



## Standard Guide for Escort Vessel Evaluation and Selection<sup>1</sup>

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### 1. Scope

1.1 This guide covers the evaluation and selection of escort vessels that are to be used to escort ships transiting confined waters. The purpose of the escort vessel is to limit the uncontrolled movement of a ship disabled by loss of propulsion or steering to within the navigational constraints of the waterway. The various factors addressed in this guide also can be integrated into a plan for escorting a given ship in a given waterway. The selection of equipment also is addressed in this guide.

1.2 This guide can be used in performance-based analyses to evaluate:

- 1.2.1 The control requirement of a disabled ship,
- 1.2.2 The performance capabilities of escort vessels,
- 1.2.3 The navigational limits and fixed obstacles of a waterway,
- 1.2.4 The ambient conditions (wind and sea) that will impact the escort response, and
- 1.2.5 The maneuvering characteristics of combined disabled ship/escort vessel(s).

1.3 This guide outlines how these various factors can be integrated to form an escort plan for a specific ship or a specific waterway. It also outlines training programs and the selection of equipment for escort-related activities.

1.4 A flowchart of the overall process for developing and implementing an escort plan is shown in Fig. 1. The process begins with the collection of appropriate data, which are analyzed with respect to the performance criteria and in consultation with individuals having local specialized knowledge (such as pilots, waterway authorities, interest groups, or public/private organizations, and so forth). This yields escort vessel performance requirements for various transit speeds and conditions; these are embodied in the ship's escort plan. When the time comes to prepare for the actual transit, the plan is consulted in conjunction with forecast conditions and desired transit speed to select and dispatch the appropriate escort vessel (or combination of vessels). A pre-escort conference is con-

ducted to ensure that all principal persons (ship master, pilot, and escort vessel masters) have a good understanding of how to make a safe transit and interact in the event of an emergency.

1.5 This guide addresses various aspects of escorting, including several performance criteria and methodologies for analyzing the criteria, as well as training, outfitting, and other escort-related considerations. This guide can be expanded as appropriate to add new criteria, incorporate "lessons learned" as more escorting experience is gained in the industry, or to include alternative methodologies for analyzing the criteria.

1.6 This guide addresses physical control of the disabled ship with the assistance of the escort vessel(s). Other possible functions, such as firefighting, piloting, or navigational redundancy, are outside the scope of this guide. Also, this guide was developed for application to oceangoing ships in coastal waterways; it is not suitable for application to barge strings in riverine environments.

1.7 The values stated in inch-pound units are to be regarded as standard. No other units of measurement are included in this standard.

1.8 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

### 2. Referenced Documents

- 2.1 *Code of Federal Regulations Document*:<sup>2</sup>  
[33 CFR Part 168 Escort Vessels for Certain Tankers](#)
- 2.2 *IMO Resolutions*:<sup>3</sup>  
[IMO Resolution A.601\(15\) Provision and Display of Maneuvering Information on Board Ships](#)  
[IMO Resolution MSC.137\(76\) Standards for Ship Maneuverability](#)
- 2.3 *Marine Safety Committee Circulars*:<sup>3</sup>  
[MSC Circular 1053 Explanatory Notes to the Standards for Ship Maneuverability](#)

<sup>1</sup> This guide is under the jurisdiction of Committee F25 on Ships and Marine Technology and is the direct responsibility of Subcommittee F25.01 on Structures.

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<sup>2</sup> Available from U.S. Government Publishing Office (GPO), 732 N. Capitol St., NW, Washington, DC 20401, <http://www.gpo.gov>.

<sup>3</sup> Available from the International Maritime Organization (IMO), 4, Albert Embankment, London, SE1 7SR, UK, <http://www.imo.org>.

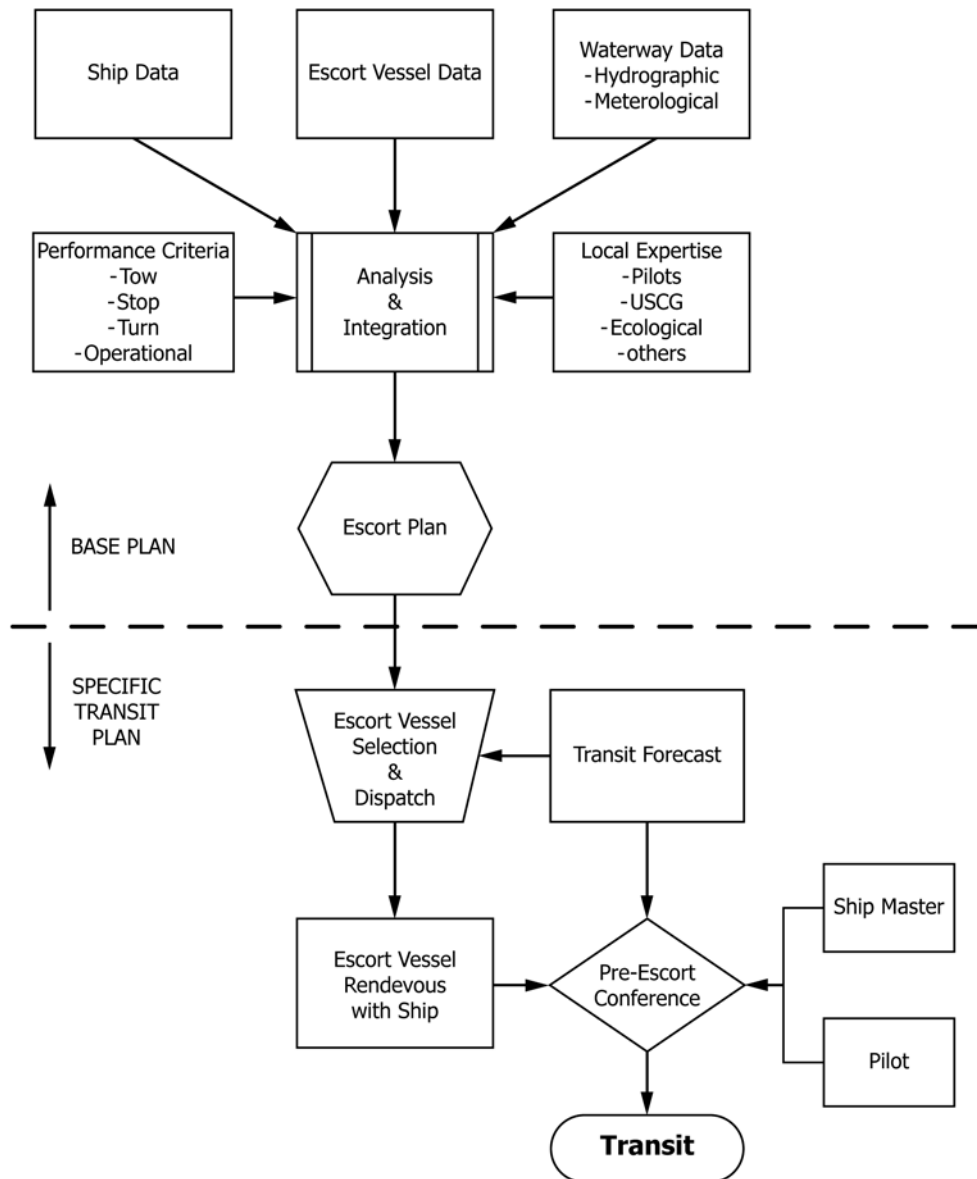


FIG. 1 Flowchart of the Overall Process for Developing and Implementing an Escort Plan

### 3. Terminology

3.1 For purposes of clarity within this guide, the vessel being escorted is referred to as the “ship” or “disabled ship.” The vessel accompanying the ship as its escort is referred to as the “escort vessel.”

3.2 The escorting measures addressed in this guide are based on performance.

3.2.1 The term “performance measure” refers to performance capabilities that must be possessed by the escort vessel(s) in controlling the disabled ship within a particular waterway. This requires a holistic analysis of the combined maneuvering dynamics of the escort vessel(s) and ship within the waterway in ambient weather and sea conditions. Performance-based requirements involve extensive preplanning and analyses, but offer greater assurance that the escort vessel(s) actually will be effective. The methodologies and processes presented in this guide can be used in determining

the performance envelope of an escort vessel at different transit speeds and under a range of weather and sea conditions.

3.3 The terms “conventional propulsion” and “omni-directional propulsion” refer to propulsion systems of the escort vessel.

3.3.1 *Conventional Propulsion System*—The propulsive thrust is fixed in a fore/aft direction.

3.3.2 *Omni-Directional Propulsion System*—The propulsive thrust is steerable in any direction (360°) around the hull. Examples are the azimuthing Z-drive screw propeller system and the vertical axis cycloidal system.

3.4 The terms “direct mode” and “indirect mode” refer to two towing modes for exerting control forces on a disabled ship via towline from the escort vessel.

3.4.1 *Direct Mode*—The towline force is derived directly from the escort vessel’s propulsion system. In general, the towline orientation is over the bow or over the stern of the