

## **SOUTHWEST ALASKA PILOTS ASSOCIATION COOK INLET GUIDELINES**

These guidelines are intended for planning purposes only. They have been developed to assist dispatchers and vessel agents in planning for local vessel movements. These guidelines are not intended, nor should they be construed, as a representation of minimum or maximum requirements or a warranty that, if the recommendations outlined in the guidelines are met, an operation can be successfully performed. IN ANY EVENT, NO REPRESENTATION OR WARRANTIES OF ANY SORT ARE MADE OR INTENDED BY Southwest Alaska Pilot Association (SWAPA) OR ANY OF ITS MEMBER PILOTS BY THESE GUIDELINES NOR UNDER ANY ARRANGEMENTS THAT MAY BE AGREED TO. In each instance, the individual pilot who is assigned to the vessel shall determine whether the planned operation can be successfully completed with the resources allocated. Please note that actual environmental conditions, which are dynamic and ever-changing, may preclude or delay the performance of the movement as planned. For those reasons, it is the vessel agent's responsibility to contact SWAPA dispatch 36 hours and 24 hours prior to ship scheduled movement. SWAPA pilots are available 24 hours per day. Proper advance notification is required as per Alaska regulation 12 AAC 56.205(a). Masters, owners, or agents are requested to advise SWAPA dispatch whenever there is a change in the arrival/sailing times to facilitate proper travel and dispatch time.

The Pilot assigned to the vessel shall determine whether, in his or her opinion, the resources provided will be satisfactory dependent upon the specific circumstances. In addition, each vessel has its own peculiar handling characteristics. Some vessels, because of their handling limitations, may require additional analysis, and in some instances, will not be able to be moved under all conditions. The vessel agent should provide complete details of the vessel to SWAPA dispatch including specific handling characteristics, and sea speed (not maneuvering full) to assist both in planning and the performance of actual piloting operations.

Compulsory pilotage boundaries for Cook Inlet are all waters of Cook Inlet inside a line extending from Cape Douglas to the western tip of Perl Island and then northward to the shoreline of the Kenai Peninsula. Alaska state regulation 12AAC 56.960(a) states that a pilot shall be on duty at the conn, piloting the vessel at all times when the vessel is in transit or maneuvering in compulsory pilotage waters. Vessels are excluded from the use of a licensed marine pilot in compulsory pilotage waters only when proceeding directly from points outside Alaska to an established pilot station or pick-up point for the express purpose of embarking or disembarking a pilot. The exclusion for traveling Cook Inlet is afforded to vessels bound to or from the Homer pilot station.

Designated Alaska State pilot station for Cook Inlet is Homer pilot station, one (1) mile due south of Land's End light, in approximate position 59' 35" N 151' 25" W. Homer pilot station is the primary location for pilots to board and disembark. Pilot boats are the 'Katmai', boarding speed of 8 to 10 knots, and the 'Mary Dele', boarding speed of six (6) knots. Pilot ladder shall be IMO compliant and is usually rigged on the starboard side, three (3) feet above the water. Pilot boats monitor VHF channels 10 and 16 and will provide specific directions within 30 minutes of boarding time depending upon environmental conditions at that time. Ships making arrival in Cook Inlet are required to proceed directly to Homer pilot station per 12 AAC 56.110 (12). If the vessel is early for pilot station time it is not prudent or legal for the ship to drift within designated state pilotage waters.

Inbound ships requested ETA Homer pilot station is based upon multiple variables, which influence the capability of ships to maneuver at Cook Inlet terminals. Tank and bulk ships arriving late to Homer pilot station are detrimental to maintaining timely arrival to the ship's destination and may require the vessel to incur further delays due to tidal and current influences.

### **Vessel Guidelines**

- Vessel and or agent needs to notify SWAPA 36 hours prior to arrival in Cook Inlet
- Vessel contacts SWAPA dispatch at 1-907-299-7513, one and a half (1 ½) hours prior to arrival at the Homer pilot station
- Vessel contacts Homer pilot boat on VHF Ch. 10A, 30 minutes prior to arrival at the Homer pilot station
- Anchors need to be made available to let go prior to approaching pilot station
- Vessel prepares pilot boarding accommodations as per International Maritime Organization (IMO) regulations
- Vessel may be requested to provide a lee for pilot boarding by pilot boat operator
- Homer pilot station is located one (1) mile south from Land's End Light: 59-35N 151-25W
- It is common practice for vessels to shape a course (weather permitting) ½ mile south of Homer Spit Light 3 on course 065°. This proximity to the Homer Spit will allow for a starboard turn for vessels bound for Central or Northern Cook Inlet ports. Actual boarding of the pilot will occur between Sixty Foot Rock, located two and a half (2 ½) miles southwest of Homer pilot station and the pilot station
- Boarding speed will be conveyed to vessel from the pilot boat depending upon which pilot boat is utilized
- One or two pilots will be boarding depending upon the ship's destination. Generally, one (1) pilot will board for Nikiski-bound ship, or two (2) will board for Anchorage-bound ship (due to the length and time of transit)
- Anchorage-bound vessels should have a stateroom of officer standards available for the pilot(s) upon boarding
- Port MacKenzie shipping utilizes same guidelines as Port of Alaska (POA)

Transiting Cook Inlet vessels will be entering Cook Inlet via Kennedy Entrance which may have adverse weather at any time of the year. Ships transiting Cook Inlet will be requested to provide sea speed due to transit distance from Homer pilot station to vessel terminals: Nikiski docks 84 miles and Anchorage 144 miles. Typically, the vessel will encounter multiple tides and currents creating different directions of current with velocities increasing and decreasing as vessel proceeds further north. Due to the

significant tides and currents associated with Cook Inlet, pilot will request timed departures from Homer pilot station or from anchor at Kachemak Bay.

Ships transiting during the winter season may encounter poor weather including freezing temperatures combined with water on deck or sea spray which may adhere to the vessel forming ice. The consequences may be deck structures and machinery on the deck freezing and extensive icing of the vessel. Prior to transiting inside the waters of Cook Inlet, the vessel anchor windless is required to be operational, which may require proceeding to anchor in Kachemak Bay to remove the ice buildup from deck machinery and working areas.

Summer transits may encounter fishing vessels of various types and sizes including gill nets, which will have a long net floating on the surface marked by white corks and an orange buoy at the end of the net.

Due to silt within Cook Inlet, ships may need to secure evaporators when operating north of Cape Ninilchik.

### **Anchoring**

Anchoring within Cook Inlet, United States Coast Guard (USCG) approved anchor position for vessels transiting Cook Inlet is Kachemak Bay, Homer AK. Anchorage is east of the Homer Spit; soft mud in approximately 20 fathoms. Under special circumstances, temporary anchorage is available for ships off Anchorage and Nikiski while awaiting the berth. Anchoring vessels in other locations within Cook Inlet may be problematic due to extreme currents and poor holding ground. USCG has created high wind guidelines for ships at anchor in Kachemak Bay. High winds may occur while vessels are anchored within this anchorage and they are required to comply with guidelines that include bridge watch requirements, propulsion on immediate standby, determining vessel position every fifteen minutes, increasing scope of chain, assessing the need to board a pilot and depart the anchorage and proceed to sea. Pilotage is required to enter and leave the anchorage.

### **Tides and Currents**

Cook Inlet is a dynamic body of water; as vessel transits further north, more extreme tides and currents will affect maritime activities. POA diurnal tide range is 29' with mean range of 26' and Nikiski diurnal tide range is 21' with mean tidal range of 18'. NOAA PORTS stations for POA (9455920) and Nikiski (9455760) provide actual real-time tidal and wind conditions at [www.tidesandcurrents.noaa.gov](http://www.tidesandcurrents.noaa.gov). The tidal station for POA is located near the POL 1 dock (61.2383N 149.8900W). The Knik Arm Shoal station is 17 minutes earlier than the POA station.

POA environmental conditions may cause delays for ships due to extreme tides and currents. Current velocities and directions influence ship maneuvers at POA. Local knowledge of currents within POA is imperative due to existence of counter currents. POA tide and current NOAA predictions are not reflective of actual directions and velocities within the entire port area. Electronic current programs are also not reflective of all currents that may occur at POA. Current velocities midstream at POA may exceed five knots. Current velocities and directions are affected by the north-end extension. Current velocities offshore 550' of POA are significantly greater than shoreward. Large tides during ebb currents within 550' of berth line and shoreward during mid-tide create a counter flood current,

starting at north end of POA and moving south through remaining ebb. Knik Arm reference station may be inaccurate for calculating port tidal conditions for any specific time.

Nikiski NOAA Tides and Currents are the recommended source for ship operations. All external directives or rules applicable to Nikiski docks should utilize tides and currents based on NOAA data. SWAPA publishes an annual tidebook for the convenience of mariners and should not be depicted as a source. Tide and current information for the three Nikiski docks is accessible with NOAA tide and current tables. Tidal information is listed as Nikiski tide station number 2021, currents are Tesoro Pier (KPL) station number 2081, which includes Phillips dock and Unocal station number 2077 is applicable for Agrium dock.

### **Under Keel Clearances**

Calculated under-keel clearance of 10 feet is recommended for deep draft vessels transiting in Cook Inlet. It should be noted that the determination of an appropriate minimum under-keel clearance for a specific vessel transiting a specific waterway must consider many factors in addition to vessel draft and least depth, including but not limited to; environmental conditions, speed, tides, and hydrography of the waterway. Masters and pilots should use prudent seamanship and should evaluate the need for additional clearance to accommodate the effects of roll, list, pitch, and squat. This 10' rule allows for any anomaly that may exist and provides a risk mitigation factor for a safe transit.

NOAA has put a "note" on all nautical charts of Eastern Cook Inlet that reads, "Cook Inlet, and Eastern Portion Numerous uncharted and dangerous submerged boulders exist in the eastern portion of Cook Inlet. Mariners should use extreme caution in the area."

Draft of arriving vessels at POA shall not be greater than anticipated water depth during vessel's port call. Vessels shall maintain three (3) feet minimum under keel clearance allowing for maneuvering at any time and should not moor at POA with a draft requiring it be moved from the berth to avoid grounding alongside terminal. Ship's charter, agent, or master shall be responsible for discharging plan reflecting capabilities of vessel to remain afloat while alongside POA. A pilot may be required to standby until vessel has discharged enough to meet UKC requirements for low water. Due to extreme tides at POA, vessels may dock on rising tides anticipating discharging sufficient cargo to remain alongside without grounding. The extreme tides and tidal tables may have inherent inaccuracies due to atmospheric and wind conditions and sufficient tidal margins should be utilized to prevent grounding of ships. Depths alongside POA docks are dependent upon dredging and winter ice restricts dredging capabilities. Continual dredging and surveying in the Anchorage area must be taken into consideration.

If a ship requires an unplanned departure from POA due to insufficient cargo offloading, it shall depart as expediently as possible to avoid grounding. Emergency notification of SWAPA is required as expediently as possible due to pilot's traveling time to ship.

Nikiski draft of arriving vessels shall not be greater than anticipated water depth during vessel's port call. Vessels shall maintain terminal operators required under keel clearance, allowing for vessel to be maneuverable at any time.

### **Nikiski**

Approach to Nikiski is also marked with USCG-maintained lighted aid marking deep water channel for Nikiski flats. Controlling depth of Nikiski flats shoal is 46’.

Maneuvering and mooring require vigilance due to large tides and currents. Sufficient mooring lines, with emphasis on longer leads and constant tending, are required to maintain safe mooring. Short mooring line leads will require more attention than longer leads. Adequate number of personnel is required to maintain mooring line integrity and appropriate tensions.

Nikiski ship maneuvers typically require mooring port side alongside during flood current. Scheduled first line time, with no other environmental conditions affecting the ship, should occur no earlier than one hour after flood current commences and no later than one hour prior to flood current slack water time. Mooring port side alongside requires flood current and ship should have completed the mooring process prior to slack water.

Ship departures, with no other environmental conditions affecting the ship, should not be fair current maneuvers and should occur no later than one hour prior to slack water. When ships are scheduled to dock utilizing same tide as departing ship alongside, ship departing should be early enough in the tide, no later than three hours after low water slack, to allow inbound ship time to maneuver with sufficient flood current.

Wind and seas may affect ships at Nikiski terminals requiring prudent judgment to avoid damaging terminals or ships while alongside. Steady SW wind of 25 knots and gusts higher, associated with strong flood current, may cause the ship to pound alongside the docks, which should not be allowed to occur. Docking associated with NW and SW winds in excess of steady 30 knots and gusts higher is not considered a prudent maneuver.

Tug placement, when available at Nikiski, while up to pilot, is typically starboard shoulder forward or center line aft. The starboard anchor may be deployed during docking maneuvers in a dredging mode to help control and reduce the speed of the vessel. After the ship is secured alongside the dock, anchor should be brought home. If this is not possible due to strain on anchor chain, ship should heave up anchor tight and place on dog. Flood tide will assist in breaking anchor loose. Ship should haul anchor up prior to departure.

### **Port of Alaska (POA)**

Approach to POA utilizes USCG-maintained lighted aid to assist in marking the channels approaching and departing the port. Knik Arm shoal channel is subject to change and United States Army Corps of Engineers (USACE) survey should be referenced.

During POA ship maneuvers, the pilot will typically time the vessel’s arrival at the docks to facilitate an approach for the docking during the flood current mooring port side to alongside. Starboard side dockings do occur and similar procedures are followed for arriving POA during ebb current.

Anchorage has four (4) tugboats available. The anchor may be deployed during docking maneuvers in a dredging mode to help control and reduce the speed of the vessel.

Container ships may dock either side alongside during all environmental conditions. Container ships may un-dock during fair current situations.

Adequate berth or mooring space between ships at POA terminals is required prior to inbound ship arriving in the port area. Bulk ships shifting alongside POA terminals for discharging purposes may obstruct other berths; they shall be shifted prior to arriving ship's ETA for Knik Arm shoal crossing time.

Northbound ships may use two different routes depending upon ice conditions, passing close to Nikiski docks or through platforms at Forelands. Sailing from POA is typically performed at end of the flood current, allowing for a greater amount of water for Knik Arm shoal. Fair current sailings from POA are at the discretion of the pilot.

Tug assistance is a crucial element for pilots' capability to perform ship maneuvers and to aid in protecting property and the environment. Tug boat assistance for large tanker (excess of 700' LOA, 70K DWT+) docking at POA shall include a larger tug, minimum azimuth 60-ton bollard pull, and 5,000 horsepower (ice class, harbor tug-tractor tug). Same size tug should be made available for container and bulk ships if construction occurs resulting in offset docks.

### **Ice Conditions**

The presence of ice in Cook Inlet can be a risk to shipping. Mitigation of this risk can be accomplished by following the winter guidelines and procedures that have been created to assist mariners. Vessels operating in ice conditions, either underway or moored, require vigilance by crew.

The USCG created "Ice Rules (Guidelines)" in 1995 for Cook Inlet to assist vessels with operating procedures while ice is present. Historically ice guidelines are reviewed annually based on input and concerns creating applicable guidelines for Cook Inlet. They are divided into Upper Cook Inlet (UCI) which covers North Forelands to Anchorage and Lower Cook Inlet (LCI) which covers waters south of Forelands. Lower Cook Inlet is separated into "A" Condition (LCIAC) and "B" Condition (LCIBC). LCIAC is defined as "ice is present with no immediate impact to mooring" and LCIBC states "ice present with ice threatening the integrity of the moorings".

Summation of ice operating procedures included within the USCG ice guidelines are as follows:

- Nikiski docks have special requirements concerning cargo operations and remaining alongside with the loading arms or hoses disconnected based on the forecasted speed of the current.
- Transiting Cook Inlet, while in the ice, the guideline of being able to maintain vessel speed at 50% of the speed prior to entering the ice is established to prevent forcing ice with the vessel. Vessel will be required to abort transit if forcing of ice occurs.
- Mechanical propulsion equipment must have adaptations made to prevent the ice from causing overheating due to ice plugging the seawater intakes to facilitate the cooling process.

- Draft stipulations to maintain the propeller well under the water to avoid damage and keep the sea suction lower to avoid ice plugging up circulation.
- Ice Scout vessel will be used for the Nikiski docks and will be positioned to alert the vessels at the docks of any heavy ice that is progressing towards them. This should give the vessels at the docks time to prepare for the situation prior to arriving on scene.
- USCG inspection of the ships, as required, upon arrival in Cook Inlet if they have not been inspected previously. This inspection is to ascertain the ship's capability to comply with these rules prior to the vessel proceeding.
- One (1) or two (2) SWAPA pilots may remain on board the ships at the docks to facilitate getting underway at any time.
- Adequate capabilities allow personnel to safely board and disembark ship at any time while alongside.

**LCIAC and LCIBC** relate to ships moored and transiting to and from Nikiski. When implemented, vessels shall comply with all the United States Coast Guard (USCG) LCIAC and LCIBC ice guidelines. Ice conditions at Nikiski terminals affect how the vessel is maneuvered, requiring scheduled first line time to occur one hour after flood current commences. Ships moored alongside Nikiski terminals will have access to operational mooring line tension indicators to provide input concerning mooring line tensions. Pilot may anticipate having to use main engines to relieve strain upon ship mooring lines during currents in excess of four (4) knots. Engine standby preparedness may be checked by pilot standing watch while moored alongside Nikiski Docks.

**UCI:** Docking at POA with ice present requires one tug forward of the vessel's final position, pushing on a dock fender perpendicular to the current, creating an open space for the bow of the ship. It is recommended to have two additional tugs to control the ship as it approaches its final position alongside. Vessels docking at POA should attempt to dock while current is present to assist the tugs in removing ice between the ship and the dock. Ships may dock with an angle to the berth and await the ice between the ship and dock to move away prior to bringing the ship alongside. The preferred method of mooring at POA is port side alongside. Tankers docking may have to dock starboard side alongside during heavy ice.