

OSD's Energy
Technology
Demonstration
Program

Environmental Security Technology Certification Program (ESTCP)

Tim Tetreault, ESTCP Program Manager

Dr. Mike Chipley, PMC Group – Cybersecurity Consultant

November 9, 2021



Outline

- SERDP-ESTCP Overview
- Installation Energy and Water (EW) Program Area
- Active Projects
- Cybersecurity Process and Resources

DoD's Environmental & Energy Technology Programs



Strategic Environmental Research and Development Program

SCIENCE AND TECHNOLOGY

- Fundamental research to impact DoD environmental land management
- Advanced technology development to address near-term needs



Environmental Security Technology Certification Program

DEMONSTRATION/VALIDATION

- Innovative cost-effective environmental and energy technology demonstrations
- Promote technology implementation by direct insertion and partnering with end users and regulators

Program Area Management Structure

COMMON REQUIREMENTS AND SCHEDULE

Installation Energy & Water

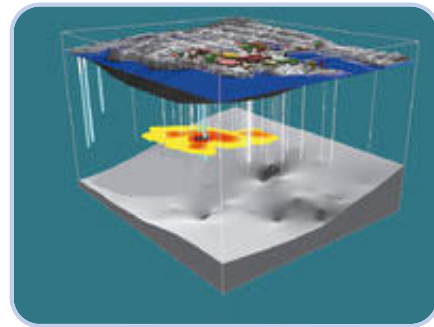
Munitions Response



Resource Conservation & Resiliency



Environmental Restoration



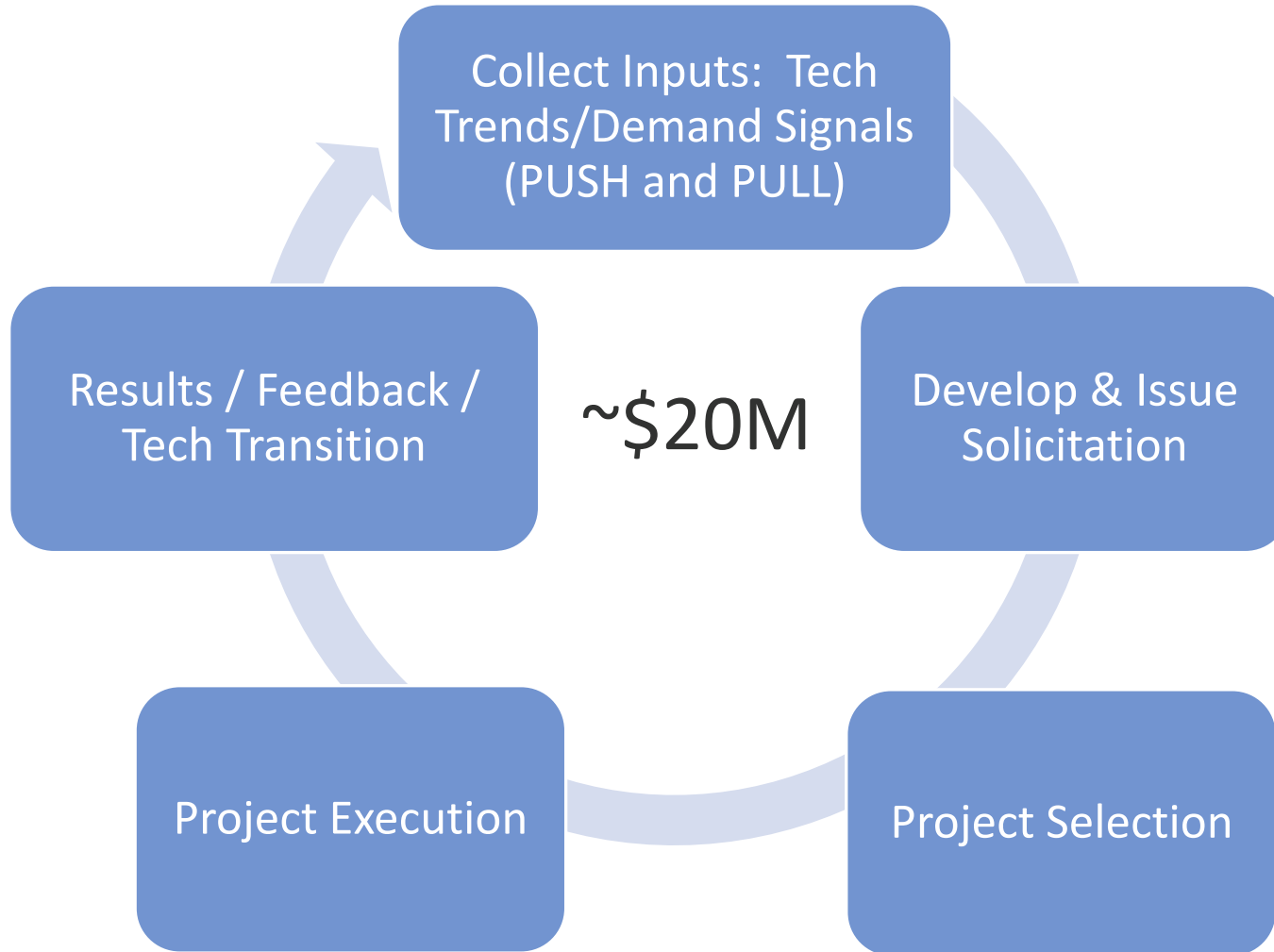
Weapons Systems & Platforms

CENTRALIZED MANAGEMENT AND COORDINATION

Advance and sustain DoD installation mission capabilities by:

- ***Identifying high impact technologies***
that can improve DoD EW efficiency and resilience,
- ***Contributing to the body of knowledge***
that informs energy and water tech investments, and
- ***Enabling accelerated transfer and deployment***
of proven technologies across DoD.

Process and Participants



Technical Committee

Air Force (AFCEC)

Army (HQDA, USACE-CERL,

Navy (NAVFAC, EXWC)

OSD (ODASD-Energy)

DOE (BTO, ARPA-E, FEMP)

GSA (GPG)

EPA

MIT-LL

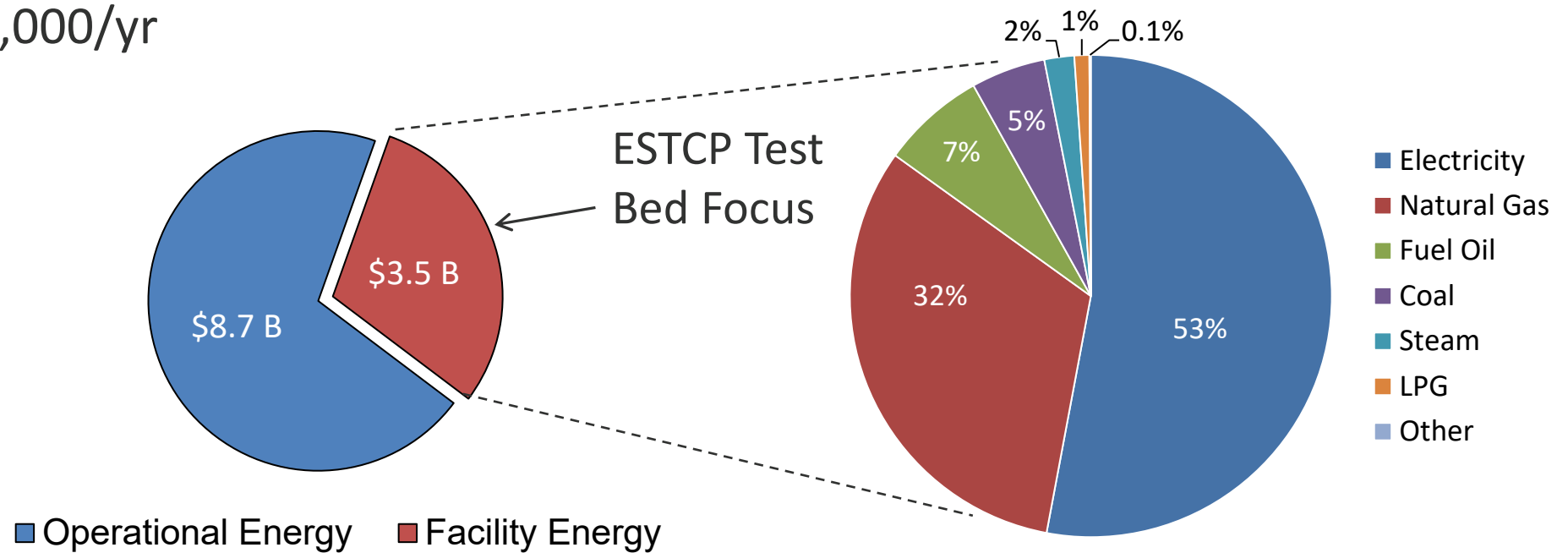
Technical Advisors

DOE Labs (NREL, LBNL, PNNL)

Private Consultants (Cyber)

Installations – Infrastructure and Energy

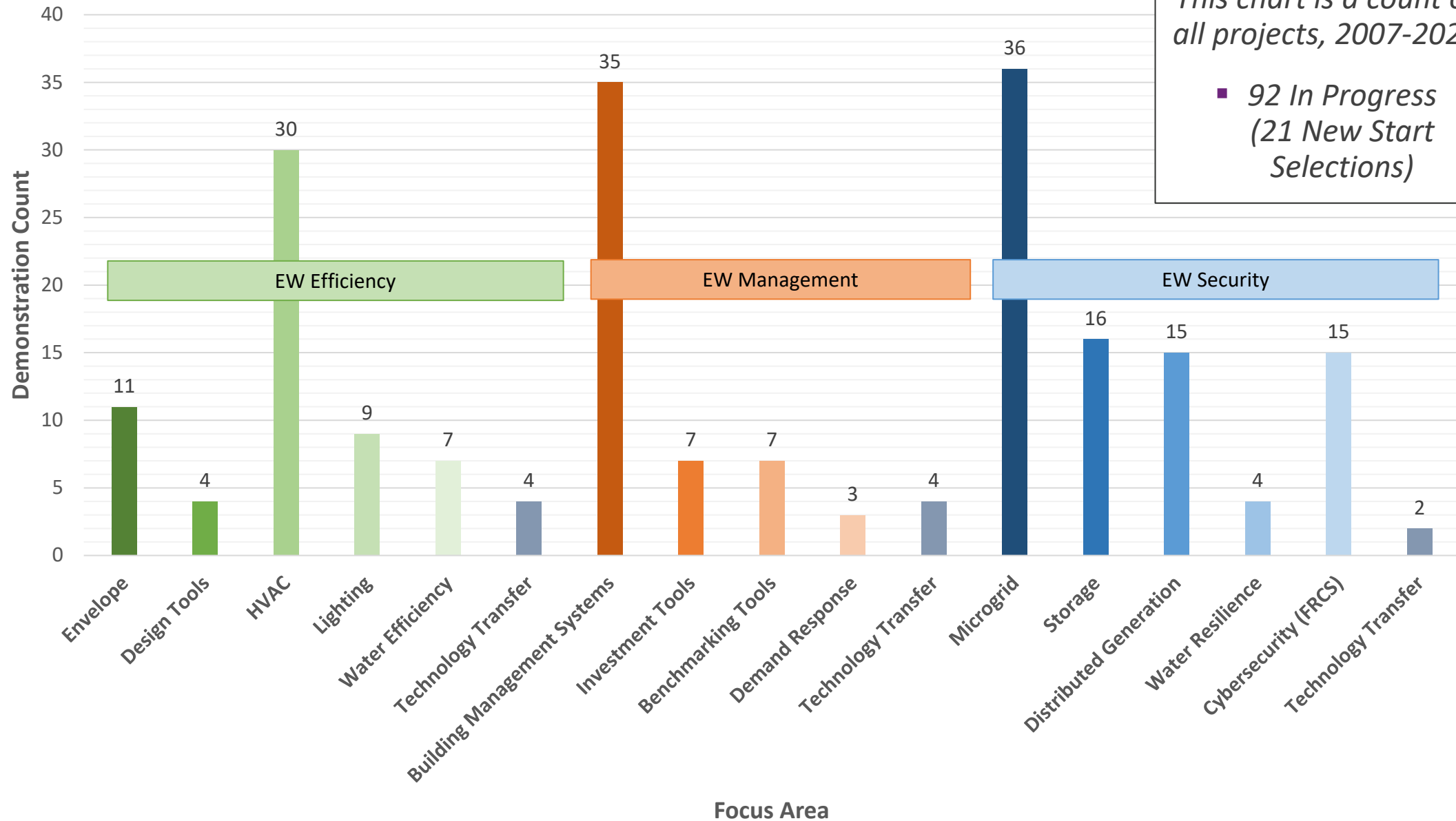
- 500 Installations
- 300,000 facilities - buildings, utilities, runways etc.
- 200,000,000 MBtus/yr
- \$3,500,000,000/yr



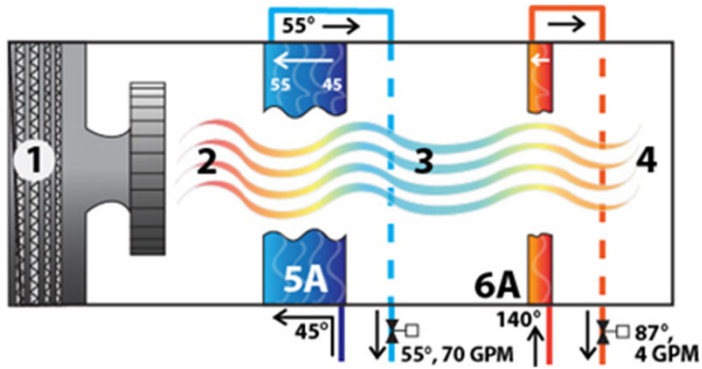
ESTCP EW Demonstrations by Focus Area

This chart is a count of all projects, 2007-2021

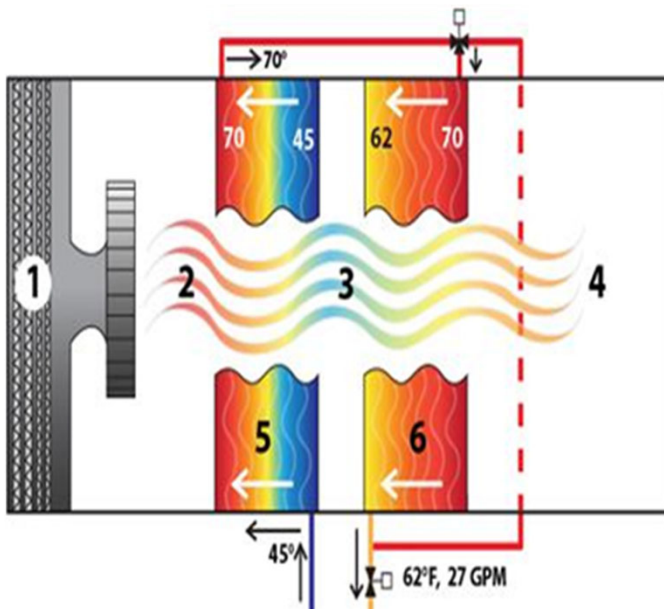
■ 92 In Progress
(21 New Start Selections)



Traditional AHU – Dehumidification/Reheat



High Efficiency Dehumidification System (HEDS)

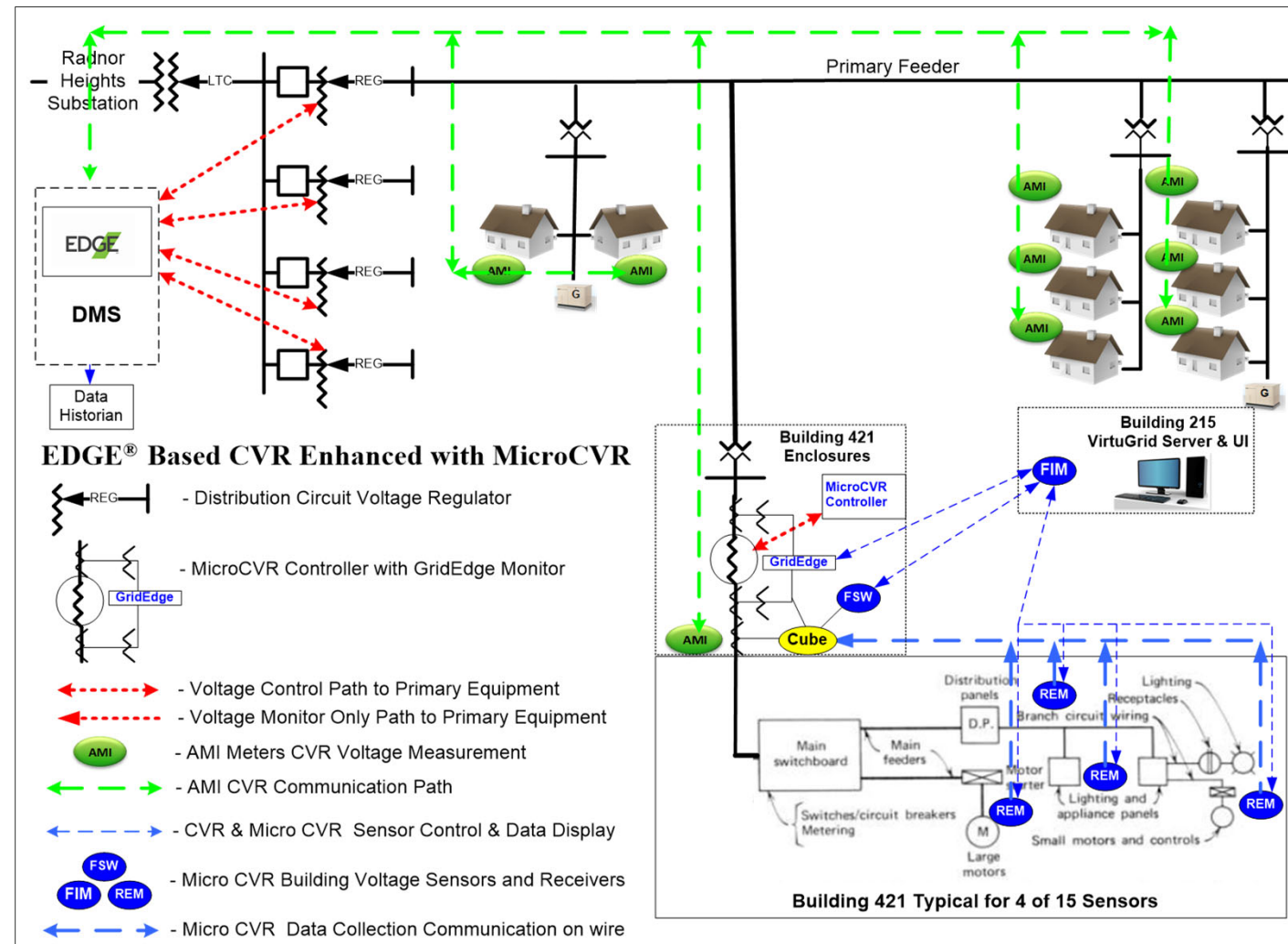


EW-201344: High Efficiency Dehumidification System (HEDS)

- **Technology:** The HEDS technology is very simple, comprised of a standard AHU with two deep, low face velocity heat transfer coils: a cooling coil and a cooling recovery coil. The first coil does the cooling and dehumidifying, the second coil uses the warm water leaving the cooling coil and does the reheating for RH control and cuts the loads on the chiller and boiler plants.
- **Demonstration Results:**
 - Cooling load savings are relative to incumbent systems and ranged from 20% to 30%
 - Relative humidity control was improved
 - Simple design reduces maintenance burden
 - Larger coils require more space than traditional design
 - Follow-on projects to facilitate technology transition
- **Demonstration Site:**
 - Fort Bragg, NC
 - Tinker AFB, OK
- **Performers:**
 - Datzhen Chu (USACE-CERL), Scot Duncan (Conservant Technologies)

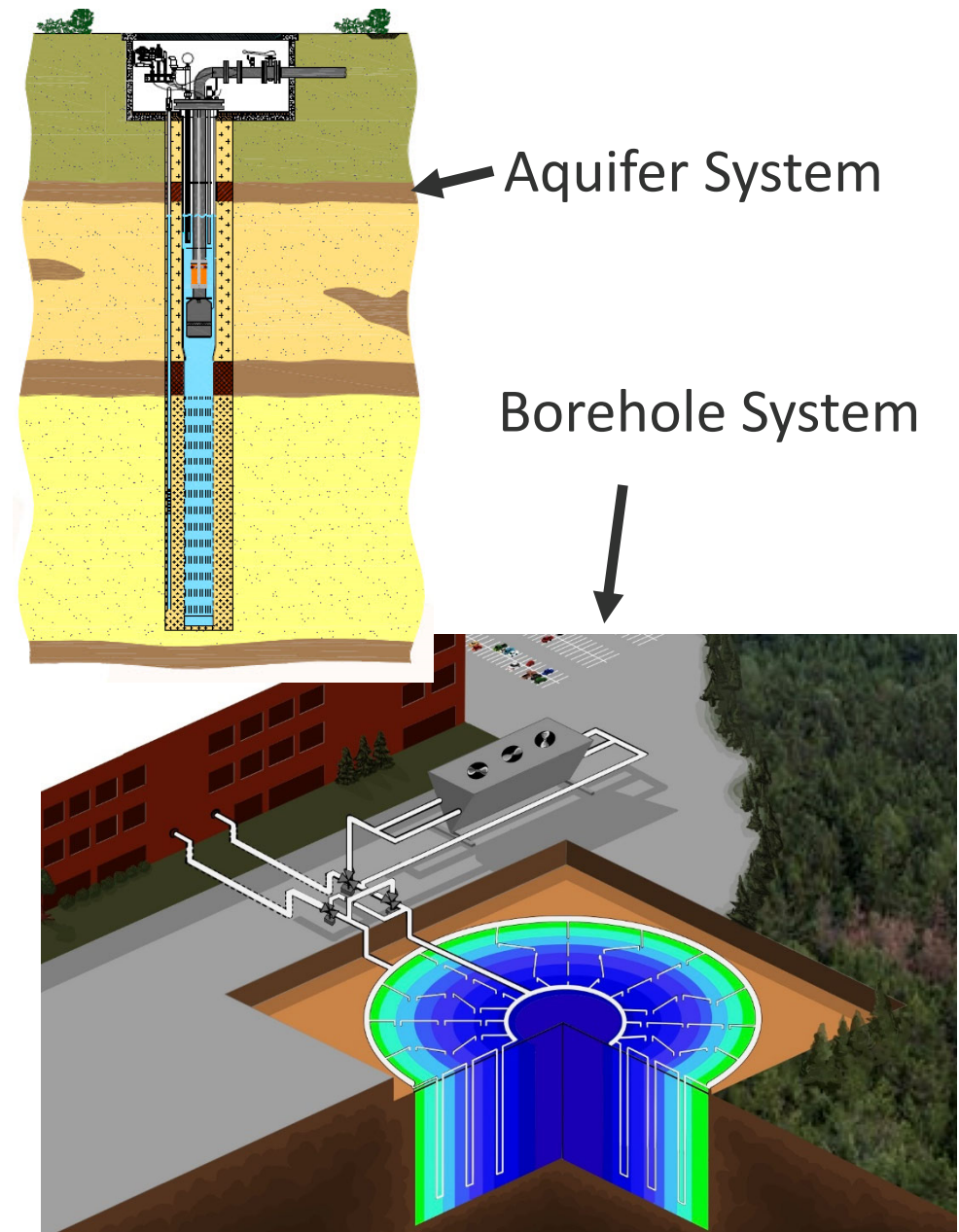
EW-201519: Utilization of Advanced Conservation Voltage Reduction (CVR) for Energy Reduction on DoD Installations

- Technology:** CVR is an automated system-level voltage reduction technology that optimizes voltage to continuously reduce energy consumption. MicroCVR applies the the same electrical principles at the building-level to improve performance by using high-speed voltage regulation and appliance level monitoring.
- Results:**
 - 3.7% site-wide electrical energy savings over the 12 month demonstration period.
 - 5% building-level energy savings for specific loads. MicroCVR results depend heavily on the size and type of building loads.
- Demonstration Site:**
 - Joint Base Myer-Henderson Hall, VA
- Performers:**
 - Brandon Stites, Dominion Power

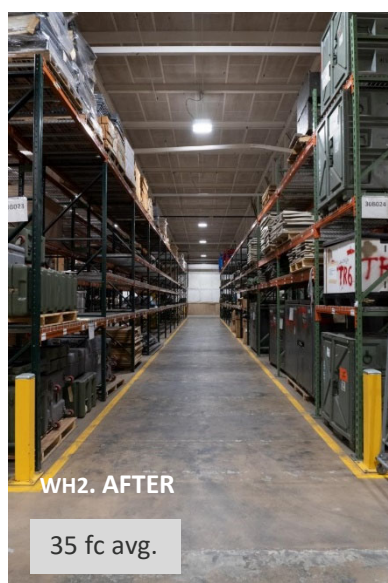
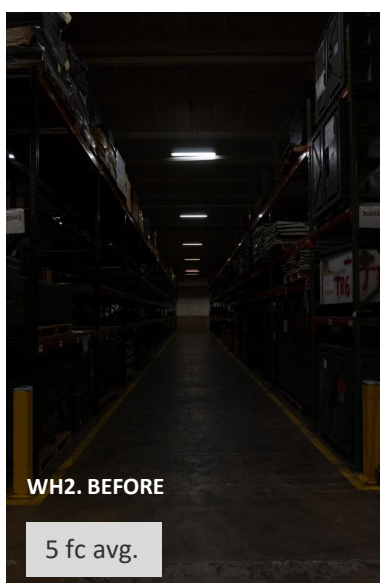


EW-201135, 18-5311: Geothermal Heat Pumps with Underground Thermal Energy Storage (UTES)

- **Technology:** Utilizes ground water or geology to serve as the building's heat source, heat sink, and underground thermal storage system to capture the building's own waste heat and waste cold to efficiently heat and cool the building in the respective season.
- **Performance Objectives:**
 - Reduce building's HVAC energy consumption by 40-50% .
 - Reduce building HVAC water consumption by 80-100%.
 - Eliminate on-site carbon emissions associated with water heating.
- **Demonstration Sites:**
 - MCLB Albany, GA
 - Fort Benning, GA
 - Pensacola Naval Air Station (pending)
 - Joint Base Langley Eustis (pending)
- **Performers:**
 - Chuck Hammock | Andrews, Hammock, and Powell
 - Eric Myers | Gulf Power Company
 - Chuck Hammock | Andrews, Hammock, and Powell



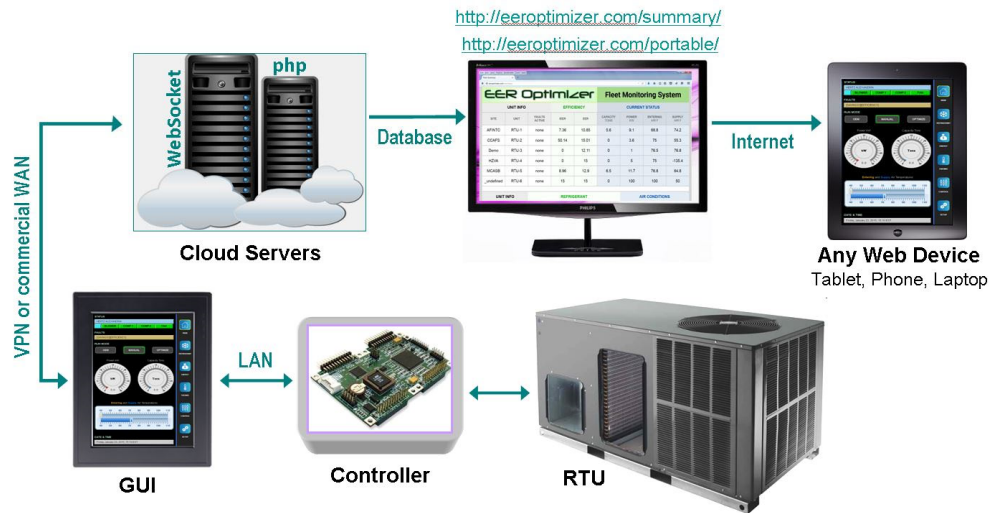
EW-201718: Validating the Digital Lumens LED Lighting Control Retrofit



Dimmest spot under wing is brighter than brightest spot in empty hangar with original lights

- **Technology:** Automated LED lighting retrofit system in a variety of DoD building types. Digital Lumens Intelligent Lighting System uses wireless communication to control lights. Test will validate Connected Light Engine for high-bay applications and Linear Light Engine for linear fluorescent tube retrofits.
- **Project Results:**
 - 55% lighting energy savings vs. as-found (underlit)
 - 85% lighting energy savings vs. properly-lit
 - Simple payback under 5-years
 - Fixture install time of 15-minutes
 - Lighting levels meet ANSI/ASHRAE standards.
 - Demonstrated resilient operation – fail-safe.
- **Demonstration Site:**
 - Westover Air Reserve Base, MA
- **Performers:**
 - Bryan Urban | Fraunhofer USA, Inc.

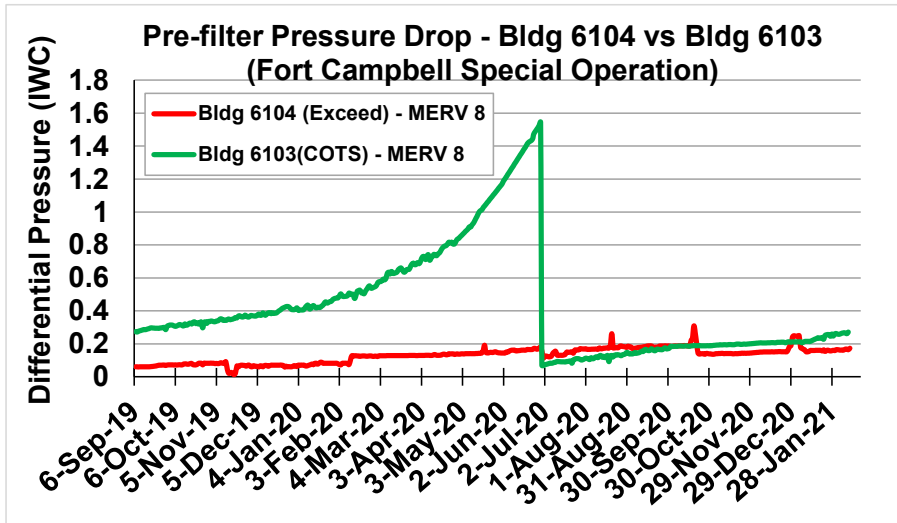
EER Optimizer



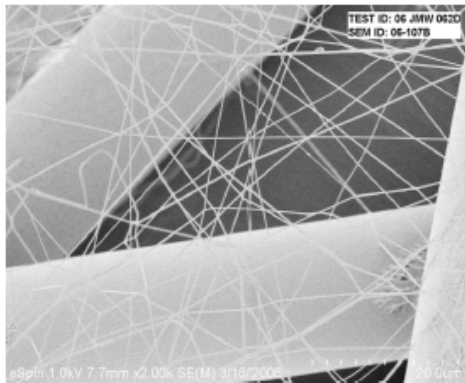
EW-201717: Next Generation Advanced High Efficiency DX Air-Conditioner Demonstration

- **Technology:** Features performance optimization including: control of airflow and refrigerant level and flow, remote fault detection and diagnostics, independent control of sensible cooling and dehumidification, and remote monitoring.
- **Demonstration Results:**
 - 45% improved efficiency over new EER 12.5 unit.
 - Fort Irwin site: 64% reduction in HVAC energy use.
 - Cape Canaveral site: 48% reduction in cooling energy use.
 - Improved dehumidification capability over standard unit.
 - Simple payback 4-8 yrs
- **Demonstration Site:**
 - Fort Irwin, CA
 - Cape Canaveral Air Force Station, FL
- **Performers:**
 - Michael West | Advantek Consulting

EW-201724: Nanofiber-Based Low Energy Consuming HVAC Air Filters

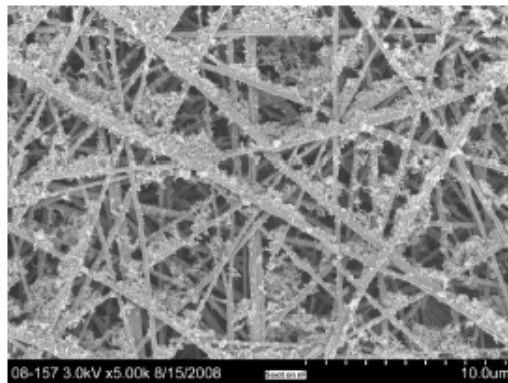


- **Technology:** Nano-enabled HVAC air filtration systems to reduce energy consumption and operational cost of heating, cooling, and air purification in buildings. The filter uses small-diameter nanofiber structure with small interstitial spaces to capture contaminants.
- **Demonstration Results:**
 - 40%-70% reduction in O&M costs
 - 3x-4x longer lasting.
 - Maintain occupant comfort and indoor environment quality
 - 15-30% reduction in fan energy.
- **Demonstration Site:**
 - Arnold Air Force Base, TN
 - Redstone Arsenal, AL
 - Fort Campbell, TN
 - Fort Benning, GA
- **Performers:**
 - Jayesh Doshi | eSpin Technologies, Inc.



Nanofiber medium

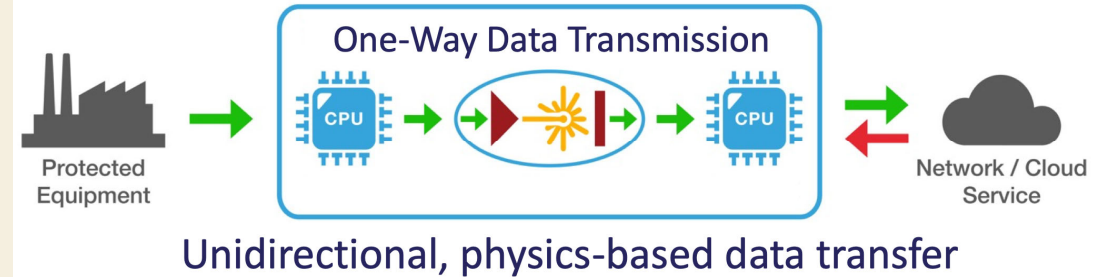
Scale: 1 in ~ 20 micrometers



Weld Dust on nanofiber

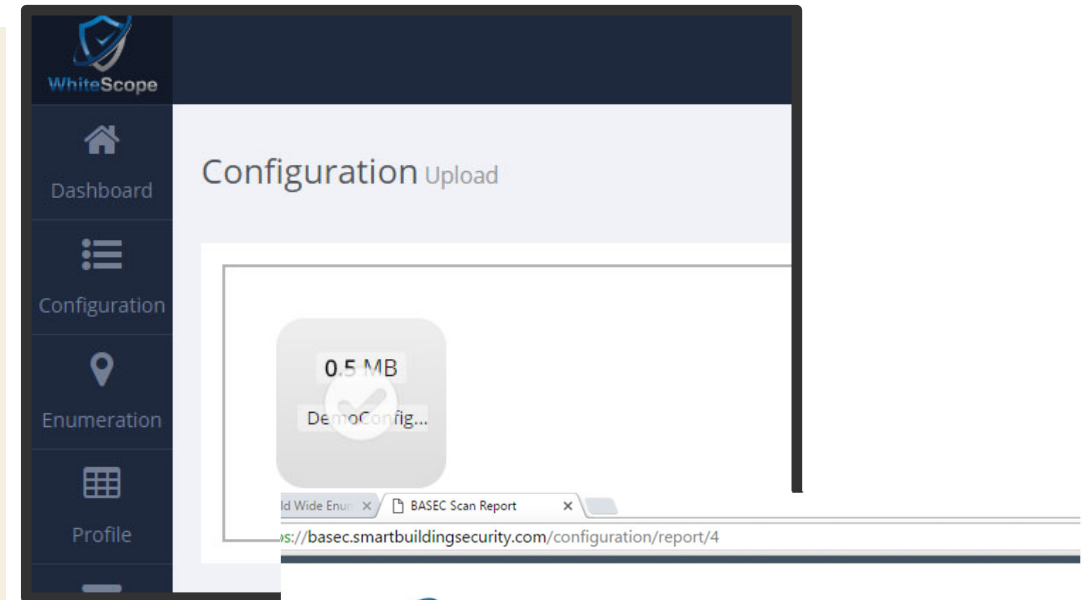
EW19-5156: Low-Cost, Plug-and-Play Data Diodes for Protection and Monitoring of DoD Facility Equipment

- **Technology:** Low-cost data diode cybersecurity hardware that extracts data from a control network or building automation system and transmits it in a physically-enforced, one-way manner to remote SCADA systems or monitoring platform for improved operational awareness.
- **Performance Objectives:**
 - Determine compatibility with DoD building equipment portfolio.
 - Measure reliability and accuracy of data transmission
 - Demonstrate ability to block inbound cyberattacks.
 - Meet cost target of <\$5,000/unit
- **Demonstration Site:**
 - Performance tests: USACE ERDC-CERL, Champaign, IL
 - Penetration tests: Army Threat Systems Management Office (TSMO), Redstone Arsenal and Navy Control system Testbed.
- **Performers:**
 - Colin Dunn | Fend Incorporated
 - Tapan Patel | CERL



EW18-5333: Building Automation System Enumeration and Configuration (BASEC)

- **Technology:** BASEC protects organizations by providing scalable means to identify, baseline, and certify the cyber security configuration for building automation systems.
- **Demonstration Results:**
 - 90% coverage of BAS vendor devices.
 - 99% accurately parsed by analysis engine
 - 99% accurately identified findings.
 - >75% reduction in labor hours.
 - Follow-on project to demonstrate continuous monitoring
- **Demonstration Site:**
 - Fort Meade, MD
 - Langley AFB, Lackland AFB, Andrews AFB, Beale AFB
 - Fort Gordon
- **Performers:**
 - Billy Rios, Jonathan Butts | QED Secure



BASEC Configuration Analysis Report

June 30, 2016

Summary (Executive)

The BASEC Configuration Analysis has completed its evaluation of:

(1) Tridium Niagara Configuration File

A total of (18) findings were discovered, (8) of which are rated critical in nature. Critical security issues provide an exposure which an unauthorized entity remote access to the Building Automation System. Whitescope suggests critical issues be addressed immediately from a security standpoint. In addition to the critical risk vulnerabilities, the BASEC client also identified several other security issues associated with these findings are provided in the report below.

Tridium - DemoConfig.xml

Summary

Critical	High	Medium	Low	Info
8	7	1	2	0

Details

Severity	Name
----------	------

Operational Technology and FRCS

https://serdp-estcp.org/Tools and Training/Installation Energy and Water/Cybersecurity/Overview of PIT, OT & FRCS

Capital One Credit Cards, Bank... Industrial Control Systems (ICS)... Overview of PIT, OT & FRCS x DFARS 252.204.7012 -- Bing

Capital One Credit Cards, B... USAA Login TD Ameritrade Login Wells Fargo - Banking, Cre... Welcome to EFTPS online VA Taxes ShareFile - Where Compani... LinkedIn Cybersecurity WBDG WhoL...

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DoD's Environmental Research Programs

Home About SERDP and ESTCP Program Areas News and Events Featured Initiatives Tools and Training Funding Opportunities Investigator Resources

Tools and Training
Webinar Series
Installation Energy and Water
Cybersecurity
Overview of PIT, OT & FRCS
Architecture, Networks & Components
Design and Commissioning
Test and Development Environment
Continuous Monitoring & Auditing
Registering FRCS in eMASS, OITPR, SNAP-IT
Legislation, Instructions, Manuals, Policies, Plans and Memos

Home > Tools and Training > Installation Energy and Water > Cybersecurity > Overview of PIT, OT & FRCS

Platform IT, Operational Technology and Facility-Related Control Systems

Department of Defense Instruction (DoDI) 8500.01, Cybersecurity, and DoDI 8510.01, Risk Management Framework (RMF) for DoD Information Technology (IT), incorporate Platform IT (PIT) into the RMF process. PIT is a category of both IT hardware and software that is physically part of, dedicated to, or essential in real time to the mission performance of special purpose systems. PIT is further categorized as PIT products, PIT subsystems, or PIT systems. PIT differs from "traditional" IT in that it is integral to – and dedicated to the operation of – a specific platform. Although the term PIT is used only by DoD, the concept of categorizing components and systems dedicated to the operation of a specific platform is not. For example, within the private sector, the term "Operational Technology" (OT) is also used to refer to these systems and components.

The most common forms of Energy, Installation and Energy (EI&E) PIT are Facility-Related Control Systems (FRCS), which are a combination of control components (e.g., electrical, mechanical, hydraulic, or pneumatic, etc.), special purpose controlling devices, and standard IT that act together upon underlying mechanical and/or electrical equipment to achieve an objective (e.g., transport of matter or energy, maintain a secure and comfortable work environment, etc.). All automated control systems are considered PIT. Industrial Control

PRINT

Program Areas
→ Installation Energy and Water

Featured Initiatives
→ Energy Assurance and Resilience

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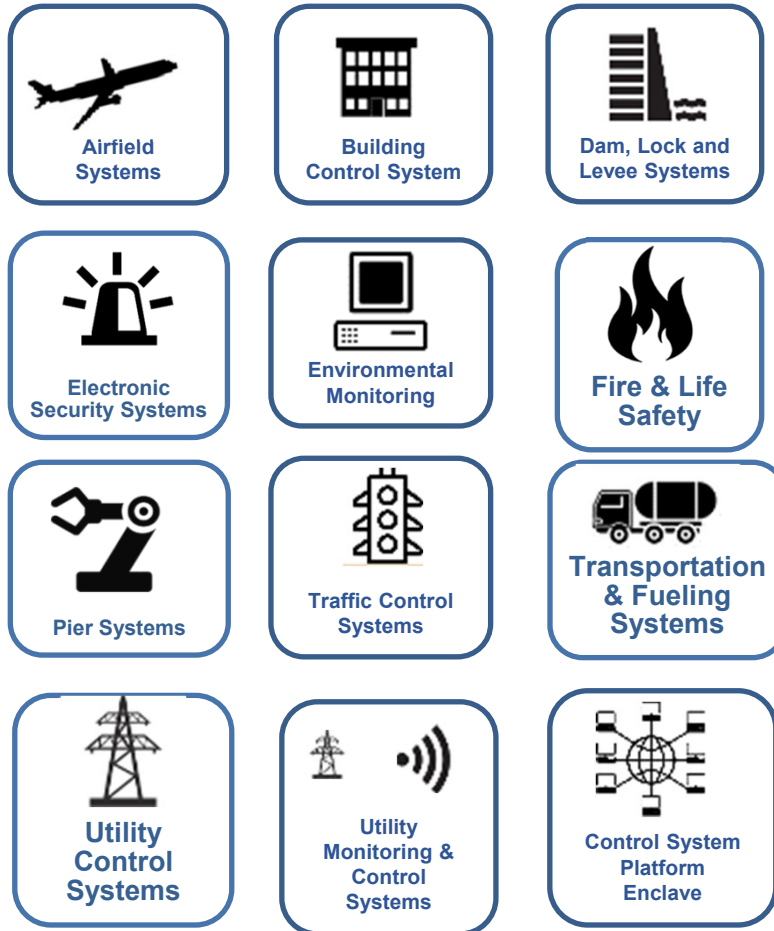
Type here to search

3:34 PM
4/5/2019

https://serdp-estcp.org/Tools-and-Training/Installation-Energy-and-Water/Cybersecurity

DoD Facility Related Control Systems (FRCS)

Categories

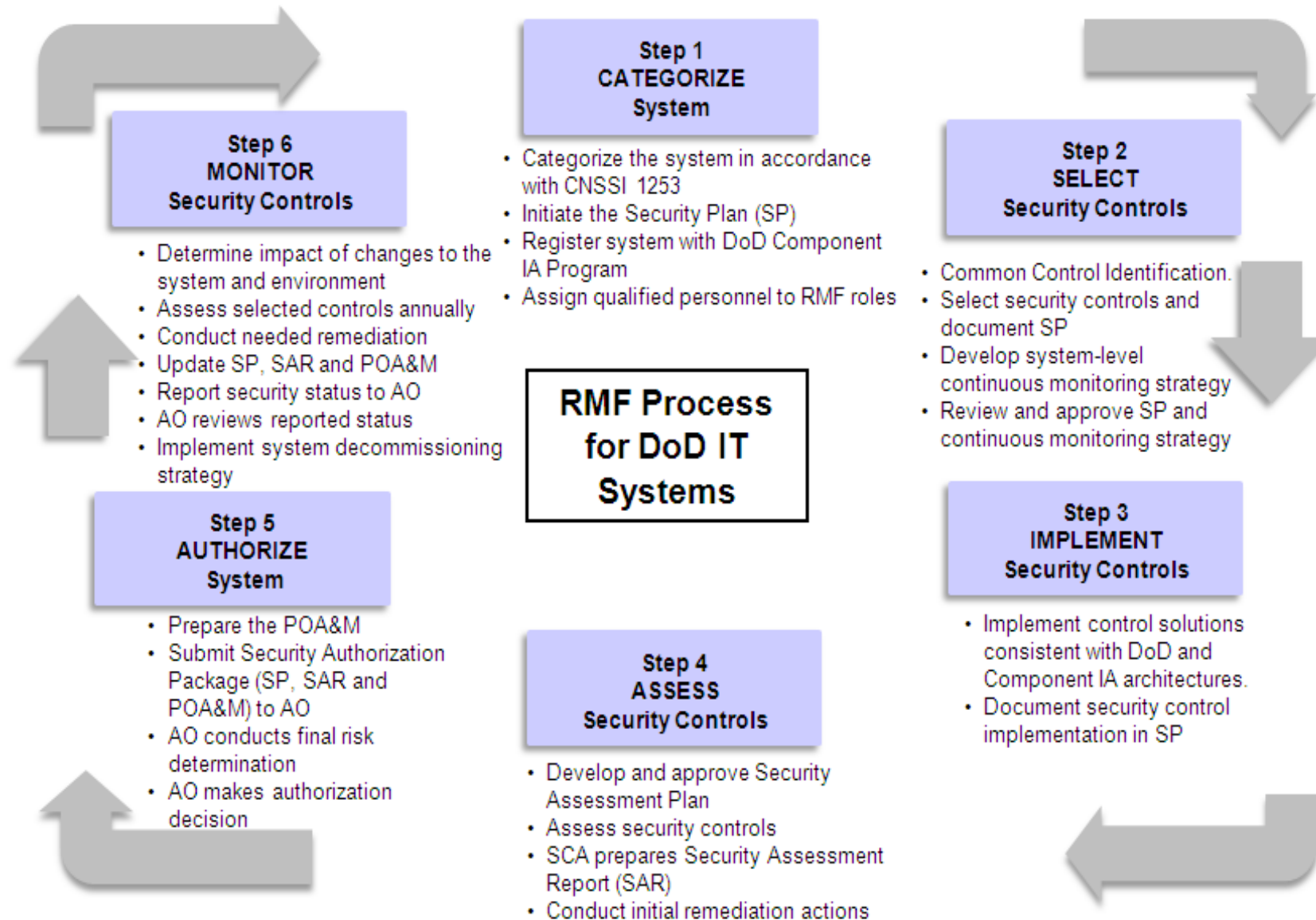


Systems

- Building Automation System
- Building Lighting System
- Conveyance/Vertical Transport System
- Electrical Systems
- Heating, Ventilation, Air Conditioning
- Irrigation System
- Shade Control System
- Vehicle Charging System
- Cathodic Protection Systems
- Compressed Air (Or Compressed Gases) System
- Central Plant (District) Chilled Water System
- Central Plant (District) Electrical Power Production
- Central Plant (District) Hot Water System
- Central Plant (District) Steam System
- Electrical Distribution System
- Gray Water System
- Industrial Waste Treatment System
- Microgrid Control Systems
- Natural Gas System
- Oily Water/Waste Oil System
- Potable Water System
- Pure Water System
- Salt Water System
- Sanitary Sewer/Wastewater System
- Utility Metering System (Advanced Meters, AMI, etc.)
- *Many More...*

DoD Control Systems are just as vulnerable as industry, how do we protect them?

FRCS Overlay & RMF Implementation



UFC Reference Architecture

Air Force

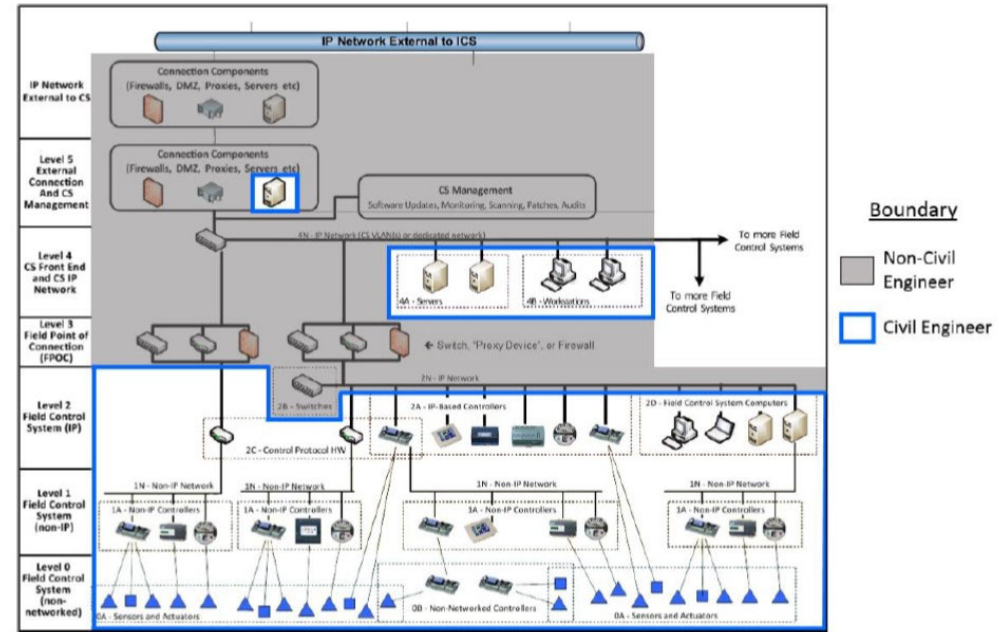
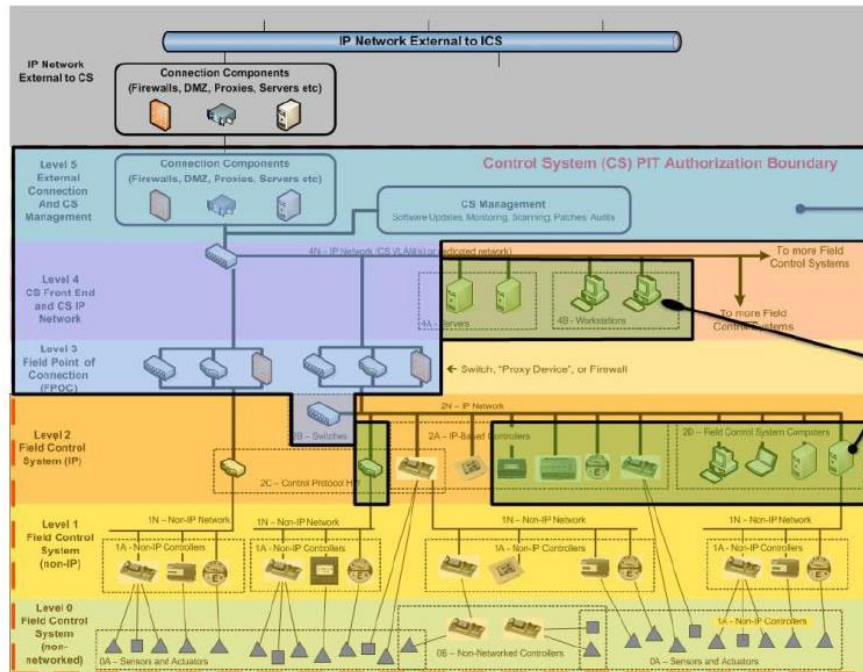


Figure 2-1: Topology of Control Systems and CE's Boundary of Responsibility

Navy



Platform Enclave (PE)

Operational Architecture (OA)

Navy Only: OA1: N-UMCS

Navy Only: OA2: All else in Levels 0-2: FCS or UMCS requiring separate accreditation prior to connecting to N-UMCS and the PE

UFGS 25 05 11 Cybersecurity For FRCS

The screenshot shows a web browser window displaying the WBDG website. The browser's address bar shows the URL: <http://www.wbdg.org/ffc/dod/unified-facilities-guide-specifications-ufgs/ufgs-25-05-11>. The website header features the WBDG logo, which is a stylized green and blue circular graphic, and the text "WBDG a program of the National Institute of Building Sciences WHOLE BUILDING DESIGN GUIDE". Navigation links include "ABOUT", "SITE MAP", "CONTACT", "CREATE ACCOUNT", and "LOGIN". A search bar is labeled "SEARCH WBDG".

The main content area has a dark blue navigation bar with the following menu items: "DESIGN RECOMMENDATIONS", "PROJECT MANAGEMENT - O & M", "FEDERAL FACILITY CRITERIA", "CONTINUING EDUCATION", and "ADDITIONAL RESOURCES". Below this, a breadcrumb trail reads: "DEPARTMENT OF DEFENSE / UNIFIED FACILITIES GUIDE SPECIFICATIONS (UFGS) / UFGS 25 05 11 CYBERSECURITY FOR FACILITY-RELATED CONTROL SYSTEMS".

The central focus is the document title: "UFGS 25 05 11 CYBERSECURITY FOR FACILITY-RELATED CONTROL SYSTEMS". To the left of the title is the official seal of the Department of Defense, United States of America. Below the title, the following information is provided: "Date: 11-01-2017", "Division: Division 25 - Integrated Automation", and "Page(s): 50". A "View/Download:" section offers options for "PDF" and "ZIP". A blue plus sign icon is located to the right of the date.

At the bottom left, there is a "RELATED LINKS" section. The Windows taskbar at the very bottom shows the search bar with the text "Type here to search" and various application icons. The system tray on the right indicates the time as 7:45 AM on 5/29/2018.

<http://www.wbdg.org/ffc/dod/unified-facilities-guide-specifications-ufgs/ufgs-25-05-11>

UFGS 25 05 11 Schedules

The screenshot displays a Microsoft Excel spreadsheet titled "UFGS 25 05 11 Cybersecurity Schedules: 2017-09-07 - Last Saved 5/3/2018 8:45 AM". The ribbon includes File, Home, Insert, Page Layout, Formulas, Data, Review, View, Add-ins, Help, QuickBooks, and a search bar. The spreadsheet content is as follows:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Interconnection Schedule																		
2	Document connections between this control system and other systems.																		
3	Designer should generate this schedule as part of design. Designer should always provide the "Descriptive Purpose" and "Foreign Destination"; depending on the project, designer may provide																		
4	Contractor should complete the table, but may need outside input for the Network Address																		
5	Device ID should be a key to an entry in the <Inventory Table>																		
6	Network Address relates to the Transport Layer protocol and is typically the IP address.																		
7	Transport Layer protocol will typically be IP, provide if something other than IP.																		
8	Protocol is the application level protocol -- eg. SMTP, Lon.																		
9	Service might be a protocol-specific service -- eg BACnet Confirmed File Transfer																		
10																			
11	Network Communication Schedule																		
12	This documents connections within the control system.																		
13	This information may already be contained on other submittals, in which case those documents may be submitted instead.																		
14	(For HVAC installed IAW 23 09 00 it is contained on the Point Schedules.)																		
15																			
16	Wireless																		
17	Prior to using wireless, contractor must submit a Wireless Communication Request schedule with columns A - I filled out.																		
18	Govt. will Approve or Disapprove in column J. Approved devices may require post-installation testing.																		
19	For devices requiring post-installation testing, contractor shall attempt network connectivity at various points and document (Yes/No, Pass/Fail) whether network connectivity existed																		
20																			
21																			

The bottom of the spreadsheet shows a tab bar with "Instructions" selected, and other tabs for "Interconnect", "Network Comm", "Wireless", and "Multiple_IP". The Windows taskbar at the bottom shows the time as 2:16 PM on 12/14/2018.

Assign Cyber Team

CYBERSECURITY TEAM PERSONNEL

The PROJECT Cybersecurity Team is comprised of highly skilled and certified IT and OT cybersecurity subject matter experts with extensive experience with the NIST Risk Management Framework and the DoD implementation of the RMF:

Cyber Team Lead: GICSP or CISSP

Cyber System Administrator: MCSE, Security +

Cyber Commissioning: CEM, CISSP, CEH, CxA, DGCP

Cyber Auditing: CDFM, CFE, CISA, CPA

The Cyber Team will be responsible for the project cyber lifecycle and will begin at project award with a Cyber Workshop Charette to baseline the PROJECT Team and **initiate the development of the RMF package documents, begin the auditing of the PROJECT Team's project NIST 800-171 Cyber Risk Management Plans (CRMP), create the Test and Development Environment (TDE), perform system hardening (SCAP/STIGS) of the equipment and components, create and manage the Fully-Mission Capable Baseline (FMC), perform sysadmin duties on the TDE and Production OT systems, audit the FRCS, and perform cyber commissioning of the facility.**

Assemble the Stakeholders

The FRCS owner should assemble representatives from the following communities to participate in development of the FRCS PE authorization boundary and network architecture:

- Facility Engineer/Manager
- Facility Operations & Maintenance/Technician
- Physical Security Specialist
- Emergency Manager
- IT Network/Communications Specialist
- Information Assurance Specialist
- Tenants (Defense Health Agency, Defense Logistics Agency, etc)
- Operations and Maintenance Contractors
- Control System Vendor/Integrators
- Information Assurance IA/RMF Contractor

Create the Cyber Narrative

Cybersecurity

Cybersecurity

Cybersecurity Requirements

CODES AND REFERENCES

Facility-related controls systems will be designed in accordance with the following policies, standards and procedures:

- » CNSSI 1253, Security Categorization And Control Selection For National Security Systems 2014
- » CYBERCOM Advanced Industrial Control Systems Tactics, Techniques and Procedures, February 2017
- » Department of Defense Instruction 8500.01, Cybersecurity, March 2014
- » Department of Defense Instruction 8510.01, Risk Management Framework (RMF) for DoD Information Technology (IT), March 2014
- » Department of Defense Instruction 8140 Cyberspace Workforce Management
- » Department of Defense Instruction 8530 Cybersecurity Activities Support to DoD Information Network Operations March 2016
- » Department of Defense Handbook for Self-Assessing Security Vulnerabilities & Risks of Industrial Control Systems on DoD Installations 2012
- » Federal Information Processing Standard 200 Minimum Security Requirements for Federal Information and Information Systems
- » Federal Information Processing Standard 201-2 Personal Identity Verification (PIV) of Federal Employees and Contractors
- » Intelligence Community Directive (ICD) 706
- » National Institute of Standards and Technology Special Publication 800-37, Guide for Applying the Risk Management Framework to Federal Information Systems, February 2010
- » National Institute of Standards and Technology Special Publication 800-53 R4 Security and Privacy Controls for Federal Information Systems and Organizations 2013
- » National Institute of Standards and Technology Special Publication 800-82 R2 Guide to Industrial Control Systems (ICS) Security 2015
- » National Institute of Standards and Technology Special Publication SP 800-115 Technical Guide to Information Security Testing and Assessment 2008
- » UFC 3-410-01 Utility Monitoring And Control System (CS) Front End And Integration 2016
- » UFC 3-410-02 Direct Digital Control For HVAC And Other Building Control Systems 2016
- » UFC 4-010-06 Cybersecurity of Facility Related Control Systems, Change 1, 18 January 2017
- » UFGS 23 09 00 Instrumentation and Control for HVAC
- » UFGS 23 09 23.01 LonWorks® Direct Digital Control for HVAC and Other Building Systems

1

FACILITY-RELATED CONTROL SYSTEMS

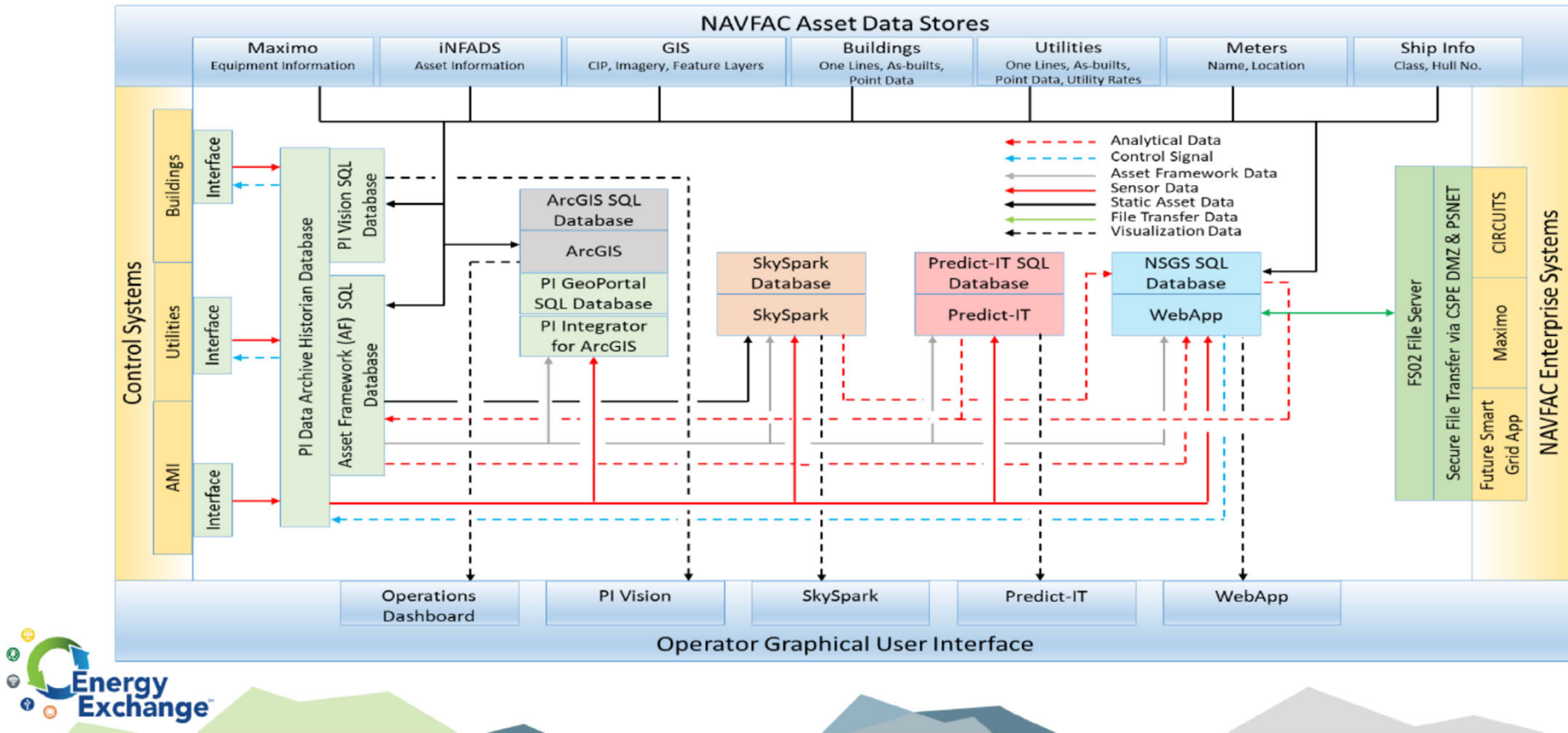
The Integrated Facility Management Systems (IFMS), and all control systems including related communications networks and components, are considered Platform Information Technology (PIT). Design and provide all control systems in accordance with UFC 4-010-06 "Cybersecurity of Facility-Related Control Systems," National Institute of Standards and Technology (NIST), and Committee on National Security Systems (CNSS) documents.

The PROJECT cyber design needs to include, but is not limited to, the following FRCS:

- » Electronic Security Systems – Owned and operated by security services
 - Electronic Emissions Detection Systems
 - Electronic Security System (ESS)[Bundled]
 - Digital Way-finding Signage Systems
 - Physical Access Control Systems (PACS)
 - Radio Frequency Detection Systems
 - Surveillance/Assessment Systems
 - Vehicle Access Barrier System
 - Active Shooter
 - CBRNE Notification Systems (CBRNE)
- » Building Control Systems (BCS) - Owned and operated by Facilities
 - Building Automation System (BAS)
 - Building Lighting System (Lighting/Daylighting/Occupancy Control System)
 - Conveyance/Vertical Transport System (Elevators)
 - Electrical Systems (ES) [Such as local building generators not designed for grid interconnection, high reliability switching from two sources for critical buildings, etc.]
 - Heating, Ventilation, Air Conditioning (HVAC)
 - Irrigation System
 - SCADA
 - Shade Control System
 - Vehicle Charging System
- » Fire & Life Safety - Owned and operated by Facilities
 - Fire Alarm Reporting System (FARS)
 - Fire Hydrant Water Distribution Systems
 - Fire Pump Control System
 - Mass Notification System (MNS)
- » Traffic Control Systems
 - Traffic Signals Systems

Navy Smart Grid

Smart Grid System Description



Tara Houlden
 NAVFAC Cybersecurity Director

Kevin Whitt
 KBR Smart Grid Project Manager

Energy Exchange 2019

Navy Smart Grid Lessons Learned

Standardized Enterprise Architecture, the NAVFAC Control System Platform Enclave (CSPE), facilitated Smart Grid development.

- Standard Regional Deployments
- Established communications with FRCS via Base Area Networks (BAN)
- Connection agreements with Public Safety Network (PSNet) established communication links with Navy Installation BANs within regions
- PSNet architecture enables secure communication between the CSPE and the NAVFAC business system environment
- Provided SG hosting environment with numerous inherited controls
- Created economical platform for SG development and deployment

Tara Houlden

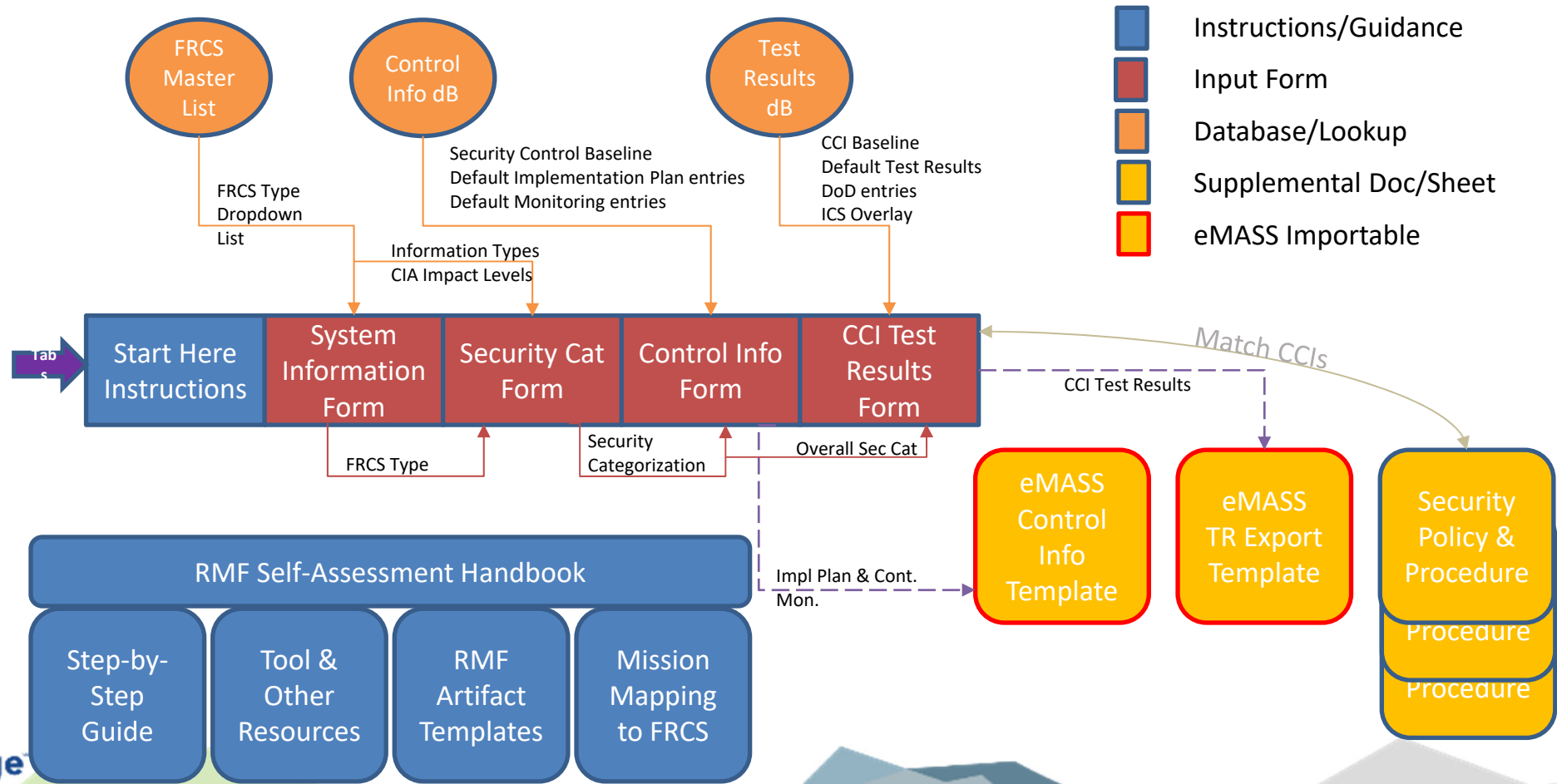
NAVFAC Cybersecurity Director

Kevin Whitt

KBR Smart Grid Project Manager

Energy Exchange 2019

ESCTP FRCS RMF Tool



ESCTP FRCS RMF Tool

Step 3
Implement Controls

CCI Test Results Form

Security Categorization Form

NIST 800-82
800-82 ICS
Overlay

DoD-
level
Policies

UFC
4-010-
06

Test Result Import Template: Test for Moderate vs High

Control Number	Control Information	AP	CCI	CCI Definition	Implementation Guidance	RECOMMENDED EVIDENCE	Design	Enter Test Results Here	Latest Test Results
AC-1	Description: The organization develops, documents, and disseminates to all personnel its information security control policy that addresses purpose, scope, roles, responsibilities, and management commitments.	AC-1.1	AC-1.1	The organization develops, documents, and disseminates to all personnel its information security control policy that addresses purpose, scope, roles, responsibilities, and management commitments.	The organization develops, documents, and disseminates to all personnel its information security control policy that addresses purpose, scope, roles, responsibilities, and management commitments.	1) Signed and dated access control policy. 2) Documented procedures for an information sharing.	AP	Test	Pass
AC-1.1	Description: The organization develops, documents, and disseminates to all personnel its information security control policy that addresses purpose, scope, roles, responsibilities, and management commitments.	AC-1.1	AC-1.1	The organization develops, documents, and disseminates to all personnel its information security control policy that addresses purpose, scope, roles, responsibilities, and management commitments.	The organization develops, documents, and disseminates to all personnel its information security control policy that addresses purpose, scope, roles, responsibilities, and management commitments.	1) Signed and dated access control policy. 2) Documented procedures for an information sharing.	AP	Test	Pass
AC-1.1	Description: The organization develops, documents, and disseminates to all personnel its information security control policy that addresses purpose, scope, roles, responsibilities, and management commitments.	AC-1.1	AC-1.1	The organization develops, documents, and disseminates to all personnel its information security control policy that addresses purpose, scope, roles, responsibilities, and management commitments.	The organization develops, documents, and disseminates to all personnel its information security control policy that addresses purpose, scope, roles, responsibilities, and management commitments.	1) Signed and dated access control policy. 2) Documented procedures for an information sharing.	AP	Test	Pass
AC-1.1	Description: The organization develops, documents, and disseminates to all personnel its information security control policy that addresses purpose, scope, roles, responsibilities, and management commitments.	AC-1.1	AC-1.1	The organization develops, documents, and disseminates to all personnel its information security control policy that addresses purpose, scope, roles, responsibilities, and management commitments.	The organization develops, documents, and disseminates to all personnel its information security control policy that addresses purpose, scope, roles, responsibilities, and management commitments.	1) Signed and dated access control policy. 2) Documented procedures for an information sharing.	AP	Test	Pass

eMASS
Import
of Test
Results

Test Result Export Form

- eMASS format
- Autofill of CCI Test Results to apply ICS Overlay
- Autofill of CCI Test Results for DoD-level policies
- Autofill of CCI Test Results with UFC 4-010-06 supplemental controls to ICS Overlay
- Auto-color to identify remaining User input fields
- Excel formula provided to pull tool data into eMASS template for import



Switching Gears....

**252.204-7008 COMPLIANCE WITH
SAFEGUARDING COVERED DEFENSE
INFORMATION CONTROLS (OCT 2016)**

ESTCP FRCS Protecting CUI

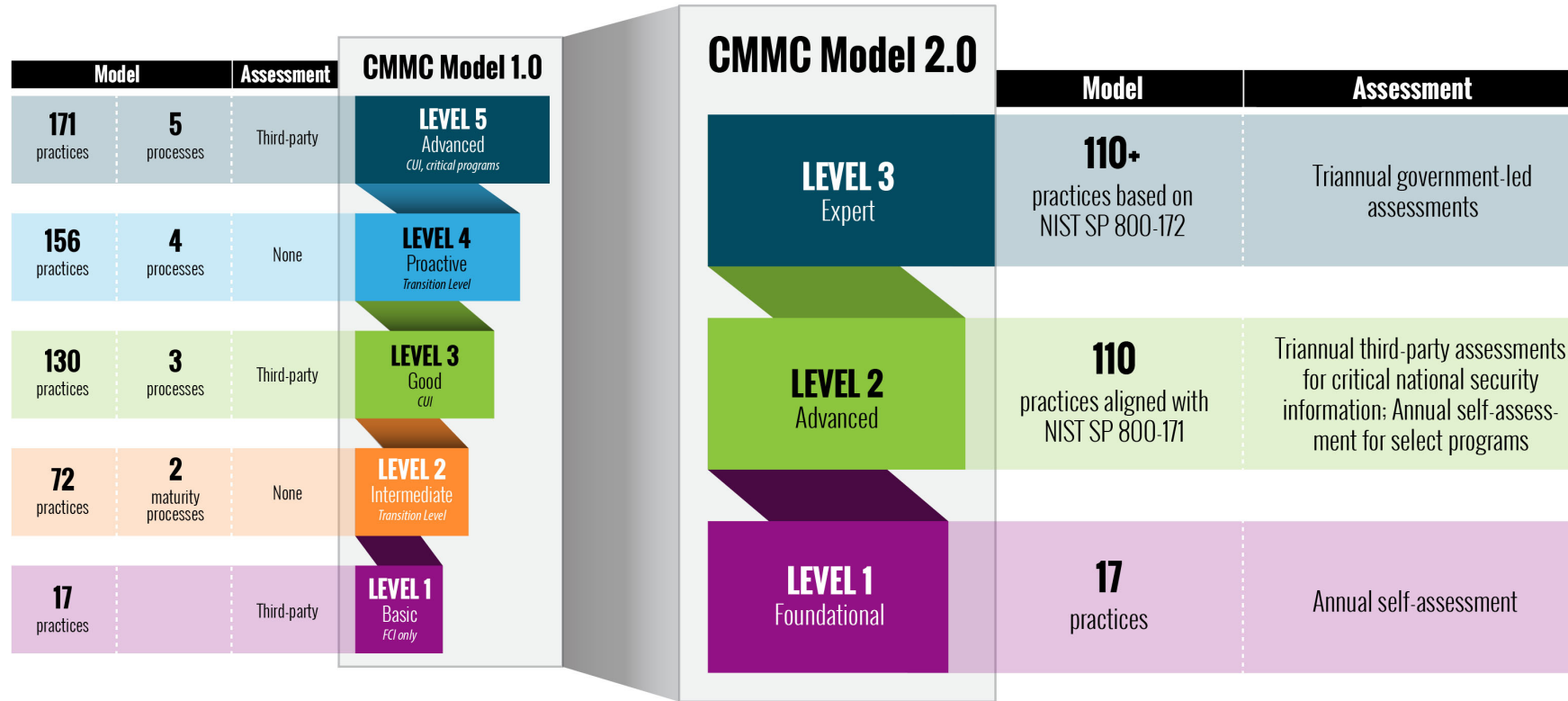
The screenshot shows a web browser window displaying the SERDP/ESTCP website. The URL in the address bar is <https://serdp-estcp.org/Tools-and-Training/Installation-Energy-and-Water/Cybersecurity/FRCS-Protecting-CUI>. The page features the SERDP (DOD, EPA, DOE) and ESTCP logos at the top, along with a search bar and social media links. A navigation menu includes Home, About SERDP and ESTCP, Program Areas, News and Events, Featured Initiatives, Tools and Training, Funding Opportunities, and Investigator Resources. The main content area is titled "FRCS Protecting CUI" and includes a sub-header "Executive Order 13556 'Controlled Unclassified Information' 2010". The text explains that this program standardizes the way the Executive branch handles unclassified information that requires safeguarding or dissemination controls pursuant to and consistent with law, regulations, and Government-wide policies. It further details that Controlled Unclassified Information (CUI) is information that requires safeguarding or dissemination controls pursuant to and consistent with applicable law, regulations, and government-wide policies but is not classified under Executive Order 13526 or the Atomic Energy Act, as amended. The page also mentions Executive Order 13556 and its role in establishing a program for managing CUI across the Executive branch, and 32 CFR Part 2002.

<https://serdp-estcp.org/Tools-and-Training/Installation-Energy-and-Water/Cybersecurity/FRCS-Protecting-CUI>

DFARS Technical Information

- Technical data or computer software as defined in DFARS Clause 252.227-7013, Rights in Technical Data-Non Commercial Items, regardless of whether or not the clause is incorporated in the solicitation or contract. Examples of technical information include research and engineering data, engineering drawings, and associated lists, specifications, standards, process sheets, manuals, technical reports, technical orders, catalog-item identifications, data sets, studies and analyses and related information, and computer software executable code and source code.
- **The data may be in tangible form, such as a blueprint, photograph, plan, instruction, or an operating manual, or may be intangible, such as a technical service or oral, auditory, or visual descriptions.**
- **Examples of technical data include research and engineering data, engineering drawings, and associated lists, specifications, standards, process sheets, manuals, technical reports, technical orders, catalog-item identifications, data sets, studies and analyses and related information, and computer software.**

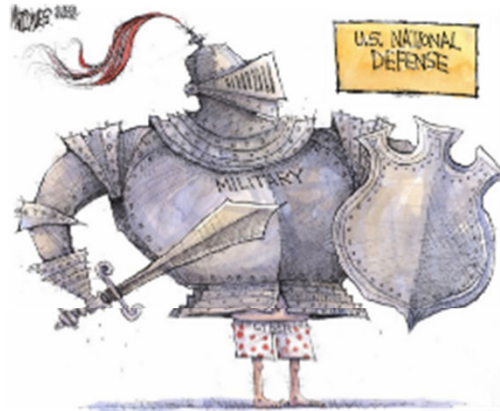
CMMC 2.0 – Nov 2021



b) allow companies associated with the new Level 1 (Foundational) and some Level 2 (Advanced) acquisition programs to perform self-assessments rather than third-party assessments

Spirit of collaboration: Allows companies, under certain limited circumstances, to make Plans of Action & Milestones (POA&Ms) to achieve certification

QUESTIONS



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