INFORMATION DRIVE

NAVIGATING ILOG PASIG

06 January 2014

Navigating Pasig River

The Pasig River host more than 400 ships and 100 motor banca movements each week. The dredging of the Pasig River opens doors to many opportunities for our ports and all who use its facilities. To capitalized on these improvements, however, we must also maintain a safe navigation environment. This means adjusting our operations and procedures to accommodate increased traffic and fast crafts in the river. With some simple considerations, and continued cooperation among vessel operators, we can ensure a safer waterway.

A deeper & Safer River

River users should be aware of hydraulic effects in the river. Current near the banks may run slightly faster due to their shallower depth, and forces exerted by larger displacement ships will be amplified. See the sections on Deep draft/Toe Interactions and mooring issues for additional details on the impact of hydraulic effects.

Excessive wake in the river can cause bank erosion. In turn, the washed out soil/sand will create shoals-shallow spots which are apt to inflict heavy propeller and rudder damage.

Operators are responsible for the wake they created and the damages it causes. The wake may not only follow and spread out abreast of the vessel, it will catch up and pass you if you suddenly slow down or stop. Always slow down well before reaching Petron/Shell Jetty Port.

Any operator who endangers life, limb or property is in violation of the law and subject to severe penalty. Near misses and accidents resulting to fatalities or personal injury and damages to property must be reported to Coast Guard Station Pasig as soon as possible.

The Aids to Navigation (ATON) Marking System is universal employed and has a catchy phrase to help recall on which side of the ATON's you should be passing: "Red right returning." That means the red ATON's should always be on the right side when returning to port or when you're heading upstream in a river.

Deep draft tow interactions

Every vessel type transiting the Pasig River has its own unique navigational challenges and limitations. In order to maintain a safe environment, it is important to understand the differences between vessel types, and how their operation impacts others on the waterway.

Can you see off that ship?

A ship's configuration and cargo affect the vessel operator's line of sight from the ship's bridge. The blind spot ahead of the bow can be a few feet or hundreds of feet. Cranes, containers and cargo canopies can create additional baling spots. All vessel operators should exercise extreme caution when attempting to overtake a ship, taking care to avoid blind spots and to communicate intentions at all times when inside or entering/exiting the river.

How much does that ship hold, and why should I care?

The larger the size and cargo capacity of the large vessels mean more weight and greater water displacement in the river. This leads to amplification of hydraulic forces exerted on other vessels in the vicinity. A Greater speed of these vessels increases the risk level for other vessels.

Compensating for hydrodynamics

A moving ship pushes water away from its hull in all directions. As the ship moves forward, water will flow around and under the vessel to fill space in its wake. Areas of high pressure exist on both sides of the moving ship's bow as water is displaced. As it flows along the sides of the ship, water speed increases until it reaches an area of low pressure near the stern, This is where "ship's suction" occurs, Ship's suction is a hydraulic effect that draws neighboring vessels toward the stern as the ship pases, or pulls the stern near the bank of the river when transiting close to shore.

When two ships meet in the river, this effect can turn each of them off-course in a counter-clockwise direction (assuming opposing vessels are both on their respective sides of the river). This poses potential danger to vessels following either ship. To avoid this hazard, vessel should maintain following distances large enough to permit meeting ships to correct their course.

In similar fashion, a ship exert suction on vessel it overtakes in the river. To prevent this problem, operators, of fast craft and larger vessels, are directed no to overtake each other inside the river. Hydraulic effects on moored vessels are also amplified by the presence of fast craft and larger ships in the Pasig River.

Mooring Issues

As a passing ship approaches, the water surge ahead of it will cause a water flow at the pier in the direction of the passing ship. As the ship passes, water flow at the berth will shift direction, drawing the moored vessel in the opposite direction. A third force comes into play as the stern of the vessel passes. This force follows the passing vessel and is diametrically opposed to the previous force. In short period, the moored vessel will be pushed in different directions three times.

Because these forces are amplified by the transit of fast craft and

larger ships, it is particularly important to pay attention to proper dockside moorings. Mariners should tend their lines carefully and make sure loads are equally distributed. Lines should be tensioned such that no movement is allowed at the dock. If slack lines permit movement of even a few feet, the moored vessel will be subjected to a substantial amount of energy that will surge load and part overloaded mooring lines. To reduce incidents of parted mooring lines and damaged mooring, mariners and deckhands should be educated on the important of proper mooring leads, adequate mooring lines and optimal use of bollard, cleats and bits.

Navigation Rules

To avoid collisions and chaos on the river, all skippers are required to know the rules of the road. The following guidelines are standard the world over for inland waterways:

Sound Signals

Vessel under 12 meters must carry a whistle, horn or other similar attention-getting device. Vessel over 12 meters need both a whistle and a bell. The whistle should be audible for one-half mile. When two vessels approach close together, they need to let each know the other's intentions. Navigators communicate their plans by sound signal follows;

. One short blast indicates the captain intends to change his course to starboard (right)
. Two short blast indicates the skipper intends to move to the port (left) side.
. Three short blast advise that the captain is putting his level into reverse to get out of way
. Five or more short blast indicate danger that two vessel apt to collide. At the hat point, it is up to each skipper to handle his vessel at a safe speed, in a responsible and prudent manner.

Crossing Paths

When two vessels approach at the right angles, the vessel on the right has the right of way. The second vessel should give way or slow down and pass behind the stern of the privileged or stand-on vessel.

Meeting Head-on

Either vessel should signal its intention to pass to the right (starboard) with one sharp blast. The second vessel should answer immediately with one blast and also turn to its right. This way, the vessel are sure to pass on the (port) side of each other.

Overtaking

When two pass vessel are headed in the same direction and the boat astern wants to pass, it should signal its intention to pass the right or left with the appropriate sound blast when it reaches a position approximately 22.5 degrees off the beam of the forward vessel. The vessel being overtaken should hold its course and speed. The overtaking vessel should keep well out of the way vessel being overtaken should signal danger with five or more sound blast.

Note: There shall be no overtaking inside and within 500 meters of river mouth without the proper acknowledgment of the vessel to be overtaken.

Reduced Visibility

When you encounter poor visibility like heavy rains, you should signal a warning sound every two minutes to inform other craft that you are in the vicinity. Vessel should signal one blast for as long as four to six seconds.

Safe Speed

Every vessel shall at all times proceed at a safe speed so that she can take proper and effective action to avoid collision and should stop within a distance appropriate to prevailing circumstances and conditions.

In determining a safe speed the following factors shall be among those taken into account:

. the state of visibility
. the traffic density
. the maneuverability of the vessel with special reference to stopping distance and turning ability in the prevailing conditions;
. at night the presence of background light such as from shores lights or from back scatter of her own lights

Note: The maximum speed prescribed when inside the river is 10 knots

Dredge Operations

Due to siltation, you can find a working dredge on the Pasig River regularly. It is important to be aware of dredge operations and understand their signals in order to avoid accident. During the day, dredges will display a ball-diamond-ball in a vertical line, usually on the centerline near the forward portion of the dredge. This signal that you are approaching a vessel with limited maneuverability. The "safe side" will be marked with two diamonds. Avoid the "danger side" marked with two black balls. This is the side on which the dredge pipe is connected.

At night, the ball-diamond-ball pattern will instead be represented with a red-white-red pattern. The diamonds of the safe side will show two green lights, and the two black balls of the dangers side will show two red lights. Do not confuse this with navigation

lights, and never pass a dredge until you confirm passing instructions with the dredge master.

Dredge operations sometimes involve a considerable number of support vessels that are necessary to move the dredge, relocate anchors and anchor balls, place dredging pipe and connecting flanges, and ferry personnel and supplies. These boats are on the move 24 hours a day. Maintain a close lookout, and be prepared for sudden maneuvers by support vessels. Communicate through signals is very important.

Areas Requiring Special Attention

These are several locations within the vicinity of the Pasig River that warrant the special attention of mariners.

Area: Mouth of Pasig River

Challenges: Traffic congestion, current, wind and weather, inconsiderate or uncooperative mariners, radio congestion, mariner inexperience, unmanageable tow size, ship sped.

Area: River bend

Challenges: Traffic congestion, line of sight, current, presence of the ferry, blinding lights at the shipyard, poor communication.

Anchorage Area

Normally, mooring areas at Pasig River are intended for temporary use by vessels of all types. Most vessels use the Anchorage while waiting of higher tide, dock space to clear, for bad weather to pass, or for completion of any required inspections. Other vessels may be waiting to take on stores. Anchoring inside the river is strictly prohibited. In the event of dropping of anchor for a more secured mooring, it shall be done at no more than 20 meters from the river bank and only during emergency situation that shall be **communicated** to Coast Guard Station

Pasig for approval and proper dissemination. It is illegal to obstruct the river or interfere in any way with the travel of others.

Bunkering Operations

The master of the vessel is responsible for the conduct and safety of the vessel prior to, docking, and the conclusion of bunkering operations. Safety can be ensured by taking precautions and following operating procedures. Bunkering permits are secured from the Coast Guard.

Bunkering Safety Guidelines

It is incumbent on the master to check weather conditions – existing and foretasted – before departing for the bunkering operation. There should be adequate familiarity with the receiving vessel to ensure approaches lines, oil spill booms and fenders are prepared prior to departure.

To ensure safety of the crew, protect the vessel and bunkering operation, and prevent spills, the master should conduct a "per-critical task conference" with the crew. At minimum, the master and crew should discuss.

- Weather, tide and current
- Duration of the operations
- Lookout procedures
- Communication with the ship
- Definition of crewmen responsibilities
- Identification of situations that would requires shutting down the transfer
- The mooring plan, as well as potential placement of lines and fenders
- Laying of adequate spill booms

Master should plan to moor on the ship's shore ward side to minimize the wake effects of passing vessels. While alongside, both the master and crew should continuously monitor conditions – including passing traffic, shifting tides or winds, and changing weather. As conditions changes, the master and crew should not hesitate to shift sides or stop the operation if it becomes hazardous.

Prior to departing, the crew should ensure that all hoses, valves and any equipment used in bunkering are secured and properly stowed. Following appropriate notifications, the vessel may depart for its next job.

Vessel operators must provide a 2 – hour notice of anticipated bunkering operations to Coast Guard. Discharge of oil or oily waste in the river and in all bodies of water is strictly prohibited. "Polluters Pay" principle would apply even in accidental and unintentional discharge.

Radio Frequencies

VHF Marine Band Channel 16 (156.800 Mhz) is the international Maritime Channel used for distress and safety working and voice calling. For non Global Maritime Distress and Safety System (GMDSS) equipped vessels you are required to maintain a listening watch on Channel 16 and may be use it to establish initial contact with another vessel or Coast Guard Station and you should move to a work channel as soon as possible.

If you are in a distress situation, you should make your initial Distress call on Channel 16. The rules for the use of channel 16 are agreed internationally and MUST be followed as the lives of mariners may depend upon being heard on this channel. The rules are designed to provide order and discipline of use on this, the most important Marine frequency.

Radio Usage Rules

- Always monitor Channel 16
- Use the correct maritime radio telephone operating procedure for establishing contact.
- Use your vessel call sign for identification purposes
- Use phonetics to spell out difficult words or abbreviations.
- Do not interrupt or interfere with transmission already in progress
- Wait for an appropriate break before starting your call.
- Give way to communications already in progress, or if asked to do so by Coast Station.
- Stop calling when a station does not reply to call sent three times at intervals of two minutes. Resume calling thereat a three - minute intervals at the earliest, having ascertained first that the station is not communicating with a third station elsewhere. (This does not apply to distress, urgency or safety calls.)
- Minimize the amount of time spent establishing contact or channel 16 (thirty seconds maximum) and then immediately switch to another inter ship channel – and keep discussions on these other channels to business of the vessel concerned.

DO NOT

- Transmit without the authority of the master or other person in charge of the vessel unless in an emergency situation.
- Operate the radio telephone unless qualified or under the supervision of an appropriately qualified person.
- Transmit or circulate false or deceptive safety of identification signals.
- Transmit without identification. This means your call sign or vessel name.
- Broadcast message or programmers of music (broadcast means to transmit without a reply being expected) except for safety messages.
- Make unnecessary transmissions.
- Transmit profane, indecent or obscene language.

River Obstruction

Anyone proposing to conduct maritime operations that may interrupt navigation in the river must submit their application to Coast Guard District NCR-CL or at Coast Guard Station Pasig at least one week prior to the requested closure, for proper evaluation and dissemination, if approved.

Given the large number of vessels simultaneously awaiting arrival or departure following a closure of the Restricted Area of Malacañang, standard procedures are in place to ensure orderly flow of traffic and maintenance of a safe operating environment.

A closure is imposed to all vessel plying the restricted area when the circumstances warrant in order to protect the President, First Family and the Seat of Philippine Government.

Security

Per experience with other river ways, watercrafts are often the target of terrorism and other unlawful acts. Considering the volume of passenger and commerce in Pasig, vessel operators should be particularly watchful for suspicious activity in this environment.

The National Government, PPA, PCG and other industry partners implement many new security measures in recent years to limit the possibility of attack on the Port or its facilities. The success of these efforts, however, depends on the vigilance of every one navigating the River or working at Port facilities. If you witness any unusual activity, do not hesitate to report it. Follow your company's security policy or alert Coast Guard Station Pasig immediately. Assistance of the PNP in these may be requested.

Philippine Coast Guard Maritime Security Threat Levels

The Coast Guard has a four-tiered system of Maritime Security (MARSEC) levels consistent with Anti-terrorism Task Force (ATTF). MARSEC levels provide a means to easily communicate coordinated, pre-planned, and scalable response to heightened levels of threat. Levels are set to reflect the prevailing threat environment to the marine elements of the national transportation system, including ports, vessels, facilities, and critical assets and infrastructure located on or adjacent to waters subject to Philippine jurisdiction.

The Commandant of the Philippine Coast Guard sets MARSEC levels in close alignment with threat conditions of the ATTF, but because of the unique nature of the maritime industry, MARSEC levels may not correlate precisely and will need closer security of prevailing conditions.

MARSEC LEVEL LOW/White Alert
No information to suggest a specific and imminent terrorist attack. This means that there is no intent and capability.

MARSEC LEVEL MODERATE/Blue Alert/HANDA
Terror attack is possible but not likely, the intent is present but capability is not monitored. Minimum appropriate security measures shall be maintained at all times.

MARSEC LEVEL HIGH/RED Alert/SAGIP
Terrorist attack is a strong possibility within a short period of time. Appropriate additional protective security measures shall be maintained for a period of time as a result of heightened risk of a transportation security incident.

MARSEC LEVEL EXTREME/Double Red Alert/TATAG
Further specific protective security measures shall be maintained for a limited period of time when a transportation security incidents probable, immanent, or has occurred, although it may not be

possible to identify the specific target.

Contact Information

If you have questions or comments about the information in this publication, or would like to obtain additional copies, please contact the Coast Guard Station Pasig at telephone number/fax (02) 689-7892 or submit your correspondence to:

Headquarters Coast Guard Station Pasig
Malacañang Park, Manila

Full cooperation of all concerned is very important.

ACCIDENT ARE COSTLY AND MAY RESULT TO LOSS OF LIVES, INJURIES AND DAMAGE TO PROPERTIES.

LET US RESPECT AND OBEY THE RULES

CDR CHRISTOPHER M MENIADO PCG
Station Commander, CGS Pasig

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