



COMDTINST 16000.4A
22 SEP 2020

COMMANDANT INSTRUCTION 16000.4A

Subj: CUTTER BOAT INTERFACE TEST AND EVALUATION (IT&E) INSTRUCTION

- Ref:
- (a) Shipboard Launch and Recovery Procedures Manual, COMDTINST M3120.6 (series)
 - (b) Safety and Environmental Health Manual, COMDTINST M5100.47 (series)
 - (c) Risk Management (RM), COMDTINST 3500.3 (series)
 - (d) Coast Guard Human Research Protection Program, COMDTINST M6500.1 (series)
 - (e) Deputy Commandant For Mission Support (DCMS) Engineering Technical Authority (ETA) Policy, COMDTINST 5402.4 (series)
 - (f) Naval Engineering Manual, COMDTINST M9000.6 (series)
 - (g) Shipboard Side Launch and Recovery, CGTTP 3-91.25 (series)
 - (h) U.S. Coast Guard Boat Operations and Training (BOAT) Manual, Volume 1, COMDTINST M16114.32 (series).

1. PURPOSE. Interface Testing and Evaluation (IT&E) is an evaluation of the safety, compatibility and suitability of cutter boat resources embarked on ships in accordance with References (a) through (g). The IT&E is carried out by subject matter experts in order to evaluate the interface between a ship, and launch/recovery system on board the ship, and a cutter boat, in inport and underway conditions. Interface compatibility is a technical measure of the interface between a cutter boat and a ship. Interface suitability is a technical measure of maintainability, reliability, and performance of the cutter boat and the ship working as a system, and includes a shipboard employment evaluation. This evaluation covers training, logistical, and procedural requirements. The IT&E process is designed to identify risks and mitigating factors that will improve the safety and effectiveness of interface between the cutter boat and the ship. The IT&E process formally communicates observations and recommendations to individual program offices, and serves as a cross-directorate validation of the interface. An IT&E is required each time there is a major change to an existing interface between a cutter boat and a ship, or the introduction of a new interface involving a cutter boat and a ship.
2. ACTION. All Coast Guard (CG) unit commanders, commanding officers, officers-in-charge, deputy/assistant commandants, and chiefs of headquarters staff elements must comply with the provisions of this Instruction. Internet release is authorized.

DISTRIBUTION – SDL No. 170

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NON-STANDARD DISTRIBUTION:

3. DIRECTIVES AFFECTED. Cutter Boat Interface Test and Evaluation (IT&E) Instruction, COMDTINST 16000.4 is cancelled.
4. DISCUSSION. Employing cutter boats from shipboard platforms is an inherently dangerous operation. Safety issues may not be identified during mission planning, system replacement or system repair. Technical Warrant Holder processes, outlined in Reference (e), must be assessed prior to the interface of cutter boats with cutters, or ships of other U.S. Armed Forces, U.S. government agencies, or foreign militaries.
5. DISCLAIMER. This guidance is not a substitute for applicable legal requirements, nor is it itself a rule. It is intended to provide operational guidance for CG personnel and is not intended to nor does it impose legally-binding requirements on any party outside the Coast Guard.
6. MAJOR CHANGES. Major changes to this Instruction include: new position titles, establishment of Chief, Office of Cutter Forces (CG-751) as the Cutter Boat IT&E Convening Authority, and two additional phases of the IT&E process.
7. IMPACT ASSESSMENT. This Instruction requires the designation of collateral duty action officers. Each of the permanent and non-permanent member offices described in paragraph 10.g must assign such action officers to participate on IT&E Teams. This responsibility will normally be assumed at the Program level. No new resources will be provided for this task. Workload for these action officers is expected to require approximately 4-9 weeks of temporary active duty travel and staff work per year.
8. ENVIRONMENTAL ASPECT AND CONSIDERATIONS.
 - a. The development of this Instruction and the general policies contained within it have been thoroughly reviewed by the originating office in conjunction with the Office of Environmental Management, Commandant (CG-47). This Instruction is categorically excluded under current Department of Homeland Security (DHS) categorical exclusion DHS (CATEX) A3 from further environmental analysis in accordance with the U.S. Coast Guard Environmental Planning Policy, COMDTINST 5090.1 and the Environmental Planning (EP) Implementing Procedures (IP).
 - b. This Instruction will not have any of the following: significant cumulative impacts on the human environment; substantial controversy or substantial change to existing environmental conditions; or inconsistencies with any Federal, State, or local laws or administrative determinations relating to the environment. All future specific actions resulting from the general policy in this Instruction must be individually evaluated for compliance with the National Environmental Policy Act (NEPA) and Environmental Effects Abroad of Major Federal Actions, Executive Order 12114, Department of Homeland Security (DHS) NEPA policy, Coast Guard Environmental Planning policy, and compliance with all other applicable environmental mandates.
9. DISTRIBUTION. No paper distribution will be made of this Instruction. An electronic version will be located on the following Commandant (CG-612) web sites.

Internet: <https://www.dcms.uscg.mil/directives>

CGPortal: <https://cg.portal.uscg.mil/library/directives/SitePages/Home.aspx>.

10. RESPONSIBILITIES.

- a. **Cutter Boat IT&E Convening Authority (CA):** Chief, Office of Cutter Forces (CG-751) is the CA and is responsible for authorizing the IT&E. The CA must designate the IT&E Team Leader and participating offices required for specific events. The CA must require an IT&E if the CA decides changes to existing interfaces involving cutter boats and ships are major changes. If multiple IT&E events are requested, the CA will generally prioritize the events in the following order:
- (1) Urgent Safety Need.
 - (2) Coast Guard Acquisition Requirement.
 - (3) Coast Guard Program Requirement.
 - (4) Interagency/Foreign Support Initiatives.
- b. **Initiating Office:** The Initiating Office is the program office proposing a new interface, or a change to an existing interface, between a cutter boat and a ship. The Initiating Office must submit a Request to Convene IT&E memo to the CA. In the memo, the Initiating Office should include a brief explanation of the scenario, the benefits of the new interface or interface change, relevant funding source(s), a proposed timeline for completion, and a proposed list of program offices that should provide team members. Unless otherwise agreed to by another office, the Initiating Office is responsible for funding travel for the IT&E event the Initiating Office requests. The Initiating Office should initiate IT&E planning as far in advance as possible, and at least 180 days prior to a required deployment. Time should be provided for the safe and effective planning of IT&E events and for incorporating lessons learned prior to operations. Below is a common list of capability changes and Initiating Office requirements.

Initiating Office	Capability Changes
Commandant (CG-731)	Acquisition of a new cutter boat.
Commandant (CG-451)	Major change to the existing launch and recovery system. Replacement of an existing launch and recovery system.
Commandant (CG-751)	Acquisition of a new cutter. Acquisition of a new cutter delivered with a new cutter boat. New interface arrangement between cutter and cutter boat in existing fleet (other than new acquisitions).
Commandant (CG-113)	Interface mishap(s) or HIPO
Program Office or Other Entity	New interface between a cutter boat and a ship.

Table 1

- c. **IT&E Team Leader:** The IT&E Team Leader is established by the CA and is typically assigned to the Initiating Office. In the event that the Initiating Office is a program office or entity that does not have a permanent IT&E Team member, the CA will normally designate the representative from Commandants (CG-751) or (CG-731) as the IT&E Team Leader. The IT&E Team Leader must:
 - (1) Convene all IT&E meetings
 - (2) Draft the IT&E Plan for CA approval, and subsequently, Coast Guard Institutional Review Board (IRB) approval
 - (3) Assume responsibility for scheduling and coordinating all site visits and test events.
 - (4) Ensure that the IT&E Final Report incorporates feedback from IT&E Team members, and includes the overall findings of the team.
 - (5) Draft the Final IT&E Report and submit it to the CA for signature.
 - (6) Once the CA signs the Final IT&E Report, provide copies to board members' offices, and other stakeholders.
- d. **Cutter Boat IT&E Team Members:** At a minimum, the IT&E Team members must be comprised of subject matter experts with program-level awareness of the applicable platform. Team members should have familiarization with the IT&E process, relevant mishaps and programmatic lessons learned. IT&E Team members are expected to participate in all planning meetings, site visits, and test events. Board members must also assist in compiling results, draft and route reports as required by the IT&E Team Leader. IT&E Teams must typically consist of the minimum number of personnel necessary to effectively evaluate the interface. This is primarily due to cost and availability of berthing to accommodate the IT&E Team during the underway phase of testing and evaluation, but also to remove unnecessary redundancies. If IT&E Team members do not concur with the final IT&E report, the IT&E Team Leader will make a note of it in the final IT&E Report, and the dissenting member must provide a memorandum outlining the dissenting opinion inclusion as an attachment to the final IT&E report.
- e. All IT&E Teams must include the following permanent members:
 - (1) Coast Guard Division of Human Systems Integration (CG-1B3).
 - (2) Coast Guard Office of Naval Engineering (CG-45).
 - (3) Coast Guard Office of Boat Forces (CG-731).
 - (4) Coast Guard Office of Cutter Forces (CG-751).
- f. Ad hoc IT&E Team members are requested as deemed necessary by the CA. Examples of offices that may provide ad hoc members at the CA's request include:

- (1) Coast Guard Office of Safety and Environmental Health (CG-113).
 - (2) A representative from the Office of Counterterrorism & Defense Operations Policy (CG-ODO) or Office of Law Enforcement Policy (CG-MLE) may be required for IT&E events that include non-CG ship or resources.
 - (3) Boats Acquisition Program (CG-9325) representation is required if the IT&E event is for a Low Rate Initial Production (LRIP) boat being delivered by a Commandant (CG-9325) acquisition.
 - (4) Operational Commander's representative.
 - (5) Surface Forces Logistics Center representative.
- g. **Program Offices:** All program offices designated by the CA will provide Action Officer subject matter experts or ad hoc representatives to participate on the IT&E Team per the experience criteria described in Table 2 below. Program offices may delegate their IT&E Team subject matter expert duties to other Headquarters, Area, District, Sector or unit personnel that meet the qualification and experience necessary to be a member of the IT&E Team. The table below describes the minimum level of program expertise expected on IT&E Teams:

EXPERTISE	SPECIFIC
Boat	Primarily covered by Commandant (CG-7312). Provides subject matter expert knowledge of the tested platform's design, capabilities, limitations, qualifications, and boat forces mishaps/lessons learned.
Cutter	Primarily performed by Commandant (CG-751). Provides subject matter expert knowledge of the specific cutter platform being tested and associated cutter mishaps/lessons learned.
Engineering	Primarily covered by Commandant (CG-451). Cutter/boat engineering expertise on the platforms being evaluated to include maintenance, structural, davit capability and limitations as outlined in the Technical Warranty Holder's duties in Reference (g).
Human Systems Integration	Engineering Technical Authority for Human Systems Integration addressing the Warranted Technical Areas of manpower and personnel, human performance support and training, habitability, human factors engineering, system safety, and survivability in accordance with Reference (e). HSI supports IT&E by addressing each of these domains through hazard analysis, risk mitigation, application of mishaps/lessons learned, and analysis of the interface between the human and equipment

Table 2

- h. Designated program offices must also assist in coordinating availability of operational units through the Operational Commander. Each permanent member of the IT&E Team

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is required to review any changes to the IT&E Final Report before it is submitted to Commandant (CG-751).

- i. **Evaluated Units:** Evaluated Units are ultimately responsible for the safe execution of IT&E events. Evaluated Units must ensure adequate familiarization with new systems and/or new boats prior to conducting IT&E. For new boat acquisitions, Evaluated Units must ensure that personnel participate in the acceptance process, review training materials, and participate in the contractor-led familiarization training that takes place prior to IT&E. For new or newly-installed launch and recovery systems, units must ensure that personnel are adequately familiar the new system (contractor-led familiarization training is normally available). For IT&E events of existing cutter boats (boats that are not part of a new acquisition), COs/OICs of Evaluated Units must grant interim qualifications in accordance with Reference (h). Evaluated Units are strongly encouraged to engage with other units that have previously used the same type of cutter boat. Evaluated units must assist with on-site coordination such as liaison with local Station for safety boat support. Upon completion of IT&E, the Evaluated Units are responsible for implementing the IT&E Board's recommendations.

11. PROCEDURES.

- a. Commandant (CG-751) will establish an IT&E Team to assess shipboard interface suitability and interoperability of CG boats involved in shipboard launch and recovery. The IT&E Team will address specific scenarios requiring interface test and evaluation and alongside operations. At a minimum, IT&E must be conducted when any of the following scenarios develop (see Enclosure (1)):
 - (1) A mission need for shipboard use of CG cutter boats is requested or identified through a Request for Forces (RFF) by either U.S. or foreign-flagged vessel.
 - (2) A major component of the shipboard launch and recovery system is replaced or modified (e.g. Time Compliance Technical Order (TCTO) approved through the Joint Surface Engineering Change Process (JSECP)).
 - (3) There is a change in the deploying platform or cutter boat that impacts launch and recovery operations.
 - (4) At the request of Commandant (CG-113) or OPCON if interface operations have resulted in a mishap or is a High Potential (HIPO) for a mishap.
- b. IT&E consists of four distinct phases:
 - (1) **Phase 0 – Planning and Feasibility Assessment:** Phase 0 consists of initial interface planning and a feasibility assessment in order to make an initial determination of whether a proposed interface is reasonable. Commandant (CG-451) must ensure that an engineering feasibility assessment is completed during Phase 0 using technical documentation and engineer required modifications to accommodate interface. Phase 0 may also require site visits to observe platforms in an effort to identify potential interface risks, hazards, and test criteria. A site visit must be executed if the IT&E Board is unable to

effectively identify interface risks or procedures necessary to formulate the required test plans.

The following documents are developed during Phase 0, and must be completed prior to Phase I. Templates can be found on the Commandant (CG-751) Portal site at: https://cg.portal.uscg.mil/units/cg751/IT_E/Shared%20Documents/Forms/AllItems.aspx):

- (a) Request To Convene IT&E Memo – Submitted by the Initiating Office to the CA (CG-751).
- (b) IT&E Convening Memo – Issued by the CA (CG-751).
- (c) Phase I IT&E Plan – Developed by the IT&E Team and submitted by the IT&E Team Leader to the IRB NLT 30 days prior to IT&E event.
- (d) Phase II IT&E Plan – Developed by the IT&E Team and submitted by the IT&E Team Leader to the IRB NLT 30 days prior to IT&E event.
- (e) Safety Hazards List – Developed by the IT&E Team and submitted by the IT&E Team Leader to the IRB NLT 30 days prior to IT&E event.
- (f) Coast Guard IRB Approval Memo – Issued by the IRB prior to test event. Testing is not authorized until the approval memo is received by CA. See note below.
- (g) Pre-Arrival Communications – Normally initiated 60 days prior to the proposed IT&E Event, but should take place less than 30 days prior to IT&E Event.

Note: Any changes to the plan or mitigation of risks may be requested by the IRB prior to the approval memo being issued.

- (2) **Phase I – Inport Test and Evaluation:** Phase I consists of testing and evaluation of a resource with a launch and recovery platform in an inport or static environment during day and night conditions. This phase has typically been referred to as the “fit test” and is designed to validate interface aspects with minimal exposure to risk prior to further commitment of resources. The Phase I plan must incorporate a strategy of incremental risk and must be approved by the Coast Guard IRB. An Interim IT&E Report may be developed during Phase I to formally communicate findings and recommendations as a result of static environment testing. These findings and recommendations may require design changes to the launch/recovery system or boat prior to proceeding to the next phase. Phase I may need to be repeated based on observations or results of physical testing. The Phase II IT&E Plan is often developed and submitted to review at the same time as the Phase I IT&E Plan. Planners should consider a minimum 30-day Coast Guard IRB approval period in their test planning timelines.

- (3) **Phase II – Underway Test and Evaluation:** Phase II is the final stage of physical test and evaluation conducted by the IT&E Team and is used to validate findings and confirm suitability in an operational environment during day and night conditions. The Phase II Plan must be approved by the Coast Guard IRB prior to execution. This phase is designed to better assess suitability of the two systems together in their intended operational environment. It is not designed to test in every anticipated operational environment (sea state or weather condition). Whenever possible, the IT&E Team must make every effort to conduct underway tests in a variety of sea states and environmental conditions. An Interim IT&E Report may be developed after Phase II to communicate major findings and recommendations. Findings and recommendations of the IT&E test event that require design changes to the launch/recovery system or boat prior to continuing operations must be captured in the IT&E Final Report or Interim IT&E Report.
- (4) **Phase III – Follow-On Interface Testing:** Phase III must be executed by the unit and include a report of findings or observations for inclusion in or to supplement the IT&E Final Report. The IT&E Team will write a Phase III Plan and obtain CG IRB approval; the Phase III Plan will include evaluation forms and the criteria for testing. IT&E Phase III will be completed by unit personnel, but the CA retains the authority to direct program-level representation from permanent IT&E Team members and/or other offices. Every effort should be made to conduct testing in various sea states up to the max allowable sea state of the cutter boat, while utilizing all risk management principles.

The CA will direct additional Phase III testing during the following circumstances:

- (a) Phase II Testing was completed satisfactorily but did not include a comprehensive range of launches, recoveries, and personnel transfers in different conditions (day, night, sea state, inclement weather, etc).
 - (b) A mishap or near mishap occurs during an interface that took place in conditions that were well within document capabilities of boat platforms.
 - (c) A significant change in the intended operational mission or operational area for a ship or boat such that the assessment captured in the previous IT&E cannot adequately state that the interface would be safe in such circumstances.
- c. IT&E conclude with the IT&E Final Report. The IT&E Final Report provides test results, observations and a suitability recommendation. The IT&E Final Report is drafted by the IT&E Team and submitted to the CA no more than 45 days after the conclusion of Phase II unless the CA directs another timeline. Once the CA approves the IT&E Final Report, the IT&E Team must provide a copy to relevant stakeholders within 30 days. Offices that provide permanent IT&E Team members must always be copied. Other stakeholders may include program offices, operational commanders, sustainment commands, and field units.
- d. The IT&E report must include the following:

- (1) Major safety discrepancies observed. The evaluated unit may not continue operations until these findings are addressed. These discrepancies may require an SFLC Maintenance/Publication Feedback (CG-22) for fleet-wide resolution. If no major safety discrepancies are observed, it will be indicated in the report.
 - (2) Technical Warrant Holder findings that must be resolved to ensure class-wide safe and effective boat operations. The unit may continue operations while these findings are addressed by the appropriate program manager. If no Technical Warrant Holder findings are discovered, it will be indicated in the report.
 - (3) Observations that conflict with current cutter boat operations policy, doctrine, and Tactics, Techniques and Procedures (TTP). The evaluated unit may continue operations while these findings are addressed by the appropriate office, if the Unit CO and IT&E Team are in agreement that it is safe to do so. If none are observed, it will be indicated in the report.
 - (5) Additional observations and recommendations. The unit may continue operations while these findings are addressed by the appropriate stakeholder. If none are observed, it will be indicated in the report.
- e. Appropriate stakeholders must take action to resolve the above findings from the IT&E report and inform the CA when findings are resolved.
 - f. The CA must track IT&E Report findings and brief their status to appropriate stakeholders on a quarterly basis.
12. RECORDS MANAGEMENT CONSIDERATIONS. This Instruction has been thoroughly reviewed by the USCG, and the undersigned have determined this action requires further scheduling requirements, in accordance with Federal Records Act, 44 U.S.C. 3101 et seq., NARA requirements, and Information and Life Cycle Management Manual, COMDTINST M5212.12 (series). This policy has significant or substantial change to existing records management requirements, or inconsistencies with existing determinations relating to documentation requirements.
 13. FORMS/REPORTS. None.
 14. REQUEST FOR CHANGES. Units and individuals may recommend changes to this Instruction via the chain of command to the Office of Cutter Forces (CG-751).

/JOHN W. MAUGER/
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 Assistant Commandant for Capability

Encl (1) IT&E Process Flowchart

IT&E Process Flowchart

