Republic of the Philippines
DEPARTMENT OF TRANSPORTATION
MARITIME INDUSTRY AUTHORITY

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To : **ALL SHIPOWNERS/OPERATORS OF PHILIPPINIE REGISTERED SHIPS ENGAGED IN DOMESTIC VOYAGES/OPERATIONS AND ALL CONCERNED**

SUBJECT : **SAFETY GUIDELINES ON THE PREPARATION FOR SAFE ANCHORING AND SAFE MOORING OF SHIPS DURING INCLEMENT WEATHER**

In the interest of the service, below are recommendatory guidelines in the preparation for safe anchoring and safe mooring of ships during inclement weather to be taken into consideration by ships and companies, in particular its inclusion in key shipboard operations incorporated in the Safety Management System (SMS), to prevent the occurrence of maritime accident and damage to the marine environment.

I. POLICIES

1. All vessels, in view of the forthcoming rainy and typhoon seasons and to further enhance the safety measures while at berth or anchor during adverse sea condition to prevent any maritime accident, shall observe **Flag State Administration Advisory No. 2011-07** on the *Protocol During Emergencies*, as amended, **MARINA Advisory No. 2021-56** on *Precautionary Measures to be Observed to Prevent Anchor Dragging During Adverse Sea Condition*, as amended, and **MARINA Advisory No. 2021-72** on *Observance of Precautionary Measures During Tropical Depression, Typhoon or Storm*, as amended, and other similar issuances.

2. All vessels, due to the different nature of operation and the areas the vessels operate, shall observe **PCG Memorandum Circular No. 02-13** on the *Guidelines on Movement of Vessels During Heavy Weather*, as amended, **PPA Memorandum Circular No. 19-1996** on the *Revised Guidelines and Standard Operating Procedures in the Port during Inclement Weather*, as amended, and other similar issuances.

3. All vessels anchored in sheltering areas or in any part of the Philippine area of responsibility and all vessels berthed/moored in Philippine Port vicinity, due to the individual nature of each terminal/vessel configurations are hereby encouraged to adopt the guidelines stated herein to ensure proper preparation of anchoring and mooring in anticipation of inclement weather.

II. GUIDELINES FOR SAFE ANCHORING

This section defines the procedures and safety recommendations on the preparation for safe anchoring of ships during inclement weather.

1. **Good management is the key:** Shipping companies should set up procedures for critical tasks in conducting a safe anchoring to avoid accidents. These consist of anchoring planning, risk assessment, best anchoring practices and anchor watch keeping, etc. all of which should be **incorporated into the Safety Management System**.

2. **Consider weather conditions and other factors:** During anchoring, it is important to be aware of the ship's surrounding. The weather condition, sea condition, shallow water, prohibited areas, navigational aids and facilities, underwater cables and pipelines, swinging room, and keeping a safe distance to other anchoring vessels in the vicinity are to be considered. Also, maintain a safe distance to the nearest grounding line.

3. **Observe effective anchoring plan and conduct risk assessment:** Make an effective anchoring plan that can prevent anchor accidents and avoid any operational failure. A detailed risk assessment should be conducted to formulate an effective plan and to make prudent decisions when facing emergencies. The anchor plan should be prepared by the Master considering the following elements:

   a. The limitation of the anchoring equipment. It is only designed to hold the vessel in good holding ground, and not to hold the vessel off fully exposed coasts in rough weather.

   b. The available depth and type of holding ground at the anchorage. Maximum depth of anchoring must be applied. Do not anchor in depths beyond windlass hauling capacity and with allowance of efficiency reduction for old windlass.

   c. Every Master or any person in charge of the vessel shall always determine the minimum Under Keel Clearance (UKC) during anchoring.

   d. Location of the anchorage designed for the vessel.

   e. Tide, direction and strength of the current in the anchorage area.

   f. The immediate and predicted weather, wind direction and strength, visibility, sea condition of wave, swell, etc.

   g. The availability of adequate sea floor.

   h. The safety swinging circle of the vessel: A circle with a minimum radius including length of anchor chain and the vessel's Length Over All (LOA).

i. The proximity of navigational hazards. An adequate safety distance to the nearest vessels and navigational facilities.

j. An alternative anchorage if the initial selected anchoring position is unavailable.

k. The anchor to be used taking into consideration the condition of anchor, anchor chains, windlass, brake band, chain stopper, lashing devices, etc.

l. The Master should also determine the operation mode of the engine according to the type of anchorage, weather conditions and the distance from other vessels, shoals and navigational hazards.

4. **Safe anchoring:** Anchoring operation is based on experience in handling complex anchorage and various conditions of vessels. The following points should be considered for safe anchoring:

a. Determining which anchor to use depends largely on the vessel and condition of the anchors. The basic principle is that the anchor must be in good holding and heaving condition.

b. Sternway speed. The speed over the ground needs to be minimized when the vessel is dropping the anchor and the chain paying out. Precautions are to be observed while dropping anchor in deep water, in this case anchor should be fully stopped with no speed over the ground. Laying the chain across the ground in an orderly manner can avoid excessive strain on the chain.

c. Anchor chain paid out. Wrong practice in dropping the anchor may cause chain entangling accidents or loss of the anchor. Most accidents are caused by uncontrolled running-out speed of the anchor chain and poor condition of the brake when dropping the anchor.

- The running-out speed should be limited to 5-6 meters/sec. and the brake force must be used to control the speed.

- In shallow waters, up to the depth of 25 meters, the customary practice is to let go the anchor from the hawse pipe or one meter above water by releasing the brake.

- If the water depth of the anchorage is between 25 to 50 meters, release the anchor about 5 meters above the sea bottom with the windlass, and then let go the anchor by releasing the brake.

- If the water depth of the anchorage exceeds 50 meters, release the anchor and the chain with the windlass until the chain walk out to the required length.

- However, if the water depth is above 80 meters, do not drop anchor as the maximum anchor depth for most vessels are designed to the rule of 82 meters (three shackles). The Master should check the Class limitation of the vessel to ensure the windlass heaving capacity limits do not exceed for the anchoring depth.

d. Length of cable. The cable length that should be released depends on factors such as water depth, draft, and windage area, strength of wind and current, and anchorage congestion.

- As a general guide, the cable length should be 3 times of the water depth plus 90 meters in normal condition. In rough weather condition, the cable length should be 4 times the water depth plus 150 meters. Congested anchorage is one of the exceptions.

5. **Maintain proper look-out:** It is important to check the anchor position frequently to detect anchor dragging at early stage. A vigilant bridge watch is essential as it can take some time to recognize anchor dragging, especially in a crowded anchorage where there is insufficient space between vessels to deal timely with emergencies.

6. **Monitor radio communication**. Ensure that marine band radio is working and manned at all times to receive communication from nearby ships or port authorities.

7. **Navigational lights in working order.** When there is poor visibility during inclement weather, ensure that all navigational lights are working and appropriate lights are turned on.

8. **Anchorage vis-à-vis open sea:** In the possibility of inclement weather conditions, the main engine should be prepared on standby, the bridge and engine room must be at a navigation level, and officers should stay alert. If necessary, the vessel should leave the anchorage and proceed to open sea to avoid anchor dragging.

9. **Philippine Anchorage Areas:** In the event of an expected inclement weather, shipping companies, Master or any person in charge of the vessel should determine different anchorage areas located in Philippine waters. Such hydrographic information can be obtained from the Hydrography Branch (HB) of the National Mapping and Resource Information Authority (NAMRIA) or can refer to anchoring areas designated by Port Authorities.

10. **Alertness of crew:** In the event of suspected anchor dragging, anchor dragging of vessels nearby, or when the vessel is straying out of the safety swinging circle, the officers on watch should:

    a. Report to the Master immediately
    b. Inform engine room to start the main engine immediately
    c. Have officers standing by at the anchor station

11. **Observe proper maintenance:** The anchor, anchor windlass systems and corresponding devices are to be maintained in good working order. Periodic inspections and maintenance activities should be included in the ship's Preventive Maintenance System (PMS) or operational maintenance routine. Record of these activities should be maintained.

12. **Prohibited areas to anchor:** Prohibited anchorages and prohibited areas shall be those defined or delimited by proper government agencies for the respective port, Port District/harbor limit. For this purpose, the authority through the Port Manager or his equivalent, of every port or Port District, shall issue a chart of the port or Port District indicating therein the various anchorages or prohibited areas in coordination with other agencies.

13. **No passengers on board.** For passenger ships when the vessel is anchored, as a precautionary measure during inclement weather, no passenger is allowed to stay on board while the vessel is waiting for improved weather and sea condition.

14. **Shipping Company Responsibilities:** A Ship owner may disallow the Master or Patron from having the vessel depart from port except for sheltering purposes, when typhoon signal is hoisted or expected to be hoisted within the area of origin or along the route or destination of the vessel. The ship owner, same as the Master of the vessel, **shall at all times exercise extraordinary diligence and observe precautionary measures in taking shelter to ensure safety of the ship crew on board**. Further, port regulations on limitation of mooring during inclement weather should also be considered. For instance, the PPA through PPA Memorandum Circular No. 19-1996 entitled "Revised Guidelines and Standard Operating Procedures in the Port during Inclement Weather" prescribes that no vessel more than 1,000 GT shall remain in port during storm warning signal number 3.

15. **Master's Overriding Authority:** The Company should establish in the SMS that the master has the overriding authority and the responsibility to make decisions with respect to safety and pollution prevention and to request the Company's assistance as may be necessary. The Master can only make such a decision to depart an anchorage if the weather information provided to the ship by various means is properly assimilated and acted upon.

II. GUIDELINES FOR SAFE MOORING

This section defines the procedures and safety recommendations on the preparation for safe mooring of ships during inclement weather.

1. **No passengers on board.** For passenger ships when the vessel is moored or at berth, as a precautionary measure during inclement weather, no passenger is allowed to stay on board while the vessel is waiting for improved weather and sea condition.

2. **Don't allow any extra crew member on the deck:** Make sure there are no extra people at the mooring station besides those involved in the operation. As a safety measure, anyone who is not assisting in the mooring operation must be requested to leave the mooring station.

3. **Consider weather condition:** To avoid situations like allision, the ship's Master and responsible Officer must assess the risk of starting the mooring operation while taking into account the details of wind, current, and future meteorological data.

4. **Have knowledge of snap back zone and rope bight:** The snap back zones and rope bight should be understood by everyone participating in the mooring operation.

5. **Check all the mooring equipment:** Check all of the mooring equipment (mooring winch, drums, windlass, etc.) for any issues. Routine maintenance is essential for mooring equipment and systems to work well. If there are mooring winches, make sure to check the load sensors. This periodic examination must be documented and recorded as part of the ship's Safety Management System.

6. **Check the tail of mooring line:** If the mooring wire line has a tail (short lengths of synthetic fiber rope connected to the vessel's winch-mounted wires to reduce mooring line stiffness and thus reduce peak line loads and fatigue due to vessel motions), make sure the tails are the same size and material for all lines in the same service (breast, spring and head lines). The mooring line would be loaded unevenly due to differences in tail size and material.

7. **Tend one line at a time:** During the mooring procedure, only one line should be tended at a time. If this is not done, the load on the other tended lines may increase. When two lines are tended at the same time, they may become overloaded and break. To avoid any mishaps, strictly follow the commands of the Master or responsible ship Officer.

8. **Keep a check on the mooring line load:** Ensure that the allowable breaking load in any of the mooring lines does not increase to its Maximum Breaking Load (MBL). This is to prevent the line from breaking.

9. **Avoid mixed mooring:** Mixed mooring is a very unsafe practice. If this is not practicable owing to the available equipment, then all lines in the same service, i.e. breast lines, spring lines, head lines, and stern lines, should be of the same size and material. Mixed moorings, which consist of full length synthetic ropes combined with wire, should be avoided. When a synthetic rope and a wire are used in the same service, the wire will carry nearly the entire load while the synthetic rope will carry almost none.

10. **Keep a continuous check:** Even after the mooring procedure is completed, the load on the mooring lines must be checked on a regular basis. If the ship's ballast situation changes, the lines must be slackened or tightened proportionately. To avoid unforeseen events, the condition of the rope material should also be checked. This task should be included in the mooring procedures under the Safety Management System, especially during bad weather.

11. **Arrange mooring lines symmetrical:** All mooring lines must be symmetrical with the breast line as much as possible. The spring line should be parallel to the longitudinal center line of the ship, while the breast line should be perpendicular to it.

12. **Mooring safety plan:** When applicable, the vessel must adhere to the port, terminal, facility, wharf, and pier's Mooring Safety Plan. Existing procedures must be followed when reporting to Port Authorities.

13. **Consider port regulations on limitation of mooring during inclement weather.** The Master shall coordinate as to the maximum gross tonnage of vessels allowed in berth during certain public storm warning signal.

14. **Safety monitoring factors:** Throughout the course of the port stay, the Master should ensure that all key parameters affecting the vessel's secure docking are observed and recorded. These may include:

    a. Weather conditions, both present and forecasted
    b. Tide and current ranges
    c. Traffic movement in the vicinity (where applicable)
    d. Interval of mooring patrols depending upon above factors

15. **Monitor radio communication.** Ensure that marine band radio is working and manned at all times to receive communication from nearby ships or port authorities.

16. **Navigational lights in working order.** When there is poor visibility during inclement weather, ensure that all navigational lights are working and appropriate lights are turned on.

17. **Recreational vessels:** Anyone leaving their non-commercial vessel unattended in the berth for an extended period of time is strongly advised to make the required arrangements for inclement weather ahead of time. The following points should be considered:

a. Secure the mooring ropes to solid, high pilings by doubling them. Mooring lines can be snapped in half in bad weather, so double up to keep the boat attached to the pilings where it is moored. To account for rising tides and storm waves, it is best to utilize longer dock lines than usual. Use at least 6 dock lines, 2 stern lines, and 2 bow lines to keep the boat from moving. Talk to the people who manage the berth and make sure that the boat is tethered to strong, sturdy pilings.

b. Install fenders to protect the boat's sides from the pier. If extreme weather strikes, the boat could be damaged by colliding with the pier it's moored to, the pier's pilings, or even other vessels. Tie fenders to the rails of the boat on sides that face a pier or another boat to prevent chafing. The tops of most fenders have a string attached to them that can be knotted in place. The distance between each fender should be roughly 15 inches (38 cm).

c. Retrieve the sails and ropes and store them. The intense gusts of a hurricane or tropical cyclone will destroy the sails. Take down the mainsail and headsail if they're still up before the storm and stow them safely below deck. Remove all rigging from the masts as well. Also stow this below deck.

d. Remove everything from the boat that could end up as debris during the storm. Anything unsecured on the boat's deck or fastened to the railing could be ripped away by the storm, causing harm to the boat or others around. Additionally, things fastened to the rails (such as an anchor or floating buoy) may catch the wind and may contribute to the wind pulling the boat from its mooring lines in a strong storm.

e. Gaffer tape any openings on the boat/yacht to keep them water-tight. If water gets inside the interior of the boat during a storm, it may cause a lot of damage. After properly closing the boat's hatches and portholes, use gaffer tape to seal around them to prevent water damage. Seal the exhaust holes and sea cocks while sealing up the openings.

f. During the storm, charge the boat's batteries to keep the bilge pumps running. If the boat fills up with water during a severe storm, use the bilge pumps to drain the water. Battery power is required to run the bilge pumps, make sure they're charged and ready to go 24 hours before inclement weather arrives. There is a chance the boat will take on water during a storm, keep the pumps going.

g. To avoid environmental damage, drain the fuel from the boat. If the boat sinks or is severely damaged during the storm, the fuel supply will be released into the surrounding water. Drain the petrol from the tank to avoid this, as well as the extremely improbable likelihood of a boat fire. Store it safely on land until the boat is ready to be utilize again.

h. To keep the boat in place, drop one or two anchors. Drop an anchor onto the ground beneath the boat once everything on the boat is storm-ready, both above and below deck. Ask the berth employees about the type of mud or dirt beneath to ensure the anchor is properly secured and the boat moves as little as possible during the storm. Determine which type of anchor will hold the best in this material and drop at least one anchor.

All MARINA Regional Offices are hereby instructed to monitor and implement the above provisions through ship safety audits under MC No. 2015-11, as amended.

MARINA Regional Offices are hereby directed to coordinate with Philippine Coast Guard and Philippine Ports Authority in the enforcement of this Advisory.

This Advisory shall take effect immediately.

For compliance.

ATTY. ERNANI N. CABIA
Administrator

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