



Lower Columbia Region Harbor Safety Committee

# Dam Lockage Guidelines



## **A. Dam Lockage Guidelines**

### **1. Purpose/ Scope**

To provide uniform guidelines to be followed by all personnel operating vessels and/or tows through locks, as per 33 CFR, section 207.718, on the Columbia and Snake Rivers. The term "Vessel" used in this chapter includes all connected units, tugs, barges, tows, boats or other floating objects.

### **2. General Information**

- a. The vessel operator shall conduct a pre-locking meeting (Work Safety Assessment) with all required personnel. This shall include, but not be limited to, the following:
  - 1) Use of proper Personal Protective Equipment.
  - 2) Position of deck crew while maneuvering and mooring.
  - 3) Monitoring mooring bit ties.
  - 4) Monitoring tow position in lock between yellow lines.
  - 5) Risk assessment and mitigation of all known or potential hazards.
  - 6) Any special locking instructions provided by the lock operator.
  - 7) Communication requirements.
  - 8) Number and location of lines and tie off bits to be used.
- b. The vessel operator shall ensure mooring bit ties are properly monitored to assure the vessel remains in a safe position. During the entire lockage, the vessel operator shall constantly attend the wheelhouse, be aware of the vessel's position, and monitor radio channel 14 on frequency 156.700 MHz, or otherwise be constantly able to communicate with the Lock Master. At a minimum, vessels shall be as vigilantly manned as if underway.
- c. Lockage shall not be construed as being routine. Lockage has inherent risks and hazards including changes in the force of water movement impacting the tow throughout the lockage.
- d. Vessel operator shall request notification from the Lock Master of all gate openings before they are actually opened.
- e. When approaching a lock the vessel operator shall ensure that all radars are either in the off or stand by position, as early as safe navigation permits, but always before entering the lock.



## **B. Procedures**

### **1. Arrival**

- a. The vessel operator shall contact the Dam by radio a minimum of 30 minutes out and pass vessel dimensions and whether there is hazardous cargo to Lock Master. When a tug draws more water than the barges in tow both drafts are to be passed.
- b. The vessel operator shall ask the Lock Master if a normal lockage is expected or are there any changes to the locking process currently in place.
- c. The vessel operator shall enter the lock on green light and with a verbal OK to enter from the Lock Master. A red signal light shall indicate it is not safe to proceed.
- d. The vessel operator shall ensure that a qualified crew member, wearing appropriate personal protective equipment, is positioned on the tow early enough to provide the vessel operator with accurate and timely safe guidance information during the approach to the lock.
- e. A qualified crew member on the bow shall visually inspect the lock chamber to ensure that the gates are fully opened, no drift is present in the chamber and no overhead hazards exist that shall interfere shall the lockage.
- f. The vessel operator shall maneuver into the lock while being assisted by both visual signals and radio communications from the qualified crew member.

### **2. Lockage**

- a. The vessel operator shall ensure the vessel and/or tow is secured, between the yellow lines, in a manner permitting minimal lateral and minimal fore and aft movement. A minimum of two lines shall be used for tows of empty barges and four lines shall be used for any tow with at least one load in it.
- b. The vessel and/or tow shall be tied to at least two (where practicable) floating mooring bits with ropes or lines adequate to ensure that there is no fore or aft movement of the vessel and that lateral movement is minimized. Redundancy can further reduce risk; where practicable, four mooring lines can provide greater security than two lines. Besides mooring procedures, mooring lines that are in good serviceable condition are essential in preventing movement of vessel and/or tow in the lock.
- c. After the vessel and/or tow is secured in locks, a qualified crew member shall visually inspect the yellow line and the stern of the boat and notify the vessel operator of the distance between the stern and the yellow line. The vessel operator shall add the distance between the stern of the vessel and the yellow line into the tow's length to ensure the overall length does not exceed 650'. The vessel operator shall then report to the Lock Master that the tow is in position between the yellow lines and is secured.



- d. When Lock Master arrives at the head of the vessel and/or tow, the vessel operator shall ask for verification that the bow of the vessel and/or tow is at or behind the yellow line. (The Lock Master may observe the position of the vessel by using remote control video cameras and may not actually walk on the lock wall.)
- e. The vessel operator shall maintain continual monitoring of mooring lines and vessel movement during the entire lockage.

### **3. Departure**

- a. Prior to departure a qualified crew member shall pass the completed lock slip to the Lock Master, if requested.
- b. The vessel operator shall not leave the locks until a green light is visible and a horn signal or verbal OK has been received from the Lock Master.
- c. The vessel operator shall develop as much understanding as is reasonable and prudent regarding traffic in the departure area prior to moving out of the lock. The vessel operator shall always exercise due caution to avoid the development of an unsafe situation.
- d. Deck personnel shall release lines and provide guidance for lock clearance and traffic avoidance for the vessel operator, both by visual signal and radio communication, until the vessel and/or tow is safely clear of the lock and all traffic or other hazards to safe navigation.