

Lower Columbia Region Harbor Safety Committee  
**Harbor Safety Plan | Chapter 12**

# **SEVERE WEATHER AND NATURAL DISASTER GUIDELINES**

***CHANGE LOG:***

<b>Changes Made</b>	<b>Sub-Committee</b>	<b>Date Approved</b>
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## **A. Severe Weather and Natural Disaster Guidelines**

### **1. Purpose**

These guidelines provide preparation and prevention standards to be considered in the event of severe weather or natural disaster events in the Lower Columbia Region. They consolidate best practices and provide general guidelines to mitigate risks. However, they do not replace actions and good judgment to be taken by the prudent mariner during specific situations.

### **2. Definition of Severe Weather**

Severe weather and disasters occur when any weather, natural or human caused activity could negatively impact operations within the Marine Transportation System (MTS). Examples include: high winds, storms, extreme heat, flooding, wildfire, extreme high and low water levels or natural disasters such as tsunamis, volcanic activity, earthquakes, and dam failure. Examples of human caused disasters include vessel groundings, lock outages, aircraft in the water, and mass casualty events.

Determining if severe weather concerns exist should be based on the operations, limitations, and capabilities of each vessel or facility based on the observed and predicted conditions. Natural and human caused disasters may happen without warning and be catastrophic in nature. Vessels and facilities should identify changing conditions of the river, disaster recovery efforts, and the stability of the ports and docks in surrounding areas before vessel operation.

### **3. Monitoring Weather Conditions**

The National Weather Service (NWS) provides weather updates, forecasts and advisories. This information is available at [WWW.WEATHER.GOV](http://WWW.WEATHER.GOV). Weather forecasts are broadcast on VHF Channel 2W (Frequency 162.40 MHz) for Astoria and VHF Channel 1W (Frequency 162.55 MHz) for Portland.

Severe weather advisories are divided into different categories and provide a general guide of the anticipated severity of an event. The USCG will announce this information on VHF Channel 16 and then broadcast updates on Channel 22A. The USCG may also provide information through the Local Notice to Mariners.

In general, the different alert categories mean:

- Advisories = Be Aware
- Watch = Be Prepared
- Warning = Threat imminent or is occurring, take action

## **4. Lower Columbia Region Considerations**

Due to the nature of the river system, localized areas may be impacted to various degrees by the different types of severe weather and each should be considered separately along with any operational demands.

Specific anchorages may have weather condition limits where additional tugs would be required.

### **B. Vessels in Severe Weather**

In all cases, the vessel master and pilot should evaluate the current and forecasted weather and the impact on vessel movement, and if necessary, delay movement, call for additional tugs, or take other appropriate measures to ensure safe operations.

Masters and pilots should consult the Coast Pilot and other sources of local knowledge when transiting high risk areas, and be prepared for strong tides, currents, and weather conditions. Severe weather may cause a temporary closure of the Columbia River bar. The USCG Captain of the Port (COTP) may restrict passage or close the bar based on weather conditions under 33 CFR 165.1325. Weather conditions may also result in restrictions on commercial vessel passage by pilots.

### **C. Tugs and Tows in Severe Weather**

Tug masters must be especially aware of severe weather risks. The areas to be transited, observed and forecasted weather, and tidal/current conditions should be considered when deciding tow configurations, cargo, and size and type of barges to be used. Tugs and tows should be particularly aware of bar conditions and high wind conditions throughout the river. During periods of severe weather, tug masters should consider:

- Closing all watertight openings on the tug and tow.
- Reducing speed when necessary.
- Posting a lookout to monitor the tow in addition to the forward lookout.
- Checking gear, including bridle, pendant, chafe gear, drum and brake to ensure compliance with 33 CFR 164.74.

### **D. Facility and Cargo Operations in Severe Weather**

Each facility has its own unique operating concerns which are affected by the complexity of the operation and weather conditions. Facilities should consider incorporating severe weather contingencies in their operations manual. As appropriate to the facility, the severe weather plan should address the following:

- Standards and responsibilities for monitoring weather and taking appropriate actions, including after hours, and reporting as appropriate to the Coast Guard.
- Monitoring mooring arrangements.

- Shore crane securing and tie-down requirements.
- Appropriate locations and heights of cargo based on the predicted event.
- Relocating or securing hazardous materials.
- Securing general operating equipment.
- Minimum number, size, and positioning of lines for expected weather conditions.
- Standards for making rounds of the facility, and ensuring the satisfactory material condition of mooring facilities, cleats, bollards, piers, etc.
- Plans and criteria for moving vessels to alternate locations if needed.
- Any unique aspects of the terminal or pier that could affect safe mooring.
- Maximum number of barges/vessels permitted to raft together for expected weather conditions.
- Standards for securing rafted vessels to each other and to the pier.
- Adequate staffing to conduct operations in severe weather conditions.

Port, pier, terminal and dock authorities, operators, and owners are encouraged to conduct annual reviews of internal severe weather procedures specific to cargo operations at their facilities. Procedures should be updated and distributed to key personnel to ensure the safety of employees, cargo, equipment, the public and the environment during periods of severe weather.

## **E. Recreational Vessels in Severe Weather**

Recreational owners and operators should be proactive and consider:

- Monitoring USCG advisories (including small boat advisories, bar restrictions) on VHF Channel 16 and 22A.
- Be aware that commercial traffic monitors VHF Channel 13.
- Evaluating the voyage plan based on current and predicted weather conditions.
- Determining if PFDs should be worn and that an adequate supply is available.
- Ensuring that all prudent actions have been taken to minimize water entry into the vessel.
- Checking the condition of anchor and mooring lines, pendants, fendering, and chafing gear.
- Moving vessel to safe area or remove from water before severe weather.
- Be cautious when using heaters during cold weather events.
- Keeping a safe distance from dam spillways during high flows, especially in the spring and winter.

## **F. Bridges in Severe Weather**

Use the Coast Pilot and Notice to Mariners to determine if severe weather could affect bridge operations and impact your voyage plan. There are several bridges over the major waterways in the Lower Columbia Region and their operations could be curtailed due to severe weather.

General bridge operations are outlined in the Coast Pilot and emergent issues will be addressed either through the Local Notice to Mariners or Broadcast Notice to Mariners.

## **G. Dredging Operations in Severe Weather**

Companies should develop written guidance for operations supervisors to take into account current and forecasted weather. The guidance should clearly identify weather conditions that would halt operations or require moving to a safe anchorage or mooring.

Operations supervisors should be especially aware of how their operations impact navigable waterways and should consider the following issues:

- Modifying/securing operations under certain weather conditions.
- Identifying a safe anchorage/moorage for each job.
- Proactively consider the activity's impact on safe navigation in all weather conditions.

## **H. Oil Transfers during Severe Weather**

Vessels should follow the Lightering Guidelines, Anchorage Guidelines, and Bunkering Guidelines in this Harbor Safety Plan. Facilities should follow the severe weather procedures in their facility operations manual. For facilities and vessels transferring to or from a vessel of 250 bbls capacity or more, regulations are located in 33 CFR 156.

For oil transfers in Washington waters, Washington State oil transfer rules are located in Washington Administrative Code (WAC) 173-180 and WAC 173-184. Oil deliverers are required under state regulations to include weather criteria in making determinations for safe and effective transfer operations and pre-booming. WAC 317-40 addresses requirements for bunkering operations of vessels 300 gross tons or more. Companies are strongly urged to incorporate weather criteria into their oil transfer procedures.

## **I. Potential Captain of the Port (COTP) Actions**

If individuals or vessels are not taking actions to mitigate the risks posed by severe weather, the COTP is authorized under various federal laws to take or direct certain actions, including:

- Direct bunkering and lightering operations to cease.
- Direct hazardous materials and explosives loading to cease.
- Direct changes in mooring configuration or location for vessels at terminals.
- Direct vessel movements to seek shelter, alter or hold position to protect the port, environment, and mariners.
- Require stand-by tugs or tugs in attendance.

## **J. Reporting Problems to the Coast Guard**

Everyone should take ownership in making the waterways safe during severe weather. Mariners should report any actual or potential problems on or near the water to the Coast Guard at (833) 769-8724 or via VHF on Channel 16.

The Coast Guard may issue directions to responsible parties to compel action or may take action to mitigate unsafe situations.