



Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE SECRETARY
Manila

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DEPARTMENT ORDER)
NO: **136**)
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**SUBJECT: GUIDELINES ON POSITIONING AND
MOVEMENT OF DREDGES AND
FLOATING EQUIPMENT DURING
HEAVY WEATHER**

In order to facilitate the safe and successful removal of dredges and support vessels from their normal location to sheltered location during heavy weather, and to ensure the safety of the crew on board and prevent catastrophic damage to DPWH floating equipment, all concerned personnel are hereby directed to adopt the following guidelines and procedures on positioning and movement of dredges and floating equipment during heavy weather:

I. PURPOSE

This Department Order prescribes the policies and guidelines on the positioning and movement of DPWH floating equipment during the occurrence of tropical depression, storm or typhoon in the Philippine Area of Responsibility to ensure the safety of the crew and prevent damage to DPWH floating equipment. The objective is to organize the orderly removal of vessels from their location to sheltered locations.

II. SCOPE

These procedures and guidelines shall apply to all floating equipment owned and operated by the Department EXCEPT those vessels called upon to assist in rescue operations.

III. DEFINITION OF TERMS

This Department Order shall adopt the definition of terms used in Memorandum Circular No 02-13, Guidelines on Movement of Vessels during Heavy Weather, of the Philippine Coast Guard, to wit:

MARINA – Maritime Industry Authority

PAGASA – Philippine Atmospheric, Geophysical and Astronomical Services Administration

PCG – Philippine Coast Guard

Public Storm Warning Signal (PSWS) Nr 1 – declared if winds of 30-60 kph are expected in the locality in at least 36 hours.

Public Storm Warning Signal (PSWS) Nr 2 – raised if winds of 61 kph up to 120 kph are expected in the locality in at least 24 hours.

Public Storm Warning Signal (PSWS) Nr 3 – raised if winds of 121 kph up to 170 kph are expected in the locality in at least 18 hours.

Public Storm Warning Signal (PSWS) Nr 4 – raised if winds of 171 kph up to 220 kph are expected in the locality in at least 12 hours.

Public Storm Warning Signal (PSWS) Nr 5 – raised if winds of greater than 220 kph are expected in the locality in at least 12 hours.

Public Storm Warning Signal (PSWS) Sector – the areas covered by PSWS Nr. 1 or higher which are shown with corresponding color codes, as provided in PAGASA website.

Tropical Cyclone – refers to a type of low pressure system which generally forms in the tropics and composed of a large, rotating area of clouds, wind and thunderstorm activity. It begins as a tropical depression (TD), further intensifies to a tropical storm (TS), then becomes a typhoon (TY) when its maximum sustained winds reach more than 119 kph.

Tropical Depression (TD) – a tropical cyclone with maximum sustained 1-minute mean surface winds of 35 to 64 kph. The storm begins to assume the familiar spiral appearance with increasing cyclonic wind flow around the low-level circulation center.

Tropical Storm (TS) – a tropical cyclone with maximum 1-minute mean sustained surface winds in the range of 65 to 118 kph, inclusive. The developing bands of thunderstorms contribute additional heat and moisture, further intensifying the system.

Typhoon (TY) – a tropical cyclone with maximum sustained 1-minute mean surface winds greater than 119 kph. About this time, the cloud-free eye typically forms in the inner region of the tropical cyclone until one or more of the necessary conditions described earlier is either lost or undergoes a significant change, the system will continue to develop and sustain itself.

Vessel – refers to any ship, watercraft or other conveyance used or capable of being used as means of transportation.

Mandatory Sheltering – the vessel, while underway after departing with no prohibition under a certain PSWS, is automatically obligated to proceed to the nearest port or sheltering area in the event a PSWS is raised along its routes or destination that already disallows the vessel to continue its regular voyage.

Sheltering – positioning of ships or vessels in bays and rivers or areas enclosed by natural covers or sheltered zones to protect ships against gale force winds and rough seas during the occurrence of tropical cyclones.

Special Areas – areas within bays and rivers or enclosed by natural covers or sheltered zones whose natural topographical characteristics makes its area less vulnerable to adverse effects of the prevailing weather condition.

IV. POLICIES

- A. Due to the nature of operation and the areas where DPWH floating equipment operate, dredges and support vessels may not be governed by existing policies of MARINA and Philippine Coast Guard.
- B. Due to exemption of government vessels in the PCG Memorandum Circular 02-10, Interim Guidelines on Movement of Vessels and Motorboats Engaged in "Short Distance Voyages" in "Special Areas", and PCG Memorandum Circular No 02-13, Guidelines on Movement of Vessels during Heavy Weather, DPWH dredges and support vessels operating in/near river mouths, along coast lines, and in inland waterways shall adopt the guidelines stated herein.
- C. If, in rare cases, DPWH dredges are mobilized for long distances out in the sea, either tugged or self-propelled, and a PSWS is raised by PAGASA in its immediate vicinity, along its route, or point of destination, statements B and E under paragraph VII (Procedures) of PCG Memorandum Circular No 02-13, Guidelines on Movement of Vessels during Heavy Weather, shall be observed.

V. PROCEDURES

This section defines the procedure for sheltering of DPWH dredges and support vessels according to dredge class and activity.

1. Dredges in Operation

Due to the distinct geographical characteristics of certain areas in the country, effects of any particular typhoon signal may vary from one place to another whenever typhoon signal is raised by PAGASA. However, because SAFETY of crew and dredge is of utmost importance to the Department, Dredge Masters shall take no other option but to seek shelter when a PSWS is raised in the vicinity or when the dredge location is along the forecasted path of the typhoon. Dredge Masters must act according to their best judgment in order to protect their crew and vessel from danger and prevent the loss of lives and damage to property.

A. Multi-Purpose Amphibious Dredges (MPAD)

DPWH MPADs are small, flat-hulled, 17-ton dredges capable of doing cutter suction dredging, backhoe dredging, pile driving, and raking and are deployed in shallow waterways. Due to their design and relatively light weight, MPADs are at risk of being carried downstream by strong river current during flash floods. To ensure the safety of MPADs whenever PSWS is hoisted within the immediate vicinity or when the dredge location is along the forecasted path of the typhoon, the following procedures must be observed:

1. Raise the MPAD to an elevated ground;
2. Secure the MPAD by mooring on four points to prevent from overturning in case water level reaches its location.

B. Amphibious Excavators (AE)

DPWH Amphibious Excavators are 21-ton excavators mounted on pontoons, and are deployed in low current, shallow waters employing side dumping or dumping into awaiting barge or dumping scow. AEs are less stable in high current or turbulent waters and as such, should be sheltered when applicable PSWS is hoisted within the vicinity or when the dredge location is along the forecasted path of the typhoon to prevent from being carried downstream or overturned by strong water current. The following procedures must be observed in sheltering AEs during heavy weather:

1. Raise the AE to an elevated ground;
2. Secure the AE by mooring on four points to prevent from overturning in case water level reaches its location.

C. Cutter Suction Dredges (CSD)

DPWH Cutter Suction Dredges are of the stationary type and ranges from 13 m to 34 m long. Maneuvering of CSDs is done using a system of winches and swing cables that enable the dredges to move from side to side. However, CSDs are not self-propelled and thus need the assistance of a workboat or tugboat to move from one place to another. CSDs are relatively bigger and heavier than MPADs and AEs, and thus entail a different sheltering procedure during heavy weather. To ensure the safety of CSDs whenever PSWS is hoisted within the immediate vicinity or when the dredge location is along the forecasted path of the typhoon, the following procedures must be observed:

1. Make sure that all accessories, equipment, supplies and cargo on board are properly lashed;

2. Tow the dredge to the nearest sheltering zone and securely moor the dredge. Sheltering zones include small tributaries where water current and volume flow is low and inner side of bends or meanders;
3. Advise the EMD chief of the area where the dredge is moored and if there are people remaining on board.

2. Dredges Undergoing Mobilization/Transfer

If, in rare cases, DPWH dredges are mobilized for long distances out in the sea, either tugged or self-propelled, and a PSWS is raised by PAGASA in its immediate vicinity, along its route, or point of destination, statements B and E under paragraph VII (Procedures) of PCG Memorandum Circular No 02-13, Guidelines on Movement of Vessels during Heavy Weather, shall be observed, to wit;

"B. When applicable PSWS Nr 1 or higher is hoisted in the port where a vessel is located, the Master or Patron, when based on his judgment, there is a probable danger due to typhoon or tropical storm, shall prior to departure, request permission from the Coast Guard Unit having jurisdiction over the area to be allowed to take shelter in a safer place or to avoid the path of the typhoon or tropical storm, attesting therein that the decision to leave port is his in consultation with the ship owner/operator/Port Captain. The PCG shall not allow any vessel to seek shelter with passenger and dangerous cargo on board."

"E. If already underway when applicable PSWS is hoisted in its immediate vicinity, along its route, or point of destination, the Master or Patron shall take no other option except to avoid the path of the typhoon and to take mandatory sheltering and promptly inform the ship owner and the nearest Coast Guard Unit. The ship owner/operator shall ensure that the Master maintains continuous communication and shall immediately report to the Coast Guard Unit the ship's compliance with this Circular regarding mandatory sheltering where the ship owner/operator should direct for its immediate compliance."

When MPADs or AEs are mobilized through water and applicable PSWS is hoisted in its immediate vicinity, along its route, or point of destination, the Dredge Master shall take mandatory sheltering and inform the EMD chief of his decision and the dredge's location. Due to their small size and amphibious capability MPADs and AEs must be raised from the water during sheltering and be moored on four points to avoid overturning or being carried by flash floods. As such, it is mandatory that all dredges maintain on board mooring cables or ropes to be used during sheltering.

CSDs can be sheltered in gulfs or bays where the danger of big waves or water surge is minimal. DPWH cutter suction dredges are flat hulled and non self-propelled. As such, they should not be positioned near river mouths during the occurrence of tropical cyclones.

VI. RESPONSIBILITIES

A. Equipment Management Division (EMD) Chief

1. Ensure that the latest weather advisories, bulletin and warnings are obtained from PAGASA or other reliable sources, to include the PSWS Sectors where typhoon signals are hoisted or may be hoisted;
2. Ensure that weather advisories, bulletin and warnings are disseminated immediately to dredges in their jurisdiction and thus, must install weather fax or other weather monitoring equipment and communications on board as prescribed by MARINA;
3. Disallow the Dredge Master from operating the vessel except for sheltering purposes when typhoon signal is hoisted in the vicinity where the dredge is located;
4. Cancel dredge mobilization or transfer when typhoon signal is hoisted in its location, along its route, or point of destination, and order the Dredge Master to seek shelter immediately;
5. Monitor and maintain communication with the Dredge Master and/or crew from the time a typhoon enters the Philippine Area of Responsibility (PAR) until the typhoon leaves PAR;
6. Monitor the track/path of typhoon from PAGASA weather bulletin and order the Dredge Master to seek shelter to the nearest sheltering area if the typhoon path is anticipated to pass the dredge location at least 48 hours from the expected passage of the typhoon;
7. Direct Dredge Masters of other dredges within his jurisdiction with support vessels to assist in the evacuation/sheltering of dredges without support vessels. EMD chiefs shall expedite the release of fuel and supplies to be used in the sheltering of dredges;
8. Inform the PCG of any failure of communication or any unusual incident, such as their dredge and support vessels being involved in maritime incident or is missing or developed engine derangement;
9. Direct Dredge Masters to review and study the Typhoon Evasion or Avoidance Doctrine;
10. Ensure the vessel's compliance to the provisions of this Memorandum.

B. Dredge Masters

1. Monitor the movement of typhoon once it enters PAR and obtain the latest weather bulletin from PAGASA or other reliable sources;
2. Plot the prevailing weather condition, weather forecast and PSWS sectors on the weather chart;
3. Ensure the safety of his dredge and crew at all times;
4. Submit hourly reports to the EMD chief regarding the condition of the dredge;
5. Review and study the Typhoon Evasion or Avoidance Doctrine;
6. Ensure strict compliance to this Memorandum.

VII. PENALTY CLAUSE

All concerned personnel shall see to it that this order is strictly enforced. Failure to do so shall, after due process, make the erring personnel liable to penalties for violation of reasonable office rules and regulations prescribed under Section 52, C(3) of Civil Service Resolution No. 991936 dated August 31, 1999, otherwise known as the Uniform Rules on Administrative Cases in the Civil Service, to wit:

- 1st Offense: Written reprimand
- 2nd Offense: Suspension for 1 to 30 days
- 3rd Offense: Dismissal from the service

VIII. LEGAL BASES

1. PCG Memorandum Circular 02-13, Guidelines on Movement of Vessels During Heavy Weather;
2. PCG Memorandum Circular 02-10, Interim Guidelines on Movement of Vessels and Motorboats Engaged in "Short Distance Voyages" in "Special Areas".

This Order shall take effect immediately.


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Secretary

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