

**HOUSTON PILOTS
WORKING RULES,
including Navigation Safety
Guidelines for the Houston Ship
Channel**

Updated April 10, 2019

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I. VESSEL TYPE RULES

VT- 1 Tugs and barges on the bar will be boarded on a four-hour notice or less if possible.

VT-2 LPG tankers proceeding with cargo whose LOA is less than or equal to 560' will be moved 24/7. LPG tankers proceeding with cargo whose LOA is greater than 560 ft. but less than 600' will be daylight restricted above buoy 18 Morgans Point. LPG Tankers proceeding with cargo whose LOA is greater than or equal to 600' will be daylight restricted above B-18. 04.10.19

Ballasted LPG tankers greater than 560-600 ft. will be moved 24/7 to Boggy Bayou with 2 pilots at night. Ballasted LPG tankers greater than 560'-600' and less than 750' LOA, with a beam of less than 107' will be moved 24/7 up to Targa with 2 pilots at night. 04.10.19

All LPG tankers can shift 24 hours a day with one pilot within one zone above Morgan's Point. 12.10.14 04.29.15 See also applicable widebody working rules.

VT-3 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'. 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. 08.11.10

Expand to proceed to City 25 extending into City 24. Restrictions are as follows for all car ships proceeding above the 610 bridge: 05.04.11

- A. Minimum one tractor and one twin screw tug
- B. No barges alongside ships from City Dock 25 thru City Dock 28
- C. No ships gear extending into the channel from City 26 thru City 28

VT-4 H, I, J, K, & O Class Star Ships:

- I, J, & O: 24 hours below City 20 & Daylight above City 20.
- H: Daylight only above Shell. 08.20.14
- K: Daylight only above Barbours Cut. 08.20.14
- Beam restrictions at City 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. 4.27.05

VT-5 Specific Vessels:

- Atlantic Sun: Banned.
- Ireland class vessels (751'x106'). Two pilots. If draft is less than 30 ft., no daylight restriction out of Vulcan .
- Cap Andreas class (888'x141') is permitted to transit to Barbours Cut 1 with two pilots, daylight restricted above B-18. 02.17.16
- Cotinga Arrow, Falcon Arrow, Swan Arrow, Tinamou Arrow, Tsuru Arrow (similar to Star Ship K class). Daylight restricted above Shell. 08.19.15
- MVs Eagle Centaurus, Eagle Carina, Eagle Corona & Compass I will be trimmed by the stern 18". 12.07.05
- MV Green Magic 456'x54' with a working bow thruster and a tethered tug assist is excluded from the 256' 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. 01.22.2014
- Seven Seas Highway car carrier and all vessels of that class restricted to 2 Pilots due to visibility and daylight above Morgan’s Point. 01.22.2014
- Captain Steven L Bennett to be daylight only and 2 Pilots and cannot go above Shell. If the upper wheel house and associated systems (Pilot plug, sound tube, heating/cooling, gyro repeater, radar repeater, electrical outlet, table/chair) are in place and operational, daylight restricted above Morgan’s Point and 2 pilots. 02.18.15
- Stolt Integrity class vessels, 607’ x 106’ (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 working thruster, 1 tug may be used for undocking only when the draft is less than 28’ at Pilots’ Discretion). 08.15.18
- Teal Arrow, daylight restricted above Morgan’s Point. 02.18.15
- MV Trubezh will be trimmed by the stern 18” for all movements. 12.07.05
- Tug Betty S/Bahia de Tampa – 24 hrs loaded, daylight above Buoy 18 in ballast.
- Tug Cavalier/Barge New York: Daylight above buoy 18 with a draft over 32 ft. and a 1 ft. drag. 11.14.01
- Tug Mister Andre/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’, moulded beam = 106’, extreme breadth = 114.5’) – 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-6 Deleted. 04.29.15

VT-7 All vessels requesting Pilotage are required to provide an operational AIS Pilot plug, including heading, in accordance with IMO regulations. 02.11.09

VT-8 Brady Island Turning Rule

- A. No car carrier of any size and any other vessel of 625ft 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. 12.12.12
- B. No vessel 580ft LOA or longer loaded to more than 30 feet 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 CD-20 due to draft restrictions from shoaling will have 2 pilots assigned. 08.15.18

VT-9 Cruise ships shall not be assigned a pilot when sustained wind speeds exceed 25 knots as measured at either the HP Office weather station, or the Cruise Terminal weather station.

VT-10 Wind restrictions are to be applied to large sail area (LSA) vessels as stipulated in the Houston Pilots Working Rules. 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

VT-11 Container vessels: The following restriction applies for all container vessels with LOA greater than 900' and less than or equal to 1100': Maximum sustained wind less than 20 knots at the berth.

The following restrictions apply for all container vessels with dimensions greater than 1000' LOA or 138' 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-17 for combined LOA restriction]

The following restriction applies for all container vessels with an LOA greater than 1100': No meeting any other ships in the ship channel above B-18. Maximum sustained wind not over 15 knots at the berth. Vessel traffic management protocols to be developed. 08.15.18
Notwithstanding the above, container vessels with an LOA less than or equal to 1110' and beam less than or equal to 150' may meet other vessels with dimensions less than or equal to 601'x106' and a draft of less than 35'. 04.10.19

// DOCK RULES

DK-1 Ideal (SP) slip- 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-2 Magellan Dock- 1 Ships with dimensions of 800 x 106 or less may moor port side to as long as depth of water in slip is properly maintained.

DK-3 Minimum clearance between ships at Targa shall be 125 ft. Distance between dock #1 and #2 faces is 365 ft. 05.23.14

DK-4 Chevron Phillips 8 & 9 beam of moored vessels not to exceed 75 ft.

DK-5 Houston Fuel Oil: HFOF ship dock 2: Vessel dimensions restricted to 900 x 144 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 Jacinto Port the available space must exceed 2 times the beam of transiting vessel + 150'. HFO 3 to HFO 5 dock face to dock face total distance equals 785 ft. When docking vessels 106' beam or over, no barges may remain at HFO-5 barge dock. When undocking vessels 106' 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. HOFO ship dock 5: Maximum vessel dimensions: 900'x165'. 08.31.16 08.15.18

DK-6 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 JDH #2 during docking maneuvers. 11.12.03 Vessels greater than 535 ft. dock SST only. 4.14.03

DK-7 City Dock 17 Between City 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'.

The following items were taken from the Safety Guidelines and are included here for easy reference:

DK-8 Cargill #3 must be clear when docking a vessel at Cargill #2 and vice versa.

DK-9 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-10 Baytown 4 & 5, the combined beam of all vessels moored and or docking/undocking must not exceed 210 ft.

DK-11 There shall not be any vessels or barges docked across from Baytown #3 when any vessel or barge is berthing at Baytown #3.

DK-12 There shall not be any other vessels or barges alongside a vessel or barge which is docking or undocking in the same slip at Oiltanking.

DK-13 There will be a minimum spacing of at least 30 ft. between docked ships at any facility on the Houston Ship Channel.

DK-14 Vessels bunkering/lightering at the following docks must report the operation to VTS; 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. The restricted docks are: City Docks 1E, 1W, 2, 14, 15, 16, 27, 28 and 32, Old Manchester, Manchester A & B, Valero (Charter Oil), Vopak Galena Park, Lyondell C, Pasadena Refining, Kinder Morgan Pasadena, Agrifos (Mobil Chemical), Chevron Phillips 8 & 9.

DK-15 Vessels at Agrifos are limited to 96 ft. beam or less without special permission. 02.21.01

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

- D. Working bow thruster.
- E. Tugboat to assist.

- F. Alternate Dock in case of extreme weather.
- G. Max. beam of any vessel at Petro Tex Dock B, to be no more than 54 ft. 9.24.08
- H. Maximum beam of 69 ft. 9.24.08
- I. We will not go around another vessel in this slip.

DK-17 KMD (Kinder Morgan Deepwater) Vessels with lengths not greater than 855 ft. and up to 142 ft. beam will be allowed. All vessels with LOA greater than 750' require 2 Pilots. All other widebody rules apply. Widebody bulkers without an all-around rudder angle indicator are daylight restricted above B-18. 08.31.16

DK-18 Targa #4 Vessels of up to 760' with a maximum beam of 123' will be allowed. For vessels with a beam greater than 120', special traffic management protocol to be implemented (VTSA Category 2 obstruction process). For vessels with LOA greater than 750', maximum sustained wind is limited to 20 knots at the berth. 08.16.17

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

DK-19 Bostco #1 Ship dock Vessels with length not greater than 900' and beam not greater than 150' will be allowed. Vessels with beams greater than 138' 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' and a draft of greater than 40', no doubled-up barges will be allowed across from dock #1 [when a vessel is docking]. 08.31.16

DK-20 If there are vessels at both Inbesa and Jacintoport #2, the following are required for a vessel to dock or undock at Jacintoport #1:

- a. Maximum dimensions of the vessel at Jacintoport #1 are 580'x90'.
- b. The vessel at Jacintoport #2 must be spotted at the 250' mark (at least 250' from the eastern edge of Jacintoport #1).
- c. The vessel berthed at Inbesa has an LOA less than 657'

12.09.15

DK-21 ITC Pasadena: Maximum ship dimensions: Dock #1 (west): 751'x~~106'~~125'x40' ; Dock #2 (east): 751'x106'x40'. 05.25.16

DK-22 Oiltanking: Maximum ship dimensions: OT7: 950'x160'; OT8: 950'x165'; OT9: 950'x140'. Combined beam for vessels at OT7 and OT8 not to exceed 310'. 04.29.15

DK-23: Enterprise Barbours Cut Ethane Export Terminal: Docks 7 and 8: Maximum vessel dimensions: 900'x138'. 05.25.16

DK-24: City Dock 32. When required to back down from City Dock 32 to Lyondell basin or from Lyondell basin to City Dock 32, to turn, the following restrictions apply: 2 pilots, daylight restricted during backing, 2 tractor tugs. Restricted bunkering at Manchester A & B. 08.16.17

DK-25: LBC-5: Vessels with maximum dimensions of 910'x165' permitted with the following restrictions: 2 pilots, daylight restricted, all dredges outside of navigable channel, no barges at LBC barge dock, for drafts less than 34' maximum of 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 for suezmax sized vessels (VTSA Cat 2 obstruction process). [This change becomes effective once the Bayport Ship Channel south flare radius is eased to 4000' and the widener at B-75/76 is complete] 08.16.17

DK-26: The Rules & Safety Committee shall use the Houston Pilots Dock Project Guidelines (DPG) to evaluate all projects that are presented to the Houston Pilots for review. Anytime a project under review is unable to stay within the guidelines of the above document, the issue or proposed exception must be brought to the group for their guidance or approval. Under no circumstances shall the committee operate outside of these guidelines without group approval.

III. WIDEBODY RULES

This rule is predicated on the 530 ft. channel and its barge lanes being completed.

A widebody vessel is defined as any vessel with a beam of 120 ft. and over.

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

Industry must understand that we are trying to accommodate their needs as much as possible. In the interest of safety, we reserve the right to modify these guidelines based on operational experience. We may require a certain amount of drag for selected widebodies, which in our judgment handle poorly in the HSC.

(Widebody Rules effective 5.1.05)

WB-1 Any widebody vessel transiting above buoy 18 will require two pilots at all times.

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

WB-3 Any widebody vessel over 150 ft. in beam and/or over 900 ft. in LOA will be daylight restricted above buoy 18 at all times.

WB-4 Widebody tankers without an all-around rudder angle indicator are daylight restricted above B-18. 08.31.16

WB-5 The maximum beam of any vessel allowed to come to Houston is 166 ft. without prior approval from the Houston Pilots and the respective terminal.

WB-6 The maximum LOA above Morgan's Point High Lines is 950 ft. without prior approval from the Houston Pilots and the respective terminal.

WB-7 Two widebodies meeting in the HSC 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-8 Two widebodies meeting in the HSC 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-9 An inbound vessel with a draft of over 40 ft. 00 in. will be provided with a tractor tug as an extended assist tug from Morgan's Point to the vessels final destination. An outbound vessel with a draft in excess of 40 ft. 00 in. will be provided with a tractor tug as an extended assist tug from the departure dock to Morgan's Point.

WB-10 Widebody ships 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 (Double-sided widebody ship with single bottoms will be allowed to sail under this rule until July 01, 2005).

WB-11 Ballasted vessels will have priority sailing one-half hour prior to daylight for sailings in the mornings. No inbound widebody ship will restrict these A.M. sailings.

WB-12 All widebody vessels over 145 ft. in beam and over 35 ft. in draft will require a minimum of three tugs for docking. These tugs MUST be of twin screw or tractor design. 08.18.04

WB-13 [Deleted 08.15.18]

WB-14 All widebodies vessels can shift 24 hours a day with one pilot within one zone (effective 05/26/04). Exceptions include widebodies that do not have a rudder angle indicator that is visible from all angles. 12.10.14

WB-15 There must be a 160 ft. beam clearance when docking/undocking in a slip. This 160 ft. will allow for a tug and minimal safe clearance on the side of the ship and on the stern of the tug.

WB-16 Any Widebody container vessel calling at Barbours Cut / Zone 1 – HSC with a maximum beam of 131 ft. and/or a L.O.A of 902 ft. or less can transit 24 hours a day provided the following conditions are met:

1. Tugs by name must be assigned in accordance with THE TUG MATRIX prior to Pilot boarding. One tug must be a tractor type.
2. No night time bunkering operations are allowed during docking or undocking at BBC 1-4.

Any failure of a tug to meet its assignment upon arrival at Barbours Cut will cause this provision to terminate. 5.24.06

WB-17 Two vessels with a combined LOA of 2030 ft. or greater will not be permitted to meet above buoy 18. 08.15.18

IV. CONTAINER TERMINAL SERVICE ENHANCEMENTS (BAYPORT AND BARBOURS CUT)

CT-1 Notwithstanding the approved maximum permitted dimensions for container vessels transiting to Bayport or Barbours Cut Container terminals in this section, the Presiding Officer at his/her discretion may approve vessels with differing maximum dimensions 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

CT-2 Service enhancement for non-tank vessels transiting to or from Barbours Cut

1. Effective 15 December 2007: All non-tank vessels within the guidelines transiting to or from Barbour's Cut will be 'one pilot' during daylight hours whether turning or not.
2. Effective 15 December 2008: All non-tank vessels within the guidelines transiting to or from Barbour's Cut will be 'one pilot' whether turning or not.
3. Maximum non-tank vessel size permitted to transit to Barbours Cut Dock 1 is 1158'x142'.

Note - The maximum draft will be limited to 40' or less until Houston Pilots have gained sufficient experience to handle deeper draft vessels.

4. Maximum vessel permitted to transit to Barbours Cut Docks 2-6: 1000'x138'. See also CT-1. 08.16.17

This proposal will not replace any other rule or guideline, and all vessels which require two pilots as stated in other rules and/or guidelines will continue to have two pilots aboard, and is only applicable to the Barbour's Cut Container Terminal and/or Cruise Ship Terminal. Within guidelines to be not over 1000 ft. L.O.A. x 138 ft. beam.

CT-3 Enhanced service phase-in for non-tank vessels transiting to or from the Bayport Industrial Complex

1. Effective 15 December 2007: All non-tank vessels within the Bayport guidelines transiting to or from the Bayport Industrial Complex will be one pilot during daylight hours whether turning or not.
2. Effective 15 December 2008: All non-tank vessels within the Bayport guidelines transiting to or from the Bayport Industrial Complex will be one pilot whether turning or not.
3. Once sufficient tugs as per the Houston Pilots tug matrix become available, the maximum permitted size of vessels transiting the Bayport Ship Channel will be increased to 1000 ft. L.O.A. x 138 ft. beam. *(The Tug Matrix requirement for vessels over the Bayport Guidelines is a minimum of two (2) 6000 H.P. tractor tugs plus one large tug).*

4. One year after delivery of said assist tugs or after 15 December 2008, whichever is later, all non-tank vessels proceeding to or from the Bayport Industrial Complex during daylight hours that are not more than 1000 ft. L.O.A. and/or 138 ft. beam and that currently require two pilots, will at that time require only one pilot.
5. Two years after delivery of said assist tugs or after 15 December 2009, whichever is later, all non-tank vessels proceeding to or from the Bayport Industrial Complex that are not more than 1000 ft. L.O.A. and/or 140 ft. beam and currently require two pilots, will only require one pilot at any time.
6. Effective upon completion of the dredging project to widen the Bayport Ship Channel to 400' outside the land cut and 350' inside the land cut, and of relocation of aids to navigation to mark the new channel, the maximum size of non-tank vessels permitted to transit the Bayport Ship Channel is 1096'x143'x45'.

[CT-3, paragraphs 1-6 superseded by paragraph 7 and VT-11, but remain to give perspective of on-going service enhancements]

7. Effective upon completion of the dredging project to increase the radius of the Bayport flare from 3000' to 4000' and to widen the east side of the Houston Ship Channel in the vicinity of B-75/76, the maximum size of non-tank vessels permitted to transit the Bayport Ship Channel is 1160'x150'x45'. 09.02.15 08.16.17

V. TANK VESSELS TRANSITING BAYPORT SHIP CHANNEL AND BARBOURS CUT

BT-1 The maximum size of tank vessel permitted to transit the Bayport Ship Channel and Barbours Cut is 850'x145'. [This change becomes effective once the Bayport Ship Channel and flare are deepened to a project depth of 46.5' MLLW, the south flare radius is eased to 4000', and the widener at B-75/76 is complete, see also DK-25.]

VI. GUIDELINES AND RESTRICTIONS

Maximum permitted draft for vessels transiting the Houston Ship Channel shall not exceed 45 ft. (fresh water). Maximum draft shall be adjusted in accordance with the state of the tide and current to allow 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.

The following guidelines shall govern the routine transit of vessels on the Houston Ship Channel between Galveston Bar and the Turning Basin, Houston Texas.

BOLIVAR ROADS TO BARBOUR'S CUT

- Maximum Vessel Size – 1000 ft. x 138 ft.
- All non-tank vessels bound for Bayport or Barbour's Cut which are within the guidelines will transit on a 24- hour basis, unless restricted by other rules and/or guidelines or any outside conditions not under the pilot's control. 02.28.07

BARBOUR'S CUT TO BAYTOWN

- Maximum Vessel Size – 900 ft. x 135 ft.

BAYTOWN TO BOGGY BAYOU (SHELL, including KM Deepwater) 04.29.15

- Maximum Vessel Size – 860 ft. x 120 ft.
- Daylight above Baytown for vessels over 900' LOA or over 40' draft. 12.07.2005
- All vessels with drafts of over 40'-00" will be provided with a tractor tug as an extended assist tug from Morgan's Point to destination dock and from departure dock to Morgan's Point. 12.07.05

LYNCHBURG TO BOGGY BAYOU (SHELL, including KM Deepwater) 04.29.15

- Shifting between Lynchburg and Shell no draft restrictions. 05.28.03

BOGGY BAYOU (SHELL) TO SIMS BAYOU (LYONDELL)

- Maximum Vessel Size-750'x116'
- Vessels with beam over 105' shall not meet any ship traffic of any size above Boggy Bayou.
- Daylight above Beltway 8 Bridge for vessels over 750' LOA or over 39' draft. 11.18.09, 04.29.15
- In the event the 105' beam rule is removed from the Navigation Safety Guidelines it will remain a Houston Pilots Rule. 12.02.09

BOGGY BAYOU (SHELL) TO MAGELLAN/TARGA #5

- Vessels of up to 760 ft. with a maximum beam of 120 ft., and vessels over 760 ft. but less than 811 ft., with a maximum beam of 107 ft. 10.01.03

SIMS BAYOU TO PORT OF HOUSTON TURNING BASIN

- Maximum Vessel Size – 750 ft. x 106 ft.
- Daylight passage for vessels over 700 ft. LOA.
- Vessels with this restriction shall make this transit above SP slip to the POH Turning Basin during daylight hours. 5.26.04

Vessels exceeding guidelines listed above may be subject to various restrictions including additional pilots, daylight only passage, or may be denied entry.

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.

Dead ships shall not be navigated at night on the Houston Ship Channel.

Startup times for ships over 120 ft. in beam shall be 30 minutes before daylight when no combined beam rules apply. 08.21.0

HOUSTON PILOTS' RECOMMENDED NAVIGATION SAFETY GUIDELINES FOR THE HOUSTON SHIP CHANNEL

Part 1 – General Provisions

1.01 Definitions

- A. Barge – A vessel designed with no means of self-propulsion.
- B. 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.
- C. Foreign towing tug – Any towing vessel registered in a country other than the United States.
- D. Houston Pilots Association – An unincorporated association of persons 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.
- E. Houston Pilots Safety Committee – A committee comprised of a number of Pilots that evaluates issues involving the safe navigation of the Houston Ship Channel.
- F. Houston Ship Channel – The navigable waterway existing from the Galveston Sea Buoy to the Houston Turning Basin.
- G. Pilot – An individual member of the Houston Pilots Association.
- H. Under Keel Clearance – The distance from the bottom of a ship's keel to the seabed.
- I. Vessel Agent – Local ship agent retained by vessel's owner/operator.
- J. Navigation Guidelines – As published by the Pilot Board and contained in the Rules and Regulations Governing Pilots and Pilotage on the Houston Ship Channel between the Galveston Bar and Turning Basin.

1.02 Pilot Discretion

Nothing in these safety guidelines shall be construed to limit in any way the individual discretion of the Pilot.

Ships and the waters they ply represent a dynamic, ever-changing environment. On the Houston Ship channel traffic density and location is another dynamic factor 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 suggestions 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 avoid danger. 06.01.12

1.03 Prior Versions Superseded

All prior drafts and versions of these safety guidelines are hereby superseded: including a working draft entitled "Navigation Safety Study for the Houston Ship Channel."

Part 2 – Notification Requirements and Guidelines Regarding Vessel Safety

2.01 Notification of Safety Defects

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 office 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 unsafe conditions requiring notice include, but are not limited to all equipment covered by 33 C.F.R. / 164.53 and any other equipment or vessel conditions (such as inoperative windshield wipers or clearviews) that could have an effect on the handling or navigation of the vessel.

2.02 Restricted Visibility

A. Due to the restrictive nature of the Houston Ship Channel, all vessels must afford proper visibility from the bridge. Visibility provided in accordance with 33 C.F.R./164.15, shall be satisfactory to comply with these Guidelines.

B. If, because of vessel design, trim, or obstructive deck cargo, a vessel cannot offer the Pilot satisfactory visibility, then, at the discretion of the Pilot or the Houston Pilots 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 of sufficient propeller and rudder action and be in accordance with International Marine Organization, MARPOL Annex I guidelines (see attached exhibit A, page 38), or

1. Vessels less than 800 feet 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 feet and over in length shall have a minimum forward draft of 18 feet and a minimum after draft of 28 feet.
3. In any case the after draft shall not be less than that which is necessary to obtain full immersion of the propeller(s).

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 Association 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, which 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 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.

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 Safety Committee, be restricted to daylight transit and/or additional Pilotage or tug requirements.

* 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.

Part 3 – Docking Facilities on the Houston Ship Channel

3.01 Dock Design & Docking Procedures

A. All docks should be built as far back from the channel as possible 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.

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

C. 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.

3.02 Proper Fendering and 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 Safety Committee shall notify the U.S. Coast Guard and they will make an assessment of that particular dock.

3.03 Docking Clearance

- A. Before starting any docking operation, adequate clearance with adjacent berths must be provided to safely complete the docking evolution.
- B. When docking or undocking at the following berths, the following clearances must be provided:
 - 1. Cargill #3 must be clear when docking a vessel at Cargill #2 and vice versa.
 - 2. At Baytown 4 & 5, the combined beam of all vessels moored and docking or undocking must not exceed 210 feet. Regardless of the combined beam restriction, the Pilot at his/her discretion may deem it necessary to have the opposite dock vacated.
 - 3. There shall not be any vessels or barges docked across from Baytown #3 when any vessel or barge is berthing at Baytown #3.
 - 4. There shall not be any other vessels or barges alongside a vessel or barge that is berthing or unberthing at the same slip at Oiltanking.
 - 5. All vessels must provide at least a 125- foot separation when docking at Targa #1 and Targa #2.
 - 6. There will be a minimum spacing of 30 feet between docked ships at any facility on the Houston Ship Channel.

3.04 Bunkering & Special Operations

- A. In the upper reaches of the Houston Ship Channel, there are certain areas where the 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, hazardous constriction of the channel may be created.
- B. Ship-to-barge bunkering or cargo transfer operations are subject to restriction as stated in the attached letter from the U.S. Coast Guard dated July 28, 1993 (Exhibit B).
- C. In the event that there is a failure of any of the parties to this agreement to abide by its particulars, or there is a disagreement amongst any of the parties regarding its application or intent, the U.S. Coast Guard must be notified immediately.

3.05 Vessel Size Restrictions for Berth

The length of vessels docking in the Port of Houston should be restricted to adequately allow for proper mooring of the vessel. Ships should not be allowed to extend over the end of the dock unless approval has been granted by U.S.C.G. with additional safety measures implemented by the terminal and vessel.

3.06 Light Pollution

- A. All facilities bordering the Houston Ship Channel 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 the 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 United States Coast Guard.

Part 4 – Vessel Grounding

4.01 Vessel Grounding

- A. If a ship grounds in the confines of the 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.

Part 5 – Vessel Restriction

5.01 Car Carriers

- A. Car Carriers shall be operated on a 24-hour basis but shall be turned in daylight only. Car Carriers shall not be assigned when sustained wind speeds exceed 25 knots. They shall not meet any ship traffic above Greens Bayou; sailing and arrival times shall be adjusted accordingly. 11.15.00 Allow Car Carriers to schedule sailings one (1) hour before dark. 09.05.01
- B. VTS shall be notified of estimated sailing times for outbound Car Carriers and ETAs at Greens Bayou for inbound Car Carriers so that wide or long tow traffic can be restricted.

5.02 Vessels or Barges Carrying Ammonia

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

5.03 Dead Ships

- A. In addition to all other applicable Guidelines for dead ships, the towing company shall notify the Houston Pilots Association (three hours prior to any movement) of the number and type of tugs retained for 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 weather forecast.
- C. Other ships or offshore tug and barges shall not overtake dead ships.
- D. Any barge that was converted from a ship will be handled on its initial transit like a dead ship, (i.e. 2 Pilots, proper tugs and daylight only). The Houston Pilots 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 feet long or longer must have two Pilots.
- F. If a dead ship is less than 450 feet 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: Shelter, food, water, and restroom facilities.
- H. A dead ship that is required under these rules to have two Pilots may have one Pilot when shifting through two or less zones.
- I. 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.

Part 6 – Channel Restrictions

6.01 Bayport Channel

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

6.02 Beam Restrictions Buoy 18 to Shell

The combined beam of vessels or barges meeting between Buoy # 18 and beacon 75/76 shall be restricted to a combined beam of 310 ft. or less. Vessels meeting between 75/76 and Boggy Bayou shall not have a combined beam exceeding 272 ft. 5.1.05

Part 7 – 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 United States Coast Guard.
- B. In order to maintain two-way traffic at night between Morgan's Point and Lynchburg, all ranges established by the U.S.C.G. 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 Association.
- C. Between Morgan's Point and the Sea Buoy at 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 will immediately be stopped or restricted, at the discretion of the Houston Pilots Association.
- D. If there are inoperative navigation 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 time 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 Association, in their discretion, deem such a restriction in necessary.

EXHIBIT A

Annex I. Regulations for the Prevention of Pollution by Oil

New oil tankers of 20,000 tons deadweight and above.

1. Every new crude oil tanker of 20,000 tons deadweight and above and every new product carrier of 30,000 tons deadweight and above shall be provided with segregated ballast tanks and shall comply with paragraphs (2), (3), and (4), or paragraph (5) as appropriate, of this regulation.

2. The capacity of the segregated ballast tanks shall be so determined that the ship may operate safely on ballast voyage without recourse to the use of cargo tanks for water ballast except as provided for in paragraph (3) or (4) of this regulation. In all cases, however, the capacity of segregated ballast tanks shall be at least such that, in any ballast condition at any part of the voyage, including the conditions consisting of lightweight plus segregated ballast only, the ship's drafts and trim can meet each of the following requirements:

(a) The molded draft amidships (dm) in meters (without taking into account any ships deformation) shall not be less than:

$$dm = 2.0 + 0.02L$$

(b) The drafts at the forward and after perpendiculars shall correspond to those determined by the draft amidships (dm) as specified in subparagraph (a) of this paragraph, in association with the trim by the stern of not greater than 0.015L; and

(c) In any case the draft at the after perpendicular shall not be less than that which is necessary to obtain full immersion of the propeller(s).

APPENDIX

TERMINAL TUG AND DOCKING REQUIREMENTS

Odfjell 1 and 2: One tug minimum, Arrival and Departure

Odfjell 2: SST

Exxon Baytown

Please refer to pilot tug matrix. 02.23.11

VoPak Galena Park: One tug minimum with or without a bow thruster.

ITC 1, 2: One tug minimum with bow thruster.

ITC 7: SST - One tug minimum with bow thruster.

ITC 8: PST - One tug minimum with bow thruster.

ITC 3: Two tug minimum with or without bow thruster.

HFO 2 and 3: SST

Shell Crude Dock: Two tug minimum

All other Shell Docks: One tug minimum

PRS (Crown): PST

Targa: One tug minimum for vessels up to 500 ft. LOA

Two tug minimum for vessels greater than 500 ft. LOA when docking or sailing.

SAFETY/DRAFT GUIDELINES

DRAFT AND TRIM

Vessels less than 800 feet shall have a minimum Fwd. Draft equal to length overall x .0225 and a minimum draft equal to length overall x .035.

Ships 800 feet and over shall have a minimum Fwd. Draft of 20 feet and a minimum After Draft of 28 feet.

All ships shall be trimmed so the Pilot can see the ranges over the forecastle from the center of the navigation bridge.

DOCK CLEARANCE

Cargill #3 must be clear when docking a vessel at Cargill #2 and vice versa.

At Exxon Baytown 4 and 5, the combined beam of all vessels moored and or docking/undocking must not exceed 210 feet. There shall not be any vessels or barges docked across from Baytown #3 when any vessel or barge is berthing at Baytown #3.

There shall not be any other vessels or barges alongside a vessel or barge that is docking/undocking in the same slip at Oiltanking.

All vessels must have at least a 125 feet separation when docking at Targa #1 and Targa #2.

There will be a minimum spacing of at least 30 feet between docked ships at any facility on the Houston Ship Channel.

SHIP AND BARGE BUNKERING RESTRICTIONS

City Docks 1E, 1W, 2, 14, 15, 16, 27, 28 and 32. Old Manchester, Valero (Charter Oil), New Manchester Terminal A and B, Lyondell C, Vopak Galena Park, Pasadena Refining, Kinder Morgan Pasadena, Agrifos (Mobil Chemical), and Chevron 8 and 9.

DRAFT RESTRICTIONS

Bolivar Roads Anchorage

Anchorage A

over 22 ft./34 ft max

48 hours max.

05.25.16

Anchorage B

22 ft. or less

Anchorage C

16 ft. and over

48 hours max.

INTERIM RULES

[none]