RIETF: Best Practices for High Water Events

The industry members of the River Industry Executive Task Force (RIETF) have developed a list of best practices during high water including 1) managing the risks of downstreaming; 2) ensuring that all water tight openings are closed at all times; 3) risk assessments for crew and vessels; and 4) "see something, say something" communications between towing vessels.

"See Something/Say Something"

- If crewmembers see a potentially unsafe situation on another vessel (e.g. open doors), the captain or appropriate crewmember observing the situation will respectfully notify the other vessel captain immediately via radio, assuming the communication can be done without distraction.

Conduct a risk assessment to determine if a job or operation is unsafe.

- Low Risk: The operation is safe and no additional mitigation measures or corrective actions are needed. Crewmembers should follow information and tools provided in the company's Safety Management System (SMS). *If a company does not have a SMS, the company should develop policies to implement during high water or high velocity.*
- Moderate Risk: The operation is safe if the captain and/or crew implement additional mitigation measures or corrective actions. Under a moderate risk, captains should consider discussing the operation or job with a supervisor, Port Captain or others to receive feedback on potential hazards.
- High Risk: A captain, watch officer, or crewmember must stop work and contact a supervisor or Port Captain to discuss risk mitigation strategies and/or corrective actions. The crew must receive approval from a supervisor or Port Captain to continue operations.

Prior to starting the voyage:

- The company will do a risk assessment to ensure that the appropriate mariner (based on geographic experience) and the appropriate vessel (based on horsepower or other operational criteria) are selected for the job.
- Before every job, a safety-job briefing must be communicated to all team members.
    - Safety-job briefings must be done before the crew starts to work on the boat or goes out on a tow; Safety-job briefings follow the company's SMS.
- The captain must complete a voyage plan.
    - Ensure the tow does not exceed the standards for tow size to horsepower found in the company's SMS, the WAP or Coast Guard restrictions; if it does, immediately stop work and notify the Port Captain.
    - Take steps to maximize freeboard.
- Routinely inspect the vessel.
    - Ensure that all doors, voids and hatches are closed at all times.
    - If any item needs repaired, stop work and notify the Port Captain. Do not sail until clearance is provided.
- If a captain believes the voyage is unsafe in any way, stop work and immediately notify the Port Captain. All issues must be resolved prior to getting underway.

After getting underway:

- Captains and crewmembers should follow the Voyage Plan/Watch Change Procedures.
    - Document that a discussion of current and upcoming conditions occurred between the oncoming and off going watch.
    - Review river stages and currents. Identify all navigation hazards that could be encountered on the upcoming watch.

- If at any time critical equipment is not functioning properly, immediately stop and notify the Port Captain, and if required, the Coast Guard.
    - Critical systems include hull, propulsion, generator, steering, fuel system, bilge pump, fixed firefighting system, or fire protection equipment.
- If the captain believes that the current voyage is unsafe in any way, stop work and immediately notify the Port Captain. All issues must be resolved before continuing the voyage.
- Watertight integrity must always be maintained.
    - Prior to operating a light boat: Hatches, void covers, escape scuttles and fittings into the deck or hull, watertight doors throughout the vessel, and weather tight doors on the main deck shall be closed, except when needed to be opened to transit or access the space or compartment.
    - When operating with a tow: After a proper risk assessment and determination that the safety of the towing vessel and crew is not compromised, the watch officer may allow for watertight or weather tight doors to be opened to facilitate work.
- High risk navigation areas:
    - When approaching a high-risk area, crews should conduct a risk assessment prior to transiting the area.
        - The risk assessment should include an evaluation of currents, traffic, flanking or steering, vessel handling, etc.
        - The captain and pilot should evaluate the conditions that exist in order to determine a GO or NO GO decision before approaching the hazard(s).
        - If the risk assessment reveals a high risk, stop, report and develop a mitigation strategy.

Downstreaming:

- Every effort to find a different maneuver should be considered prior to deciding to downstream.
- Prior to downstreaming, crews should conduct a risk assessment to determine the risks associated with the maneuver. The following should be considered when conducting a downstreaming risk assessment:
    - Velocity of the river;
    - Landing on an empty or loaded barge;
    - Horsepower of the vessel;
    - Experience of the watch officer making the maneuver;
    - Proximity to shore; and
    - Training and geographic experience of the captain.
- If a moderate- or high-risk is determined following the risk assessment, crews should notify the operations manager to discuss the maneuver.
- The captain/officer on watch should implement the following mitigation strategies to mitigate risks associated with downstreaming:
    - All watertight and weather tight doors, windows, hatches, and voids must be closed and secured;
    - Notify all crewmembers of the intention to downstream, including off watch (sleeping) crew members;
    - Position crewmembers to climb to safety in the event of a downstreaming incident;
    - Do not land on empty rake barges;
    - Use a vessel with appropriate freeboard; and
    - Stop if risk increases and reassess the situation.