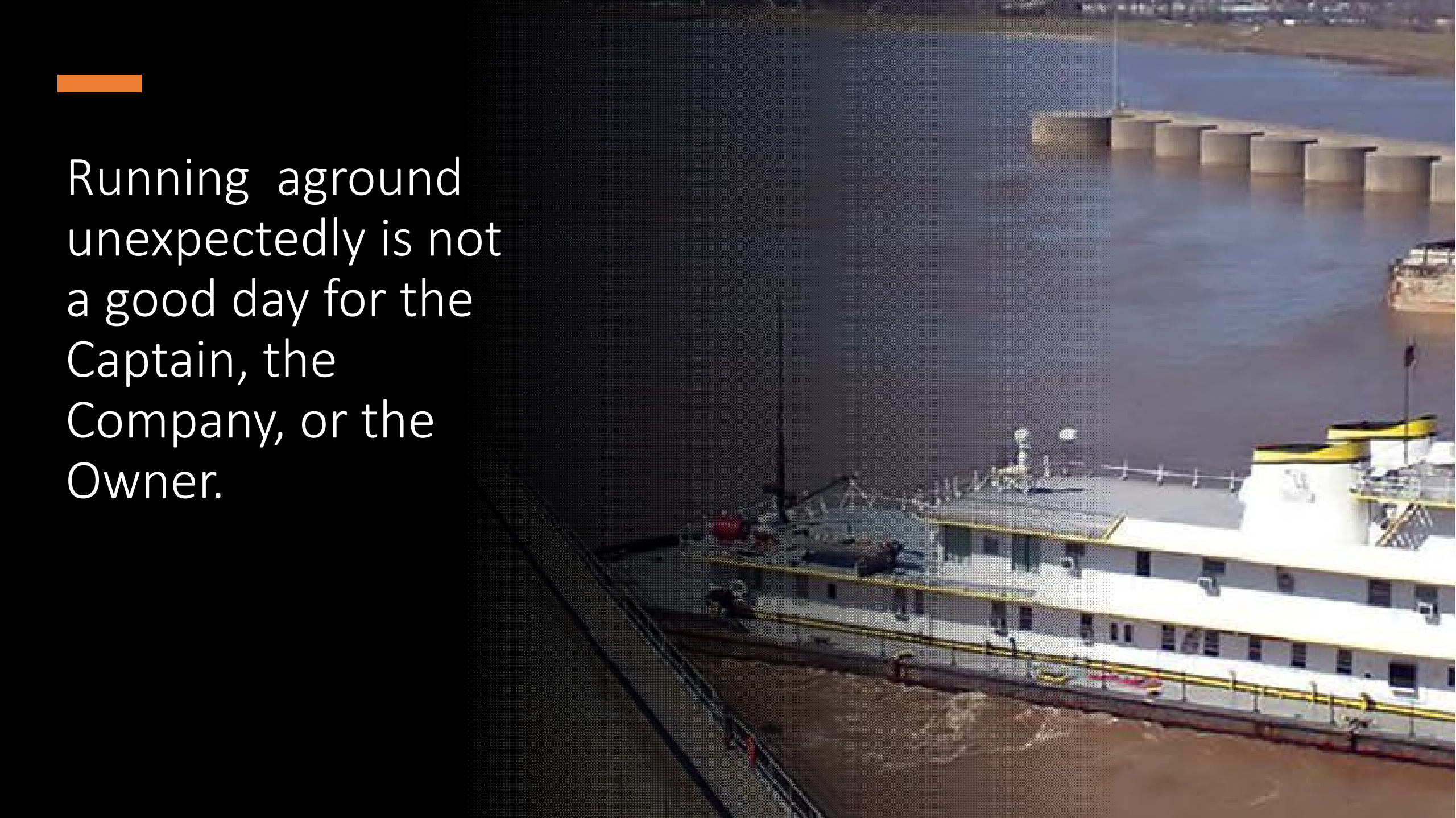
2025 Summer Safety Meeting

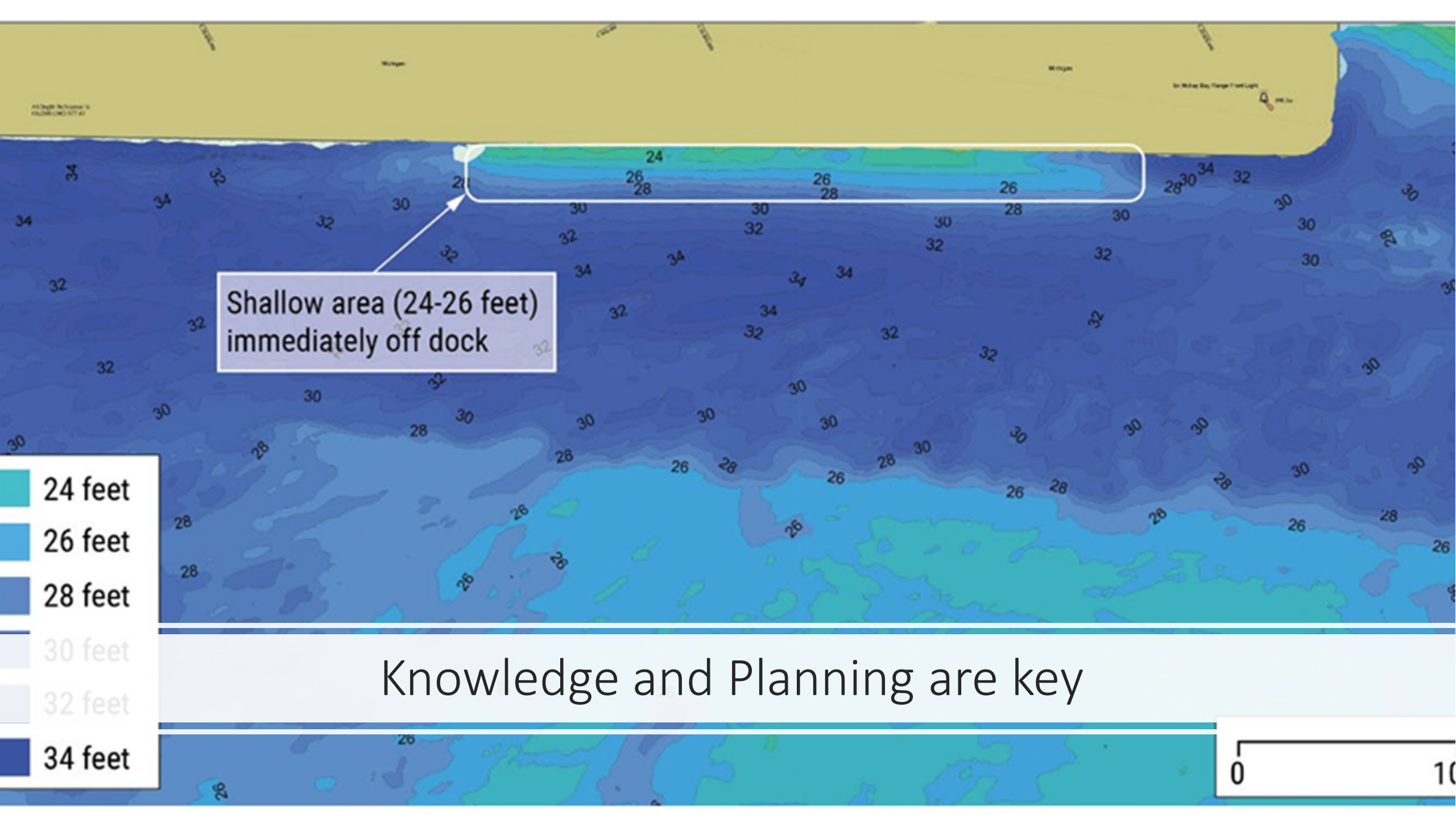
Groundings – What can we Learn?

August 14th, 2025

By: Michael M. Millar

Running aground unexpectedly is not a good day for the Captain, the Company, or the Owner.





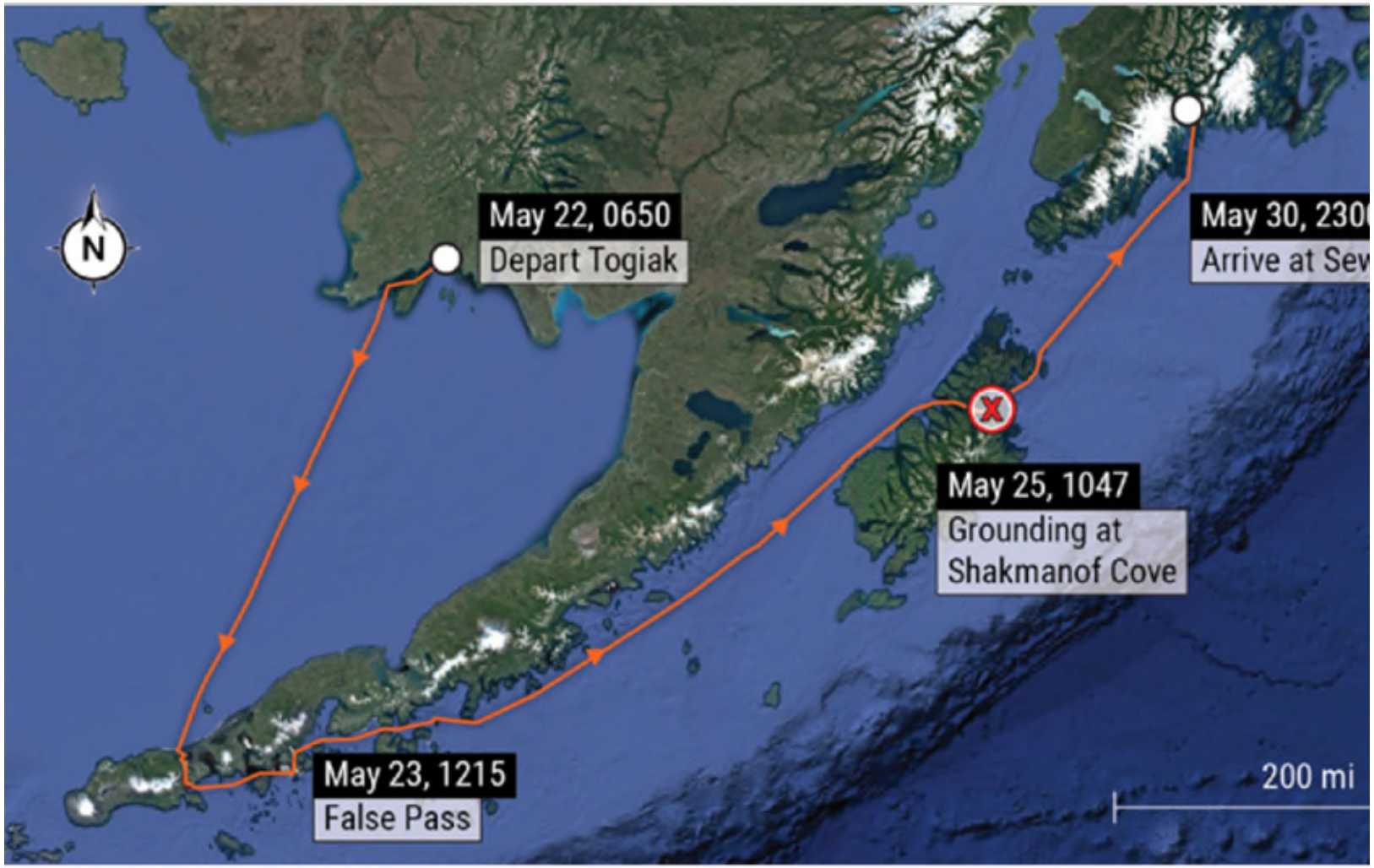
Knowledge and Planning are key

Examples of Groundings

Articulated Tug and Barge Cingluku / Jungjuk Event

- May 25, 2023, near Kodiak Alaska
- Hit submerged rock
- No pollution or injuries
- 1.47 million dollars in damage

- What may have led to this incident?



Approximate voyage trackline of the *Cingluku/Jungjuk*. BACKGROUND SOURCE: GOOGLE EARTH.

Discerning the chart

Figure 8. ENC US4AK5PM, for the area near Shakmanof Cove, as viewed by investigators using an equivalent ECS. The asterisk symbol for the rock in the area of the grounding is indicated by a red circle. (Background source:

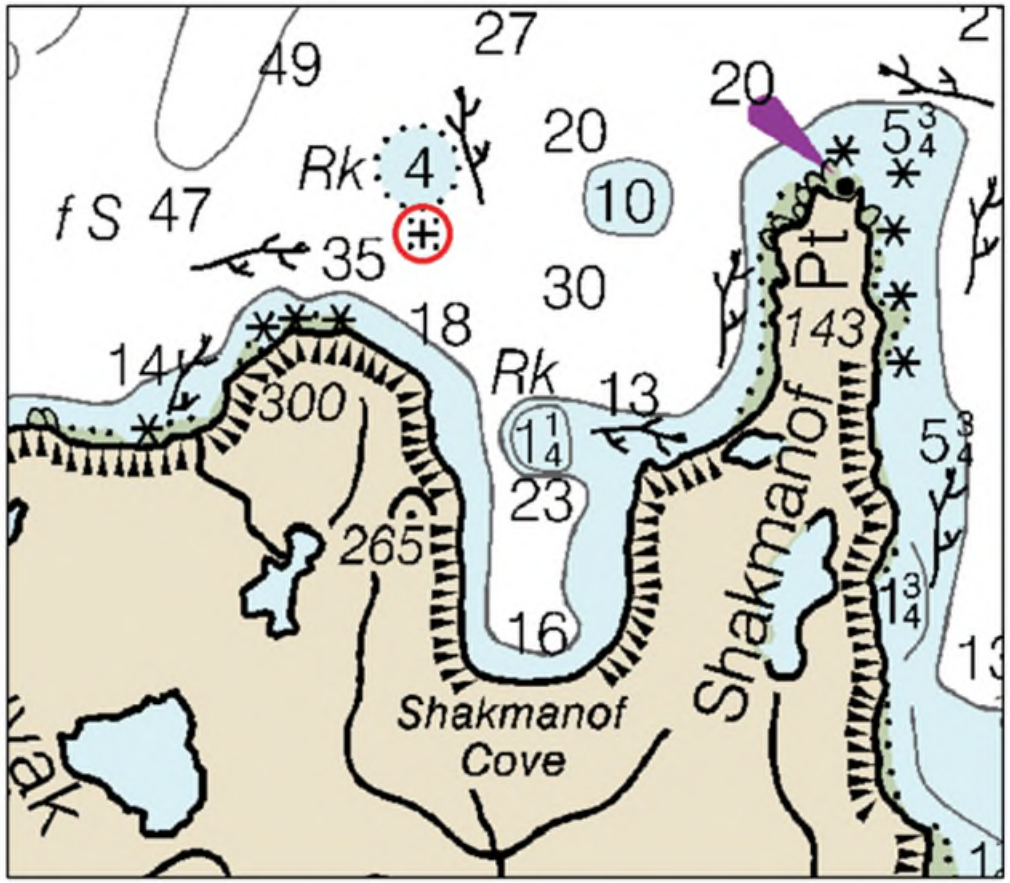


Figure 7. RNC for the area near Shakmanof Cove. The symbol for the rock in the area of the grounding is indicated by a red circle. (Background Source: NOAA Chart 16594, 14th Edition, January 2015)

NTSB's Probable Causes

- The Captain not identifying a rock that was indicated on the displayed electronic navigation chart when planning the vessel's route into Shakmanof Cove.

- Contributing cause was the Captain not using all available navigational resources, including the Coast Pilot and the grounding avoidance features of the electronic chart system, when planning the route.

NTSB's Lessons Learned

- Owners and operators should ensure their crews are sufficiently trained in the use of their electronic chart system (ECS) and understand how to use the different functionalities of the ECS.
- Take advantage of ground avoidance features in your ECS
- Coast Pilot usage
  - provided knowledge that the rock would submerge during the tidal cycle

- MIR2414 CORRECTED.pdf (SECURED)

Grounding of the American Mariner

- January 7th, 2023, near Sault Ste Marie, Ontario
- Hit submerged rock
- No pollution or injuries
- $600,000 in damage

- What may have led to this incident?

Examples of Groundings

Making choices

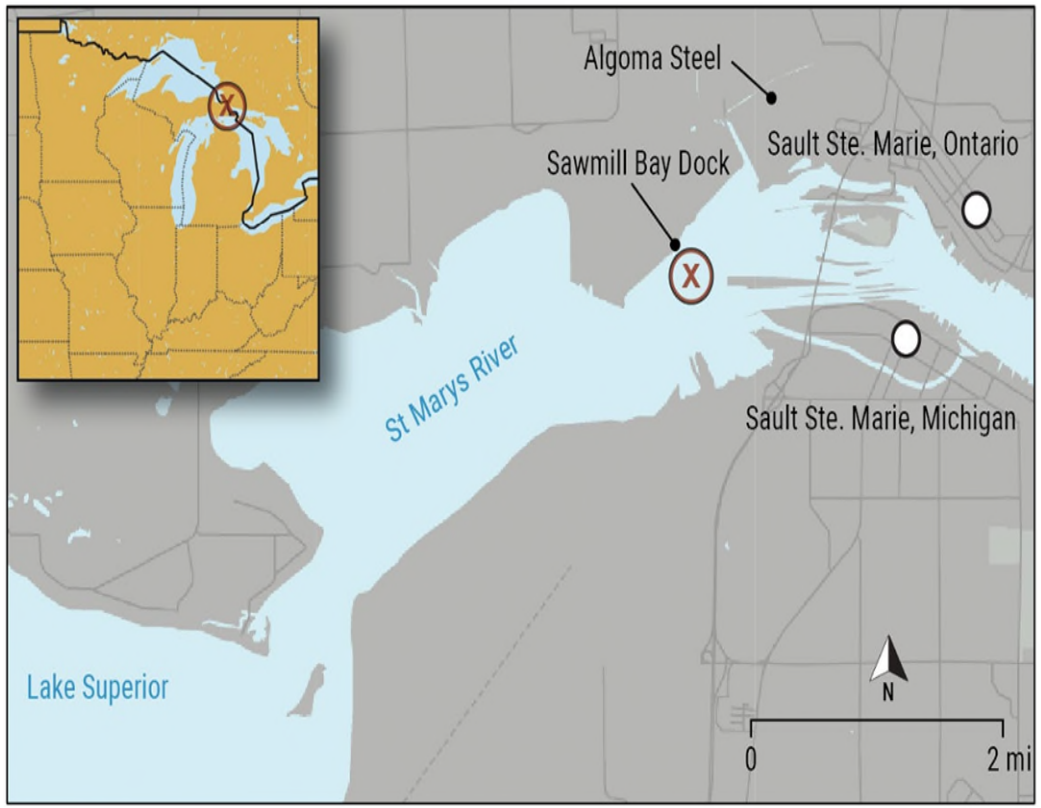


Figure 2. Area where the *American Mariner* grounded, as indicated by a circled *X*.

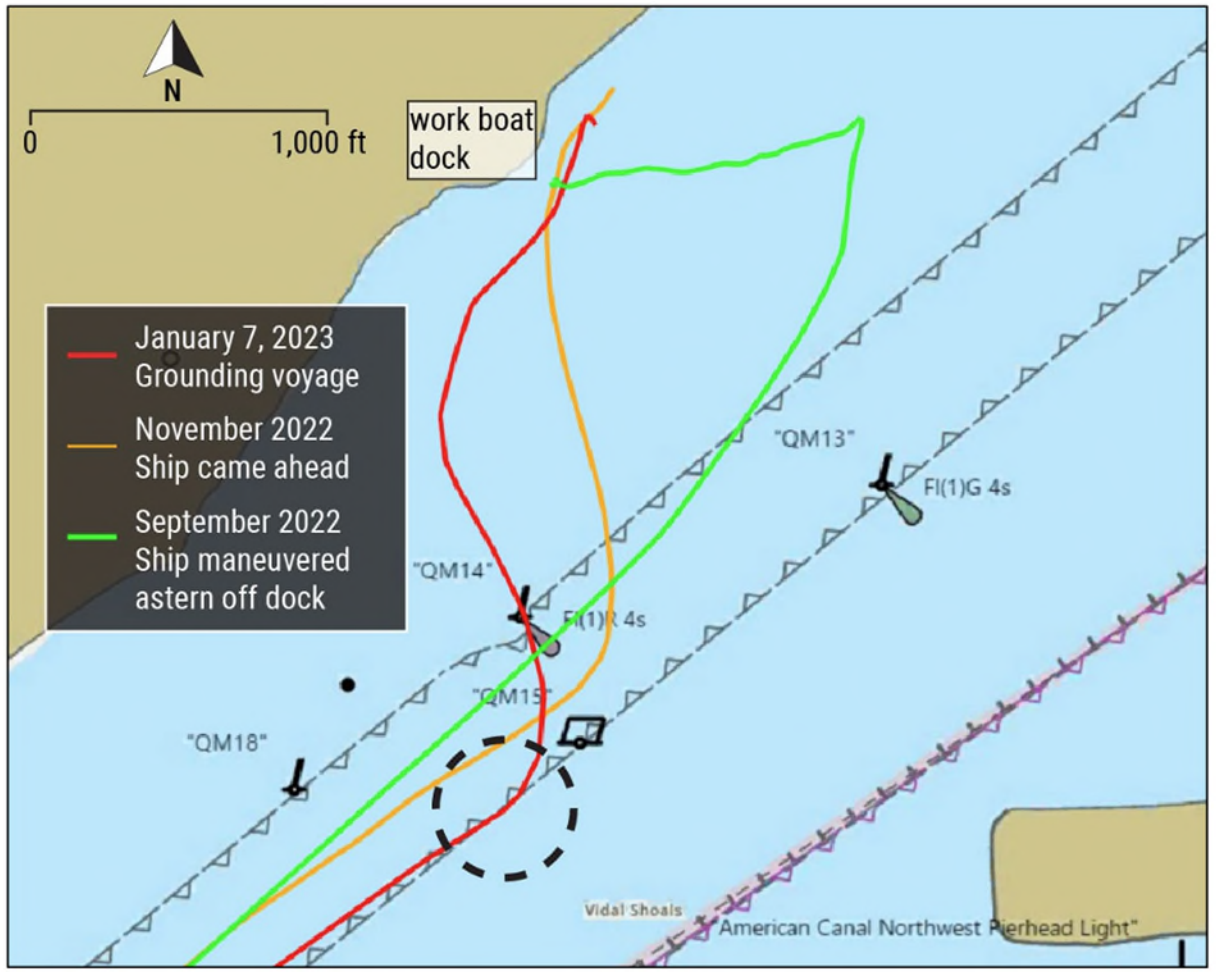


Figure 7. AIS tracklines of the *American Mariner* navigating into the channel from the facility. The area where the vessel's course took it near the edge of the channel is circled with dashes.

NTSB's Probable Causes

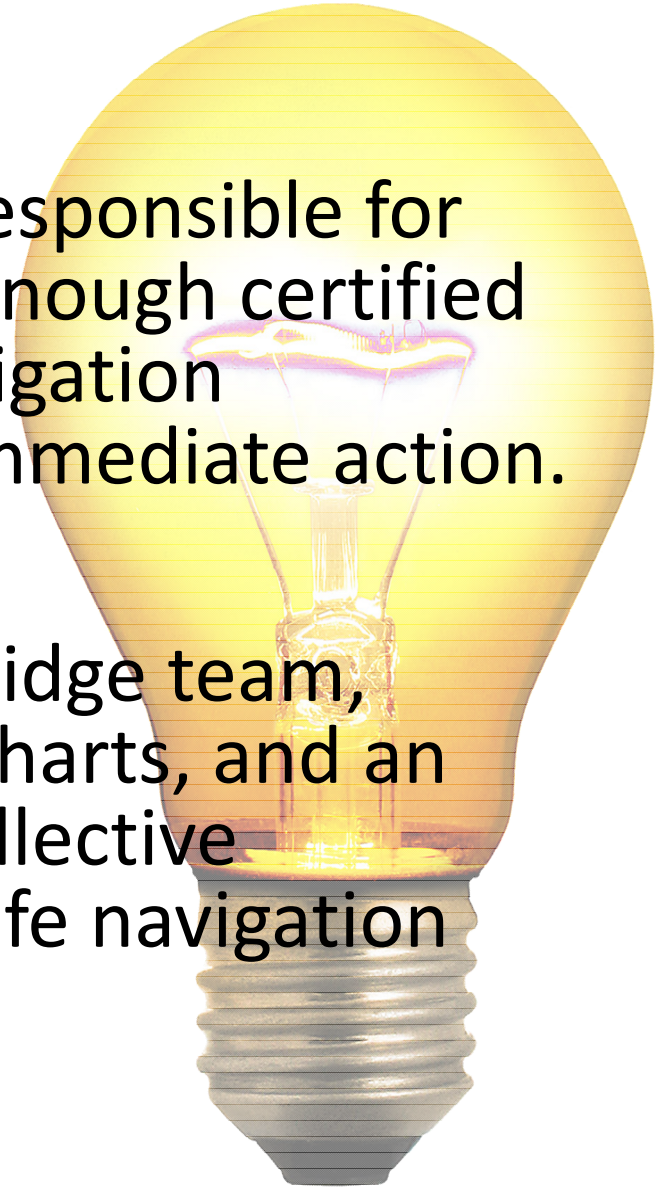
- The Master maneuvering the vessel away from the dock and into the channel while alone on the bridge, which required him to multitask (navigation, steering, and lookout duties) and resulted in the vessel overshooting the turn into the channel and running aground on the shoals on the opposite side of the channel.
- Do you see any Contributing causes?

NTSB's Lessons Learned

- Owners, operators, and vessel masters are responsible for ensuring that bridge teams are staffed with enough certified mariners who are familiar with all bridge navigation equipment and able to independently take immediate action.

- Effective use of all available resources by a bridge team, including visual scanning, radars, electronic charts, and an automatic identification system, increases collective situational awareness and contributes to a safe navigation watch.

- DCA23FM013.aspx



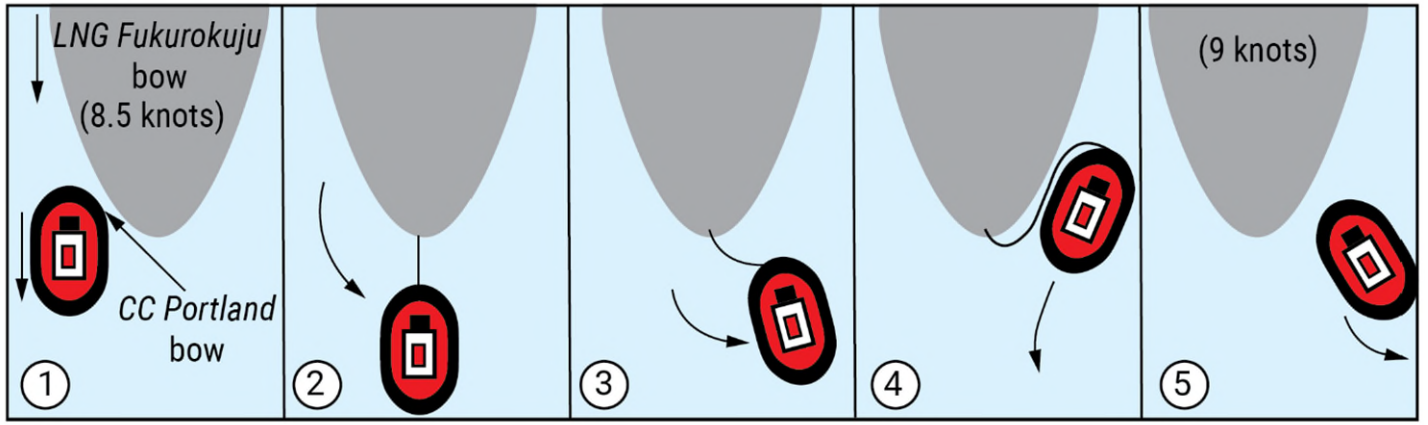
Examples of Groundings

Tug Grounding during ship-assist

- August 7th, 2022, Corpus Christi Channel
- Oil Spill, but no injuries
- $1.3 million damage

The scenario

- Tug is tethered at ship's bow, the tanker is moving in excess of 8 knots.
- To maintain position, the Tug operating at nearly 80% of its maximum speed—far greater than the 60% recommended
- Riskiest position for a tug



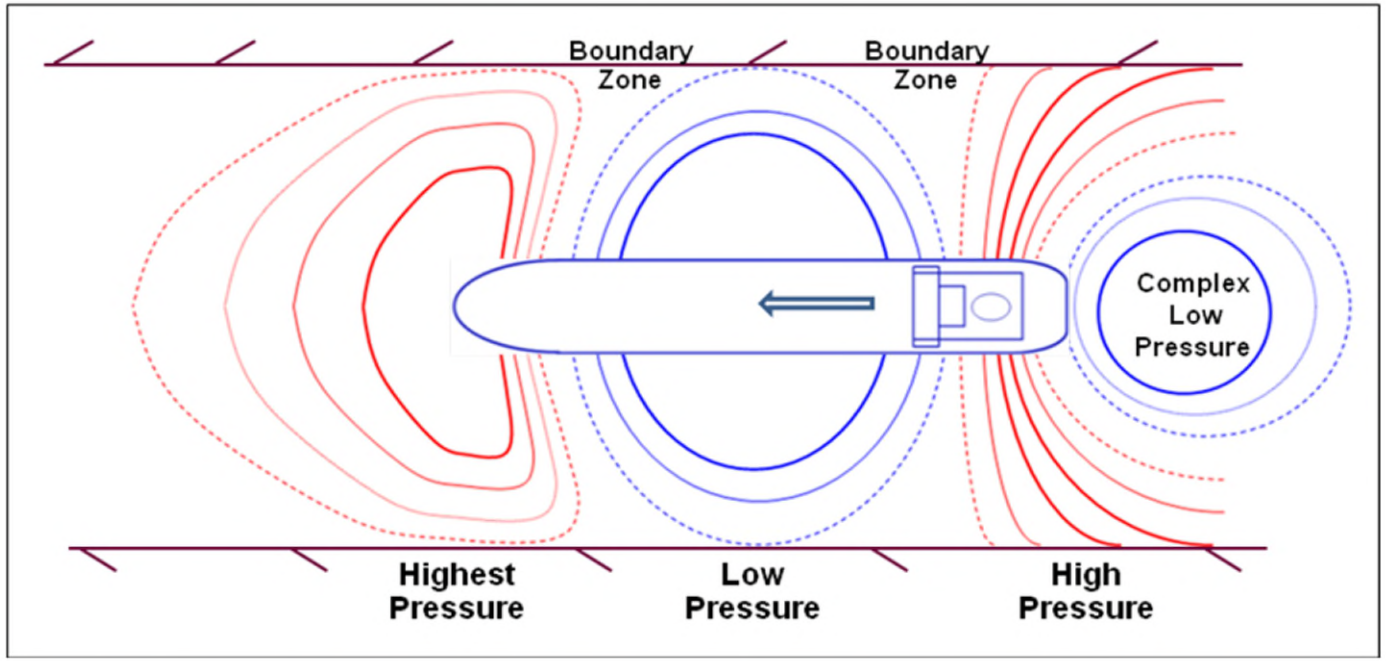


Figure 7. Ship-generated pressure fields for vessel navigation in enclosed/confined water.

NTSB's Probable Causes

- The Mate's attempt to make up bow to bow with the LNG carrier while the tugboat and liquefied natural gas carrier were transiting at an excessive speed for the advanced harbor-assist maneuver.

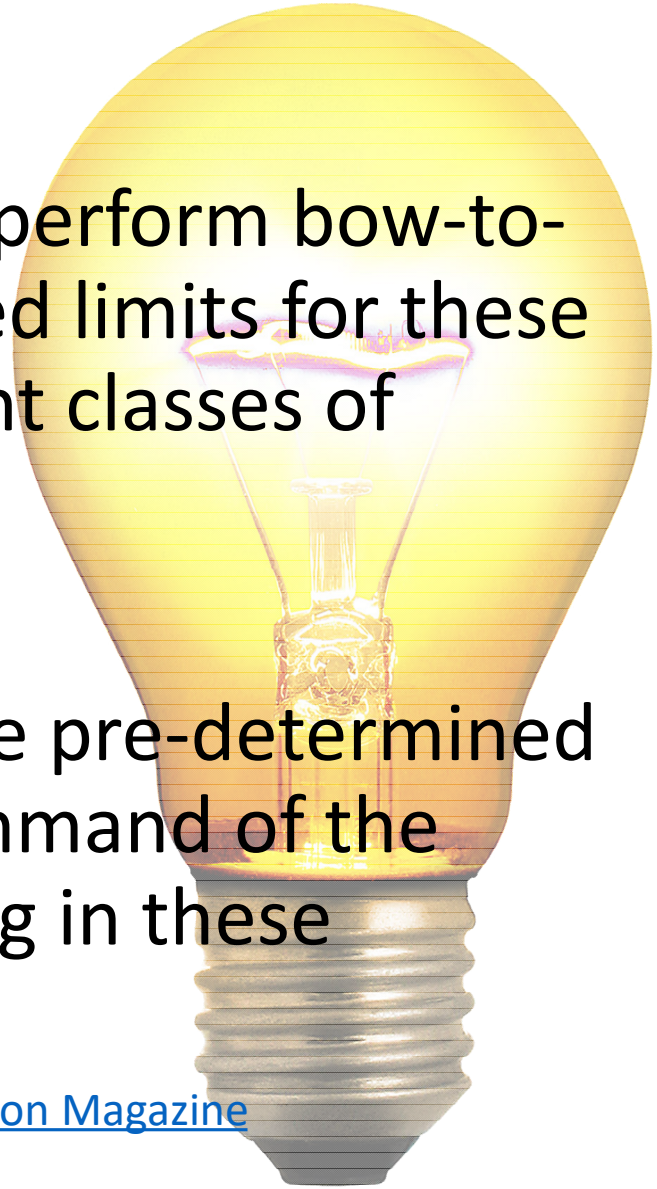
- Contributing cause: The lack of a Company policy regarding maximum allowable speed for bow assist maneuvers.

NTSB's Lessons Learned

- Owners and operators of ASD tugboats that perform bow-to-bow harbor-assist operations should set speed limits for these maneuvers. These limits may vary for different classes of tugboats based on design.

- Tugboat operators should communicate these pre-determined speed limits to pilots and ship masters in command of the vessels that they are assisting before engaging in these maneuvers.

- NTSB: Accident Brief: The Grounding of Tugboat CC Portland - Marine Construction Magazine

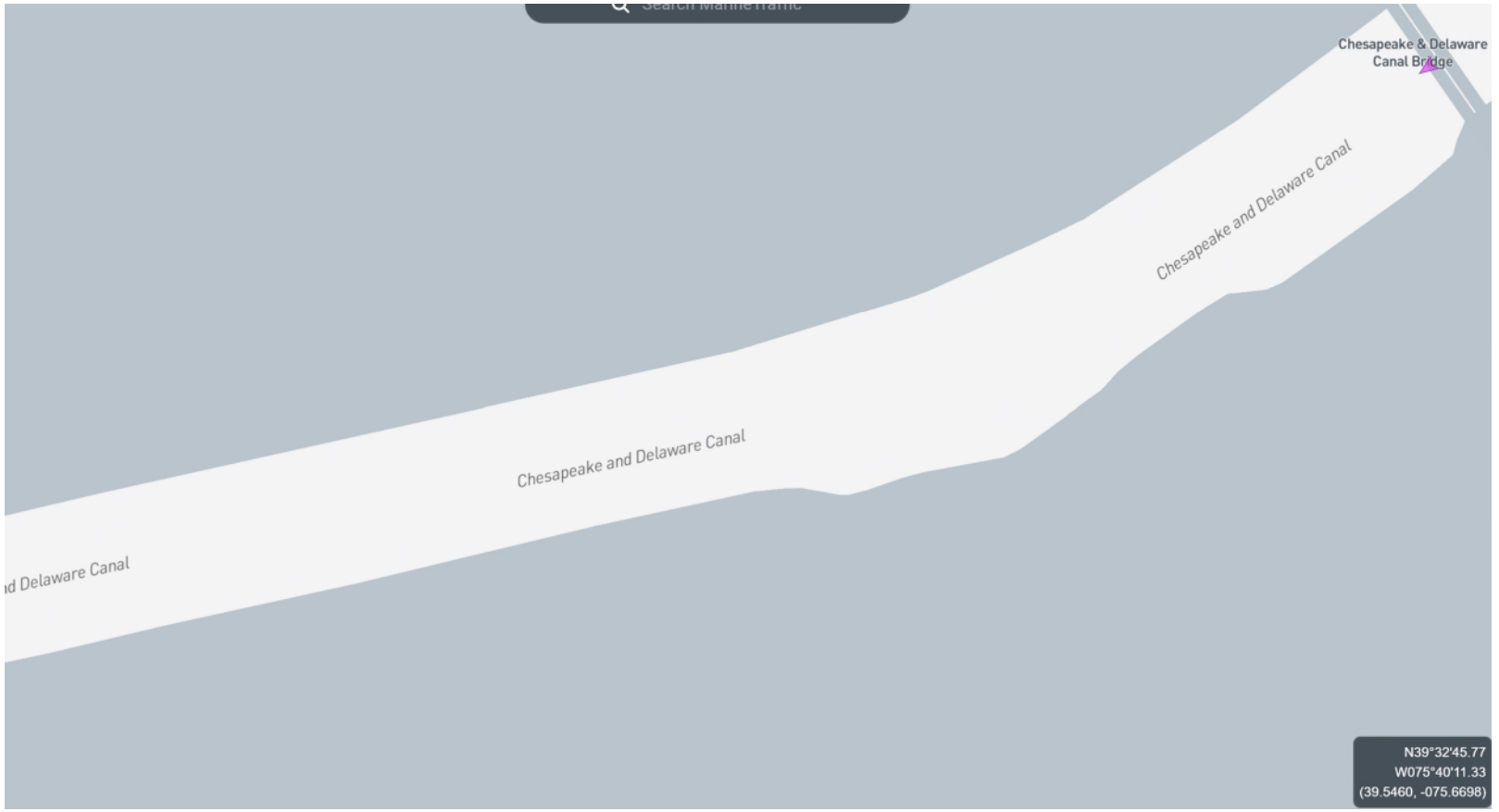


Examples of Groundings

Tug Grounding on the C& D Canal

- May 2nd, 2025, west of the C& D Canal Bridge
- No pollution or injuries
- No damages

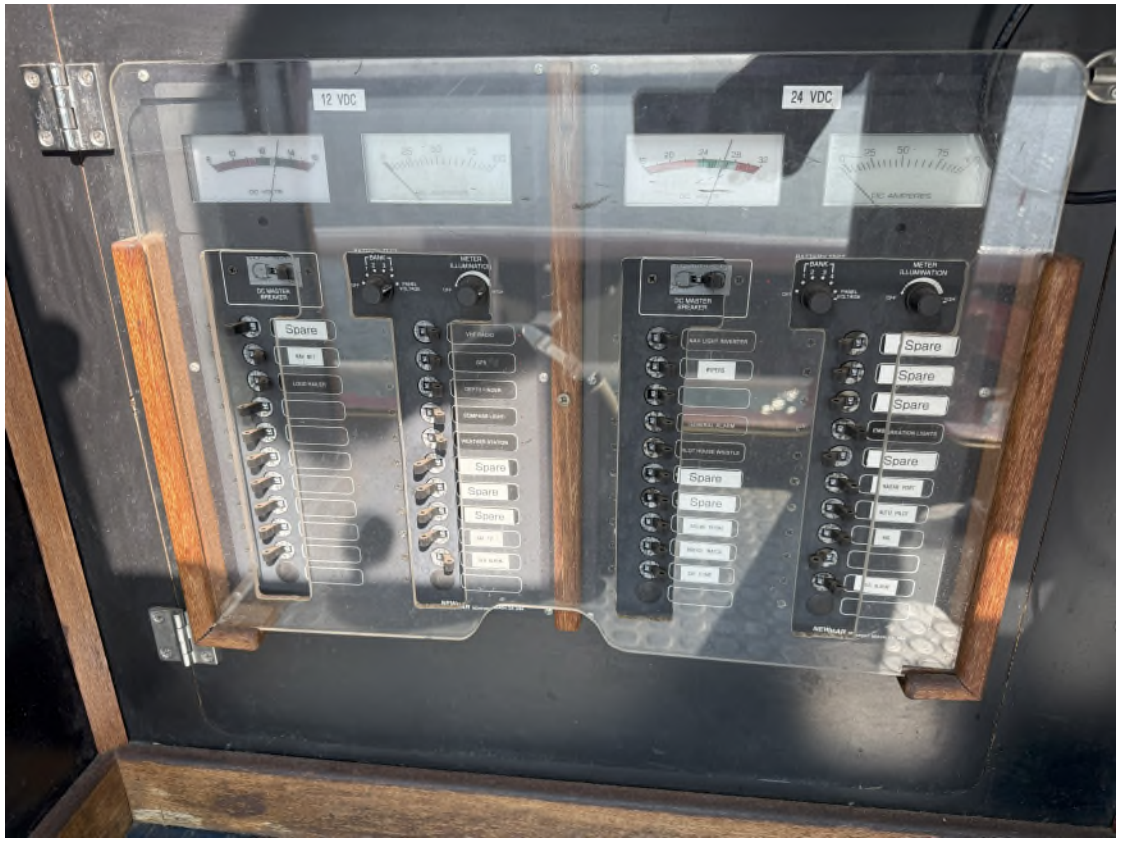
- What contributed to this incident?



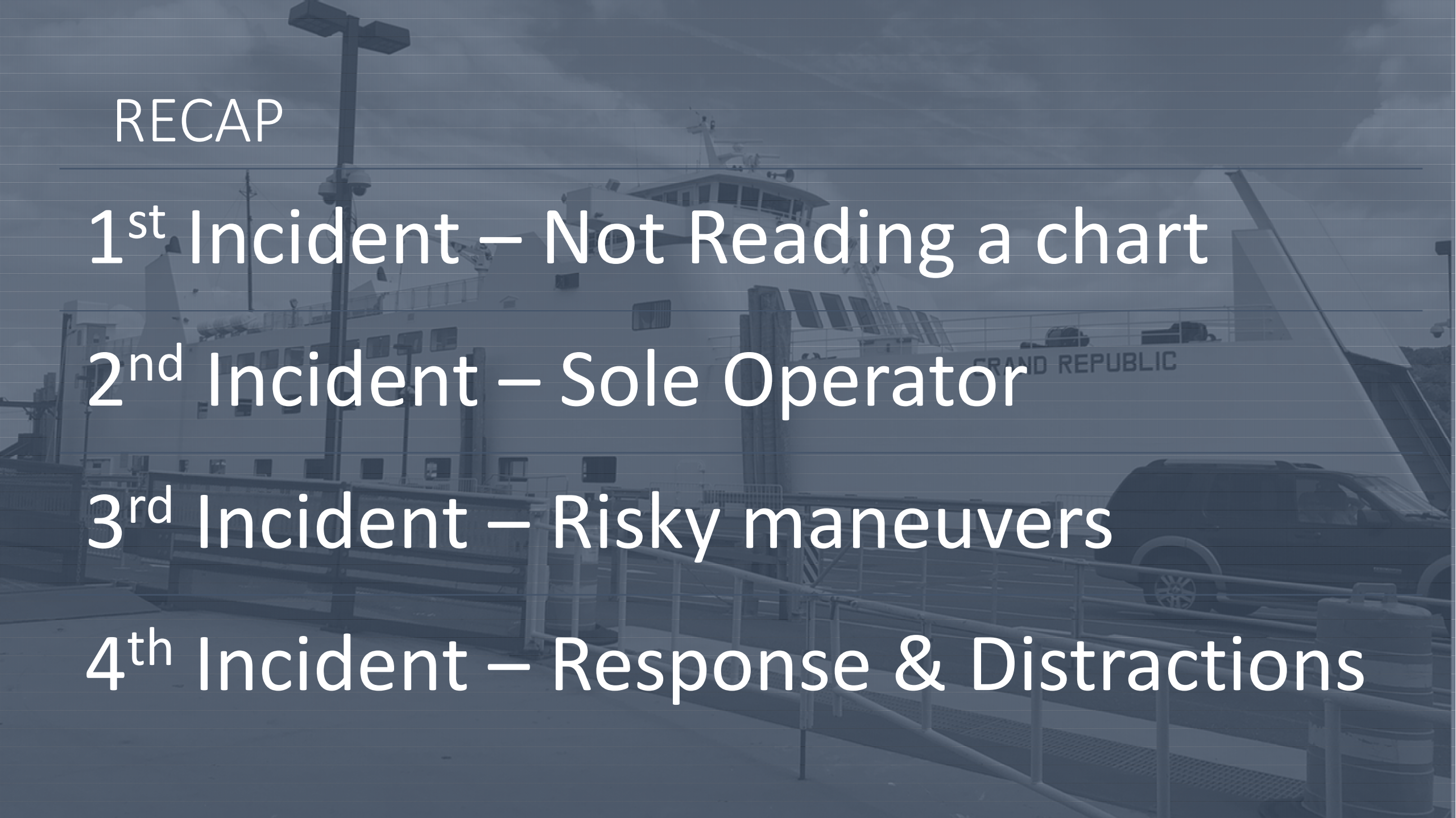
Situational Awareness

- It is nighttime, Mate and deckhand (steering) on watch
- Mate inadvertently trips 24V circuit breaker with knee, causing multiple alarms
- Ultimately required turning on houselights to find breaker
- Boat veered left in the process; Mate reacted, slowed and redirected vessel , but grounded on northern bank

Probable Causes & Lessons Learned



- Physical proximity –
  - Distractions?
  - Availability of a flashlight?
  - Engineering Controls?



RECAP

1st Incident – Not Reading a chart

2nd Incident – Sole Operator

3rd Incident – Risky maneuvers

4th Incident – Response & Distractions

Grounding Scenario Takeaways

- **Common behaviors that appear relevant to these incidents were:**
  - **Complacency while steering the vessel**
  - **Distractions due to another task**
  - **Inadequate work planning**
  - **Not maintaining a proper lookout**
  - **Not recognizing risks in advance (hazard recognition)**

Behaviors influence outcomes

Safety Culture and Teamwork