

**NAVY MODERNIZATION PROCESS
MANAGEMENT AND OPERATIONS MANUAL
(NMP-MOM)**

**APPENDIX H
FLEET EXPERIMENTATION AND
TECHNOLOGY DEMONSTRATION**

31 OCTOBER 2019

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REFERENCES

Ref #	References by Tracking Number, and Title
H(a)	SECNAV Memorandum of 15 October 2015, Afloat and Ashore Installation Policies for Experimentation and Exercises
H(b)	COMUSFLTFORCOMINST/COMPACFLTINST 3900.1D Fleet Experimentation Program
H(c)	COMNAVWARDEVCOMINST 3903.1B Fleet Experimentation Program Administration and Execution
H(d)	PEOIWSINST 4130.1 (Series), PEO IWS Enterprise Configuration Control Process
H(e)	COMFLTFORCOMINST/COMPACFLTINST 4720.3C U.S. Fleet Forces Command/U.S. Pacific Fleet C5ISR Modernization Policy
H(f)	NAVSEA SL720-AA-MAN-030, Rev 4 Navy Modernization Process Management and Operations Manual
H(g)	TS9090-310G Change 2 Alterations To Ships Accomplished By Alteration Installation Teams
H(h)	DoD Instruction 8500.01 Cybersecurity
H(i)	NAVSEA T9072-AF-PRO-010. Shock Hardening of Surface Ships
H(j)	MIL-STD-167-1A (Series), DoD Test Method Standard: Mechanical Vibrations of Shipboard Equipment (Type I-Environmental and Type Internally Excited)
H(k)	NAVSEAINST 9700.2 (Series) Integrated Topside Safety and Certification Program for Surface Ships
H(l)	MIL-STD-461 (Series), DoD Interface Standard: Requirements for the Control of Electromagnetic Interference Characteristics of Subsystems And Equipment
H(m)	MIL-STD-464 (Series), DoD Interface Standard: Electromagnetic Environmental Effects, Requirements For Systems
H(n)	NAVSEA OP 3565 Volume I (Series), Electromagnetic Radiation Hazards (HAZARDS to Personnel, Fuel, and other Flammable Material)
H(o)	NAVSEA S9310-AQ-SAF-010 Navy Lithium Battery Safety Program Responsibilities and Procedures
H(p)	OPNAVINST 2400.20 (Series), Electromagnetic Environmental Effects (E3) and Spectrum Supportability Policy and Procedures
H(q)	NAVSEAINST 9410.2(Series), NAVAIRINST 5230.20(Series), SPAWARINST 5234.1(Series) Naval Warfare Systems Certification Policy
H(r)	NAVSEAINST 8020.6E of 11 Mar 2008, Department of the Navy Weapons Systems Explosive Safety Review Board
H(s)	NAVSEA SG270-BV-SAF-010 High Energy Storage System Safety Manual

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APPENDIX H

FLEET EXPERIMENTATION AND TECHNOLOGY DEMONSTRATION INSTALLATIONS

SUBSECTION H-1 Overall Navy Modernization Process (NMP) Requirements

H-1.1 Scope

In order to realize a more agile and effective process for experiments and demonstrations, Secretary of the Navy (SECNAV) issued a memorandum (reference H(a)) that outlines the policy, process, and responsibilities for planning, obtaining authorization, installing, removing, and reporting removal of equipment, systems, and/or software for installations designated as Fleet Experiments (FLEX) or Technology Demonstrations (TECH DEMO) onboard operational Fleet ships. The memorandum addressed and directed the following:

- Evaluate current processes and identify measures to improve and reduce difficulties related to conducting experiments aboard ships.
- Examine and highlight unique challenges and barriers to experimentation, certification and accreditation in all warfare domains (air, surface, submarine, expeditionary, unmanned, autonomous, agile manufacturing, electromagnetic, cyber, etc.).
- Make recommendations to change legacy practices, roles, responsibilities, authorities, and resourcing.
- Propose needed policy changes to solve or mitigate current installation process requirements that hinder rapid innovation/experimentation efforts.

Note 1: FLEX and TECH DEMO SCD detailed Business Rules in Appendix D will be incorporated when corresponding EP Software changes are implemented in NDE. Until then submitters are to follow SCD requirements in this appendix.

Note 2: This appendix does not apply to Submarines.

A template for the FLEX or TECH DEMO Data Package is provided in Exhibit H-4.

This appendix is applicable to all fleet experiments and technology demonstrations onboard U.S. Navy surface ships and aircraft carriers that fall within the following constraints:

a. Non-Navy sponsors of fleet experiments and technology demonstrations shall have a government sponsor with NMP training and Navy Data Environment (NDE) access to facilitate documentation and execution processes outlined in this document.

b. IAW reference H(b), all experimentation requiring the services of fleet assets is considered Fleet Experimentation (FLEX) that is managed by the Navy Warfare Development Command (NWDC). Fleet experiments shall be entered into FIMS, which is the single repository housing all FLEX events, initiatives, and related documentation. Experiments are supported by data collection and analysis, providing tangible products for Fleet use, and will provide resultant findings and recommendations leading to improvements in naval warfighting capabilities spanning Doctrine, Organization, Training, Materiel, Leadership Development, Personnel, Facilities, and Policy (DOTMLPF-P). Fleet experiments shall be reviewed and accepted by NWDC under the FLEX Program.

c. Technology demonstrations shall be reviewed and accepted by the applicable Type Commander (TYCOM) and Ship Program Manager (SPM) and tracked as part of the NMP documentation.

d. All equipment, systems, and/or software installed to conduct a fleet experiment or technology demonstration must be removed at the conclusion of the event, and the ship shall be restored to its original configuration. The duration of installations shall not exceed 90 days including removal and restoration. Exceptions can be granted on a case-by-case basis by the SPM, TYCOM, and/or FLTCDR, as required based on the Strike Force Interoperability (SFI) Category (CAT) of the installation as defined in reference H(b).

e. Experiments and demonstrations shall be designated to be conducted as either in-port or at-sea, which affects the extent of technical assessments required. If an experiment or demonstration is planned to be conducted both in-port and at-sea, the experiment or demonstration shall be designated at-sea for the purpose of following the guidance contained within this document.

f. At-sea experiments and demonstrations shall be limited to ships not deployed, not forward deployed, and not actively engaged with operational mission tasking, unless specifically assigned and approved by a numbered FLTCDR and/or FLTCDR. See Table H-1 for definitions of deployed and forward-deployed ships.

H-1.2 Definitions

For the purpose of this appendix, the definitions listed in Table H-1 below apply:

Table H- 1 Definitions

Term	Definition
Fleet Experimentation (FLEX)	<p>All experimentation requiring the services of fleet assets is considered Fleet Experimentation (FLEX). Experiments are supported by data collection and analysis, providing tangible products for Fleet use, and will provide resultant findings and recommendations leading to improvements in naval warfighting capabilities spanning Doctrine, Organization, Training, Materiel, Leadership Development, Personnel, Facilities, and Policy (DOTMLPF-P).</p> <p>Process Conditions: (1) FLEX installations may be on a specific ship or several ships of a class, or on a group of ships, such as a Carrier Strike Group (CSG).</p>

Term	Definition
	<p>(2) The duration of installations shall not exceed 90 days including removal and restoration.</p> <p>(3) FLEX can be accomplished in port or at-sea.</p> <p>(4) FLEX cannot be used to provide an interim capability to support operational and training requirements for Platform Type Commanders (TYCOMs), Operational Commanders, Immediate Superior In Command (ISIC), or Commander, US Fleet Forces Command (CFFC).</p> <p>(5) The FLEX installations must be removed at the end of the experiment, the ship(s) returned to the original configuration or state, and the original system recertified.</p>
FLEX Information Management System (FIMS)	FIMS is a web-based application on SIPRNET. FIMS is the point of entry for all FLEX initiatives and the repository housing all FLEX events, initiatives, and related documentation with the exception of Ship Change Documents (SCDs). SCDs are maintained in Navy Data Environment (NDE).
FLEX or TECH DEMO Sponsor	The FLEX or TECH DEMO Sponsor (referred to as the Sponsor in this Appendix) is the organization responsible for planning, conducting, and funding the fleet experiment. Example sponsors include: Program Offices, Office of Naval Research (ONR), universities, and private companies.
FLEX or TECH DEMO Government Sponsor	The FLEX/TECH Government Sponsor (referred to as the Government Sponsor in this Appendix) is the SYSCOM or Program Acquisition Resource Manager (PARM) organization responsible for planning the FLEX or TECH DEMO installation, to include preparing the Ship Change Document (SCD), FLEX or TECH DEMO Data Package, Risk Assessment Message, and/or coordinating the installation and removal.
FLEX or TECH DEOM SCD Initiator	The FLEX or TECH DEMO SCD Initiator (referred to as the SCD Initiator in this Appendix) is the person designated in the organization (usually the SYSCOM or PARM) responsible for initiating a Ship Change Document (SCD), if required, identifying the information needed to begin the planning process for FLEX or TECH DEMO installations.
FLEX or TECH DEMO Preparer	FLEX or TECH DEMO Preparer (referred to as the Preparer in this Appendix) is the person designated in the SYSCOM or PARM organization responsible for planning FLEX installations, preparing the SCD, FLEX or TECH DEMO Data Package, Risk Assessment Message, and/or coordinating the installation and removal of the equipment, systems, and/or software. The Preparer can be the Sponsor or a separate organization hired by the Sponsor to manage the process.
Ship Program Manager (SPM)	The NAVSEA Program Executive Office (PEO) or Directorate responsible for all modernization of the ship(s) on which the experiment will be performed.
Ship Design Manager (SDM)	The NAVSEA 05 technical manager responsible for the design of all equipment and systems onboard a designated ship or class of ships.
Systems Integration Manager (SIM) for Warfare Systems	The NAVSEA 05 technical authority responsible and accountable to integrate systems of systems that support mission area warfighting capabilities that are physically/functionally integrated or stand-alone and interoperable across multiple programs from a platform and Force Level perspective.
Systems Integration Manager (SIM) for Combat Systems	The NAVSEA 05 technical authority responsible and accountable to integrate combat systems and enable cohesive combat mission capabilities while ensuring safe operations.
Type Commander (TYCOM)	The applicable platform TYCOM responsible for the readiness and training of the ship(s) on which the experiment or demonstration will be performed.
Deployed Ship	The period when a ship is designated in a deployed status with operational mission tasking, and/or when a ship is operating in an area where a potential shock event may occur. For example, a ship in transit to the deployment area of operation that has not yet been operationally tasked, and has a minimal risk of a shock event, is not yet deployed for the purposes of this procedure.
Forward Deployed Ship	A ship in a deployed status stationed in a forward operating AOR or port, such as Spain or Japan, which is operationally tasked with missions. (Includes transit to and from forward port if the transit involves mission tasking). If a ship transits out of its

Term	Definition
	forward deployed area to participate in an exercise, such as RIMPAC, and its tasking is to conduct the exercise, then for the purposes of this instruction, it would not be considered to be forward-deployed during the exercise.
FLEX or TECH DEMO Ship Change Document (SCD)	FLEX or TECH DEMO SCD is the authorized document used to communicate a FLEX or TECH DEMO proposal and facilitate the decision process to obtain approval for installations on Surface Ships and Aircraft Carriers. The extent of SCD documentation required is based on the type and category of FLEX or TECH DEMO installation planned as outlined in Exhibit H-2.
FLEX or TECH DEMO Data Package	Supplemental technical, logistic, and planning information in support of a FLEX or TECH DEMO installation that is not normally covered in an SCD or Ship Installation Drawing (SID)s.
Technology Demonstration (TECH DEMO)	Technology Demonstration is a system, equipment, capability demonstration in a relevant environment (i.e., onboard a Navy vessel or in a Naval Shipyard) to evaluate (on a temporary basis not to exceed 90 days), but not complete or qualify a system, principal unit or software under evaluation to successfully integrate with the required interfacing Naval systems. Upon completion of the Technology Demonstration evaluation, it is the responsibility of the organization installing the equipment, system, and/or software to support its complete removal and return to the original configuration or state, and the recertify the original system, if required.

H-1.3 Drivers

FLEX or TECH DEMO installations may be driven by one of the following requirements:

- a. Research and Development (R&D): Projects that are Research, Development, Test & Evaluation (RDT&E)-funded and that support unique T&E requirements (i.e., evolutionary in design or capability)
- b. Testing Requirements: Demonstration of a new technology.

H-1.4 Categories

There are only two categories of installations that fall under the constraints of this appendix as follows:

- a. FLEX

- (1) FLEX Program Overview

IAW reference Q(b), Commander, U.S. Fleet Forces Command (COMUSFLTFORCOM), in coordination with Commander, U. S. Pacific Fleet (COMPACFLT), and Commander, Naval Forces Europe (COMNAVEUR) maintains program oversight for the FLEX Program. COMUSFLTFORCOM and COMPACFLT will issue Commanders' Guidance via naval message annually to focus experimentation on Urgent Operational Need Statements (UONS), Integrated Prioritized Capability Lists (IPCLs), Integrated Priority Lists (IPLs), and other fleet priorities. This guidance is specifically used to gauge the value to the Navy when conducting experimentation as part of the FLEX Program. FLEX generally focuses on the near-term out to 5-year timeframe for extended campaigns and delivery of products.

COMUSFLTFORCOM delegates authority and responsibility for the administration, planning, and execution of the FLEX Program to Commander, NWDC. Reference H(c) establishes the roles and responsibilities for the administration and execution of the FLEX Program at NWDC.

(2) FLEX Program Process

The following are the key steps in the NWDC process for the FLEX Program:

(a) FLEX Commanders' Guidance

- i) Issued by COMUSFLTFORCOM, COMPACFLT and COMNAVEUR – updated annually in Jan/Feb.
- ii) Two-year time span.
- iii) Focus FLEX on Fleet priorities and urgent needs.

(b) NWDC develops annual FLEX Execution Plan (ExPlan)

- i) In March/April timeframe of each year, NWDC hosts a FLEX ExPlan Development Workshop (EDW) where initiatives are briefed, developed, and mapped to Fleet experimentation events.
- ii) Sponsors/leads are identified for conducting detailed planning and execution.
- iii) NWDC screens all proposed initiatives, reviews them for merit via a selection panel, and prepares final FLEX ExPlan.
- iv) Plan is approved by COMUSFLTFORCOM, COMPACFLT and COMNAVEUR then promulgated in Fleet Experimentation Information Management System (FIMS) by September for execution in next FY.

(c) Execution Phase

- i) Sponsors/leads coordinate with NWDC to develop detailed plans, submit POA&Ms, obtain Fleet authorization, and execute the experiments.
- ii) Sponsors/leads issue post-execution reports detailing results and accomplishments compared to planned objectives.

(d) FIMS Database

- i) All initiatives are entered, tracked, and dispositioned in FIMS located on SIPRNet (<http://portal.nwdc.navy.smil.mil/fims>).
- ii) Initiatives can be entered year round.

- iii) The approved FLEX ExPlan is maintained and updated as necessary in FIMS.
- iv) All Fleet experiment results are documented in FIMS.

b. TECH DEMO

(1) TECH DEMO Overview

This appendix also covers temporary installations onboard ships for short-term TECH DEMOs that are not considered fleet experiments, and are not coordinated by NWDC as part of the FLEX Program. TECH DEMOs are normally sponsored by an acquisition program or research and development program, installed to demonstrate a new technology that is or may become an acquisition Program of Record (POR) or to further SCD development, and are directly coordinated with the applicable TYCOM and SPM to select a ship and timeframe for execution.

The same restrictions will apply to temporary installations for TECH DEMOs, except they will not be entered into FIMS for tracking purposes. Instead, they will be authorized and approved by the SPM and TYCOM, and tracked in the normal NMP documentation to ensure they are properly identified, planned, technically evaluated, and approved.

(2) TECH DEMO Process

The following are the key steps for TECH DEMO installations that meet the constraints of this appendix:

(a) Pre-planning Phase

- i) Sponsor/lead verifies that the Technology Demonstration does not meet criteria under the NWDC FLEX Program.
- ii) Sponsor/lead coordinates with appropriate SPM and TYCOM to identify candidate ships and dates for the technology demonstration. The SPM coordination is initiated through the appropriate platform Technical Assessment Team (TAT) Change Manager (CM).

Table H- 2 SPM and TYCOM Points of Contact

	SPM	TYCOM (HM&E)	TYCOM (C5ISR)
Aircraft Carriers	PMS 312	CNAL N43	CNAP N43
Surface Ships (CG, DDG, LCC, LHA, LHD, LPD, LSD, MCM, PC)	PMS 407/PMS 443	CNSL N43, CNSP N43	CNSL N43/N6, CNSP N43/N6
LCS	PMS 505	CNSL N43, CNSP N43	CNSL N43/N6, CNSP N43/N6

- iii) Sponsor/lead identifies and coordinates with the Preparer, Initiator and/or Submitter to plan the installation.

(b) Execution Phase

- i) Sponsor/lead coordinates with the Preparer/Initiator/Submitter, SPM, and TYCOM to develop detailed plans, submit POA&Ms, obtain Fleet authorization, and execute the technology demonstrations.
- ii) Sponsor/lead issues post-execution reports detailing results and accomplishments compared to planned objectives.
- iii) For TECH DEMO installations that require an SCD or Data Package in accordance with Section H-2.5 below, all documentation and results will be maintained in NDE EP as attachments to the SCD.
- iv) For TECH DEMO installations that do not require an SCD or Data Package in accordance with Section H-2.5 below, the installation details and any required technical assessment information shall be included in the TECH DEMO Risk Assessment Request Message (Section H-2.9 below) and results shall be included in the TECH DEMO Removal Message (Section H-2.12 below).

H-1.5 FLEX or TECH DEMO Planning Overview

FLEX or TECH DEMO planning requirements are listed below.

- e. Installation Planning: Depending on the complexity, it is recommended that a Phase II SCD be submitted as early as possible to meet the notional planning milestones and to accommodate all the necessary approvals and authorizations for installation and removal.

For FLEX or TECH DEMOs that will impact the Integrated Combat System (ICS), the Submitter must enter the change into the ICS Configuration Control Board (CCB) in accordance with (IAW) reference H(d), prior to submitting an SCD in NDE.

The Cost Benefit Analysis (CBA) Fielding Plan (FP) should include two installations for each ship - one for the installation and one for the removal.

- f. Operational Life Cycle: A FLEX or TECH DEMO once installed, can remain onboard for no longer than 90 days.
- g. FLEX or TECH DEMO Extensions: If the FLEX or TECH DEMO exceeds the 90-day period or the originally approved removal date of the FLEX or TECH DEMO, the Sponsoring Activity shall submit a Naval Message to the FLT CDR (SFI CAT 1 and 2) or TYCOM (SFI CAT 3 and 4) (info Ship Program Manager (SPM) and applicable Regional Maintenance and Modernization Coordination Office (RMMCO)) formally requesting approval of an extension request. A revised Plan of Action and Milestones (POA&M) or timeline shall be included in the Naval

Message. If the extension request is approved by the FLT CDR or TYCOM, the Naval Message shall be attached to the SCD in Navy Data Environment (NDE).

If applicable, the SCD CBA FP shall be updated to reflect the Fiscal Year (FY) for the removal and submitted for approval. When the updated SCD is approved, NDE removal record should be updated to reflect new removal dates (if applicable).

- h. Removal: The Sponsoring Activity will ensure the Sponsor removes the FLEX or TECH DEMO, and the ship is restored to its original condition (i.e., the condition prior to the change being installed).

Note: For installation, extension or removal of Command, Control, Communications, Computers, Combat Systems, Intelligence, Surveillance, and Reconnaissance (C5ISR) FLEX or TECH DEMO, follow the additional guidance in reference H(e).

Note: All FP changes (installation or removal) that impact the ICS must go through the ICS CCB IAW reference H(d).

SUBSECTION H-2 Navy Modernization Process for FLEX or TECH DEMO

H-2.1 Overview

Figure 1 illustrates the process steps to be followed in planning and obtaining approval to install equipment, systems, and/or software for conducting a fleet experiment or technology demonstration onboard an in-service U.S. Navy ship. Each proposed FLEX installation must be entered into FIMS for tracking purposes. TECH DEMO installation will be tracked by the SPM and TYCOM through NMP documentation. The Sponsor shall designate an organization to conduct the detailed planning for the installation and removal (hereafter referred to as FLEX or TECH DEMO “Preparer”), who will identify and coordinate a proposed platform, schedule, architectural drawing, and description of the experiment or technology demonstration with the appropriate numbered FLTCDR. If the numbered FLTCDR concurs with the proposed platform and schedule, the Preparer shall conduct a site visit to determine implementation options, conduct design planning, and acquire all required technical information for completing the NMP process requirements. Non-Navy sponsors of fleet experiments and technology demonstrations shall have a government sponsor with NMP training and Navy Data Environment (NDE) access to facilitate documentation and execution processes outlined in this appendix.

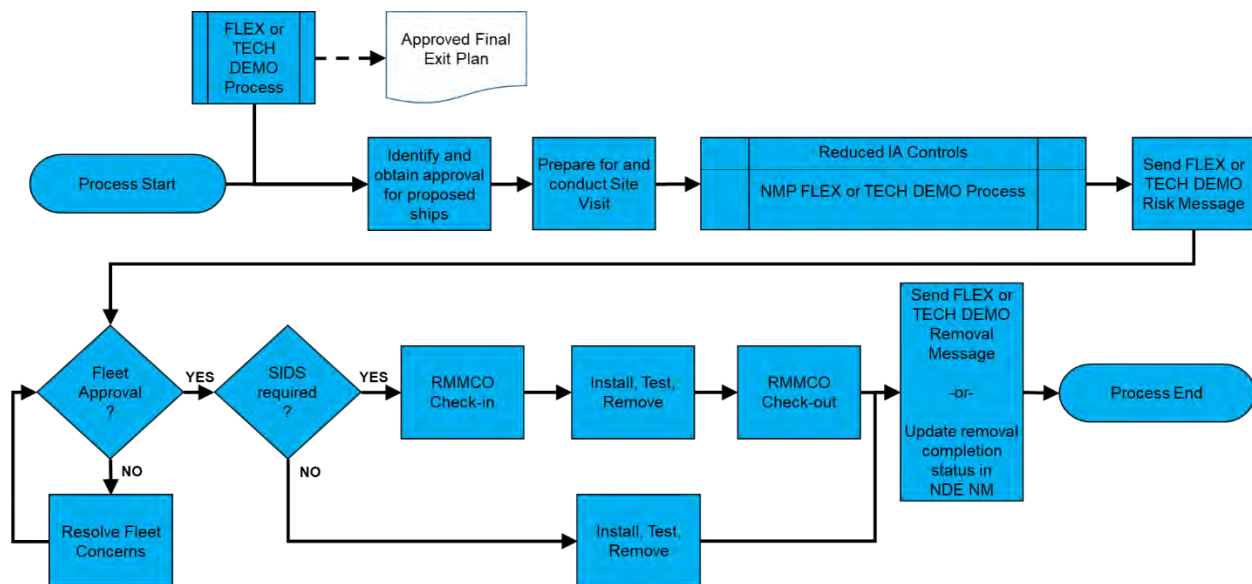


Figure 3 Navy Modernization Process for FLEX or TECH DEMO

H-2.2 Experimentation Groups, Scenarios, and Process/Product Components

Exhibit H-1 identifies and defines the FLEX or TECH DEMO groups, possible scenarios for each group, and possible process/product requirements that are used as a guide for planning and obtaining authorization to install equipment, systems, and/or software for fleet experiments and technology demonstrations.

The FLEX or TECH DEMO groups are listed in Exhibit H-1 Table H-4, and are designed to represent different installation configurations based on size, weight, complexity, mounting, transmitting capability, and cabling requirements. They cover very simple installations, such as

software only or a carry-on laptop, to much more complex installations, such as installed new cabinets or equipment in CONEX boxes. The process steps and technical assessments required vary depending on the complexity of the installations and are tailored to the risks that these different configurations represent to the ship and/or personnel.

The scenarios are listed in Exhibit H-1 Table H-5, and describe whether the ship is in-port or at-sea, and the different types of ship's network connectivity – Disconnected, C4I, Warfare/Combat System, or Non-Tactical (i.e., HM&E). Each network connection requires different technical assessments, and if installations are connected to two or more networks, they must meet all of the requirements of each.

The possible process/product requirements are listed in Exhibit H-1 Table H-6, and represent all of the process steps and technical assessments that could be required to plan, obtain authorization, install, remove, and report removal of installations for experiments and demonstrations. The required steps and assessments are determined by the complexity of the installation, type of network connectivity, and whether the ship is in-port or at-sea.

H-2.3 NMP FLEX or TECH DEMO Process/Product Requirements

Exhibit H-2 contains Tables H-8 through H-19 that specify the detailed process/product requirements for the different FLEX or TECH DEMO groups and scenarios listed in Exhibit H-1. Each table covers the process/product requirements for all eight scenarios, and provides the specific process steps and technical assessments required to plan, develop, authorize, install, and remove equipment, systems, and/or software for fleet experiments and technology demonstrations based on their complexity, connectivity to the ship's networks, and ship's location.

The Preparer shall determine which experimentation group(s) applies to their experiment or demonstration installation and then use the appropriate table in Exhibit H-2 for their detailed planning and execution. A "YES" in the table means that the process step or technical assessment is "Required", and an "A/R" means that it is "As required" based upon requirements of the experiment or demonstration and associated risk to the ship and/or personnel. Exhibit H-2 provides guidance on when an item marked as "A/R" is required to be performed, and explicitly identifies when they are required in the notes for each table.

The Preparer shall document the FLEX or TECH DEMO Experimentation Group/Scenarios that apply from Exhibit H-2 to the planned installation and a description of how the installation meets the criteria for the Group/Scenarios identified in the SCD Executive Summary (if required), FLEX or TECH DEMO Data Package Alteration Brief (if required), and the FLEX or TECH DEMO Risk Assessment Request Message.

If an experiment or demonstration installation involves connection to two or more ship's networks, or if it falls into more than one experimentation group, then the Preparer must follow the process/product requirements for each applicable network and all applicable groups.

H-2.4 Technical Assessments

Some of the process/product requirements in the Exhibit H-2 tables are technical assessments that are required for certain installation configurations depending on the network connectivity

and ship's location. These assessments can be complicated and sometimes confusing as to when they are required or how to perform them.

Exhibit H-3 provides guidance on potential technical concerns and issues associated with FLEX or TECH DEMO installations. Exhibit H-4 Attachment B of the FLEX or TECH DEMO Data Package contains guidance on the types of ship impacts that could occur. Utilizing these resources, the Preparer shall identify all the potential impacts to the ship associated with the installation.

If NAVSEA Technical Warrant Holder (TWH) assessments are required, such as for shock, topside analysis, or Electromagnetic Interference (EMI), they shall be performed by the appropriate technical community. TWH assessments are documented in the FLEX or TECH DEMO Data Package Attachment G (other Objective Quality Evidence (OQE)) of Exhibit H-4; reviewed by the Systems Integration Manager (SIM) for C5ISR, and accepted by the Ship Design Manager (SDM). The technical review of the FLEX or TECH DEMO Data Package will be coordinated by the appropriate platform Technical Assessment Team (TAT) Change Manager (CM).

H-2.5 Streamlined NMP Approval Process

Ship changes to surface ships and carriers are normally processed, managed, and authorized through Ship Change Documents (SCDs) in accordance with reference H(f). However, for FLEX or TECH DEMO installations, the NMP approval process has been streamlined to occur through one of three methods that scale upward in requirements as the complexity of the installation and the risk to the ship and personnel increases. Exhibit H-2 provides the specific approval requirements for each experimentation group and scenario, and the key steps are summarized in Table H-3 as a function of the complexity/ship impact.

Table H- 3 NMP Authorization Method

Complexity/ Ship Impact	Process Required for Approval		
Low			FLEX or TECH DEMO Risk Assessment Request Message
Moderate	FLEX or TECH DEMO SCD (Initiated (Header Only))	FLEX or TECH DEMO Data Package	FLEX or TECH DEMO Risk Assessment Request Message
High	FLEX or TECH DEMO SCD (Submitted)	FLEX or TECH DEMO Data Package	FLEX or TECH DEMO Risk Assessment Request Message

Low Complexity/Ship Impact. Installations that are low in complexity/ship impact, such as a carry-on laptop, do not require a FLEX or TECH DEMO SCD or Data Package. A FLEX or TECH DEMO Risk Assessment Request Message is prepared and submitted in accordance with Section H-2.9 below to request installation authorization and conduct the experiment or

demonstration. The installation details and any required technical assessment information are included in the message.

b. Moderate Complexity/Ship Impact. Installations that are moderate in complexity/ship impact, such as new equipment in existing cabinets with no new cable runs, will not normally require Ship Installation Drawings (SIDs) or a submitted and approved FLEX or TECH DEMO SCD.

(1) An Initiated (Header Only) FLEX or TECH DEMO SCD needs to be created to establish an SCD number for tracking purposes only. This SCD will not be submitted, only assigned to the TAT Change Manager for review.

(2) The installation details and any required technical assessment information must be included in a FLEX or TECH DEMO Data Package that is uploaded and attached to the SCD. Exhibit H-4 provides a template for the Data Package.

(3) The FLEX or TECH DEMO Data Package must be reviewed and concurrence given by the appropriate SPM(s) and TYCOM(s), prior to submitting the FLEX or TECH DEMO Risk Assessment Request Message requesting installation authorization.

(4) If the review of the FLEX or TECH DEMO Data Package determines that the installation introduces electromagnetic compatibility risks to existing equipment or that SIDs are required for industrial type work activities (e.g., welding, power upgrade, deck strengthening, etc.), then a Phase II FLEX or TECH DEMO SCD is required to be completed, submitted, and approved.

c. High Complexity/Ship Impact. Installations that are high in complexity/ship impact, such as installed new cabinets or equipment installed in CONEX boxes, may or may not require SIDs, and in addition to the FLEX or TECH DEMO Data Package, require a Phase II FLEX or TECH DEMO SCD to manage and approve the installation prior to submitting the FLEX or TECH DEMO Risk Assessment Request Message. The FLEX or TECH DEMO SCD is required to provide configuration management of the applicable Planning Yard review of the SIDs, and adds rigor to the review and approval process given the higher degree of complexity and thus risk to the ship and personnel. However, the review and approval process for the FLEX or TECH DEMO SCD has been streamlined. There is no CBA, Alteration Figure of Merit (AFOM) or Resource Sponsor review required, and instead of a traditional NMP Decision Board, the FLEX or TECH DEMO SCD only requires approval by the SPM and TYCOM.

Note: FLEX or TECH DEMO SCDs and Data Packages are used for both fleet experiment and technology demonstration installations. However, NDE as currently configured does not allow FLEX or TECH DEMO SCDs to be uniquely identified, and will not be changed in the immediate future. Therefore, the Preparer shall enter the FLEX or TECH DEMO SCD in NDE as a Non-Permanent Change (NPC) SCD and indicate that it is for a FLEX or TECH DEMO event in the title. In addition, NAVSEA 04RP will administratively move the FLEX or TECH DEMO SCDs and attached Data Packages through the streamlined review and approval process defined in this process guide.

H-2.6 FLEX or TECH DEMO Documentation Milestones

Milestones for completing FLEX or TECH DEMO SCDs, Data Packages, and Risk Assessment Request Messages are contained in Exhibit H-4 Exhibit H-4 Attachment A (POA&M). They apply to non-CNO availabilities, such as Continuous Maintenance Avails (CMAVs) or Windows of Opportunities (WOOs), and are defined as I-X months, where I is the start of the FLEX installation, not the start of the availability.

For FLEX or TECH DEMO installations that occur during CNO availabilities, the CNO availability milestones shall be used in accordance with reference H(f) Appendix E.

H-2.7 Submitting a Phase II FLEX or TECH DEMO Modified SCD (if required)

a. Initiate and submit a Phase II FLEX or TECH DEMO SCD or update and submit a previously initiated Phase II SCD (if required based on the applicable group) listing the class(es) and ships designated for the installation. SCD fields to be completed are modified to streamline the SCD submission process. Remember that separate SCDs must be filled out for Surface Ships, DDG 1000, Carriers, or LCS platforms.

(1) Complete the Header Tab of the SCD IAW reference H(f), NAVSEA TS9090-400 (Series) as follows:

- **Ship Change Title:** Enter “FLEX” at the beginning of the title for fleet experiments tracked in FIMS and planned for a specific FLEX event.
- **Ship Change Title:** Enter “TECH DEMO” at the beginning of the title for technology demonstrations not affiliated with FLEX.
- **Recommended SCD: d. Funding:** Select Non-Navy Funded and provide the organization funding for either the FLEX or TECH DEMO.
- **System Program:** Select FLEX OR TECH DEMO

(2) Complete the TAT Tab of the SCD IAW reference H(f), NAVSEA TS9090-400 (Series) as follows

- **System/Equipment Designation, Model Number, CAGE Code(s), ESWBS, or Prototype** fields are not required.
- **Executive Summary.** Provide an O6 level summary that includes the FLEX or TECH DEMO Experimentation Group/Scenarios from Exhibit H-2 that apply.
- **Description of Change.**
 - o Provide a brief description of the planned installation that includes how the installation meets the criteria for the Group/Scenarios identified in the SCD Executive Summary.
 - o State that a detailed description is in the Data Package Installation Brief.

- **Impact if not accomplished.** Enter “Not required”.
- **Justification and Requirements** - Provide the Strike Force Interoperability (SFI) Category. No other entry is required.
- **Distributed Systems and Other Impacts.** Select impact areas, details are provided in the Data Package Attachment B.
- **Shock, Vibration and EMI Requirements** – Select applicable status and in the Remarks boxes enter “See attached Data Package Appendix B for required TWH assessments.”
- **Change Material/Software List.** Not entry required.
- **Detail Design Criteria. One or More Ship Installation Drawings (SIDs) Required** question must be answered based on requirements listed in Exhibit H-2 Group Scenarios.

(3) Complete CBA Tab as follows:

- Open the Investment Cost Tab, only complete the following fields:
Set Starting Year: Select current FY
 Leave number entries as 0 (zero)
 Click on **Save**
- Open the Appropriations Tab. Only complete the following fields:
Phase III Installation Cost:
Sponsor: Non-Navy Funded
Appn: Non-Navy Funded
BSO: NAVSEA
PEO: **No PEO Assigned**
PE: “FLEX” or “TECH DEMO”
BLI: “FLEX” or “TECH DEMO”
FY columns: leave numbers entries as 0 (zero)
 Click on **Save**
- Open the Projected Savings and Cost Avoidance Tab and click on **Save.**
- Open and complete the Installation Fielding Plan IAW NAVSEA TS9090-400 (Series).

(4) Complete AFOM Tab by selecting at least one capability or suitability area related to the FLEX or TECH DEMO installation.

(5) Attach the completed FLEX or TECH DEMO Data Package, including any supplemental information or Other OQE, if required.

b. Submit for approval as follows:

(1) Submit the SCD for TAT review.

(2) TAT review will be conducted and forwarded to SPM Review with a recommendation. (This review will ensure the change is technically sound and interoperable.)

(3) SPM will review, provide a recommendation, and forward the SCD to NAVSEA 04RP, who will administratively manage the processing of the SCD from this point. A CBA review, an AFOM review, Resource Sponsor review, and the traditional NMP Decision Board approval are not required.

(4) Only TYCOM and SPM will approve/disapprove the FLEX or TECH DEMO SCD. All other approvals will be administered by the SEA 04RP NDE Secretariat.

(5) If the FLEX or TECH DEMO SCD is approved, the sponsor will:

(a) Schedule the FLEX or TECH DEMO installation(s) and removal(s) dates in NDE NM using the TMP or PRT and RMV records, and planning may proceed.

(b) Submit ILS Certification.

(6) If disapproved, the SCD will be closed, and the FLEX or TECH DEMO installation will not proceed.

H-2.8 Submitting a FLEX or TECH DEMO Data Package (if required)

Prepare and complete the FLEX or TECH DEMO Data Package (if required based on the applicable group). A template of the FLEX or TECH DEMO Data Package is provided in Exhibit H-4. Prepare and submit the FLEX Data Package for approval as follows:

a. Develop and complete the data in the FLEX or TECH DEMO Data Package, including applicable information such as the applicable ship(s), experimentation installation POA&M, ship impact data, ILS questionnaire, test plan, removal/exit plan, drawings, sketches, other documentation, and other OQE.

(1) Document the FLEX or TECH DEMO Experimentation Group/Scenarios that apply from Exhibit H-2 to the planned installation and a description of how the installation meets the criteria for the Group/Scenarios identified in the Alteration Brief.

(2) Document in Attachment E of Exhibit H-4 of the FLEX or TECH DEMO Data Package that the Sponsor has the funds to remove the installation once the experiment/demonstration is complete and recertify (including performing the System Operational Verification Test (SOVT)) the original system if required.

b. If there is no SCD submission required, initiate a Phase II FLEX or TECH DEMO SCD to facilitate processing and tracking the FLEX or TECH DEMO Data Package.

(1) Complete the Header Tab of the SCD IAW NAVSEA TS9090-400 (Series) as follows:

- **Ship Change Title:** Enter “FLEX” at the beginning of the title for fleet experiments tracked in FIMS and planned for a specific FLEX event.
- **Ship Change Title:** Enter “TECH DEMO” at the beginning of the title for technology demonstrations not affiliated with FLEX.
- **Recommended SCD: d. Funding:** Select Non-Navy Funded Provide the organization funding the FLEX or TECH DEMO.
- **System Program:** Select FLEX OR TECH DEMO

(2) TAT Tab, AFOM Tab and CBA Tab requires no data.

(3) Do not “Submit” the SCD. “Assign” the SCD to the appropriate TAT Change Manager with full edit rights.

NOTE: If a submitted SCD is required, attach the FLEX or TECH DEMO Data Package to the Phase II SCD created in accordance with Section H-2.7 above.

c. The TAT Change Manager (CM) coordinates the final review and approval of the FLEX or TECH DEMO Data Package. The appropriate platform TAT CMs are as follows:

- (1) Aircraft Carriers – PMS 312E
- (2) Surface Ships (except LCS) – PMS 443
- (3) LCS Ship Class – PMS 505

d. If the FLEX or TECH DEMO Data Package is approved, planning may proceed (if there is no SCD requirement).

e. If disapproved, the FLEX or TECH DEMO Data Package will be closed, the Initiated (Header Only) SCD or Phase II SCD will be inactivated/closed, and the FLEX or TECH DEMO installation will not proceed.

H-2.9 FLEX or TECH DEMO Risk Assessment Request Message

With planning (including drawings and sketches if required) and technical assessments complete and documented in a FLEX or TECH DEMO SCD or Data Package, as appropriate, a FLEX or TECH DEMO Risk Assessment Request Message is prepared and submitted to the applicable TYCOM or FLTCDR for review, recommendations, and installation authorization IAW Exhibit H-5 as follows:

a. For installation of C5ISR equipment, systems, and/or software that are designated as Strike Force Interoperability (SFI) Category (CAT) 1 and 2; risk messages are reviewed as follows:

(1) NAVIFOR as the C5ISR TYCOM coordinates risk message review by NAVSEA and the applicable Platform TYCOM.

(2) When tasked by NAVIFOR, NAVSEA coordinates message review and recommendations by NAVSEA Technical Authority, PEO IWS Combat Systems Major Program Manager (MPM), and SPMs, as required, and then provides a consolidated recommendation to NAVIFOR.

(3) When tasked by NAVIFOR, Platform TYCOM coordinates review and recommendations from the numbered FLTCDRs and other stakeholders, as required, and then provides a consolidated recommendation to NAVIFOR.

(4) NAVIFOR provides a consolidated recommendation to the applicable FLTCDR.

(5) Applicable FLTCDR provides approval or disapproval for installation authorization via naval message.

b. For installation of C5ISR and HM&E equipment, systems, and/or software that are designated as SFI CAT 3 and 4, risk messages are reviewed as follows:

(1) Platform TYCOM coordinates review and recommendations from NAVSEA Technical Authority, SPM, numbered FLTCDRs, and other stakeholders, as required.

(2) Platform TYCOM provides approval or disapproval for installation authorization via naval message.

c. The FLEX or TECH DEMO Experimentation Group/Scenarios that apply from Exhibit H-2 to the planned installation and a description of how the installation meets the criteria for the Group/Scenarios identified shall be documented in the message.

d. For low complexity installations that do not require a FLEX or TECH DEMO SCD or Data Package, the installation details and any required technical assessment information shall be included in the message.

e. Once authorized, the experiment Sponsor and Preparer may temporarily install the equipment, system, and/or software and conduct the experiment or demonstration.

f. Two FLEX or TECH DEMO Risk Assessment Request Message templates are contained in Exhibit H-5. Template 1 is for SFI CAT 1 and 2 C5ISR equipment, systems, and/or software that require FLTCDR authorization. Template 2 is for SFI CAT 3 and 4 C5ISR and HM&E equipment, systems, and/or software that require TYCOM authorization.

H-2.10 C5ISR Baseline Certification

FLEX and TECH DEMO installations designated SFI CAT 1 or 2 as defined in reference H(e) will not be required to be added to the normal C5ISR Baseline. Fleet experiments and technology demonstrations by definition do not permanently modify a ship's configuration or impact strike force/C5ISR interoperability. However, FLEX and TECH DEMO C5ISR installations including those designated SFI CAT 3 that are scheduled outside a Modernization Window (MODWIN) will still require a Target Configuration Date (TCD) waiver IAW reference H(e) to ensure the appropriate level of oversight is applied.

H-2.11 RMMCO and NSA Check-in/out Requirements

a. When a FLEX or TECH DEMO SCD requires SIDS for the installation, a qualified AIT must complete the installation. The AIT performing the installation, executing the experiments or demonstrations, and removing the installations must check in and check out with the Regional Maintenance and Modernization Coordination Office (RMMCO) IAW reference H(g).

b. For FLEX or TECH DEMO installations managed with FLEX or TECH DEMO Data Packages (Initiated SCD only) or FLEX/ TECH DEMO Risk Assessment Request Messages only (no SCD or Data Package submission required) or a Submitted SCD with no SIDS required, the team performing the installation, executing the experiments or demonstrations, and removing the installations does not need to check in and check out with RMMCO.

c. Once the installation is complete, show installation completion on the NDE NM PRT or TMP and RMV records for each ship (if SCD submission/approval was required).

H-2.12 FLEX or TECH DEMO Removal

NMP requirements have been streamlined for FLEX or TECH DEMO installations based upon the premise that the FLEX installations will not be used in a deployed / operational mission status and that they will be removed and the ship restored to the original condition within 90 days from the time of installation.

a. Once the experiment or demonstration is complete, the Preparer/Sponsor removes the FLEX or TECH DEMO installation, and the ship is restored to its original condition, including recertification/ SOVT of the original system if required. Documentation of the removal of the FLEX or TECH DEMO installation is based on the installation complexity as shown in Table H-3.

b. Low Complexity - FLEX or TECH DEMO Risk Message Only (No SCD or data package). The Sponsor or Preparer shall release a message to the TYCOM, SPM, and FLTCDR (as applicable) reporting that the installation has been completely removed, the ship restored to original condition, and the original system recertified. Include the actual removal date and unclassified results of the test event or a location/POC where results can be obtained. A FLEX or TECH DEMO Removal Message template is contained in Exhibit H-6.

c. Moderate Complexity - FLEX or TECH DEMO Data Package with an Initiated (Header Only) SCD (for tracking purposed only). :

(1) Update the FLEX or TECH DEMO Data Package Appendix E to include initial results of the experiment or demonstration and the actual date of removal.

(2) Attach only the updated FLEX or TECH DEMO Data Package Appendix E to the SCD in NDE EP. Forward notification via email to the appropriate platform SPM(s).

(3) The Sponsor or Preparer shall release a message to the TYCOM, SPM, and FLTCDR (as applicable) reporting that the installation has been completely removed, the ship restored to original condition, including any foundations installed to support it, and the original system recertified. A FLEX or TECH DEMO Removal Message template is contained in Exhibit H-6.

d. High Complexity - FLEX or TECH DEMO with a Submitted SCD and Data Package:

(1) Update the FLEX or TECH DEMO Data Package Appendix E to include initial results of the experiment or demonstration and the actual date of removal.

(2) Attach the only updated FLEX or TECH DEMO Data Package Appendix E to the SCD in NDE EP. Forward notification via email to the appropriate platform SPM(s).

(3) If the Sponsor or Preparer has NDE NM access, show removal completion on the NDE NM RMV records for each ship (if SCD approval was required). No removal message is required.

(4) If the Sponsor or Preparer does NOT have NDE NM access, then the Sponsor or Preparer shall release a message to the TYCOM, SPM, and FLTCDR (as applicable) reporting that the installation has been completely removed, the ship restored to original condition, including any foundations installed to support it, and the original system recertified. A FLEX or TECH DEMO Removal Message template is contained in Exhibit H-6.

f. The Preparer/Sponsor can request an extension by submitting a FLEX or TECH DEMO Risk Assessment Extension Message (using the same template in Exhibit H-6 for the FLEX Risk Assessment Request Message) to the TYCOM or FLTCDR for authorization, as applicable based on the SFI category, but an extension placing the FLEX or TECH DEMO installation in a deployed/operational mission status may also require the Preparer/Sponsor to complete additional NMP requirements. The following information shall be addressed:

(1) Information Assurance/Cybersecurity Authorization status.

(2) FLEX or TECH DEMO installation status during the extension period (i.e., remain in place but disconnected including what is disconnected, stowed in portable cases and location of stowage).

(3) The need for additional ILS/sustainment, such as tech pubs, training, PMS, etc., during the extension period.

(4) The need to address additional technical assessments, such as the probability of a shock event and possibly EMI, during the extension period.

(5) Status of removal funding.

(6) POA&M for final removal.

H-2.13 Special Considerations for Deployed Ships

Some FLTCDRs and Sponsors desire to conduct experiments or demonstrations onboard ships that are deployed or forward deployed during a fleet exercise, such as RIMPAC or BOLD ALLIGATOR, where the ships are temporarily removed from an operational mission status and their tasking is to conduct the exercise. For example, at the request of Third Fleet, Sponsors install experimental equipment, systems, and/or software prior to deployment, turn them on and conduct the experiment during a fleet exercise (which occurs during the deployment period), and then remove them after the ship returns from deployment.

This approach is allowable and meets the constraints of this Process Guide for conducting experiments and demonstrations onboard ships that are not deployed and not forward-deployed since their tasking would be to conduct the exercise, not operational missions. However, it will most likely result in the installation remaining onboard for more than 90 days. The installation plans and expected duration shall be explained in the FLEX or TECH DEMO Data Package documentation (if required) and FLEX or TECH DEMO Risk Assessment Request Message. The following requirements apply:

a. The experimental equipment, system, and/or software shall be turned off or disabled (and properly stowed if applicable) after it is installed, turned on only to conduct the experiment or demonstration during the exercise, and then turned off or disabled again after the testing is complete (and properly stowed if applicable).

b. If the equipment cannot be taken down and stowed and must remain installed while the ship is underway with operational mission tasking, then additional technical assessments, such as for shock, Radar Cross Section (RCS), or EMI, may be required.

c. The Sponsor or Preparer must follow-up and ensure the FLEX or TECH DEMO installation is removed after the ship returns from deployment, and release a FLEX or TECH DEMO Removal message to the TYCOM, SPM, and FLTCDR.

d. The Sponsor/Preparer must coordinate with the SPM and TYCOM to ensure the appropriate process steps in this procedure are followed.

e. Addition to the C5ISR Modernization Baseline is not required if the equipment, system and/or software is not going to be operationally employed during the deployment exercise.

If the FLTCDR desires to conduct a fleet experiment or technology demonstration onboard a deployed or forward-deployed ship while it is tasked with an operational mission, the installation shall always be processed with a Phase II SCD and Data Package in accordance with the normal NPC process in reference H(f), Appendix F.

Exhibit H- 1 Definitions for NMP FLEX or TECH DEMO Experimentation Groups, Scenarios and Process/Product Elements

1.Purpose. This appendix provides definitions for the Experimentation Groups, Scenarios, and Process/Product Requirements described in Section H-2.2. Clear definitions of these items are provided to ensure that Preparers select the proper process/product requirements in accordance with Exhibit H-2 based on the installation complexity and scenario.

Table H- 4 Experimentation Group Definitions

Experimentation Group	Description
1. Software or application installation (software demo only)	The programs or instructions that tell a computer what to do. This includes operating system programs, which control the basic functions of the computer system, and applications programs, which enable the computer to produce useful work (e.g., a word processing program).
2. Carry-on laptop (software demo only)	One or more notebook size workstations preloaded with all required experimentation software. A connection to a ship network using a network drop in the same space may be needed to collect, display, analyze or inject network data.
3 Equipment < 50 lbs., is approximately 15 Amps or less per compartment that must use existing electrical circuits, no new cables between spaces	The total weight of all components (equipment, cabling, and ancillary hardware) that will be installed is less than 50 lbs., and the total electrical load is approximately 15 amps per compartment that must use existing electrical circuits (e.g., power outlets, breakers) with no other electrical circuits being installed. There are no interconnections between the new and existing equipment that either begin or terminate outside the spaces proposed for the FLEX installation.
4. Equipment in portable rack cases impacting single space, no new cables between spaces	One or more portable cases capable of being carried or moved, such as Pelican Cases. Does not require a connection to anything located in a different space
5. New equipment in existing cabinets within same space (no cables outside the space)	One or more components that will be installed in existing equipment cabinets/racks within a single space. All interconnections between the new and existing equipment will begin and terminate in this space.
6. Equipment in portable rack cases in multiple spaces (new cable runs between spaces)	One or more portable cases capable of being carried or moved, such as Pelican Cases in multiple spaces. Does require a connection to something, via hardline cable (i.e., Fiber Optical cable), located in a different space
7. Equipment in portable rack cases in multiple spaces (wireless connection using commercial network devices)	One or more portable cases capable of being carried or moved, such as Pelican Cases in multiple spaces. Requires a connection to something, via wireless connection (i.e., commercial wireless modem), located in a different space
8. Small, portable receive only antenna or emitter that is intended to be easily carried or moved about by a single person. *Subordinate to another category	A system that radiates anything (e.g., radio frequency (RF), infrared radiation (IR), visible light, WiFi, sound, etc.) that can be carried and/or aimed by a single person. All requirements identified are IN ADDITION to the requirements for the primary system/group (i.e., equipment in portable rack cases in multiple spaces)

Experimentation Group	Description
9. Large, non-portable receive only antenna or emitter. The item is not intended to be carried and/or aimed by a single person. *Subordinate to another category	A system that radiates anything (e.g., radio frequency, infrared radiation, visible light, WiFi, sound, etc.) that needs to be transported around by multiple people, a crane, or forklift. The item is not able to be carried by a single person. All requirements identified are IN ADDITION to the requirements for the primary system/group (i.e., Equipment in portable rack cases in multiple spaces).
10. New equipment in existing cabinets in multiple spaces (new cable runs between spaces)	Equipment being installed within existing equipment cabinets/racks that requires new cables runs between two (or more) different spaces.
11. Installed new cabinets	New equipment and/or equipment racks, requiring foundation work.
12. Equipment in CONEX boxes	Standardized steel shipping containers, also referred to as Intermodal containers.

Table H- 5 Scenario Definitions

Scenario	Description
Network Connectivity:	
1. Stand Alone/Not Connected	Equipment, system, and/or software that is not connected to any ship's networks.
2. Connected/ Integrated with Ship's C4I	Equipment, system, and/or software that is connected to the ship's C4I network.
3. Connected/ Integrated with Ship's Weapons Systems	Equipment, system, and/or software that is connected to the ship's warfare/combat systems network.
4. Connected/ Integrated with Non-Tactical Networked System	Equipment, system, and/or software that is connected to non-tactical networks, such as the HM&E network.
Ship's Location	
1. In-port	The ship is moored to the pier. It could get underway unexpectedly, but it is assumed that all temporary and portable equipment could be removed. However, more complicated installations, such as installed new cabinets and equipment in CONEX boxes, are treated as if they were at-sea because they would be more difficult to remove.
2. At-sea	The ship is underway but for local operations or transits. It is not deployed or forward deployed, and not operationally tasked with missions.

Table H- 6 Process/Product Requirements Definitions

Process/Product Requirements	Description
1. Develop install plan	Develop Install Plan is the first step to lay out an overall approach for planning and conducting the experiment or demonstration installation.
2. Architecture drawing	Architecture Drawings are simple sketches to prepare for conducting the site visit.
3. Site visit (not for SIDs)	Site visit is first visit to the ship to determine layout, spaces involved, power requirements, and if SIDs are needed. A site visit may be required to determine which FLEX experimentation group applies (based on availability of rack space, power, LAN drops, etc.).
4. IA/Cybersecurity Authorization	Information Assurance (IA)/Cybersecurity policy applies to all DoN owned or controlled information systems as defined in reference H(h) that receive, process, store, display, or transmit DoD or DoN information, regardless of Mission Assurance Category (MAC), classification, or sensitivity. Sponsors/Preparers must obtain an Interim Authority to Test (IATT) or Interim Authority to Operate (IATO) from NAVCYBERCOM for all installations that involve such information systems.
5. Outline and Installation drawing (O&I)	O&I drawings are normally prepared by Participating Acquisition Managers (PARMs) to provide technical details required in preparing for and conducting installations. O&I drawings can be used to provide a breakdown of items for disassembly/assembly; physical dimensions; mounting details; live and static loads; electrical power and cooling requirements; arrangement details; clearance requirements; cabling requirements; instructions for hoisting, aligning, water proofing, and painting; bonding and grounding requirements; personnel and equipment safety requirements; and other related equipment installation details. For additional information on O&I drawings, see reference H(h).
6. Ship check	A ship check is performed by the sponsor in conjunction with the Planning Yard (when tasked and funded) to determine how the FLEX installation will be integrated with the existing ship systems and configuration. SIDs are developed from information gained by the ship check. For additional information on SIDs development, see NAVSEA TS9090-600 (Series).
7. Ship Installation Drawings (SIDs)	SIDs are formally approved NAVSEA Planning Yard drawings that provide detailed ship integration requirements including electrical, physical, mechanical, arrangement, and other installation related information. SIDs may consist of hull/structural drawings; machinery, piping, and heating, ventilation and air conditioning (HVAC) drawings; electrical/electronic drawings; arrangement drawings; removal drawings; and support drawings. For additional information on SIDs, see NAVSEA TS9090-600 (Series).
8. Shock Assess/Test	Shock testing or an approved Shock Deficiency Correction Plan (SDCP) is required for any machine, subsystem, or part thereof, which is intended to be installed aboard ship including hardware/firmware internal equipment modifications. For additional information on shock see reference H(i).

Process/Product Requirements	Description
9. Vibe Assess/Test	Required for any machine, subsystem, or part thereof, which is intended to be installed aboard ship including internal equipment modifications. For additional information on Vibration see reference H(j).
10. Topside Assessment	<p>An assessment is required when any equipment is installed topside which could alter the electromagnetic performance of existing systems or impact ship operations (e.g. flight operations, man overboard drills, flight ops, underway replenishment, or firing exercises), also includes risk assessment to ensure intended ship capabilities (context for ship use) are not impacted adversely (or are controlled). Experiment and ship expectations for simultaneity of function are necessary to ensure appropriate assessments are completed (e.g. experiment required to operate during flight operations).</p> <p>An assessment is conducted to determine if a topside integration study is required.</p> <p>A topside integration study, performed by the appropriate technical authority, is required for portable and non-portable transmitting antennas/emitters that have the power and potential to interfere with normal ship's operations. The study will result in approved location(s) for the new equipment and any special conditions required (i.e., relocation of existing equipment or limitations imposed). For additional information on Topside safety and certification see reference H(k).</p>
11. EMI 461 Assess/Test	Required for any electronic, electrical, and electromechanical equipment and subsystems or part thereof, intended for installation aboard ship including internal equipment modifications. For additional information on EMI see reference H(l).
12. EMI 464 Assess/Test	Required to assess Electromagnetic Environmental Effects (E3) interface requirements and verification criteria for airborne, sea, space, and ground systems, including associated ordnance. For additional information on EMI see reference H(m).
13. HERO HERF HERP	Hazards of Electromagnetic Radiation to Ordnance/Fuel/Personnel (HERO/HERF/HERP). For additional information see reference H(n).
14. Lithium Battery Certification	A certification letter from the Lithium Battery Safety Program is required for any system that contains a lithium battery intended for installation aboard ship unless it meets the exception criteria outlined in the 9310 Tech Manual. For additional information on Lithium Battery safety see reference H(o).
15. Frequency Spectrum Certification	See OPNAVINST-2400.20. Required when the equipment/system needs to meet the Radio Frequency (RF) Spectrum Management requirements. For additional information see reference H(p).
16. Application Integration (AI) Assess/Test	Application Integration (AI) certifies systems, software applications, and hardware to be interoperable with afloat tactical networks through testing at a PEOC4I shore-based test facility. Equipment or software installations using/impacting Consolidated Afloat Network and Enterprise Services (CANES), Integrated Shipboard Network System (ISNS), and LPD-17 Class Shipboard Wide Area Network (SWAN) will require AI testing.

Process/Product Requirements	Description
17. Combat Systems (CS) Integrated Testing	Combat System integration assessment and testing provides OQE that systems, software applications, and hardware are functioning properly. Assessments and testing for equipment or software installations using/impacting the Combat System are coordinated through PEO IWS and the Integrated Combat System Configuration Control Board (ICS CCB) to identify assessment, testing, and certification requirements. For additional information see reference H(d). For additional information on associated Warfare System certifications see reference H(q).
18. Total Ship Computing Environment (TSCE) / Non-C4I Network Assessment/Test	Network integration assessment and testing provides OQE that systems, software applications, and hardware are interoperable with non-C4I networks through desktop assessments, testing at a shore-based test facility, or shipboard testing. Assessments and testing for equipment or software installations using/impacting networks are coordinated directly with the network Program Office/PARM to identify assessment, testing and certification requirements. Examples include TSCE for DDG 1000 and LCS classes and HM&E Networks (all ship classes).
19. Data Package (DPKG) (Attachments A-G)	Supplemental technical, logistic, and planning information that is not normally covered in an SCD or SIDs in support of a FLEX installation. Template provided in Exhibit H-4.
Attachment A	Attachment A is POA&M. Also includes a description of the experiment.
Attachment B	Attachment B is FLEX Impact Data. Includes Space, Weight, and Power (SWAP) requirements of the installation, and Technical Warrant Holder (TWH) questionnaires for determining TWH assessments required (items 8-19 above).
Attachment C	Attachment C is Integrated Logistic Support. Intent is to be short questionnaire to determine how logistics support will be provided if required during the experiment or demonstration.
Attachment D	Attachment D is Test Plan
Attachment E	Attachment E is Removal/Exit Plan. Needs to include that removal of the installation is funded, system will be restored to original configuration, that removal message will be issued, and original system will be recertified.
Attachment F	Attachment F is Drawings and Documentation. Drawings could be sketches, O&I Drawings, or other documentation depending on the complexity of the installation.
Attachment G	Attachment G is Other OQE defined as Other Objective Quality Evidence, such as element certifications for warfare/combat systems or technical assessments, test results, and other documentation.
20. Phase II FLEX or TECH DEMO SCD (Initiated or Submitted)	FLEX or TECH DEMO SCD is the authorized document used to communicate a FLEX or TECH DEMO proposal and facilitate the decision process to obtain approval for FLEX or TECH DEMO installations on Surface Ships and Aircraft Carriers. The contents for Phase II SCD Header, TAT, CBA, and AFOM tabs are defined in reference H(f) NAVSEA TS9090-400 (Series), and will be used for all experimentation groups and scenarios that require a FLEX or TECH DEMO SCD IAW Exhibit H-2. An Initiated (Header Only) SCD is used for experimentation groups and scenarios that require a data package but do not require an SCD IAW Exhibit H-2.

Process/Product Requirements	Description
21. SCD/DPKG Review and Approval	For FLEX or TECH DEMO SCDs, CBA, AFOM, or Resource Sponsor review is not required. Only SPM and TYCOM approval of the SCD is required. SCD review processing will be administratively managed by NAVSEA 04RP. For FLEX or TECH DEMO Data Package only submissions, review and approval is managed between the Submitter and TAT CM using the Phase II Initiated (Header Only) but not submitted SCD.
22. FLEX or TECH DEMO Risk Assessment Request Message (RA REQ MSG)	Message used to obtain authorization from FLTCDR for installation of C5ISR equipment, systems, and/or software that are designated as SFI CAT 1 and 2, and from the TYCOM for installation of C5ISR and HM&E equipment, systems, and/or software that are designated as SFI CAT 3 and 4. Templates are provided in Exhibit H-5.
23. RMMCO Check In/Out	Installation teams must check in and check out with the Regional Maintenance and Modernization Coordination Office. Required only for FLEX or TECH DEMO installations when SIDs are required. For AIT requirements see reference H(e).
24. FLEX or TECH DEMO Removal Message (REM MSG)	Message used to report removal of FLEX installation. A template is provided in Exhibit H-6.

Exhibit H- 2 FLEX or TECH DEMO Process/Product Requirements

1. Purpose. This appendix provides detailed Process/Product Requirements Tables for each experimentation group. Each table covers all eight scenarios. The terminology in each table is explained in paragraph 2 below.

Table H- 7 Experimentation Group Numbers

GROUP	DESCRIPTION	PAGE
1	SOFTWARE ONLY (SOFTWARE DEMO ONLY)	H-27
2	CARRY ON LAPTOP (SOFTWARE DEMO ONLY)	H-29
3	EQUIPMENT <50 LBS, <15 AMPS PER COMPARTMENT, NO CONNECTIONS OUTSIDE OF SPACE	H-31
4	EQUIPMENT IN PORTABLE RACK CASES IMPACTING SINGLE SPACE	H-33
5	NEW EQUIPMENT IN EXISTING CABINETS WITHIN SAME SPACE (NO CABLE OUTSIDE THE SPACE)	H-35
6	EQUIPMENT IN PORTABLE RACK CASES IN MULTIPLE SPACES (NEW CABLE RUNS BETWEEN SPACES)	H-37
7	EQUIPMENT IN PORTABLE RACK CASES IN MULTIPLE SPACES (WIRELESS CONNECTION USING COMMERCIAL NETWORK DEVICES)	H-39
8	PORTABLE, SMALL TRANSMITTING ANTENNA OR EMITTER (SYSTEM RADIATES ANYTHING – RF/IR/VISIBLE LIGHT/SOUND/ETC) *SUBORDINATE TO ANOTHER GROUP	H-41
9	NON-PORTABLE TRANSMITTING ANTENNA OR EMITTER (SYSTEM RADIATES ANYTHING – RF/IR/VISIBLE LIGHT/SOUND/ETC) *SUBORDINATE TO ANOTHER GROUP	H-43
10	NEW EQUIPMENT IN EXISTING CABINETS IN MULTIPLE SPACES (NEW CABLE RUNS BETWEEN SPACES)	H-45
11	INSTALLED NEW CABINETS	H-47
12	EQUIPMENT IN CONEX BOXES	H-49

2. Requirements. The Deliverables in the following Process/Product Requirements Tables are the specific process steps and technical assessments required to plan, develop, authorize, install, and remove equipment, systems, and/or software for fleet experiments and technology demonstrations as a function of the complexity of the installation and connectivity to the ship's networks. A "YES" means that the process step or technical assessment is "Required", and an "A/R" means that it is "As required" based on criteria discussed below. No entry means process step is not required. There are notes after each table which provide amplifying information and explicit state when A/Rs for that table are required to be performed. Assessment and testing results should be included in the FLEX or TECH DEMO Data Package Attachment G (Other OQE) of Exhibit H-4.

a.Ship Check and SIDs. They are required when the installation involves industrial work, such as adding foundation supports, or the Planning Yard determines that the installation is complicated enough to require SIDs.

b.Shock Questionnaire/Assessment/Test. It is required for at-sea scenarios for equipment larger/heavier than a carry-on laptop or portable antenna where there is a potential for a shock event. If the equipment has been properly mounted/secured and the ship is not on an operational deployment, is operating within friendly waters, and is not expected to encounter severe hazardous at-sea weather conditions, then there is no probability of a shock event.

c.Vibration Assessment/Test. It is required for equipment whose potential failure modes due to vibration, either structurally or operationally, may result in a hazard to the ship, permanently installed equipment or personnel. Both general shipboard environmental vibration and localized high-vibration environments must be considered.

d.Topside Assessment. It is required for portable and non-portable transmitting antennas/emitters that have the power and potential to interfere with normal ship's operations. Also required for CONEX boxes, or other obstructions (including passive antennas) if they will be installed topside.

e.HERO/HERF/HERP. An assessment is required for transmitting antennas/emitters that have the potential to interfere with weapons, fuel, or personnel.

f.Lithium Battery Certification. A lithium battery safety certification is required for all systems containing a lithium battery brought onboard a naval vessel whether for transport, use, or charging in accordance with reference H(o) unless they meet the exception criteria in the Tech Manual for smaller COTS items. The lithium battery technical agents (and NSWC Crane and Carderock) include TWH concurrence with their safety assessment for all systems containing lithium batteries that are going on ships.

g.Frequency Spec Cert. An assessment is required for software installation when the planned ship change will impact an existing approved frequency spectrum, and for all portable and non-portable transmitting antennas.

h.AI Assess/Test. An assessment is required when connected/integrated with ship's C4I network for any ship class. Results of the assessment and any required testing should be included in the FLEX or TECH DEMO Data Package as OQE.

i.CS Integrated Testing. An assessment is required when connected/integrated with ship's Combat System network for any ship class. An assessment may also be required for stand-alone systems that support the Detect-Track-Engage sequence. Results of the assessment and any required testing should be included in the FLEX or TECH DEMO Data Package as OQE.

j.TSCE/Network Assess/Test. An assessment is required when connected/integrated with a ship's HM&E network for any ship class, connected/integrated on the C4I Tactical network on a non-CANES/ISNS ship class (LCS, DDG 1000), or connected/integrated on the Combat System network. Results of the assessment and any required testing should be included in the FLEX Data Package as OQE.

k.FLEX or TECH DEMO DPKG. A FLEX or TECH DEMO Data Package is required for all groups except for software only (group 1) where it is only required if it is connected to warfare/combat system or HM&E networks or if it affects C4I networks (e.g., CANES, ISNS, SCIN, CENTRIX-M, ADNS, SWAN) thus requiring Application Integration (AI) assessment, and except for carry-on laptop (group 2) where it is only required for installations that connect to warfare/combat systems. The specific attachments required in the Data Package are delineated.

l.Other OQE. For all groups where installations are connected to warfare/combat systems, Other OQE shall include at least Element Certifications, Integrated Combat System (ICS) Configuration Control Board (CCB) assessment, and Navigation Certification (NAVCERT) Aviation Certification (AVCERT), or Flight Deck Certification impact assessments, and Weapons Systems Explosives Safety Review Board (WSESRB) should review IAW reference H(r). For all other scenarios, the Other OQE would include any required technical assessments and the results. Other OQE is included in the Data Package.

m.FLEX or TECH DEMO SCD. Requirement for an Initiated (Header Only) or a Submitted FLEX or TECH DEMO SCDs vary depending on the group and scenario as directed in Row 20 of Experimentation Tables H-8 through H-19.

n.FLEX or TECH DEMO SCD/DPKG Review and Approval. It is required for all groups where FLEX SCDs and/or Data Packages are required.

o.RMMCO Check In/Out. RMMCO check in/out is required when FLEX or TECH DEMO SCDs require SIDS.

Table H- 8 Experimentation Group 1

TYPE OF INSTALLATION →	GROUP 1 – SOFTWARE ONLY (SOFTWARE DEMO ONLY)							
	SCENARIOS →	STANDALONE (N/A)		CONNECTED/ INTEGRATED WITH SHIPS C4I		CONNECTED/ INTEGRATED WITH SHIPS WARFARE SYSTEMS		CONNECTED/ INTEGRATED WITH NON-TACTICAL NETWORKED SYSTEM
DELIVERABLES		IN PORT	AT SEA	IN PORT	AT SEA	IN PORT	AT SEA	IN PORT
1. DEVELOP INSTALL PLAN			YES	YES	YES	YES	YES	YES
2. ARCHITECTURE DRAWING								
3. SITE VISIT (NOT FOR SIDS)								
4. IATT/IATO			YES	YES	YES	YES	YES	YES
5. O&I DRAWING								
6. SHIPCHECK								
7. SIDS								
8. SHOCK QUES/ASSESS/TEST								
9. VIBRATION ASSESS/TEST								
10. TOPSIDE ASSESSMENT								
11. EMI 461 ASSESS/TEST								
12. EMI 464 ASSESS/TEST								
13. HERO/HERF/HERP								
14. LITHIUM BATTERY CERT								
15. FREQ SPECTRUM CERT			A/R	A/R	A/R	A/R	A/R	A/R
16. AI ASSESS/TEST			YES	YES				
17. CS INTEGRATED TESTING					YES	YES		
18. TSCE/NETWORK ASSESS/TEST							YES	YES
19. FLEX OR TECH DEMO DPKG								
A. POA&M			A/R	A/R	YES	YES	YES	YES
B. IMPACT DATA (i.e., SWAP)								
C. ILS QUESTIONAIRE			A/R	A/R	YES	YES	YES	YES
D. TEST PLAN			A/R	A/R	YES	YES	YES	YES
E. REMOVAL/EXIT PLAN			A/R	A/R	YES	YES	YES	YES
F. DWGS & DOCUMENTATION								
G. OTHER OQE			A/R	A/R	YES	YES	A/R	A/R
20. PHASE II FLEX OR TECH DEMO SCD								
- INITIATED (HEADER ONLY) SCD			A/R	A/R	YES	YES	YES	YES
- SUBMITTED SCD								
21. SCD/DPKG REVIEW & APPROVAL								
- TAT REVIEW			A/R	A/R	YES	YES	YES	YES
- SPM REVIEW			A/R	A/R	YES	YES	YES	YES
- TYCOM REVIEW			A/R	A/R	YES	YES	YES	YES
22. FLEX OR TECH DEMO RA REQ MSG			YES	YES	YES	YES	YES	YES
23. RMMCO CHECK IN/OUT								
24. FLEX OR TECH DEMO REM MSG			YES	YES	YES	YES	YES	YES

Group 1 Notes:

- A/R for Frequency Spectrum Certification (#15): Only required if a planned ship change will impact an existing approved frequency spectrum.
- A/R for FLEX or TECH DEMO DPKG (#19) (Exhibit H-4 Attachments A, C, D, and E): Required for C4I software changes that affect a C4I network (e.g., CANES, ISNS, SCI-N, CENTRIX-M, ADNS, SWAN) thus requiring Application Integration (AI). Required for C4I software changes that impact any system with an interface to the ship's warfare systems (e.g., GCCS-M, NAVSSI, JTT, CDLMS), thus requiring combat systems review/certification. Required for C4I software changes to equipment installed on AEGIS ships.
- A/R for FLEX or TECH DEMO DPKG (#19) (Exhibit X-4 Attachment G): Required for C4I or non-tactical networks software changes when additional supporting documentation is needed to complete the FLEX DPKG such as Application Integration (AI) certification or ISEA review required.
- FLEX or TECH DEMO DPKG (#19) (Exhibit X-4 Attachment G) for Warfare Systems: Element Cert is required; ICS CCB Assessment is required; NAVCERT or AVCERT impact assessment is required; Warfare System Certification assessment is required IAW reference H(q) and WSESRB review is required IAW with reference H(r).
- A/R for Phase II FLEX or TECH DEMO Initiated (Header Only) SCD (#20 and #21): Required for C4I when a FLEX DPKG is required.
- A/R for SCD/DPKG Review and Approval by TAT, SPM, and TYCOM (#22): Required for C4I when a FLEX or TECH DEMO DPKG is required.

Table H- 9 Experimentation Group 2

TYPE OF INSTALLATION →	GROUP 2 – CARRY ON LAPTOP (SOFTWARE DEMO ONLY)							
	SCENARIOS →	STANDALONE (N/A)		CONNECTED/ INTEGRATED WITH SHIPS C4I		CONNECTED/ INTEGRATED WITH SHIPS WARFARE SYSTEMS		CONNECTED/ INTEGRATED WITH NON-TACTICAL NETWORKED SYSTEM
DELIVERABLES		IN PORT	AT SEA	IN PORT	AT SEA	IN PORT	AT SEA	IN PORT
1. DEVELOP INSTALL PLAN	YES	YES	YES	YES	YES	YES	YES	YES
2. ARCHITECTURE DRAWING	YES	YES	YES	YES	YES	YES	YES	YES
3. SITE VISIT (NOT FOR SIDS)								
4. IATT/IATO	YES	YES	YES	YES	YES	YES	YES	YES
5. O&I DRAWING								
6. SHIPCHECK								
7. SIDS								
8. SHOCK QUES/ASSESS/TEST								
9. VIBRATION ASSESS/TEST								
10. TOPSIDE ASSESSMENT								
11. EMI 461 ASSESS/TEST								
12. EMI 464 ASSESS/TEST								
13. HERO/HERF/HERP								
14. LITHIUM BATTERY CERT	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
15. FREQ SPECTRUM CERT								
16. AI ASSESS/TEST			YES	YES				
17. CS INTEGRATED TESTING					YES	YES		
18. TSCE/NETWORK ASSESS/TEST							YES	YES
19. FLEX OR TECH DEMO DPKG								
A. POA&M					YES	YES		
B. IMPACT DATA (i.e., SWAP)								
C. ILS QUESTIONNAIRE					YES	YES		
D. TEST PLAN					YES	YES		
E. REMOVAL/EXIT PLAN					YES	YES		
F. DWGS & DOCUMENTATION					YES	YES		
G. OTHER OQE					YES	YES		
20. PHASE II FLEX OR TECH DEMO SCD								
- INITIATED (HEADER ONLY) SCD					YES	YES		
- SUBMITTED SCD								
21. SCD/DPKG REVIEW & APPROVAL								
- TAT REVIEW					YES	YES		
- SPM REVIEW					YES	YES		
- TYCOM REVIEW					YES	YES		
22. FLEX OR TECH DEMO RA REQ MSG	YES	YES	YES	YES	YES	YES	YES	YES
23. RMMCO CHECK IN/OUT								
24. FLEX OR TECH DEMO REM MSG	YES	YES	YES	YES	YES	YES	YES	YES

Group 2 Notes:

- A/R for Lithium Battery Certification (#14): Required for all systems containing a lithium battery brought onboard a naval vessel whether for transport, use, or charging in accordance with reference H(o) unless they meet the exception criteria in the Tech Manual for smaller COTS items.
- FLEX or TECH DEMO DPKG (#19) (Exhibit X-4 Attachments A, C, D, E, and F): Required for installations connected to warfare systems to ensure all potential impacts to warfare/combat systems are technically assessed.
- FLEX or TECH DEMO DPKG (#19) (Exhibit X-4 Attachment G) for Warfare Systems: Element Cert is required; ICS CCB Assessment is required; NAVCERT or AVCERT impact assessment is required; Warfare System Certification assessment is required IAW reference H(q) and WSESRB review is required IAW with reference H(r).

Table H- 10 Experimentation Group 3

TYPE OF INSTALLATION →	GROUP 3 – EQUIPMENT <50 LBS, <15 AMPS OR LESS PER COMPARTMENT, (NO NEW CONNECTIONS OR CONNECTIONS OUTSIDE OF THE SPACE)							
	SCENARIOS →	STANDALONE (N/A)		CONNECTED/ INTEGRATED WITH SHIPS C4I		CONNECTED/ INTEGRATED WITH SHIPS WARFARE SYSTEMS		CONNECTED/ INTEGRATED WITH NON-TACTICAL NETWORKED SYSTEM
DELIVERABLES		IN PORT	AT SEA	IN PORT	AT SEA	IN PORT	AT SEA	IN PORT
1. DEVELOP INSTALL PLAN	YES	YES	YES	YES	YES	YES	YES	YES
2. ARCHITECTURE DRAWING	YES	YES	YES	YES	YES	YES	YES	YES
3. SITE VISIT (NOT FOR SIDS)	YES	YES	YES	YES	YES	YES	YES	YES
4. IATT/IATO	YES	YES	YES	YES	YES	YES	YES	YES
5. O&I DRAWING								
6. SHIPCHECK								
7. SIDS								
8. SHOCK QUES/ASSESS/TEST		A/R		A/R		A/R		A/R
9. VIBRATION ASSESS/TEST	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
10. TOPSIDE ASSESSMENT	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
11. EMI 461 ASSESS/TEST								
12. EMI 464 ASSESS/TEST								
13. HERO/HERF/HERP								
14. LITHIUM BATTERY CERT	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
15. FREQ SPECTRUM CERT								
16. AI ASSESS/TEST			YES	YES				
17. CS INTEGRATED TESTING					YES	YES		
18. TSCE/NETWORK ASSESS/TEST							YES	YES
19. FLEX OR TECH DEMO DPKG								
A. POA&M			YES	YES	YES	YES	YES	YES
B. IMPACT DATA (i.e., SWAP)			YES	YES	YES	YES	YES	YES
C. ILS QUESTIONAIRE			YES	YES	YES	YES	YES	YES
D. TEST PLAN			YES	YES	YES	YES	YES	YES
E. REMOVAL/EXIT PLAN			YES	YES	YES	YES	YES	YES
F. DWGS & DOCUMENTATION			A/R	A/R	YES	YES	A/R	A/R
G. OTHER OQE				A/R	YES	YES		A/R
20. PHASE II FLEX OR TECH DEMO SCD								
- INITIATED (HEADER ONLY) SCD								
- SUBMITTED SCD			YES	YES	YES	YES	YES	YES
21. SCD/DPKG REVIEW & APPROVAL								
- TAT REVIEW			YES	YES	YES	YES	YES	YES
- SPM REVIEW			YES	YES	YES	YES	YES	YES
- TYCOM REVIEW			YES	YES	YES	YES	YES	YES
22. FLEX OR TECH DEMO RA REQ MSG	YES	YES	YES	YES	YES	YES	YES	YES
23. RMMCO CHECK IN/OUT								
24. FLEX OR TECH DEMO REM MSG	YES	YES	A/R	A/R	A/R	A/R	A/R	A/R

Group 3 Notes:

- A/R for Shock Assessment (#8): Required for at-sea scenarios only when there is a possibility of a shock event occurring. If the equipment has been properly mounted/secured, and the ship is not on an operational deployment and is operating within friendly waters and not expected to encounter severe hazardous at-sea weather conditions, then there is no probability of a shock event.
- A/R for Vibration Assessment (#9): Required for equipment whose potential failure modes due to vibration, either structurally or operationally, may result in a hazard to the ship, permanently installed equipment, or personnel. Both general shipboard environmental vibration and localized high-vibration environments must be considered.
- A/R for Topside Assessment (#10): Required for any scenarios where equipment is being installed topside, to assess the impact on topside arrangements and operations.
- A/R for Lithium Battery Certification (#14): Required for all systems containing a lithium battery brought onboard a naval vessel whether for transport, use, or charging in accordance with reference H(o) unless they meet the exception criteria in the Tech Manual for smaller COTS items.
- A/R for FLEX or TECH DEMO DPKG (#19) (Exhibit X-4 Attachment F): Required for C4I and non-tactical network installations when procedures (e.g., installation or software load) and/or O&I drawings in lieu of SIDs are needed to define where the equipment will be located and how it will be installed/secured.
- A/R for FLEX or TECH DEMO DPKG (#19) (Exhibit X-4 Attachment G): Required for experiments when additional supporting documentation is needed to complete the FLEX or FLEX or TECH DEMO DPKG such as any tech warrant holder guidance/assessment, or if connecting the experiment to a C4I network, an Application Integration (AI) test/certification.
- FLEX or TECH DEMO DPKG (#19) (Exhibit X-4 Attachments A, B, C, D, E, and F) are required for installations connected to warfare systems to ensure all potential impacts to warfare/combat systems are technically assessed.
- FLEX or TECH DEMO DPKG (#19) (Exhibit X-4 Attachment G) for Warfare Systems: Element Cert is required; ICS CCB Assessment is required; NAVCERT or AVCERT impact assessment is required; Warfare System Certification assessment is required IAW reference H(q) and WSESRB review is required IAW with reference H(r).
- FLEX or TECH DEMO REM MSG (#24): Required when the Sponsor does not have access to NDE NM to update the RMV alteration record completion status.

Table H- 11 Experimentation Group 4

TYPE OF INSTALLATION →	GROUP 4 – EQUIPMENT IN PORTABLE RACK CASES IMPACTING SINGLE SPACE (NO NEW CABLES BETWEEN SPACES)							
	SCENARIOS →	STANDALONE (N/A)		CONNECTED/ INTEGRATED WITH SHIPS C4I		CONNECTED/ INTEGRATED WITH SHIPS WARFARE SYSTEMS		CONNECTED/ INTEGRATED WITH NON-TACTICAL NETWORKED SYSTEM
DELIVERABLES		IN PORT	AT SEA	IN PORT	AT SEA	IN PORT	AT SEA	IN PORT
1. DEVELOP INSTALL PLAN	YES	YES	YES	YES	YES	YES	YES	YES
2. ARCHITECTURE DRAWING	YES	YES	YES	YES	YES	YES	YES	YES
3. SITE VISIT (NOT FOR SIDS)	YES	YES	YES	YES	YES	YES	YES	YES
4. IATT/IATO	YES	YES	YES	YES	YES	YES	YES	YES
5. O&I DRAWING		YES		YES		YES		YES
6. SHIPCHECK		A/R		A/R		A/R		A/R
7. SIDS		A/R		A/R		A/R		A/R
8. SHOCK QUES/ASSESS/TEST		A/R		A/R		A/R		A/R
9. VIBRATION ASSESS/TEST								
10. TOPSIDE ASSESSMENT	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
11. EMI 461 ASSESS/TEST								
12. EMI 464 ASSESS/TEST								
13. HERO/HERF/HERP								
14. LITHIUM BATTERY CERT	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
15. FREQ SPECTRUM CERT								
16. AI ASSESS/TEST			YES	YES				
17. CS INTEGRATED TESTING					YES	YES		
18. TSCE/NETWORK ASSESS/TEST							YES	YES
19. FLEX OR TECH DEMO DPKG								
A. POA&M	YES	YES	YES	YES	YES	YES	YES	YES
B. IMPACT DATA (i.e., SWAP)	YES	YES	YES	YES	YES	YES	YES	YES
C. ILS QUESTIONAIRE	YES	YES	YES	YES	YES	YES	YES	YES
D. TEST PLAN	YES	YES	YES	YES	YES	YES	YES	YES
E. REMOVAL/EXIT PLAN	YES	YES	YES	YES	YES	YES	YES	YES
F. DWGS & DOCUMENTATION	A/R	A/R	A/R	A/R	YES	YES	A/R	A/R
G. OTHER OQE		A/R		A/R	YES	YES		A/R
20. PHASE II FLEX OR TECH DEMO SCD								
- INITIATED (HEADER ONLY) SCD								
- SUBMITTED SCD	YES	YES	YES	YES	YES	YES	YES	YES
21. SCD/DPKG REVIEW & APPROVAL								
- TAT REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
- SPM REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
- TYCOM REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
22. FLEX OR TECH DEMO RA REQ MSG	YES	YES	YES	YES	YES	YES	YES	YES
23. RMMCO CHECK IN/OUT		A/R		A/R		A/R		A/R
24. FLEX OR TECH DEMO REM MSG	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R

Group 4 Notes:

- A/R for Ship Check (#6) and SIDs (#7): Required for at-sea scenarios if the site visit determines that industrial type work activities (e.g., welding, power upgrade, deck strengthening, etc.) is required, for example, to install foundations. For in-port scenarios, portable equipment shall be removed from the ship or taken down and properly stowed if the ship has to get underway (i.e., sortie to avoid a hurricane).
- A/R for Shock Assessment (#8): Required for at-sea scenarios only when there is a possibility of a shock event occurring. If the equipment has been properly mounted/secured, and the ship is not on an operational deployment and is operating within friendly waters and not expected to encounter severe hazardous at-sea weather conditions, then there is no probability of a shock event.
- A/R for Topside Assessment (#10): Required for any scenarios where equipment is being installed topside, to assess the impact on topside arrangements and operations.
- A/R for Lithium Battery Certification (#14): Required for all systems containing a lithium battery brought onboard a naval vessel whether for transport, use, or charging in accordance with reference H(o) unless they meet the exception criteria in the Tech Manual for smaller COTS items.
- A/R for FLEX or TECH DEMO DPKG (#19) (Exhibit X-4 Attachment F): Required for disconnected, C4I, and non-tactical networks when procedures (e.g., installation or software load) and/or O&I drawings (in lieu of a full SID package) are needed to define where the equipment will be located and how it will be installed/secured.
- FLEX or TECH DEMO DPKG (#19) (Exhibit X-4 Attachments A, B, C, D, E, and F) are required for installations connected to warfare systems to ensure all potential impacts to warfare/combat systems are technically assessed.
- A/R for FLEX or TECH DEMO DPKG (#19) (Exhibit X-4 Attachment G): Required for disconnected, C4I, and non-tactical networks for at-sea scenarios when additional supporting documentation is needed to complete the FLEX or TECH DEMO DPKG such as any tech warrant holder guidance/assessment, or if connecting to a C4I network, an Application Integration (AI) test/certification.
- FLEX or TECH DEMO DPKG (#19) (Exhibit X-4 Attachment G) for Warfare Systems: Element Cert is required; ICS CCB Assessment is required; NAVCERT or AVCERT impact assessment is required; Warfare System Certification assessment is required IAW reference H(q) and WSESRB review is required IAW with reference H(r).
- A/R for RMMCO check in/out (#23): Required for at-sea scenarios when Phase II FLEX or TECH DEMO SIDs are required.
- FLEX or TECH DEMO REM MSG (#24): Required when the Sponsor does not have access to NDE NM to update the RMV alteration record completion status.

Table H- 12 Experimentation Group 5

TYPE OF INSTALLATION →	GROUP 5 – NEW EQUIPMENT IN EXISTING CABINETS WITHIN SAME SPACE (NO CABLE OUTSIDE THE SPACE)							
	SCENARIOS →	STANDALONE (N/A)		CONNECTED/ INTEGRATED WITH SHIPS C4I		CONNECTED/ INTEGRATED WITH SHIPS WARFARE SYSTEMS		CONNECTED/ INTEGRATED WITH NON-TACTICAL NETWORKED SYSTEM
DELIVERABLES		IN PORT	AT SEA	IN PORT	AT SEA	IN PORT	AT SEA	IN PORT
1. DEVELOP INSTALL PLAN	YES	YES	YES	YES	YES	YES	YES	YES
2. ARCHITECTURE DRAWING	YES	YES	YES	YES	YES	YES	YES	YES
3. SITE VISIT (NOT FOR SIDS)	YES	YES	YES	YES	YES	YES	YES	YES
4. IATT/IATO	YES	YES	YES	YES	YES	YES	YES	YES
5. O&I DRAWING								
6. SHIPCHECK								
7. SIDS								
8. SHOCK QUES/ASSESS/TEST		A/R		A/R		A/R		A/R
9. VIBRATION ASSESS/TEST		A/R		A/R		A/R		A/R
10. TOPSIDE ASSESSMENT								
11. EMI 461 ASSESS/TEST								
12. EMI 464 ASSESS/TEST								
13. HERO/HERF/HERP								
14. LITHIUM BATTERY CERT	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
15. FREQ SPECTRUM CERT								
16. AI ASSESS/TEST			YES	YES				
17. CS INTEGRATED TESTING					YES	YES		
18. TSCE/NETWORK ASSESS/TEST							YES	YES
19. FLEX OR TECH DEMO DPKG								
A. POA&M	YES	YES	YES	YES	YES	YES	YES	YES
B. IMPACT DATA (i.e., SWAP)	YES	YES	YES	YES	YES	YES	YES	YES
C. ILS QUESTIONAIRE	YES	YES	YES	YES	YES	YES	YES	YES
D. TEST PLAN	YES	YES	YES	YES	YES	YES	YES	YES
E. REMOVAL/EXIT PLAN	YES	YES	YES	YES	YES	YES	YES	YES
F. DWGS & DOCUMENTATION	YES	YES	YES	YES	YES	YES	YES	YES
G. OTHER OQE	A/R	A/R	A/R	A/R	YES	YES	A/R	A/R
20. PHASE II FLEX OR TECH DEMO SCD								
- INITIATED (HEADER ONLY) SCD								
- SUBMITTED SCD	YES	YES	YES	YES	YES	YES	YES	YES
21. SCD/DPKG REVIEW & APPROVAL								
- TAT REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
- SPM REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
- TYCOM REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
22. FLEX OR TECH DEMO RA REQ MSG	YES	YES	YES	YES	YES	YES	YES	YES
23. RMMCO CHECK IN/OUT								
24. FLEX OR TECH DEMO REM MSG	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R

Group 5 Notes:

- A/R for Shock Assessment (#8): Required for at-sea scenarios only when there is a possibility of a shock event occurring. If the equipment has been properly mounted/secured with the cabinet, and the ship is not on an operational deployment and is operating within friendly waters and not expected to encounter severe hazardous at-sea weather conditions, then there is no probability of a shock event.
- A/R for Vibration Assessment (#9): Required for equipment whose potential failure modes due to vibration, either structurally or operationally, may result in a hazard to the ship, permanently installed equipment, or personnel. Both general shipboard environmental vibration and localized high-vibration environments must be considered.
- A/R for Lithium Battery Certification (#14): Required for all systems containing a lithium battery brought onboard a naval vessel whether for transport, use, or charging in accordance with reference H(o) unless they meet the exception criteria in the Tech Manual for smaller COTS items.
- A/R for FLEX or TECH DEMO DPKG (#19) (Exhibit H-4 Attachment G): Required for disconnected, C4I, and non-tactical networks for at-sea scenarios when additional supporting documentation is needed to complete the FLEX or TECH DEMO DPKG such as any tech warrant holder guidance/assessment, or if connecting to a C4I network, an Application Integration (AI) test/certification.
- FLEX or TECH DEMO DPKG (#19) (Exhibit H-4 Attachment G) for Warfare Systems: Element Cert is required; ICS CCB Assessment is required; NAVCERT or AVCERT impact assessment is required; Warfare System Certification assessment is required IAW reference H(q) and WSESRB review is required IAW with reference H(r).
- FLEX or TECH DEMO DPKG (#19) (Exhibit H-4 Attachment G): Sponsor/Preparer should document in a Memorandum for the Record that the owner of the cabinet agrees with installing the equipment required to conduct the experiment or demonstration.
- FLEX or TECH DEMO REM MSG (#24): Required when the Sponsor does not have access to NDE NM to update the RMV alteration record completion status.

Table H- 13 Experimentation Group 6

TYPE OF INSTALLATION →	GROUP 6 – EQUIPMENT IN PORTABLE RACK CASES IN MULTIPLE SPACES (NEW CABLE RUNS BETWEEN SPACES)							
SCENARIOS →	STANDALONE (N/A)		CONNECTED/ INTEGRATED WITH SHIPS C4I		CONNECTED/ INTEGRATED WITH SHIPS WARFARE SYSTEMS		CONNECTED/ INTEGRATED WITH NON-TACTICAL NETWORKED SYSTEM	
DELIVERABLES	IN PORT	AT SEA	IN PORT	AT SEA	IN PORT	AT SEA	IN PORT	AT SEA
1. DEVELOP INSTALL PLAN	YES	YES	YES	YES	YES	YES	YES	YES
2. ARCHITECTURE DRAWING	YES	YES	YES	YES	YES	YES	YES	YES
3. SITE VISIT (NOT FOR SIDS)	YES	YES	YES	YES	YES	YES	YES	YES
4. IATT/IATO	YES	YES	YES	YES	YES	YES	YES	YES
5. O&I DRAWING	YES	YES	YES	YES	YES	YES	YES	YES
6. SHIPCHECK	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
7. SIDS	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
8. SHOCK QUES/ASSESS/TEST		A/R		A/R		A/R		A/R
9. VIBRATION ASSESS/TEST								
10. TOPSIDE ASSESSMENT	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
11. EMI 461 ASSESS/TEST								
12. EMI 464 ASSESS/TEST								
13. HERO/HERF/HERP								
14. LITHIUM BATTERY CERT	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
15. FREQ SPECTRUM CERT								
16. AI ASSESS/TEST			YES	YES				
17. CS INTEGRATED TESTING					YES	YES		
18. TSCE/NETWORK ASSESS/TEST							YES	YES
19. FLEX OR TECH DEMO DPKG								
A. POA&M	YES	YES	YES	YES	YES	YES	YES	YES
B. IMPACT DATA (i.e., SWAP)	YES	YES	YES	YES	YES	YES	YES	YES
C. ILS QUESTIONAIRE	YES	YES	YES	YES	YES	YES	YES	YES
D. TEST PLAN	YES	YES	YES	YES	YES	YES	YES	YES
E. REMOVAL/EXIT PLAN	YES	YES	YES	YES	YES	YES	YES	YES
F. DWGS & DOCUMENTATION	YES	YES	YES	YES	YES	YES	YES	YES
G. OTHER OQE	A/R	A/R	A/R	A/R	YES	YES	A/R	A/R
20. PHASE II FLEX OR TECH DEMO SCD								
- INITIATED (HEADER ONLY) SCD								
SUBMITTED SCD	YES	YES	YES	YES	YES	YES	YES	YES
21. SCD/DPKG REVIEW & APPROVAL	YES	YES	YES	YES	YES	YES	YES	YES
- TAT REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
- SPM REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
- TYCOM REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
22. FLEX OR TECH DEMO RA REQ MSG	YES	YES	YES	YES	YES	YES	YES	YES
23. RMMCO CHECK IN/OUT	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
24. FLEX OR TECH DEMO REM MSG	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R

Group 6 Notes:

- A/R for Ship Check (#6) and SIDs (#7): Required for all scenarios if the site visit determines that industrial work is required, for example, to install foundations, or SIDs are required to install the new cable runs (as determined by the Planning Yard). Even for in-port scenarios, the portable equipment shall be installed in a manner to withstand at-sea conditions because it is too complicated to remove with new cable runs involved.
- A/R for Shock Assessment (#8): Required for at-sea scenarios only when there is a possibility of a shock event occurring. If the equipment has been properly mounted/secured, and the ship is not on an operational deployment and is operating within friendly waters and not expected to encounter severe hazardous at-sea weather conditions, then there is no probability of a shock event.
- A/R for Topside Assessment (#10): Required for any scenarios where equipment is being installed topside, to assess the impact on topside arrangements and operations.
- A/R for Lithium Battery Certification (#14): Required for all systems containing a lithium battery brought onboard a naval vessel whether for transport, use, or charging in accordance with reference H(o) unless they meet the exception criteria in the Tech Manual for smaller COTS items.
- A/R for FLEX or TECH DEMO DPKG (#19) (Exhibit H-4 Attachment G): Required for disconnected, C4I, and non-tactical networks for at-sea scenarios when additional supporting documentation is needed to complete the FLEX or TECH DEMO DPKG such as any tech warrant holder guidance/assessment, or if connecting to a C4I network, an Application Integration (AI) test/certification.
- FLEX or TECH DEMO DPKG (#19) (Exhibit H-4 Attachment G) for Warfare Systems: Element Cert is required; ICS CCB Assessment is required; NAVCERT or AVCERT impact assessment is required; Warfare System Certification assessment is required IAW reference H(q) and WSESRB review is required IAW with reference H(r).
- A Phase II FLEX or TECH DEMO Submitted SCD (#20) must be submitted to ensure the Planning Yard reviews the installation plans and makes the determination as to whether SIDs are required. This is a safety of ship issue due to the new cable runs.
- A/R for RMMCO check in/out (#23): Required when SIDs are required.
- A/R for FLEX or TECH DEMO REM MSG (#24): Required when the Sponsor does not have access to NDE NM to update the RMV alteration record completion status.

Table H- 14 Experimentation Group 7

TYPE OF INSTALLATION →	GROUP 7 – EQUIPMENT IN PORTABLE RACK CASES IN MULTIPLE SPACES (WIRELESS CONNECTION USING COMMERCIAL NETWORK DEVICES)							
	SCENARIOS →	STANDALONE (N/A)		CONNECTED/ INTEGRATED WITH SHIPS C4I		CONNECTED/ INTEGRATED WITH SHIPS WARFARE SYSTEMS		CONNECTED/ INTEGRATED WITH NON-TACTICAL NETWORKED SYSTEM
DELIVERABLES		IN PORT	AT SEA	IN PORT	AT SEA	IN PORT	AT SEA	IN PORT
1. DEVELOP INSTALL PLAN	YES	YES	YES	YES	YES	YES	YES	YES
2. ARCHITECTURE DRAWING	YES	YES	YES	YES	YES	YES	YES	YES
3. SITE VISIT (NOT FOR SIDS)	YES	YES	YES	YES	YES	YES	YES	YES
4. IATT/IATO	YES	YES	YES	YES	YES	YES	YES	YES
5. O&I DRAWING		YES		YES		YES		YES
6. SHIPCHECK		A/R		A/R		A/R		A/R
7. SIDS		A/R		A/R		A/R		A/R
8. SHOCK QUES/ASSESS/TEST		A/R		A/R		A/R		A/R
9. VIBRATION ASSESS/TEST								
10. TOPSIDE ASSESSMENT	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
11. EMI 461 ASSESS/TEST								
12. EMI 464 ASSESS/TEST								
13. HERO/HERF/HERP	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
14. LITHIUM BATTERY CERT	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
15. FREQ SPECTRUM CERT								
16. AI ASSESS/TEST			YES	YES				
17. CS INTEGRATED TESTING					YES	YES		
18. TSCE/NETWORK ASSESS/TEST							YES	YES
19. FLEX OR TECH DEMO DPKG								
A. POA&M	YES	YES	YES	YES	YES	YES	YES	YES
B. IMPACT DATA (i.e., SWAP)	YES	YES	YES	YES	YES	YES	YES	YES
C. ILS QUESTIONAIRE	YES	YES	YES	YES	YES	YES	YES	YES
D. TEST PLAN	YES	YES	YES	YES	YES	YES	YES	YES
E. REMOVAL/EXIT PLAN	YES	YES	YES	YES	YES	YES	YES	YES
F. DWGS & DOCUMENTATION	YES	YES	YES	YES	YES	YES	YES	YES
G. OTHER OQE	A/R	A/R	A/R	A/R	YES	YES	A/R	A/R
20. PHASE II FLEX OR TECH DEMO SCD								
- INITIATED (HEADER ONLY) SCD								
- SUBMITTED SCD	YES	YES	YES	A/R	YES	YES	YES	YES
21. SCD/DPKG REVIEW & APPROVAL								
- TAT REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
- SPM REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
- TYCOM REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
22. FLEX OR TECH DEMO RA REQ MSG	YES	YES	YES	YES	YES	YES	YES	YES
23. RMMCO CHECK IN/OUT		A/R		A/R		A/R		A/R
24. FLEX OR TECH DEMO REM MSG	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R

Group 7 Notes:

- A/R for Ship Check (#6) and SIDs (#7): Required for at-sea scenarios if the site visit determines that industrial work (e.g., welding, power upgrade, deck strengthening, etc.) is required. For in-port scenarios, portable equipment shall be removed from the ship or taken down and properly stowed if the ship has to get underway (i.e., sortie to avoid a hurricane).
- A/R for Shock Assessment (#8): Required for at-sea scenarios only when there is a possibility of a shock event occurring. If the equipment has been properly mounted/secured, and the ship is not on an operational deployment and is operating within friendly waters and not expected to encounter severe hazardous at-sea weather conditions, then there is no probability of a shock event.
- A/R for Topside Assessment (#10): Required for any scenarios where equipment is being installed topside, to assess the impact on topside arrangements and operations.
- A/R for HERO/HERF/HERP (#13): Required when wireless systems will be closer than 10 feet to ordnance or fueling operations, or when there will be multiple (>5) operating wireless devices in a single enclosed space (e.g. RFID tags).
- A/R for Lithium Battery Certification (#14): Required for all systems containing a lithium battery brought onboard a naval vessel whether for transport, use, or charging in accordance with reference H(o) unless they meet the exception criteria in the Tech Manual for smaller COTS items.
- A/R for FLEX or TECH DEMO DPKG (#19) (Exhibit H-4 Attachment G): Required for disconnected, C4I, and non-tactical networks for at-sea scenarios when additional supporting documentation is needed to complete the FLEX or TECH DEMO DPKG such as any tech warrant holder guidance/assessment, or if connecting to a C4I network, an Application Integration (AI) test/certification.
- FLEX or TECH DEMO DPKG (#19) (Exhibit H-4 Attachment G) for Warfare Systems: Element Cert is required; ICS CCB Assessment is required; NAVCERT or AVCERT impact assessment is required; Warfare System Certification assessment is required IAW reference H(q) and WSESRB review is required IAW with reference H(r).
- A/R for Phase II FLEX or TECH DEMO SCD (Header (submit), TAT, and Fielding Plan) (#21): Required for at-sea scenarios for disconnected, C4I, and non-tactical networks when SIDs are required based on the Site visit. For installations connected to warfare/combat systems, a Phase II FLEX or TECH DEMO SCD (Header (Submit), TAT, and Fielding Plan) is required due to the potential effect of the wireless connectivity.
- A/R for RMMCO check in/out (#23): Required for at-sea scenarios for disconnected, C4I, and non-tactical networks when SIDs are required.
- FLEX or TECH DEMO REM MSG (#24): Required when the Sponsor does not have access to NDE NM to update the RMV alteration record completion status.

Table H- 15 Experimentation Group 8 (*Can Only Be Subordinate to Another Group)

TYPE OF INSTALLATION →	GROUP 8 – PORTABLE, SMALL RECEIVE ONLY ANTENNA OR EMITTER (SYSTEM RADIATES ANYTHING – RF, IR, VISIBLE LIGHT, SOUND, WiFi, SOUND, ETC)							
	SCENARIOS →	STANDALONE (N/A)		CONNECTED/ INTEGRATED WITH SHIPS C4I		CONNECTED/ INTEGRATED WITH SHIPS WARFARE SYSTEMS		CONNECTED/ INTEGRATED WITH NON-TACTICAL NETWORKED SYSTEM
DELIVERABLES		IN PORT	AT SEA	IN PORT	AT SEA	IN PORT	AT SEA	IN PORT
1. DEVELOP INSTALL PLAN								
2. ARCHITECTURE DRAWING								
3. SITE VISIT (NOT FOR SIDS)								
4. IATT/IATO								
5. O&I DRAWING								
6. SHIPCHECK								
7. SIDS								
8. SHOCK QUES/ASSESS/TEST								
9. VIBRATION ASSESS/TEST								
10. TOPSIDE ASSESSMENT	A/R	YES	A/R	YES	YES	YES	A/R	YES
11. EMI 461 ASSESS/TEST								
12. EMI 464 ASSESS/TEST								
13. HERO/HERF/HERP	YES	YES	YES	YES	YES	YES	YES	YES
14. LITHIUM BATTERY CERT	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
15. FREQ SPECTRUM CERT	YES	YES	YES	YES	YES	YES	YES	YES
16. AI ASSESS/TEST			YES	YES				
17. CS INTEGRATED TESTING					YES	YES		
18. TSCE/NETWORK ASSESS/TEST							YES	YES
19. FLEX OR TECH DEMO DPKG								
A. POA&M								
B. IMPACT DATA (i.e., SWAP)								
C. ILS QUESTIONNAIRE								
D. TEST PLAN								
E. REMOVAL/EXIT PLAN								
F. DWGS & DOCUMENTATION								
G. OTHER OQE								
20. PHASE II FLEX OR TECH DEMO SCD								
- INITIATED (HEADER ONLY) SCD								
- SUBMITTED SCD								
21. SCD/DPKG REVIEW & APPROVAL								
- TAT REVIEW								
- SPM REVIEW								
- TYCOM REVIEW								
22. FLEX OR TECH DEMO RA REQ MSG								
23. RMMCO CHECK IN/OUT								
24. FLEX OR TECH DEMO REM MSG								

Group 8 Notes:

- A/R for Topside Assessment (#10): Handheld transmitters have the ability to degrade systems that are required for use in port and underway. E3 assessment is required for all emitters to assess potential impact to ship systems or personnel for at-sea and in-port scenarios due to the potential to affect routine or critical ship operations. Where energy levels and frequency/bandwidth can be immediately assessed as benign by the E3 TWH for the context of use for the ship, a topside assessment will not be required.
- A/R for Lithium Battery Certification (#14): Required for all systems containing a lithium battery brought onboard a naval vessel whether for transport, use, or charging in accordance with reference H(o) unless they meet the exception criteria in the Tech Manual for smaller COTS items.

Table H- 16 Experimentation Group 9 (*Can Only Be Subordinate to Another Group)

TYPE OF INSTALLATION →	GROUP 9 – LARGE, NON-PORTABLE RECEIVE ONLY ANTENNA OR EMITTER (SYSTEM RADIATES ANYTHING – RF, IR, VISIBLE LIGHT, WiFi, SOUND, ETC)							
	SCENARIOS →	STANDALONE (N/A)		CONNECTED/ INTEGRATED WITH SHIPS C4I		CONNECTED/ INTEGRATED WITH SHIPS WARFARE SYSTEMS		CONNECTED/ INTEGRATED WITH NON-TACTICAL NETWORKED SYSTEM
DELIVERABLES		IN PORT	AT SEA	IN PORT	AT SEA	IN PORT	AT SEA	IN PORT
1. DEVELOP INSTALL PLAN	YES	YES	YES	YES	YES	YES	YES	YES
2. ARCHITECTURE DRAWING	YES	YES	YES	YES	YES	YES	YES	YES
3. SITE VISIT (NOT FOR SIDS)	YES	YES	YES	YES	YES	YES	YES	YES
4. IATT/IATO	YES	YES	YES	YES	YES	YES	YES	YES
5. O&I DRAWING								
6. SHIPCHECK	YES	YES	YES	YES	YES	YES	YES	YES
7. SIDS	YES	YES	YES	YES	YES	YES	YES	YES
8. SHOCK QUES/ASSESS/TEST	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
9. VIBRATION ASSESS/TEST	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
10. TOPSIDE ASSESSMENT	A/R	YES	A/R	YES	YES	YES	A/R	YES
11. EMI 461 ASSESS/TEST								
12. EMI 464 ASSESS/TEST								
13. HERO/HERF/HERP	YES	YES	YES	YES	YES	YES	YES	YES
14. LITHIUM BATTERY CERT	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
15. FREQ SPECTRUM CERT	YES	YES	YES	YES	YES	YES	YES	YES
16. AI ASSESS/TEST			YES	YES				
17. CS INTEGRATED TESTING					YES	YES		
18. TSCE/NETWORK ASSESS/TEST							YES	YES
19. FLEX OR TECH DEMO DPKG								
A. POA&M	YES	YES	YES	YES	YES	YES	YES	YES
B. IMPACT DATA (i.e., SWAP)	YES	YES	YES	YES	YES	YES	YES	YES
C. ILS QUESTIONAIRE	YES	YES	YES	YES	YES	YES	YES	YES
D. TEST PLAN	YES	YES	YES	YES	YES	YES	YES	YES
E. REMOVAL/EXIT PLAN	YES	YES	YES	YES	YES	YES	YES	YES
F. DWGS & DOCUMENTATION	YES	YES	YES	YES	YES	YES	YES	YES
G. OTHER OQE	A/R	A/R	A/R	A/R	YES	YES	A/R	A/R
20. PHASE II FLEX OR TECH DEMO SCD								
- INITIATED (HEADER ONLY) SCD								
- SUBMITTED SCD	YES	YES	YES	YES	YES	YES	YES	YES
21. SCD/DPKG REVIEW & APPROVAL								
- TAT REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
- SPM REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
- TYCOM REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
22. FLEX OR TECH DEMO RA REQ MSG	YES	YES	YES	YES	YES	YES	YES	YES
23. RMMCO CHECK IN/OUT	YES	YES	YES	YES	YES	YES	YES	YES
24. FLEX OR TECH DEMO REM MSG	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R

Group 9 Notes:

- Ship Check (#6) and SIDs (#7) are required to support installation and mounting of the non-portable antenna or emitter.
- A/R for Shock Assessment (#8): Required for all scenarios only when there is a possibility of a shock event occurring. If the equipment has been properly mounted/secured, and the ship is not on an operational deployment and is operating within friendly waters and not expected to encounter severe hazardous at-sea weather conditions, then there is no probability of a shock event.
- A/R for Vibration Assessment (#9): Required for equipment whose potential failure modes due to vibration, either structurally or operationally, may result in a hazard to the ship, permanently installed equipment, or personnel. Both general shipboard environmental vibration and localized high-vibration environments must be considered.
- A/R for Topside Assessment (#10): Required for any scenarios where equipment is being installed topside, to assess the impact on topside arrangements and operations.
- A/R for Lithium Battery Certification (#14): Required for all systems containing a lithium battery brought onboard a naval vessel whether for transport, use, or charging in accordance with the reference H(o) unless they meet the exception criteria in the Tech Manual for smaller COTS items.
- A/R for FLEX or TECH DEMO DPKG (#19) (Exhibit H-4 Attachment G): Required for disconnected, C4I, and non-tactical networks for at-sea scenarios when additional supporting documentation is needed to complete the FLEX or TECH DEMO DPKG such as any tech warrant holder guidance/assessment, or if connecting to a C4I network, an Application Integration (AI) test/certification.
- FLEX or TECH DEMO DPKG (#19) (Exhibit H-4 Attachment G) for Warfare Systems: Element Cert is required; ICS CCB Assessment is required; NAVCERT or AVCERT impact assessment is required; Warfare System Certification assessment is required IAW reference H(q) and WSESRB review is required IAW with reference H(r).
- FLEX or TECH DEMO REM MSG (#24): Required when the Sponsor does not have access to NDE NM to update the RMV alteration record completion status.

Table H- 17 Experimentation Group 10

TYPE OF INSTALLATION →	GROUP 10 – NEW EQUIPMENT IN EXISTING CABINETS IN MULTIPLE SPACES (NEW CABLE RUNS BETWEEN SPACES)							
	SCENARIOS →	STANDALONE (N/A)		CONNECTED/ INTEGRATED WITH SHIPS C4I		CONNECTED/ INTEGRATED WITH SHIPS WARFARE SYSTEMS		CONNECTED/ INTEGRATED WITH NON-TACTICAL NETWORKED SYSTEM
DELIVERABLES		IN PORT	AT SEA	IN PORT	AT SEA	IN PORT	AT SEA	IN PORT
1. DEVELOP INSTALL PLAN	YES	YES	YES	YES	YES	YES	YES	YES
2. ARCHITECTURE DRAWING	YES	YES	YES	YES	YES	YES	YES	YES
3. SITE VISIT (NOT FOR SIDS)	YES	YES	YES	YES	YES	YES	YES	YES
4. IATT/IATO	YES	YES	YES	YES	YES	YES	YES	YES
5. O&I DRAWING	YES	YES	YES	YES	YES	YES	YES	YES
6. SHIPCHECK	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
7. SIDS	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
8. SHOCK QUES/ASSESS/TEST		A/R		A/R		A/R		A/R
9. VIBRATION ASSESS/TEST		A/R		A/R		A/R		A/R
10. TOPSIDE ASSESSMENT	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
11. EMI 461 ASSESS/TEST								
12. EMI 464 ASSESS/TEST								
13. HERO/HERF/HERP								
14. LITHIUM BATTERY CERT	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
15. FREQ SPECTRUM CERT								
16. AI ASSESS/TEST			YES	YES				
17. CS INTEGRATED TESTING					YES	YES		
18. TSCE/NETWORK ASSESS/TEST							YES	YES
19. FLEX OR TECH DEMO DPKG								
A. POA&M	YES	YES	YES	YES	YES	YES	YES	YES
B. IMPACT DATA (i.e., SWAP)	YES	YES	YES	YES	YES	YES	YES	YES
C. ILS QUESTIONAIRE	YES	YES	YES	YES	YES	YES	YES	YES
D. TEST PLAN	YES	YES	YES	YES	YES	YES	YES	YES
E. REMOVAL/EXIT PLAN	YES	YES	YES	YES	YES	YES	YES	YES
F. DWGS & DOCUMENTATION	YES	YES	YES	YES	YES	YES	YES	YES
G. OTHER OQE	A/R	A/R	A/R	A/R	YES	YES	A/R	A/R
20. PHASE II FLEX OR TECH DEMO SCD								
- INITIATED (HEADER ONLY) SCD								
- SUBMITTED SCD	YES	YES	YES	YES	YES	YES	YES	YES
21. SCD/DPKG REVIEW & APPROVAL								
- TAT REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
- SPM REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
- TYCOM REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
22. FLEX OR TECH DEMO RA REQ MSG	YES	YES	YES	YES	YES	YES	YES	YES
23. RMMCO CHECK IN/OUT	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
24. FLEX OR TECH DEMO REM MSG	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R

Group 10 Notes:

- A/R for Ship Check (#6) and SIDs (#7) are required for all scenarios if the site visit determines that industrial work is required, for example, to install foundations, or SIDs are required to install the new cable runs (as determined by the Planning Yard).
- A/R for Shock Assessment (#8): Required for all at-sea scenarios only when there is a possibility of a shock event occurring. If the equipment has been properly mounted/secured with the cabinet, and the ship is not on an operational deployment and is operating within friendly waters and not expected to encounter severe hazardous at-sea weather conditions, then there is no probability of a shock event.
- A/R for Vibration Assessment (#9): Required for equipment whose potential failure modes due to vibration, either structurally or operationally, may result in a hazard to the ship, permanently installed equipment, or personnel. Both general shipboard environmental vibration and localized high-vibration environments must be considered.
- A/R for Topside Assessment (#10): Required for any scenarios where equipment is being installed topside, to assess the impact on topside arrangements and operations.
- A/R for Lithium Battery Certification (#14): Required for all systems containing a lithium battery brought onboard a naval vessel whether for transport, use, or charging in accordance with the reference H(o) unless they meet the exception criteria in the Tech Manual for smaller COTS items.
- A/R for FLEX or TECH DEMO DPKG (#19) (Exhibit H-4 Attachment G): Required for disconnected, C4I, and non-tactical networks when additional supporting documentation is needed to complete the FLEX DPKG such as any tech warrant holder guidance/assessment, or if connecting to a C4I network, an Application Integration (AI) test/certification.
- FLEX or TECH DEMO DPKG (#19) (Exhibit H-4 Attachment G) for Warfare Systems: Element Cert is required; ICS CCB Assessment is required; NAVCERT or AVCERT impact assessment is required; Warfare System Certification assessment is required IAW reference H(q) and WSESRB review is required IAW with reference H(r).
- FLEX or TECH DEMO DPKG (#19) (Exhibit H-4 Attachment G): Sponsor/Preparer should document in a Memorandum for the Record that the owner of the cabinet agrees with installing the equipment required to conduct the experiment or demonstration.
- A Phase II FLEX or TECH DEMO Submitted SCD (#20) must be submitted to ensure the Planning Yard reviews the installation plans and makes the determination as to whether SIDs are required. This is a safety of ship issue due to the new cable runs.
- A/R for RMMCO check in/out (#23): RMMCO check in/out is required when SIDs are required.
- FLEX or TECH DEMO REM MSG (#24): Required when the Sponsor does not have access to NDE NM to update the RMV alteration record completion status.

Table H- 18 Experimentation Group 11

TYPE OF INSTALLATION →	GROUP 11 – INSTALLED NEW CABINETS							
	SCENARIOS →	STANDALONE (N/A)		CONNECTED/ INTEGRATED WITH SHIPS C4I		CONNECTED/ INTEGRATED WITH SHIPS WARFARE SYSTEMS		CONNECTED/ INTEGRATED WITH NON-TACTICAL NETWORKED SYSTEM
DELIVERABLES		IN PORT	AT SEA	IN PORT	AT SEA	IN PORT	AT SEA	IN PORT
1. DEVELOP INSTALL PLAN	YES	YES	YES	YES	YES	YES	YES	YES
2. ARCHITECTURE DRAWING	YES	YES	YES	YES	YES	YES	YES	YES
3. SITE VISIT (NOT FOR SIDS)	YES	YES	YES	YES	YES	YES	YES	YES
4. IATT/IATO	YES	YES	YES	YES	YES	YES	YES	YES
5. O&I DRAWING								
6. SHIPCHECK	YES	YES	YES	YES	YES	YES	YES	YES
7. SIDS	YES	YES	YES	YES	YES	YES	YES	YES
8. SHOCK QUES/ASSESS/TEST	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
9. VIBRATION ASSESS/TEST	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
10. TOPSIDE ASSESSMENT								
11. EMI 461 ASSESS/TEST								
12. EMI 464 ASSESS/TEST								
13. HERO/HERF/HERP								
14. LITHIUM BATTERY CERT	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
15. FREQ SPECTRUM CERT								
16. AI ASSESS/TEST			YES	YES				
17. CS INTEGRATED TESTING					YES	YES		
18. TSCE/NETWORK ASSESS/TEST							YES	YES
19. FLEX OR TECH DEMO DPKG								
A. POA&M	YES	YES	YES	YES	YES	YES	YES	YES
B. IMPACT DATA (i.e., SWAP)	YES	YES	YES	YES	YES	YES	YES	YES
C. ILS QUESTIONNAIRE	YES	YES	YES	YES	YES	YES	YES	YES
D. TEST PLAN	YES	YES	YES	YES	YES	YES	YES	YES
E. REMOVAL/EXIT PLAN	YES	YES	YES	YES	YES	YES	YES	YES
F. DWGS & DOCUMENTATION	YES	YES	YES	YES	YES	YES	YES	YES
G. OTHER OQE	A/R	A/R	A/R	A/R	YES	YES	A/R	A/R
20. PHASE II FLEX OR TECH DEMO SCD								
- INITIATED (HEADER ONLY) SCD								
- SUBMITTED SCD	YES	YES	YES	YES	YES	YES	YES	YES
21. SCD/DPKG REVIEW & APPROVAL								
- TAT REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
- SPM REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
- TYCOM REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
22. FLEX OR TECH DEMO RA REQ MSG	YES	YES	YES	YES	YES	YES	YES	YES
23. RMMCO CHECK IN/OUT	YES	YES	YES	YES	YES	YES	YES	YES
24. FLEX OR TECH DEMO REM MSG	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R

Group 11 Notes:

- A/R for Shock Assessment (#8): Required for all scenarios since the new cabinets are hard mounted only when there is a possibility of a shock event occurring. If the equipment has been properly mounted/secured with the cabinet, and the ship is not on an operational deployment and is operating within friendly waters and not expected to encounter severe hazardous at-sea weather conditions, then there is no probability of a shock event.
- A/R for Vibration Assessment: (#9): Required for equipment whose potential failure modes due to vibration, either structurally or operationally, may result in a hazard to the ship, permanently installed equipment, or personnel. Both general shipboard environmental vibration and localized high-vibration environments must be considered.
- A/R for Lithium Battery Certification (#14): Required for all systems containing a lithium battery brought onboard a naval vessel whether for transport, use, or charging in accordance with the reference H(o) unless they meet the exception criteria in the Tech Manual for smaller COTS items.
- A/R for FLEX or TECH DEMO DPKG (#19) (Exhibit H-4 Attachment G): Required for disconnected, C4I, and non-tactical networks for at-sea scenarios when additional supporting documentation is needed to complete the FLEX or TECH DEMO DPKG such as any tech warrant holder guidance/assessment, or if connecting to a C4I network, an Application Integration (AI) test/certification.
- FLEX or TECH DEMO DPKG (#19) (Exhibit H-4 Attachment G) for Warfare Systems: Element Cert is required; ICS CCB Assessment is required; NAVCERT or AVCERT impact assessment is required; Warfare System Certification assessment is required IAW reference H(q) and WSESRB review is required IAW with reference H(r).
- FLEX or TECH DEMO REM MSG (#24): Required when the Sponsor does not have access to NDE NM to update the RMV alteration record completion status.

Table H- 19 Experimentation Group 12

TYPE OF INSTALLATION →	GROUP 12 – EQUIPMENT IN CONEX BOXES							
	SCENARIOS →	STANDALONE (N/A)		CONNECTED/ INTEGRATED WITH SHIPS C4I		CONNECTED/ INTEGRATED WITH SHIPS WARFARE SYSTEMS		CONNECTED/ INTEGRATED WITH NON-TACTICAL NETWORKED SYSTEM
DELIVERABLES		IN PORT	AT SEA	IN PORT	AT SEA	IN PORT	AT SEA	IN PORT
1. DEVELOP INSTALL PLAN	YES	YES	YES	YES	YES	YES	YES	YES
2. ARCHITECTURE DRAWING	YES	YES	YES	YES	YES	YES	YES	YES
3. SITE VISIT (NOT FOR SIDS)	YES	YES	YES	YES	YES	YES	YES	YES
4. IATT/IATO	YES	YES	YES	YES	YES	YES	YES	YES
5. O&I DRAWING								
6. SHIPCHECK	YES	YES	YES	YES	YES	YES	YES	YES
7. SIDS	YES	YES	YES	YES	YES	YES	YES	YES
8. SHOCK QUES/ASSESS/TEST	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
9. VIBRATION ASSESS/TEST								
10. TOPSIDE ASSESSMENT	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
11. EMI 461 ASSESS/TEST								
12. EMI 464 ASSESS/TEST								
13. HERO/HERF/HERP								
14. LITHIUM BATTERY CERT	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
15. FREQ SPECTRUM CERT								
16. AI ASSESS/TEST			YES	YES				
17. CS INTEGRATED TESTING					YES	YES		
18. TSCE/NETWORK ASSESS/TEST							YES	YES
19. FLEX OR TECH DEMO DPKG								
A. POA&M	YES	YES	YES	YES	YES	YES	YES	YES
B. IMPACT DATA (i.e., SWAP)	YES	YES	YES	YES	YES	YES	YES	YES
C. ILS QUESTIONAIRE	YES	YES	YES	YES	YES	YES	YES	YES
D. TEST PLAN	YES	YES	YES	YES	YES	YES	YES	YES
E. REMOVAL/EXIT PLAN	YES	YES	YES	YES	YES	YES	YES	YES
F. DWGS & DOCUMENTATION	YES	YES	YES	YES	YES	YES	YES	YES
G. OTHER OQE	A/R	A/R	A/R	A/R	YES	YES	A/R	A/R
20. PHASE II FLEX OR TECH DEMO SCD								
- INITIATED (HEADER ONLY) SCD								
- SUBMITTED SCD	YES	YES	YES	YES	YES	YES	YES	YES
21. SCD/DPKG REVIEW & APPROVAL								
- TAT REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
- SPM REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
- TYCOM REVIEW	YES	YES	YES	YES	YES	YES	YES	YES
22. FLEX OR TECH DEMO RA REQ MSG	YES	YES	YES	YES	YES	YES	YES	YES
23. RMMCO CHECK IN/OUT	YES	YES	YES	YES	YES	YES	YES	YES
24. FLEX OR TECH DEMO REM MSG	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R

Group 12 Notes:

- A/R for Shock Assessment (#8): Required for all scenarios since the CONEX boxes require mounting to the deck only when there is a possibility of a shock event occurring. If the equipment has been properly mounted/secured, and the ship is not on an operational deployment and is operating within friendly waters and not expected to encounter severe hazardous at-sea weather conditions, then there is no probability of a shock event.
- A/R for Topside Assessment (#10): Required for all scenarios to assess the impact of the CONEX boxes on topside arrangements and operations.
- A/R for Lithium Battery Certification (#14): Required for all systems containing a lithium battery brought onboard a naval vessel whether for transport, use, or charging in accordance with the reference H(o) unless they meet the exception criteria in the Tech Manual for smaller COTS items.
- A/R for FLEX or TECH DEMO DPKG (#19) (Exhibit H-4 Attachment G): Required for disconnected, C4I, and non-tactical networks for at-sea scenarios when additional supporting documentation is needed to complete the FLEX or TECH DEMO DPKG such as any tech warrant holder guidance/assessment, or if connecting to a C4I network, an Application Integration (AI) test/certification.
- FLEX or TECH DEMO DPKG (#19) (Exhibit H-4 Attachment G) for Warfare Systems: Element Cert is required; ICS CCB Assessment is required; NAVCERT or AVCERT impact assessment is required; Warfare System Certification assessment is required IAW reference H(q) and WSESRB review is required IAW with reference H(r).
- FLEX or TECH DEMO REM MSG (#24): Required when the Sponsor does not have access to NDE NM to update the RMV alteration record completion status.

Exhibit H- 3 Technical Concerns and Considerations for FLEX or TECH DEMO Installations

1. Purpose. This appendix provides guidance on potential technical concerns and issues associated with FLEX or TECH DEMO installations. It should be used as guidance for determining when a particular technical assessment is required based on the installation complexity and scenario. It is organized by TWH subject area.

2. Shock Assessment

Bottom Line Up Front (BLUF): The process below should be used for shock hazard risk assessment and shock qualification of FLEX or TECH DEMO installation from reference H(i):

a. There is no shock hazard risk or need for shock qualification for any FLEX or TECH DEMO pier-side testing of equipment or for "a single deployment where there is no probability of a shock event":

GUIDANCE: No shock TWH contact required. No shock qualification required.

b. There is a LOW shock hazard risk assessment for non-shock qualified FLEX equipment that is tested during a single deployment where:

– Table 6-2 of reference H(i) probability is IMPROBABLE (G) "there is little probability of shock event".

– Table 6-1 of reference H(i) shock severity is CRITICAL (4) or less severe (5, 6, 7, n/a) - (e.g. "could result in loss of ship mission," "permanent partial disability / occupational illness requiring medical discharge," or injury/illness resulting in the hospitalization of at least three personnel")

GUIDANCE: Shock TWH should be engaged during test planning stage to provide guidance on shock qualification of shock deficiency assessment.

- i. Shock TWH contact, review, and concurrence is required for the shock hazard risk assessment.
 - ii. Shock TWH and installation activity PM approval is required to accept shock risk.
 - iii. Shock qualification is an acceptable path to eliminate risk but may not be required.
- c. There is a MED, SERIOUS or HIGH shock hazard risk assessment for non-shock qualified FLEX or TECH DEMO equipment that is tested during a "single or multiple forward deployments" depending upon the severity of equipment failure.

GUIDANCE: Shock TWH should be engaged during test planning stage to provide guidance on shock qualification and shock deficiency assessment.

- i. Equipment shock qualification could be the optimal path to eliminate risk.
- ii. Use this information and engage the Shock TWH in discussions with SUPSHIP or other waterfront approval activities for Shock assessments or Shock Deficiency Correction Plans that involve FLEX or TECH DEMO equipment testing.

3. Topside Assessment

A topside assessment is intended to determine quickly what level of topside analysis is necessary to qualify risks, to minimize impacts to ship operations (line-handling, boat or flight operations, underway replenishment, weapon firings, etc.), and to understand how an experiment or technology demonstration may impact the function of topside spectrum-dependent equipment due to introduction of electromagnetic environmental effects changes.

The level of topside analysis rigor is dependent on the circumstances for use of the ship, its environment during the experiment period, and the characteristics of the system being demonstrated. Up-front interaction with the Integrated Topside Design-Surface Ships TWH will allow the Sponsor and the TWH to come to an early understanding on sufficiency of analysis to gain TWH concurrence and recommendation to proceed. General guidance:

- a. Topside analysis will be required: Topside transmitting antennas, other emitters (mounted or hand-carry/portable), as well as any topside equipment require analysis to characterize interaction with installed ship systems, determine radiation hazard restrictions, approve locations, and provide recommended mitigation options. Receive-only mounted antennas require analysis to check for de-confliction with installed ship systems (navigation lights/blockages/etc.) and approve locations. Location approvals for a transmit-receive or receive-only system that has not been characterized for susceptibilities may be degraded or damaged by installed ship emitters. Risk of damage or negative impact to the experiment or demonstration is assumed by the system owner. Where risk of damage to the ship or injury to personnel is assessed, characterization of susceptibilities may be required if likely offending shipboard equipment cannot be secured during the experiment.
- b. Topside analysis recommended: Receive-only hand-carry systems do not require a topside analysis due to their transient nature, but should be assessed for possible negative interactions with installed ship equipment to understand damage or degradation mechanisms to be avoided during test. A topside analysis can provide the Sponsor with a qualification of risk to the system and identify ship-specific or test-plan mitigations that could be employed to improve chances for success.
- c. For Pier-side demonstration/experiment: The ship topside engineering agent will review a smaller set of topside issues applicable to in-port operations as described above, and provide a risk assessment (source/victim risks, and impacts to other topside functions) applicable to pier-side operations only. Pier-side operations can present a risk to personnel and might present a risk to adjacent-ship or own-ship equipment. The level of rigor depends on the intended use of the system and may require the collection of additional data on the system.
- d. For Multiple-phase experiments or demonstrations: The more stringent context for ship use (e.g. underway over pier-side) will guide the level of detail for a topside analysis when required.

4. EMI Assessment

- a. The below questions and answers provide guidance as to when an Electro-Magnetic Interference (EMI) assessment is required.
 - i. Q1: What are the trip points for when technical assessments are required?
EMI A1: The E3 Qualification TWH (EQT) Spreadsheet provides initial guidance on what testing and or analysis is required. The criteria are based on mission criticality

and if the installation is used during a deployment. If the experiment is limited to pier-side or friendly waters (ship is not operationally tasked on deployment), then no EMI assessments are required.

- ii. Q2: Can the required assessments be tailored to the level of risk associated with the installation configuration?

EMI A2: Each system is unique and as such they will have a unique set of risk areas associated with them. Tailoring of requirements and the associated test and analysis to show compliance is encouraged for all systems under development. This is not unique to experimental systems. The key to successful tailoring is involvement of the appropriate Subject Matter Expert(s) (SME)s and a thorough understanding of the system design, operation, and Concept of Operations. Involvement of these SMEs early and often will facilitate a risk based tailoring of requirements and compliance verification activities.

- iii. Q3: What are effective mitigating actions to reduce risk?

EMI A3: Quality materials, production techniques, and a sound E3 design employing the techniques of grounding bonding and shielding. Shielded enclosures, powerline filters, and shielded cables with EMI connector back shells.

- iv. Q4: Are there pre-engineered solutions that would eliminate the need for the technical assessments?

EMI A4: Limit the use of experimental systems to pier side or in friendly waters while at sea.

- v. Q5: Since FLEX is about short-term experiments and non-permanent changes, can the time it takes to perform the assessments, when required, be shortened?

EMI A5: No, the work has to be done to address the risk(s). If the use of the experimental system is limited to pier side or in friendly waters then the time for the assessment will be minimum.

- vi. Q6: Estimated days that the assessments will add to the process?

EMI A6: The assessment should run in parallel with SCD and NMP approval processes. Planning is required to allow time to complete any required assessments in time to support these approvals. E3 test time can range from several weeks for a full set of tests to several days for a tailored set of requirements to satisfy requirements for references H(l) and H(m). Planning and reporting will range from days to months depending on the complexity of the test setup and associated detail of the plans and reports.

5. HERO/HERF/HERP

Guidance for HERO/HERF/HERP concerns.

- a. Passive/receive only antennas are not a HERO/HERF/HERP concern. Transmitting antennas will require analysis.
- b. Analysis can potentially be streamlined by utilizing the "Guidance Request" feature at: <https://e3.nswc.navy.mil/>. This is an official Department of Navy website that provides access to RADHAZ (HERO/HERF/HERP) data, technical reports, and calculation tools. Requests for RADHAZ analysis or cost estimates, and RADHAZ guidance or certification, can be submitted through this web site. To request access to the E3 Team Online Knowledge Management System, visit <https://www.e3teamonline.org>. A valid CAC is required for access to this web portal. Select the Guidance Request or Transmitter Installation Guidance Request link from the home page to submit requests, documents, or questions to the Navy's RADHAZ team.
- c. The Guidance Request page is where PMs, Ships crew, or anyone else associated with the test can go and submit the technical information for the test. The website automatically collects your contact info. You are able to upload your project info via text or any other forms/pictures under the supporting documents box.
- d. The Transmitter Installation Guidance page show the technical information that the engineers will need to collect to provide Sponsors/Preparers with the Safe Separation Distances (SSDs) and/or EMCON procedures necessary to operate equipment safely. This will apply for exterior antennas/transmitters or interior equipment (wireless) that will be operating during the test. Once all of the information is submitted, an engineer will be in contact with the Sponsor/Preparer in less than 24hrs to discuss the request in greater detail.
- e. Users should provide as much information as possible about the transmitters. Information necessary for analysis is typically the same as the NAVFAC questionnaire for shore sites to assist with risk assessment. NAVFAC Form 11010/31 - Request for Project Site Approval/Explosives Safety Certification, Part II, Division C-Electromagnetic Safety.
- f. Ships have a HERO/EMCON bill that provides operational guidance for ordnance use in an RF environment and utilize a standard 10' standoff distance for transmitters from ordnance and fueling operations.
- g. Good rule of thumb: $2 \text{ MHz} > f > 30 \text{ MHz}$ (HF transmissions) have the most potential for hazard to ordnance.
- h. A Safe Separation Distance calculator is found at: <https://e3.nswc.navy.mil/>. This tool can be used to determine the minimum distance necessary for safe operations of transmitting antennas to ordnance.
- i. Typically for wireless (802.11 g/n/b) devices, they are at a low enough power that they do not warrant a "Silencing" of the device. Most of the time these devices are only restricted if using them in or around ordnance. The engineer will be able to identify that based on the ordnance areas onboard ship through data gather during HERO Surveys and the information provided in the FLEX request.

6. Lithium Batteries

BLUF: The process below should be used for lithium battery hazard risk assessment and battery certification of FLEX and TECHDEMO installations from NAVSEA Tech Manual reference H(o):

a.If the only lithium batteries in the installation are small, COTS, UL-listed batteries (coin cells, laptops, etc.), review reference H(o) for exceptions and provide an Initial Procurement Report IAW the manual. The response back concurring that the batteries in the system meet the exceptions is evidence the system meets the battery certification requirements for shipboard carriage, use, or charging.

b.If the system has lithium batteries that do not meet the exception criteria outlined in reference H(o), engage a Lithium Battery Technical Agent at Crane or Carderock during the planning stage to provide guidance on the battery certification assessment. Additionally, the reference H(s) describes the process for evaluating the risks to naval platforms of high energy systems (including lithium battery systems). The Program Office will need to request lithium battery safety certification, including a safety data package of information about the installation as defined in reference H(o). The Technical Agents will determine what level of testing or assessment is required to evaluate the platform risks, and engage the appropriate technical warrant holders during their review. The Technical Agents will tailor the testing and review process based on the energy content of the system, the CONOPS, the platform risk, and the existing knowledge of the batteries. The safety assessment could include restrictions or limits for quantity, locations for storage and charging, or length of time on the vessel.

Exhibit H- 4 FLEX or TECH DEMO Data Package - Template

FLEET EXPERIMENTATION (FLEX)

-or-

TECHNOLOGY DEMONSTRATION (TECH DEMO)

DATA PACKAGE

TEMPLATE

Add Ship(s)

Add FIMS # and Title

(for Fleet Experiments only)

or

Add TECH DEMO Title

(for TECH DEMOs only)

Add SCD # (If required)

Add Full SCD Title (If required)

(Add Distribution Statement)

Note: Page markings shall be in accordance with the highest classification of data within the data package.

FLEET EXPERIMENTATION (FLEX)

DATA PACKAGE

USS XXX (SHIP #)

FLEX -OR- TECHDEMO BASELINE SPECIFICATION

(FLEX OR TECHDEMO TITLE)

Prepared By

(NAME AND ADDRESS OF PREPARING ACTIVITY)

APPROVE: _____
(Add Name/ Originator Activity and Code)DATE

APPROVE: _____
(Add Name/Type Commander Activity and Code)DATE

APPROVE: _____
(Add Name/Ship Program Manager Activity and Code)DATE

(Insert the FLEX or TECHDEMO Title Here, if applicable) INSTALLATION BRIEF

(In this section the preparer shall describe the complete FLEX or TECH DEMO installation. Use of block diagrams and other illustrations is encouraged.)

SHIP APPLICABILITY

(List all applicable ships by name and hull number. Remember you need a separate FLEX or TECH DEMO Data Package for each Platform (i.e., CVN, LCS, Surface))

FLEX or TECH DEMO SUMMARY

FIMS Number:	(FIMS xxxx) (If applicable)
SCD Number:	(SCD xxxx) (If applicable)
Project Title:	(FIMS or TECH DEMO Title)
Security Classification:	(Identify classification of change)
Sponsoring Activity:	(Identify Sponsor)
Strike Force Interoperability Category	(Identify SFI CAT IAW reference Q(e))
Applicable Ship:	(List FLEX or TECH DEMO ships by name and hull number)
Applicable TYCOM:	(List TYCOM)
Site:	(Geographic location where FLEX or TECH DEMO installation will occur, including whether this is being accomplished pier-side or at sea)
Activity:	(List activity name, address, Point Of Contact (POC), and phone number)
Planned Date:	(Fiscal Year (FY) and List Planned Incremental Availability (PIA), Post Shakedown Availability (PSA), Window of Opportunity (WOO), etc.)
Duration:	(Estimated duration the FLEX installation will remain onboard)
Experimentation Group/Scenario:	Identify the FLEX or TECH DEMO Experimentation Group/Scenarios that apply from Exhibit H-2 to the planned installation and a description of how the installation meets the criteria for the Group/Scenarios identified.
Technical Supporting Requirements:	(List any supporting requirements)
Exit Plan:	(Brief one sentence plan, i.e., completely removed)

ATTACHMENTS

(The following attachments are required for all FLEX or TECH DEMO Data Packages.)

- A. Plan of Action and Milestones
- B. Impact Data (Distributive Systems and Other Ship Systems)
- C. Integrated Logistics Support
- D. Test Plan (as applicable)
- E. Removal/Exit Plan
- F. Drawings and Documentation
- G. Other Objective Quality Evidence (OQE)

REFERENCES

(List all applicable reference documents; e.g. NAVSEA TECHSPEC 9090-310 Series, Alterations to Ships Accomplished by Alteration Installation Team; NAVSEA SL720-AAMAN-030, Surface Ship and Carrier Entitled Process for Modernization (SSCEPM) Management and Operations Manual (One Book); NAVSEA S900A-AB-GOS-010/GHSO, General Specifications for the Overhaul of Surface Ships; others as applicable.)

ATTACHMENT A**PLAN OF ACTION AND MILESTONES**

(The preparer shall develop a POA&M outlining the major tasks required to successfully execute the FLEX or TECH DEMO installation. The below listing is meant to provide an example of such tasks and when they should be completed to support installation, but in no way should the POA&M be limited to these tasks, nor does each FLEX or TECH DEMO event require all the example tasks. The developer should include a Microsoft Project or other software tool output which displays the POA&M in a graphical fashion if at all possible following the table to better enable tracking of the effort. These are notional milestones only. Add milestones, certifications, qualifications, and System Operational Verification Test (SOVT) as required. Notional completion dates are Installation (I) minus number of months.)

Notional Completion Date(s) to meet approval timelines are categorized into Low, Medium, and High Risk:

Low Risk – No SID, SCD, or data package (Message only). For e.g., Experimentation Group 1-3 that do not require data package.

Moderate Risk: Initiated (Header Only) SCD (required), Data Package required, no SID required,

High Risk – Submitted SCD required, SID may or may not be required.

TASKS	LOW RISK	MODERATE RISK	HIGH RISK
Complete Ship visit	I-4	I-6	I-6
Fund Planning Yard for SIDs Development			I-6*
Conduct Planning Yard Ship Check			I-5
Complete required technical assessments (EMI, Shock, Vibe, Topside, etc.)	I-4 (AR)	I-4 (AR)	I-4
Submit Phase II SCD		I-4 (SCD Header Only)	I-4
Submit FLEX or TECH DEMO Data Package		I-4	I-4
SCD Phase II Approved			I-2*
FLEX Data Package Approved		I-2	I-2
SIDs Approved			I-2*
Complete Application Integration assessment/testing)	I-2 (AR)	I-2 (AR)	I-2
Complete TSCE/Network Integration assessment/testing	I-2 (AR)	I-2 (AR)	I-2
Complete Combat System assessment/testing		I-2	I-2
Installation Team POA&M Submittal		AR for CNO avail*	I-2*
Approve ILS Certification (only if SCD is required)			I-2*
Receive IA/Cybersecurity Authorization	I-2	I-2	I-2
Submit Electronic Configuration Control Board (ECCB) / Target Completion Date (TCD) Waiver (if applicable)			I-2
Submit FLEX or TECH DEMO Risk Assessment Request Message	I-2	I-2	I-2
Required Technical Certifications Complete	I-2	I-2	I-2
TYCOM/FLTCDR Authorize Installation	I-1	I-1	I-1
Perform Pre-Installation Check Out (PICO) if Required	Actual Date of PICO (AR)	Actual Date of PICO (AR)	Actual Date of PICO
Perform Regional Maintenance & Modernization Coordination Office (RMMCO) Check-in			I-0
Perform Ship In-Brief	I-0	I-0	I-0
Start FLEX or TECH DEMO Installation	I-0	I-0	I-0
Deliver ILS (products delivered IAW ILS Cert or Tech Data Package Attachment C)		Actual Completion Date of Install	Prior to RMMCO Checkout (AR)

TASKS	LOW RISK	MODERATE RISK	HIGH RISK
Complete FLEX Installation	Actual Completion Date of Install	Actual Completion Date of Install	Actual Completion Date of Install
Conduct Ship's Force Training	Actual Completion Date of Install	Actual Completion Date of Install	Prior to RMMCO Checkout
Perform RMMCO Checkout			End of Availability
Start Evaluation of FLEX or TECH DEMO performance per Test Plan (if applicable) * Evaluation Period not to exceed 3 months without request for Availability Extension (submitted with Revised Data Package and updated POA&M to the SPM. The SPM will coordinate a response from the TYCOM.)	Actual Completion Date of Install	Actual Completion Date of Install	Actual Completion Date of Install
Complete Evaluation of FLEX performance	Not to Exceed End of Install+ 3 months	Not to Exceed End of Install+ 3 months	Not to Exceed End of Install+ 3 months
Provide Final Version of Evaluation (Attachment D of data package with FLEX or TECH DEMO results) to all contacts on signature page and/or provide FIMS URL to SPM		Not to Exceed End of Evaluation + 2 months	Not to Exceed End of Evaluation + 2 months
Remove FLEX or TECH DEMO installation from ship and return all systems to original Configuration (Whether test is evaluated as successful or unsuccessful)	Date Based on Timeline not to exceed 90 days after install	Date Based on Timeline not to exceed 90 days after install	Date Based on Timeline not to exceed 90 days after install

* If this is being installed during a CNO availability, normal NMP Milestones as identified in reference H(f) Appendix E apply.

ATTACHMENT B**FLEX OR TECH DEMO IMPACT DATA****(DISTRIBUTIVE SYSTEMS AND OTHER SHIP SYSTEMS)**

Notes:

(1) Estimated Completion Dates for incomplete formal assessments and testing for any impacts identified below will be included in Attachment A (Plan of Action and Milestones).

(2) Results of formal assessments and testing for any impacts identified below will be included in Attachment G (Other OQE).

1. Shipboard Location: (List all shipboard spaces that are affected)
2. Power Requirements: (List voltage/frequency/amperage)
3. Power Source: (List source, e.g. ship service, vital bus, etc.)
4. Data Interface Exchange Requirements: List type of data, input or output, type of interface, etc.)
5. Impact on Distributive and other Ship's Systems:

5.1 Weight / Moment: For Experimentation Groups 4, 6, and 7 (as defined in Exhibit H-1), the total weight of all fully populated portable rack cases (pelican cases) shall be identified.

Weight Added / Removed (Est.): XX lbs.

VCG: (Identify any impact or note "none")

LCG: (Identify any impact or note "none")

TCG: (Identify any impact or note "none")

- 5.2 Ship Stability: (Identify any impact or note "none")
- 5.3 Human Systems Integration (HSI): (Identify any impact or note "none")
- 5.4 EMI/Radio Frequency Interference (RFI): (Describe EMC impact and additional assessments/testing requirements based on EMI Assessment questions in Exhibit H-3, or note "none")
- 5.5 Shock: (Identify any impact and additional assessments/testing requirements based on Shock Assessment questions in Exhibit H-3, or note "none")
- 5.6 Vibration: Identify any impact or note "none")
- 5.7 Communications Security (TEMPEST): (TEMPEST requirements if any)
- 5.8 System(s) / Equipment(s) / Capability(ies) Disabled: (Identify any impact)
- 5.9 Equipment Rip-out: (List if any required)
- 5.10 Heat Load/Chill Water Requirements: (Total additional heat load introduced due to change in watts/kilowatts)

- 5.11 Potable Water: (List gallons per minute required)
 - 5.12 Firemain: (List gallons per minute required)
 - 5.13 Fiber Optic: (Identify any impact or note “none”)
 - 5.14 IC Circuits: (Identify any impact or note “none”)
 - 5.15 Networks: (Identify which network(s) (ISNS, CANES, SWAN, HM&E, TSCE, CS, etc.), any impact, and additional assessments and testing required (ex. Application Integration), or note “none”)
 - 5.16 Off-Ship Bandwidth Requirements: (Identify any impact or note “none”)
 - 5.17 Special Storage Requirements: (Identify any impact or note “none”)
 - 5.18 Topside Design/Mast Structure: (Identify any impact and additional assessments/testing requirements based on Topside Assessment guidance in Exhibit H-3, or note “none”)
 - 5.19 Combat Systems: (Identify if the system supports the Detect-Track-Engage sequence and any tests that have been performed to date)
 - 5.20 Other Ship System Impacts: (List any other impacts on distributive or other Systems or note “none”)
6. Impact on Safety:
- 6.1 Watertight Integrity: (Identify any impact or note “none”)
 - 6.2 Life Support: (Identify any impact or note “none”)
 - 6.3 Personnel Safety: (Identify any impact or note “none”)
 - 6.4 Existing Equipment Safety: (Identify any impact or note “none”)
 - 6.5 Lithium Battery Safety: (Identify any impact and additional assessment/testing/certification requirements based on Lithium Battery Assessment guidance in Exhibit H-3, or note “none”)
 - 6.6 HERO/HERF/HERP: (Identify any HERO/HERF/HERP impacts and additional assessment/testing requirements based on HERO/HERF/HERP guidance in Exhibit H-3, or note “none”)
 - 6.7 Weapons Systems Explosives Safety Review Board (WSESRB): (Identify planned dates for WSESRB reviews and ECD for concurrence/approval, if required, or note “none”)

ATTACHMENT C**INTEGRATED LOGISTICS SUPPORT (ILS)**

(If the FLEX or TECH DEMO installation requires Ship's Force support, the preparer shall outline ILS products to be delivered in sufficient detail to ensure Ship's Force is comfortable with the level of support to be provided. If the FLEX or TECH DEMO installation does not require Ship's Force support, provide a statement explaining that this installation will be maintained and operated by Riders, not Ship's Force. Refer to reference H(f) Section 6 for amplifying information. As a minimum, the following products will be described:

- Training for Ship's Force Operators and Maintainers.
- Manuals, drawings, parts lists and other technical configuration documentation.
- Repair parts to be provided / arrangements for obtaining replacement parts.
- Interim preventive maintenance (PMS) to be provided, if any.
- Software and computer resources to be provided, if any.)

ATTACHMENT D**TEST PLAN (If Applicable or Reference Previous SYSCOM approved Test Plan)**1. Background and Reporting Requirements

(The developer will provide a brief background statement outlining the intent of the Test Plan to be executed and the data required to be submitted (who, when, where, what) to allow evaluation of FLEX or TECH DEMO success.)

2. Proposed Solution

(The developer will briefly outline the intended value added by the FLEX or TECH DEMO event.)

First Article Testing

(The developer will describe any pre-installation testing required for FLEX or TECH DEMO installations and the associated success criteria for this testing.)

3. Testing

(The developer will outline in detail using written instructions and pre-formatted data sheets the data to be collected in support of evaluating the success of the FLEX or TECH DEMO event. Detailed instructions for forwarding data sheets including periodicity, mechanism for transmitting data, coordination required, etc., will be provided to Ship's Force to ensure the data is forwarded to the proper evaluation authority as required to fully evaluate the success or failure of the FLEX or TECH DEMO event.)

4. Testing Success Criteria

(The developer will outline, in detail, the criteria for a successful test based on the data submission requirements. The developer will also indicate the organization responsible for declaring the FLEX or TECH DEMO event a success or failure, and how that result will be communicated to all involved parties.)

ATTACHMENT E
REMOVAL / EXIT PLAN

(The preparer shall outline the plan to remove the FLEX or TECH DEMO installation at the end of the demonstration period or exercise. This attachment shall outline the plan to remove the FLEX or TECH DEMO installation, restore all ship systems to their original configuration, and recertify/SOVT the original system if required. The preparer should verify that the Sponsor has the necessary funds to support removal, and release a message reporting such removal.)

ATTACHMENT F
DRAWINGS AND DOCUMENTATION

(The preparer will list all drawings and/or sketches to be used for the FLEX or TECH DEMO installation and all documentation to be provided to both the installing activity and Ship's Force. It should be noted that Planning Yard approval on installation drawings is required for FLEX or TECH DEMO installations requiring SIDs. SIDs are not required to be provided as part of this FLEX or TECH DEMO Data Package. SID requirement is based on requirements identified in the specific group(s) as listed in Exhibit H-2 of this document.)

ATTACHMENT G
OTHER OBJECTIVE QUALITY EVIDENCE (OQE)

(The preparer should attach all other documentation, such as but not limited to technical assessments, test results, proof of qualifications accomplished, and impact assessments, to support the review, evaluation, approval of the planned FLEX or TECH DEMO installation.)

Exhibit H- 5 FLEX or TECH DEMO Risk Assessment Request Message Template

1. **Purpose.** This appendix provides two templates for the FLEX or TECH DEMO Risk Assessment Request Message that is required to obtain TYCOM or FLTCDR authorization to install equipment, systems, and/or software for fleet experiments and technology demonstrations. It is based on the Risk Assessment Request Message templates provided in reference H(e).

a. Template 1 shall be used for installation of C5ISR equipment, systems, and/or software that are designated as SFI CAT 1 and 2 that require FLTCDR authorization.

b. Template 2 shall be used for installation of C5ISR and HM&E equipment, systems, and/or software that are designated as SFI CAT 3 and 4 that require TYCOM authorization.

2. The template covers both fleet experiments that are included in the Naval Warfare Development Center (NWDC) FLEX Program and technology demonstrations (TECH DEMOs) that may or may not be included in the NWDC FLEX Program. The Sponsor/Preparer shall select the proper term in the template to indicate whether the installation for which authorization is being requested is a FLEX event or a TECH DEMO.

3. The FLEX or TECH DEMO Experimentation Group/Scenarios that apply from Exhibit H-2 to the planned installation and a description of how the installation meets the criteria for the Group/Scenarios identified shall be documented in paragraph 3.b in the message.

4. **TEMPLATE 1** – Use this template for C5ISR equipment, systems, and/or software that are designated as SFI CAT 1 and 2 that require FLTCDR authorization.

FM: *[Applicable PARM, Program Sponsor, Installing Activity]*

TO: *[Applicable FLTCDR]*

Send to COMUSFLTFORCOM NORFOLK VA or COMPACFLT PEARL HARBOR HI

INFO: CNO WASHINGTON DC

[Opposite FLTCDR]

COMNAVAIRPAC SAN DIEGO CA

COMNAVSURFPAC SAN DIEGO CA

COMSUBLANT NORFOLK VA

COMNAVSURFLANT NORFOLK VA

COMNAVAIRLANT NORFOLK VA

COMSUBPAC PEARL HARBOR HI

COMNAVIFOR SUFFOLK VA

CTF 80

COMTHIRDFLT

COMFOURTHFLT

COMFIFTHFLT

COMSIXTHFLT

COMSEVENTHFLT

[Applicable ISIC]

Include applicable ISIC, for example: COMCARSTRKGRU, ESG, LCSRON, COMDESRON, PHIBRON, etc.

COMNAVSEASYSKOM WASHINGTON DC
 COMNAVAIRSYSKOM PATUXENT RIVER MD
 COMSPAWARSSYSKOM SAN DIEGO CA
 PEO CARRIERS WASHINGTON DC
 PEO SHIPS WASHINGTON DC
 PEO SUBS WASHINGTON DC
 PEO EIS WASHINGTON DC
 PEO IWS WASHINGTON DC
 PEO C4I SAN DIEGO CA
 PEO LCS WASHINGTON DC
 COMOPTEVFOR NORFOLK VA
 COMSPAWARSSYSKOM FRD SAN DIEGO CA
 COMNAVRMC NORFOLK VA
 SPAWARSSYSKOM PACIFIC SAN DIEGO CA
 SPAWARSSYSKOM ATLANTIC CHARLESTON SC
 NAVSURFWARCENDIV PHILADELPHIA PA
 NAVSURFWARCENDIV DAHLGREN VA
 NAVSURFWARCENDIV PORT HUENEME CA
 NAVSURFWARCENDIV CRANE IN
 CBTDIRSYSACT DAM NECK VA
 SURFMEPP PORTSMOUTH VA
 SUBMEPP PORTSMOUTH NH
 NAVSEA TWO ONE PMR PEARL HARBOR HI
 NAVSEA TWO ONE PMR EVERETT WA
 NAVSEA TWO ONE PMR SAN DIEGO CA
 NAVSEA TWO ONE PMR SASEBO JA
 NAVSEA TWO ONE PMR YOKOSUKA JA
 NAVSHIPYD AND IMF PEARL HARBOR HI
 NAVSHIPYD AND IMF PUGET SOUND WA
 NAVSHIPYD NORFOLK VA
 NAVSHIPREPFAC AND JAPAN RMC YOKOSUKA JA
 SOUTHWEST RMC SAN DIEGO CA
 SUPSHIP NEWPORT NEWS VA
 NAVSEA 04RP

[Additional PLADs as determined by PARM]

Include additional addressees as required.

[Applicable ship]

Include the ship PLADs for all affected ships.

BT

UNCLAS //N04720//

MSGID/GENADMIN/[*Message Originator*]//

SUBJ/RISK ASSESSMENT REQUEST FOR [FLEET EXPERIMENTATION (FLEX) -or- TECHNOLOGY DEMONSTRATION (TECHDEMO)] INSTALLATION [TITLE] IN [SHIP_NAME (HULL_NUMBER)]//

Use this SUBJ line when the request is for a single FLEX or TECH DEMO installation in a single ship.

For fleet experiments and technology demonstrations managed in NDWC FIMS, use the exact title from the FIMS data base.

For technology demonstrations not managed in the FIMS data base but have an SCD, use the exact SCD title from NDE EP.

For technology demonstrations that do not require an SCD, used the TECH DEMO title.

SUBJ/RISK ASSESSMENT REQUEST FOR MULTIPLE [FLEET EXPERIMENTATION (FLEX) -or- TECHNOLOGY DEMONSTRATION (TECHDEMO)] INSTALLATIONS IN [SHIP_NAME (HULL_NUMBER)]//

Use this SUBJ line when the request is for multiple FLEX or TECHDEMO installations in a single ship.

SUBJ/RISK ASSESSMENT REQUEST FOR [FLEET EXPERIMENTATION (FLEX) -or- TECHNOLOGY DEMONSTRATION (TECHDEMO)] INSTALLATION [TITLE] IN MULTIPLE SHIPS//

Use this SUBJ line when the request is for a single FLEX or TECH DEMO installation in multiple ships.

For fleet experiments and technology demonstrations managed in NDWC FIMS, use the exact title from the FIMS data base.

For technology demonstrations not managed in the FIMS data base but have an SCD, use the exact SCD title from NDE EP.

For technology demonstrations that do not require an SCD, used the TECH DEMO title.

Ships listed must fall under the same FLTCDR; if ships from both FLTCDRs are affected, then a separate message is required.

SUBJ/RISK ASSESSMENT REQUEST FOR MULTIPLE [FLEET EXPERIMENTATION (FLEX) -or- TECHNOLOGY DEMONSTRATION (TECHDEMO)] INSTALLATIONS IN MULTIPLE SHIPS//

Use this SUBJ line when the request is for multiple FLEX or TECH DEMO installations in multiple ships.

REF/A/DOC/CUSFFC-CPFINST4720.3C/18SEP2017//

REF/B/DOC/NAVSEA/21JAN2010/SL720-AA-MAN-30 Series//

REF/C/MSG/COMNAVSEASYS COM WASHINGTON DC/111421ZMAR2014//

NARR/REF A IS CUSFFC-CPF INST 4720.3C C5ISR MODERNIZATION MANAGEMENT POLICY, REF B IS NAVY MODERNIZATION PROCESS MANAGEMENT AND

OPERATION MANUAL (NMPMOM), AND REF C IS NAVSEA 21 SHIP PROGRAM MANAGER (SPM) POLICY FOR AUTHORIZED ALTERATIONS IN CNO AVAILABILITIES FOR CRUDES AND AMPHIBIOUS SHIPS//

POC/[**NAME**]/[**POSITION**]/[**COMMAND**]/-/TEL:COM: [**NNN-NNNNNN**]/

TEL:DSN: [**NNN-NNNN**]/EMAIL: [**USERNAME@XXX.XXX**]/

Originator may include more than one POC if required.

GENTEXT/REMARKS/1. PER REF A, REQUEST FLTCDR AUTHORIZATION FOR [**FLEX -or- TECH DEMO**] INSTALLATION [**TITLE**] IN [**SHIP_NAME (HULL_NUMBER)**].

If multiple FLEX or TECH DEMO installations are requested, replace TITLE with "MULTIPLE FLEX or TECH DEMO FLEX or TECH DEMO INSTALLATIONS".

If multiple ships are listed, replace SHIP_NAME (HULL_NUMBER) with "MULTIPLE SHIPS".

2. REASON FOR RISK ACCEPTANCE REQUEST: [**FREE TEXT**]

Summarize the requirement for the FLEX or TECH DEMO installation described in the following paragraphs.

Include the name and date of the FLEX or TECH DEMO event being targeted.

3. THE FOLLOWING A-O CRITERIA APPLIES:

The A-O format describes a single FLEX or TECH DEMO installation. Use an additional paragraph in the A-O format for each additional FLEX or TECH DEMO installation requested.

A. IDENTIFICATION OF CHANGE/TITLE:

Include all of the following that are applicable to the installation to facilitate cross data based identification.

(1) FIMS ID and FIMS TITLE

FIMS ID and FIMS TITLE are contained in NDWC FIMS (this applies to installations managed in NDWC FIMS data base.)

(2) SCD Number and SCD TITLE

SCD number and SCD TITLE are contained in NDE EP (this applies to installations that have an SCD in NDE-EP.)

(3) ALT_ID and ALT TITLE

ALT_ID and ALT_TITLE are contained in NDE NM (this applies to installations that have a fully approved SCD)

The ID AND TITLE should exactly match the source.

B. TYPE OF CHANGE: [**HARDWARE/SOFTWARE/FIRMWARE**]

Ensure the selection of hardware, software, and/or firmware exactly matches the FLEX or TECH DEMO installation type in NDE-NM.

Identify the FLEX or TECH DEMO Experimentation Group/Scenarios from message template reference B Appendix X Exhibit H-2 that apply to the planned installation and a description of how the installation meets the criteria for the Group/Scenarios identified.

C. PURPOSE OF CHANGE: [FREE TEXT]

Describe the scope (use noun names of systems modified) with the impact of the proposed FLEX or TECH DEMO installation (e.g., experiment to demonstrate an improved capability, correct a casualty, or correct a safety issue). If applicable, include requests for this FLEX or TECH DEMO event from an operational commander viewpoint or if the event demonstrates an operational requirement.

D. OPERATIONAL IMPACT IF NOT INSTALLED: [FREE TEXT]

Describe the operational impact if the FLEX or TECH DEMO installation is not accomplished.

For example: If FLEX X is not installed and tested, ships in the operating theater will be unable to communicate with country X; or operational forces will be unable to meet the requirements listed in message DTG. Ensure information is properly classified.

E. PREREQUISITE REQUIREMENTS:

(1) CONJUNCTIVE ALTERATIONS: [NONE/FLEX_ID, FLEX_TITLE, SCD NUMBER]

Use "NONE" if there are no conjunctive FLEX or TECH DEMO installations; otherwise, list all conjunctive FLEX or TECH DEMO installations.

For fleet experiments and technology demonstrations managed in NDWC FIMS, use the exact title from the FIMS data base.

For technology demonstrations not managed in the FIMS data base but have an SCD, use the exact SCD title from NDE EP.

For technology demonstrations that do not require an SCD, use the TECH DEMO title.

(2) C5IMP BASELINE STATUS: IAW REF D, ADDITION TO THE C5ISR BASELINE IS NOT REQUIRED.

(3) RISK FORM STATUS: [RISK_FORM_NUMBER], [STATUS]

SFI CAT 1, 2, or 3 designated post-TCD installations, provide the C5IMP Risk Form number as listed in NDE-AMPS and status (e.g., submitted, in review, approved).

(4) IA/CYBERSECURITY AUTHORIZATION STATUS: [TYPE] EXPIRES [DATE] – [EMASS_NUMBER]

Provide the type of IA/Cybersecurity Authorization (e.g., ATO, IATT, PRA).

Provide expiration date of authorization. If FLEX or TECH DEMO installation has passed the authorization expiration date, list “EXPIRED” and the date. If FLEX or TECH DEMO installation has no authorization, list “NOT AUTHORIZED”.

Provide eMASS number and indicate if NIPR or SIPR (e.g., NIPR ###, SIPR ###).

For example:

“ATO EXPIRES 10AUG2021 – NIPR 030”

“IATO EXPIRED 09JUN2015 – NIPR 222”

“NOT AUTHORIZED– SIPR 333”

“NOT AUTHORIZED– NO EMASS NUMBER ASSIGNED”

(5) SCD APPROVED DECISION POINT: [SCD_NUMBER], [SCD_PHASE], [SCD_STATUS]

Provide the SCD number as listed in NDE-EP.

Provide the SCD phase as listed in NDE-EP using Roman Numerals.

Provide the SCD status as listed in NDE-EP. If the SCD has not reached DP2, provide the estimated date for the next decision point. If the installation is for a group/scenario that only uses the SCD for tracking, indicate that the SCD does not require further processing.

If an SCD is not required, such as a FLEX or TECH DEMO installation involving a carry-on laptop with no connectivity to the ship’s networks, indicate that no SCD is required.

For example:

“SCD 15869, PHASE II SUBMITTED”

“SCD 19685, PHASE II, TAT REVIEW, PHASE II APPROVAL ECD: DDMMMYYYY”

“SCD 99999, PHASE II INITIATED FOR TRACKING PURPOSES ONLY IAW REF D, NO FURTHER PROCESSING OF THE SCD IS REQUIRED”

“IAW REF D, NO SCD REQUIRED.”

(6) SIDS STATUS: PLANNING YARD APPROVED [DATE] or [STATUS and ECD]

Provide the Ship Installation Drawing (SID) approval date as listed in NDE-NM. If SIDs have not been approved, provide a brief status and ECD.

If SIDs are not required, indicate how FLEX or TECH DEMO installations will be controlled, i.e., O&I Drawing, sketches, etc.

For example:

“PLANNING YARD APPROVED 01APR2015”

“AWAITING FUNDING ECD 05JUL2020”

(7) MISCELLANEOUS: [FREE TEXT]

Provide any additional pertinent information to this FLEX or TECHDEMO installation.

FOR NUCLEAR POWERED VESSELS ONLY

Provide status of request for AIT authorization to perform industrial work as required by OPNAVINST 4350.2C and NAVSEAINST C9210.4 (series). If approved, reference approval letter. If not required, state: “no work will be performed in areas requiring approval”.

F. TESTING STATUS:

(1) E3: **[STATUS] [DATE]**

Provide Electromagnetic Environmental Effects (E3) status.

For example:

“E3 TESTING COMPLETED 05JAN2015”

“WAIVER APPROVED 23JUN2014”

“TESTING SCHEDULED 27NOV2021

“BASED ON ASSESSMENT CRITERIA CONTAINED IN REF D, TESTING NOT REQUIRED”

(2) WARFARE SYSTEM: **[APPLICABLE CERTIFICATIONS/TESTING EVENTS]**

List applicable certifications and/or testing events and include a brief status of each.

For example:

“WSESRB CONCURRENCE 05JAN2015”

“COMBAT SYSTEM/BMD CERTIFICATION ECD JUN2016”

“BMD AUTHORIZATION LTR DTD 24OCT2013”

“COMBAT SYSTEM AUTHORIZATION LTR ECD 05JUL2017”

(3) AI PSC: **[PSC_NUMBER]** or ECD **[DATE]**

Provide the applicable Application Integration (AI) PPL/SSIL/CPL (PSC) number or ECD.

For example:

“PSC 2015-00136”

“ECD 27JAN2017”

(4) TOTAL SHIP COMPUTING NETWORK or NON-TACTICAL NETWORK: **[APPLICABLE CERTIFICATIONS/TESTING EVENTS]**

Provide details on planned or completed test events to certify connection networks not covered under the PMW 160 Application Integration process.

G. SCHEDULE:

(1) INSTALLATION DURATION: **[##] DAYS DURATION, CONSISTING OF [##] PRODUCTION AND [##] TESTING DAYS**

Provide the estimate for the FLEX or TECHDEMO installation effort.

For example:

“21 DAYS DURATION, CONSISTING OF 18 PRODUCTION AND 3 TESTING DAYS”.

(2) AVAILABILITY TYPE: **[DPMA/SRA/CMAV/WOO]**

List the type of availability. Use “WOO” for installations not tied to a specific availability.

(3) INSTALLATION START: **[DDMMYYYY]**

List the estimate for the FLEX or TECH DEMO installation effort.

(4) PRODUCTION WORK COMPLETION: **[DDMMYYYY]**(5) TEST/SOVT DATES: **[DDMMYYYY - DDMMYYYY]**(6) REQUIRED SHIPS FORCE SUPPORT: **[FREE TEXT]**

List required actions by Ships Force to support FLEX or TECH DEMO installation (e.g., submitting satellite access request, scheduling range time, requesting COMSEC material).

(7) DATES OF **[FLEX -or- OR TECH DEMO]** EVENT:

List the name and dates of the fleet experiment or technology demonstration event.

(8) REMOVAL START DATE: (DDMMYYYY)

List the estimate for the start of the FLEX or TECHDEMO removal effort.

(9) REMOVAL AVAILABILITY TYPE: **[DPMA/SRA/CMAV/WOO]**

List the type of availability. Use "WOO" for installations not tied to a specific availability.

(10) REMOVAL ECD: (DDMMYYYY)

List the estimate for the completion of the FLEX or TECH DEMO removal effort.

(11) SYSTEM RESTORATION:

Provide the plan to restore the ship to its original configuration and recertify/SOVT the original system if required.

H. ILS:

Provide the Integrated Logistic Support (ILS) requirements as listed in the FLEX or TECH DEMO Data Package message template reference B Exhibit H-4 Attachment C.

I. TRAINING: **[FREE TEXT]**

Identify the required training as listed in FLEX or TECH DEMO Data Package message template reference B Exhibit H-4 Attachment C.

J. IMPACT TO EXISTING SYSTEMS: **[FREE TEXT]**

As required, list operational or sustainment impacts to shipboard systems not previously covered. Impacts if FLEX or TECHDEMO installations are not accomplished may also be listed. If the impact is classified, provide the impact in the appropriate medium and reference in this paragraph.

K. RISK ASSESSMENT: [LOW, MED OR HIGH; DESCRIBE RISK AND MITIGATION PLAN]

State any risks associated with the FLEX or TECH DEMO installation, and Mitigation Plan (i.e., removal plan) if available. Include assessment of risk if FLEX or TECH DEMO installation is not removed as scheduled.

L. CONTINGENCY: [FREE TEXT]

Describe actions required to recover if FLEX or TECH DEMO installation is approved and subsequently is not installed or fails to function as planned.

M. DOCUMENTATION: [FREE TEXT]

List required documents that will not be available to support established milestones (SIDS, ILS, etc.); include the ECD and mitigations to compensate for the late/missing documentation.

N. INTEROPERABILITY: [FREE TEXT]

As required, provide impacts to other system interfaces that are not previously listed.

O. PARM POC(S): [NAME, COMMAND, TEL: (NNN) NNN-NNNN, EMAIL:

USERNAME@XXX.XXX]

BT#0001

NNNN

5. TEMPLATE 2 – Use this template for C5ISR and HM&E equipment, systems, and/or software that are designated as SFI CAT 3 and CAT 4 that require TYCOM authorization.

FM: *[Applicable PARM, Program Sponsor, Installing Activity]*

TO: *[Applicable TYCOM]*

Send to COMNAVAIRPAC SAN DIEGO CA, COMNAVSURFPAC SAN DIEGO CA, COMNAVSURFLANT NORFOLK VA, or COMNAVAIRLANT NORFOLK VA

INFO: CNO WASHINGTON DC

[Applicable FLTCDR]

Send to COMUSFLTFORCOM NORFOLK VA or COMPACFLT PEARL HARBOR HI

[Opposite TYCOM FROM TO LINE)

Send to COMNAVAIRPAC SAN DIEGO CA, COMNAVSURFPAC SAN DIEGO CA, COMNAVSURFLANT NORFOLK VA, or COMNAVAIRLANT NORFOLK VA

CTF 80

COMTHIRDFLT

COMFOURTHFLT

COMFIFTHFLT

COMSIXTHFLT

COMSEVENTHFLT

[Applicable ISIC]

Include applicable ISIC, for example: COMCARSTRKGRU, ESG, LCSRON, COMDESRON, PHIBRON, etc.

COMNAVSEASYSKOM WASHINGTON DC
COMNAVVAIRSYSKOM PATUXENT RIVER MD
COMSPAWARSSYSKOM SAN DIEGO CA
PEO CARRIERS WASHINGTON DC
PEO SHIPS WASHINGTON DC
PEO EIS WASHINGTON DC
PEO IWS WASHINGTON DC
PEO C4I SAN DIEGO CA
PEO LCS WASHINGTON DC
COMOPTEVFOR NORFOLK VA
COMSPAWARSSYSKOM FRD SAN DIEGO CA
COMNAVVMC NORFOLK VA
SPAWARSSYSKOM PACIFIC SAN DIEGO CA
SPAWARSSYSKOM ATLANTIC CHARLESTON SC
NAVSURFWARCENDIV PHILADELPHIA PA
NAVSURFWARCENDIV DAHLGREN VA
NAVSURFWARCENDIV PORT HUENEME CA
NAVSURFWARCENDIV CRANE IN
CBTDIRSYSACT DAM NECK VA
SURFMEPP PORTSMOUTH VA
NAVSEA TWO ONE PMR PEARL HARBOR HI
NAVSEA TWO ONE PMR EVERETT WA
NAVSEA TWO ONE PMR SAN DIEGO CA
NAVSEA TWO ONE PMR SASEBO JA
NAVSEA TWO ONE PMR YOKOSUKA JA
NAVSHIPYD AND IMF PEARL HARBOR HI
NAVSHIPYD AND IMF PUGET SOUND WA
NAVSHIPYD NORFOLK VA
NAVSHIPREPFAC AND JAPAN RMC YOKOSUKA JA
SOUTHWEST RMC SAN DIEGO CA
SUPSHIP NEWPORT NEWS VA
NAVSEA 04RP

[Additional PLADs as determined by PARM]

Include additional addressees as required.

[Applicable ship]

Include the ship PLADs for all affected ships.

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SUBJ/RISK ASSESSMENT REQUEST FOR [FLEET EXPERIMENTATION (FLEX) -or- TECHNOLOGY DEMONSTRATION (TECHDEMO)] INSTALLATION [TITLE] IN [SHIP_NAME (HULL_NUMBER)]//

Use this SUBJ line when the request is for a single FLEX or TECH DEMO installation in a single ship.

For fleet experiments and technology demonstrations managed in NDWC FIMS, use the exact title from the FIMS data base.

For technology demonstrations not managed in the FIMS data base but have a SCD, use the exact SCD title from NDE EP.

For technology demonstrations that do not require an SCD, use the TECH DEMO title.

SUBJ/RISK ASSESSMENT REQUEST FOR MULTIPLE FOR [FLEET EXPERIMENTATION (FLEX) -or- TECHNOLOGY DEMONSTRATION (TECHDEMO)] INSTALLATIONS IN [SHIP_NAME (HULL_NUMBER)]//

Use this SUBJ line when the request is for multiple FLEX or TECH DEMO installations in a single ship.

SUBJ/RISK ASSESSMENT REQUEST FOR [FLEET EXPERIMENTATION (FLEX) -or- TECHNOLOGY DEMONSTRATION (TECHDEMO)] INSTALLATION [TITLE] IN MULTIPLE SHIPS//

Use this SUBJ line when the request is for a single FLEX or TECH DEMO installation in multiple ships.

For fleet experiments and technology demonstrations managed in NDWC FIMS, use the exact title from the FIMS data base.

For technology demonstrations not managed in the FIMS data base but have an SCD, use the exact SCD title from NDE EP.

For technology demonstrations that do not require an SCD, use the TECH DEMO title.

Ships listed must fall under the same TYCOM; if ships from both TYCOMs are affected, then a separate message is required for each.

SUBJ/RISK ASSESSMENT REQUEST FOR MULTIPLE FOR [FLEET EXPERIMENTATION (FLEX) -or- TECHNOLOGY DEMONSTRATION (TECHDEMO)] INSTALLATIONS IN MULTIPLE SHIPS//

Use this SUBJ line when the request is for multiple FLEX or TECHDEMO installations in multiple ships.

REF/A/DOC/CUSFFC-CPFINST4720.3C/18SEP2017//

REF/B/DOC/NAVSEA/21JAN2010/SL720-AA-MAN-30 Series//

REF/C/MSG/COMNAVSEASYS COM WASHINGTON DC/111421ZMAR2014//

NARR/REF A IS CUSFFC-CPF INST 4720.3C C5ISR MODERNIZATION MANAGEMENT POLICY, REF B IS NAVY MODERNIZATION PROCESS MANAGEMENT AND

OPERATION MANUAL (NMPMOM), AND REF C IS NAVSEA 21 SHIP PROGRAM MANAGER (SPM) POLICY FOR AUTHORIZED ALTERATIONS IN CNO AVAILABILITIES FOR CRUDES AND AMPHIBIOUS SHIPS.//

POC/[*NAME*]/[*POSITION*]/[*COMMAND*]/-/TEL:COM: [*NNN-NNNNNNN*]/

TEL:DSN: [*NNN-NNNN*]/EMAIL:[*USERNAME@XXX.XXX*]/

Originator may include more than one POC if required.

GENTEXT/REMARKS/1. PER REF A, REQUEST TYCOM AUTHORIZATION FOR [*FLEX -or- TECHDEMO INSTALLATION*] [*TITLE*] IN [*SHIP_NAME (HULL_NUMBER)*].

If multiple FLEX or TECH DEMO installations are requested, replace TITLE with "MULTIPLE [FLEX -or- TECH DEMO] INSTALLATIONS".

If multiple ships are listed, replace SHIP_NAME (HULL_NUMBER) with "MULTIPLE SHIPS".

2. REASON FOR RISK ACCEPTANCE REQUEST: [*FREE TEXT*]

Summarize the requirement for the FLEX or TECH DEMO installation described in the following paragraphs.

Include the name and date of the FLEX or TECH DEMO event being targeted.

3. THE FOLLOWING A-O CRITERIA APPLIES:

The A-O format describes a single FLEX or TECH DEMO installation. Use an additional paragraph in the A-O format for each additional FLEX or TECH DEMO installation requested.

A. IDENTIFICATION OF CHANGE/TITLE:

Include all of the following that are applicable to the installation to facilitate cross data based identification.

(1) FIMS ID and FIMS TITLE

FIMS ID and FIMS TITLE are contained in NDWC FIMS (this applies to installations managed in NDWC FIMS data base.)

(2) SCD Number and SCD TITLE

SCD number and SCD TITLE are contained in NDE EP (this applies to installations that have an SCD in NDE-EP.)

(3) ALT_ID and ALT TITLE

ALT_ID and ALT_TITLE are contained in NDE NM (this applies to installations that have a fully approved SCD)

The ID and TITLE should exactly match the source.

B. TYPE OF CHANGE: [HARDWARE/SOFTWARE/FIRMWARE]

Ensure the selection of hardware, software, and/or firmware exactly matches the FLEX or TECH DEMO installation type in NDE-NM.

Identify the FLEX Experimentation Group/Scenarios from message template reference B Appendix X Exhibit H-2 that apply to the planned installation and a description of how the installation meets the criteria for the Group/Scenarios identified.

C. PURPOSE OF CHANGE: [FREE TEXT]

Describe the scope (use noun names of systems modified) with the impact of the proposed FLEX or TECH DEMO installation (e.g., experiment to demonstrate an improved capability, correct a casualty, or correct a safety issue). If applicable, include requests for this FLEX or TECH DEMO event from an operational commander viewpoint or if the event demonstrates an operational requirement.

D. OPERATIONAL IMPACT IF NOT INSTALLED: [FREE TEXT]

Describe the operational impact if the FLEX or TECH DEMO installation is not accomplished.

For example: If FLEX X is not installed and tested, ships in the operating theater will be unable to communicate with country X; or operational forces will be unable to meet the requirements listed in message DTG. Ensure information is properly classified.

E. PREREQUISITE REQUIREMENTS:**(1) CONJUNCTIVE ALTERATIONS: [NONE/FLEX_ID, FLEX_TITLE, SCD NUMBER]**

Use "NONE" if there are no conjunctive FLEX or TECH DEMO installations; otherwise, list all conjunctive installations.

For fleet experiments and technology demonstrations managed in NDWC FIMS, use the exact title from the FIMS data base.

For technology demonstrations not managed in the FIMS data base but have an SCD, use the exact SCD title from NDE EP.

For technology demonstrations that do not require an SCD use the TECH DEMO title.

(2) C5IMP BASELINE STATUS: IAW REF A, ADDITION TO THE C5ISR BASELINE IS NOT REQUIRED.**(3) RISK FORM STATUS: [RISK_FORM_NUMBER], [STATUS]**

SFI CAT 3 designated post-TCD installations, provide the C5IMP Risk Form number as listed in NDE-AMPS and status (e.g., submitted, in review, approved).

(4) IA/CYBERSECURITY AUTHORIZATION STATUS: [TYPE] EXPIRES [DATE] – [EMASS_NUMBER]

Provide the type of IA/Cybersecurity Authorization (e.g., ATO, IATT, PRA).

Provide expiration date of authorization. If FLEX or TECH DEMO installation has passed the authorization expiration date, list “EXPIRED” and the date. If FLEX or TECH DEMO installation has no authorization, list “NOT AUTHORIZED”.

Provide EMASS number and indicate if NIPR or SIPR (e.g., NIPR ###, SIPR ###).

For example:

“ATO EXPIRES 10AUG2021 – NIPR 030”

“IATO EXPIRED 09JUN2015 – NIPR 222”

“NOT AUTHORIZED – SIPR 333”

“NOT AUTHORIZED – NO EMASS NUMBER ASSIGNED”

(5) SCD APPROVED DECISION POINT: [SCD_NUMBER], [SCD_PHASE], [SCD_STATUS]

Provide the SCD number as listed in NDE-EP.

Provide the SCD phase as listed in NDE-EP using Roman Numerals.

Provide the SCD status as listed in NDE-EP. If the SCD has not reached DP2 provide the estimated date for the next decision point. If the installation is for a group/scenario that only uses the SCD for tracking, indicate that the SCD does not require further processing.

If an SCD is not required, such as FLEX or TECH DEMO installation involving a carry-on laptop with no connectivity to the ship’s networks, indicate that no SCD is required.

For example:

“SCD 15869, PHASE II, SUBMITTED”

“SCD 19685, PHASE II, TAT REVIEW, PHASE II APPROVAL ECD DDMMYYYY”

“SCD 99999, PHASE II, INITIATED FOR TRACKING PURPOSES ONLY, IAW REF D, NO FURTHER PROCESSING OF THE SCD IS REQUIRED”

“IAW REF D NO SCD REQUIRED.”

(6) SIDS STATUS: PLANNING YARD APPROVED [DATE] or [STATUS and ECD]

Provide the Ship Installation Drawing (SID) approval date as listed in NDE-NM. If SIDs have not been approved, provide a brief status and ECD.

If SIDs are not required, indicate how FLEX or TECH DEMO installations will be controlled, i.e., O&I Drawing, sketches, etc.

For example:

“PLANNING YARD APPROVED 01APR2015”

“AWAITING FUNDING ECD 05JUL2020”

(7) MISCELLANEOUS: [FREE TEXT]

Provide any additional pertinent information to this FLEX or TECH DEMO installation.

FOR NUCLEAR POWERED VESSELS ONLY

Provide status of request for AIT authorization to perform industrial work as required by OPNAVINST 4350.2C and NAVSEAINST C9210.4 (series). If approved, reference approval letter. If not required, state: “no work will be performed in areas requiring approval”.

F. TESTING STATUS:

(1) E3: **[STATUS] [DATE]**

Provide Electromagnetic Environmental Effects (E3) status.

For example:

“E3 TESTING COMPLETED 05JAN2015”

“WAIVER APPROVED 23JUN2014”

“TESTING SCHEDULED 27NOV2021”

“BASED ON ASSESSMENT CRITERIA CONTAINED IN REF D, TESTING NOT REQUIRED”

(2) WARFARE SYSTEM: **[APPLICABLE CERTIFICATIONS/TESTING EVENTS]**

List applicable certifications and/or testing events and include a brief status of each.

For example:

“WSESRB CONCURRENCE 05JAN2015”

“COMBAT SYSTEM/BMD CERTIFICATION ECD JUN2016”

“BMD AUTHORIZATION LTR DTD 24OCT2013”

“COMBAT SYSTEM AUTHORIZATION LTR ECD 05JUL2017”

(3) AI PSC: **[PSC_NUMBER]** or ECD **[DATE]**

Provide the applicable Application Integration (AI) PPL/SSIL/CPL (PSC) number or ECD.

For example:

“PSC 2015-00136”

“ECD 27JAN2017”

(4) TOTAL SHIP COMPUTING NETWORK or NON-TACTICAL NETWORK: **[APPLICABLE CERTIFICATIONS/TESTING EVENTS]**

Provide details on planned or completed test events to certify connection networks not covered under the PMW 160 Application Integration process.

G. SCHEDULE:

(1) INSTALLATION DURATION: **[##] DAYS DURATION, CONSISTING OF [##] PRODUCTION AND [##] TESTING DAYS.**

Provide the estimate for the FLEX or TECH DEMO installation effort.

For example:

“21 DAYS DURATION, CONSISTING OF 18 PRODUCTION AND 3 TESTING DAYS”.

(2) AVAILABILITY TYPE: **[DPMA/SRA/CMAV/WOO]**

List the type of availability. Use “WOO” for installations not tied to a specific availability.

(3) INSTALLATION START: **[DDMMYYYY,]**

List the estimate for the FLEX or TECH DEMO installation effort.

(4) PRODUCTION WORK COMPLETION: **[DDMMYYYY]**

(5) TEST/SOVT DATES: **[DDMMYYYY - DDMMYYYY]**

(6) REQUIRED SHIPS FORCE SUPPORT: **[FREE TEXT]**

List required actions by Ships Force to support FLEX or TECH DEMO installation (e.g., submitting satellite access request, scheduling range time, requesting COMSEC material).

(7) DATES OF FLEX OR TECHDEMO EVENT:

List the name and dates of the fleet experiment or technology demonstration event.

(8) REMOVAL START DATE: (DDMMYYYY)

List the estimate for the start of the FLEX or TECH DEMO removal effort.

(9) REMOVAL AVAILABILITY TYPE: **[DPMA/SRA/CMAV/WOO]**

List the type of availability. Use "WOO" for installations not tied to a specific availability.

(10) REMOVAL ECD: (DDMMYYYY)

List the estimate for the completion of the FLEX or TECH DEMO removal effort.

(11) SYSTEM RESTORATION:

Provide the plan to restore the ship to its original configuration and recertify/SOVT the original system if required.

H. ILS:

Provide the Integrated Logistic Support (ILS) requirements as listed FLEX or TECH DEMO Data Package message template reference B Exhibit H-4 Attachment C (if applicable).

I. TRAINING: **[FREE TEXT]**

Identify the required training as listed in FLEX or TECH DEMO Data Package message template message template reference B Exhibit H-4 Attachment C (if applicable).

J. IMPACT TO EXISTING SYSTEMS: **[FREE TEXT]**

As required, list operational or sustainment impacts to shipboard systems not previously covered. Impacts if FLEX or TECH DEMO installations are not accomplished may also be listed. If the impact is classified, provide the impact in the appropriate medium and reference in this paragraph.

K. RISK ASSESSMENT: **[LOW, MED OR HIGH; DESCRIBE RISK AND MITIGATION PLAN]**

State any risks associated with the FLEX or TECH DEMO installation, and Mitigation Plan (i.e., removal plan) if available. Include assessment of risk if FLEX or TECH DEMO installation is not removed as scheduled.

L. CONTINGENCY: **[FREE TEXT]**

Describe actions required to recover if FLEX or TECHDEMO installation is approved and subsequently is not installed or fails to function as planned.

M. DOCUMENTATION: **[FREE TEXT]**

List required documents that will not be available to support established milestones (SIDS, ILS, etc.); include the ECD and mitigations to compensate for the late/missing documentation.

N. INTEROPERABILITY: **[FREE TEXT]**

As required, provide impacts to other system interfaces that are not previously listed.

O. PARM POC(S): **[NAME, COMMAND, TEL: (NNN) NNN-NNNN, EMAIL:**

USERNAME@XXX.XXX]

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Exhibit H- 6 FLEX or TECH DEMO Removal Message Template

1. **Purpose.** This appendix provides a template for the FLEX or TECH DEMO Removal Message that is required to report removal of equipment, systems, and/or software installed for fleet experiments and technology demonstrations to the SPM, TYCOM, and FLTCDR.
2. The template covers both fleet experiments that are included in the NWDC FLEX Program and technology demonstrations (TECH DEMOs) that may or may not be included in the NWDC FLEX Program. The Sponsor/Preparer shall select the proper term in the template to indicate whether the removal message is for a FLEX event or a TECH DEMO.

TEMPLATE

FM: *[Applicable PARM, Program Sponsor, Installing Activity]*

TO: *[Use same PLAD as FLEX or TECH DEMO Risk Assessment Request Message in Exhibit H-5]*

Use Template 1 PLAD for C5ISR equipment, systems, and/or software that are designated as SFI CAT 1 and 2.

Use Template 2 PLAD for C5ISR and HM&E equipment, systems, and/or software that are designated as SFI CAT 3 and 4.

[Additional PLADs as determined by PARM]

Include additional addressees as required.

[Applicable ship]

Include the ship PLADs for all affected ships.

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SGID/GENADMIN/***[Message Originator]***//

SUBJ/REMOVAL OF **[FLEET EXPERIMENTATION (FLEX) -or- TECHNOLOGY DEMONSTRATION (TECH DEMO)]** INSTALLATION **[TITLE]** IN **[SHIP_NAME (HULL_NUMBER)]**//

For fleet experiments and technology demonstrations managed in NDWC FIMS, use the exact title from the FIMS data base.

For technology demonstrations not managed in the FIMS data base but have an SCD, use the exact SCD title from NDE EP.

For technology demonstrations that do not require an SCD, used the TECHDEMO title.

REF/A/DOC/NAVSEA/21JAN2010/SL720-AA-MAN-30 Series//

NARR/REF B IS NAVY MODERNIZATION PROCESS MANAGEMENT AND OPERATION MANUAL (NMPMOM)//

POC/[NAME]/[POSITION]/[COMMAND]/-/TEL:COM:[NNN-NNNNNN]/
 TEL:DSN:[NNN-NNNN]/EMAIL:[USERNAME@XXX.XXX]/

Originator may include more than one POC if required.

GENTEXT/REMARKS/1. PER REF A, PROVIDING REPORT TO FLTCDR, TYCOM, AND SHIP PROGRAM MANAGER (SPM) THAT EQUIPMENT, SYSTEM, AND/OR SOFTWARE TEMPORARILY INSTALLED TO SUPPORT FLEET EXPERIMENTS OR TECHNOLOGY DEMONSTRATIONS HAS BEEN COMPLETELY REMOVED. THE SHIP HAS BEEN RETURNED TO ORIGINAL CONDITION, AND THE ORIGINAL SYSTEM HAS BEEN RECERTIFIED. [TITLE] IN [SHIP_NAME (HULL_NUMBER)].

2. IF A [FLEX -or- TECH DEMO] DATA PACKAGE WAS REQUIRED FOR THE INSTALLATION IAW WITH REF A, SECTION H-2.5, REPORT THE FOLLOWING:

A.THE [FLEX -or- TECH DEMO] DATA PACKAGE HAS BEEN UPDATED TO INCLUDE THE RESULTS OF THE EXPERIMENT OR DEMONSTRATION, THE ACTUAL REMOVAL DATE, AND HOW THE ORIGINAL SYSTEM WAS RECERTIFIED.

B.THE UPDATED [FLEX -or- TECH DEMO] DATA PACKAGE HAS BEEN ATTACHED TO THE ASSIGNED FLEX SCD IN NDE EP, THE APPROPRIATE PLATFORM SPM HAS BEEN NOTIFIED VIA EMAIL, AND NDE NM RMV RECORDS HAVE BEEN UPDATED TO SHOW REMOVAL COMPLETION FOR EACH SHIP.

3. IF A [FLEX -or- TECH DEMO] DATA PACKAGE WAS NOT REQUIRED FOR THE INSTALLATION IAW WITH REF A, SECTION H-2.5, INCLUDE THE FOLLOWING INFORMATION IN THE REMOVAL MESSAGE:

A.RESULTS OF THE EXPERIMENT OR DEMONSTRATION.

B.ACUTAL DATE OF REMOVAL.

C.HOW THE ORIGINAL SYSTEM WAS RECERTIFIED.

PARM POC(S): [NAME, COMMAND, TEL: (NNN) NNN-NNNN, EMAIL:

USERNAME@XXX.XXX]

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