

U.S. Department of
Homeland Security

**United States
Coast Guard**



Instructor Guide

*Merchant Escorts 01:
Escorting a Merchant through a Channel with a Turn*



District 9
Domestic Icebreaking

MARCH 2024

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Table of Contents

Introduction.....	1
Introduction, Continued.....	2
Introduction, Continued.....	6
Section 1: Introduction, Continued.....	8
Section 1: Introduction, Continued.....	9
Section 2: Importance of the Topic.....	11
Section 2: Importance of the Topic, Continued.....	12
Section 3: Escort Preparation.....	14
Section 3: Escort Preparation, Continued.....	15
Section 3: Escort Preparation, Continued.....	17
Section 3: Escort Preparation, Continued.....	18
Section 3: Escort Preparation, Continued.....	19
Section 4: Icebreaking in a Turn.....	20
Section 4: Icebreaking in a Turn, Continued.....	21
Section 4: Icebreaking in a Turn, Continued.....	23
Section 4: Icebreaking in a Turn, Continued.....	24
Section 4: Icebreaking in a Turn, Continued.....	26
Section 4: Icebreaking in a Turn, Continued.....	28
Section 4: Icebreaking in a Turn, Continued.....	30
Section 4: Icebreaking in a Turn, Continued.....	32

Merchant Escorts 01: Escorting a Merchant through a Channel with a Turn

Introduction

Instructional Setting(s)

The course is to be delivered in the appropriate setting(s) depending on the required classroom type, tools, and equipment needed for each lesson. You need to check and reserve the setting(s) in advance.

The event will be delivered in the following settings:

- Cutter mess decks or other instructional locations

Primary Audience and Maximum Class Size

Primary audience is certified Officers of the Deck and QMOWs

The maximum number of students for this class is 36 students.

Location

This course is delivered at US Coast Guard Cutters

Introduction, Continued

Overview

This event prepares you to plan and execute a merchant escort through a channel with a significant turn that will require at least 3 icebreaker passes to clear.

This event consists of the following sections:

- Planning and briefing
 - Carving out the turn
 - Concluding the icebreaking and safety observations
-

Terminal Performance Objective(s)

The Terminal Performance Objective of this lesson is:

- 1.0 Given an ice-choked channel and a functional icebreaker, Perform icebreaking in the channel to enable merchants to traverse the turn in the channel.
-

Enabling Objective(s)

The Enabling Objectives for this TPO are:

- **Objective 1.** Prepare and Assess the conditions
 - **Objective 1a.** Demonstrate the ability to assess ice conditions, review channel layout, and identify areas that require icebreaking using ice condition reports, harbor maps, and weather forecasts with 100% accuracy.
- **Objective 2.** Plan the Ice-Clearing route
 - **Objective 2a.** Demonstrate the ability to create an icebreaking route plan based on maps, harbor charts, and ice conditions, ensuring that the route is safe and efficient with 100% accuracy.
- **Objective 3.** Prepare Icebreaker crew
 - **Objective 3.a.** Demonstrate the ability to conduct a crew briefing, clearly assign tasks, and ensure 100% understanding of roles and responsibilities to prepare the crew for the ice breaking operation.
- **Objective 4.** Communicate with Stakeholders
 - **Objective 4.a.** Demonstrate the ability to maintain clear and consistent communication with relevant stakeholders (harbor management, ship captains, and crew members) throughout the ice breaking operation, ensuring that all parties are informed of progress and any changes to the plan with 100% accuracy.
- **Objective 5.** Initiate Icebreaking process
 - **Objective 5.a.** Demonstrate the ability to choose the correct path and initiate the first pass of the icebreaker through the turn in accordance with the Coast Guard's published doctrine.

- **Objective 5.b.** Demonstrate caution to preserve the ice edge where the merchant will “bow ride” with zero edge defect.
- **Objective 6.** Turn icebreaker around and conduct pass #2.
 - **Objective 6.a.** Demonstrate the ability to turn around in the correct direction, choose the correct path and initiate the second pass of the icebreaker through the turn in accordance with the Coast Guard’s published doctrine.
 - **Objective 6.b.** Demonstrate caution to preserve the ice edge where the merchant will “bow ride” with zero edge defect.
- **Objective 7.** Turn the icebreaker around and conduct the final pass.
 - **Objective 7.a.** Demonstrate the ability to turn around in the correct direction, choose the correct path, and initiate the final pass of the icebreaker through the turn in accordance with the Coast Guard’s published doctrine.
 - **Objective 7.b.** Demonstrate the ability to operate at a speed that will break the remainder of the ice in the turn but preserve the plate ice outside of the turn. Zero edge defect is allowed, but unbroken ice inside of the turn necessitating a fourth pass is permissible.
- **Objective 8.** Accurately assess if ice persists and if a further pass is necessary such that no large ice plates are left for the merchant to make contact with.
- **Objective 9.** Demonstrate the ability to continuously monitor the progress of the icebreaking operation such that 100% of errors or deviations from published doctrine are caught by the crew of the icebreaker.
- **Objective 10.** Demonstrate the ability to monitor safety conditions and enforce safety protocols during the icebreaking operation such that all protocols are kept.

Continued on next page.

Introduction, Continued

References

The primary references used for this lesson are:

1. COMDTINST 16151.1 (series) Domestic Icebreaking Operations Policy
 2. D9INST M16150.2 (series) Ninth District Icebreaking Policy and Procedures
-

Performance Evaluations

This TPO has not been evaluated.

Introduction, Continued

Instructor Materials You will need the following materials to support delivery of this lesson:

- Instructional Media (.ppt)
- Escort Checklist (existing client document)
- Tac-Aid (Job Aid)
- Performance Assessment Rubric
- Whiteboard with dry erase markers

Student Materials Students will need the following materials to support delivery of this lesson:

- Pen or Pencil
- Paper

Time and Staffing The following are suggested times and staffing requirements for the various activities of this lesson. Minor adjustments are allowable.

Duration (hh:mm – hh:mm)	Instructional Activities (What the instructor would use/do)	Learner Activities (What learners would use/do)	Methods/Materials
Instructor Led Classroom session:			
00:00 - 00:04	<ul style="list-style-type: none"> ● Intro, training goals 	<ul style="list-style-type: none"> ● Quick discussion 	<ul style="list-style-type: none"> ● Powerpoint
00:04 - 00:06	<ul style="list-style-type: none"> ● Background on why Merchants need the river carved a certain way 	<ul style="list-style-type: none"> ● Brief scenario review 	<ul style="list-style-type: none"> ● Powerpoint
00:06 - 00:15	<ul style="list-style-type: none"> ● Instruction on Slides 5 - 9 	<ul style="list-style-type: none"> ● Checklist matching 	<ul style="list-style-type: none"> ● Powerpoint
00:15 - 00:20	<ul style="list-style-type: none"> ● Instruction on Slides 10 - 14 	<ul style="list-style-type: none"> ● Discuss adjustments to the planned ship's travel route based on conditions 	<ul style="list-style-type: none"> ● Powerpoint
00:20 - 00:25	<ul style="list-style-type: none"> ● Instruction on Obj 15 - 19 	<ul style="list-style-type: none"> ● Safety discussion and Debrief 	<ul style="list-style-type: none"> ● Powerpoint
00:25 - 00:30	<ul style="list-style-type: none"> ● Instruction on the Team-provided Tac-Aid. 	<ul style="list-style-type: none"> ● Tac-aid application discussion 	<ul style="list-style-type: none"> ● Powerpoint
Graded, live assessment			
00:00 - 00:20	<ul style="list-style-type: none"> ● Assessment and provided prompts on Enabling Obj. 1-4 	<ul style="list-style-type: none"> ● Using Escort checklist 	<ul style="list-style-type: none"> ● Grading rubric

Duration (hh:mm – hh:mm)	Instructional Activities (What the instructor would use/do)	Learner Activities (What learners would use/do)	Methods/Materials
00:20 - 00:90	<ul style="list-style-type: none"> Assessment and provided prompts on Enabling Obj. 5-10 	<ul style="list-style-type: none"> Changing the route 	<ul style="list-style-type: none"> Grading rubric
00:44 - 01:06	<ul style="list-style-type: none"> Assessment and provided prompts on Obj 9-10 	<ul style="list-style-type: none"> Evaluating the operation 	<ul style="list-style-type: none"> Grading rubric
01:06 - 1:30	<ul style="list-style-type: none"> Assessment and provided prompts on Tac-Aid use. 	<ul style="list-style-type: none"> Interpreting Tac-aid data 	<ul style="list-style-type: none"> Grading rubric

Introduction, Continued

Assigned Homework

Prior to this event, students will complete the following:

- Read *Bayclass Icebreaking Techniques* in the *Ninth District Icebreaking Policy and Procedures*.

After this event, OODs and QMOWs will execute escorts of merchants through channels or prepare channels for subsequent transits by merchants.

Section 1: Introduction

Topic Goal

The goal of this section is to review the assignment that students are working on. This will situate all that we do today as something productive for students moving forward.

Overview

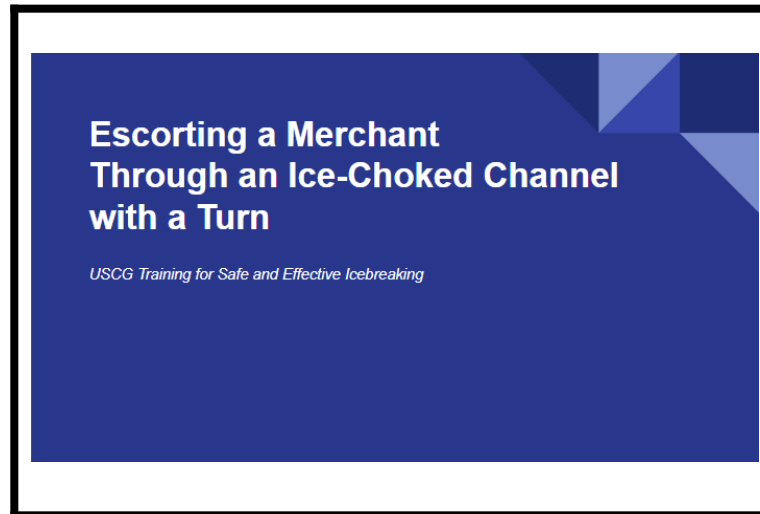
Using slides 1-3, you will facilitate an introduction to the topic of escorting a merchant through an ice choked channel and reading the objectives.

Preparation Checklist

Complete the following actions to prepare for delivery of the lesson section:

- Ensure the ppt will show in the chosen classroom
 - Project Slide 1 of the PowerPoint Presentation: *PPT – Escorting a Merchant Through a Turn*
-

Section 1: Introduction, Continued

Slide Overview**Slide 1: Introduction****Lecture (1 min)**
Slide 1

Follow these steps for **Slide 1**.

1. Begin the event.

- Open the *PPT – Merchant Escorts 01: Through a Channel with a Turn* presentation and proceed to the first slide.

2. Provide Course Specific Insight.

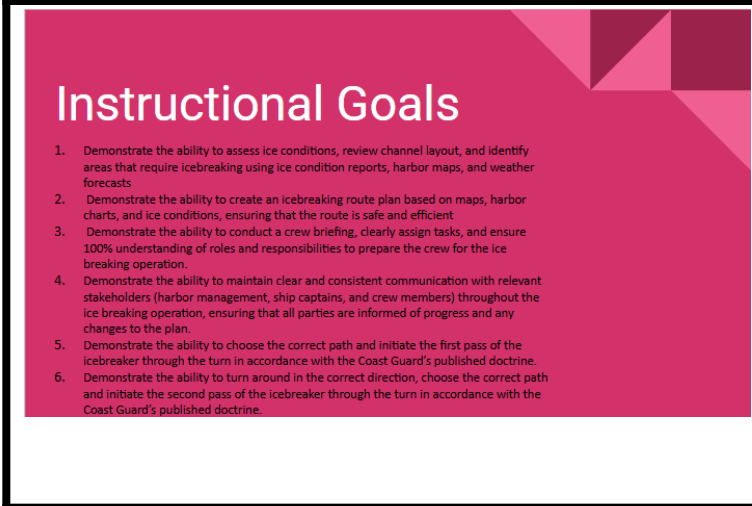
- Introduce yourself as a new instructor of the convening, if applicable.
- **State:** “This lesson will prepare you to escort merchants through tight, ice-choked turns in channels.”

3. Proceed to next slide.

Section 1: Introduction, Continued

Slide Overview

Slide 2-3: Objectives

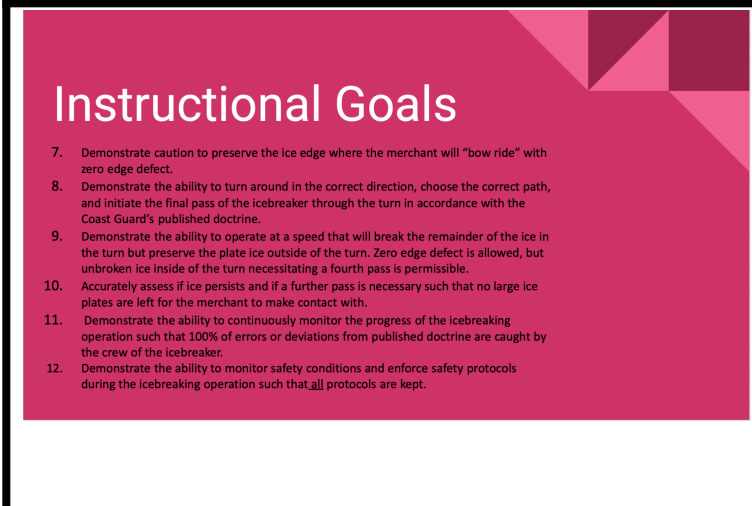


Instructional Goals

1. Demonstrate the ability to assess ice conditions, review channel layout, and identify areas that require icebreaking using ice condition reports, harbor maps, and weather forecasts
2. Demonstrate the ability to create an icebreaking route plan based on maps, harbor charts, and ice conditions, ensuring that the route is safe and efficient
3. Demonstrate the ability to conduct a crew briefing, clearly assign tasks, and ensure 100% understanding of roles and responsibilities to prepare the crew for the ice breaking operation.
4. Demonstrate the ability to maintain clear and consistent communication with relevant stakeholders (harbor management, ship captains, and crew members) throughout the ice breaking operation, ensuring that all parties are informed of progress and any changes to the plan.
5. Demonstrate the ability to choose the correct path and initiate the first pass of the icebreaker through the turn in accordance with the Coast Guard's published doctrine.
6. Demonstrate the ability to turn around in the correct direction, choose the correct path and initiate the second pass of the icebreaker through the turn in accordance with the Coast Guard's published doctrine.

Slide Overview

Slide 2-3: Objectives



Instructional Goals

7. Demonstrate caution to preserve the ice edge where the merchant will "bow ride" with zero edge defect.
8. Demonstrate the ability to turn around in the correct direction, choose the correct path, and initiate the final pass of the icebreaker through the turn in accordance with the Coast Guard's published doctrine.
9. Demonstrate the ability to operate at a speed that will break the remainder of the ice in the turn but preserve the plate ice outside of the turn. Zero edge defect is allowed, but unbroken ice inside of the turn necessitating a fourth pass is permissible.
10. Accurately assess if ice persists and if a further pass is necessary such that no large ice plates are left for the merchant to make contact with.
11. Demonstrate the ability to continuously monitor the progress of the icebreaking operation such that 100% of errors or deviations from published doctrine are caught by the crew of the icebreaker.
12. Demonstrate the ability to monitor safety conditions and enforce safety protocols during the icebreaking operation such that all protocols are kept.

Discussion (2 mins)

Slide 3

Follow these steps for **Slide 3**. *This slide has animations.*

1. Read Every Objective

- Demonstrate the ability to assess ice conditions, review channel layout, and identify areas that require

icebreaking using ice condition reports, harbor maps, and weather forecasts

- Demonstrate the ability to create an icebreaking route plan based on maps, harbor charts, and ice conditions, ensuring that the route is safe and efficient
- Demonstrate the ability to conduct a crew briefing, clearly assign tasks, and ensure 100% understanding of roles and responsibilities to prepare the crew for the icebreaking operation.
- Demonstrate the ability to maintain clear and consistent communication with relevant stakeholders (harbor management, ship captains, and crew members) throughout the icebreaking operation, ensuring that all parties are informed of progress and any changes to the plan.
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- Demonstrate the ability to continuously monitor the progress of the icebreaking operation such that 100% of errors or deviations from published doctrine are caught by the crew of the icebreaker.
- Demonstrate the ability to monitor safety conditions and enforce safety protocols during the icebreaking operation such that all protocols are kept.

2. Proceed to next slide.

Section 2: Importance of the Topic

Topic Goal

The goal of this section is to provide students with an understanding of the importance of following doctrine in escorting a merchant through a turn.

Overview

Using slides 4, you will facilitate a discussion regarding why this topic is important.

Preparation Checklist

No additional preparation is necessary.

Section 2: Importance of the Topic, Continued

Slide Overview

Slide 4: WIIFM



Lecture (4 mins)

Follow these steps for **Slide 4**.

1. **Why This Matters (1 min)**

- *Say: "Doing this the right way keeps things safe and moving."*
- When we follow the right process, we lower the chance of anyone getting stuck. If the merchant ship gets stuck in the ice, we have to stop and help them, which takes time and slows down the entire operation.
- By doing things the right way, we can finish the escort faster. This means the icebreaker can move on to help the next ship sooner, keeping everything running smoothly.
- It also helps the region stay on schedule. When ships are delayed, it affects local businesses and the delivery of important goods. Our work keeps commerce moving and supports the whole area.

2. **Proceed to next slide**

Section 3: Escort Preparation

Topic Goal

The goal of this section is to provide students with the instruction on the preparation that goes into every merchant escort.

Overview

Using slides 5-9, you will facilitate instruction on the preparation, communication, and planning that precedes every escort.

Preparation Checklist

No additional preparation is necessary.

Slide Overview**Slide 5: Main Instruction**

-
1. Proceed to next Slide

Section 3: Escort Preparation, Continued

Slide Overview

Slide 6: Assess Current Conditions

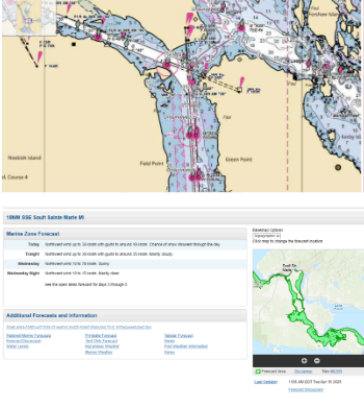
Assess Current Conditions

Review Ice Reports: Identify ice type, thickness & concentration.

Analyze Weather Forecasts: Wind, temperature & visibility impact.

Review Local Charts: Locate channel turns, obstructions & aids to navigation.

Prioritize Icebreaking Areas: Focus on tight turns & areas of significant current.



The screenshot displays a navigation software interface. On the left, there is a map of a channel with various markers and labels such as 'North Island', 'Fossil Point', and 'Green Point'. On the right, there is a 'Weather Forecast' section with a table of data and a smaller map showing the channel's location within a larger geographic context.

Lecture (1 mins) Slide 7

Follow these steps for **Slide 6**.

1. Review Ice Reports

- a. Explain how ice type, thickness, and concentration affect the ship's maneuverability and the icebreaker's effectiveness.
 - i. Highlight key ice types (e.g., brash, pancake, fast ice).
 - ii. Emphasize differences between level ice vs pressure ridges.
 - iii. Note: Thicker or ridged ice at a turn can cause the escorted vessel to lose steering control.
- b. Point to common sources: NOAA, Environment Canada, USCG Ice Ops.

2. Analyze Weather Forecasts

- a. Discuss how wind direction and strength can move ice into or out of a channel turn.
 - i. Crosswinds can refreeze cleared areas, or press ice back into turns.
- b. Emphasize temperature trends:

- i. Warming may weaken ice but increase slush; rapid cooling may refreeze broken paths.

c. Visibility:

- i. Low visibility can hinder visual nav aids or lead to misjudging ice conditions around turns.

3. Review Local Charts

a. Highlight critical navigation elements:

- i. Turns with limited maneuvering room.
- ii. Obstructions or shallow spots that complicate icebreaking.
- iii. Navigation aids – buoys may be off-station or frozen in place.

- b. Remind students to cross-reference chart info with recent notices to mariners and ice reconnaissance data.

4. Prioritize Icebreaking Areas

a. Explain the doctrine's emphasis on pre-breaking at critical turns before escort operations.

- i. Especially in areas with:
 - 1. Tight radius turns requiring more rudder or thrust.
 - 2. Strong currents that can drag ice back into cleared areas or hinder turning control.

- b. Use case examples or past missions (if cleared for training) to show how effective prioritization avoided vessel grounding or loss of heading.

5. Proceed to the next slide.

Section 3: Escort Preparation, Continued

Slide Overview

Slide 7: Planning a Safe Route



Activity (20 mins) Slide 8

Follow these steps for **Slide 7**. *This slide has animations.*

1. Emphasize Planning Accuracy

- a. Reinforce the standard: 100% accuracy—this reflects the high-stakes nature of icebreaking operations.

2. Discuss real-world consequences of inaccuracies:

- a. A misjudged route may trap or ground the merchant vessel.
- b. Over-breaking wastes time/fuel and exposes crews to prolonged cold-weather operations.

3. Proceed to the next slide.

Section 3: Escort Preparation, Continued

Slide Overview

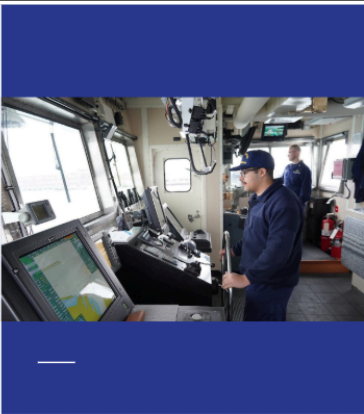
Slide 8: Conduct a Crew Briefing

Conduct a Crew Briefing

Conduct a Navigation Brief

Clearly assign tasks and responsibilities before starting the ice breaking operation.

- Explain the operation plan and go over each team member's task clearly.
- Ask questions or have crew members repeat back their roles to confirm full understanding.



Activity (30 mins) Slide 9

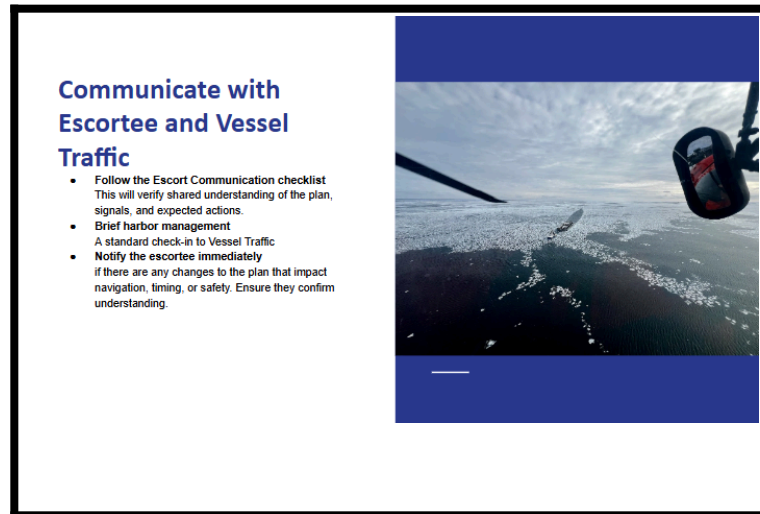
Follow these steps for **Slide 8**.

- 1. Use the Standard Nav Brief Format**
 - a. Remind trainees: Follow the established unit Nav Brief format — this ensures consistency, clarity, and accountability.
 - b. Emphasize the inclusion of:
 - i. Mission objective
 - ii. Route overview
 - iii. Known risks (ice types, tight turns, hazards)
 - c. Contingencies and communication protocols**
- 2. Assign Roles Clearly**
 - a. Stress the importance of defining responsibilities:
 - b. Helmsman, lookout, comms, engineering watch, ice observers, etc.
- 3. Assign backup personnel where applicable.**
 - a. Confirm Understanding
 - b. Require a read-back or confirmation from each key position.
- 4. Encourage questions to surface any confusion before departure, not during the operation.**
- 5. Proceed to the next slide.**

Section 3: Escort Preparation, Continued

Slide Overview

Slide 9: Communicate with Escortee and Vessel Traffic



Activity (26 mins) Slide 10

Follow these steps for **Slide 9**.

1. Talk with the Ship You're Escorting and Harbor Control

- **State:** "Before we start the turn, let's make sure everyone is on the same page. Good communication keeps things safe."

2. Use the Escort Communication Checklist.

- **Say:** This helps make sure the plan, signals, and what to expect are clear for everyone.

3. Let Vessel Traffic know what you're doing

- Do a quick check-in with harbor management so they know the plan.

4. If anything changes with the plan

- Tell the escortee right away
- Make sure they understand and confirm what you said.

5. Proceed to the next slide

Section 4: Icebreaking in a Turn

Topic Goal

The goal of this section is to provide students with the structure of a memo to guide them in the writing of the first draft of the team policy change proposal. This section also covers what needs to happen after this lesson.

Overview

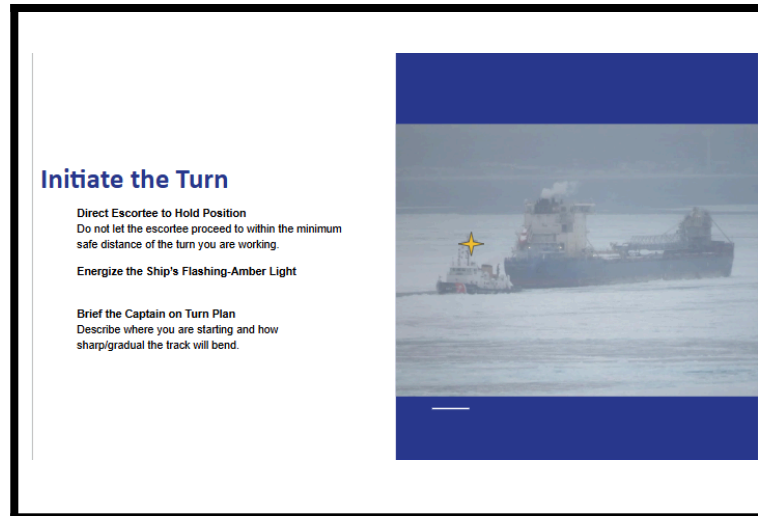
Using slides 11-18, you will cover icebreaking in a turn.

- No additional preparations are necessary.
-

Section 4: Icebreaking in a Turn, Continued

Slide Overview

Slide 10: Initiate the Turn



Lecture (7 mins) Slide 12

Follow these steps for **Slide 10**. *This slide has animations.*

1. Direct the Escortee to Hold Position

- Before beginning work on the turn, order the escorted merchant vessel to hold their position.
- Clearly explain that they must stay well outside the minimum safe distance of the area where icebreaking work is happening.
- Highlight that allowing the merchant to get too close risks collision, wake effects, and complicates ice management during the turn setup.

2. Energize the Ship's Flashing-Amber Light

- Explain that the flashing-amber light is the visual signal to the escortee that they must stop making way.
- It reinforces the verbal hold directive and provides a clear, visible signal in reduced visibility or busy communications environments.
- Point out the location of the light on the ship if possible, using the image on the slide.

3. Brief the Captain on Turn Plan

- Before starting movement into the turn, conduct a quick but complete navigation brief with the Captain.

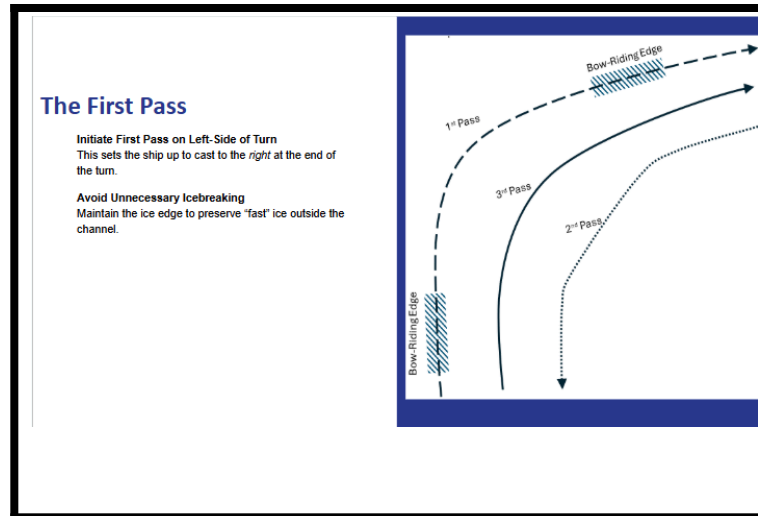
- The brief must include:
 - Where you are starting the turn
 - How sharp or gradual the bend will be
- Good coordination at this stage ensures the bridge team is prepared for necessary rudder and engine orders to execute the turn safely and cleanly.

4. Proceed to the next slide.

Section 4: Icebreaking in a Turn, Continued

Slide Overview

Slide 11: The First Pass



Lecture (5 mins) Slide 13

Follow these steps for **Slide 11**.

1. First Pass Starts on Left-Side of Turn

- The left side of the turn simply lets the ship cast (turn) to the right after the first pass is complete.
- This means that either the outside or inside of the turn is cleared first, depending on the direction of the turn.
- Associate this with the Tac-Aid provided.

2. No Unnecessary Icebreaking

- Emphasize disciplined operations.
- Breaking outside the turn:
 - Reduces overall mission efficiency
 - Can result in large plates drifting into the channel, disrupting the escortee's passage.

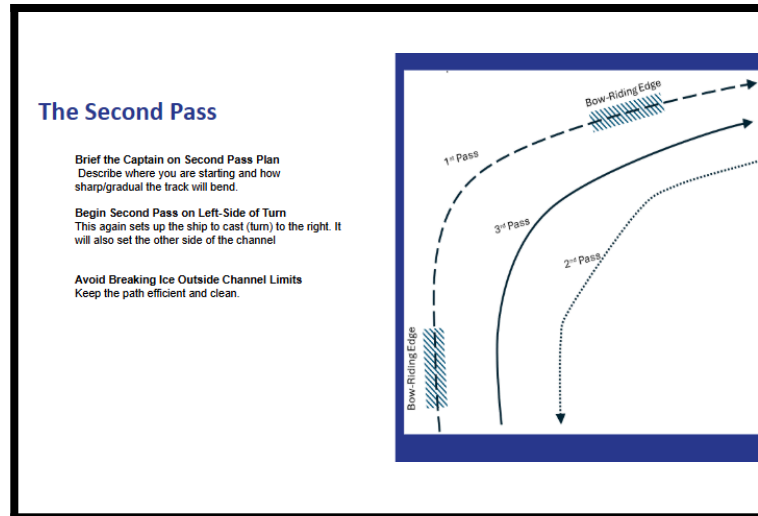
3. Use the term: "Break with purpose, not out of habit."

4. Proceed to the next slide.

Section 4: Icebreaking in a Turn, Continued

Slide Overview

Slide 12: The Second Pass



Lecture (5 mins) Slide 14

Follow these steps for **Slide 12**.

1. Brief the Captain Before the Second Pass

- Stress that no second pass should begin without a short, clear brief to the ship's Captain.
- The brief must cover:
 - Starting point of the second pass
 - How sharp or gradual the turn track will be
- Good communication ensures the ship handling team is ready for changes in heading and speed to support a smooth track.

2. Begin the Second Pass on the Left Side of the Turn

- Instruct students that the second pass should start along the left-hand side of the turn when viewed in the direction of travel.
- This sets up the channel so the merchant will cast right, which matches natural ship steering tendencies through ice and makes the turn more manageable.
- Stress: this second pass defines the opposite side of the channel—critical for establishing proper width and path stability.

3. Avoid Breaking Ice Outside Channel Limits

- Emphasize the need to keep the pass tight and efficient.
- Breaking outside the intended channel:
 - Wastes ship energy and time
 - Makes the channel less effective
 - Increases risk of losing tight outside edges needed for bow riding
- Reinforce careful rudder control and speed adjustments to maintain the desired path cleanly.

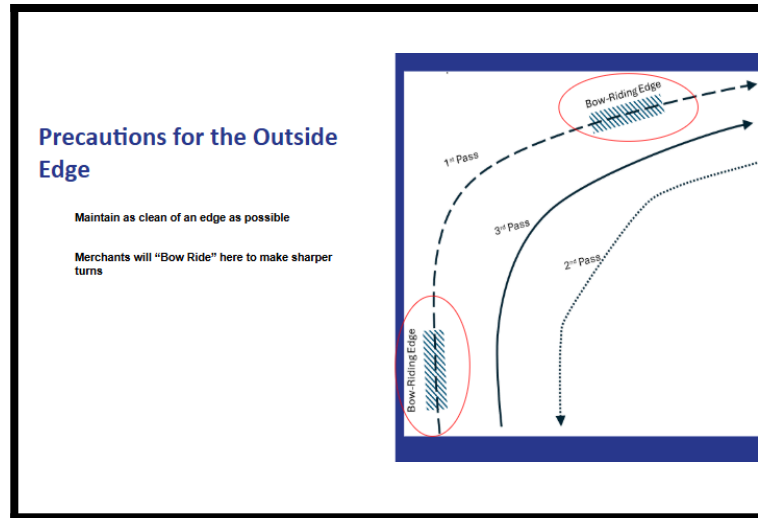
4. State: “A good second pass is all about control and communication. You’re not just breaking ice—you’re shaping the exact path the merchant will have to trust.”

5. Proceed to the next slide.

Section 4: Icebreaking in a Turn, Continued

Slide Overview

Slide 13: Precautions for the Outside Edge



Lecture (5 mins) Slide 15

Follow these steps for **Slide 13**.

1. Importance of a Clean Outside Edge

- Explain that the outside edge of the broken channel must be sharp, solid, and clean.
- Loose chunks, broken pieces, or jagged gaps weaken the edge and reduce its ability to support bow riding.
- Emphasize: this clean edge is critical to the merchant vessel's ability to use the ice as a physical aid during the turn.

2. Bow Riding Explained

- "Bow riding" is when a merchant vessel intentionally lets its bow press against the unbroken fast-ice edge to pivot more sharply during a tight turn.
- The outside edge acts like a natural curb or wall, giving the vessel something to "push" against and aiding maneuverability without overstressing rudders or propulsion.
- Stress that if the edge collapses or crumbles, the merchant loses this critical support, increasing the risk of a missed turn or grounding.

3. Connect the Visual

- Point to the circled edges in the image and walk students through what good vs. bad edge maintenance looks like.
 - If available, discuss any real-world examples where a poor outside edge compromised a merchant's turn.
4. **State:** "When you break ice, you're not just clearing a path—you're building a tool for the merchant to use. A clean, strong outside edge is that tool."
 5. **Proceed to the next slide.**

Section 4: Icebreaking in a Turn, Continued

Slide Overview

Slide 14: The Third Pass

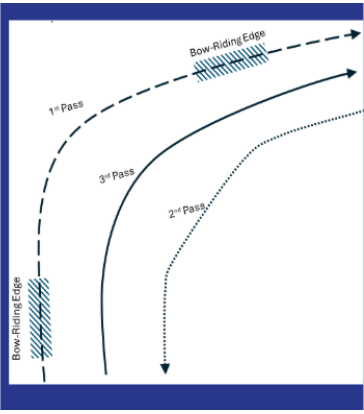
The Third Pass

Align Down the Center of the Turn
Follow between the first and second passes.

Control the Ship's Speed
Maintain steady, gradual control to avoid disturbing edge integrity.

Ensure Outside Edge Remains Tight

Check Turn Shape for Merchant Maneuverability
Confirm that pressure from the tight outside will naturally redirect the vessel inward.



Lecture (5 mins) Slide 16

Follow these steps for **Slide 14**.

1. Align Down the Center

- Emphasize precision: The third pass should be centered between the first and second passes.
- This pass finalizes the width and shape of the turn for the merchant vessel.
- Avoid “wandering” off-center, which could weaken one side of the turn and lead to a poor path for the escortee.

2. Control Ship's Speed Carefully

- Speed must be high enough for the ship's wake to break up loose or cracked ice between passes.
- However, it must also be low enough to avoid breaking the solid fast-ice edge outside the turn.
- Highlight that over-speeding risks creating an uncontrolled break, while under-speeding might leave dangerous floes in the path.

3. Maintain a Tight Outside Edge

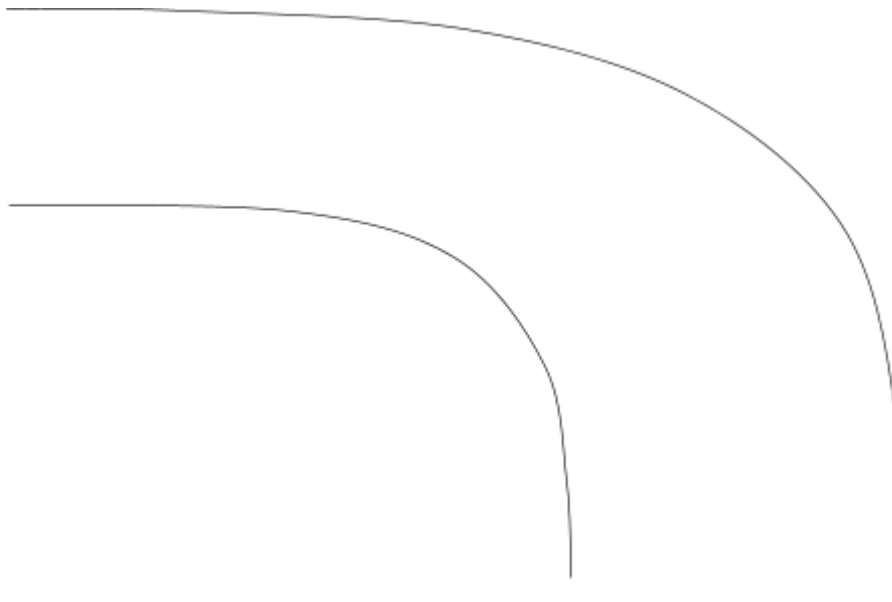
- The outermost ice edge must stay strong and tight—this forms the natural "bank" that helps guide the merchant vessel inward.

- Stress that breaking or crumbling the outside edge can eliminate the pressure wall, making merchant navigation much harder.

4. Check the Turn Shape for Merchant Maneuverability

- Use visual checkpoints or team reports to confirm the arc of the turn is clean and navigable.
- The goal: pressure from the tight outer ice should naturally encourage the merchant vessel to stay within the cleared channel.
- If the turn is too wide, too loose, or irregular, it may need to be tightened or cleaned up before the escort begins.

5. Draw a left-turn in a channel on the whiteboard. Ask a student to draw the three passes through this turn.



Start Here

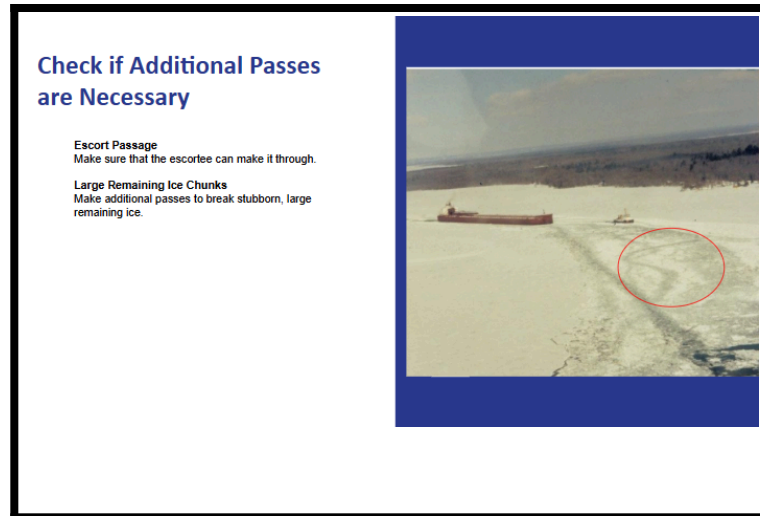
- Give feedback,
- Emphasizing the correct/incorrect choice of where to start.
- This turn is the opposite direction of the Tac-Aid and the powerpoint. Thus the student may choose the wrong direction to start.

6. Proceed to the next slide.

Section 4: Icebreaking in a Turn, Continued

Slide Overview

Slide 15: Check if Additional Passes are Necessary



Lecture (5 mins) Slide 17

Follow these steps for **Slide 15**.

1. Don't Rush the Escort

- Remind students that mission success is not just cutting a path—it's ensuring the escortee can use it safely.

2. Look for:

- Large floes that may shift under pressure
- Jagged ice blocks that can catch or pivot a merchant bow
- Incomplete separation of the inside edge

3. Perform a Post-Break Assessment

- **Position to observe:**
 - Width of the cleared path
 - Ice creep back into the turn
 - Merchant's likely drift path—can it follow the arc smoothly?
- **Ask:** "If I were driving the merchant, would I trust this track?"

4. When to Make Additional Passes

- **Only if:**

- Large slabs remain unbroken in critical navigation space
- Outer edge is damaged and could collapse inward
- Centerline still has thick or plate-like chunks
- Do not break just to clean up cosmetic imperfections—only if they pose real navigational or pressure risks.

5. Use the Image as a Benchmark

- The image shows a properly executed arc with cleaned-up major ice threats, and enough width for a merchant to pass without risk of pinching or stalling.

6. Instructor Tips:

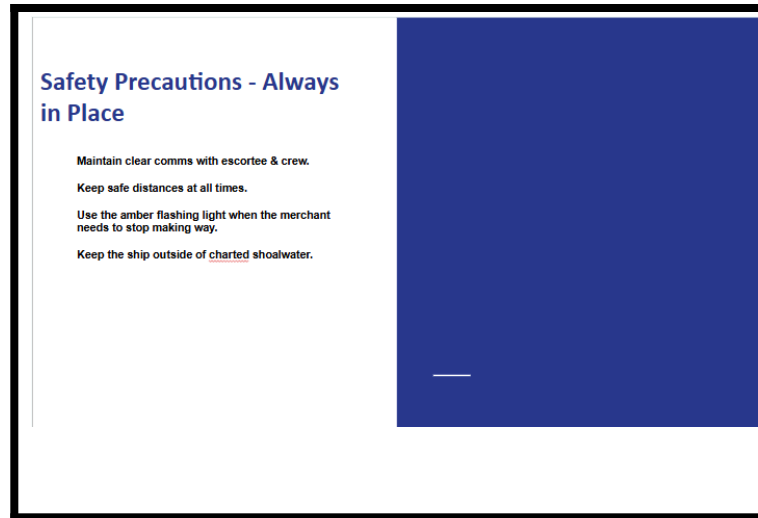
- Reinforce that the final decision to proceed is not just about breaking ice—it's about guaranteeing safe passage

7. Proceed to the next slide.

Section 4: Icebreaking in a Turn, Continued

Slide Overview

Slide 16: Safety Precautions?



Lecture (1 min) Slide 17

Follow these steps for **Slide 16**.

1. Clear Communications

- Reinforce: Open and continuous comms are critical.
- Use standard phraseology and maintain updates between:
 - Icebreaker & escorted merchant
 - Internal crew positions (bridge, engine room, foc'sle)

2. Maintain Safe Distances

- Explain how ice behavior and water movement can cause sudden shifts in separation.
- Stress:
 - Adequate space for ice clearing and maneuvering
 - Adjusting distance based on current, wind, and ice concentration

3. Use of Amber Flashing Light

- Standard visual signal: Merchant should stop making way immediately.

- Discuss how this is used in:
 - Emergency stop scenarios
 - Anticipated ice congestion
- Reconfirm all crew know what this signal means and looks like.

4. Shoalwater Avoidance

- Never enter charted shoalwater—even partially.
- Reinforce the importance of updated charts and continuous monitoring of position, especially when breaking ice near narrow margins.

5. Instructor Direction to Students:

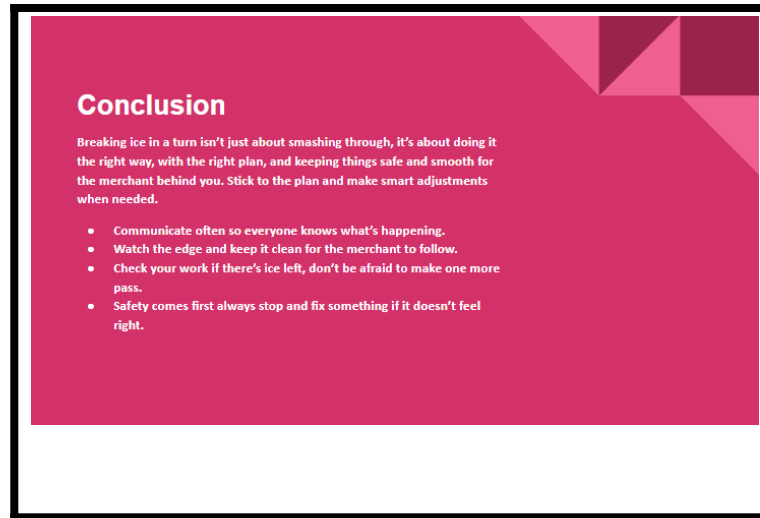
- “These safety measures are non-negotiable. You’re expected to execute every icebreaking operation with these in place, no matter how routine the conditions may seem.”

6. Proceed to the next slide.

Section 4: Icebreaking in a Turn, Continued

Slide Overview

Slide 17: Safety Precautions?



Lecture (1 min) Slide 17

Follow these steps for **Slide 17**.

7. Conclude the Training

- Follow the Escort Checklist.
- Use the Tac-Aid to conduct the proper three-pass turn in a channel.
- Follow all safety precautions.
- Make sure the turn is adequate for the merchant to pass through it.

8. Conclude the training and remind the students that they will be graded on their performance at the next escort opportunity.

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USCG Continuing Education Program

