



Overview of Electronic Security Systems

NAVFAC Far East

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Naval Facilities Engineering Command Atlantic

Capital Improvements Business Line

Engineering Criteria and Programs

September 2019

Electronic Security System (ESS)

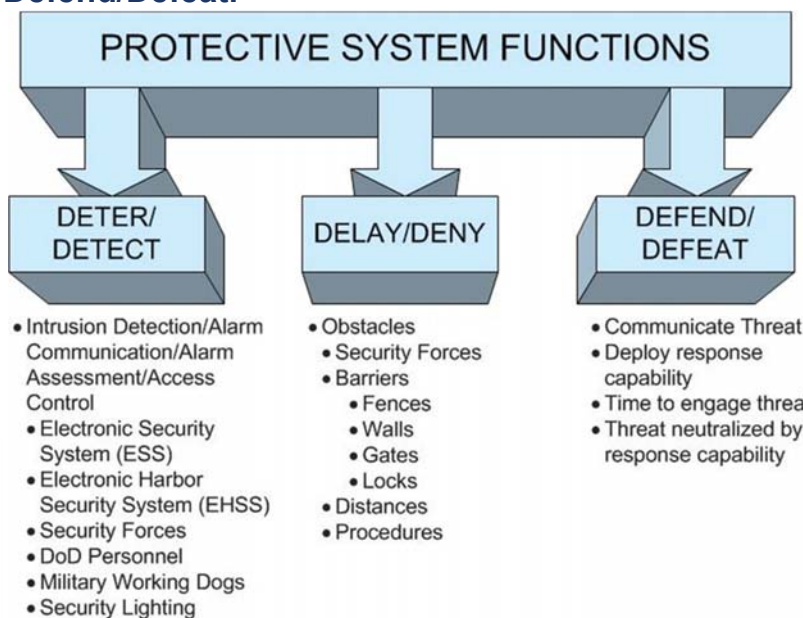


- The integrated electronic security system that encompasses interior and exterior Intrusion Detection Systems (IDS), Closed Circuit Television (CCTV) systems for assessment of alarm conditions, Automated Access Control Systems (ACS), Data Transmission Media (DTM), and alarm reporting systems for monitoring, control, and display.
 - IDS: A system consisting of interior and exterior sensors, surveillance devices, and associated communication subsystems that collectively detect an intrusion of a specified site, facility, or perimeter and annunciate an alarm.
 - CCTV: The system interior and exterior cameras, monitors, archiving hardware, and associated communication subsystems that allow video archiving and assessment of alarm conditions via remote monitoring.
 - ACS: The system consisting of card readers, electronic locks, and the associated communication subsystem that ensures only authorized personnel are permitted ingress and egress into the protected area.

Protective System Functions



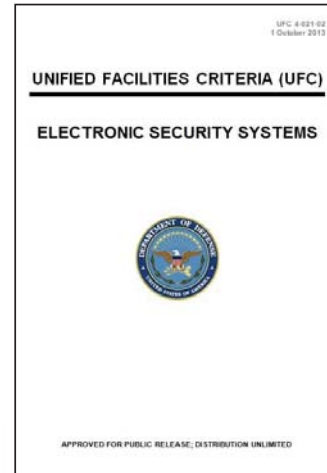
- Comprised of three major sub-functions: Detect, Delay/Deny, and Defend/Defeat.



UFC 4-021-02 Electronic Security Systems



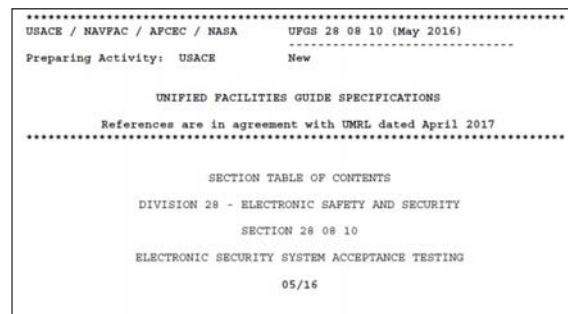
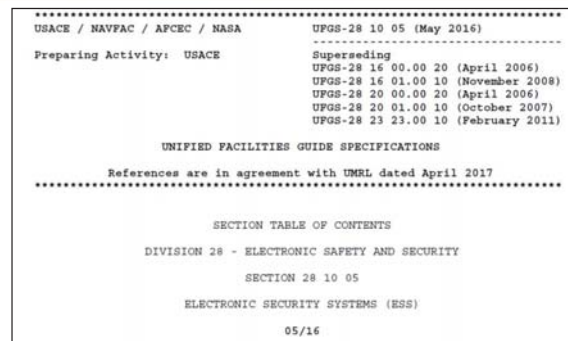
- **Purpose:**
 - Provide effective and efficient criteria for designing Electronic Security Systems (ESS) in support of the Department of Defense (DoD) physical security program requirements.
- **Lead Agency: Navy**
 - Point of contact: Richard Cofer
- **Current Document Status:**
 - Originally Published 2006
 - Revision Published 1 October 2013
 - Unification
 - Format
 - Technology
 - Lessons learned
 - Revision in process
 - Available on the Whole Building Design Guide Website (www.wbdg.org)



UFGS for ESS



- **UFGS 28 10 05 Electronic Security Systems (ESS)**
 - Published May 2016
- **UFGS 28 08 10 Electronic Security System Acceptance Testing**
 - Published May 2016



Security professionals design systems by:

- **Combining protective measures and operational procedures into an integrated system that works within a installation's, facility's, and user's constraints**
 - Components should complement each other and correct for vulnerabilities.
 - Contain supporting elements coordinated to prevent gaps or overlaps in responsibilities and performance.

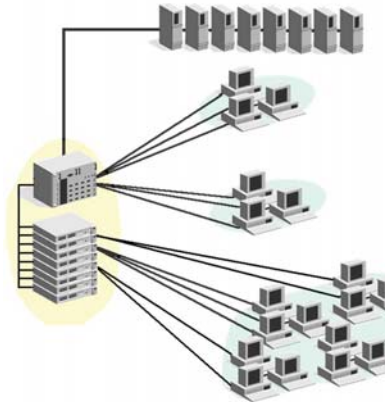
Where Do We Start?



Assets



- **Determining the assets is the first step in establishing any protective system**



What Generates the Requirement for ESS?



- **The asset being protected and the associated regulatory guidance or policy generates the requirement.**
 - **Arms, Ammunitions, and Explosives (AA&E)**
 - **Classified Materials (Secret and above)**
 - **Classified Communications System**
 - SIPRNet
 - JWICS
 - **Sensitive Compartmented Information (SCI)**
 - **Special Access Program Information (SAPI)**



- **AA&E:** OPNAV INSTRUCTION 5530.13C *Department of the Navy Physical Security Instruction for Conventional Arms, Ammunition, and Explosives*
- **SCI:** DoDM 5105.21-Vol 1-3, *Sensitive Compartmented Information (SCI) Administrative Security Manual*
- **SAP:** DODM 5205.07 Volume 1-3, *DoD Special Access Program (SAP) Security Manual: Physical Security*
 - **IC Tech Spec-for ICD/ICS 705, *Technical Specifications for Construction and Management of Sensitive Compartmented Information Facilities***
- **Classified Materials (Secret and above)/Classified Communication Systems:** SECNAV M-5510.36 *Department of the Navy Information Security Program*

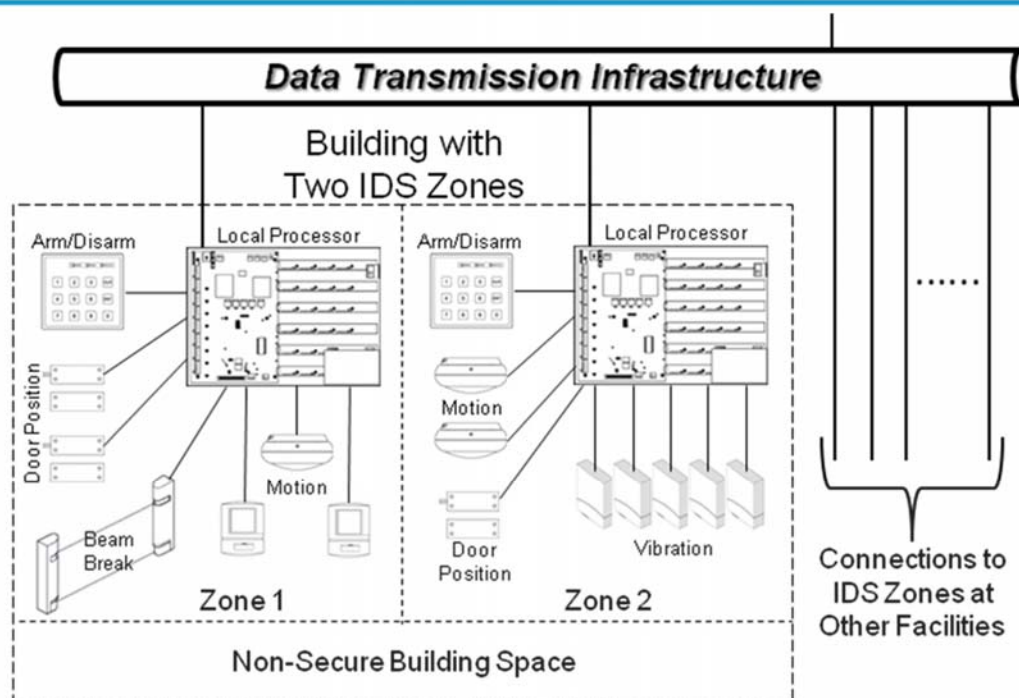
Establishing the Requirement for ESS



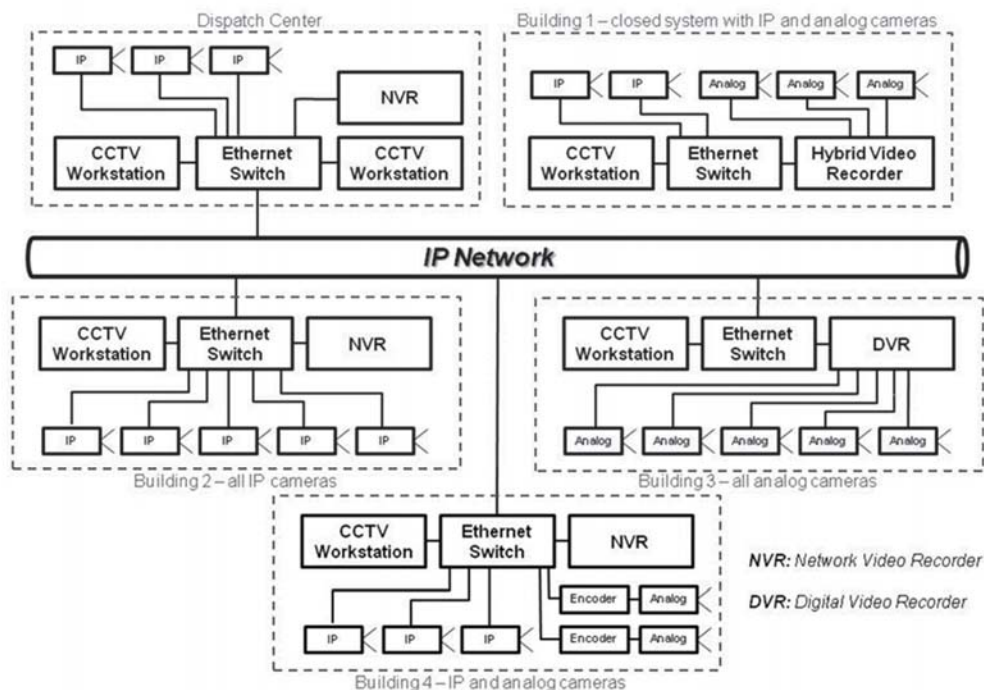
- **The requirements for ESS must be established during the project planning stage.**
- **Establish an interdisciplinary planning team with local considerations to include the following:**
 - **Planning**
 - **Supported Command**
 - **Site Security Manager (SSM)**
 - **Communications**
 - **Security: Installation/Region N3**
 - **Engineering**

- **The planning team must:**
 - Determine what assets require protection
 - Understand related DoD/Service policy/regulations
 - Understand the objectives of the system
 - Understand the facility and user's operational requirements and limitations.
 - Understand the security force's capabilities
 - Incorporate ESS and related costs in project scope and budget.

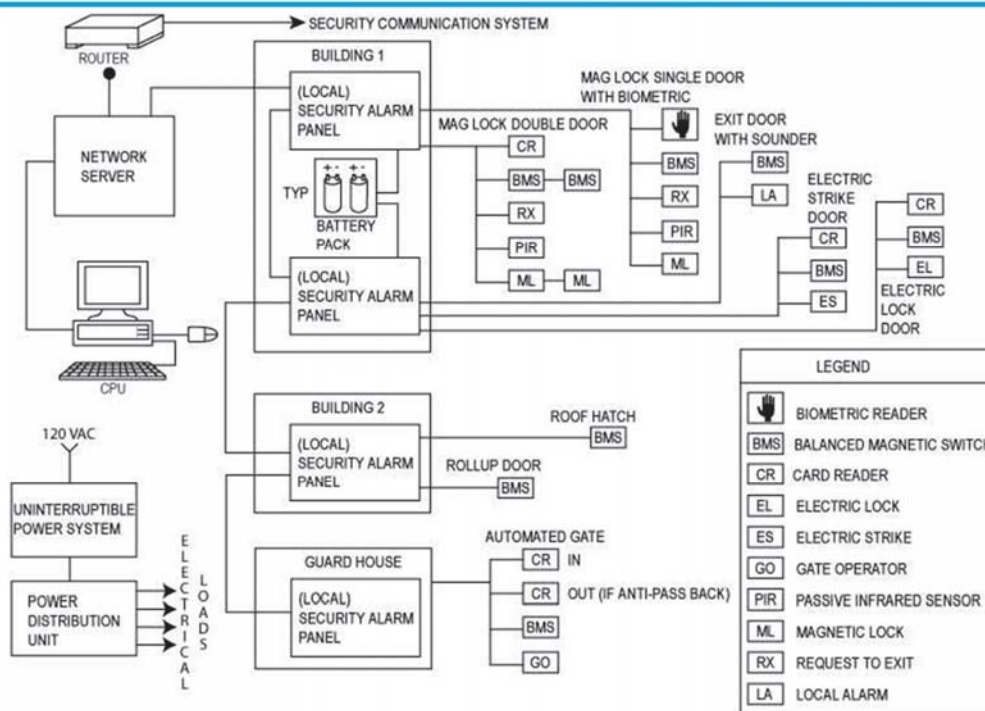
Intrusion Detection System (IDS)



Closed Circuit Television (CCTV)



Access Control System (ACS)

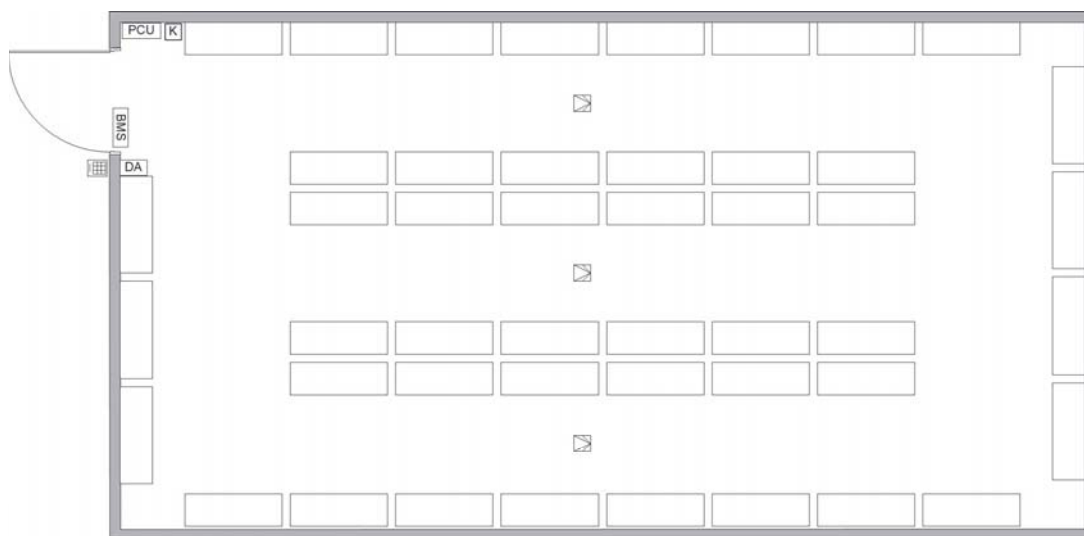


AA&E Policy Base Requirements



- All perimeter doors and man-passable openings into the storage area shall be protected by High Security Switch (HSS) and a motion detection sensor.
- Duress alarm at all issue ports.
- Keypad at entrance and for all separated (unit-based) interior storage areas that require an independent IDS capability.
- Perimeter emergency exit doors shall be secured, alarmed, and monitored 24 hours per day.
- IDS shall be installed in accordance with UL 681 and consist of:
 - Level 2 high security switches (HSS) that meet UL 634, and/or other government approved sensors.
 - Motion detection sensors UL 639 listed.
- Premise Control Units (PCUs) shall be located within the protected area.

Notional Layout: Arms Storage



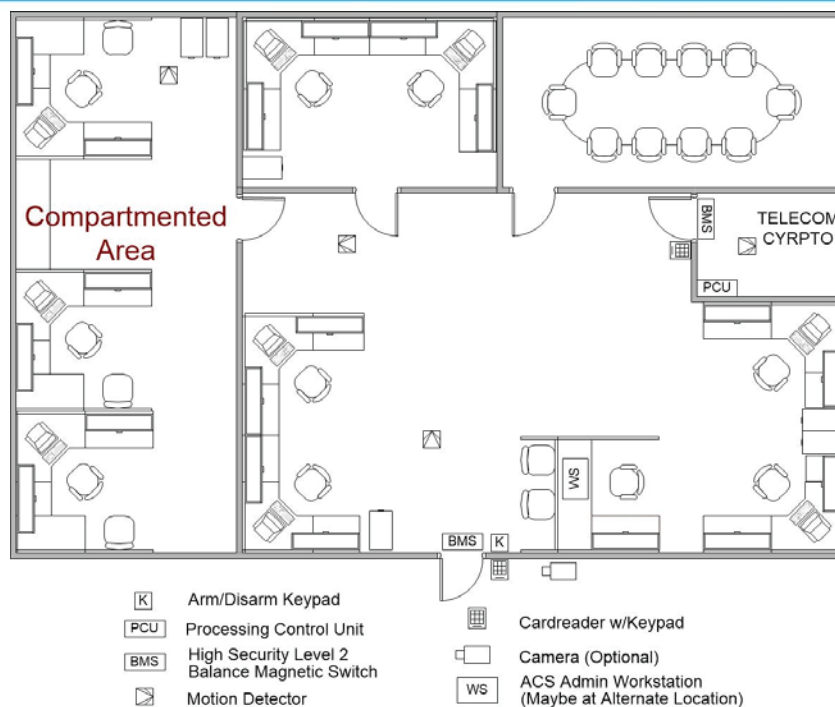
- | | | | |
|-----|-------------------------|----|--------------------------------|
| PCU | Processing Control Unit | DA | Duress Alarm |
| BMS | Balance Magnetic Switch | K | Arm/Disarm Keypad |
| | Motion Detector | | Cardreader w/Keypad (Optional) |

SCIF/SAPF Policy Base Requirements



- Perimeter doors shall be protected by High Security Switch (HSS) and a motion detecting sensor.
- Emergency exit doors shall be secured, alarmed, and monitored 24 hours per day.
- Interior areas through which reasonable access could be gained such as walls, doors, or windows shall be protected by an IDS.
- IDS shall be installed in accordance with UL 681 and consist of:
 - Level 2 high security switches (HSS) that meet UL 634, and/or other government approved sensors
 - Motion detection sensors that meet UL 639 listed, or approved by the CSA. Dual-Technology Sensors are authorized when each technology transmits alarm conditions independent of the other technology.
- Locate Premise Control Unit (PCU) within the space

Notional Layout: SCIF or SAPF

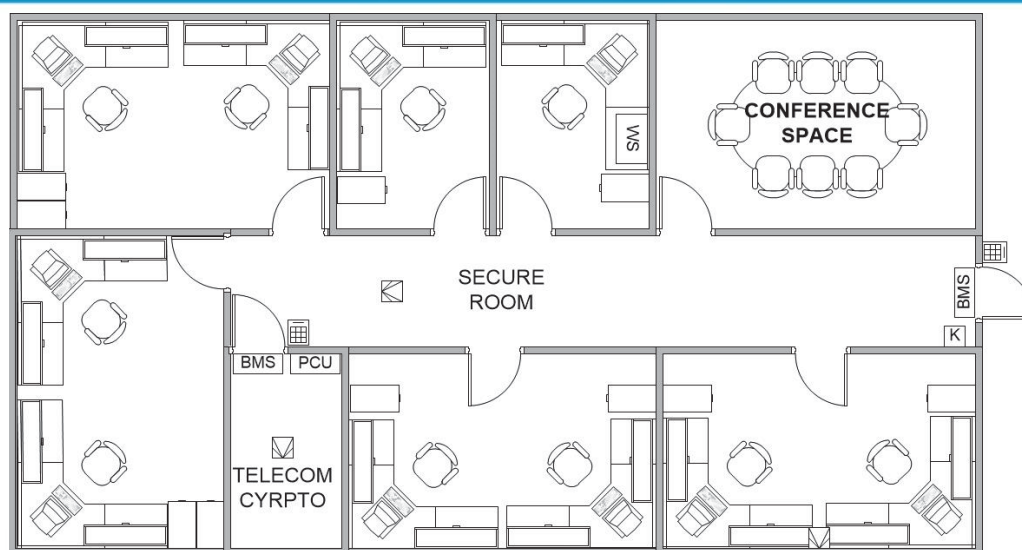


TS Policy Base Requirements



- All perimeter doors and man-passable openings into the secure area shall be protected by High Security Switch (HSS) and a motion detection sensor.
- Keypad at Primary Entrance.
- Perimeter emergency exit doors shall be secured, alarmed, and monitored 24 hours per day.
- IDS shall be installed in accordance with UL 681 and consist of:
 - Level 2 high security switches (HSS) that meet UL 634, and/or other government approved sensors.
 - Motion detection sensors UL 639 listed. Dual-Technology Sensors are authorized when each technology transmits alarm conditions independent of the other technology.
- Premise Control Units (PCUs) shall be located within the protected area.

Notional Layout: Top Secret/Secret Open Storage



- | | | | |
|-----|--|----|--|
| PCU | Processing Control Unit | | Cardreader w/Keypad |
| BMS | High Security Level 2
Balance Magnetic Switch | K | Arm/Disarm Keypad |
| | Motion Detector | WS | ACS Admin Workstation
(Maybe at Alternate Location) |

Word of Caution!



**Don't go
Crazy!**



Project Phases



Planning

Design

Construction

Acceptance

Historical Timeline



- **FY04: NAVFAC assumed responsibility of the Navy's shore facilities Physical Security Equipment (PSE) Program.**
 - Base Development will provide overall program management.
 - Naval Facilities Engineering Service Center (NFESC) was assigned as Deputy Program Manager (DPM) for the PSE Program. As the PSE DPM, NFESC has overall responsibility for the management, coordination, implementation and sustainment strategies for PSE.
- **FY06: Capital Improvements has accepted the responsibility for planning, design, installation, testing, and acceptance of Physical Security Equipment (PSE) associated with MCON projects.**
 - NFESC continued to maintain Program Execution oversight and was available for technical and acquisition support.
- **FY10: NAVFAC HQ CI assumed the program execution and oversight from NAVFAC EXWC. (Formally NFESC)**

ESS for Navy MCON



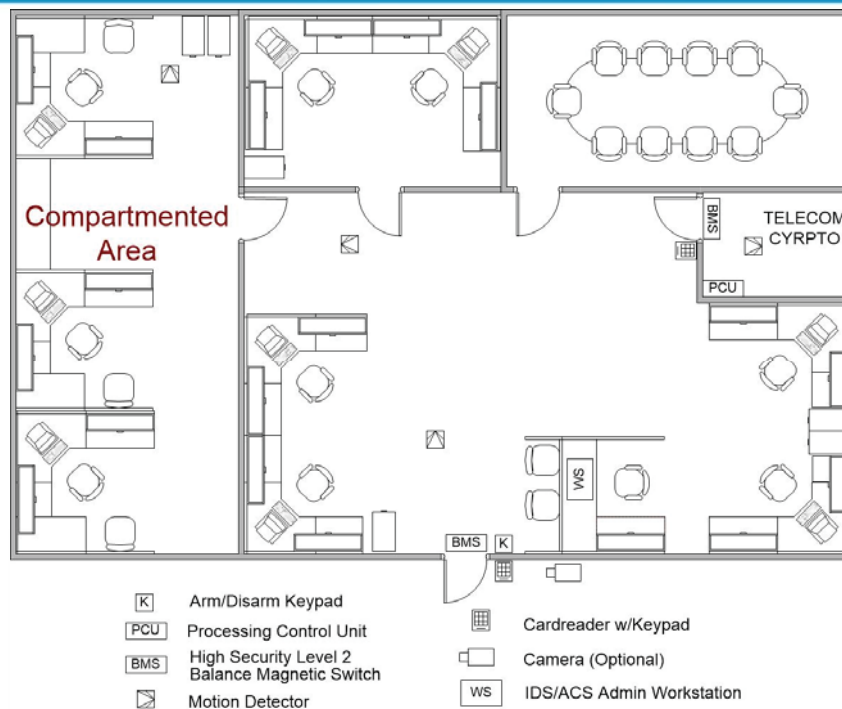
- **Military Construction for Navy (MCON):** For FY06 MCON projects and beyond, NAVFAC's goal, is to fully integrate the design, procurement, installation and testing of Electronic Security Systems (ESS) into MCON design and construction contracts.
 - MCON/MCNR project funds procure the supporting infrastructure.
 - OP or O&M funds procure, install and test the equipment.

Electronic Security System (ESS) Equipment



- **NAVFAC ATFP Ashore addresses Physical Security Equipment requirements and funding for Electronic Security System (ESS) Equipment associated with Navy MCON.**
 - Per OPNAVINST 11010.20H: NAVFAC ATFP Ashore Program may provide funding for the ESS related to Navy “Blue” MCON when required for the protection of critical assets.
 - Justification is based on DoD, SECNAV or OPNAV policy, not the supported command’s operational preferences.
 - In the case of a SCIF, armory, top secret open storage or similar spaces, ATFP Ashore may fund processing control unit, point sensors at the perimeter access points, volumetric sensors within the space, card readers and video assessment (CCTV) at the perimeter access points.
 - In general, ATFP Ashore will not fund card readers for compartmented areas within the space or exterior surveillance or fence line (perimeter) electronic security systems.

ESS Funding





- **Refer to BMS B-1.3 Operational Outfitting Considerations**
- **Types of projects typically funded under the ATRP Ashore Program include assets such as:**
 - **Arms, Ammunitions, and Explosives (AA&E)**
 - **Sensitive Compartmented Information (SCI)**
 - **Special Access Program Information(SAPI)**
 - **Classified Materials (Secret and above)**
 - **Classified Communication Systems**
 - Secret Internet Protocol Router Network (SIPRNet)
 - Joint Worldwide Intelligence Communications System (JWICS)



- **Types of facility projects or programs that may require ESS, but are not funded by the ATRP Ashore program include:**
 - **Marine Corps and Marine Corps Reserve Facilities**
 - **SOCOM**
 - **Missile Defense Agency**
 - **Strategic Systems Program (SSP)**
 - **Strategic Weapons Facilities (SWF)**
 - **Base Realignment and Closure (BRAC) Projects**
 - **Bachelor Quarters**
 - **Medical Facilities**
 - **Housing**
 - **MWR and Retail Facilities**



- **For Marine Corps, Army, Air Force and other Defense Agency projects:**
 - **Coordinate the PSE, ESS and IDS requirements and funding with the resource sponsor and/or supported command's representative**
 - **Provide empty conduit systems for PSE with MILCON design and Construction.**
 - **Agency's PSE Program provides the design, installation and testing of the Physical Security Equipment.**



- **OPNAVINST 11010.20H: ESS infrastructure efforts are considered "Real Property" and can be funded with project funds regardless of funding source.**
 - **Interior infrastructure includes conduit, junction boxes, electronic door strikes, door hardware, mounting hardware, and power connections.**
 - **Exterior infrastructure includes items such as exterior duct banks, manholes, utility poles, exterior communication cabling, and power connections.**



- **OPNAVINST 11010.20H: ESS is classified as “Personal Property” and cannot be funded with Military Construction (MILCON) dollars.**
 - **Equipment (Active Devices) includes items such as central processing units, control panels, interior sensors, exterior sensors, cameras, monitors, and the interior communications cabling connecting these devices together.**
- **Resource sponsor for equipment varies based on service and program management.**

OPNAVINST 11010.20H Appendix A Property Classification Table



Item (Note 3)	Real Property/ Installed/ Built In Equipment	Personal Property/ Collateral Equipment
Under-vehicle (in-ground) integrated inspection equipment		X
Fencing	X	
Outdoor camera poles and towers	X	
Explosive and contraband detection systems		X
ESS infrastructure to include conduit, junction boxes, and power connections	X	
ESS equipment for the following: IDS, access control systems, and video assessment/surveillance systems sometimes referred to as CCTV		X
CCTV system for child development center, SAC or youth center child abuse prevention	X	
Door locks (cipher/combination locks)	X	
Sound masking equipment for sensitive compartmented information facilities (SCIF)		X
PDS	X	
Warning globes for SCIFs		X

- **The requirements for a secure facility or space must be established during project planning.**
 - **Establish an interdisciplinary planning team with local considerations to include the following:**
 - Planning
 - Supported Command
 - Supported Command's Security Manager
 - Communications
 - Security: Installation/Region N3
 - Engineering
- **PM/DMs need to proactively engage the Supported Command and their Security Manager to coordinate project security requirements.**



- **The planning team must:**
 - **Determine if there is the regulatory requirement for ESS.**
 - Determine what assets require protection.
 - Understand related DoD/Service policy/regulations.
 - **Determine if the supported command will want more than the regulatory requirement.**
 - **Determine funding source(s) for electronic security systems.**
 - ATFP Ashore?
 - Supported Command?



- **Document the ESS requirements**
 - **Block 10 (scope) of DD 1391 and backup documentation should be utilized to describe ESS requirements/Assets.**
 - **Does this facility contain critical assets?**
 - AA&E?
 - SCI?
 - SAP?
 - Classified Information/Equipment?
 - COMSEC material?
 - **Utilize 1391 Team Checklist to help document requirements**

1391 Team Checklist - PS



ID#	Keyword	Item
4.03	Security system	Coordinate Electronic Security Systems (ESS) / Physical Security Equipment (PSE) including Intrusion Detection Systems (IDS) with NAVFACHQ CI ATRP, User/Operator, and Installation's BCO.
7.12	SCIF	Determine whether this project will need to include a Sensitive Compartmented Information Facility (SCIF) or a Special Access Program Facility (SAPF). SCIFs and SAPFs have special security requirements such as opening restrictions, special walls, and sound attenuation. For each SCIF or SAPF the following information should be provided: <ul style="list-style-type: none">- SCIF ID# assigned by Accrediting Official (AO) or SAPF ID#- Space requirement (square feet)- Site Security Manager (SSM) contact information (name, phone#, email)- SCIF/SAPF Preliminary Construction Security Plan (CSP)
7.13	Control access	Determine if this project requires a Controlled Access Area (CAA) other than a SCIF or SAPF within the facility. If so, indicate the number and square footage of each CAA.



Document the Cost Associated with Physical Security Requirements

- **Block 9 (Project Cost) of DD 1391 and backup documentation should be utilized to document costs of the PSE requirements.**
 - Cost for PSE infrastructure must be included in Block 9 of the DD 1391 under primary facilities (Built-in Equipment).
 - Cost for PSE (Actual Equipment) must be included in block 9 of the DD 1391 under “Equipment Under Other Appropriations.”
 - **Remember: Equipment cannot be paid for with Military Construction funds.**



Tools for Establishing Budgets for ESS

- **ESS Budget Estimator:**
 - Excel Spreadsheet intended to provide DoD facility planners, cost estimators and designers a unified method of budgeting for Electronic Security Systems for facilities. This tool is intended to be used for budget estimating only and work within OSD and DD 1391 guidelines. Tool will output budget cost for ESS equipment and the associated infrastructure.
- **Gate Automation Equipment Estimator:**
 - Excel Spreadsheet intended to provide DoD facility planners, cost estimators and designers a unified method of budgeting for Gate Automation equipment only. This tool does not provide infrastructure costs.

ESS Budget Estimator



1. Component Navy	Military Construction Program Electronic Security Systems (ESS) Budget Estimator Ver 1.0		2. Date 2/6/2008
3. Installation and Location/UIC ANYWHERE USA		4. Project Title ESS Project EXAMPLE	
5. Category Code	6. Project Number	7. User Defined	8. User Defined
9. User Input			
Facility			
A. Enter the size of the facility in square feet.			10,000
B. Enter the number of floors.			3
C. Does this project include exterior (building façade) access control (i.e. card readers at exterior doors into the facility)? Enter Yes or No.			Yes
D. Does this project include interior volumetric sensors (i.e. interior mounted motion detectors) in areas other than the interior CAA's or SCIF's? Enter Yes or No.			No
E. Does this project include interior closed circuit TV in areas other than the interior CAA's or SCIF's? Enter Yes or No.			No
Building Perimeter			
F. Does this project include exterior (building façade) volumetric sensors (i.e. exterior mounted motion detectors protecting critical exterior assets)? Enter Yes or No.			No
G. Does this project include exterior (building façade) closed circuit TV (i.e. building mounted cameras viewing exterior doors and around the building)? Enter Yes or No.			Yes

ESS Budget Estimator



Site Perimeter	
H. Does this project include exterior (site perimeter) access control (i.e. card readers at perimeter vehicle or pedestrian gates)? Enter Yes or No.	No
I. Does this project include exterior (site perimeter) intrusion detection (i.e. buried or fence mounted intrusion sensors)? Enter Yes or No.	No
J. Does this project include exterior (site perimeter) closed circuit TV (i.e. cameras viewing perimeter boundary of site)? Enter Yes or No.	No
K. Enter length of perimeter fence to be protected in linear feet.	0
Interior Enclaves	
L. Does this project include interior Sensitive Compartmented Information Facility's (SCIF's)? How many?	2
M. Enter the average size of the interior SCIF's in square feet.	400
N. Does this project include interior Controlled Access Areas (CAA's) in addition to SCIF's? How many?	1
O. Enter the average size of the interior CAA's in square feet.	450
Site Specifics	
P. Does this project include local monitoring (at the facility) or remote monitoring (at a central monitoring station) of the electronic security system? Enter Locally, Remotely, or Both.	Both
Q. Does this project warrant biometric devices for access control? Enter Yes or No.	No
R. Does this project warrant thermal imaging for the closed circuit television cameras? Enter Yes or No.	No
S. Does this project warrant video analytics/video content analysis for perimeter intrusion detection? Enter Yes or No"	No
T. What is the overall Level of Protection requirement of the facility? Enter Low, Medium, or High.	Low

ESS Budget Estimator (Output)



COST ESTIMATE			
System	Supporting Infrastructure	PSE Equipment	Total
Controlled Access Areas	4,345	14,842	19,187
Sensitive Compartmented Information Facilities	50,281	80,001	130,282
Interior Intrusion Detection Zones	0	0	0
Interior Closed Circuit Television Zones	0	0	0
Exterior (Bldg Façade) Access Control Zones	4,212	9,627	13,840
Exterior (Bldg Façade) Intrusion Detection Zones	0	0	0
Exterior (Bldg Façade) CCTV Zones	2,852	3,842	6,694
Perimeter Access Control Zones	0	0	0
Perimeter Intrusion Detection Zones	0	0	0
Perimeter Closed Circuit Television Zones	0	0	0
Biometric Access Control Zones	0	0	0
Thermal Imaging Zones	0	0	0
Video Analytic Zones	0	0	0
Exterior (Bldg Façade) Monitored Door Zones	0	0	0
ACS Local Monitoring Zones	1,492	7,964	9,456
CCTV Local Monitoring Zones	2,985	19,617	22,602
ACS Remote Monitoring Zones	2,985	14,843	17,828
CCTV Remote Monitoring Zones	5,970	48,124	54,093
SUBTOTAL	75,122	198,860	273,982
User Input (only applied to PSE Equipment)			
1. ACF	0.94	-11,932	
2. Contingency	10 %	18,693	
3. SIOH	8 %	16,450	
4. Escalation	1.15	33,311	
User Input (for OCONUS Mobilization/Per Diem)			
5. OCONUS	\$ -	0	
TOTAL	75,122	255,382	330,504
Total OP Request	\$ 255,381.90		
Total MILCON Request	\$ 75,121.75		

Gate Automation Equipment Estimator



Gate Automation Budget Estimator (Ver 12.07)	
Estimated by:	Your Name
Project Title:	Main Gate
Project Location:	NAVSTA Anywhere
Project Number:	P-XXX
Fiscal Year:	FY10
Date:	12/14/2007
ACF:	0.94
Escalation:	1.15
Number of Gates	1
Number in Ingress Lanes	4
Number of Egress Lanes	2
Number of Pedestrian Gates	1
Number of Security Dispatch Stations	1
Number of Badging Stations	2
Number of Badges/Assets	1000
Equipment Cost	\$251,607
System Design Cost	\$25,161
System Install/Programming Cost	\$75,482
Integration, Testing, & Training	\$35,225
Subtotal:	\$387,474
ACF Adjustment:	\$364,226
Escallation:	\$418,860
Contingency (5.0%):	\$20,943
Total Contract Cost:	\$439,803
SIOH (8.0%):	\$35,184
Subtotal:	\$474,987
Total OPN Funding Request :	\$480,000



Planning

Design

Construction

Acceptance

RFP/Design Development



- **ESS for Navy Military Construction (MCON/MCNR) Projects:**
 - Include ESS and associated infrastructure into the MILCON construction contracts.
 - ESS must be identified as a contract option and paid for with OP or O&M funds.
 - Coordinate funding with ATFP Ashore Program.
 - Provide Cost Estimates with ESS identified as a separate cost item (Contract Option).



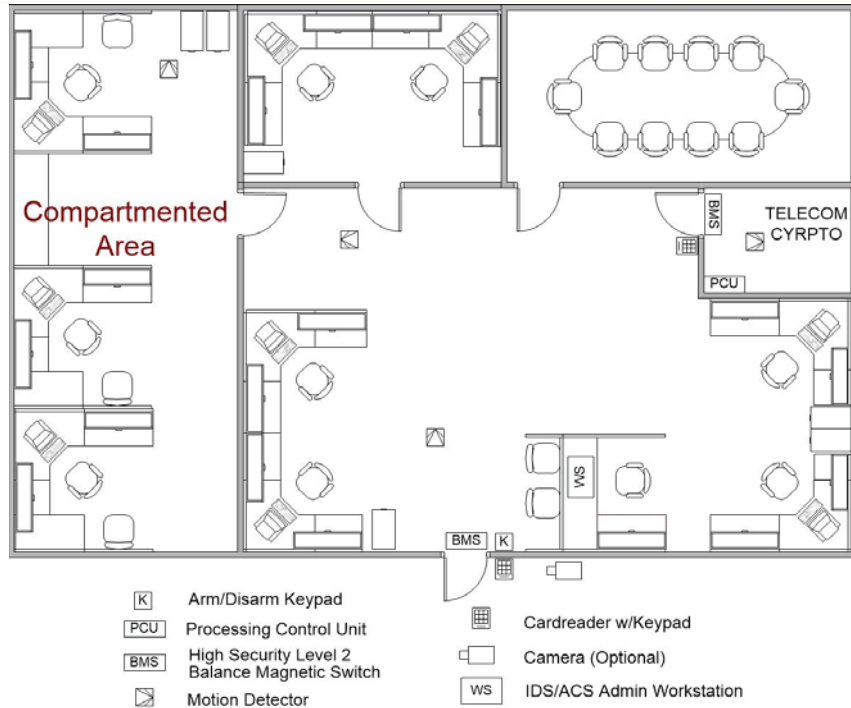
• **Intrusion Detection System**

- **All Interior areas of a protected area through which reasonable access could be gained shall be protected by IDS, unless continuously occupied.**
 - If the occupants of a continuously occupied space cannot observe all potential entrances, the space shall be equipped with a system to alert occupants of intrusions into the protected area.
- **Emergency exit doors shall be monitored 24 hours a day to provide quick identification and response to the appropriate door when there is an alarm indication.**

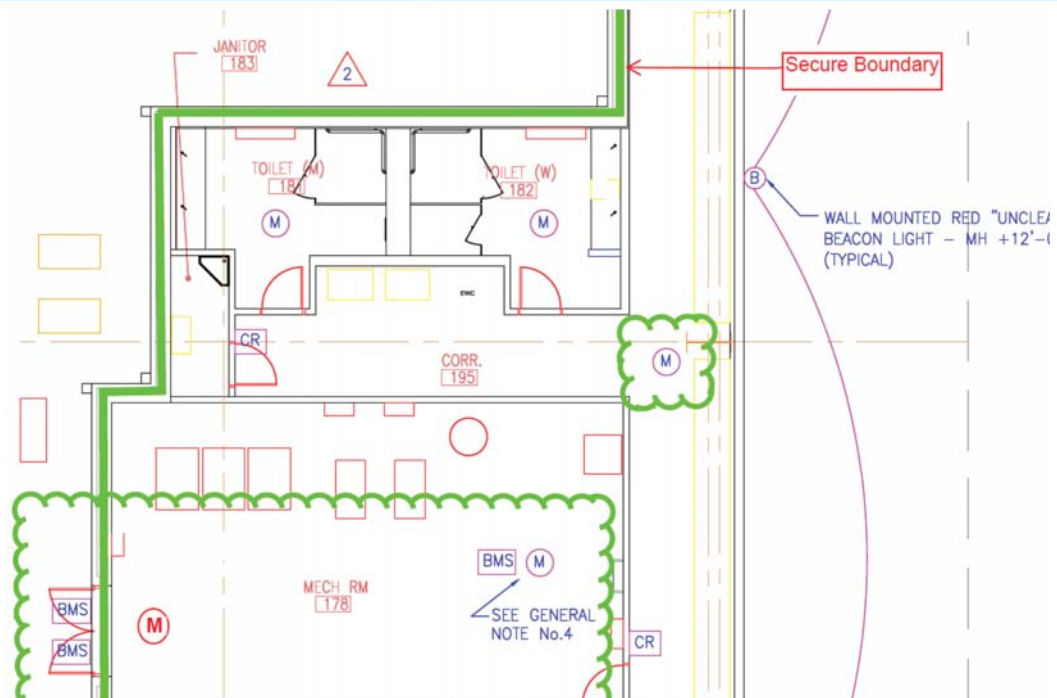


- **ATFP Ashore is not resourced or authorized to fund 100% coverage of volumetric sensors when there is security in-depth and reasonable access is low.**
 - **Volumetric sensors should be placed to protect doors and then strategically placed in the hallways leading up to or in the rooms where the secure assets are being stored, and where the crypto gear is located in the Secure Area.**
 - **ATFP Ashore will not fund card readers for compartmented areas within the space, exterior surveillance, or fence line (perimeter) electronic security systems.**

Notional Layout



Remember: Don't go Crazy!





- **Section 6.25 States:**

- **Refer to BMS B-1.3, Operational Outfitting Considerations for procedures and resources for ESS in support of projects**
- **The Project Manager must coordinate the ESS requirements and fund sources and confirm they are listed as separate CLINs on bid schedules.**
 - The CLINs for ESS must be an option item, not a planned modification.
 - Refer to UFGS 00 22 13.00 20 Supplementary Instructions to Offerors for guidance and formatting of ESS CLINs.

BMS B-1.3 Operational Outfitting Considerations



- **BMS states for Electronic Security Systems (ESS)**

- **Include ESS infrastructure in MCON/MCNR.**
- **Include the procurement, installation, and testing of ESS equipment as an Option to the MCON project.**
 - NOT A PLANNED MOD
 - NOT A CHANGE ORDER

BMS B-1.3 Operational Outfitting Considerations



- **MCON Project ESS Option for Navy MCON Project**
 - Stand alone option for procurement, installation, testing and training.
 - Period to Exercise the Option should be maximized to evaluate procurement options.
 - **When the MCON Bids are Received:**
 - Evaluate the cost of the ESS Option.
 - Inform the ESS funding source/s of actual cost and when funds will be required in order to exercise the option.
- **Considerations for Determining When to Request ESS Funding**
 - Contractor needs time to develop the Installation Design Plan (IDP) – usually 2-3 months.
 - Contractor is using COTS so procuring the ESS near the end of the construction will ensure the equipment is the latest design model and readily available.
- **Additional ways to obtain the ESS if the bid price is unreasonably high or the option expires.**
 - Award a separate stand alone contract for the ESS.

UFGS 00 22 13.00 20 Supplementary Instructions to Offerors



]] CLIN 0003 Option Item No. 2 - Price includes the following:

NOTE: The following option is an example of an Option item for Electronic Security System (ESS) when required in the project. Edit for each project. Use this paragraph when one option item is required. Add additional paragraphs if more than one option item is required. An example would be when one fund source pays for the equipment required to meet the policy based requirements, and the Supported Command provides funding for the additional equipment. (i.e. CCTV system for perimeter surveillance).

NOTE: The paragraph below is tailored for Design-Bid-Build (DBB) and Design-Build (DB). Choose the first bracketed option for DBB or the second bracketed option for DB.

UFGS 00 22 13.00 20 Supplementary Instructions to Offerors



Price for provision, design, installation, testing, and associated training for the Electronic Security System (ESS) equipment necessary for this facility. The ESS includes, but is not limited to, Intrusion Detection System (IDS), Access Control System (ACS), and Closed Circuit Television (CCTV) complete in accordance with the [drawings and specifications][RFP]. Equipment includes items such as Premise Control Units (PCU), central processing units, field panels, sensors, card readers, keypads, cameras, switches, video recorders, workstations, and the communication cabling connecting these devices together.

Include the price for supporting, permanent infrastructure under CLIN 0001 - BASE PRICE. Interior supporting infrastructure includes items such as conduit, junction boxes, electronic door strikes, door hardware, mounting hardware, and power connections. Exterior supporting infrastructure includes items such as exterior ductbanks, manholes, utility poles, utility connections, and power connections.

CLIN	DESCRIPTION	TOTAL PRICE FOR CLIN 0003
0003	Electronic Security System (ESS) equipment	\$ _____

UFC 1-300-09N Navy and Marine Corps Design Procedures



• SAMPLE BID SCHEDULE FOR DESIGN-BID-BUILD PROJECT

CLIN 0002 Option Item No. 1 - Price includes the following:

Price for provision, design, installation, testing, and associated training for the Electronic Security System (ESS) equipment necessary for this facility. The ESS includes but not limited to Intrusion Detection System (IDS), Access Control System (ACS), and Closed Circuit Television (CCTV) complete in accordance with the drawings and specifications. Equipment includes items such as Premise Control Units (PCU), central processing units, field panels, sensors, card readers, keypads, cameras, switches, video recorders, workstations, and the communication cabling connecting these devices together.

Provide the supporting infrastructure associated with ESS, such as conduit, junction boxes, electronic door strikes, door hardware, mounting hardware, power connections, exterior ductbanks, manholes, utility poles, utility connections, and power connections in CLIN 0001 - BASE PRICE.

CLIN	DESCRIPTION	PRICE
0002	Electronic Security System (ESS) equipment	\$ _____

This is not new!!



- In FY04, NAVFAC assumed responsibility for the management of the Navy's ATFP Ashore Program.
- For FY06 projects and beyond, NAVFAC's goal, was to fully integrate the design, procurement, installation and testing of ESS into MCON design and construction contracts.
- Dr. Wright, NAVFAC Chief Engineer, sent an email to NAVFAC CIBLS in March of 2006 with the Physical Security Equipment (PSE) transition plan to integrate the planning, design, and construction oversight of PSE into our business practices.
 - For FY06 and beyond, ESS procurement, installation, and testing will be included into the MCON construction project as an Option.

QUESTION



- **So why are there still contracts that are not using an Option for the procurement of the ESS for Navy MCON projects?**
 - Many contracts use “Planned Modifications” which is only intended to be used for the procurement of Furniture, Fixtures and Equipment (FF&E)
 - Many use Change Orders
 - Others use SPAWARS



Planning

Design

Construction

Acceptance

General Construction Coordination



• **Construction Manager:**

- **Coordinating required ESS infrastructure prior to equipment installation**
- **Coordinate site surveys for ESS contractor when separate from prime contract**
- **Coordinate the construction schedule with the supported command's site security manager.**
 - Coordinate site surveys by Site Security Manager when required for SCIF, SAPF, and Secure spaces
 - Recommend site security manager be invited to attend Design-Build (DB) Post Award Kickoff (PAK) or Design-Bid-Build (DBB) Pre-Construction Conference (PreCon).
- **Ensure timely on-site inspection, testing, training, and acceptance of ESS, as required.**



Program Roles and Responsibilities

▪ **Project Team:**

▪ **Planning/DD1391 Development**

- Coordinate with supported command to establish requirement for ESS (Program Manager to validate requirement and funding)
- Program for ESS infrastructure
- Include the appropriate OP or O&M cost
- Determine appropriate fund source and procurement strategy for ESS
 - NAVFAC ATFP Ashore or Supported Command
 - Option(s) to contract

Program Roles and Responsibilities



▪ **Project Team (cont.)**

▪ **Project design**

- Validate planning criteria
- Coordinate with supported command, security POC to refine ESS requirements.
- Include ESS infrastructure to support equipment

- **For Navy MCON: Include ESS procurement, installation, testing and training as an option to the contract.**

Program Roles and Responsibilities



▪ **NAVFAC HQ**

▪ **Program management**

- Funding and Requirement Validation for ESS
- Execution Plan/Budgeting



BMS B-1.3 Operational Outfitting Considerations



• Project Manager responsibilities

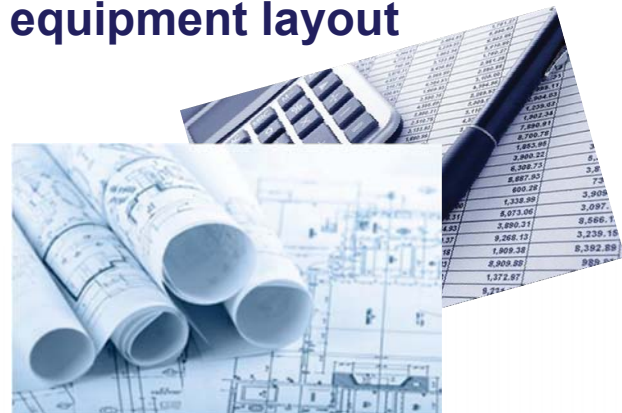
- Coordinate/submit the scope, funding and schedule requirements for the ESS to the ATFP Ashore Program Manager for programming.
- For ESS that is not a policy based requirement or not supported by the ATFP Ashore Program, coordinate funding with supported command.
- Include ESS infrastructure in MCON/MCNR.
- Include the procurement, installation, and testing of ESS equipment as an option to the MCON project.
- Coordinate and request the OPN ESS funds from ATFP Ashore or supported command, when required.
- Coordinate the design schedule with the supported command's site security manager to ensure timely reviews.

ATFP Ashore Funding



• When requesting funds from ATFP Ashore, provide:

- Justification that project falls under ATFP Ashore.
- Drawings with ESS equipment layout
- Cost Estimate
- Funding Request



ATFP Ashore MCON ESS

Guidance to the Field Activities



• **Justification:**

- **Verify the project is a Navy “Blue” MCON.**
- **Verify the asset being protected and the associated regulatory guidance or policy generates the requirement.**
- **Arms, Ammunitions, and Explosives (AA&E)**
- **Classified Materials (Secret and above)**
- **Classified Communications System**
 - SIPRNet
 - JWICS
- **Sensitive Compartmented Information (SCI)**
- **Special Access Program Information (SAPI)**

ATFP Ashore MCON ESS

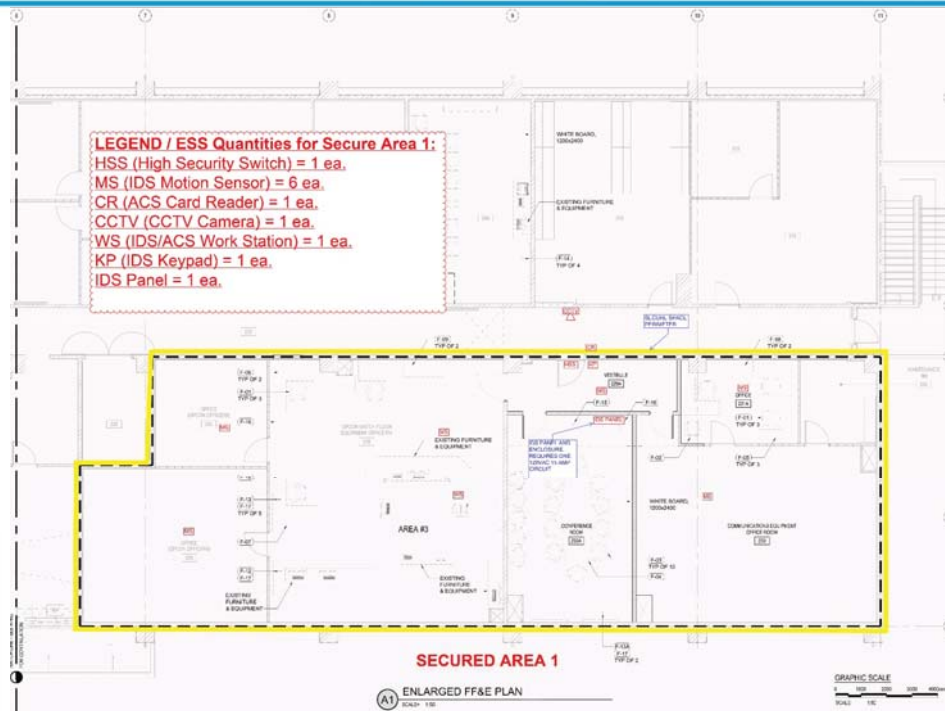
Guidance to the Field Activities



• **Drawings with ESS equipment layout:**

- **Floor plan clearly delineating the protected area(s) and equipment ATFP Ashore is expected to fund to include:**
 - The perimeter of the space(s) highlighted
 - Location of processing control unit (PCU) within the space.
 - Location of perimeter point sensors and volumetric sensors within the space.
 - Location of card reader with key pad and camera (optional) at the primary entrance
 - Location of Arm/Disarm keypad within the space
 - Location of Access Control Workstation
 - Table summarizing the types and quantities of ESS equipment proposed to be funded by ATFP Ashore

ATFP Ashore MCON ESS Guidance to the Field Activities



ATFP Ashore MCON ESS Submission, Review, Approval & Fund



- **ATFP Ashore uses the drawing submission to perform a preliminary review of the ESS.**
 - Ensures the drawings are consistent with the guidance provided in NAVFAC BMS B-1.3 Section 1.3.2 Perform Coordination for Electronic Security System (ESS) Equipment Procurement and Installation, and the notional layouts in UFC 4-021-02 Appendix C.
 - **ATFP Ashore provides initial recommendations to facilitate drawing package approval and focuses on the layout of the secure perimeter and the baseline ESS.**
 - ONLY One (1) PCU, Card Reader and Key Pad, and Camera per secure area, and BMSs and volumetric sensors covering each door and man passible opening along the secure perimeter.
 - Volumetric sensors strategically placed within the Protected Area (not 100% Coverage)
 - **Submitting drawings that are not consistent with the baseline requirements will add significant time to the review process.**

ATFP Ashore MCON ESS Submission, Review, Approval & Fund



- **After the Preliminary Review and submission of updated drawing package, ATFP Ashore performs a formal detailed review and validation.**
 - **PM to provide drawings with ATFP Ashore recommendations incorporated.**
 - Each drawing page is to include a table indicating quantities of ESS equipment.
 - **ATFP Ashore performs a detailed review of the drawings based on the Policy Baseline for the type of secure area.**
 - ATFP Ashore Reviewer will provide comments to PM for resolution.
 - **The PM updates the drawings and provides responses to the comments that will form part of the project submission.**
 - **ATFP Ashore and PM resolve the comments and reach concurrence on the types/quantities of the ESS to be funded by ATFP Ashore.**

ATFP Ashore MCON ESS Guidance to the Field Activities



- **Cost Estimate:**
 - **Budget Estimate for DB Projects**
 - **Cost Estimate for DBB Projects**
 - Cost estimate does not need to be completed until ATFP Ashore validates the funding requirement.
- **What ATFP ashore does not fund and is the responsibility of the Base/Supported Command/End User.**
 - **Anything above the policy based requirement**
 - **Equipment exterior to the facility to connect to the base system to include in the central monitoring station**
 - **Any certifications to include accreditation and cybersecurity certifications**
 - **Follow-on sustainment/maintenance of the ESS**

ATFP Ashore MCON ESS Submission, Review, Approval & Fund



- After resolution of Cost Estimate, FEC PM sends the Final Project Submission to ATFP Ashore which includes the Final Drawings, Cost Estimate and E-mail with resolution of comments.
- Final project package submission will be forwarded to the ATFP Ashore PS/AC APM for final review/approval. Includes the following documentation:
 - Final project submission documents from the FEC PM.
 - Recommendation for approval with detailed summary from ATFP Ashore reviewer.
- ATFP Ashore PS/AC APM reviews Final Project Submission and Summary from the ATFP Ashore review and provides notification of approval.

ATFP Ashore MCON ESS Submission, Review, Approval & Fund



- Proceed to funding of the project after ATFP Ashore PS/AC APM approval.
 - ATFP Ashore provides guidance to the FEC PM for completion and submission of a formal funding request through the NAVFAC e-Tracker System and for back-up documentation, e.g., contractor's proposal, to be provided separately to justify that the funds being requested are for the approved quantities of ESS.
 - Upon request, ATFP Ashore will provide Promise-to-Pay to the FEC PM to facilitate issuance of an RFP and award of the Option.
 - FEC PM completes and submits the formal funding request in the NAVFAC e-Tracker System based on the amount for the Option and submits back-up documentation in e-mail to the ATFP Ashore PS/AC APM and BFM. Total funding request includes amount for award of Option plus 8% for FEC supervision & administration (for OPN funded projects per NAVFAC HQ).
 - Upon approval of the funding request, ATFP Ashore coordinates issuance of project funds to the FEC for award/execution of the Option for the MCON ESS Project.

ATFP Ashore MCON ESS

Common Concerns and Questions



- **What will ATFP Ashore Fund ?**
 - ESS for Navy MCON based on DoD, SECNAV or OPNAV Policy/Regulatory requirements.
- **Who does the Design ?**
 - Designer of Record provides system layout and major elements with location in sufficient detail to design the infrastructure required (power, conduits, etc).
 - Designer of Record provides specification UFGS 28 10 05 Electronic Security System (ESS) and UFGS 28 08 10 Electronic Security System Acceptance Testing.
 - UFC 4-021-02 provides sufficient detail to design the system.
 - DoD, DNI, SECNAV and OPNAV manuals and instructions provide baseline requirements.
- **Who funds Design ?**
 - Infrastructure, equipment layout and equipment specifications are funded as part of the MCON project. (Designer of Record)
- **MCON Contractor provides ESS IDP (equipment, system architecture, wiring, control elements, signal routing, encryption, line supervision, and central monitoring system interface) in accordance with contract documents and policy/ regulatory requirements.**

ATFP Ashore MCON ESS

Common Concerns and Questions – cont'd



- **How to determine the budget cost?**
 - ESS Budget Estimator for DD1391 or DB RFP
 - ESS Cost Estimator for DBB.
- **Why an Option to Navy MCON?**
 - To fully integrate the design, procurement, installation and testing of ESS into MCON design and construction projects.
- **What if bid price is unreasonably high?**
 - Award a separate stand alone contract for the ESS.
- **What if the Option expires?**
 - Award a separate stand alone contract for the ESS.
- **Is building complete and useable without the ESS installed?**
 - Yes, building just needs to be occupied/guarded.

ATFP Ashore MCON ESS

Common Concerns and Questions – cont'd



- **Are there special requirements associated with the installation of the infrastructure associated with ESS equipment for MCON Projects?**
 - Only for SCI & SAP: Must be U.S. Company using U.S. Citizen
- **Are there special requirements associated with the installation and testing of ESS equipment for MCON Projects?**
 - **Depends on the location and asset:**
 - AA&E has no special requirement
 - Classified Information within the U.S.: U.S. Citizen with a trustworthiness determination (DBIDS or NCACS credential)
 - SCIF & SAPF within the U.S.: U.S. Company using U.S. Citizen
 - SCI & SAP outside U.S.: Top Secret-cleared, Secret-cleared.
- **Contained in UFGS 01 14 00 Work Restrictions**

NAVFAC Take Away



- **As a construction agent for the Department of Defense, we must understand the requirements for ESS and ensure that the projects we plan, design, and construct meet the policy based accreditation requirements.**
- **Be Proactive: Find out who is the designated Site Security Manager.**
 - Get them involved early in the project planning.
 - Keep them involved throughout the project.

Supported Command's Take Away



- **NAVFAC needs your input during the entire process (planning, design and construction).**
- **Be Proactive: Assign a Site Security Manager during the planning phase and ensure their involvement throughout the project.**
 - Provide the project requirements to NAVFAC as early in the process as possible.
 - Make sure the designer of record understands the project security requirements.
 - Review submittals.
 - Attend planning, design and construction meetings.
 - Get involved and keep involved throughout the project.

