

U.S. Department of
Homeland Security

United States
Coast Guard



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United States Coast Guard

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COMDTCHANGE NOTE 16700
NVIC 02-81 Ch-2
18 JUL 2023

COMMANDANT CHANGE NOTICE 16700

Subj: CH-2 TO COAST GUARD INSPECTION GUIDANCE REGARDING INTEGRATED
AND ARTICULATED TUG BARGE COMBINATIONS

1. **PURPOSE.** This Commandant Change Notice publishes a change to *Coast Guard Inspection Guidance Regarding Integrated Tug Barge Combinations*, Navigation and Vessel Inspection Circular NVIC 02-81 Change 1 dated February 25, 1981.
2. **ACTION.** Officers in Charge, Marine Inspection (OCMI) should bring this notice to the attention of marine inspectors and the maritime industry within their zones responsibility. Internet release authorized.
3. **DIRECTIVES AFFECTED.** With the addition of this Commandant Change Notice, *Coast Guard Inspection Guidance Regarding Integrated Tug Barge Combinations* NVIC 02-81 (Change 1) is updated. CG-CVC Policy Letter 16-04 *Conditional Occupancy of Unmanned Barges Forming Part of an Articulated Tug Barge (ATB) Combination* has been incorporated into this update and is cancelled.
4. **DISCLAIMER.** The guidance is not a substitute for applicable legal requirements, nor is it itself a regulation. It is not intended to impose, nor does it impose legally binding requirements on any party. It represents the Coast Guard's current thinking on this topic and is issued for guidance purposes to outline methods of best practice for compliance with applicable law. You may use an alternative approach if the approach satisfies the requirements of the applicable statutes and regulations.
5. **MAJOR CHANGES.** This Commandant Change Notice revises NVIC 02-81 Change 1 as follows:
 - a. The subject of the policy was broadened to provide the marine industry and Coast Guard personnel with uniform guidance regarding the application of certain statutes and Coast Guard regulations to push-mode Integrated Tug Barge combinations (hereafter referred to as "ITBs") and replaces the use of the term "dual-mode ITBs" with Articulated Tug Barge combinations (hereafter referred to as "ATBs").

- b. Updated Enclosure (1) to include the requirement for inspected towing vessels. With the implementation of 46 CFR Subchapter M – Towing Vessels, as of July 19, 2022, all towing vessels to which 46 CFR Subchapter M apply, were required to obtain a Certificate of Inspection (COI). As such, all ITB and ATB tug and barge units will each be issued a COI, be inspected to the standards of the required vessel subchapter (i.e., subchapters M, I, D, etc.) individually, and obtain documents (i.e., COD, load line, IOPP, etc.) as described in enclosure 1.
 - c. Added a new enclosure (2) which incorporated CG-CVC Policy Letter 16-04 *Conditional Occupancy of Unmanned Barges Forming Part of an Articulated Tug Barge (ATB) Combination* into the NVIC, regarding guidance for authorizing conditional occupancy equivalency endorsements on unmanned ATB barges.
6. ENVIRONMENTAL ASPECTS AND IMPACT CONSIDERATIONS.
- a. This NVIC and the general policies it contains have been thoroughly reviewed by the originating office, and are categorically excluded from further environmental analysis under Coast Guard Categorical Exclusion (CE) #33, in accordance with Section 2.B.2 and Figure 2-1 of the National Environmental Policy Act Implementing Procedures and Policy for Considering Environmental Impacts, COMDTINST M16475.1D. This NVIC is a guidance document intended to enhance implementation and compliance with applicable Coast Guard regulations; it does not amend or change any provision, authorization or requirement found in statute or regulation. Use of CE #33 is appropriate.¹
 - b. This NVIC will not result in 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.
7. DISTRIBUTION. No paper distribution will be made of this Commandant Change Notice. An electronic version will be located on the Coast Guard NVIC website:
<https://www.dco.uscg.mil/Our-Organization/NVIC/>
8. RECORDS MANAGEMENT CONSIDERATIONS. This Commandant Change Notice has been thoroughly reviewed during the directives clearance process and it has been determined there are no further records scheduling requirements in accordance with the Federal Records Act, (44 U.S.C. § 3101 *et seq.*), NARA requirements, and the Information and Life Cycle Management Manual, COMDTINST M5212.12 (series). This NVIC does not create a significant or substantial change to existing records management requirements.
9. FORMS/REPORTS. None.

¹ CE #33 provides: “Preparation of guidance documents that implement, without substantive change, the applicable Commandant Instruction or other Federal agency regulations, procedures, manuals, and other guidance documents.”

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10. REQUEST FOR CHANGES. All requests for changes or questions regarding this NVIC and this Commandant Change Notice should be directed to Commandant (CG-CVC) staff at CGCVC@uscg.mil.



W. R. Arguin
Rear Admiral, U. S. Coast Guard
Assistant Commandant for Prevention Policy



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18 Jul 2023

NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 02-81, CHANGE 2

Subj: COAST GUARD INSPECTION GUIDANCE REGARDING INTEGRATED AND
ARTICULATED TUG BARGE COMBINATIONS

Ref: (a) 46 United States Code (U.S.C.) § 3301, Vessels Subject to Inspection
(b) Title 46 Code of Federal Regulations (CFR), Chapter I, Coast Guard, Department of
Homeland Security
(c) 46 CFR Chapter I, Subchapter M, Towing Vessels
(d) Marine Safety Manual, Vol III, Marine Industry Personnel, COMDINST 16000.8B
(e) 46 CFR Chapter I, Subchapter B, Merchant Marine Officers and Seamen

1. PURPOSE. The purpose of this Circular is to provide the marine industry and Coast Guard personnel with uniform guidance regarding the application of certain statutes and regulations to Integrated Tug-Barge combinations (ITBs) both in the push-mode and dual-mode configurations. Dual-mode ITBs are now commonly known as Articulated Tug-Barges (ATBs).¹ Additionally, this Circular provides criteria for how non self-propelled vessels as part of an ATB unit may be conditionally occupied.
2. DISCLAIMER. This guidance is not a substitute for applicable legal requirements, nor is it itself a regulation. 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 is issued for guidance purposes to outline methods of best practice for compliance with the applicable law. You can use an alternative approach if the approach satisfies the requirements of the applicable statutes and regulations.
3. ACTION.
 - a. This guidance is effective on the publication date. This Circular is not applicable to tug barge combinations with routes restricted to lakes, bays and sounds, or rivers, as defined in Title 46 CFR subpart 90.10.
 - b. Officers in Charge, Marine Inspection (OCMIs) shall be familiar with the guidance contained in this Circular and should share and discuss this information with local

¹Although "dual-mode ITB" and "ATB" are functionally the same vessel combination for inspection purposes, the "dual-mode ITB" designation is still used by Coast Guard for other purposes, [and so is used herein for consistency].

maritime industry stakeholders. OCMI's should ensure that all marine inspectors have a thorough understanding of the compliance and enforcement procedures discussed in this Circular.

- c. When inspecting ITB/ATB tugs and barges, OCMI's should refer to enclosures (1) and (2) for particular considerations concerning inspection, applicability of tonnage-based requirements, manning, conditional occupancy of barges assigned unmanned load lines, firefighting and life saving, etc.
 - d. OCMI's should ensure that the Certificate of Inspection (COI) endorsements and the Marine Information for Safety and Law Enforcement (MISLE) system entries are accurate, based on the guidance within enclosures (1) and (2).
 - e. Vessel owners or managing operators should ensure compliance with this Circular, its enclosures, and references (a) through (e), as applicable, for vessel inspection requirements based on the vessel's size, operating area, and mode of operation.
4. DIRECTIVES AFFECTED. As of the publication of this NVIC Change 2, CG-CVC Policy Letter 16-04 is cancelled.
 5. BACKGROUND.
 - a. When this NVIC was originally published in 1981, interconnected combinations of tugs and barges, generally known as "integrated tug barges" (ITBs), were an evolving concept based on mechanical systems that locked the tug into a specially-designed stern notch on the barge (rather than relying on conventional lashing or towing methods using lines, wire ropes, etc.). ITB tugs and barges were designed to operate jointly as a combined unit, which raised novel issues with respect to design, construction, operation, manning, inspection, and certification. This NVIC was written to provide guidance on those novel issues to Coast Guard plan reviewers and inspectors, and to ITB designers, builders, and operators.
 - b. At that time, the Coast Guard categorized the combinations as "push-mode" or "dual-mode" ITBs. Over the next forty years, the ITB concept matured. The "push-mode" ITB did not prove to be commercially successful; only a few were ever built and there have been no new ones constructed since the 1980s. On the other hand, the "dual-mode" ITB was very successful and has evolved into the "articulated tug-barge" (ATB) of today. Experience has been gained by both Coast Guard and industry, a variety of interconnection systems have been developed, and several class societies now have rules specifically pertaining to the design and construction of ATB tugs, barges, and interconnection systems. Furthermore, provisions have been established where unmanned ATB barges may be conditionally occupied by personnel performing non-navigational tasks while transiting offshore. Consequently, the guidance in this NVIC is updated to reflect current state of push mode ITBs and ATB design and operations.
 6. DISCUSSION.
 - a. ATB/ITB tugs and barges can be distinguished from ordinary tugs and barges by virtue of each being outfitted with a special interconnection system that allows them to be mechanically locked together. A barge without such an interconnection system, even with

a notched stern where any tug can lash itself into place, is not an ITB or ATB barge, and is not covered by this NVIC.

- b. Many provisions in the original NVIC have since been incorporated into other Coast Guard regulations and policies. For example: Towing vessels were not inspected until 2017 but are now subject to inspection per reference (c); also, other original provisions (such as manning and sea time credit) are now covered by references (d) and (e). Consequently, enclosure (1) has been updated to address only those aspects of ATB/ITB tug and barge inspections that are not covered elsewhere.
- c. *Conditional occupancy of unmanned ATB/ITB barges.*² ATB/ITB barges are typically assigned unmanned load lines. However, operators often request to perform certain activities onboard the barges during coastwise transits, such as routine maintenance of barge equipment and cargo systems, or discharge preparations ahead of arrival to a port. Enclosure (2) discusses special safety provisions whereby personnel may be conditionally permitted to work aboard an ATB barge operating under an unmanned load line. If the criteria within enclosure (2) section 6 are met, OCMIs may grant a request to conditionally occupy an ATB barge.³

7. ENVIRONMENTAL ASPECT AND IMPACT CONSIDERATIONS.

- a. The development of this NVIC 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 NVIC is categorically excluded under current Department of Homeland Security (DHS) categorical exclusion (CATEX) A3 from further environmental analysis in accordance with "Implementation of the National Environmental Policy Act (NEPA)", DHS Instruction Manual 023-01-001-01 (series).
- b. This NVIC 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 NVIC must be individually evaluated for compliance with the National Environmental Policy Act (NEPA), Department of Homeland Security (DHS) and Coast Guard NEPA policy, and compliance with all other applicable environmental mandates. NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 01-22 5.

- 8. DISTRIBUTION. No paper distribution will be made of this NVIC. An electronic version will be located at <https://www.dco.uscg.mil/Our-Organization/NVIC/>.

²The term "conditional occupancy" is applied to these special situations in order to avoid possible confusion with "manning" and "permissive manning," which is used by Coast Guard for other situations. For conditional occupancy purposes, "unmanned" herein refers to ATB/ITB barges assigned unmanned load lines. If the OCMI determines that the barge must be manned for other purposes, then it must be assigned a manned load line.

³ Per 46 CFR § 24.15-1(b) (subchapter C), 46 CFR § 30.15-1(b) (subchapter D), 46 CFR § 42.03-20(b) (subchapter E), and 46 CFR § 90.15-1(b) (subchapter I). Requests for equivalents outside of enclosure 2 criteria must be submitted to Commandant (CG-ENG) for approval.

9. RECORDS MANAGEMENT CONSIDERATIONS. This NVIC has been thoroughly reviewed during the directives clearance process, and it has been determined there are no further records 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 does not create significant or substantial change to existing records management requirements.
10. FORMS/REPORTS. None.
11. REQUEST FOR CHANGES. All requests for changes and questions regarding implementation of this NVIC and/or requests for changes should be directed to CG-CVC staff a CGCVC@uscg.mil.



W. R. Arguin
Rear Admiral, U.S. Coast Guard
Assistant Commandant for Prevention Policy

- Encl: (1) Guidelines for Integrated Tug and Barge Combinations
(2) Guidelines for Conditional Occupancy of Unmanned Barges Forming Part an Articulated Tug Barge (ATB) Combination

GUIDELINES FOR INTEGRATED TUG AND BARGE COMBINATIONS

- Ref: (a) 46 CFR chapter I, subchapter B § 10.107, Definitions
(b) ABS Rules for Building and Classing Steel Barges, Integrated Tug-Barge Combinations
(c) COMDINST 16000.8B Change 2, Marine Safety Manual (MSM) Vol III: Marine Industry Personnel
(d) 46 CFR chapter I, subchapter B, Merchant Marine Officers and Seamen

1. OVERVIEW

This guidance pertains to inspection and certification of specially designed tugs and barges, whereby the tug can mechanically lock itself into a stern notch on the barge so that they operate together as a single combined unit known as an "integrated tug and barge" (ITB). Depending on the nature of their design, they are further categorized as either "push-mode" ITBs or "dual-mode" ITBs (dual-mode ITBs are now more-commonly known as "articulated tug-barges" (ATBs)).¹

2. DEFINITIONS

- a) *Push-mode ITBs*: "means those ITBs that involve a rigid coupling system and, when not coupled to the barge, are incapable of conducting towing in any other configuration (such as astern or alongside) because, by themselves, they have very limited seakeeping capability. The propelling unit moves as one with the barge unit." See reference (a). The tug and barge lock together as a single rigid unit, where the interconnection is not articulated (i.e., not "hinged"). Furthermore, the tug is only designed to push the barge from the notch; if the two vessels are separated, the tug is not able to take the barge under hawser tow (because it does not meet towing stability requirements and/or is not equipped for towing) (*see also* reference(a)). However, the barge of the ITB unit may be built, constructed, and equipped for towing by non-ITB tugs. It is noted that there have been no new push-mode ITB built since the 1980s and as of 2023 there is only one known to be in active service with a few in a laid up status.²
- b) *Dual-mode ITB* (here in referred to as *ATBs*): "means an integrated tug barge (ITB) involving an articulated (flexible coupling system where the towing unit rolls and heaves (articulates) about a horizontal pivot point. Dual mode units resemble a conventional tug and are capable of towing in other configurations (astern or alongside)." The "articulated or "hinged" connection system between the tug and barge allows independent movement in the critical areas of fore and aft pitch." See reference (a). ATBs are also designed to lock together, but the interconnection is articulated (i.e., "hinged"), and the tug is capable of both pushing and towing the barge.

¹Although "dual-mode ITB" and "ATB" are functionally the same vessel combination for inspection purposes, the "dual-mode ITB" designation is still used by Coast Guard for other purposes, such as manning and service credit, and so is used herein this document for consistency.

²Although no new push-mode ITBs are expected to be built in the future, some relevant provisions are still included here if an existing unit comes out of lay-up and needs to be inspected and re-certificated.

- c) *Interconnection systems*: There are currently several commercial interconnection systems for locking the tug into the barge notch. An *articulated* system is a pinned connection that allows relative movement between the tug and barge (i.e., to independently pitch as they move through wave conditions), whereas a *non-articulated* system keeps the two vessels rigidly locked together (i.e., as though a single hull).

3. APPLICATION AND GENERAL PROCEDURES

- a) Inspection application: the initial step in the Coast Guard's review of an inspection application for a new or existing integrated tug and barge combination is to establish a mutual understanding between all concerned parties (designer, owner/operators, OCMI, etc.) as to how the combined units will operate and subsequently be treated for inspection purposes. This includes:
 - i. determination if it will be a push-mode ITB or a dual-mode ITB/ATB,³
 - ii. a review of its planned operating profile, and
 - iii. whether the barge will be manned, unmanned, or conditionally occupied (see enclosure 2 for conditional occupancy provisions of unmanned barges).
- b) ITB and ATB tugs and barges must have their own Certificate of Inspection (COI),⁴ Certificate of Documentation, load line certificate, tonnage certificate, and stability approval documentation, as applicable.
- c) In general, ITB/ATB tugs and barges are to be designed, constructed, equipped, and inspected in accordance with applicable regulations. If classed as an ITB/ATB combination unit, OCMI's may rely on class review, approval, and survey of the vessels and interconnection system.
- d) As a part of a push mode ITB, the COI of the barge will specify those tugs which the Coast Guard has determined to be suitable for operation with the barge. This limitation on the COI, however, does not preclude non-specified tugs from operating with the barge when the specially designed connection system is not in use.
- e) For both push mode ITB and ATB units, the specially designed interconnection system will be considered as part of the towing vessel and included on its COI. Based on their interconnection system, the tug and barge COI's should cross-reference any other tugs/barges that they can interconnect with.
- f) If an inspection of the connection system components on an uninspected barge is not possible at the time of the tug inspection, the OCMI may accept a written statement of fact, from the barge owner or managing operator that the connection system components on the barge are in good working order.

³Although dual-mode ITBs are now commonly known as ATBs, MISLE does not yet have an "ATB" entry choice, so they must be recorded as dual-mode ITBs.

⁴ Prior to 2017, the towing vessel making up the tug and barge combinations, may not have been required a COI, as they were uninspected vessels. Now that 46 CFR chapter I, subchapter M has been entered into regulations, towing vessels associated with push mode ITBs and ATB combinations will all have their own separate COI.

- g) Procedures for safely disconnecting and reconnecting from the barge shall be documented in the tug's Towing Safety Management System (TSMS) (if applicable) or other operational procedures. This information should include at a minimum, the maximum sea states at which the tug can safely disconnect and reconnect.
- h) The interconnection system between the tug and barge is considered as vital⁵ or essential.⁶ Testing and inspection of the interconnection system shall be completed as required in paragraph 4.c. below.

4) SPECIFIC DESIGN REQUIREMENTS.

a) Vessel design

- i. ATB tugs and barges are to be designed, constructed, and equipped in accordance with applicable inspection regulations (i.e., 46 CFR subchapters D, I, M, etc.).
- ii. Interconnection systems are to be designed, constructed, and installed in accordance with reference (b) (or equivalent rules of another classification society recognized by the United States).
- iii. For new tugs and/or barges that request to use the same design as an existing push-mode ITB or ATB, consideration will be given to previous class acceptance of the design, or a successful operational record. Information such as sizes of tug barge combinations, specific routes, operational history, etc. should be provided to the Coast Guard when requesting acceptance of an existing design.
- iv. For push mode ITBs, excessive relative motion between the tug and barge shall be restricted while maintaining the connection under adverse weather conditions. An ITB cannot generally provide safe separation of the tug and barge under all operating conditions. An ATB is required to be able to separate under all conditions. Therefore, a tug that would otherwise be an ATB but cannot safely separate during all operating conditions should be considered a push mode ITB.
- v. For the ATB, the system should be capable of readily allowing safe disconnection. Generally, disconnection within five minutes is considered acceptable.

b) Stability.

- i. Push-mode ITB tugs and barges shall meet all current applicable intact and damage stability requirements both individually and as a combined unit.
- ii. Dual-mode ITB/ATB tugs and barges must meet applicable stability requirements individually. The tug must also meet the towline pull criterion of 46 CFR § 173.095, if applicable.⁷

c) Disconnection and Reconnection.

⁵ As defined by 46 CFR § 62.10-1, vital systems shall be tested in accordance with 46 CFR §§ 61.40 or 61.20-3 (subchapter I).

⁶ As defined by 46 CFR § 136.110, § 143.540, and 46 CFR § 136.110 (subchapter M).

⁷For towing vessels certificated under 46 CFR chapter I, subchapter M, the requirements are found in 46 CFR part 144, subpart C.

Vital and essential systems should be tested and examined at regular intervals to ensure good working order and operation of the components for regular daily use and in case of emergency. For the connection systems prescribed in this NVIC, examined means visual examination. Testing means physical disconnection of the tug from the barge.

Towing Vessel Inspection Requirements				
	Sub M – “essential”	Sub I- ITV Push-mode “vital”	Sub I ≥300 up to GT<500– “vital”	Sub I ≥500 GT– “vital”
Visual Exam	At least once every 3 months (46 CFR § 143.245)	Routine (46 CFR § 97.15–15)	Routine (46 CFR § 97.15–15)	Routine (46 CFR § 97.15–15)
Test Disconnection	46 CFR § 143.245 (see below for frequency)	Drydock Credit (46 CFR § 91.25-50)	Periodic (46 CFR § 61.01-1, § 61.20-3 and § 91.25-50)	Annual (46 CFR § 61.40) (Annual)

- i. For both push mode ITB and for ATBs, **visual examination** of the connection system is required:⁸ at a minimum once every three months (subchapter M) and annually⁹ (subchapter I), by the credentialed towing vessel master.
- ii. Push mode ITBs shall not be required to **test disconnection** during inspections for certification or annual surveys. It is intended that these units always remain connected during transit and that the units remain connected during emergencies. The master, however, shall always have the option of separating from the barge in extreme cases. As the tug and barge should disconnect at every scheduled out of water credit drydock, the system shall be tested at those intervals in the presence of a CG marine inspector or Third Party Organization (TPO), as applicable.
- iii. ATBs are required to demonstrate the ability of the tug to disconnect from the barge safely and readily without impairing the stability or structural integrity or either unit. This *initial* demonstration need not be performed at any specified sea state. Additional design information, however, must be submitted to the Coast Guard to reasonably support the ability of the ATB to routinely disconnect at the design sea states. If the design information submitted is not adequate, actual demonstration of the ability of the tug to disconnect in sea states approximating those maximum sea states claimed by the designer will be required. At each subsequent inspection for certification or survey for the towing vessel, the **connection system shall be tested** in accordance with the manufacturer’s procedures, in the presence of a CG marine inspector or TPO, as applicable.

⁸ Per 46 CFR § 143.245 (subchapter M) or 46 CFR § 61.01-1 (subchapter I).

⁹ Per 46 CFR § 91.20-20 (subchapter I).

- d) Fire Protection.
ITB/ATB tugs and barges shall meet the structural fire protection, firefighting, and emergency equipment criteria applicable to each, as required by 46 CFR Chapter I.¹⁰
- e) Loading Information.¹¹
ITB and ATB barges are to be provided with sufficient information (in a form approved by the load line assigning authority) to enable the tug master to arrange for the loading and ballasting of the barge in such a way as to avoid the creation of any unacceptable stresses in the barge's structure, especially during dockside loading and unloading.
- f) Load Line Assignment (if applicable).
- i. ITB and ATB tugs are to be assigned their own load line.
 - ii. The load line of a push-mode ITB barge is to be calculated in two ways:
 - (1) as an individual manned barge,¹² and
 - (2) on the combined length of the tug and barge.
 - (3) The greater of the two freeboards is to be assigned to the barge.
 - iii. When evaluating loading conditions for push-mode ITB barges, consideration may be given for approving conditions that might submerge the ITB tug's load line (in no case, however, are loading conditions to be approved which submerge the barge's load line or any portion of the tug's freeboard deck).
 - iv. The load line of an ATB barge is to be calculated in the normal manner. An unmanned ATB barge may be considered for the freeboard reduction per 46 CFR § 42.20-13.
- g) Lifesaving Equipment.
For both push mode ITB and ATB units, when operated with personnel either required or permitted, the tug and barge shall have the proper lifesaving appliances and fittings applicable to the vessels individually, as required by 46 CFR Chapter I.¹³

5. MANNING

- a) Manning and creditable service on ATB/ITB tugs.
- i. Manning requirements for push-mode ITB and dual-mode ITB/ATB tugs are stipulated by the OCMI on the tug's COI; guidance is found in reference (c).

¹⁰ For barges certificated under 46 CFR chapter I, subchapter D, the requirements are found in 46 CFR § 32.57 and 46 CFR § 34. For vessels (tugs and barges) certificated under 46 CFR chapter I, subchapter I, the requirements are found in 46 CFR part 92 and 46 CFR part 95. For towing vessels certificated under 46 CFR chapter I, subchapter M, the requirements are found in 46 CFR part 142.

¹¹ Per 46 CFR §§ 42.15-1, 45.105, and 31.10-32.

¹² A push-mode ITB barge may not be considered unmanned for purposes of freeboard reduction per 46 CFR § 42.20-13.

¹³ For barges certificated under 46 CFR chapter I, subchapter D, the requirements are found in 46 CFR § 31.36-1. For vessels (tugs and barges) certificated under 46 CFR chapter I, subchapter I, the requirements are found in 46 CFR § 90.27-1. For towing vessels certificated under 46 CFR chapter I, subchapter M, the requirements are found in 46 CFR part 141.

- ii. Mariner service time aboard dual-mode ITB/ATB tugs is credited differently than aboard push--mode ITBs; refer to reference (d) for more information.
- b) Unmanned ATB/ITB barges.
- i. Barges are typically assigned unmanned load lines to increase cargo capacity. However, OCMIs should be aware that an unmanned assignment is at the request of the owner/operator to the assigning authority, without the need for justification or explanation. The assigning authority is not responsible for verifying whether the barge is actually operated as an unmanned vessel.
 - ii. Barges assigned *unmanned load lines* do not have the higher freeboard or crew protection features of manned load line vessels, and for this reason *crews are not permitted to work aboard except for short-term tasks such as line handling for towing or mooring.*
 - iii. OCMIs should verify that the nature of the ATB/ITB barge's operation and/or its cargo does not require continuous attendance by on-board personnel for the duration of voyages. This includes remote monitoring (from the tug) of specialized cargoes, but which still requires immediate response and access to the barge in the event of an alarm, regardless of weather conditions. If all-weather access to the barge is necessary, then the barge should have a manned load line and comply with appropriate requirements as a manned vessel.
 - iv. However, ATB barges operating with an unmanned load line may be permitted to have workers onboard under fair weather conditions if they meet the equivalency criteria for conditional occupancy per enclosure (2).

6. OTHER COAST GUARD REGULATIONS

- a) The definition in this NVIC of an ITB applies to vessel construction standards, inspection, certification, and manning, but may not necessarily be applicable with reference to other regulations and statutes.
- b) For example, characterizations of a vessel combination as a push mode ITB or ATB as outlined in this NVIC does not determine the navigation lights the combination will display. Reference must be made to the Navigation Rules (formerly "Rules of the Road") to determine the criteria for the correct navigation lights to be displayed. The Inland Navigation Rules Act of 1980 (Inland Rules)¹⁴ and the International Regulations for Preventing Collisions at Sea, 1972 (COLREGS) (International Rules)¹⁵ distinguish rigidly connected tug barge combinations from non-rigidly

¹⁴ Per Inland Interpretive Rule 33 CFR § 90.3 Pushing vessel and vessel being pushed: Composite unit. Rule 24(b) of the Inland Rules states that when a pushing vessel and a vessel being pushed ahead are rigidly connected in a composite unit, they are regarded as a power-driven vessel and must exhibit the lights prescribed in Rule 23. A "composite unit" is interpreted to be the combination of a pushing vessel and a vessel being pushed ahead that are rigidly connected by mechanical means, so they react to sea and swell as one vessel. Mechanical means does not include lines, wires, hawsers, or chains.

¹⁵ Per International Interpretive Rule 33 CFR § 82.3 Pushing vessel and vessel being pushed: Composite unit. Rule 24(b) of the 72 COLREGS states that when a pushing vessel and a vessel being pushed ahead are rigidly connected in a composite unit, they are regarded as a power-driven vessel and must exhibit the lights under Rule 23. A

connected combinations. Therefore, a rigidly connected ITB, whether characterized as push mode ITB or as an ATB by the guidelines of this NVIC, would display the navigation lights of a power-driven vessel (*see* Rule 24(b)), under the Inland and International Rules. Likewise, a tug barge combination not rigidly connected would display the navigation lights for a power-driven vessel towing astern (*see* Rule 24(a)) or pushing ahead (*see* Rule 24(c)) as appropriate.

- c) Additionally, the applicability of Vessel Response Plan requirements is dependent on a different ITB definition found in 33 CFR § 155.5020 that does not distinguish between push mode or dual mode.

7. COI ENDORSEMENTS

- a) COIs of ITB and ATB tugs and barges shall have the following endorsement added to indicate what type of ITB/ATB unit they are, and the type of connection system they have:

"This [towing vessel/barge] is a part of a [push-mode ITB/ATB] combination, outfitted with the [insert type] connection system."

- b) With the publication of this NVIC, any notation on current COIs referencing CG-CVC Policy Letter 16-04 should be updated to reference NVIC 02-81 (CH 2) at the next COI Renewal.

8. MISLE ENTRIES

- a) For ITB and ATB tugs:
 - i. Classification: **Towing Vessel**
 - ii. *Type: **Single /Dual Mode ITB**
 - iii. Subtype: select correct route type
- b) For ITB and ATB barges:
 - i. Classification: **Barge**
 - ii. *Type: **Integrated Tug and Barge (Barge)**
 - iii. Subtype: select correct cargo type
 - *Use these type designations until such time when MISLE has been updated to allow proper distinctions (at which time the vessel type designations should be updated accordingly).
- c) Any MISLE Special Notes in the vessel file referencing CG-CVC Policy Letter 16-04 should be updated to reference NVIC 02-81 (CH 2).

"composite unit" is interpreted to be a pushing vessel that is rigidly connected by mechanical means to a vessel being pushed so they react to sea and swell as one vessel. "Mechanical means" does not include the following: (a) Lines. (b) Hawsers. (c) Wires. (d) Chains.

GUIDELINES FOR CONDITIONAL OCCUPANCY OF UNMANNED BARGES FORMING PART AN ARTICULATED TUG BARGE (ATB) COMBINATION

- Ref: (a) COMDINST 16000.8B Change 2, Marine Safety Manual (MSM) Vol III: Marine Industry Personnel (COMDINST 16000.8B)
(b) COMDTINST 16000.71 Marine Safety Manual (MSM) Vol II: Domestic Inspection Programs

1. OVERVIEW

- a) This enclosure provides guidance to Officer in Charge, Marine Inspections (OCMI) and the marine industry on the equivalency standards¹ necessary for personnel to conditionally occupy an unmanned barge that forms part of an ATB while the barge is transiting outside the Boundary Line or on the Great Lakes. OCMI's may grant requests to conditionally occupy an ATB barge if the provisions within are met. Requests for equivalents outside of this Enclosure criteria, must be submitted to Commandant (CG-ENG) for approval.
- b) When personnel are required or permitted to be onboard for other than line handling duties, a manned load line and appropriate safety criteria for the protection of personnel is required. Conditional occupancy for purposes of this NVIC, refers to ATB barges assigned an unmanned load line where a reduction of freeboard is permitted but equivalent safety criteria is in place to ensure the protection of permitted personnel onboard.²

2. BACKGROUND

- a) On manned vessels, load line requirements for freeboard assignment and guardrails are intended to protect the crew from the sea while working on deck on activities essential to safe navigation of the vessel.

However, because unmanned barges do not have any crew to protect, they can be assigned an unmanned load line with a reduced freeboard (which allows deeper loading and thereby greater cargo capacity) and are not required to have guardrails. They also might not be outfitted with certain lifesaving, firefighting, or other arrangements normally required for vessels when personnel are required or permitted onboard. Therefore, the crew can only board the barge briefly for essential navigation-related activities, such as line-handling during towing or mooring operations.

In order to maximize cargo capacity, ATB barges are typically assigned unmanned load lines. However, ATB operators have requested to perform certain activities aboard the

¹ Per 46 CFR Chapter I, Subchapter C § 24.15–1(b), 46 CFR Chapter I, Subchapter D 30.15–1(b), 46 CFR Chapter I, Subchapter E § 42.03–20(b) and 46 CFR Chapter I, Subchapter I 90.15–1(b).

² The term “*conditional occupancy*” is applied to this NVIC in order to distinguish from “*manning*” and “*permissive manning*,” which is used by Coast Guard for other situations. For guidance on the use of “*permissive manning*” for other vessels such as derrick barges, oil spill recovery vessels, dredges, cable-laying vessels, etc., see reference (a), reference (b), and the Load Line Policy Notes found here: <http://www.uscg.mil/hq/cg5/cg5212/docs/LLPN.pdf>

barges during coastwise transits, such as routine maintenance of barge equipment and cargo systems, or discharge preparations ahead of arrival.

- b) Consequently, in 2016 a joint working group of Coast Guard, ABS, American Waterways Operators (AWO) and ATB industry representatives collaborated to develop criteria whereby personnel could be permitted to work aboard ATB barges with an unmanned load line under specific conditions, culminating in the equivalency provisions in CG CVC Policy Letter 16-04. This enclosure incorporates the Policy Letter's equivalency provisions as part of Change 2 to NVIC 02-81 and cancels CG-CVC Policy letter 16-04.

3. BASIS OF CONDITIONAL OCCUPANCY POLICY

- a) applicable to only ATBs operating outside the Boundary Line or on the Great Lakes; and
- b) the activities performed only under fair weather conditions;
- c) personnel may be permitted to board the barge to perform discretionary³ activities (non-navigational tasks); and
- d) all personnel are accommodated aboard the tug.

4. BASIS FOR PERMITTING CONDITIONAL OCCUPANCY⁴

- a) The requirements for conditional occupancy of an unmanned barge provide an equivalent level of safety to the manned load line requirements. Personnel are not otherwise allowed to work aboard a non-compliant barge unless it is assigned a manned load line and meets all appropriate regulations for manned vessels (lifesaving, firefighting, etc.).
- b) For inspected barges, the endorsements in section 7 of this document shall be placed on the COI, by the OCMI. Uninspected barges requesting conditional occupancy shall be issued a Safe Manning Document (SMD)/Safe Manning Letter (SML) in accordance with reference (a), see Annex-3 and Annex-4, with all the notations, as applicable, in section 7 of this enclosure.
- c) Personnel are only allowed aboard the barge when the tug is locked into the stern notch, and only under fair weather conditions. If conditions are forecasted to deteriorate, all personnel must be recalled back to the tug in a timely manner.
- d) In general, when an OCMI is determining discretionary activities allowed under conditional occupancy, the critical consideration is that the activity is not essential to the safe operation of the barge or its cargo and can be deferred until the barge is in port.
- e) OCMI's should be aware that an unmanned load line assignment is at the request of the owner/operator, without the need for justification or explanation to the load line assigning

³ "Discretionary" means that these are tasks that can otherwise wait until the barge is in port, but that the operator can perform if safe opportunity permits while underway, for the purpose of convenience. Those tasks that are regulatory (State or Federal) or contractually required cannot be considered discretionary.

⁴ Alternative approaches for complying with these criteria may be considered. Information should be made available to Commandant (CG-ENG) to show that the alternative equivalency request satisfies the requirements of the applicable statutes and regulations.

voyages within the Part 44 waters but may not be occupied when the barge is sailing on its unmanned ICLL load line, even when conditionally occupied.

6. SPECIFIC INSPECTION CRITERIA FOR CONDITIONAL OCCUPANCY

If the following criteria are met, an ATB barge with an unmanned load line operating beyond the Boundary Line or on the Great Lakes, may be considered by the OCMI for the conditional occupancy equivalency. Otherwise, the barge shall be considered as manned if personnel are permitted onboard the barge.

- a) Instructions and Logbook Entries. The tug master is responsible for the safety of personnel working aboard the barge and must be provided with instructions by the owner or operator that detail the conditions under which personnel access to the barge will be controlled and allowed. Instructions must include, but are not limited to, limiting weather and environmental conditions, recall instructions, and emergency procedures (including transfer of an injured person from barge to tug). Logbook entries must be made that document when boarding was allowed, prevailing weather conditions at the time, as well as the number of personnel that made the transfer. This logbook entry shall be made every time personnel transfer from tug to the barge, and vice versa. The OCMI should verify that these instructions have been provided in the tug’s Towing Vessel Safety Management System (TSMS) or SMS (if applicable), procedures manual, or any other form of written policy provided to the vessels master by the owner or operator of the ATB.
- b) Limitations on accommodations. With exception of certain ATBs operating exclusively on the Great Lakes (e.g., former self-propelled bulkers converted to barges)⁶, there shall be no accommodations or cooking facilities on the barge (a coffee pot and microwave do not constitute a cooking facility). Messing and berthing for personnel shall be provided on the towing vessel only⁷.
- c) Fire Protection and Equipment required on the Barge.

Applicable to a barge required inspection under 46 CFR Chapter I, Subchapter D	
46 CFR § 34.50–10: Location, number, and installation of fire extinguishers.	Equipped as a manned barge but exempt from carriage of the 160-B extinguisher.
Applicable to a barge required inspection under 46 CFR Chapter I, Subchapter I	
46 CFR § 95.50: Hand Portable Fire	Equipped as a manned barge

⁶ Some former Great Lakes bulkers were converted to barges by cutting away the stern (engine room/aft deckhouse) but leaving the forward accommodation house. If those converted barges still have guard rails and are operating at their original manned load line, then there is no increased risk to crew working on deck, and they may be accommodated in the original deckhouse. If the vessel no longer has the original manned load line and has not been maintained in the original condition approved at the time of the original Policy Letter 16-04, then the original allowed operating conditions and this equivalency shall be re-evaluated for risk. At the discretion of the OCMI, additional safety precautions may be imposed in consideration of the personnel in overnight accommodations on these former GL bulkers.

⁷ For any unmanned barge (not covered by this NVIC) with a workstation that the OCMI determines meets the definition of an accommodation per 46 CFR § 199.30, that barge is required to meet the lifesaving requirements in 46 CFR Chapter I, Subchapter W.

Extinguishers and Semiportable Fire Extinguishing Systems, Arrangements and Details	
Applicable to a barge required inspected under 46 CFR Chapter I, Subchapter C	
46 CFR § 25.30-20: Fire extinguishing equipment required.	Equipped as a barge carrying passengers.

d) Lifesaving required on the barge.

Measures to protect personnel allowed to conditionally occupy the barge, at a minimum, shall include the following for the total amount of personnel allowed to conditionally occupy the barge⁸. Lifesaving and firefighting appliances, where required by this NVIC, should be recorded on the barge COI within the appropriate sections.

Lifesaving requirements in lieu of 46 CFR Chapter I, Subchapter W	
Section or paragraph of 46 CFR §...	Alternative
199.60 (c): Distress signals	Exempt
199.60 (d): Onboard comm and alarm systems	Exempt when suitable means of communication are met. As determined by the OCMI, suitable means shall include primary and back-up communications between personnel on the tug and personnel on the barge. Primary communications may include handheld radios held by at least 50% of the persons onboard with a secondary known emergency sound signal emitted from the towing vessel.
199.70(a)(3)(ii): Lights on lifebuoys	Exempt if vessel is restricted to daylight only operations, as determined by the OCMI.
199.70(a)(3)(iii): Lifebuoys fitted with smoke	Exempt for all routes except Oceans.
199.70 (b): Lifejackets	Not Exempt
199.70(b)(1)(i): Carriage of additional child-size lifejackets	Exempt if the vessel does not carry persons smaller than the lower size limit of the lifejackets carried.
199.70(b)(4)(ii): Lifejacket whistles	Exempt for all routes except Oceans.
199.70(c)(4)(ii): Immersion suit whistles	Exempt for all routes except Oceans.
199.70(c): Immersion suits	Not Exempt
199.80: Muster list and emergency instructions	Exempt if the muster list and emergency instructions are incorporated into the towing vessel to include persons on the barge
199.90(d): Operating instructions	Exempt if persons are only onboard during daylight hours or area can be adequately illuminated by lights from the towing

⁸ Submit requests for any other alternative equivalent arrangement of lifesaving equipment per 46 CFR § 199.09 to Commandant (CG-ENG).

	vessel, as determined by the OCMI.
199.100: Manning of survival craft and supervision	Properly credentialed crew member having a Lifeboatman or Lifeboatman/Limited endorsement shall be present on the barge (except on a barge operating exclusively on the Great Lakes).
199.110(c): Survival craft muster and embarkation arrangements	Exempt if persons are only onboard during daylight hours or area can be adequately illuminated by lights from the towing vessel, as determined by the OCMI
199.110(f): Embarkation ladders at launching stations	Exempt if the distance is less than 3 meters (10 feet) from the embarkation deck to the water with the vessel in its lightest seagoing operating condition.
199.130: Stowage of survival craft.	The survival craft should be stored away from the access to the tug to provide separate access in an emergency should the route to the tug be inaccessible.
199.170: Line-throwing appliance	Exempt
199.180: Training and drills	Exempt if training and drills are incorporated into the towing vessels training and drill program.
199.261(a)(2): Survival craft	In lieu of a SOLAS A pack, a SOLAS B pack may be carried if the voyage does not exceed the distances as described in a short international voyage defined in 46 CFR § 199.30
199,261(a)(4): Survival Craft	Not Exempt
199.261(b)(2): Survival Craft	Not Exempt
199.261(d): Survival craft	All vessels applicable to this policy may meet 46 CFR § 199.261(d) in lieu of § 199.261(c) regardless of size or cargo.
199.261(e): Survival craft	Exempt if the survival craft is stowed on the forward section of the barge and the distance between the embarkation to the towing vessel and survival craft does not exceed 200m (656 feet).
199.262: Rescue boats	Required; see 46 CFR Table 199.610 (A) & (C) for possible exemptions.
199.271: Lifebuoys	One-half of those lifebuoys required by Table 199.271 as determined by the barge length.
199.273: Immersion suits	Not Exempt
199.290(a) and (b): Stowage of survival craft	Exempt
199.290(c): Stowage of survival craft	Not Exempt
199.610 Exemptions for all vessels in a specified service	All exemptions applicable within this part, in addition to this policy, may be utilized.

199.620 Alternatives for all vessels in a specified service	All alternatives applicable found within this part in addition to this policy may be utilized.
199.640 Alternatives for cargo vessels in a specified service	All alternatives applicable found within this part in addition to this policy may be utilized.
199.510: EPIRB requirements	Exempt

- e) Safe passage between tug and barge. The towing vessel and barge shall be arranged to provide safe passage between them. If at any time personnel are directly over the water when transitioning between the two vessels, a means of preventing the member from falling into the water or being trapped between the vessels shall be provide. (e.g., safety netting, fall restraint system, gangway with handrails, etc.). Arrangements are to the satisfaction of the OCMI.
- f) Guard rails. Guard rails conforming to the dimensional standards of 46 CFR § 42.15-75(b)(1) and (c) shall be installed around the perimeter of the barge. Where operational factors prohibit installation of such guardrails, the ATB operator shall have a policy in place prohibiting access to those areas not protected by guardrails while the barge is operating beyond the Boundary Line or on the Great Lakes. Operational factors that may prohibit the installation of guardrails in select locations may include, but are not limited to, the need to access ballast tank openings, mooring equipment, cargo manifold assemblies or emergency towing arrangements, etc. Barges currently fitted with guardrails that are in substantial compliance with the criteria noted herein may be accepted. Barges without any guardrails may not be conditionally occupied when operating beyond the Boundary Line or on the Great Lakes.
- g) Egress route. An egress route along the length of the barge from bow to stern shall be provided to allow personnel to safely return to the tug/barge transition area.
- h) Communications. Primary and back-up communications between personnel on the tug and personnel on the barge shall be provided, per 46 CFR § 199.60(d).
- i) First aid provisions. In the event of an injury to personnel on the barge, a first aid kit shall be available on the barge. Additionally, a means to transport (i.e. a litter) injured personnel to the towing vessel shall be readily available on the tug or barge. These and all emergency procedures shall be addressed in the vessel's procedures and/or SMS, as applicable.
- j) Qualified Lifeboatman. Whenever the barge is conditionally occupied, a properly credentialed crew member having a Lifeboatman or Lifeboatman/Limited endorsement shall be present on the barge (except on a barge operating exclusively on the Great Lakes). See also section 7 below.
- k) Towing Vessel Manning. During periods when a towing vessel crewmember is conditionally occupying the barge, the towing vessel is still required to comply with the minimum manning stipulated on its COI. OCMI's should be mindful of how the towing vessel will be able to maintain the STCW and 46 CFR part 15 work hours and rest

periods when evaluating the potential for this equivalency⁹. Persons on watch of the towing vessel should not be conditionally occupying the barge.

7. ENDORSEMENTS

If the OCMI is satisfied that both the tug and barge meet all the equivalency criteria and are equipped for conditional occupancy, as stipulated in this enclosure, their COIs (or SMD/SML for uninspected barges) shall be endorsed with the following¹⁰ (*omit the inapplicable term in square brackets*):

a) Towing Vessel COI Endorsement:

WHILE FORMING THE PROPULSION PART OF AN ATB UNIT, CONDITIONAL OCCUPANCY ON VOYAGES [outside the Boundary Line or on the Great Lakes] HAS BEEN AUTHORIZED:

THIS TOWING VESSEL, MEETS THE CONDITIONAL OCCUPANCY EQUIVALENCY REQUIREMENTS STIPULATED IN NVIC 02-81 (CHANGE 2) . IT MAY ENGAGE IN CONDITIONAL OCCUPANCY OPERATIONS IN ACCORDANCE WITH THE CONDITIONS AND REQUIREMENTS STIPULATED IN ITS [TSMS/SMS/other document]. DURING PERIODS WHEN A TOWING VESSEL CREWMEMBER IS CONDITIONALLY OCCUPYING THE BARGE, THE TOWING VESSEL IS STILL REQUIRED TO COMPLY WITH THE MINIMUM MANNING STIPULATED ON ITS COI.

b) Barge COI (SMD/SML if applicable) Endorsement:

i. All ATB Barges¹¹:

WHILE FORMING THE BARGE PART OF AN ATB UNIT, CONDITIONAL OCCUPANCY ON VOYAGES [outside the Boundary Line][on the Great Lakes] HAS BEEN AUTHORIZED:

THIS BARGE IS ASSIGNED AN UNMANNED LOAD LINE, BUT MEETS THE OUTFITTING REQUIREMENTS FOR CONDITIONAL OCCUPANCY AS STIPULATED IN NVIC 2-81 (CHANGE 2) .

THIS ATB BARGE MAY BE CONDITIONALLY OCCUPIED BY UP TO [Specify the Number] PERSONS. SUCH OCCUPANCY SHALL BE IN ACCORDANCE WITH THE CONDITIONAL OCCUPANCY PROVISIONS STIPULATED IN THE TUG'S [TSMS/SMS/other document].

WHENEVER PERSONNEL ARE CONDITIONALLY OCCUPYING THE ATBS BARGE, A PROPERLY CREDENTIALLED CREWMEMBER HAVING A LIFEBOATMAN OR LIFEBOATMAN-LIMITED ENDORSEMENT SHALL BE PRESENT ON THE BARGE.

NO PERSONNEL MAY BE ACCOMMODATED OVERNIGHT ABOARD THE BARGE.

⁹ See also reference (a) for more discussion on domestic work hour limits, working conditions and definitions of “rest”, “watch” and “work”.

¹⁰ The number of persons permitted to conditionally occupy the barge should be recorded on the barge COI/SMD/SML as “Other persons in crew.”

¹¹ The provision for a Lifeboatman or Lifeboatman-Limited does not apply to barges operating exclusively on the Great Lakes, and therefore may be omitted from the barge COI.

ii. ATB Tank Barges.

WHENEVER PERSONNEL ARE CONDITIONALLY OCCUPYING THE ATB TANK BARGE TO OPERATE BARGE MACHINERY RELATED TO CARGO OR BALLAST WATER, AT LEAST ONE TANKERMAN-PIC (BARGE), OR RESTRICTED TANKERMAN-PIC SHALL BE PRESENT ON BOARD THE BARGE.

iii. Seagoing Barges over 100 GRT, the endorsement should include the statement:

ALL MAINTENANCE PERSONS MUST POSSESS MERCHANT MARINER CERTIFICATES, AND A MINIMUM OF 75 PERCENT OF THOSE PERSONS ABOARD MUST BE U.S. CITIZENS.