



Assistant Commandant for Prevention Policy (CG-5P) Mission Management System (MMS) Work Instruction (WI)



Category	Prevention Policy (CG-5P)				
Title	Oversight of Unmanned, Autonomous and Remote-Control Operations				
Serial	5P-WI-002(1)	Orig. Date	01Jun26	Rev. Date	N/A
Disclaimer:	<p>This guidance is not a substitute for applicable legal requirements, nor is it itself a rule. It is not intended to, nor does it impose legally binding requirements on any party. It represents the Coast Guard’s current thinking on this topic and may assist industry, mariners, the public, and the Coast Guard, as well as other federal and state regulators, in applying statutory and regulatory requirements. You can use an alternative approach for complying with these requirements if the approach satisfies the requirements of the applicable statutes and regulations. If you want to discuss an alternative approach (you are not required to do so), you may contact the Coast Guard Domestic Vessel Compliance Division (CG-CVC-1) at CG-CVC@uscg.mil who is responsible for implementing this guidance.</p>				
References:	<p>(a) America's Maritime Action Plan, February 2026 (b) 72 COLREGS – Convention on the International Regulations for Preventing Collisions at Sea, 1972 (c) CG-CVC Policy Letter 22-01 (Change 1) – Human-Supervised Testing of Remote Controlled and Autonomous Systems on Vessels [CANCELLED by this WI] (d) Title 46, Code of Federal Regulations (C.F.R.), Chapter I (e) National Defense Authorization Act for Fiscal Year 2026 (Pub. L. 119-60) (f) 46 U.S. Code (U.S.C.) § 8301 – Minimum number of licensed individuals (g) 46 C.F.R. Part 15 – Manning requirements (h) Marine Safety Manual Vol. III, Marine Industry Personnel, COMDTINST M16000.8 (series) (i) 33 C.F.R. § 160.7 – Appeals (j) 46 C.F.R. § 1.03-20 – Appeals from Decisions or Actions of an OCMI</p>				

A. Purpose.

1. This Work Instruction (WI) provides guidance to District Commanders, Captains of the Port (COTPs) and Officers in Charge, Marine Inspection (OCMIs) evaluating operations involving unmanned, autonomous or remote-controlled maritime technologies within the Marine Transportation System (MTS).
2. The guidance supports risk-based decision making and promotes the safe integration of emerging technologies while protecting navigational safety, public safety, and the marine environment.

B. Background.

1. Unmanned Maritime Systems (UMS) are increasingly used for operations such as data collection, environmental monitoring, hydrographic surveys, and security surveillance. Simultaneously, the broader maritime industry is rapidly adopting technology that enhances remote and autonomous control aboard inspected vessels. Both developments introduce unique challenges related to automated, autonomous, and remote-controlled operations in shared waterways.
2. The Coast Guard recognizes the need to manage these operations while mitigating associated risks to the MTS. This WI aligns with broader Administration initiatives, including America's Maritime

Action Plan (Reference (a))¹, to integrate emerging technologies into the MTS while maintaining public safety, national security, and environmental protection. The experience gained through consistent, structured oversight will better position the Coast Guard to safely accommodate remote and autonomous operations as the technology improves, and as the legal and regulatory framework continues to evolve.

3. The Coast Guard also acknowledges the International Maritime Organization's nonmandatory International Code of Safety for Maritime Autonomous Surface Ships (MASS Code) as a key step toward safely integrating autonomous and remotely operated vessels into the shipping industry. Although the Code covers international cargo ships beginning July 1, 2026, and does not directly apply to the UMS operations addressed by this WI, its goal-based approach aligns with Coast Guard priorities such as safe navigation, human oversight, cybersecurity, system reliability, environmental protection, and accountability. This WI aligns with that direction by promoting early coordination, transparency, and risk informed review of UMS operations. This WI does not implement the MASS Code or change existing regulatory applicability.
4. USCG authorities vary based on a vessel's route, cargo, and operations. For uninspected vessels, there is no specific regulatory framework to address autonomous technologies. Inspected vessels are subject to regulations, but those regulations do not specifically address remote or highly autonomous functions. COTPs have authority to implement risk mitigation strategies that safeguard the MTS, the public, and the environment from inspected and uninspected UMS operations. OCMI's have the authority to examine inspected vessel designs, prescribe manning and approve automation and control systems. This WI provides COTPs and OCMI's with practical, risk-based tools to evaluate and oversee both types of vessels.
5. Nothing in this instruction relieves owners and operators of their responsibility to comply with applicable regulations, including navigation rules under Reference (b).

C. Action.

1. It is critical that COTPs and OCMI's remain actively engaged with the maritime industry to ensure that operations of UMS meet applicable laws and regulations. The cognizant COTP should proactively engage owners and operators to ensure the safe testing and operating of UMS within their COTP Zone. Reference (c) is hereby cancelled.
2. Unmanned Maritime System (UMS) Definition. For the purposes of this WI, the term unmanned maritime systems means remotely operated or autonomous vessels or systems designed to function without an on-board human presence; and that may include associated components such as control and communications, instrumentation, data transmission, and processing systems.
3. This WI addresses three distinct types of UMS operations involving the following:
 - a. ***Uninspected UMS***: not subject to Coast Guard inspection ***and not Carrying Passengers for Hire***².

¹ In line with America's Maritime Action Plan, the Coast Guard is collaborating with the Department of War (DoW) and industry stakeholders to safely integrate Robotic and Autonomous Systems (RAS) into the MTS. Currently, no national RAS testing areas exist within the MTS. However, the Coast Guard is monitoring the evolving need for them. The Coast Guard is prepared to use its authority to create safety and security zones for RAS testing as required, prioritizing the safety of all waterway users and the protection of the marine environment.

² Although vessels subject to 46 C.F.R. Subchapter C are not inspected, vessels carrying passengers for hire (i.e., uninspected passenger vessels) remain subject to credentialing requirements, including the requirement under 46 U.S.C. § 8903 for a licensed individual to be in charge.

- b. ***Uninspected Passenger Vessels (UPV)***: COTPs and OCMI shall forward requests to test or operate remote controlled and autonomous systems for any UPV as defined in 46 U.S.C. 2101. Refer to Sections D and E.3 through E.5 below for more details.
- c. ***Inspected Vessels***: COTPs and OCMI shall forward requests to test or operate remote controlled and autonomous systems for any vessels required to be inspected under 46 U.S.C. 3301 and Reference (d)³. Refer to Section E for more details.

4. This guidance is not applicable to:

- a. Small UMS owned, operated, or chartered by the National Oceanic and Atmospheric Administration (NOAA) as pursuant to Reference (e)⁴.
- b. Public Vessels⁵.

D. **Concept of Operations (CONOPS) for UMS**. This section is applicable to all UMS covered under C.3 and C.3.b, and as specified under Section E.

- 1. COTPs should evaluate UMS operations within their AOR and where warranted, intervene to restrict operations until associated risks can be properly evaluated. This evaluation should assess the risk of engineering, operational, and navigation failures and their potential consequences to people, property, and the environment.
 - a. To prevent operational delays or a COTP Order to cease operations, owners and operators should provide advanced notice of UMS activities to the cognizant COTP before beginning any UMS activity. To effectively assess potential risks and collaborate on appropriate mitigation strategies, the COTP may engage with owners or operators regarding UMS operations. Owners and operators are encouraged to have relevant details about their UMS readily available for discussion with the COTP in each zone where operations are planned. Some of the details that may be discussed include:
 - (1) ***Concept of Operations (CONOPS)***. The COTP should gather sufficient UMS and operational information. This should include a CONOPS with the following elements, along with any other relevant documentation (e.g., objective evidence, statement of compliance).
 - (a) ***Point of contact information*** for the UMS owner/operator, remote control center, or other contact that can provide support in the event of after-hour incidents and emergencies.
 - (b) ***UMS information and characteristics*** (e.g., dimensions, propulsion type, speed, endurance, identifying markings)

³ For example, 46 C.F.R. §§ Subchapter D (Tank Vessels), Subchapter H (Passenger Vessels), Subchapter I (Cargo and Miscellaneous Vessels), Subchapter K (Small Passenger Vessels Carrying More Than 150 Passengers), Subchapter I-A (Offshore Supply Vessels), Subchapter M (Towing Vessels), and Subchapter T (Small Passenger Vessels).

⁴ Pursuant to Section 7331 of the National Defense Authorization Act for Fiscal Year 2026 (Pub. L. 119-60), “small unmanned maritime systems” (UMS) owned, contracted, or demise chartered by the National Oceanic and Atmospheric Administration (NOAA) are defined as vessels that (A) do not exceed 35 feet in overall length; (B) are operated remotely or autonomously; and (C) are used exclusively to conduct oceanographic surveys or scientific research; **however, this does not limit the authority of the Secretary of the department in which the Coast Guard is operating, acting through the Commandant [COTP Authority], if there is an immediate safety or security concern regarding small uncrewed maritime systems.**

⁵ Pursuant to 46 U.S.C. § 2101(33), a “public vessel” means a vessel that (A) is owned, or demise chartered and operated, by the United States Government or by a government of a foreign country; and (B) is not engaged in commercial service.

- (c) *Purpose and description of activities* (e.g., data collection, survey, environmental monitoring, infrastructure inspection, research)
- (d) *Operating location and schedule* (e.g., coordinates or chartlets, proximity to traffic lanes, planned dates and hours)
- (e) *Propulsion and steering systems* (e.g., lithium battery, diesel, jet drive, single screw, rudder, differential thrust)
- (f) *Onboard systems and sensors* (e.g., GPS, AIS, radar, cameras, LiDAR, collision avoidance sensors).
- (g) *Operator control modes* (e.g., manual operation, human-in-the-loop, human-on-the-loop, or human-out-of-the-loop)
- (h) *Operator procedures* (e.g., remote control center oversight, communications procedures, intervention protocols)
- (i) *Emergency management and response procedures* (e.g., loss of communications, propulsion failure, salvage and recovery procedures)
- (j) *Cyber security and system resilience* (e.g., access controls, encrypted communications, redundancy)
- (k) *Operator Training and Qualifications*. Objective evidence of training and credentials of remote operators including a copy of the operator training program (e.g., system operation training, COLREGS knowledge, emergency response procedures).
- (l) *COLREGS Compliance Statement*. An explanation of how the UMS and operator will comply with Reference (b), especially for lookout, maneuverability, navigation and lighting.

E. Procedure for Inspected Vessels. OCMI should evaluate proposals to include remote controlled and autonomous systems on board vessels to ensure compliance with applicable regulations or equivalent levels of safety. This evaluation should, at a minimum, assess the risk of engineering, operational, and navigation failures and the potential consequence to people, property, and the environment. OCMI are encouraged to use relevant elements under paragraph D.1.a. to assist in evaluating proposals in addition to the below requirements.

1. When evaluating requests to test remote and autonomous systems on inspected vessels⁶, the OCMI shall forward the proposal with an initial recommendation to Commandant (CG-CVC) via the applicable District to ensure a consistent national approach. CG-CVC will then provide a recommendation back to the OCMI, who retains final authority for the approval or disapproval of the request.
2. Vessel owners and operators that intend to alter a vessel to incorporate remote or autonomous systems should follow the appropriate plan approval guidelines for the applicable subchapter. In most instances, the plans should be submitted to the Marine Safety Center for review. For vessels inspected under 46 CFR Subchapters T or K, the vessel owner or operator may request a recreational boat endorsement⁷ on the COI to operate as a recreational vessel to test remote or autonomous

⁶ 46 U.S.C. 3301 and 46 C.F.R. Table 2

⁷ 46 CFR 115.114 or 46 CFR 176.114

technology. Once an OCMI has granted the endorsement, the owner or operator should follow the steps outlined in Section D above.

3. **Manning Requirements.** Reference (f) prescribes the minimum number of licensed individuals on certain vessels subject to inspection. The OCMI shall not establish manning that is less than the minimums in References (f) and (g). Further, as noted in Reference (h), manning of special or unique vessels shall be coordinated with Commandant (CG-CVC). This includes a manning scheme that places watchstanders at a location other than control stations such as the bridge or engine room. Further, Reference (b) requires that a vessel shall at all times maintain a proper look-out by sight and hearing.
 4. Upon request, Commandant (CG-CVC) may consider reducing manning below the associated guidelines in Reference (h), provided such changes comply with applicable law.
 5. OCMI's in conjunction with Commandant (CG-CVC) may authorize the use of remote and autonomous systems under human supervision on a trial basis. Vessel owners and operators are encouraged to keep records associated with the number of hours the system is used, alarms received, maintenance performed, efficiencies gained, and other information that may assist the USCG in evaluating a permanent approval of these novel technologies.
- F. **Stakeholder Engagement.** To ensure transparency and maintain navigational safety, COTPs should coordinate with local stakeholders and disseminate information through appropriate channels, including:
1. Local Broadcast Notice to Mariners (BNM) announcing active UMS operations and any relevant restrictions.
 2. Harbor Safety Committees, Area Maritime Security Committees, and other port partners for situational awareness and coordination.
 3. Temporary Regulated Navigation Areas (RNA) or Safety Zones, where necessary, to restrict vessel movement and reduce collision risks.
- G. **Appeals.** Owners and operators that feel aggrieved by a COTP Order or COTP/OCMI decision, may follow procedures outlined in References (i) and (j), as applicable, and request reconsideration of their order or file an appeal in writing through the COTP/OCMI to the District Commander. While any request or appeal is pending, all provisions remain in effect.
- H. **Summary.** Implementation of this WI provides a consistent framework for evaluating UMS operations and the testing of remote-controlled or autonomous technologies aboard inspected vessels. This approach enables COTPs and OCMI's to manage risks to the MTS while supporting the safe integration of emerging maritime technologies.
- I. **Questions.** Questions concerning this WI should be directed to the Office of Commercial Vessel Compliance at CG-CVC@uscg.mil, who will forward to the appropriate office as necessary.



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