

HOUSTON PILOTS

Navigation Safety Guidelines

for the Houston Ship Channel

Updated December 1, 2021



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I. General Provisions

1.01 Purpose

- A. As authorized by the Texas Transportation Code, Title 4, Subtitle B, state commissioned Pilots are responsible for conducting vessels safely and efficiently through the navigable waters of the state and ports in which the pilot is licensed or certified as a pilot. Pilot services include the adoption and implementation of ship movement strategies, such as Navigation Safety Guidelines, for use by Pilots. These Navigation Safety Guidelines represent the collective experience and judgement of the state licensed Pilots for Harris County ports and have been developed to ensure the safe and efficient movement of vessels on the Houston Ship Channel and its navigable deep draft tributaries.

- B. Ships and the waters they ply represent a dynamic, ever-changing environment. On the Houston Ship Channel traffic density and location are other dynamic factors which can change from minute to minute. One cannot set forth firm rules to address every possible situation that may occur aboard ship, nor is it safe to do so. The individual pilot conning a vessel is in the best position to determine what action should or should not be taken at any given moment. The pilot at the conn is best situated to evaluate the specific situation confronting a vessel and determine a proper course of action. The on-scene discretion of each individual pilot should not be hindered, nor would it be safe to do so. These Guidelines are made in the interest of safety. They are in no way intended to limit, hinder, or override the on-scene discretion of individual Pilots as they navigate vessels on the Houston Ship Channel. There may be situations in which actions that depart from or conflict with these Guidelines may be necessary to react to specific circumstances or to avoid danger. 06.01.12

- C. In cases of severe weather, fog, extreme/unique traffic, or any other condition that may compromise navigational safety, Houston Pilots reserve the right to manage traffic in a manner that may depart from these Guidelines to ensure navigational safety on the Houston Ship Channel.

1.02 Definitions

- A. Barge – A vessel designed with no means of self-propulsion.

- B. Beam – The linear distance from the molded surface on one side to the molded surface on the other side measured at the widest portion of a vessel hull at the nominal waterline, or from the most outboard appurtenance or cargo on one side to the most outboard appurtenance or cargo on the other side, whichever is more.

- C. Dead Ship – A self-propelled vessel unable to utilize its engine or steering gear. This also includes a vessel originally designed to be self-propelled that has subsequently had its means of propulsion removed.

- D. Foreign Towing Tug – Any towing vessel registered in a country other than the United States.

- E. Houston Pilots – An unincorporated association of mariners licensed by the state of Texas and the United States Coast Guard to serve as ship Pilots on vessels that transit the Houston Ship Channel enroute to Harris County ports.
- F. Houston Pilots Rules and Safety Committee – A committee comprised of a number of Pilots that evaluates issues involving safe navigation on the Houston Ship Channel.
- G. Houston Ship Channel – The navigable waterway which extends from the Galveston Sea Buoy to the Port of Houston Authority Turning Basin.
- H. Large Sail Area Vessel – A vessel that due to its large sail area presents a risk to safe navigation during periods of high winds, such as: Large Container ships, Large Gas Ships, Large Ro-Ro's, Car Ships, Cruise Ships, etc.
- I. Pilot – An individual member of the Houston Pilots.
- J. Under Keel Clearance – The distance from the bottom of a ship's keel to the seabed.
- K. Vessel Agent – Local ship agent retained by vessel's owner/operator.
- L. Widebody Vessel - A vessel of any type with a beam of 120 ft. and greater.

II. Notification Requirements and Guidelines Regarding Vessel Safety

2.01 Notification of Safety Defects:

A. The Master of the vessel, the person directing the vessel's movement, the vessel's agent, and/or the United States Coast Guard shall, at the time Pilot assistance is requested, notify the Pilot Dispatch office¹ of any vessel or equipment malfunction, limitation or condition which could possibly affect the safe navigation of the vessel in the Houston Ship Channel. Such conditions requiring notice include, but are not limited to:

- Equipment covered by 33 CFR 164.53 such as: radars, nav radios, gyro, echo equipment and steering gear.
- Any other equipment, crew, or vessel conditions (such as inoperative windshield wipers or clearviews) that could have an effect on the handling or navigation of the vessel, and
- Any recent maintenance or repairs conducted while in port that might impact engine performance or vessel maneuverability; and
- Fuel or other issues that may impact the responsiveness and operating condition of the ship's engines

2.02 Obstructed Visibility

A. Due to the restrictive nature of the Houston Ship Channel, all vessels must afford proper visibility from the bridge in accordance with 33 CFR 164.15. A 20 degree arc of visibility dead-ahead cannot be obstructed by more than 5 degrees, and a 225 degree arc of visibility (from dead ahead to 112.5 degrees abaft each beam) cannot be obstructed by a total of more than 20 degrees.

¹ This DOES NOT absolve the vessel crew of the duty to engage in a Master-Pilot Conference and provide the required information to the Pilot.

B. If, because of vessel design, trim, or obstructive deck cargo, a vessel cannot offer the Pilot satisfactory visibility in accordance with 33 CFR 164.15 then, at the discretion of the Pilot or the Houston Pilots Rules and Safety Committee, two Pilots and/or daylight restrictions may be imposed.

2.03 Trim

A. A vessel's trim should be such that the Pilot is ensured sufficient propeller and rudder action and be in accordance with International Marine Organization, MARPOL Annex I, Regulation 18 guidelines, or:

1. Vessels less than 800 ft. shall have a minimum forward draft equal to the length overall X .0225 and a minimum after draft equal to the length overall X .035.
2. Ships 800 ft. and over in length shall have a minimum forward draft of 18 ft. and a minimum after draft of 28 ft.
3. In any case the after draft shall not be less than that which is necessary to obtain full immersion of the propeller(s).
4. All ships shall be trimmed so the Pilot can see the ranges over the forecastle from the center of the navigation bridge.

B. A vessel whose draft does not meet the minimum draft requirements above may, at the discretion of the Pilots, be accepted for transit on a one-time basis provided that the Captain of the vessel, the person directing movement of the vessel, or the vessel's agent, requests permission from the Houston Pilots and provides them with the following as soon as possible but no later than 12 hours before the vessel arrives at the Pilot station or 6 hours before shifting or sailing

1. Principal dimensions of the ship;
2. Deepest attainable fore and aft drafts;
3. Reason the vessel cannot be properly ballasted; and
4. Suggestions as to how the vessel will be maneuvered to ensure safe passage.

C. Vessels that are not able to comply with these guidelines and have historically transited the Houston Ship Channel without problems, may be granted continuance.

2.04 Engine Revolutions

A. The maneuvering revolutions and resultant speeds established for a vessel by her builders and designers must be posted and made available to the Pilot upon boarding. All vessels maneuvering in the Houston Ship Channel must be capable of promptly attaining the maneuvering RPMs as posted in the vessel's wheelhouse.

B. All vessels must be able to alter engine speed and direction promptly considering vessels of similar class and engine type. Vessels must be able to answer all engine and helm commands at all times while underway. Any load limiting or automatic acceleration limiting devices or software that would limit the speed of response to engine orders must be capable of being overridden immediately by the Master or Mate on watch from the bridge in case of an emergency.

C. Any vessel without the capacity to attain its posted RPMs in a timely fashion will, at the discretion of the Pilot or the Houston Pilot Rules and Safety Committee, be restricted to daylight transit and/or additional Pilotage or tug requirements.

D. It is recognized that due to a vessel's draft and hydrodynamics of the Houston Ship Channel, a vessel may not achieve the posted resultant speed for given RPMs.

2.05 Pilot Plug

A. All vessels requesting Pilotage are required to provide an operational AIS Pilot plug, including heading, in accordance with IMO regulations. 02.11.09

III. Docking Facilities on the Houston Ship Channel

3.01 Dock Design & Docking Procedures

A. To maximize safe navigation, new dock projects, dock repurposings, or substantial repairs to a dock should comply with the Houston Pilots Dock Project Guidelines. Although approval by the Houston Pilots does not ensure the economic or operational success of a marine terminal or facility, it has been found that adhering to these Guidelines will contribute to safely achieving this goal.

B. The Houston Pilots Rules & Safety Committee will use the Houston Pilots Dock Project Guidelines (DPG) to evaluate all projects that are presented to the Houston Pilots for review. Industry is urged to present proposed plans well in advance of commencement of construction.

C. All docks should be built as far back as possible from the channel to minimize surging due to passing vessels and to maximize the navigable water available to transiting vessels. This guideline shall not supersede any existing minimum setback.

D. All docks should provide bollards that allow vessels to obtain proper leads in order to maximize the efficiency of their mooring lines.

E. While it is the Pilot's duty to provide advice that assists a vessel in arriving safely alongside a dock, it is the duty of the vessel's Captain to ensure that his vessel is securely moored to the dock facility. It is the Captain's decision whether or not to secure the vessel to a particular dock and how to secure it.

F. All berths should have sufficient landing area to provide the ship's gangway with an adequately clear run in order to maintain safe, convenient access to a berthed ship at all states of tide and changes in freeboard.

3.02 Proper Fendering & Lighting

A. To protect the dock and the vessel, adequate fendering systems should be installed and properly maintained.

B. Docks should have sufficient lighting to allow vessels to come safely alongside and also to work their mooring lines.

C. If a particular dock's suitability is called into question, the Houston Pilots Rules and Safety Committee shall notify the Coast Guard and they will make an assessment of that particular dock.

D. For slip arrangements, the outermost mooring dolphin should be lit with an all-around white light and be adequately fendered. In addition, consideration should be given to downward-facing lighting of any large structure that is in deep water adjacent to the navigable channel.

E. Many vessels carry fuel in single skin tanks which could be punctured in the event of a collision with a mooring structure. Consideration should be given to providing fendering to any structure (mooring structure, emergency fire pump installation, etc.) if it is possible, though not likely, for a ship to contact it. Fendering should anticipate vessels working at other docks that may come close aboard the fendered object.

3.03 Docking Clearance

A. Before starting any docking operation, adequate clearance with adjacent berths must be provided to safely complete the docking evolution. For adjacent berths, there will be at least 30 ft. or 5% of LOA between docked ships at any facility on the Houston Ship Channel whichever is greater.

3.04 Bunkering & Special Operations

A. There are certain areas where docks encroach on the channel. When a vessel is docked in these areas and a barge is placed alongside the vessel for bunkers or cargo, a hazardous constriction of the channel may be created.

B. A list of restricted mooring, bunkering, and/or lightering locations will be jointly developed and maintained by Houston Pilots and CG VTS. They can be found in the VTS User's Manual issued by Vessel Traffic Service Houston/Galveston. Recent changes or modifications can be obtained by direct call to VTS.

3.05 Vessel Size Restrictions for Berth

A. The length of vessels docking in the Port of Houston is restricted to adequately allow for proper mooring of the vessel. Ships should not extend over the end of the dock without prior notification and approval by Houston Pilots and the terminal. Houston Pilots will maintain specific maximum vessel sizes within Dispatch as dock notes.

3.06 Light Pollution

A. All facilities bordering the Houston Ship Channel and its deep draft tributaries should shield their lights, so they do not interfere in any way with the safe navigation of vessels or barges. Interference includes, but is not limited to, interference with or obstruction of aids to navigation, or diminishing the night vision of mariners transiting the waterway.

B. If anyone believes that a particular facility's lights interfere with safe navigation, they should immediately notify the Coast Guard.

IV. Vessel Grounding

4.01 Vessel Grounding

A. If a ship grounds in the confines of the federal channel or responds abnormally due to shoaling, soundings should be taken to ascertain the depth of water in the area. The soundings should be taken within 24 hours. If the Corps of Engineers is unable to perform this task, then an independent source should be employed. If there is shoaling, the draft of vessels transiting this area shall be limited as per Pilot's recommendation.

B. Timely and accurate soundings of suspect areas are necessary for the Pilots to assess the situation and give advance notice to users of the Houston Ship Channel in the event there will be a draft restriction imposed.

V. Vessel Restriction

5.01 Specific Requirements

A. Requirements for specific vessels can be found in Section VIII – Vessel Type (VT) Rules.

5.02 Large Sail Area vessels

A. Wind restrictions are to be applied to large sail area (LSA) vessels as stipulated in these Navigation Safety Guidelines. For these vessels the wind is to be measured at the terminal and not on the bar. Only LSA vessels going to and from the anchorage shall use the wind gauge on the North Jetty. When applying wind restrictions, the wind speed shall come from a certified weather station that measures sustained wind from an appropriate height. Wind restricted vessels shall not be assigned when sustained winds exceed their stated restrictions. Based on projected weather, affected jobs will be pushed back accordingly in the queue.
02.14.18

5.03 Dead Ships

A. Notification of dead ship tows should be made to Houston Pilots at least 48 hours in advance. Coast Guard VTS also requires notification via their Category 1 obstruction process. If deemed necessary by the Executive Committee, a pre-transit meeting shall be held at least 24 hours prior to a dead ship movement. The pre-transit meeting shall include representatives from Coast Guard, dead ship company, tow company, and Houston Pilots. In addition to all other applicable guidelines for dead ships, the towing company shall notify the Houston Pilots (three hours prior to any movement) of the number and type of tugs scheduled for the movement.

B. Dead ships shall not be allowed to transit in less than three miles visibility over the entire route, with due consideration given to volume of traffic and severe weather. Dead ships shall not be navigated at night on the Houston Ship Channel.

C. Other ships or offshore tugs and barges shall not overtake dead ships.

D. Any barge that was converted from a ship or vessel of unusual construction will be handled on its initial transit like a dead ship, (i.e. 2 Pilots, proper tugs and daylight only). The Houston Pilots Rules and Safety Committee reserves the right to decide after one or more passages of a nondescript vessel as to whether it can safely transit the Houston Ship Channel and if so, what permanent restrictions will be in place.

E. Any dead ship 450 ft. long or longer must have two Pilots, regardless of length of movement.

F. If a dead ship is less than 450 ft. long and employs a foreign flag-towing tug or a U.S. non-local tug a Pilot shall also be required on the towing tug.

G. The owner or operator of a dead ship has the duty to provide adequate onboard facilities for the Pilots(s), such as: adequate crew onboard to handle lines, shelter, food, water, and restroom facilities.

H. The increase in size caused by the addition of tugs alongside a dead vessel shall necessitate the reduction in the size of vessels it will meet in accordance with the established safety guidelines for powered vessels.

VI. Channel Restrictions

6.01 Houston Ship Channel

A. Widebody vessels are subject to restrictions as per Section X, Widebody (WB) rules.

B. Below Morgan's Point, the maximum LOA for all vessel types is limited to 1100 ft. per Texas State Statute, effective September 1, 2019, unless certain criteria are met as set forth in the statute.

6.02 Bayport Channel

A. There shall be no meeting or overtaking of ships in the Bayport Channel.

6.03 Upper Ship Channel

A. Vessels with a beam of over 105 ft. shall not meet any ship traffic (of any beam) above Boggy Bayou

VII. Navigation Aids

7.01 Official Navigation Aids

A. The Official Navigation Aids used by a Pilot are those navigational aids placed and maintained by the Coast Guard, and in some cases privately owned and maintained aids to navigation in the process of being transitioned to Coast Guard ownership.

B. In order to maintain two-way traffic at night between Morgan's Point and Lynchburg, all ranges established by the Coast Guard are to be functioning properly. If any one of these navigational aids becomes inoperable, traffic may be stopped or restricted, at the discretion of the Houston Pilots.

C. Between Morgan's Point and the Sea Buoy at gated turns 25 & 26, 51 & 52, and 75 & 76, all navigational aids are to be operational for unrestricted traffic flow. If both aids at any one of these turns are inoperable, traffic may be stopped or restricted, at the discretion of the Houston Pilots.

D. If there are inoperative navigational aids at any point on the Houston Ship Channel, traffic may be restricted by draft, vessel size, and to daylight only, at the discretion of the Houston Pilots. Temporary lighted buoys may be acceptable.

E. Due to the strong set encountered at times between the Sea Buoy and buoys 7 & 8, traffic may be restricted by draft during the hours of darkness, if the entrance ranges are extinguished, and the Houston Pilots, at their discretion, deem such a restriction is necessary.

VIII. Vessel Type (VT) Rules

VT-1 All LPG tankers: All LPG tankers less than or equal to 560 ft. LOA have no daylight restriction, 1 pilot day and night.

All LPG tankers can shift 24 hours a day with one pilot within one zone above Morgan’s Point. LPG tankers greater than 560’ LOA with cargo can shift between Enterprise HSC (including Stolt 11) to Kinder Morgan Deep, 24 hours a day, with 2 Pilots at night. [Enterprise HSC to Kinder Morgan Deep is a 2 zone shift, but docks are in close proximity to each other.] 05.20.20 See also applicable widebody rules.

Ballasted LPG tankers: Ballasted LPG tankers greater than 560 ft. and less than 600 ft. LOA have no daylight restriction, 2 Pilots at night above Buoy 18 (B-18).

Ballasted LPG tankers greater than or equal to 600 ft. LOA will be daylight restricted above Boggy Bayou with 2 Pilots at night above B-18.

Ballasted LPG tankers greater than or equal to 600 ft. and less than 750 ft. LOA, with a beam of less than 107 ft. will be daylight restricted above Targa with 2 Pilots at night above B-18.

LPG tankers proceeding with cargo: LPG tankers proceeding with cargo greater than 560 ft. but less than 600 ft. LOA will be daylight restricted above Boggy Bayou/Kinder Morgan Deep, 2 Pilots at night above B-18. 05.20.20 12.20.20 11.03.21

LPG tankers proceeding with cargo greater than or equal to 600 ft. will be daylight restricted above B-18. 05.22.19

LPG Tankers		
	In ballast	Proceeding with cargo
Shifting, one zone above Morgans Point	No daylight restriction 1 Pilot day, 1 Pilot night See applicable widebody rules.	No daylight restriction 1 Pilot day, 1 Pilot night See applicable widebody rules
Shifting between Enterprise HSC (including Stolt 11) to Kinder Morgan Deep, LOA>560’	[No daylight restriction 1 Pilot day, 1 Pilot night] [See applicable widebody rules.]	No daylight restriction 1 Pilot day, 2 Pilots night See applicable widebody rules.
LOA<=560 ft.	No daylight restriction 1 pilot day; 1 Pilot night	No daylight restriction 1 pilot day; 1 Pilot night

LPG Tankers		
	In ballast	Proceeding with cargo
560 ft.<LOA<600 ft.	No daylight restriction 1 pilot day; 2 Pilots at night above B-18	Daylight restricted above Boggy Bayou/Kinder Morgan Deep 1 pilot day; 2 Pilots at night above B-18
600 ft.<=LOA<750 ft. Beam <107 ft.	Daylight restricted above Targa 1 pilot day; 2 Pilots at night above B-18	Daylight restricted above B-18 1 Pilot day; no night transit
LOA=>600 ft.	Daylight restricted above Boggy Bayou 1 pilot day; 2 Pilots at night above B-18 2 Pilots in accordance w/ widebody rules	Daylight restricted above B-18 1 Pilot day; no night transit 2 Pilots in accordance w/ widebody rules

VT-2 Car carriers shall be operated on a 24-hour basis but shall be turned at City Docks in daylight only. They shall not meet any ship traffic above Shell; sailing and arrival times shall be adjusted accordingly. Allow car carriers to schedule sailings one (1) hour before dark. 09.05.01. The maximum LOA of car carriers above Shell is 660 ft. Car carriers and ro/ro's, including those transiting to Bayport and Barbours Cut, shall not be assigned when sustained wind speeds exceed 25 knots at the terminal. Ship agents or representatives shall notify VTS of estimated sailing times for outbound car carriers and ETAs at Shell for inbound car carriers so that wide or long tow traffic can be restricted.08.11.10

Car carriers may dock at City Dock 25 and extend into City Dock 24. Restrictions are as follows for all car ships proceeding above the 610 bridge: 05.04.11

- A. No barges alongside ships from City Dock 25 through City Dock 28
- B. No ships gear extending into the channel from City Dock 26 through City Dock 28

VT-3 H, I, J, K, & O Class Star Ships:

- I, J, & O: 24 hours below City Dock 20 & daylight above City Dock 20.
- H: Daylight only above Shell. 08.20.14
- K: Daylight only above Barbours Cut. 08.20.14
- Beam restrictions at City Docks 1, 2, 14, 15, 16 & 17 enforced. [See DK-7]
- Two Pilot jobs.
- Tugs and wind conditions remain at Pilot's discretion. 05.26.04
- They shall not meet any ship traffic above Greens Bayou; sailing and arrival times shall be adjusted accordingly. 04.27.05

VT-4 Specific Vessels:

- Atlantic Sun - Banned.
- Ireland class vessels (751 ft. x106 ft.) - Two Pilots. If draft is less than 30 ft., no daylight restriction out of Vulcan.
- Cotinga Arrow - Daylight restricted above Shell. 08.19.15
- Genesis River and sister vessels - (Builder: Kawasaki Heavy Industries, 754'x122'; Crystal River, Crystal Sunrise, Galaxy River, Maple Gas, NS Dream, NS Frontier, Pyxis Alfa, & Sumire Gas). Minimum 0.5m of trim. 06.02.21
- MV Green Magic - 456 ft. x 54 ft. with a working bow thruster and a tethered tug assist is excluded from the 256 ft. restriction.
- Navigator/450-11 on hawser – Daylight only, 1 large tug escort, no meeting above Shell.
- Pelicana, Providana, Posidana, and Panamana (similar to Star Ship K class) - Daylight restricted above Shell. 08.19.15
- Saudi Ships (Bahri Vessels) restricted to 2 Pilots, daylight above Morgan's Point, Tractor escort above Shell, 2 Tractors docking/undocking. These vessels shall not be assigned when sustained wind speeds exceed 25 knots. 01.22.14
- Seven Seas Highway car carrier and all vessels of that class restricted to 2 Pilots due to visibility and daylight above Morgan's Point. 01.22.14
- Stolt Integrity class vessels, 607 ft. x 106 ft. (including but not limited to Stolt Excellence, Stolt Integrity, Stolt Loyalty, Stolt Pride, Stolt Sincerity, and Stolt Tenacity): Minimum of 0.5m of trim; anchors walked out from windlass to tipping point; minimum of 2 tugs for docking/undocking. With a fully operational working thruster (capable of operating at 100% rated capacity), 1 tug may be used for undocking only when the ship does not need to turn around. 08.15.18 06.02.21
- Teal Arrow - Daylight restricted above Morgan's Point. 02.18.15
- Tug Betty S/Bahia de Tampa – 24 hours loaded, daylight above Buoy 18 in ballast.
- Tug Crosby Service/American Trader – One tug escort above Buoy 18, daylight above Shell.
- Tug Mister Jean/Delaware Trader or Z Big 1 - One tug escort above Buoy 18, Jacintoport 3 only. 01.19.05
- Viking Adventure class (LOA=656 ft., molded beam=106 ft., extreme breadth=114.5 ft.) – Permitted to transit to City Docks, 2 Pilots, daylight restricted above Lyondell Basin.
- Warsaw and all vessels in this class – Daylight only, two Pilots, trimmed by the stern 18 inches, no meeting ship traffic above Shell, and no transiting above Green's Bayou. 8.31.05

VT-5 Brady Island Turning Rule

- A. No car carrier of any size, and no other vessel of 625 ft. LOA or longer will arrive/depart City Docks 20 - City Dock 32 when required to turn at Brady Island Turning Basin when there is a vessel docked or encroached into City Dock 27. [See also VT-2]. 12.12.12
- B. No vessel 580 ft. LOA or longer loaded to more than 30 ft. draft when required to turn at Brady Island Turning Basin will arrive/depart City Dock 20 - City Dock 32 when there is a vessel docked or encroached into City Dock 27. 02.18.15
- C. Any jobs (sailings or arrivals) that have to back to/from Brady's Island above City Dock 20 due to draft restrictions from shoaling will have 2 Pilots assigned. 08.15.18

D. No vessel 660 ft LOA or longer when required to turn at Brady Island Turning Basin will arrive/depart City Dock 20 -City Dock 32 when there is a vessel docked or encroached in City Dock 27 or City Dock 28. 12.1.21

VT-6 Cruise ships shall not be assigned a Pilot when sustained wind speeds exceed 20 knots as measured at the terminal.

VT-7 Vessels or barges, carrying ammonia and requiring Pilots, shall transit the Houston Ship Channel only during daylight hours. The daylight restriction is for the entire transit.

IX. Dock (DK) Rules

DK-1 Vessels bunkering/lightering at docks identified as restricted mooring, bunkering, and /or lightering locations by the CG VTS must request prior approval and report the operation to VTS; must have an attending towboat present at all times; must maintain an active wheelhouse watch and standby at all times on VHF Channel 13; and be prepared to shut down, disconnect, or move at the discretion of Pilots on passing ships within 60 minutes.

DK-2 LBC-5: Vessels with maximum dimensions of 910 ft. x165 ft. permitted. For vessels with dimensions greater than 900'x150' the following restrictions apply: 2 Pilots, daylight restricted, all dredges outside of navigable channel, no barges at the adjacent LBC barge dock, for vessels with drafts less than 34 ft., maximum 20 knots sustained wind at the berth, no bunkering barges alongside container vessels at Bayport Container Docks, and special traffic management protocol to be implemented (VTSA Cat 2 obstruction process).

DK-3 Enterprise Barbours Cut Ethane Export Terminal: Docks 7 and 8: Maximum vessel dimensions: 900 ft. x138 ft. 05.25.16

DK-4 Exxon Mobil Baytown 4 & 5: The combined beam of all vessels moored and/or docking/undocking must not exceed 210 ft.

There shall not be any vessels or barges docked across from Exxon Mobil Baytown #3 when any vessel or barge is berthing at Exxon Mobil Baytown #3.

DK-5 Bostco: Bostco #1 Ship dock. Vessels with length not greater than 900 ft. and beam not greater than 150 ft. will be allowed. Vessels with beams greater than 138 ft. will require a Z-tech class tug on the bow and two Dolphin class tugs on the stern. For vessels with a beam greater than 138 ft. and a draft of greater than 40 ft., no doubled-up barges will be allowed across from dock #1 when a vessel is docking. 08.31.16

DK-6 Houston Fuel Oil: HFO ship dock 2: Vessel dimensions restricted to 900 ft. x 144 ft. or less. When docking or undocking a widebody vessel at HFO 2, no barges may be alongside widebody vessels docked at HFO 3 & 5. If only one dock is occupied, a single barge may remain alongside at Pilot's discretion. Under all circumstances and for all vessels transiting into or out of Jacintoport the available space must exceed 2 times the beam of transiting vessel plus 150 ft. HFO 3 to HFO 5 dock face to dock face total distance equals 785 ft. When docking vessels 106 ft beam or over, no barges may remain at HFO 5 barge dock. When undocking vessels 106 ft beam or smaller, in ballast, one set of doubled up barges may remain at the northern end of HFO 5 barge

dock. All barges may be required to be moved at Pilot's discretion. HFO ship dock 5: Maximum vessel dimensions: 900 ft. x 165 ft. 08.31.16, 08.15.18

DK-7 Contanda-Inbesa and Jacintoport:

1. The cross-slip distance, breast line to breast line, from Contanda-Inbesa to Jacintoport #1 is 395 feet. When docking vessels at Contanda-Inbesa or Jacintoport #1 the following applies: If a 106 beam vessel is at one dock, the max beam allowed at the other dock is 90 feet and vice versa. The max combined beam of any two vessels at Contanda-Inbesa and Jacintoport #1 cannot exceed 196 feet.
2. If there are vessels at Contanda Inbesa and Jacintoport #2, the following is required for a vessel to dock or undock at Jacintoport #1:
 - a. The vessel at Jacintoport #2 must be spotted 250 feet east of the J1/J2 line or 250 feet east of the docking or docked ships final position, whichever is furthest east. If there is no ship at J3 that distance should be increased to 300 feet.
3. Max vessel size for Jacintoport is: Dock 1 and 2 - 690 x 106; Jacintoport 3 - 750 x 106. The overall length of Jacintoport wharf is 1950 feet. At no time can the combined LOA of vessels in Jacintoport exceed 1,810 feet. This allows for 35 feet of space between all vessels.

DK-8 Mosaic: Mosaic must be clear when docking a vessel at Cargill 2 and vice versa.

DK-9 Enterprise HSC: Maximum ship dimensions: ET7: 950 ft. x160 ft.; ET8: 950 ft. x165 ft.; ET9: 950 ft. x140 ft. Combined beam for vessels at ET7 and ET8 not to exceed 310 ft. 04.29.15

There shall not be any other vessels or barges alongside a berthed vessel or barge when another vessel is docking or undocking in the same slip at Enterprise HSC, unless there is a prior agreement with the Pilot.

DK-10 KMD (Kinder Morgan Deepwater): Vessels with lengths not greater than 855 ft. and up to 142 ft. beam will be allowed. All other widebody rules apply. 08.31.16 05.20.20

DK-11 ITC Pasadena: Maximum ship dimensions: Dock #1 (west): 751 ft. x 125 ft.; Dock #2 (east): 751 ft. x 106 ft. 05.25.16

DK-12 Bulk Load: Vessels with an overall length between 800 ft. to 820 ft. with a beam up to 106 ft. are limited to 38 ft. in draft and will be allowed to dock starboard side to Bulk Load. There will be no vessels at Bulk Lay or South Central Cement 2 during docking maneuvers. 11.12.03 Vessels greater than 535 ft. dock SST only. 4.14.03

DK-13 Agrifos: Vessels at Agrifos are limited to 96 ft. beam or less. 02.21.01

DK-14 Targa: Targa #4 Vessels of up to 760 ft. with a maximum beam of 123 ft. will be allowed. For vessels with a beam greater than 120 ft., special traffic management protocol to be implemented (VTSA Category 2 obstruction process). For vessels with LOA greater than 750 ft., maximum sustained wind is limited to 20 knots at the berth. 08.16.17

Targa #5: Vessels of up to 800 ft. with a maximum beam of 123' will be allowed. For vessels with a beam greater than 120 ft., special traffic management protocol to be implemented (VTSA Category 2 obstruction process). For vessels with LOA greater than 750 ft., maximum sustained wind is limited to 20 knots at the berth. 08.16.17

Minimum clearance between ships at Targa shall be 125 ft. Distance between dock #1 and #2 faces is 365 ft. 05.23.14

DK-15 Kinder Morgan Galena Park: Barge Dock at Kinder-Morgan #3 will have only a single barge at the inner barge berth when vessels are arriving at #3 ship dock. Single barges at inner barge berth and outer barge berths are permitted during undocking of vessels at #3 ship dock. Additionally, barge transfers will be shut down and no towboats alongside barge during vessel maneuvers at #3 ship dock. 05.04.11

DK-16 Manchester Terminal: Vessels at Manchester Terminal Sims Bayou Docks (D, E, and F) must comply with the following:

- A. Working bow thruster.
- B. Alternate dock in case of extreme weather.
- C. Maximum beam of any vessel at Petro Tex Dock B, to be no more than 54 ft. 9.24.08
- D. Maximum beam of 69 ft. 09.24.08
- E. A vessel will not go around another vessel in this slip.

DK-17 Houston Cement West: When docking/undocking the following shall apply:

- No barges/vessels shall be across from Houston Cement West.
- No barges/vessels at Valero barge dock 4.
- Barges at Valero barge dock 1 cannot be doubled up.
- The beam of vessels berthing at Manchester A shall not exceed 75 ft.
- Vessels over 650 ft. LOA will be reviewed on a case by case basis by the Executive Committee prior to arrival.
- Vessels 700 ft. LOA and over will be assigned two Pilots. 09.04.13

DK-18 City Dock: Between City Dock 17 and the Turning Basin the combined beam of any two opposing moored vessels plus the beam of the transiting vessel shall not exceed 256 ft.

DK-19 City Dock 32. When required to back down from City Dock 32/Old Manchester to Lyondell basin or from Lyondell basin to City Dock 32/Old Manchester, to turn, the following restrictions apply: 2 Pilots, daylight restricted during backing, 2 tractor tugs. Restricted bunkering at Manchester A & B. 08.16.17

X. Widebody (WB) Rules

A widebody vessel is defined as any vessel type with a beam of 120 ft. and over. Startup times for ships over 120 ft. in beam shall be 30 minutes before daylight when no combined beam rules apply.

Nothing in this rule shall limit a Pilot's discretion on the amount or use of tugs.

In the interest of safety, Houston Pilots reserve the right to modify these guidelines based on operational experience, and may require a certain amount of drag for selected widebodies, which handle poorly in the Houston Ship Channel.

WB-1 Any widebody tanker or bulker transiting above Buoy 18 (B-18) will require two Pilots at all times.

WB-2 Any widebody tanker proceeding with cargo will be daylight restricted above B-18.

WB-3 Widebody tankers and bulkers without an all-around rudder angle indicator are daylight restricted above B-18. 08.31.16

WB-4 The maximum beam of any vessel allowed to come to Houston without prior approval from the Houston Pilots and the respective terminal is 166 ft.

WB-5 The maximum LOA above Morgan's Point High Lines without prior approval from the Houston Pilots and the respective terminal is 950 ft.

WB-6 Two widebody vessels meeting in the Houston Ship Channel between Buoy 18 and beacons 75/76 shall be restricted to a combined beam 310 ft. and shall be limited to a combined draft of 85 ft.

WB-7 Two widebody vessels meeting in the Houston Ship Channel between beacons 75/76 and Boggy Bayou shall be restricted to a combined beam of 272 ft. and shall be limited to a combined draft of 77 ft.

WB-8 Deep loaded vessels transiting above Morgan's Point will be assigned an escort tug from Morgan's Point to their dock, or from their dock to Morgan's Point in accordance with the tug matrix. In addition, deep loaded vessels transiting inside the Bayport land cut will be assigned an escort tug between the land cut and their dock and their dock and the land cut in accordance with the tug matrix. An escort tug to or from the flare to the land cut is at Pilot's discretion.

WB-9 Widebody tankers and bulkers 150 ft. or less in beam and 900 ft. or less in LOA will be sailed in ballast on a 24 hour basis provided there is no conflict with any other safety rules or guidelines. The vessel must meet the following criteria:

- Maximum draft of 32 ft. or less, with a drag of at least 3 ft.
- Have a rudder angle indicator that is visible from all angles.
- Be of double-hulled construction

Any widebody tanker or bulker over 150 ft. in beam and/or over 900 ft. in LOA will be daylight restricted above B-18 at all times.

WB-10 All widebody vessels can shift 24 hours a day with one pilot within one zone Exceptions include widebodies that do not have a rudder angle indicator that is visible from all angles. 12.10.14

WB-11 Two vessels with a combined LOA of 2030 ft. or greater will not be permitted to meet above B-18. 08.15.18

XI. Container Terminal (Bayport and Barbours Cut)

CT-1 Container vessels: The following restriction applies for all container vessels with LOA greater than 900 ft. and less than or equal to 1100 ft.: Maximum sustained wind less than 20 knots at the berth.

The following restrictions apply for all container vessels with dimensions greater than 1000 ft. LOA or 138 ft. beam: 2 Pilots, daylight restriction, cranes raised, restricted bunkering in place with no dredges in the navigable channel of Bayport Ship Channel or Barbours Cut (when transiting to Bayport or Barbours Cut, respectively). [see also WB-6 for combined LOA restriction] For the purposes of this guideline, "daylight restricted" means boarding 60 minutes before sunrise. This boarding time will allow a typical container vessel to reach B-18 at the beginning of civil twilight. 06.02.21

As per Texas State Statute, effective September 1, 2019, all vessel types with an LOA greater than 1100 ft. cannot transit the lower Houston Ship Channel unless certain conditions are met, per the statute.

Prior to the implementation of this statute, the following restriction applied for all container vessels with an LOA greater than 1100 ft.: No meeting any other ships in the Houston Ship Channel above B-18. Maximum sustained wind not over 15 knots at the berth. 08.15.18 Notwithstanding the above, container vessels with an LOA less than or equal to 1120 ft. and beam less than or equal to 150 ft. may meet other vessels subject to current widebody guidelines. 04.10.19 06.02.21

CT-2 Notwithstanding the approved maximum permitted dimensions for container vessels transiting to Bayport Container Terminal or Barbours Cut #1 in this section, the Presiding Officer at his/her discretion may approve vessels with differing maximum dimensions, pending further review if necessary by the Rules & Safety Committee, provided the following condition is met:

1. Maximum effective beam proposed \leq maximum effective beam approved, where:

Maximum effective beam proposed = (beam of proposed vessel) + (Tan 4 degrees)(LOA of proposed vessel)

Maximum effective beam approved = maximum beam permitted by Houston Pilot Working Rules + (Tan 4 degrees)(maximum LOA permitted by working rules)

This rule factors in a maximum of 4 degrees of leeway which is normally associated with holding up a container vessel in 15 knots of beam wind. This rule does not affect or allow operational restrictions to be changed, i.e. daylight, 2 Pilots, wind restrictions of 15 knots, or tug requirements. 01.18.17 05.22.19

CT-3 Service enhancements for container vessels transiting to or from Barbours Cut

1. Maximum container vessel size permitted to transit to Barbours Cut Dock 1 is 1158 ft. x 142 ft.²
2. Container vessels greater than 1000'x138' and less than 1100'x143' may berth and unberth at BCT-2 provided all of the following conditions are met:
 - BCT-1 does not have a vessel of any size alongside during berthing operations at BCT-2.

² All vessels are limited to less than 1100 ft. LOA by Texas State Statute, unless the vessel can safely meet all other vessel traffic as per statute.

- If BCT-1 is occupied by a vessel of any size, it will not be permitted to shift into the channel to allow a vessel greater than 1000'x138' to berth at BCT-2.
 - Cranes at BCT-1 and BCT-2 must be raised during berthing operations at BCT-2.
 - For vessels with dimensions less than or equal to 1000'x138', the provisions of Section XII of these Navigation Safety Guidelines are applicable. See also CT-1. 11.03.21
3. Container vessels greater than 1000'x138' and less than 1100'x143' may berth and unberth at BCT-3 provided all of the following conditions are met:
- BCT-1 and BCT-2 do not have a vessel of any size alongside during berthing operations at BCT-3.
 - BCT-2 does not have a vessel of any size alongside during unberthing operations at BCT-3
 - If BCT-1 or 2 is occupied by a vessel of any size, it will not be permitted to shift into the channel to allow a vessel greater than 1000'x138' to berth at BCT-3.
 - During berthing at BCT-3, cranes at BCT-1, BCT-2 and BCT-3 must be raised and during unberthing operations at BCT-3, cranes at BCT-2 and BCT-3 must be raised.
 - For vessels with dimensions less than or equal to 1000'x138', the provisions of Section XII of these Navigation Safety Guidelines are applicable. See also CT-1. 11.03.21
4. Maximum container vessel permitted to transit to Barbour's Cut Docks 2-6: 1000 ft. x 138 ft. 08.16.17 [see Interim Rule 01-2020] 05.20.20 12.02.20

CT-4 Service enhancements for container vessels transiting to or from the Bayport Industrial Complex

1. The maximum size of container vessels permitted to transit the Bayport Ship Channel is 1160 ft. x 150 ft. x 45 ft.³ 09.02.15; 08.16.17

***XII.* Criteria for Routine Vessel Transits and Maximum Vessel Sizes**

The following shall govern the routine transit of vessels on the Houston Ship Channel between Galveston Bar and the Turning Basin, Houston Texas. Vessels exceeding either dimension (LOA or beam) given for the maximum vessel size are not permitted to transit the Houston Ship Channel without prior approval.

Although a certain ship size may be permitted within a zone under these Guidelines, this does not mean that every dock within that zone is approved for ships of that size. Specific dock requirements can be found in Section IX Dock (DK) Rules and by contacting Houston Pilot Dispatch.

Vessels exceeding routine guidelines listed below, or vessels of unusual size, construction, or unusual maneuvering characteristics that result in excessive transit times, or vessels with obstructed visibility will be subject to various restrictions including additional Pilots, tug escorts, or

³ All vessels are limited to less than 1100 ft. LOA by Texas State Statute, unless the vessel can safely meet all other vessel traffic as per statute.

daylight only passage, or may be denied entry. In determining which restrictions to apply, the following factors, amongst others will be considered:

- Vessel's dimensions and deadweight tonnage
- Risk associated with type of cargo
- Total transit time, job difficulty, fatigue and increased cognitive demands
- Restricted visibility ahead and athwartship, inability to see tow traffic, especially close up
- Increased risk to navigational safety
- Maintaining optimal situational awareness and redundancy

BOLIVAR ROADS TO BAYPORT AND BARBOUR'S CUT

- Routine transit vessel size (container vessel) –Less than 1000 ft. LOA and 138 ft. beam
- Routine transit vessel size (tank vessel) – Less than 825 ft. LOA and 120 ft. beam
- Maximum vessel size (container/Bayport) – 1160 ft. LOA and 150 ft. beam**
- Maximum vessel size (container/Barbours Cut, to BCT#1) – 1158 ft. LOA and 142 ft. beam**
- Maximum vessel size (container/Barbours Cut, to BCT#2 & 3) – 1100 ft LOA and 143 ft beam. 11.03.21
- Maximum vessel size (container/Barbours Cut, west of BCT#3) – 1000 ft. LOA and 138 ft. beam 05.20.20 12.02.20 11.03.21
- Maximum vessel size (tank vessel/Bayport) – 910 ft. LOA and 165 ft. beam
- Maximum vessel size (tank vessel/Barbours Cut) – 900 ft. LOA and 138 ft. beam

** All vessels are limited to less than 1100 ft. LOA by Texas State Statute, unless the vessel can safely meet all other vessel traffic as per statute.

ABOVE BARBOUR'S CUT HIGHLINES TO BOGGY BAYOU (SHELL) 04.29.15

- Routine transit vessel size – Less than 825 ft. LOA and 120 ft. beam.
- Maximum vessel size: 950 ft. LOA and 166 ft. beam [as per WB rule #6]
- Daylight above Baytown for vessels with over 40 ft. draft. [See WB-9]. 12.07.2005

ABOVE BOGGY BAYOU (SHELL) TO MAGELLAN/TARGA #5

- Routine transit vessel size: Less than 750 ft. LOA and 106 ft. beam
- Maximum vessel size: 811 ft. LOA and 125 ft. beam [See DK-10, KMD exception] 05.20.20
- Daylight above Beltway 8 Bridge for vessels over 750 ft. LOA or over 39 ft. draft. For drafts over 39 ft below Greens Bayou, 2 pilots at night. [see interim rule 02-2021] 11.18.09, 04.29.15 08.25.21

ABOVE MAGELLAN/TARGA #5 TO SIMS BAYOU (LYONDELL)

- Routine transit vessel size- Less than 750 ft. LOA and 106 ft. beam
- Maximum vessel size: 811 ft. LOA and 106 ft. beam
- Daylight above Beltway 8 Bridge for vessels over 750 ft. LOA or over 39 ft. draft. 11.18.09, 04.29.15

ABOVE SIMS BAYOU TO PORT OF HOUSTON TURNING BASIN

- Routine transit vessel size: Less than 700 ft. LOA and 106 ft. beam
- Maximum vessel size: – 750 ft. LOA and 106 ft. beam
- Daylight restricted above SP slip to the POHA Turning Basin.for vessels over 700 ft. LOA

Draft Restrictions:

Draft formula for vessels going to docks from North Texas Slip (Old SP Slip) to City Dock 26 will be 36 ft. plus or minus tide, not to exceed 37 ft., as measured by the closest tide gage. Vessels with draft over 36 ft. will take two Pilots above the North Texas Slip (Old SP Slip). Rule will be void if project depth for this area is changed.

Maximum permitted draft for vessels transiting the Houston Ship Channel above Boggy Bayou and below North Texas Slip shall not exceed 40 ft. (fresh water). Maximum draft shall be decreased due to weather conditions and the state of the tide to ensure one foot under keel clearance. 40 ft. is allowed at 0 tide. Height of tide shall be measured by the tide gauge system adopted by the Houston Pilots.

Maximum permitted draft for vessels transiting the Houston Ship Channel below Boggy Bayou (including Bayport and Barbours Cut) shall not exceed 45 ft. (fresh water). Maximum draft shall be decreased due to weather conditions and the state of the tide to ensure one foot under keel clearance. 45 ft. is allowed at 0 tide. Height of tide shall be measured by the tide gauge system adopted by the Houston Pilots.

Anchorage Draft Restrictions:

BOLIVAR ROADS ANCHORAGE (See 33 CFR 110.197)

<u>Name</u>	<u>Draft restrictions</u>	<u>Duration</u>	
Anchorage A	Over 22 ft./34 ft max	48 hours max.	05.25.16
Anchorage A East			
Anchorage B	22 ft. or less		
Anchorage C	16 ft. and over	48 hours max.	

***XIII.* Interim Rules**

Interim rule 02-2021: Section XII. Provisions for drafts over 39 ft between Shell and Greens Bayou at night with 2 pilots expires 8/30/22.