

VESSEL TRAFFIC SERVICE GUIDE FOR THE CHANGHUA WIND FARM CHANNEL

A. Foreword

This Vessel Traffic Service Guide aims to provide users of Changhua offshore navigation area an introduction to Changhua Wind Farm Channel Vessel Traffic Service, the requirements of the Changhua Wind Farm Channel Vessel Traffic Service Center (Changhua VTS) relating to traffic management and services, as well as essential information, in order to maintain and enhance navigation safety and efficiency. Vessels navigating in the Changhua offshore navigation area are strongly recommended to place this Vessel Traffic Service Guide on the bridge as reference for navigation and route planning.

B. Changhua offshore navigation area

In this guide, “Changhua offshore navigation area” refers to the waters outside Changhua offshore wind farms (between the Port of Taichung and the Port of Mailiao) of which the north border is the north reporting line (N) and its south border is the south reporting line (S). It includes the Changhua Wind Farm Channel, precautionary areas, and the inshore traffic area of Changhua. (See Annexed Figure 1)

C. Changhua VTS Area

Changhua VTS Area includes the area bounded by the reporting lines, the Changhua Wind Farm Channel and precautionary areas at both ends of the Channel. (See Annexed Figure 2)

I. Changhua Wind Farm Channel

Traffic Separation Scheme (TSS) is adopted for the Changhua Wind Farm Channel. The Channel is divided into a Separation zone, a Northbound traffic lane, a Southbound traffic lane, an East traffic buffer

zone (East reserved zone) and a West traffic buffer zone (West reserved zone), as described below. (See Annexed Figure 3)

(I) Separation zone : A separation zone, one mile wide, is bounded by a line connecting the following geographical positions:

(2) $24^{\circ}12'.42\text{N}$, $120^{\circ}09'.24\text{E}$

(8) $23^{\circ}54'.78\text{N}$, $119^{\circ}55'.62\text{E}$

(9) $23^{\circ}55'.32\text{N}$, $119^{\circ}54'.66\text{E}$

(3) $24^{\circ}13'.08\text{N}$, $120^{\circ}08'.40\text{E}$

(II) 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) $24^{\circ}09'.96\text{N}$, $120^{\circ}12'.42\text{E}$

(5) $24^{\circ}08'.52\text{N}$, $120^{\circ}09'.00\text{E}$

(6) $23^{\circ}57'.42\text{N}$, $120^{\circ}00'.36\text{E}$

(7) $23^{\circ}52'.98\text{N}$, $119^{\circ}59'.22\text{E}$

(III) 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:

(10) $23^{\circ}56'.28\text{N}$, $119^{\circ}52'.74\text{E}$

(4) $24^{\circ}14'.34\text{N}$, $120^{\circ}06'.72\text{E}$

(IV) East traffic buffer zone (East reserved zone) : The East traffic buffer zone (East reserved zone) is established between the northbound traffic lane and a line connecting the following geographical positions:

(12) $24^{\circ}07'.26\text{N}$, $120^{\circ}11'.29\text{E}$

(13) $23^{\circ}56'.40\text{N}$, $120^{\circ}02'.88\text{E}$

(14) $23^{\circ}52'.35\text{N}$, $120^{\circ}01'.85\text{E}$

(V) West traffic buffer zone (West reserved zone) : The West traffic buffer zone (West reserved zone) is established between the southbound traffic

lane and a line connecting the following geographical positions:

(15) 23°57'.03N, 119°51'.31E

(11) 24°15'.33N, 120°05'.47E

II. Precautionary areas

Precautionary areas are established around the north and south ends of the Changhua Wind Farm Channel, vessels are advised to navigate with particular caution within precautionary areas.

III. Reporting lines

To effectively monitor and service vessel traffic in the Channel, six reporting lines have been established as follows:

T Line: from (24°20'.00N, 120°05'.47E) to (24°15'.33N, 120°05'.47E)

N Line: from (24°20'.00N, 120°05'.47E) to (24°20'.00N, 120°23'.00E)

C Line: from (24°20'.00N, 120°23'.00E) to (24°05'.97N, 120°23'.00E)

P Line: from (23°48'.00N, 119°45'.00E) to (23°59'.83N, 119°45'.00E)

S Line: from (23°48'.00N, 119°45'.00E) to (23°48'.00N, 120°05'.67E)

M Line: from (23°48'.00N, 120°05'.67E) to (23°52'.03N, 120°05'.67E)

D. Changhua VTS Reporting Mechanisms

I. Vessels required to comply with the reporting mechanisms:

All vessels using the Changhua Wind Farm Channel are required to report to Changhua VTS except fishing boats registered under the flag of Republic of China with their AIS operational throughout.

II. Communication

(I) Vessels must keep continuous watch on designated channels. The language used for communication is Mandarin or English with the use of the IMO Standard Marine Communication Phrases.

(II) Changhua VTS designated VHF channels:

Channel	Frequency	Function
16	156.800 MHz	Distress, urgency and safety calling
68	156.425 MHz	Reporting upon arrival
74	156.725 MHz	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

*4372/8803/13194 kHz are backup frequencies for SSB.

III. 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. Southbound traffic should report to Changhua VTS when crossing Reporting Line T, N, or C.
 2. Northbound traffic should report to Changhua VTS when crossing Reporting Line P, S, or M.
- (II) Vessels planning to enter the Changhua Wind Farm Channel without crossing any Reporting Line should report to Changhua VTS when they are within the range of 1 nautical mile close to the limit of the Changhua Wind Farm Channel.

(III) A vessel shall, so far as practicable, avoid crossing traffic lanes but if obliged to do so shall report to Changhua VTS.

(IV) Contents of report and IMO SRS formats:

1.	Vessel name and call sign (Republic of China military vessels and government ships are only required to provide the vessel name)	A(Alfa)
2.	Vessel position (latitude and longitude)	C(Charlie)
3.	Course	E(Echo)
4.	Speed	F(Foxtrot)
5.	Hazardous cargo on board, class (if applicable)	P(Papa)
6.	Other matters regarding navigation safety which must be reported to Changhua VTS or is requested to provide	X(X-ray)

IV. Surveillance authority and responsibility of Changhua VTS and port VTS

- (I) Vessels departing from the Port of Taichung or the Port of Mailiao and planning to enter Changhua Wind Farm Channel shall report to Changhua VTS according to this Guide.
- (II) Vessels are monitored by Changhua VTS when they are using Changhua Wind Farm Channel. After they leave Changhua Wind Farm Channel, they are not monitored by Changhua VTS. 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	Frequency	Purpose
Port of Taichung	Taichung VTS	CH14	156.700 MHz	Vessel reporting upon arrival, ship-shore communication, and exchange of information between vessel and pilots.
		CH16	156.800 MHz	Distress, urgency and safety calling
Port of Mailiao	Mailiao Port Radio	CH13	156.650 MHz	Estimated time of arrival (ETA), ship-shore communication, or exchange of information between vessel and pilots.
		CH16	156.800 MHz	Distress, urgency and safety calling

E. 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.
- (II) Vessels navigating in the Changhua Wind Farm Channel shall keep their AIS operational throughout.
- (III) A vessel using traffic separation scheme shall proceed in the appropriate traffic lane in the general direction of traffic flow for that lane.
- (IV) A vessel shall, so far as practicable, avoid crossing traffic lanes but if obliged to do so shall report to Changhua VTS and cross on a heading

as nearly as practicable at right angles to the general direction of traffic flow.

- (V) In addition to the aforementioned provisions, vessels are also required to comply with the following regulations specified for different categories of vessels.

II. Vessels in towing or pushing operations

Vessels in towing or pushing operations should use the East and West traffic buffer zones of the Changhua Wind Farm Channel for navigation.

III. Offshore wind farm service vessels:

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

IV. Anchoring or other operation regulations:

- (I) No vessel may anchor in Changhua Wind Farm Channel nor 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 avoid anchoring in the traffic lane or submarine cable/pipeline areas (Note that there are submarine power cables crossing the Channel and gas pipelines along the East traffic 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 averted.
- (II) Vessels using Changhua Wind Farm Channel are prohibited from

undertaking any underwater, surface or overwater operations such as dredging and surveying (including undertaking such operations by using unmanned vehicles) without prior permission from Republic of China competent authority and prior report to Maritime and Port Bureau (MPB), Ministry of Transportation and Communications (MOTC), except fishing boats registered under the flag of Republic of China engaged in fishing.

F. Changhua Wind Farm Channel Vessel Traffic Service Center (Changhua VTS)

I. Changhua VTS

In accordance with the 1974 International Convention for the Safety of Life at Sea, as amended (SOLAS), Changhua VTS is established for monitoring vessels using Changhua Wind Farm Channel and provide navigational warnings and other related assistances. Changhua VTS Area is shown in Annexed Figure 2.

Call sign: Changhua VTS

Changhua VTS Email: owfvts@motcmpb.gov.tw

II. Competent authority

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.

III. Implementation Items

Changhua VTS:

- (I) Accepts reporting upon arrival from vessels planning to enter Changhua Wind Farm Channel.
- (II) Watches VHF CH16 and working channels continuously.
- (III) Uses equipment including RADAR, AIS, and VHF to monitor navigation status of vessels in the Changhua Wind Farm Channel.
- (IV) Provides navigation safety related information to vessels.
- (V) Reminds vessels of cautions in navigation or give recommendations when developing dangerous situations are discovered.
- (VI) Issues navigational warnings to vessels violating the guidance of Vessel Traffic Service for the Changhua Wind Farm Channel.
- (VII) Notifies and liaise in maritime incidents.
- (VIII) In the event of a distress, emergency, marine casualty or incident involving a vessel, notifies the cooperating rescue or salvage operators of the vessel to respond, with the approval of the competent authority.

IV. Actions for vessels in violation of this Guide

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:

- (I) Where a vessel refuses recommendations of Changhua VTS or violates related administrative provisions and the competent authority deems that its actions are or may be inconsistent with "innocent passage" principles.
- (II) Where a vessel enters Changhua Wind Farm Channel without reporting to Changhua VTS in accordance with this Vessel Traffic Service Guide.

- (III) Where a vessel fails to display the AIS signal when using Changhua Wind Farm Channel.
- (IV) Where a vessel seriously threatens the safety of navigation.

G. Supplemental Provisions

I. Navigation risks in Changhua offshore navigation area

- (I) Considering that most southbound and northbound vessel traffic merges to Changhua Wind Farm Channel and accordingly increase traffic density, all vessels using 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 area or Changhua Wind Farm Channel may affect the vessel safety, the captain 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 recommended to pass through the area between Mudou Islet of Penghu and the western part of the wind farm areas off the coast of Changhua.

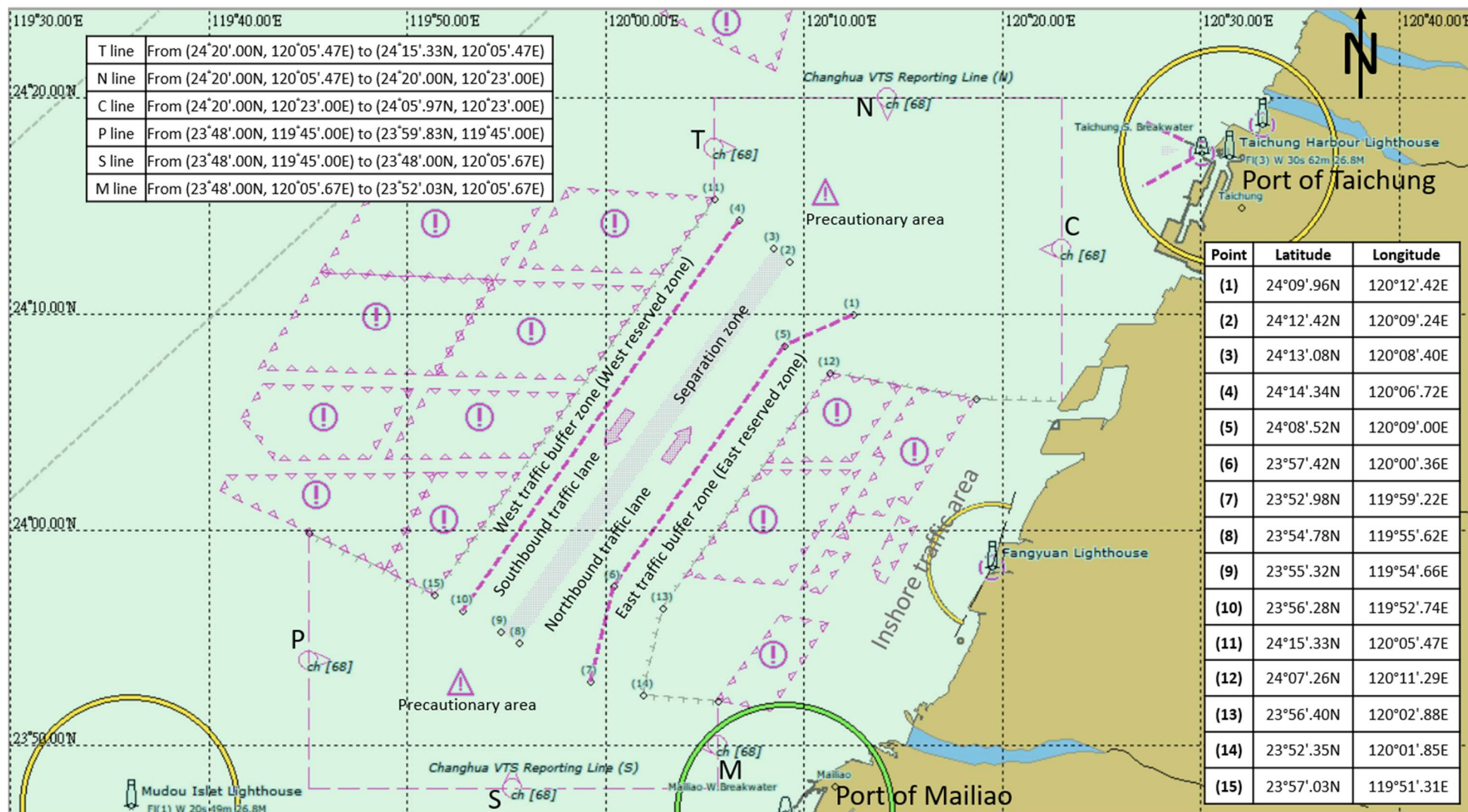
II. Notices for ships in Changhua offshore navigation area

- (I) Changhua VTS only provides navigation safety information and principled recommendations. The content presented in this Guide 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

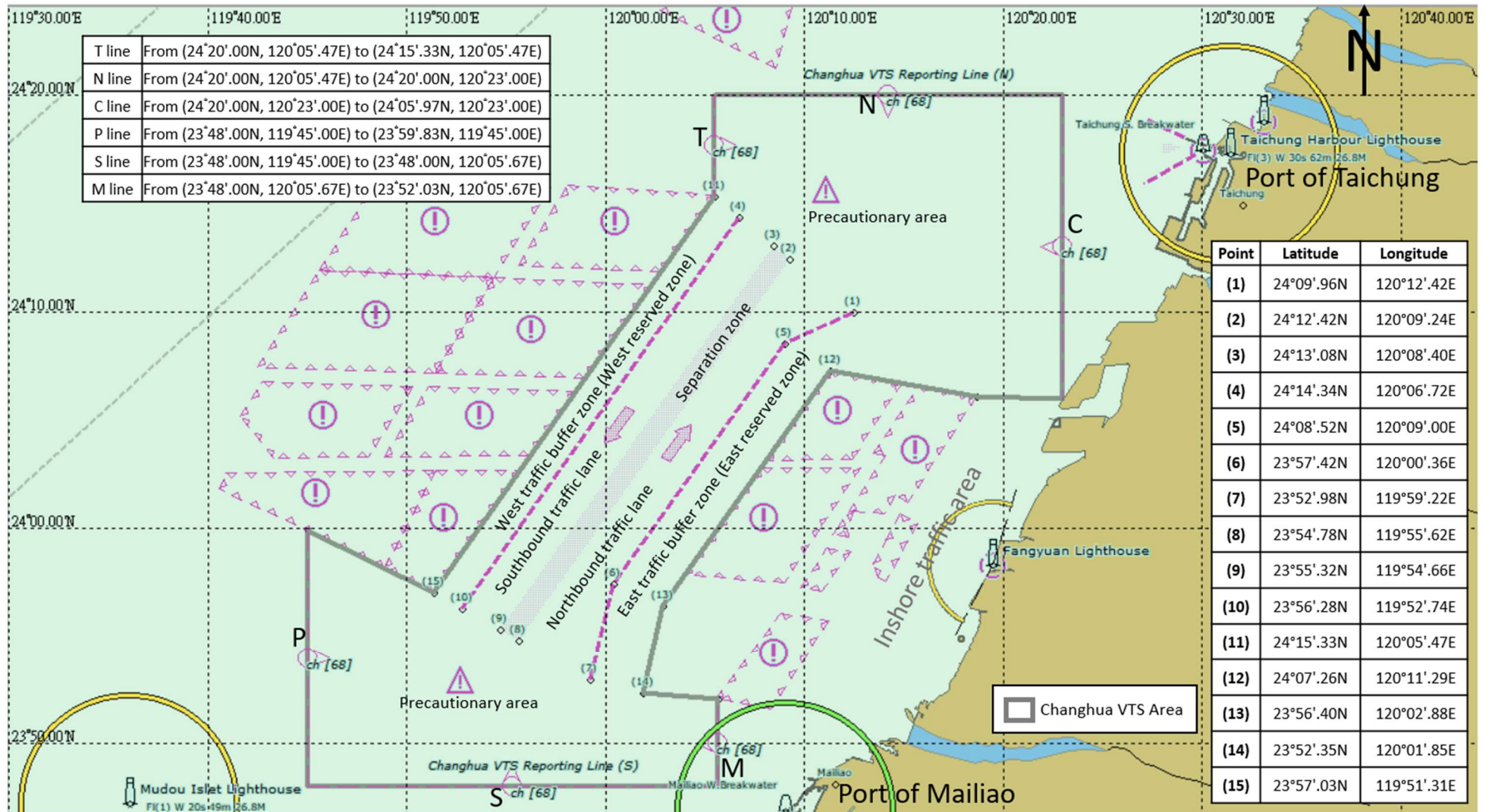
international instruments and regulations. The captain has the ultimate responsibility and obligation for maintaining the safety of the vessel, cargo and persons onboard.

- (II) Where there are no safety concerns, vessels not destined to a port of Republic of China are recommended to pass through the high seas.
- (III) Vessels that discover any violation of this Vessel Traffic Service Guide, 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 or search and rescue missions may, after notifying 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 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. Nevertheless, they shall pay attention to the movement of ships in vicinity and avoid collisions.

Annexed Figure 1 - Changhua offshore navigation area



Annexed Figure 2 – Changhua VTS Area



Annexed Figure 3 - Changhua Wind Farm Channel

