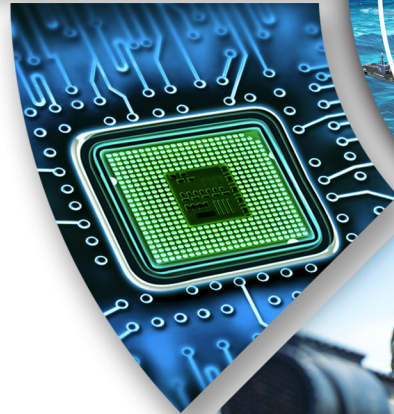
Current and Continuing Needs:

- Ordnance Technicians to support Pyrotechnic Prototyping and Testing
- Machinists and Model Makers
- Configuration Management and Project Support
- Drafting

Additional Future Needs:

- RF Engineering (S&E, M&S, T&E)
- Dispenser program support (Engineering, Logistics, Technician)
- Optical Warfare (S&E, Data Analytics, Technician Support)
- IRCM Development (S&E, CM, Drafting, T&E)
- Software and Software CM (Support Modeling and Simulation and SW Development for Test Assets/Vans)
- AI/ML and Data Analysis
- Business Operations (Tech Writer, Quality)

- Seaport Coming soon. Expanded Scope and Job Series to mirror Division Reorganization and Increased Needs.
- OT
 - HITLs to support M&S
 - Advanced Expendable Countermeasures
 - Joint Airborne Mission Survivability (JAMS) Technology Gaps



CAPT Rex A. Boonyobhas
COMMANDING OFFICER

Dr. Angela Lewis, SES
TECHNICAL DIRECTOR

Electromagnetic Warfare Science and Technology Division (WXV)

Connect To Mission

Major Customers Supported

- DARPA
- ONR
- DON-FLEET-FFC
- Office of Secretary of Defense


Warfare Center Technical Capabilities

- CR04 - Electronic Warfare Systems
- CR18 - Advanced Electronics RDT&E
- CR23 - Force Level Electromagnetic Warfare


Project Cells

- Advanced Concepts Group
- Loki
- Fleet Experimentation/LNO


EW Advanced Concepts Group



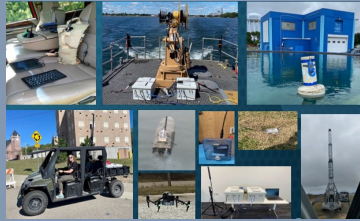
- Development
- Test and Evaluation
- Transition Support
- S&T Demonstrations



Loki



Proactive & Offensive
Weaponizing the Spectrum (Non-Kinetic Fires)
Gray Zone Operations
Sowing Seeds of Doubt
Mission Impacts Far Left of Launch
Enabling Current & Emerging EW
Expand EW Applications



Fleet Experimentation/LNO




Technical Workforce

- 41 Government Employees
- 85% Scientists & Engineers
- 27% PhDs

Project Areas:

- AI/ML Applied R&D
- Defense Deception Activities (DDA)
- Big Data Analysis

Facilities Constraints:

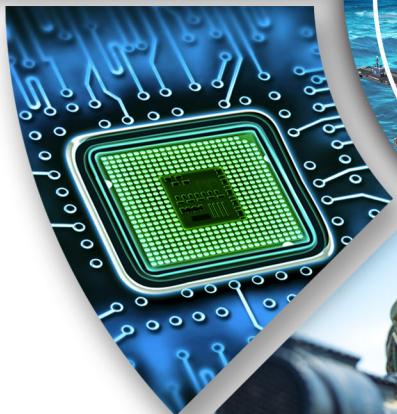
- Laboratory Space
- Higher than Secret Space

Talent Needs:

- **Engineering/Computer Science**
 - RF/EW
 - DSP
 - Communications
 - Python
 - Java
 - Matlab
 - C, C++, C#
 - SDR

MAJOR ACQUISITIONS/ OPPORTUNITY SPACE

- Typically No Major Acquisitions (S&T basic and applied R&D versus Program of Record)
- Loki – Expanding DDA Mission Space (Effects)
- Loki – Payload Production/Assembly
- Silent Swarm – Venue For EW Tech Exp/Demo
- ACG – EW Data Environments
 - How to collect, move, process, store, analyze, distribute, control access data?
- S&T Portfolio Roadmap Tech Areas

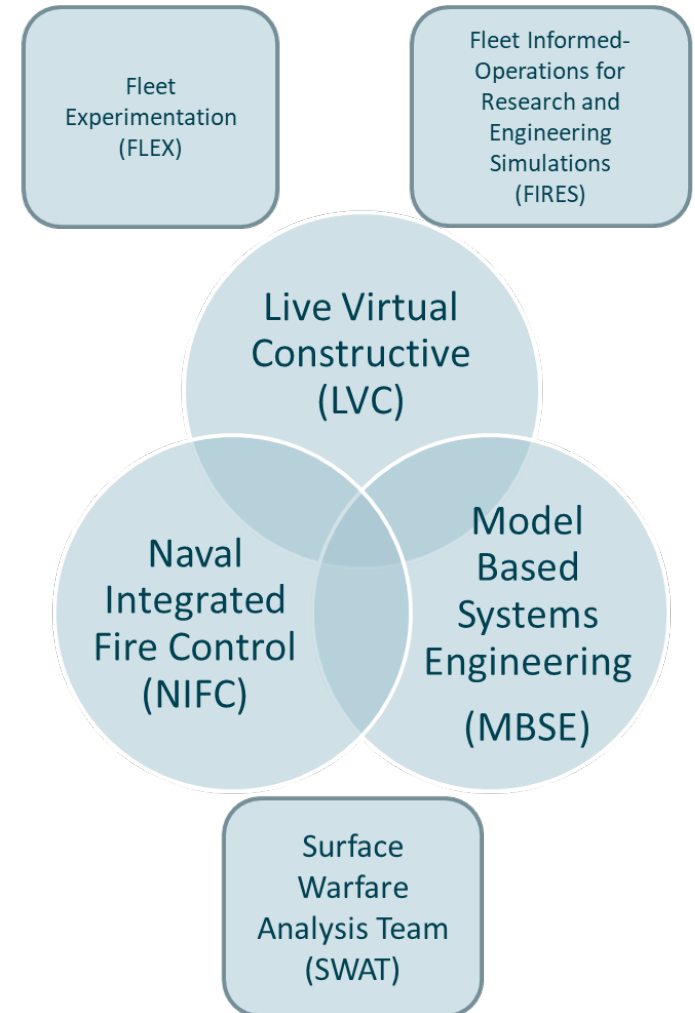
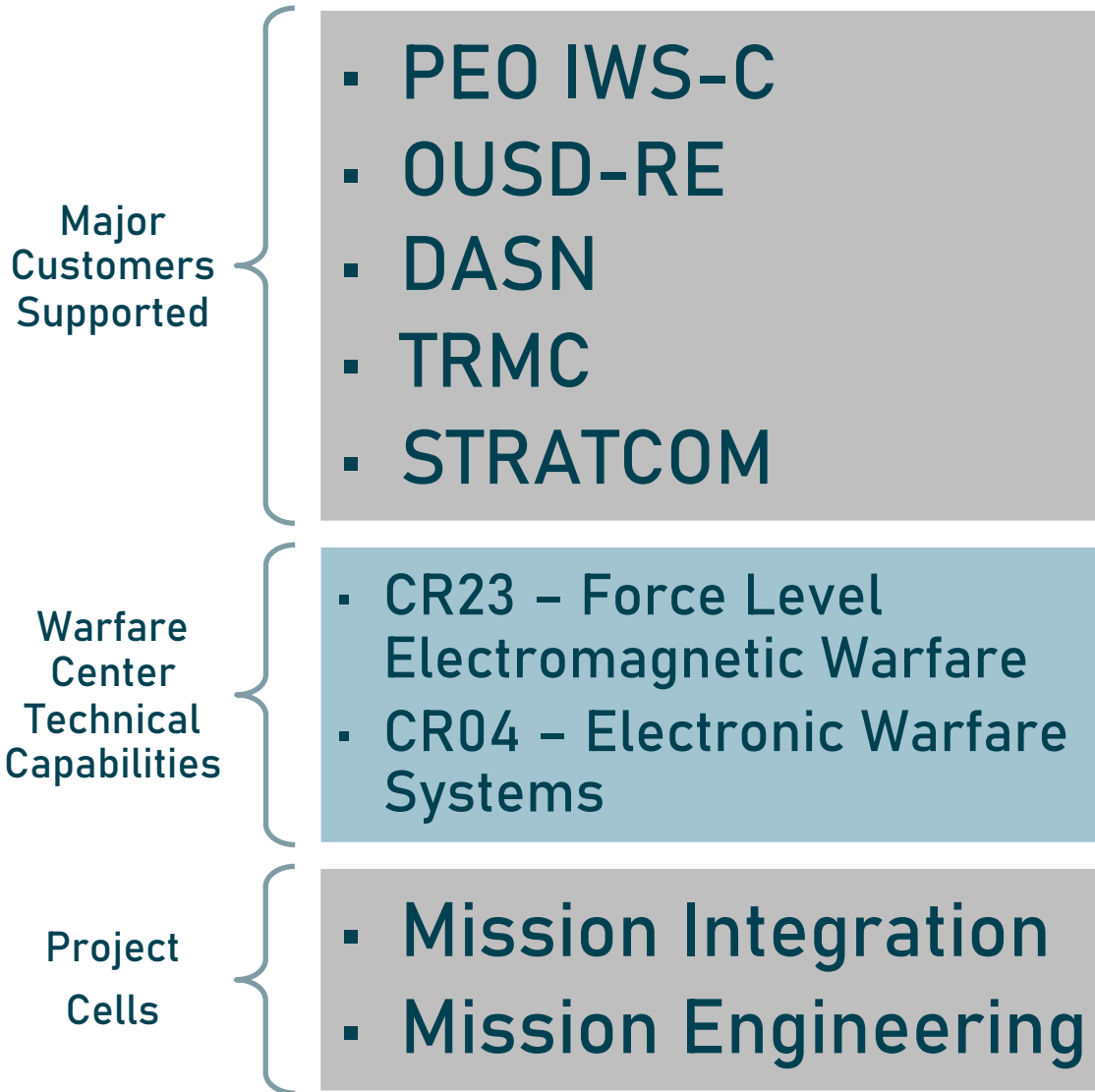


CAPT Rex A. Boonyobhas
COMMANDING OFFICER

Dr. Angela Lewis, SES
TECHNICAL DIRECTOR

Force Level Electromagnetic Warfare Division (WXY) Connect To Mission

TECHNICAL FOOTPRINT



Technical Workforce
<ul style="list-style-type: none"> ▪ 40 Government Employees ▪ 85% Scientists & Engineers

CONNECT TO MISSION

Project Areas:

- Mission/Campaign Level Modeling
- Systems of Systems Integration
- Rapid Operational Assessments

Facilities Constraints:

- Development Space
- Operational Space
- Higher than Secret Space

Talent Needs:

- **Engineering/Computer Science/Systems Eng**
 - RF/EW
 - STK
 - ANSYS
 - Python
 - Java
 - CAMEO/SysML
- **Operator**
 - Former military with EW experience

MAJOR ACQUISITIONS/ OPPORTUNITY SPACE

- Typically No Major Acquisitions (Applied R&D versus Program of Record)
- Utilizing 7 other Division's DTIC/Seaport contracts
- Developing FLEW specific DTIC
 - Expected late FY25
- Opportunity Rich Environment
 - Need Partners

Connect to Mission

Panel: Spectrum Science & Technology and Force Level EW

Mr. Roger Becker, *Deputy Department Director,
Spectrum Warfare (Facilitator)*

Connect to Mission

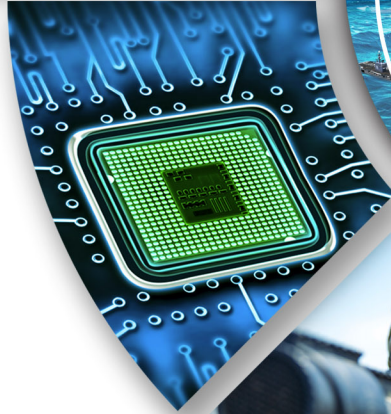
NETWORKING BREAK #1



Connect to Mission

Panel: Surface, Air, Expeditionary, and Radar Technologies

Mr. Roger Becker, *Deputy Department Director,
Spectrum Warfare (Facilitator)*



CAPT Rex A. Boonyobhas
COMMANDING OFFICER

Dr. Angela Lewis, SES
TECHNICAL DIRECTOR

Expeditionary Electromagnetic Warfare Systems Division (WXQ)

Connect To Mission

EXPEDITIONARY EMW PORTFOLIO

Major Customers



NISE 219
DARPA
ONR
OSD
Other

~176 Gov
~\$50M/year
ESS Contract - \$49M
FSR Contract - \$24M

Vision

Provide national leadership for multi-mission electromagnetic spectrum operations, utilizing multi-function technologies, across the entire DoD acquisition lifecycle.

Mission

The Expeditionary Electromagnetic Warfare Division exists to anticipate and rapidly respond to emergent threats and strategic posturing across the ever-changing battlefield with multi-domain, asymmetric, electromagnetic spectrum solutions to engage and defeat adversaries.



DRAKE / CUxS



Modi



JCREW / CIED

PRODUCT AND SERVICE OVERVIEW

Product Areas

- Counter Radio-Controlled Devices
 - IED, UxS
- Cyber/Electromagnetic Spectrum
- Applications for Electromagnetic Spectrum
- Advanced Electromagnetic Spectrum Concepts
- Advanced Techniques Development

Services

- S&T/RDT&E
- Engineering Design
- Data Management
- Test and Evaluation
- Threat Exploitation
- Life Cycle Support
- Logistics Support

Key Technical Areas Core to our Future

- Software Defined Radio
- Cyber/Electromagnetic Spectrum
- AI/Machine Learning
- Antenna Technology
- Unmanned Systems
- Exploitation of 5G, Next G, IoT, SDT, Wi-Fi, MIMO
- Integrated Sensors
- Distributed Operations



Program Growth

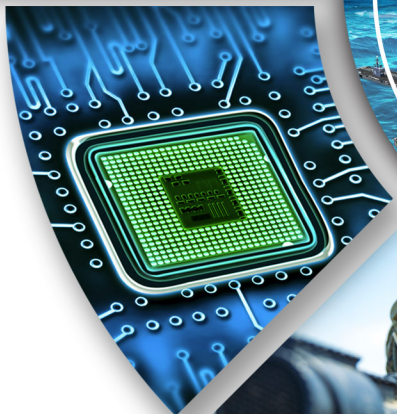
- Joint C-sUAS Office
 - Multi-Modal Electronic Warfare
 - Master Data Library
- JCREW 2.0
- Foreign Military Sales

Upcoming Acquisitions

- DTIC
 - Countering unmanned aerial threats
 - Integrating cutting-edge AI/ML into the battlefield,
 - Extending our expertise in ground and low altitude
 - Planned award is 4Q24.
- SeaPort Follow On
 - Planned award 4Q25

Talent Needs:

- Cyber EW
 - Apps for EW
 - Cloud Solution Architect
- Software Engineering
 - Software Development
 - Computer Engineers
- Engineering
 - Systems Engineering
 - Test and Evaluation
 - Electrical Engineering
 - RF Expertise
- Electronics Technicians
 - RF Test & Evaluation
- Project Management
 - Program Analyst



CAPT Rex A. Boonyobhas
COMMANDING OFFICER

Dr. Angela Lewis, SES
TECHNICAL DIRECTOR

Maritime Electromagnetic Warfare Systems Division (WXM) Connect To Mission

WARFIGHTER SUPPORT

Current Warfighter

Maintaining Readiness

- In-Service Engineering (ISEA)
- Sustainment Engineering
- Software Support Engineering (SSA)
- Fleet Modernization / Installations
- Fleet Readiness
- Product Support



Next Warfighter

Building the Future Force

- Systems Engineering
- Acquisition Engineering (AEA)
- Acquisition Logistics
- Accelerated Transitions
- Rapid Design & Prototyping
- Surface EW Advanced Concepts

Warfighter After Next

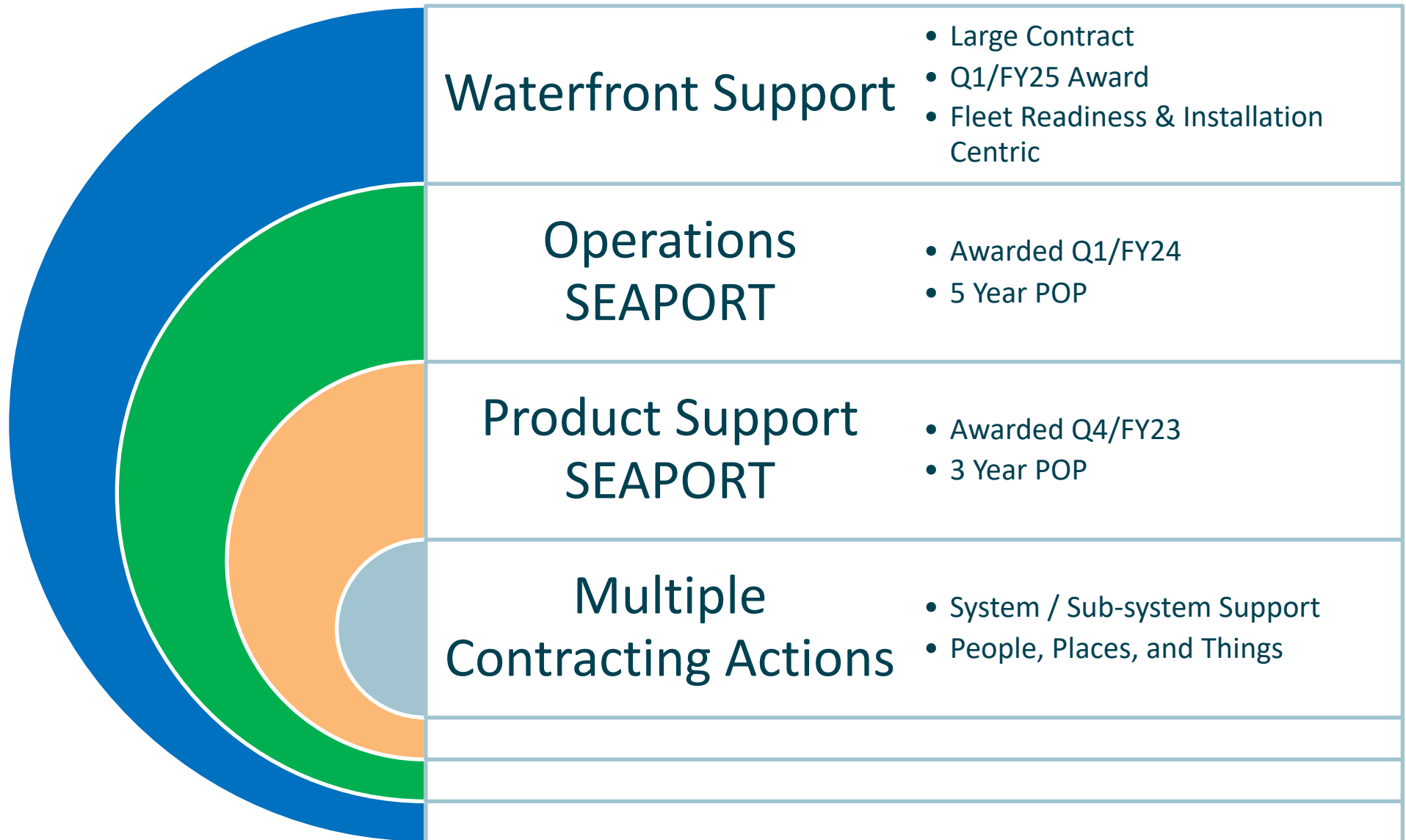
Innovation

- Research, Development, Test and Evaluation
- Science and Technology Initiatives
- Partnering and Engagement
- Technology Transition to Fleet

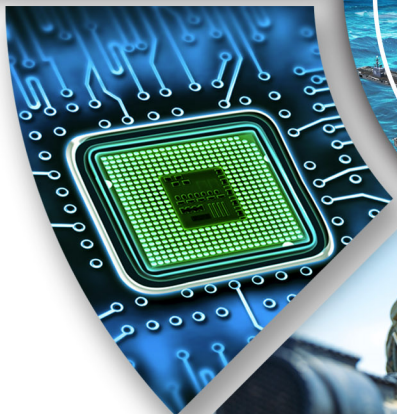
Maritime Electromagnetic Warfare Systems Division

- Surface Electronic Warfare Improvement Program (SEWIP)
 - AN/SLQ-32 & Decoy Launch Systems

SUPPORTING EFFORTS



- **Will continue to utilize DTICs, as needed**
- **Exploring OTAs**
- **Division Watch Items**
 - **Fielding plans are dynamic. May drive additional split-scope installation support.**
 - **Expedited installations drive material risks.**
- **Related**
 - **IWS 2E is considering acquisition options to determine the best acquisition strategy to maximize competition for performing requirements for the AN/SLQ-32(V)6, C(V)6, (V)7, and future SOEA in one or more of the three (3) main functional areas and/or subcategories as follows:**
 - **Built-to-Print (BTP) Production**
 - **Design Agent Engineering**
 - **Systems Engineering**



CAPT Rex A. Boonyobhas
COMMANDING OFFICER

Dr. Angela Lewis, SES
TECHNICAL DIRECTOR

Radar Technologies Division (WXP) Connect To Mission

Challenge Areas:

- More workload opportunities than resources
- Attracting talent because of pay disparity with industry, geographic location, and inability to offer fully remote work

Facilities Constraints:

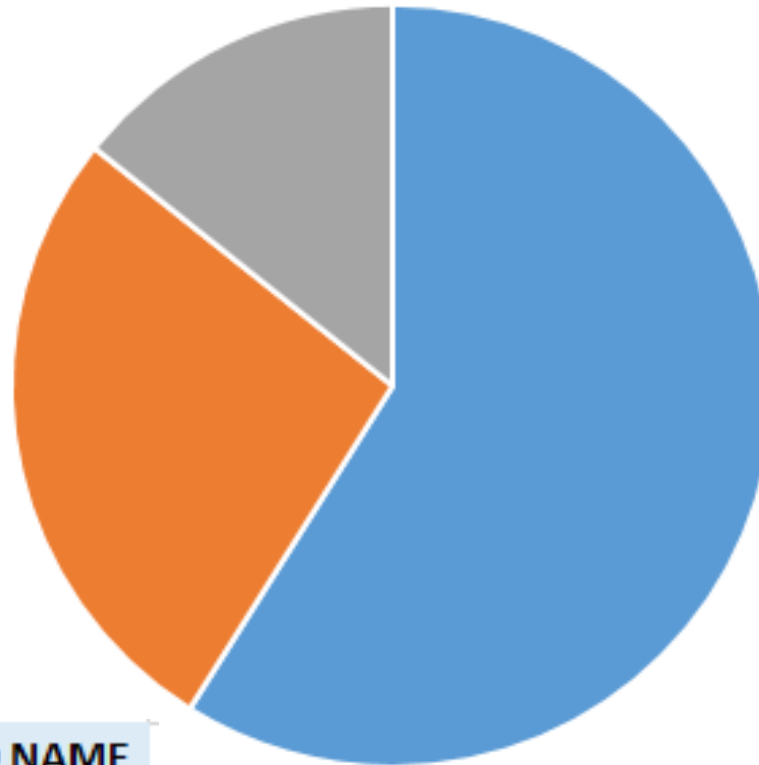
- Very limited seating
- Laboratory Space
- Industrial Space
- Anechoic Chamber Space

Talent Needs:

- **Business Professionals**
 - Experience with DoD Programs and Processes
- **Engineering- RF Sensors**
 - **Systems Engineering**
 - Radar/EW/Communications Systems
 - DoD SETR
 - Test and Evaluation
 - MBSE
 - **Electrical Engineering**
 - RF/Digital/Power/Antenna
 - **Mechanical Engineering**
 - Mechanical and Thermal Modeling
 - Design
 - Environmental Testing
 - Radar Mechanical Stabilization
 - Materials and Corrosion prevention
- **Electronics Technicians**
 - AESA and Rotating Radar System Depot
 - Power Supplies
 - Vacuum Electron Devices
 - Solid-State Devices
 - RF Testing

3 YEAR OUTLOOK FOR WXP LARGE ACQUISITIONS

WXP Acquisition Plan for Next 3 Years

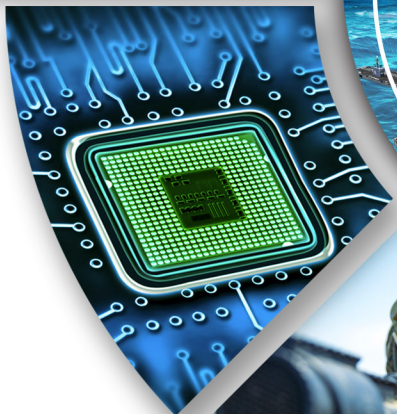


Years

Required Award Date

- 2024
- 2025
- 2026

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+ 2024	33
+ 2025	15
+ 2026	8
Grand Total	56

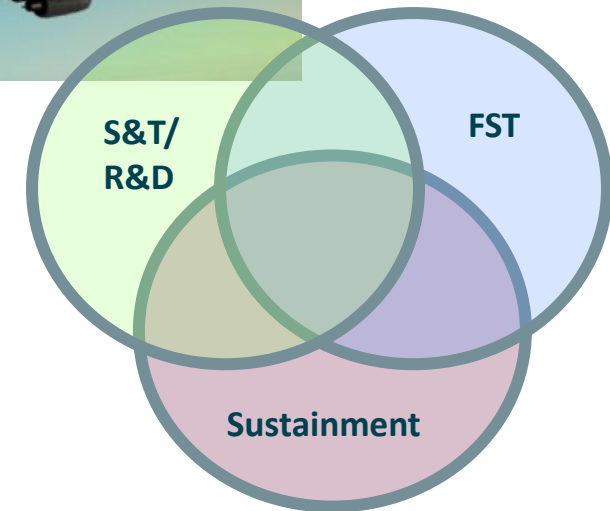


CAPT Rex A. Boonyobhas
COMMANDING OFFICER

Dr. Angela Lewis, SES
TECHNICAL DIRECTOR

Airborne Electronic Attack Systems Division (WXS) Connect To Mission

TECHNICAL FOOTPRINT



Technical Workforce

- 300 Government Employees
- 84% Scientists & Engineers

- Major Customers Supported**
- NAVAIR (Multiple Program Offices)
 - NAVSUP / DLA
 - Army
 - National Labs (NSA, DARPA, ONR, etc.)
 - Office of Secretary of Defense

- Product Areas**
- Electronic Attack Systems
 - Antennas/Active Electronic Steered Arrays (AESA)
 - Receivers / Exciters Communication Systems
 - EW Threats and Techniques / Mission Engineering
 - Radomes / Composites
 - Test and Evaluation Systems
 - Software Defined Radio (SDR)

- Warfare Center Technical Capabilities**
- CR04 – Electronic Warfare Systems
 - CR23 – Force Level EW Mission Analysis

Challenge Areas:

- Opportunity Rich Environment
- Attracting/retaining talent

Facilities Constraints:

- Laboratory Space (Secure)
- Industrial Space (Secure)
- High Power Anechoic Chamber

Talent Needs:

- Business Professionals
 - Program Management
 - Experience with DoD Acq Programs and Processes
 - Logistics Analysts (Product Support processes)
- Engineering- RF / EE / Comp E / ME / Specialty (PhDs)
 - Data Analytics / Data Analysis
 - Modelling and Sim
 - Mission Eng / Former EW Operators
 - Software Eng (MATLAB, Python, C++, #, etc)
 - EW / Communications Systems / Protocols
 - DoD SETR / System Engineering
 - Test and Evaluation / Automated Test Programs
 - RF and Electrical Engineering
- Materials / Composites (Materials Eng)
- Electronics / Mechanical Technicians
 - RF Testing
 - Avionics Electronic System and Mechanical Repair

MAJOR ACQUISITIONS/ OPPORTUNITY SPACE

- Major Acquisitions
- Off-Site Depot Repairs of Airborne Electronic Attack Systems. Competitive. New Action. FY2025
- Preventative Mxt/Repair of Machine Shop Equipment. IDIQ. Competitive. Follow-On to N00164-20-D-WS47. FY2025
- Contractor Support Services (CSS). Seaport Task Order. Competitive. Follow-On to N0016419F3010. FY 2026
- DOD IAC MAC FY2024/25

- Opportunity Space
- Electronic Attack Podded System Payloads
- Composites / Radomes
- RF Testing (Anechoic Chamber Testing) Multilevel Security
- Logistics (Navy) / Project Leadership
- Machine Learning / Artificial Intelligence
- Model Based System Engineering Development Support

AIRBORNE ELECTRONIC ATTACK SYSTEMS

DIVISION



305

* On-Board Count (Gov't)



8

** Buildings Occupied by Div



139,745

** Sq.Ft. Occupied by Div

Services Provided

- Engineering Development
- Research and Development
- Avionics
- Support Equipment
- Software Engineering – R&D
- Acquisition Engineering and Logistics

- Production Engineering
- Repair and Production Modification
- Fleet Support Team
- Foreign Military Sales

Value Provided

- 2023 will mark 56 years of AEASD providing Engineering, maintenance and Logistical services for Electronic Attack capabilities for the Navy Warfighter
- AEASD maintains a leadership role in the Next Generation Jammer, NAVAIR EW Advanced Development (ADEV), and Advanced System

Enhancements of the EA-18G Growler

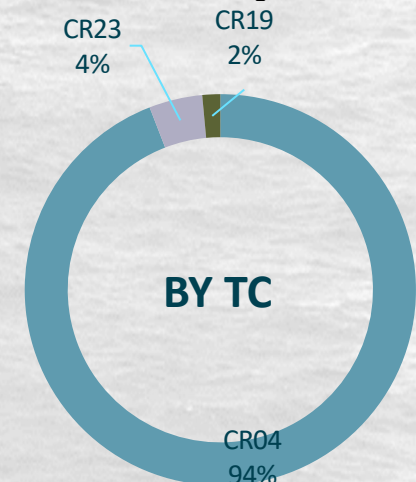
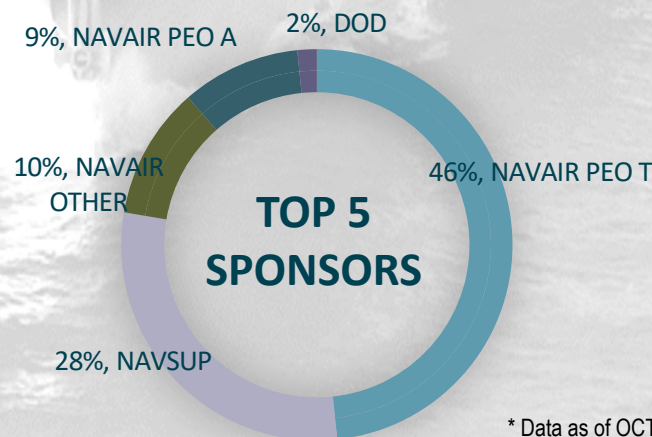
- AEASD takes great pride in continuing to build upon our commitment to excellence in everything we do. Our Business is built around honest relationships with our customers and our employees to develop unquestioned integrity in all of our dealings.

Product Areas

- ALQ-99 Tactical Jamming Systems
- Next Generation Jammer
- ALQ 218 (V)2/ ALQ-240 / JTT-R /JTT-Sr Receivers
- Radomes/ Composites

Key Technical Areas Core to Future

- Antenna Arrays
- EW Threats and Techniques / Mission Engineering
- RF Technologies
- Receivers
- Communications
- Composite Radome Technologies



* Data as of OCT2022 (DCPDS)/**Data as of SEPT2021 (FACILITIES)

* Data as of OCT2022 (EDW, Actual TOT COE)

Connect to Mission

Panel: Surface, Air, Expeditionary, and Radar Technologies

Mr. Roger Becker, *Deputy Department Director,
Spectrum Warfare (Facilitator)*

Connect to Mission

NETWORKING BREAK #2



Connect to Mission

Panel: Contracting

Ms. Nancy Maloy, *Technical Acquisition Deputy*
(*Facilitator*)

Spectrum Department Contracts Overview

February 6th, 2024



*CAPT Rex Boonyobhas, USN
Commanding Officer*

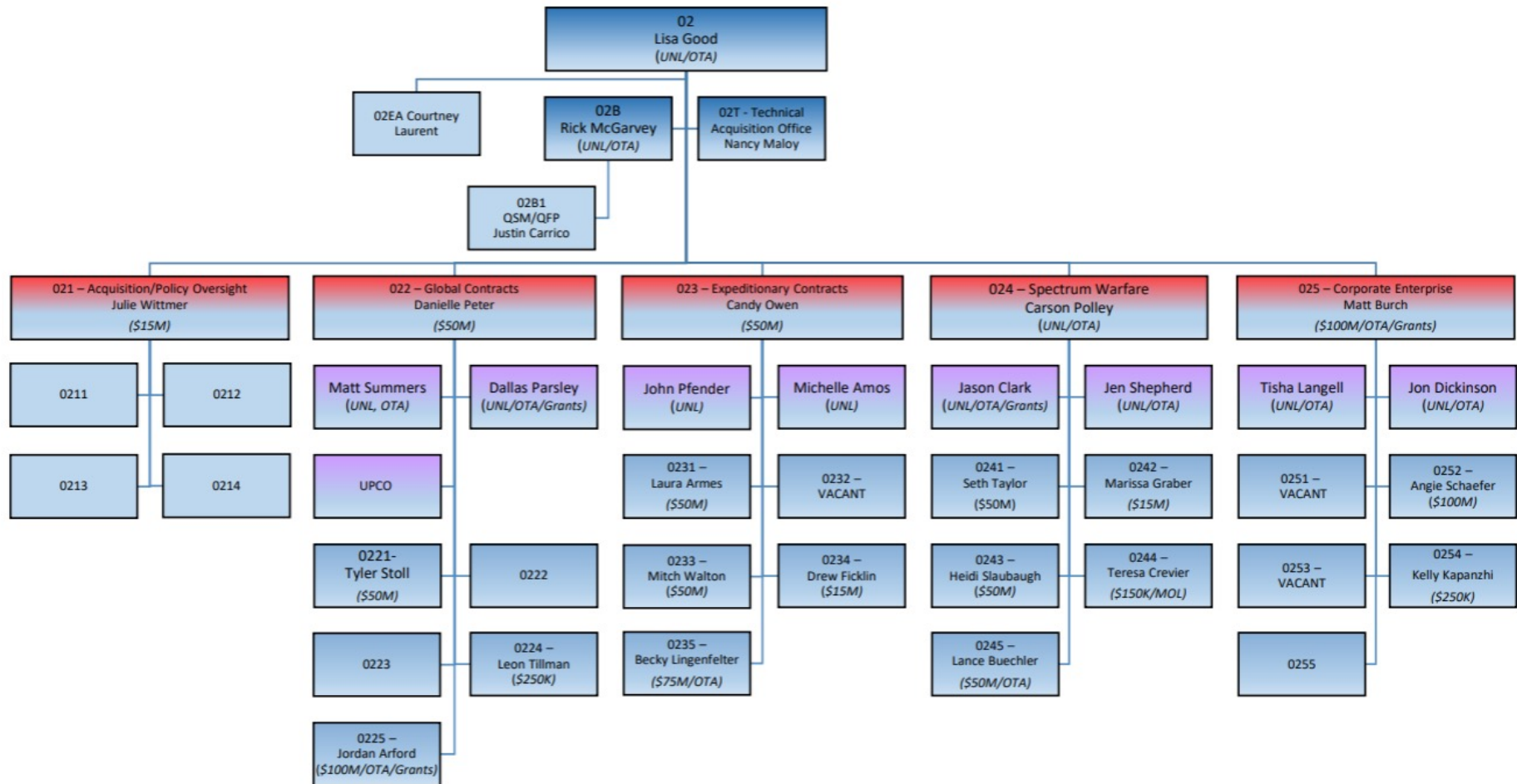


*Dr. Angela Lewis, SES
Technical Director*

- **Ms. Lisa Good – NSWC Crane Chief of Contracts**
- **Mr. Carson Polley – Division Director for Spectrum Contracts Division**
- **Ms. Teresa Brough – Deputy for Small Business (acting)**

- **Facilitator: Ms. Nancy Maloy – Technical Acquisition Deputy**

Contracts Department



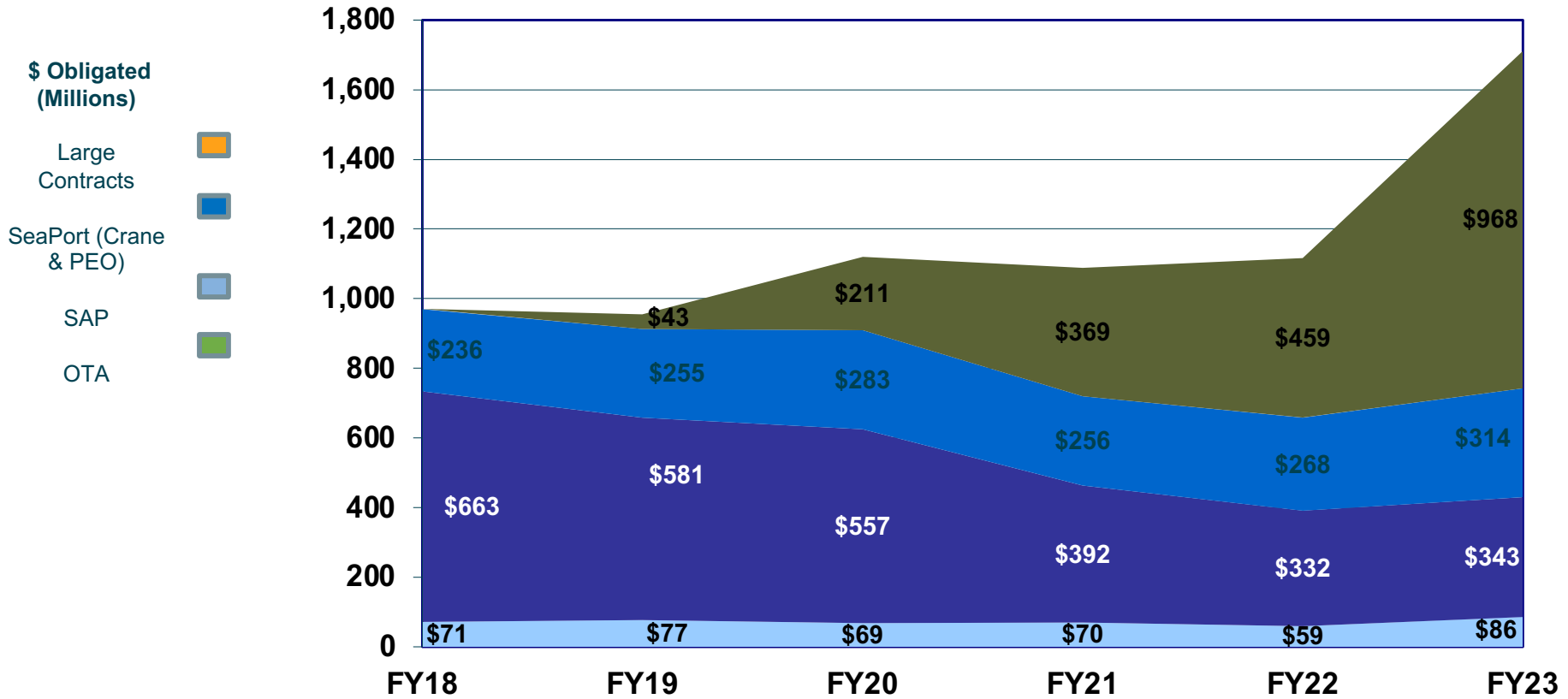
GUIDING PRINCIPLES



GOALS

- **GOAL 1: Transformation.**
 - Move into the future without compromising the quality, excellence, and gold standard reputation our historical methods have afforded us.
- **GOAL 2: Alignment.**
 - Combine our strong acquisition competence with innovative methods to deliver contracting solutions that differentiate NSWCC Crane, accelerates unique DOD capability, and engages top-level advocacy.
- **GOAL 3: Leadership Development.**
 - Invest in our current and emerging leaders in way that cultivates a leadership competency that adheres to the Contracts Department values and successfully executes our strategic objectives.
- **GOAL 4: Improve Partnerships.**
 - Create and maintain a climate of mutual trust, collaboration, & common purpose.

NSWC CRANE CONTRACT PORTFOLIO



The Crane Technology Transfer (T2) Office is issuing a Broad Agency Announcement (BAA) for the acquisition of Basic and Applied Research in support of Crane's 10 Technical Capabilities (TCs):

- Proposals in support of our TCs can be submitted by industry, academia or non-trationals**
- General Inbox available for submission of proposals**
- Initial proposals must be limited to 5 pages**
- Crane Technical communities will evaluate proposals for applicability, interest and funding**
- Detailed proposals will be requested for qualifying submissions**
- Submission to the BAA and acceptance by the technical community qualifies as competition**

LARGE / OTAs:

- <https://sam.gov/>

Simplified Acquisition Procedures (SAP):

- <https://sam.gov/>
- <https://GSAadvantage.gov>

SEAPORT:

- <https://seaport.navy.mil>

Other Transactions Authority (OTAs):

- <https://s2marts.org/> (Spectrum and Strategic Mission Areas)
- <http://emccrane.org/> (Expeditionary Mission Areas)

T2 BAA:

- <https://sam.gov/opp/3c494109d70d4083af226e61452f9550/view>

NSWC Crane Division Overview

Presented by:



CAPT Duncan McKay, USN
Commanding Officer



Dr. Angela Lewis, SES
Technical Director

Distribution Statement Pending

- **Introduction of New NSWC Crane Deputy for Small Business Professional**
- **Safeguarding Critical Unclassified Information**
 - CMMC Implementation
- **Small Business Utilization Emphasis**
 - Set-asides
 - Subcontracting

- Current Requirements NIST-SP 800-171
- Required in all solicitations and contracts, including FAR part 12 procedures for commercial products and services, except COTS items.
 - [252.204-7008](#) (Provision) , Compliance with Safeguarding Covered Defense Information Controls,
 - [252.204-7009](#) , Limitations on the Use or Disclosure of Third- Party Contractor Reported Cyber Incident Information, for services that include support for the Government’s activities related to safeguarding covered defense information and cyber incident reporting.
 - [252.204-7012](#), Safeguarding Covered Defense Information and Cyber Incident Reporting
 - [252.204-7019](#) (Provision), Notice of NIST SP 800-171 DoD Assessment Requirements
 - [252.204-7020](#), NIST SP 800-171 DoD Assessment Requirements

- **Future Requirement**

- **Cybersecurity Maturity Model Certification Program**

- **CMMC 2.0 proposed rule comments due 26 Feb 2024**

- **Implementation through Contracts:** CMMC 2.0 will not be a contractual requirement until the Department completes rulemaking to implement the program. The rulemaking process and timelines can take 9-24 months. CMMC 2.0 will become a contract requirement once rulemaking is completed.

- Notices are published in the Federal Register

OSD Resources

- [CMMC 2.0 Details and Links to Key Resources \(defense.gov\)](#)
- Project Spectrum published an initial assessment of "What You Need to Know" about CMMC 2.0:
<https://www.projectspectrum.io/#/blogdetail?id=762c98fc-db89-44b4-88ce-87c910c998ac>
- **DoD Chief Information Officer**
 - [CMMC Model \(defense.gov\)](#)
- **SBA Resources**
 - **Cyber Security Requirements**
 - [Basic requirements | U.S. Small Business Administration \(sba.gov\)](#)
- **APEX Accelerators**
 - [APEX Accelerators](#)
- **DoD OSBP**
 - [Cybersecurity Awareness Month \(defense.gov\)](#)

- **DoD, SECNAV and NAVSEA leadership all emphasizing increased use of Small Business**
 - **Actions for Small Business Professionals (SBPs) at each Command**
 - **Challenge Consolidation/Bundling**
 - Notices required in GPE (SeaPort / sam.gov)
 - **Carve out portions of requirements for SB Set-Asides**
 - Direct communication with SBP regarding RFI submissions (nswc_crane_dsb@us.navy.mil)
 - **Subcontracting Goals**
 - **Positive Goals/Commitments**
 - Subcontracting Plan Requirement vs. Participation Requirement
 - **Good faith effort**
 - **Meaningful reviews by PCOs**

Connect to Mission

Panel: Contracting

Ms. Nancy Maloy, *Technical Acquisition Deputy*
(*Facilitator*)

Connect to Mission

Mr. Brian “Hinks” Hinkley

President, Association of Old Crows (AOC)





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WHY HERE, WHY NOW?

Crane Regional Defense Group Spectrum Warfare 2/6/24



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CAPT Brian "Hinks" Hinkley, USN (ret)

- President, AOC 2023-2024
- Vice President, Development, Engineering, and Integration, *Amentum* 2010-2024
- Naval aviation ECMO 1985-2010
- CCG-4 Surface Warfare EWO 1990-1992
- Joint CREW Composite Squadron ONE 2005-2006



JOIN THE AOC
It pays to be a member!



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EW focus - why now?

"Whoever controls the electromagnetic spectrum on the battlefield will win the next war."

Admiral Sergei Gorshkov, former Commander of Fleet, Soviet Navy, 1956

"The side that seizes electromagnetic superiority is the side that will have the combat initiative."

Major General Yuan Banggen, Head of the Information Division of the PLA, China (1990s)

"Future conflicts will be won in a new arena - that of the electromagnetic spectrum and cyberspace. We must merge, then master those realms."

ADM Greenert, CNO - but unfortunately over 10 years ago

EW focus - why now?

NDAA

President signed **NDAA into law**

- Dedicated Section in the NDAA - **Chapter 25 – Electromagnetic Warfare (EW)**
- **SECDEF EMSO Executive Committee (EC)** for EW/EMSO - Flag-led group and an appointed EMSO Capability Team
- Annual report to the congressional defense committees by the end of February of each year 2024-2030
 - Annual report on the DoD EMS Superiority Strategy (EMS3) and
 - Annual assessment of budget on whether sufficient funds are requested in the budget for JEMSO EMBM.
- **DoD CIO** - oversight of 2021 EMS Superiority Implementation Plan (EMSSIP)
- Annual requirement to report to the congressional defense committees on the progress of actual implementation, including impacts and explanations of any deviations.

CHALLENGE: Sustain critical resourcing whether we are in combat or in peacetime

- **STRATCOM** Joint EMSO (JEMSO) Operational Lead reporting to CJCS on Combatant Command JEMSO readiness (Commander, **JEMSOC** - MG Anthony)
- NDAA requires **Service Chiefs** to evaluate EMSO ability mission required by the EMS3, the JS CONOPS for EMSO, COCOM OPLANS and CONPLANS including:
 - **Current PORs** - weapon systems performance in contested EMEs (and EA to disrupt adversary operations)
 - **Future PORs** (including the need for distributed or network-centric EW and SIGINT capabilities)
 - Automated and machine learning- or artificial intelligence-assisted EMSO capabilities
 - Individual and unit training
 - TTP (including maneuver, asset distribution, decoy usage; and integration of non-kinetic and kinetic fires.

Getting a dedicated section in the NDAA doesn't guarantee success, but ...



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EW focus - why now?

Major Combat Ops Worldwide

- EW saving lives having direct, positive impact & saving lives every day
 - **Red Sea**
 - 25 ASBMs
 - 9 ASCMs (Mahan, Graveley, ...)
 - 43 One Way Attack (OWA) UASs have been used in the Red Sea from Houthi Terrorists
 - **Israel-Palestine**
 - Tiny, low power drones and countermeasures
 - Mono Backpackable Electronic Attack Module (M-BEAM) which can detect, identify, locate, and attack drones and associated communication devices.
 - **Scorpius-G** can sit outside the Gaza Strip but affect the electromagnetic environment within
 - **Ukraine** – (13 Jan) 20 Russian missile successful defense events attributed specifically using new EW **Pokrova** system (Suppresses satellite radio navigation, disrupts cruise missiles and Shahed drones)





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Return on investment!



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EW focus – why here?

Spectrum Warfare Systems Department

- Recognized as the national leaders in Force Level EW
 - influencing EW operations through doctrine, TTP, CONOPS, etc.
 - creating multi-domain and full spectrum EW solutions
- **Platform Protection and Countermeasure Technologies Division (WXR)**
Laser based Countermeasures, Optical Warfare, RF-based Countermeasures, RF M&S
- **Radar Technologies Division (WXP)**
Systems, electrical and mechanical engineering
- **Electromagnetic Warfare Science and Technology Division (WXV)**
Early R&D with ONR, DARPA, SECDEF, FFC
- **Force level Electromagnetic Warfare Division (WXY)**
FLEX, FIRES, NIFC-EW, MBSE, SWAT
- **Airborne Electronic Attack Systems Division (WXS)**
EA, AESA, MBSE, AI/ML, SDR
- **Maritime Electronic Warfare Systems Division (WXM)**
PEO IWS 2, SEWIP, SLQ-32 (V), Decoys, expendables,
- **Expeditionary Electromagnetic Warfare Systems Division (WXQ)**
DRAKE/CUxS, Modi, JCREW/CIED, all Services

Connected to the warfighter



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EW focus – why here?

Airborne

- AEA
 - EA-6B/EA-18G ALQ-99, NGJ
 - NAVAIR PMA-234, -265
 - PROWLER/GROWLER SUCCESSES IN IRAQ AND AFGHANISTAN ENABLED BY NSWC CRANE ENGINEERS
 - IRCM R&D/S&T



EW focus – why here?

Maritime

- **MEW**
 - **SLQ-32(V)3, 4, 6, 7**
 - **NULKA AND OTHER DECEPTION DEVICES**
 - **MISSILE DEFENSE SUCCESSES ENABLED BY NSWC CRANE ENGINEERS**
 - **NIFC-EW, EMW**



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EW focus – why here?

- EXPEDITIONARY
 - JCREW/C-IED/&UAS



- EFFECTIVENESS IMPROVED X 100
 - 20 → .2

EW saves lives in combat

Expeditionary



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GET OFF THE STAGE!

1. THE TIME IS NOW

Electromagnetic Warfare Capability Gaps & Enabling Technologies Conference JUN 25-27, 2024

AOC International Symposium DEC 12-14, 2024

2. THE EW COMMUNITY AND THE FUTURE OF EW IS HERE

JOIN TODAY!

[CROWS.ORG](https://crows.org)

Brian Hinkley
president@crows.org



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THANK YOU



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APRIL 15 & 16

Hosted by the Jasper Chamber of Commerce at the
French Lick Resort and Casino.



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SHARE, ENGAGE!**



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LinkedIn: Crane Regional
Defense Group

CRANE REGIONAL
DEFENSE GROUP



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THANK YOU

Please join us for Purdue Research Foundation's Tech Tuesday event!

Featuring: Purdue Applied Research Institute

PURDUE@WESTGATE

FIRST Tuesday

FEATURED TOPIC:

PURDUE APPLIED RESEARCH INSTITUTE: FUTURE INVOLVEMENT WITHIN WESTGATE@CRANE

TUESDAY, NOVEMBER 7 | 4:00PM - 6:00PM EST
WESTGATE ACADEMY

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CHIEF EXECUTIVE OFFICER AND PRESIDENT
OF THE PURDUE APPLIED RESEARCH
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S²MARTS
BY NIST/3A

The poster features a portrait of Mark Lewis, a man in a suit and glasses, with his arms crossed. The background is dark with white stars and a light-colored brushstroke effect.

**CRANE REGIONAL
DEFENSE GROUP**
★★★★★



Connect to Mission

SAVE THE DATE

NEXT C2M: Tuesday, June 4

**Featuring: NSWC Crane's
Global Deterrence & Defense Department**

