

# **SAILING DIRECTION FOR THE CHANGHUA WIND FARM CHANNEL**

## **A. Foreword**

The main purpose of the Sailing Direction is to establish the sailing order of vessels in the Changhua Wind Farm Channel in order to maintain and improve navigation safety and efficiency. Vessels using the Changhua offshore navigation areas are strongly advised to place this Sailing Direction on the bridge as reference for navigation and routes planning.

## **B. General Provisions**

### **I. Changhua offshore navigation areas**

Changhua offshore navigation areas refer to the water areas surrounded the Changhua offshore wind farms (from the Port of Taichung to the Port of Mailiao) of which the northern border is the north reporting line and its southern border is the south reporting line including the Changhua Wind Farm Channel, precautionary areas, and the inshore traffic zone of Changhua.

### **II. Changhua Wind Farm Channel**

The traffic separation scheme (TSS) is adopted for the Changhua Wind Farm Channel. The coordinates for each point and reporting line of the Channel are listed below. The boundaries of the shipping lanes and reporting lines can be found from the figure in the annex.

#### **(I) The Traffic Separation Scheme(TSS)**

The Channel is separated into the northbound traffic lane, southbound traffic lane, separation zone, east traffic buffer zone, and west traffic buffer zone. The boundary coordinates of such areas are as follows:

1. Northbound traffic lane : A traffic lane, two miles wide, for northbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (1)24°09'57.6"N, 120°12'25.2"E
- (7)24°08'31.2"N, 120°09'00.0"E
- (9)23°57'25.2"N, 120°00'21.6"E
- (11)23°52'58.8"N, 119°59'13.2"E

2. Southbound traffic lane : A traffic lane, two miles wide, for southbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (14)23°56'16.8"N, 119°52'44.4"E
- (4)24°14'20.4"N, 120°06'43.2"E

3. Separation zone : A separation zone, one mile wide, is bounded by a line connecting the following geographical positions:

- (2)24°12'25.2"N, 120°09'14.4"E
- (12)23°54'46.8"N, 119°55'37.2"E
- (13)23°55'19.2"N, 119°54'39.6"E
- (3)24°13'04.8"N, 120°08'24.0"E

4. East traffic buffer zone(Reserved Zone) : The East traffic buffer zone(Reserved Zone) is established between the northbound traffic lane and a line connecting the following geographical positions:

- (6)24°07'15.6"N, 120°11'16.8"E
- (8)23°56'24.0"N, 120°02'52.8"E
- (10)23°52'19.2"N, 120°01'51.60"E

5. West traffic buffer zone(Reserved Zone) : The West traffic buffer zone(Reserved Zone) is established between the southbound traffic lane and a line connecting the following geographical positions:

- (15)23°57'00.0"N, 119°51'18.0"E
- (5)24°15'21.6"N, 120°05'27.6"E

## (II) Reporting lines

Six reporting lines have been established so that vessel traffic in the Channel can be effectively monitored and organized: :

1. T Line : 119°57.0'E 【 A line drawn from 24°25.0'N to south reaching the northern boundary of the western part of Changhua Wind Farm】
2. N Line : 24°25.0'N 【 A line drawn from 119°57.0'E to 120°23.0'E】
3. C Line : 120°23.0'E 【 A line drawn from 24°25.0'N to south reaching the coast】
4. P Line : 119°45.0'E 【 A line drawn from 23°42.0'N to north reaching the southern boundary of the western part of Changhua Wind Farm】
5. S Line : 23°42.0'N 【 A line drawn from 119°45.0'E to 120°05'40'E】
6. M Line : 120°05'40"E 【 A line drawn from 23°42.0'N to north reaching the southern boundary of the eastern part of Changhua Wind Farm】

## III. Precautionary areas

Given that the northern and southern ends of Changhua Wind Farm Channel are the areas with high shipping traffic density in which vessels entering or exiting the Channel and inbound and outbound traffic gather, ship movements are difficult to predict. Precautionary areas are accordingly established for the north and south ends of the Changhua Wind Farm to recommend vessels to pay close attention to the surrounding situations, including proximity risks during transit.

## IV. Inshore traffic zone of Changhua

Inshore traffic zone of Changhua refers to the navigation areas between the Changhua coast and the eastern part of Changhua Wind Farm

Channel. They are separated from Changhua Wind Farm Channel and are less affected by the north-south traffic using the TSS, therefore is mainly provided for vessels of less than 300 gross tonnage and fishing boats registered under the flag of the Republic of China to navigation under the guidance of this Sailing Directions to ensure their safety in navigation.

**V. Changhua Offshore Wind Farm Vessel Traffic Services (referred to as "Changhua VTS" in the Sailing Directions)**

The Vessel Traffic Services (VTS) are established in accordance with the 1974 International Convention for the Safety of Life at Sea (SOLAS). The VTS is established to monitor vessels sailing in Changhua Wind Farm Channel to provide navigational warnings and other related assistances. Changhua Offshore Wind Farm Vessel Traffic Services shall be referred to as Changhua VTS.

**C. Changhua VTS Reporting Mechanisms**

**I. Vessels required to comply with the reporting mechanisms:**

- (I) All vessels passing and using the Changhua Wind Farm Channel for navigation are required to report to Changhua VTS, including pre-arrival notifications and reporting on arrival.
- (II) Vessels that must pass through the Changhua Wind Farm Channel due to an emergency or must use the traffic buffer zones or the separation zone of the Changhua Wind Farm Channel to avoid imminent danger, pre-arrival notification is not required.

**II. Communication**

- (I) All vessels passing and sailing in the Changhua Wind Farm Channel must be equipped with AIS, VHF, and radio equipment defined in the Global Maritime Distress and Safety System (GMDSS) for Sea Area A1 and A2. The AIS must be kept operational and correctly set with updated information. For VHF, Channel 16 and designated channels

must be watched throughout the passage. For vessels using DSB and SSB, the designated frequencies must be watched. Report to Changhua VTS through the designated channels/frequencies for pre-Arrival notification and reporting upon arrival.

(II) Changhua VTS designated VHF channels and Channel:

Channel	Function
16	Distress, urgency and safety calling
68	Reporting upon arrival
74	Promulgation of Maritime Safety Information

(III) Changhua VTS designated DSB and SSB frequencies:

Equipment	Frequency	Function
SSB	8806 KHz	Reporting upon arrival and promulgation of Maritime Safety Information
DSB	27.120 MHz	Reporting upon arrival and promulgation of Maritime Safety Information

\*4372/8803/13194KHZ are backup frequencies for SSB.

(IV) The standard languages used for reporting and communication with Changhua VTS shall be Chinese or English, using the IMO Standard Marine Communication Phrases (SMCP), where necessary.

### III. Pre-Arrival Notification

(I) All vessels (excluding military vessels, Republic of China government ships, and fishing boats registered under the flag of Republic of China) are to declare the required information using the annexed Pre-Arrival Notification Form (PAN) 8 hours before entering Changhua Wind

Farm Channel :

<b>E-mail</b>	<b>owfvts@motcmpb.gov.tw</b>
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(II) The contents of the Pre-Arrival Notification shall include the following information. The format of the Pre-Arrival Notification is provided in the attachment:

1. Vessel name, vessel call sign, MMSI, and IMO or ship number.
2. Vessel type and gross tonnage.
3. Vessel length and width.
4. Fore and aft draft.
5. Estimated reporting line of passage and arrival time.
6. Previous port.
7. Destination port/destination wind farm and estimated time of arrival.
8. Cargo type and quantity.
9. Number of seafarers, passengers, and total number of people on board.
10. Shipping agency in the Republic of China and partner marine casualty rescue operator.
11. Other matters regarding navigation safety which must be reported to Changhua VTS or requested to provide (e.g., any DG cargo on board, existence of damage or defects which may affect vessel structure, cargo, or vessel equipment, or conditions which may affect the vessel's navigation safety based on related IMO Conventions).

(III) Confirmation of Pre-Arrival Notification : Only after the Pre-Arrival Notification is logged by Changhua VTS that subsequently responds

with "Pre-Arrival Notification received" may the vessel proceed the reporting procedure when arriving at the reporting line.

(IV) Resubmission of Pre-Arrival Notification : Under any of the following circumstances, Pre-Arrival Notification should be resubmitted to Changhua VTS:

1. Confirmation from Changhua VTS is not received 4 hours before arrival at the reporting line.
2. The estimated time of entry into the Changhua Wind Farm Channel deviates by 4 hours or more from the original estimated time.

#### **IV. Reporting upon arrival**

(I) Vessels shall report to Changhua VTS using the designated communication channel and language when they cross respective reporting positions, as follows:

1. Vessels planning to enter the southbound traffic lane should report when they pass through Reporting Lines T, N, or C.
2. Vessels planning to enter the northbound traffic lane should report when they pass through Reporting Lines P, S, or M.
3. Fishing boats, offshore wind farm work vessels or vessels less than 300 gross tonnage planning to enter the east traffic buffer zone should report when they are within the range of 1 nautical mile ahead of the eastern border of the traffic buffer zone or pass through any reporting line.
4. Fishing boats, offshore wind farm work vessels or vessels less than 300 gross tonnage planning to enter the west traffic buffer zone should report when they are within the range of 1 nautical mile ahead of the western border of the traffic buffer zone or pass through any reporting line.
5. Fishing boats or vessels less than 300 gross tonnage planning to

pass through Changhua Wind Farm Channel should report when they are within the range of 1 nautical mile ahead of the outer limits of the traffic lanes.

(II) Contents of report:

1. Vessel name and call sign (military vessels and Republic of China government ships are only required to provide the vessel name).
2. Vessel position (latitude and longitude).
3. Course and speed.
4. Other matters regarding navigation safety which must be reported to Changhua VTS or is requested to provide (refer to C. III. (II) Point 11 of the report contents)

(III) Verification of report upon arrival: Vessels which have completed the Pre-Arrival Notification and Reporting Upon Arrival are permitted to enter or pass through Changhua Wind Farm Channel only after the verification and confirmation conducted by Changhua VTS under the principle of innocent passage with the response of "Entry is permitted".

**V. Surveillance authority and responsibility of Changhua VTS and port VTS**

- (I) Vessels departing from the Ports of Taichung or the Port of Mailiao and planning to enter Changhua Wind Farm Channel shall report to Changhua VTS according to this Sailing Direction and acknowledge the Reporting upon Arrival confirmation prior to surveillance.
- (II) Vessels shall be monitored by Changhua VTS when they are on Changhua Wind Farm Channel. They shall be discharged from the Changhua VTS surveillance after they leave Changhua Wind Farm Channel. Vessels bound for the Port of Taichung or the Port of Mailiao shall report to the local VTS centers of the respective ports in

accordance with their port regulations.

- (III) The VTS communication channels of the Ports of Taichung and Mailiao are as follows. Please refer to the 「GUIDE TO TAICHUNG PORT ENTRY」 and the 「GUIDE TO MAILIAO PORT ENTRY」 for further information.

Port	Call sign	VHF channel	Purpose
Port of Taichung	Taichung VTS	CH14	Vessel reporting upon arrival, ship-shore communication, and exchange of information between vessel and pilots.
		CH16	Distress, urgency and safety calling
Port of Mailiao	Mailiao Port Radio	CH13	Estimated time of arrival (ETA), ship-shore communication, or exchange of information between vessel and pilots.
		CH16	Distress, urgency and safety calling

## D. Vessel Navigation Regulations

### I. General provisions:

- (I) Vessels navigating in the Changhua Wind Farm Channel or Changhua offshore navigation area should comply with the "1972 International Regulations for Preventing Collisions at Sea (COLREG), as amended", in particular Rule 10 applicable to the traffic separation scheme and regulations therein regarding the display of signals and lights, crossing as well as giving way to avoid collision. Every vessel shall at all times proceed at a safe speed.
- (II) A vessel shall, so far as practicable, avoid crossing traffic lanes but if obliged to do so shall report to Changhua VTS to obtain approval and cross quickly on a heading as nearly as practicable at right angles to the

general direction of traffic flow. This minimizes the time a crossing vessel is in the lane irrespective of the tidal stream, and should lead to a clear encounter situation with vessels passing through the traffic lanes.

- (III) Except for military vessels, Republic of China government ships, vessels with less than 300 gross tonnage and fishing boats registered under the flag of the Republic of China shall, as a principle, sail in the inshore traffic zone of Changhua. However, if obliged to use the Changhua Wind Farm Channel due to navigation safety concerns, they must follow relevant regulations in "III. Changhua VTS Reporting Mechanisms" and "IV. Vessel Navigation Regulations" and pass through the East or West traffic buffer zones whenever possible.
- (IV) In addition to the aforementioned provisions, vessels are also required to comply with the following regulations specified for different categories of vessels.

## **II. General vessel navigation regulations:**

- (I) The southbound and northbound traffic lanes of the Changhua Wind Farm Channel are only provided for navigation by the following categories of vessels:
1. Military vessels and Republic of China government ships.
  2. Passenger ships regardless of gross tonnage.
  3. Fishing boats not registered under the flag of Republic of China regardless of gross tonnage.
  4. Vessels carrying hazardous cargoes defined in Article 1.4 of Resolution MSC. 433(98) "Guidelines and Criteria for Ship Reporting Systems" regardless of gross tonnage.
  5. In addition to the aforementioned vessel categories, vessels of 300 gross tonnage and upwards which are not fishing boats registered under the flag of Republic of China.

- (II) Vessels in towing or pushing operations, regardless of gross tonnage, must use the East and West traffic buffer zones of the Changhua Wind Farm Channel for navigation.
- (III) Foreign military vessels and government ships must not pass through the Changhua Wind Farm Channel without prior application and permission.

### **III. Navigation and operation regulations for fishing boats registered under the flag of Republic of China:**

- (I) Fishing boats should pass through the East and West traffic buffer zones and the inshore traffic zone of Changhua and they should avoid entering the southbound and northbound traffic lanes and separation zone.
- (II) Fishing boats are prohibited from conducting fishing activities in the northbound traffic lanes, southbound traffic lanes, and separation zone of the Changhua Wind Farm Channel, and should avoid impeding the safe passage of any vessel following the traffic lanes.

### **IV. Navigation regulations for offshore wind farm service vessels:**

- (I) Vessels bound for the west wind farm must turn into the west traffic buffer zone from the south or north precautionary areas before proceeding to the destination wind farm. Vessels bound for the east wind farm must turn into the east traffic buffer zone from the south or north precautionary areas before proceeding to the destination wind farm.
- (II) Vessels bound for the east wind farm may proceed through the inshore traffic zone of Changhua, if considering their under keel clearance as sufficient for safe passage.

### **V. Anchoring or other operation regulations:**

- (I) Except for fishing boats, no vessels may use the wind farm area for

navigation without the permission from Changhua VTS.

- (II) No vessel may anchor on Changhua Wind Farm Channel and near the northern or southern ends of the Channel. If a vessel needs to anchor due to emergency, the vessel must report to Changhua VTS and follow its advices for temporary anchoring in the traffic buffer zone or separation zone. (Note that there are submarine power cables crossing the Channel and an LNG pipeline along the East buffer zone.) Such vessels must display appropriate lights and signals according to COLREG and immediately leave the area once the cause of emergency or crisis is eliminated.
- (III) Vessels sailing on Changhua Wind Farm Channel are prohibited from undertaking any underwater, surface or overwater operations such as dredging and surveying without prior permission of Changhua VTS.

## **E. Vessel Traffic Services (VTS) Operation Rules**

### **I. Competent authority**

Changhua Vessel Traffic Services (call sign : Changhua VTS) is operated and managed by the Maritime and Port Bureau (MPB), Ministry of Transportation and Communications (MOTC). Duties of the Changhua VTS include monitoring vessel movements in Changhua Wind Farm Channel and, where necessary, assisting in notifications to maritime search and rescue authorities, the Coast Guard Administration of the Ocean Affairs Council, or other related government agencies.

### **II. Implementation Items**

- (I) Accept reporting upon arrival from vessels planning to enter Changhua Wind Farm Channel.
- (II) Watch VHF CH16 and working channels continuously.
- (III) Use equipment including RADAR, AIS, and VHF to monitor navigation status of vessels in the Changhua Wind Farm Channel.

- (IV) Provide navigation safety related information to vessels.
- (V) Remind vessels of cautions in navigation or give advices when developing dangerous situations are discovered.
- (VI) Issue navigational warnings to vessels violating the guidance of Sailing Directions for Changhua Wind Farm Channel.
- (VII) Notify and liaise in maritime incidents.
- (VIII) In the event of a distress, emergency, marine casualty or incident involving a vessel, notify the cooperating rescue or salvage operators of the vessel to respond, with the approval of the competent authority.

### **III. Actions for vessels in violation of this Sailing Directions**

- (I) Vessel that fails to report or navigate in accordance with the Sailing Directions, shall be reported by Changhua VTS to the Port State Control agency for intensive ship inspections. Where necessary, related information may be reported to the competent authority of the flag state for investigation and penalty.
- (II) The competent authority may request assistance from the Coast Guard Administration of the Ocean Affairs Council to maintain order and safety at sea under the following circumstances:
  - 1. Where a vessel refuses recommendations or related administrative provisions of Changhua VTS and the competent authority deems that its actions are or may be inconsistent with "innocent passage" principles.
  - 2. Where a vessel enters Changhua Wind Farm Channel without an entry permission from Changhua VTS.
  - 3. Where a vessel in the Changhua Wind Farm Channel is without displaying AIS signal.

## **F. Supplemental Provisions**

### **I. Navigation risks in Changhua offshore navigation areas**

- (I) Considering that most southbound and northbound vessel traffic merges to Changhua Wind Farm Channel, thus the increase in traffic density, all vessels passing through Changhua Wind Farm Channel should pay close attention to changes in their surroundings to prevent risks.
- (II) Considering that the wind farm areas are open for passage, there are risks at all sections of the Changhua Wind Farm Channel that vessels may come out from wind farm areas. Seafarers should keep a sharp lookout and watchkeeping to enhance navigation safety.
- (III) Whenever the captain, after evaluating possible risks, believing that navigating in the Changhua offshore navigation areas or Changhua Wind Farm Channel may affect the vessel safety, may consider the characteristics of the vessel, loading conditions, and water environment, seek other safe ways suitable for navigation, and formulate appropriate sailing plans. However, it is not advisable to pass through the area between Mudouyu Island of Penghu and the western part of the wind farm off the coast of Changhua.

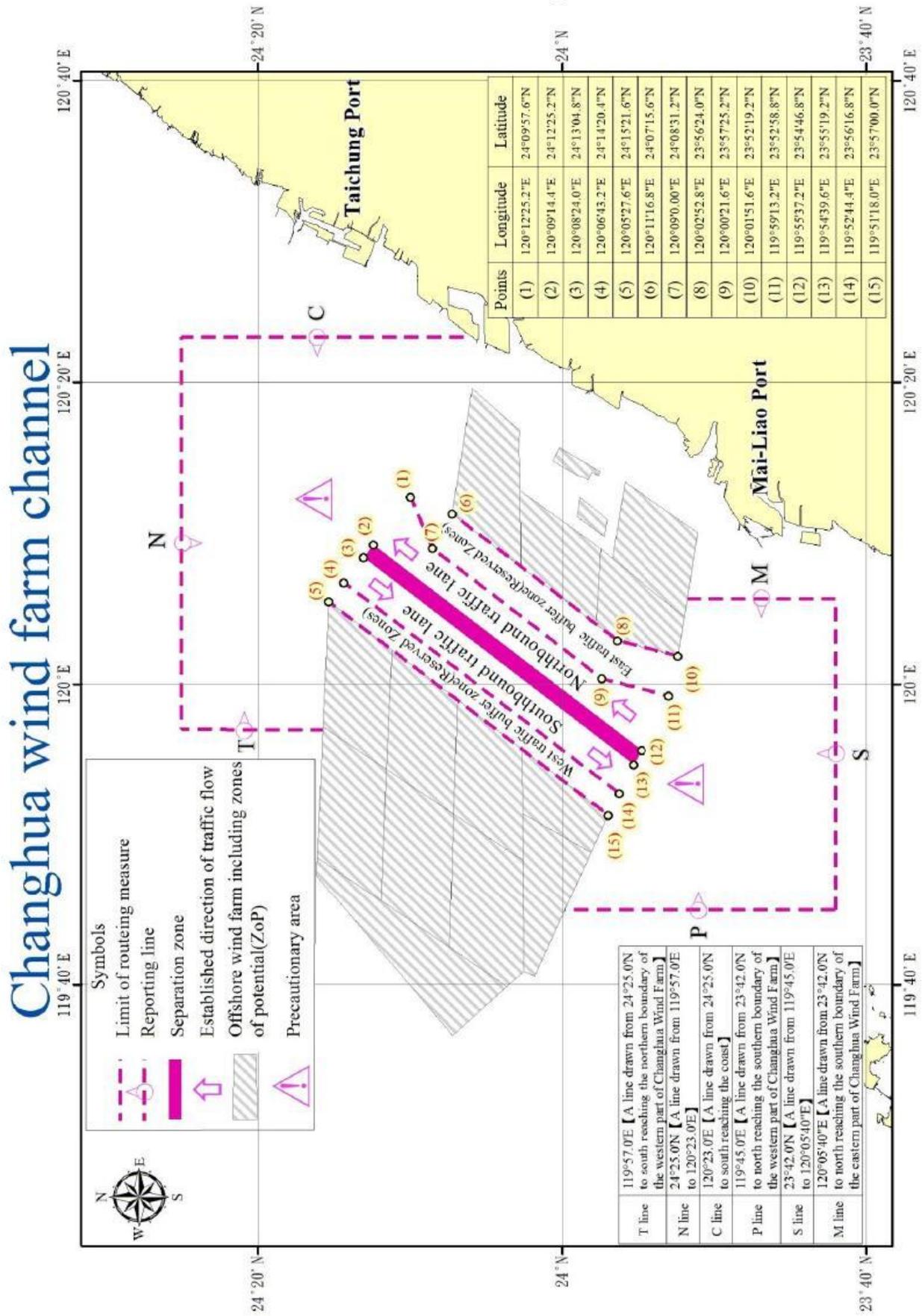
## **II. Notices for ships in Changhua offshore navigation areas**

- (I) Changhua VTS only provides navigation safety information and principled advices. This does not relieve the duties of the captain and watchkeeping seafarers specified in International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and other international instruments and regulations. The captain has the ultimate responsibility and obligation for maintaining the safety of the vessel, cargo and persons onboard.
- (II) Where there are no safety concerns, vessels not destined to a port of Republic of China are advised to pass through the high seas.
- (III) Vessels that discover any violation of this Sailing Directions, obstacles affecting navigation safety, equipment damage, or other emergency in

the Changhua offshore navigation area shall report to Changhua VTS immediately.

- (IV) The Republic of China government ships carrying out test and survey missions may, after acquiring permissions from Changhua VTS, switch off the AIS, cross Changhua Wind Farm Channel, or undertake approved operations thereon. However, they shall pay attention to the movements of ships in vicinity and avoid collisions.
- (V) The Republic of China government ships carrying out search and rescue missions, reconnaissance tasks or pollution prevention assignments may, given the assurance of navigation safety, switch off the AIS, cross Changhua Wind Farm Channel, or enter the wind farm areas. They may report to Changhua VTS provided that such notifications do not affect the execution of their missions. However, they shall pay attention to the movement of ships in vicinity and avoid collisions.

Attached Figure



## Pre-Arrival Notification Form of Changhua wind farm Channel

Ship's Particular and Contact Details			
<b>IMO No.</b>		<b>Call Sign</b>	
<b>Ship's Name</b>		<b>Ship's Name (in Chinese, if any)</b>	
<b>Gross Tonnage</b>		<b>Type of Ship</b>	
<b>Flag State</b>		<b>MMSI No.</b>	
<b>Length (LOA)</b>		<b>Breadth</b>	
<b>Name of Company with 24hr Contact Details</b>		Company:	
		Title / Name:	
		TEL:	
<b>Name of Agent with 24hr Contact Details</b>		Agent:	
		Title / Name:	
		TEL:	
<b>Name of Salvage Contractor with 24hr Contact Details</b>		Contractor:	
		Title / Name:	
		TEL:	
Voyage Information			
<b>Draft Forward</b>		<b>Draft Aft</b>	
<b>No. of Crew</b>		<b>No. of Passengers</b>	
<b>Destination (Port or Windfarm)</b>		<b>Last port of call</b>	
<b>ETA to the Destined Port Facility/ Windfarm</b>		Date(UTC): yyyy/mm/dd Time(UTC):	
<b>Name/ Class of Cargo</b>		<b>Cargo Laden</b>	
<b>Fuel Oil (R.O.B)</b>		<b>Diesel Oil (R.O.B)</b>	
<b>Ballast on Board</b>		<b>Total No. of people</b>	
<b>Do you have DG Cargo on board? (Especially Class 1 and 7)</b>		(please attach the DG list)	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Do you have any Hazardous and/or Potentially Polluting cargo onboard?</b>		(please attach the such cargo list)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Information related to ChangHua wind farm Channel			
<b>Name and Time of Reporting Line to cross</b>	<input type="checkbox"/> T <input type="checkbox"/> N <input type="checkbox"/> C <input type="checkbox"/> P <input type="checkbox"/> S <input type="checkbox"/> M line		
	Date(UTC): yyyy/mm/dd		
	Time(UTC):		
<b>Any Other Circumstances Related to Navigation Safety and/or Asked to Report to the Authority (Optional)</b>			

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- ✚ The form must be submitted to Changhua VTS by Email immediately if any update.

