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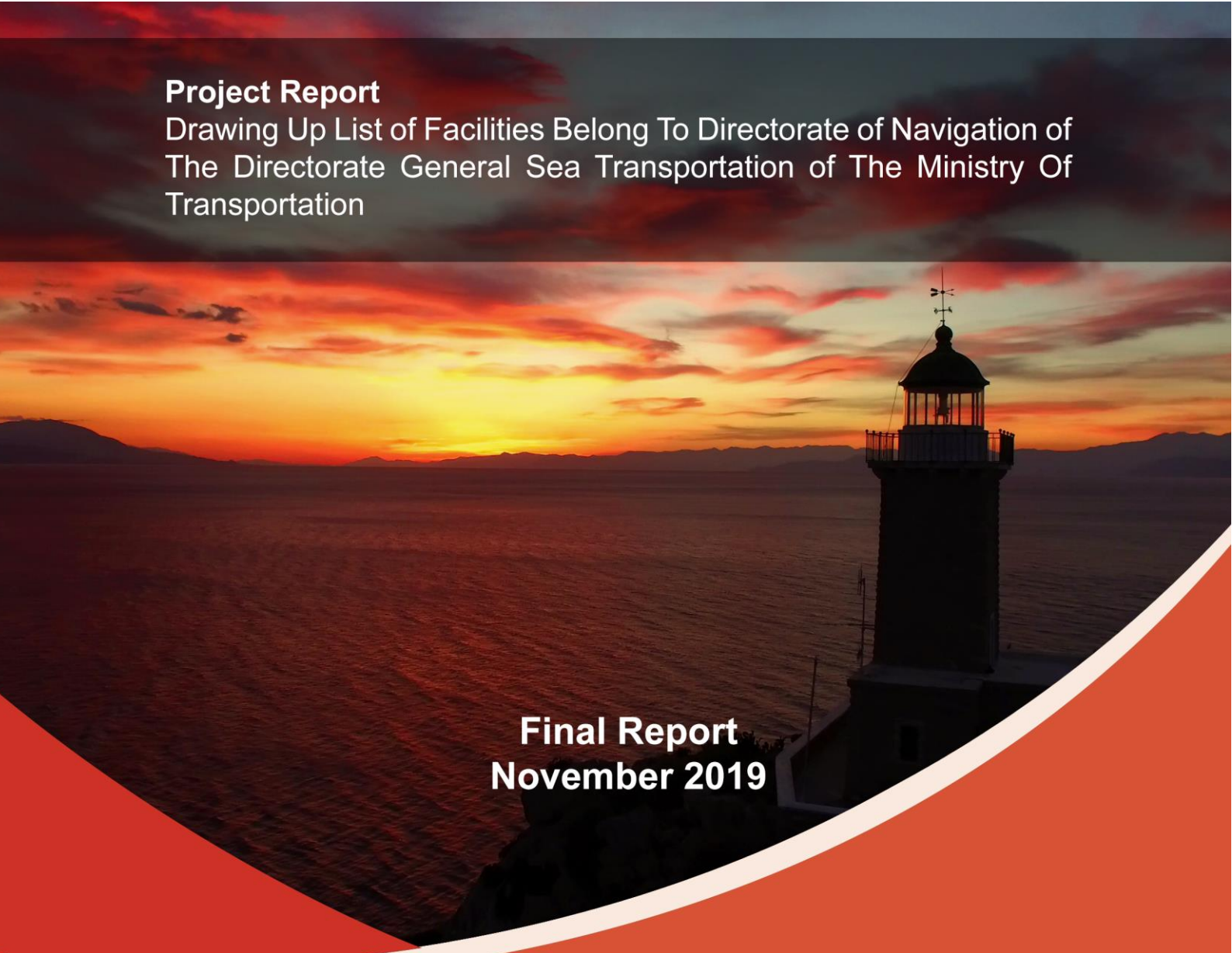
Questionnaire Final Report

Project Report

Drawing Up List of Facilities Belong To Directorate of Navigation of The Directorate General Sea Transportation of The Ministry Of Transportation



Final Report
November 2019

Report Submitted to
Japan Aids to Navigation (JANA)
Contract No. 0153/AI-JANA/SPK.VI/2019

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PREFACE

This report is prepared for *JICA Study Team* under *Japan Aids To Navigation* by *PT Ametis Institut* based on contract No. 0153/AI-JANA/SPK/VI/2019 dated 25th June 2019 regarding "*Drawing Up List of Facilities Belong To Directorate of Navigation of The Directorate General Sea Transportation of The Ministry Of Transportation*"

The report consists of reporting all activities carried out under the contract mentioned above which consist of translating the questionnaires regarding *Aids to Navigation (AtoN)*, *Vessel Traffic System (VTS)*, *Coastal Radion Station (including GMDSS)* and *Buoy Tenders and Aids Tenders* into Indonesian language including preparing them both in hard copy and soft copy in USB flash drive to be distributed to all *District Navigation office* under *Directorate of Sea Navigation of Directorate General Sea Transportation*, assisting *JANA* in organizing the workshops "*Marine Traffic Survey System Development in Indonesia"* in Jakarta on 27th June 2019 and also assisting *JANA* in conducting field survey to selected sites and then retranslating the answered questionnaires that was sent to *Directorate of Sea Navigation of Directorate General Sea Transportation* back into English.

This report is the final version eventhough some of District Navigation office did not complete the questionnaires yet. However, to fulfill the contractual schedule regarding the Report, PT Ametis Institute have compiled this report based on all data available. Nevertheless, PT Ametis Institute will continue to commit to completing a summary if the data is available

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LIST OF ABBREVIATIONS

AI	PT Ametis Institute
ATON	Aids To Navigation
CRS	Coastal Radio Station
DGST	Directorate General Sea Transportation
Disnav	District Navigation Office
GMDSS	Global Maritime Distress Safety System
JANA	Japan Aids to Navigation Association
JICA	Japan International Cooperation Agency
KN	Kapal Negara (Vessel belong to by Government of Indonesia)
TFT	Task Force Team of DGST
VTS	Vessel Traffic System

1 Project Background

The Government of Republic Indonesia or "***GOI***" has recognized that enhancement of maritime traffic safety and improvement of a maritime telecommunication system is important to develop the shipping industry in Indonesia. As the ministry responsible for maritime traffic safety, the Ministry of Transportation through *Directorate General Sea Transportation* or "***DGST***" had a master plan pertaining Maritime Traffic Safety which compiled in collaboration with *Japan International Cooperation Agency* or "***JICA***" under the project "*The Study for the Maritime Traffic Safety System Development Plan*" issued in June 2002.

At present, the existing masterplan has been almost in full swing for 20 years and along with the rapid development of the Indonesian and world economy, the volume of maritime traffic has increased and also technology in the field of shipping has developed very rapidly. In addition, aids to navigation and maritime telecommunication equipment are partly becoming obsolete, so the safety of ship navigation in Indonesia is becoming increasingly very important at this time.

To cope with the situation, JICA and *Japan Aids to Navigation Association* or "***JANA***" have signed the Project implementation contract on 22nd Feb. 2019. JANA has organized the *JICA Study Team* or "***JST***" to complete the study. JST is planning to draw up the checklists about facilities belonging to the Directorate of Navigation and survey of marine traffic volume. In the DGST side, a Task Force Team or "***TFT***" also formed to work together with JST to complete the study.

PT Ametis Institute or "***AI***" has signed a contract with JST on June 25th, 2019 to compile a checklist of facilities owned by the *Navigation Directorate* of DGST at 25 District Navigation or "***Disnav***" throughout Indonesia as listed (hereinafter referred to as "the ***Project***" or "***Contract***").

Table 1 List of District Navigation Office of DGST

No	District Navigation Office (Disnav)	No	District Navigation Office (Disnav)
1	Disnav Class II Sabang	14	Disnav Class III Pontianak
2	Disnav Class I Belawan	15	Disnav Class II Banjarmasin
3	Disnav Class III Sibolga	16	Disnav Class I Samarinda
4	Disnav Class I Dumai	17	Disnav Class III Tarakan
5	Disnav Class I Tg. Pinang	18	Disnav Class I Makassar
6	Disnav Class II Teluk Bayur	19	Disnav Class III Kendari
7	Disnav Class I Palembang	20	Disnav Class I Bitung
8	Disnav Class I Tg. Priok	21	Disnav Class I Ambon
9	Disnav Class II Semarang	22	Disnav Class III Tual
10	Disnav Class III Cilacap	23	Disnav Class I Sorong
11	Disnav Class I Surabaya	24	Disnav Class II Jayapura
12	Disnav Class II Benoa	25	Disnav Class III Merauke
13	Disnav Class II Kupang		

1.1 Objectives of the Project

Objectives of the ***Project*** to carry out a questionnaire survey on the current status of facilities operated by the Directorate of Navigation. Based on the lists, JST will review the master plan issued in 2002 and use it as a basis for the next 20 years master plan.

1.2 Scope of Works

Scope of the works of the project are :

(1) Distribution of the questionnaire survey to the All Disnav Office

The questionnaire survey will be distributed to all Disnav in the workshops regarding Marine Traffic Safety System Development in Indonesia that will be organized jointly between Directorate Navigation of DGST and JANA in Jakarta on 27th June 2019.

(2) Translation of the Questionnaire survey and Draw Up List of Facilities

JST will write questionnaires in English and complete them in consultation with Task Force Team in Directorate of Navigation "TFT". PT Ametis Institut will translate the questionnaires from English to Indonesian and send them attached an instruction document signed by the Director of Navigation to each Disnav during the Workshops. Once each Disnav replay the questionnaires to Director of Navigation after completion of them. PT Ametis Institute shall translate the questionnaires collected from Indonesian to English and draw up the lists.

(3) Field Survey and Item of Survey

Field Survey will be conduction in 6 District Navigation office, they are *Tarakan, Samarinda, Makassar, Ambon, Kupang* dan *Tual* and PT Ametis Institut, under this contract will accompany the JST during the survey in *Ambon*, *Tual*, *Tarakan* dan *Makassar*. Items of Survey are:

(a) Aids to Navigation
(b) VTS
(c) Coastal Radio Stations (including to GMDSS)
(d) Buoy tenders, Aids Tenders

2 Project Activities Report

2.1 Workshops

Workshops on *Marine Traffic Survey System Development in Indonesia* was held on 27 June 2019 in Jakarta. From the 25 District Navigation office that invited to the workshop, there are Seven District Navigation Office that does not send representatives as shown in Figure 1, they are

(1) Disnav Class II Sabang
(2) Disnav Class I Belawan
(3) Disnav Class III Sibolga
(4) Disnav Class III Cilacap
(5) Disnav Class III Kendari
(6) Disnav Class III Merauke

In addition to distributing questionnaires through workshops with the help of DGST, the questionnaire will also be sent via email to each District Navigation office to ensure they have all received the questionnaires.

2.2 Field Survey

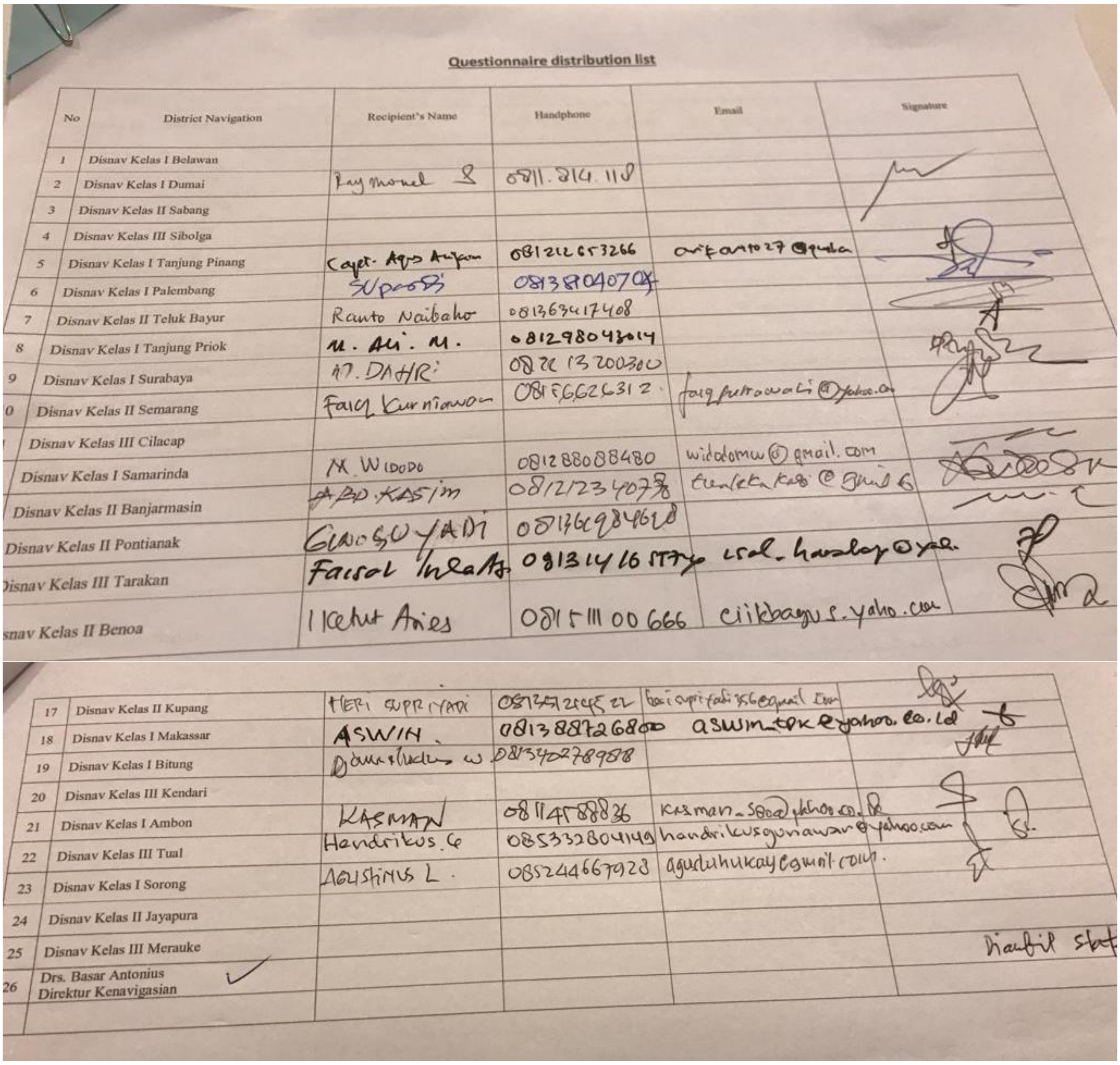
The objectives of field surveys are to understand the current situation both facilities and equipment and also personnel especially organization structure to manage facilities on selected district navigation offices. The field survey conduction through inspection of current condition on each facility and discussion with personnel of District Navigation office. From the visit, JST shall collect some information and data regarding coastal radio stations, VTS, ATON and vessels including the financial aspect among others operating expense, capital expenditure planning and revenue associated with the services provided.

2.2.1 First Batch of Field Survey

The field survey was conducted in two batches, First Batch of the survey was conducted by three teams at three locations, i.e *Tual*, *Ambon* and *Kupang*. However, under this ***Contract,*** PT Ametis Institut only involved during the survey in *Tual* and *Ambon* where conducted from July 1st – 5th, 2019. Figure 2 shows the district navigation office to be surveyed in the second batch.

2.2.2 Second Batch of Field Survey

The Second Batch of the survey was conducted by three teams at three locations, i.e *Makassar, Tarakan*, and *Samarinda*. However, under this ***Contract,*** PT Ametis Institut only involved during the survey in *Makassar* and *Tarakan* where conducted from July 22nd – 25th, 2019. Figure 2 shows the district navigation office to be surveyed in the second batch.



Questionnaire distribution list

No	District Navigation	Recipient's Name	Handphone	Email	Signature
1	Disnav Kelas I Belawan				
2	Disnav Kelas I Dumai	Raymond S	0811.814.118		
3	Disnav Kelas II Sabang				
4	Disnav Kelas III Sibolga				
5	Disnav Kelas I Tanjung Pinang	Capt. Agus Arifin	081212653266	arifanto27@yahoo	
6	Disnav Kelas I Palembang	Suparti	081381040704		
7	Disnav Kelas II Teluk Bayur	Ranto Naibaho	081363417408		
8	Disnav Kelas I Tanjung Priok	M. Ali. M.	081298043014		
9	Disnav Kelas I Surabaya	M. DAHRI	0822 13200300		
10	Disnav Kelas II Semarang	Faiq Kurniawan	081566626312	faiqputrawali@yahoo.co	
	Disnav Kelas III Cilacap				
	Disnav Kelas I Samarinda	M. WIDODO	081288088480	widodomw@gmail.com	
	Disnav Kelas II Banjarmasin	ABD. KASIM	08121234078	[illegible]	
	Disnav Kelas II Pontianak	GINOSUYADI	081366984618		
	Disnav Kelas III Tarakan	Faisal [illegible]	08131416 [illegible]	[illegible]@yahoo	
	Disnav Kelas II Benoa	I Ketut Aries	0815 111 00 666	ciikbagus.yaho.com	
17	Disnav Kelas II Kupang	HERI SUPRIYADI	0813[illegible]22	[illegible]@gmail.com	
18	Disnav Kelas I Makassar	ASWIN	081388726800	aswin_tpk@yahoo.co.id	
19	Disnav Kelas I Bitung	[illegible] W	081340278988		
20	Disnav Kelas III Kendari				
21	Disnav Kelas I Ambon	KASMAN	08114588836	kasman_s[illegible]@yahoo.co.id	
22	Disnav Kelas III Tual	Hendrikus. G	085332804149	handrikusgunawan@yahoo.com	
23	Disnav Kelas I Sorong	AGUSTINUS L.	085244667928	aguduhukay@gmail.com	
24	Disnav Kelas II Jayapura				
25	Disnav Kelas III Merauke				Diambil staf
26	Drs. Basar Antonius Direktur Kenavigasian				

Figure 1 List of Workshop Participants

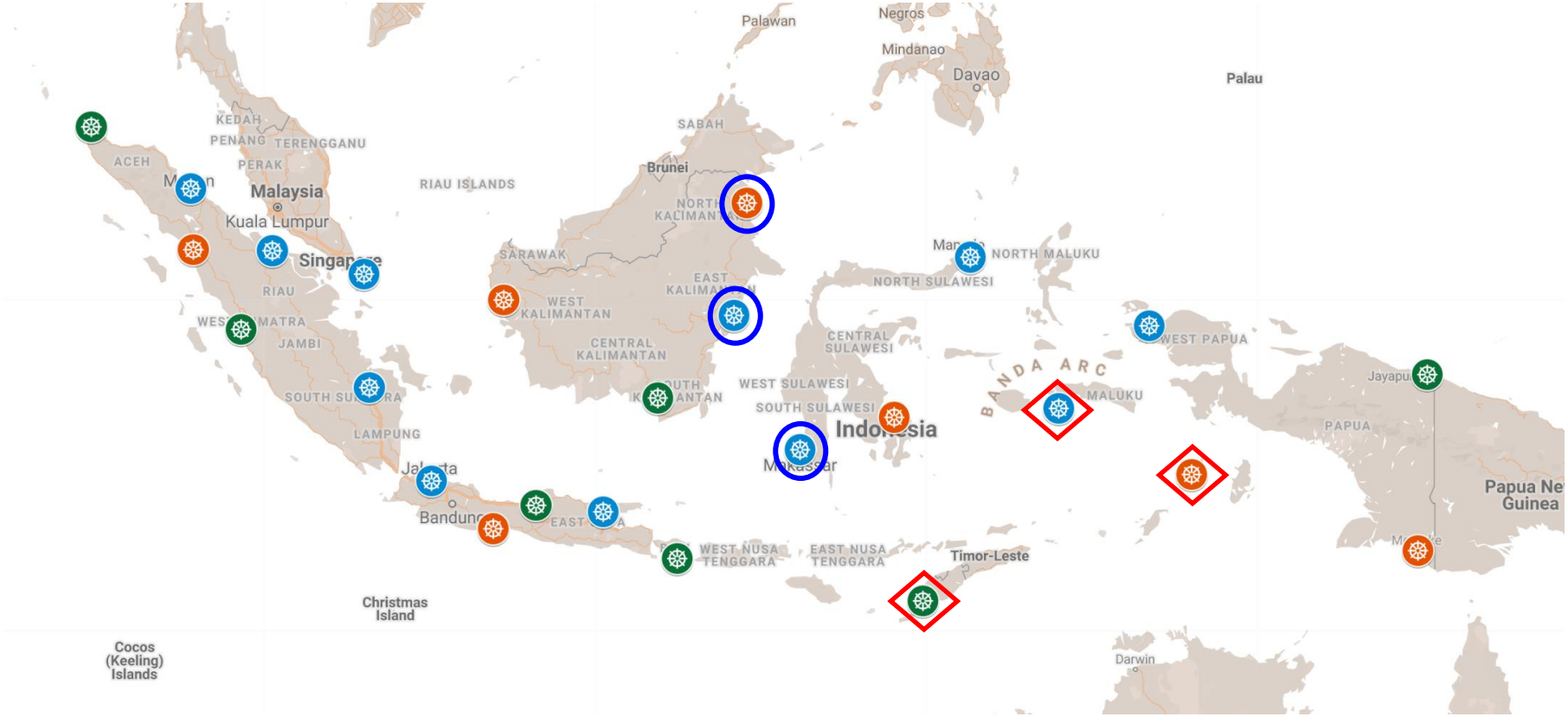


Figure 2 District Navigation Office Location in Indonesia

3 Analysis of the Results of Questionnaires

3.1 Status of All Questionnaires

To differentiate the returned questionnaires, it is used legend in Figure 3. Figure 4 and Figure 5 show the status of completeness each questionnaire.

Figure 3 Legend for Completeness of Questionnaires

O	Return Quessionaires and Complete
Δ	Return Quessionaires but Incomplete
X	Not Return Quessionaires

Figure 4 Percentage Completeness Status of ATON, VTS, CRS and Financial Aspects

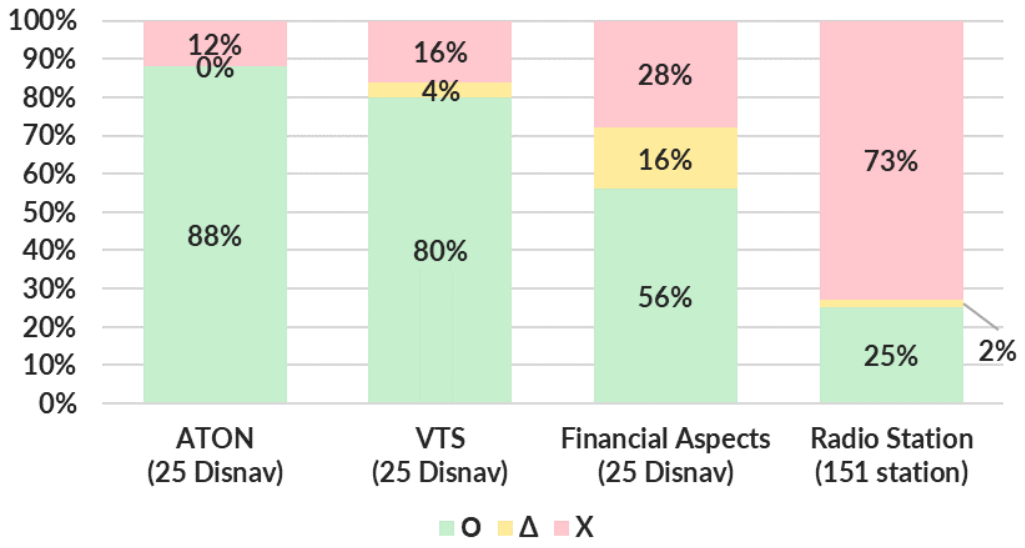


Figure 5 Percentage Completeness Status of Buoy and Aids Tender

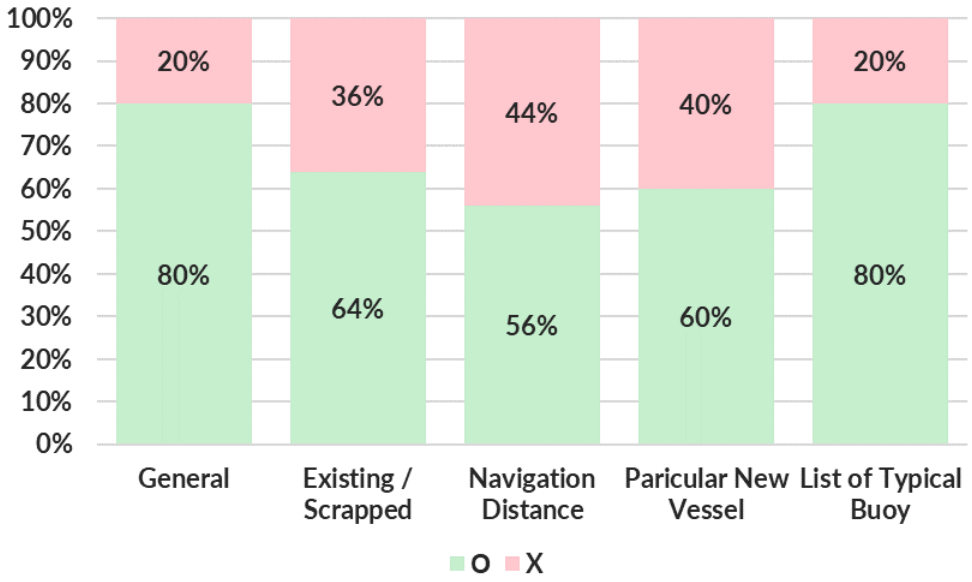


Table 2 Status of AtoN, VTS, CRS and Financial Aspects Questionnaires

No	Name of District Navigation	District Class	Delivery Date	Aids to Navigation		VTS	Financial Aspects	Format Document
				Quessionaire	List of AToN			
1	Sabang	II	9-Aug-19	O	Not submitted	O	O	MS Office Document
2	Belawan	I	6-Aug-19	O	Not submitted	O	O	MS Office Document
3	Sibolga	III	10-Jul-19	O	Completed	O	X	Pdf Document
4	Dumai	I	26-Jul-19	O	Not submitted	X	X	Pdf Document
5	Tanjung Pinang	I	7-Aug-19	O	Not submitted	O	O	Pdf Document
6	Teluk Bayur	II	7-Aug-19	O	Not submitted	O	O	MS Office Document
7	Palembang	I	9-Aug-19	O	Not submitted	O	O	Pdf Document
8	Tanjung Priok	I	8-Jul-19	O	Not submitted	Δ	X	Pdf Document
9	Cilacap	II	23-Jul-19	O	Not submitted	X	Δ	Pdf Document
10	Semarang	II	6-Aug-19	O	Not submitted	O	X	Pdf Document
11	Surabaya	I	7-Aug-19	O	Not submitted	O	Δ	Pdf Document
12	Benoa	II	7-Aug-19	O	Not submitted	O	O	MS Office Document
13	Kupang	II	26-Jul-19	X	Not submitted	X	X	MS Office Document
14	Pontianak	III	14-Aug-19	O	Not submitted	O	O	MS Office Document
15	Banjarmasin	II	11-Jul-19	O	Not submitted	O	X	MS Office Document
16	Samarinda	I	24-Jul-19	X	Not submitted	O	O	MS Office Document
17	Tarakan	III	26-Jul-19	O	Not submitted	O	O	MS Office Document
18	Makassar	I	7-Aug-19	O	Completed	O	O	MS Office Document
19	Kendari	III	X	X	Not submitted	X	X	Not Return
20	Bitung	I	25-Jul-19	O	Not submitted	O	O	Pdf Document
21	Ambon	I	5-Sep-19	O	Not submitted	O	Δ	Pdf Document
22	Tual	III	18-Jul-19	O	Completed	O	O	MS Office Document
23	Sorong	I	6-Aug-19	O	Not submitted	O	O	Pdf Document
24	Jayapura	II	5-Aug-19	O	Not submitted	O	O	MS Office Document
25	Merauke	III	7-Aug-19	O	Not submitted	O	Δ	MS Office Document

Table 3 Status of Buoy Tender Questionnaires

No	Name of District Navigation	District Class	Delivery Date	Buouy Tender and Aid Tender Quessionaire No.					Document Format
				1	2	2a	3	4	
				General	Existing / Scrapped	Navigation Distance	Paricular New Vessel	List of Typical Buoy	
1	Sabang	II	9-Aug-19	O	O	O	O	O	MS Office Document
2	Belawan	I	6-Aug-19	O	O	O	O	X	MS Office Document
3	Sibolga	III	10-Jul-19	X	X	X	X	X	Pdf Document
4	Dumai	I	26-Jul-19	O	X	X	X	O	Pdf Document
5	Tanjung Pinang	I	7-Aug-19	O	O	O	O	X	Pdf Document
6	Teluk Bayur	II	7-Aug-19	O	X	O	X	O	MS Office Document
7	Palembang	I	9-Aug-19	O	O	O	O	X	Pdf Document
8	Tanjung Priok	I	8-Jul-19	X	X	X	X	X	Pdf Document
9	Cilacap	II	23-Jul-19	O	X	O	X	X	Pdf Document
10	Semarang	II	6-Aug-19	X	O	X	O	X	Pdf Document
11	Surabaya	I	7-Aug-19	O	O	X	O	X	Pdf Document
12	Benoa	II	7-Aug-19	O	O	O	O	O	MS Office Document
13	Kupang	II	26-Jul-19	O	O	X	X	O	MS Office Document
14	Pontianak	III	14-Aug-19	O	O	O	O	O	MS Office Document
15	Banjarmasin	II	11-Jul-19	O	O	O	O	X	MS Office Document
16	Samarinda	I	24-Jul-19	O	O	X	X	O	MS Office Document
17	Tarakan	III	26-Jul-19	O	O	O	O	O	MS Office Document
18	Makassar	I	7-Aug-19	O	X	O	O	X	MS Office Document
19	Kendari	III	X	X	X	X	X	X	Not Return
20	Bitung	I	25-Jul-19	X	X	X	X	X	Pdf Document
21	Ambon	I	5-Sep-19	O	O	O	O	O	Pdf Document
22	Tual	III	18-Jul-19	O	O	O	O	O	MS Office Document
23	Sorong	I	6-Aug-19	O	O	X	O	X	Pdf Document
24	Jayapura	II	5-Aug-19	O	X	X	X	X	MS Office Document
25	Merauke	III	7-Aug-19	O	O	O	O	X	MS Office Document

Table 4 Status of CRS and GMDSS Questionnaires (Sumatra)

No		Name of DisNav / Location of Radio	Delivery Date	Class	Criteria	Area	Quessionaires Status
1	**Sabang**		9-Aug-19		6 Stations		
	1	Sabang		II	GMDSS (JRC)	A3	O
	2	Ulee Lheue		IIIA	GMDSS (SAILOR)	A2	O
	3	Tapak Tuan		IVA	GMDSS (JRC)	A2	O
	4	Meulaboh		IVA	GMDSS (KENTA)	A2	O
	5	Sinabang		IVA	NON GMDSS		O
	6	Susoh		IVA	NON GMDSS		O
2	**Belawan**		6-Aug-19		7 Stations		
	1	Belawan		I	GMDSS (SAILOR)	A3	O
	2	Kuala Tanjung		IIIA	GMDSS (JRC)	A2	X
	3	Tg. Balai Asahan		IIIA	GMDSS (SAILOR)	A2	X
	4	Lhokseumawe		IIIA	GMDSS (JRC) HILANG	A2	X
	5	Kuala Langsa		IVA	GMDSS (SAILOR)	A2	X
	6	Pangkalan Susu		IVB	GMDSS (SAILOR)	A2	X
	7	Tanjung Sarang Elang		IVB	NON GMDSS		X
3	**Sibolga**		10-Jul-19		7 Stations		
	1	Sibolga		IIIA	GMDSS (SAILOR)	A2	X
	2	Gunung Sitoli		IVA	GMDSS (SAILOR)	A2	X
	3	Pulau Tello		IVA	GMDSS (KENTA)	A2	X
	4	Lahewa		IVA	GMDSS (SAILOR)	A2	X
	5	Teluk Dalam		IVB	GMDSS (SAILOR)	A2	X
	6	Sirombu		IVB	NON GMDSS		X
	7	Sikara Kara		IVB	NON GMDSS		X
4	**Dumai**		26-Jul-19		7 Stations		
	1	Dumai		I	GMDSS (SAILOR)	A3	X
	2	Bengkalis		IIIA	GMDSS (SAILOR)	A2	X
	3	Tembilahan		IVA	GMDSS (SAILOR)	A2	X
	4	Bagan Siapi - api		IVA	NON GMDSS		X
	5	Selat Panjang		IVA	GMDSS (SAILOR)	A2	X
	6	Pekanbaru		IVA	NON GMDSS		X
	7	Rengat		IVA	GMDSS (SAILOR)	A2	X
5	**Tanjung Pinang**		7-Aug-19		9 Stations		
	1	Tanjung Pinang		IIIA	GMDSS (SAILOR)	A2	X
	2	Tanjung Uban		IIIA	GMDSS (JRC)	A2	X
	3	Sei Kolak Kijang		IIIA	GMDSS (SAILOR)	A2	X
	4	Natuna		IIIA	GMDSS (JRC)	A2	X
	5	Tarempa		IIIA	NON GMDSS		X
	6	Batu Ampar		IIIA	GMDSS (SAILOR)	A2	X
	7	Tanjung Balai Karimun		IVA	GMDSS (KENTA)	A2	X
	8	Pulau Sambu		IVA	NON GMDSS		X
	9	Dabo Singkep		IVA	GMDSS (SAILOR)	A2	X
6	**Teluk Bayur**		7-Aug-19		4 Stations		
	1	Teluk Bayur		II	GMDSS (JRC)	A3	X
	2	Sipora		IIIA	GMDSS (SAILOR)	A2	X
	3	Air Bangis		IVA	GMDSS (SAILOR)	A2	X
	4	Sikakap		IVB	NON GMDSS		X
7	**Palembang**		9-Aug-19		7 Stations		
	1	Palembang		I	GMDSS (JRC)	A3	O
	2	Jambi		IIIA	GMDSS (JRC)	A2	X
	3	Pangkal Balam		IIIA	GMDSS (SAILOR)	A2	X
	4	Kuala Tungkal		IIIA	GMDSS (SAILOR)	A2	X
	5	Muntok		IIIB	GMDSS (SAILOR)	A2	X
	6	Muara Sabak		IVA	GMDSS (SAILOR)	A2	X
	7	Tanjung Pandan		IVB	GMDSS (SAILOR)	A2	X

Table 5 Status of CRS and GMDSS Questionnaires (Jawa, Nusa Tenggara, and Bali)

No	Name of DisNav Location of Radio		Delivery Date	Class	Criteria	Area	Quessionaires Status
8	**Tanjung Priok**		8-Jul-19		**5 Stations**		
	1	Jakarta		I	GMDSS (JRC)	A3	X
	2	Panjang		IIIA	GMDSS (SAILOR)	A2	X
	3	Cigading		IIIA	GMDSS (SAILOR)	A2	X
	4	Cirebon		IIIA	GMDSS (SAILOR)	A2	X
	5	Bengkulu		IIIA	GMDSS (JRC)	A2	X
9	**Semarang**		6-Aug-19		**7 Stations**		
	1	Semarang		I	GMDSS (JRC)	A3	O
	2	Tegal		IIIA	GMDSS (JRC)	A2	O
	3	Pekalongan		IIIA	NON GMDSS		O
	4	Karimun Jawa		IVA	NON GMDSS		O
	5	Jepara		IVA	GMDSS (SAILOR)	A2	O
	6	Juwana		IVA	NON GMDSS		O
	7	Rembang		IVA	GMDSS (KENTA)	A2	O
10	**Cilacap**		23-Jul-19		**1 Stations**		
	1	Cilacap		I	GMDSS (SAILOR)	A2	O
11	**Surabaya**		7-Aug-19		**9 Stations**		
	1	Surabaya		I	GMDSS (JRC)	A3	O
	2	Kali Anget		IIIA	GMDSS (JRC)	A2	X
	3	Meneng (Banyuwangi)		IIIA	GMDSS (JRC)	A2	X
	4	Panarukan		IVA	NON GMDSS		X
	5	Gresik		IVA	NON GMDSS		X
	6	Probolinggo		IVA	GMDSS (SAILOR)	A2	X
	7	Bawean		IVA	NON GMDSS		X
	8	Pasuruan		IVA	NON GMDSS		X
	9	Masalembo		IVB	NON GMDSS		X
12	**Benoa**		7-Aug-19		**8 Stations**		
	1	Benoa		II	GMDSS (JRC)	A3	O
	2	Lembar		IIIA	GMDSS (SAILOR)	A2	O
	3	Bima		IIIA	GMDSS (JRC)	A2	O
	4	Padang Bai		IVA	GMDSS (SAILOR)	A2	O
	5	Celukan Bawang		IVA	GMDSS (SAILOR)	A2	O
	6	Badas		IVA	NON GMDSS		O
	7	Gilimanuk		IVA	GMDSS (SAILOR)	A2	O
	8	Labuhan Lombok		IVA	GMDSS (KENTA)	A2	O
13	**Kupang**		26-Jul-19		**9 Stations**		
	1	Kupang		II	GMDSS (SAILOR)	A3	X
	2	Ende		IIIA	GMDSS (JRC)	A2	X
	3	Maumere		IIIB	GMDSS (JRC)	A2	X
	4	Waingapu		IVA	GMDSS (SAILOR)	A2	X
	5	Kalabahi		IVA	NON GMDSS		X
	6	Larantuka		IVA	NON GMDSS		X
	7	Atapupu		IVA	GMDSS (INVELCO)	A2	X
	8	Reo		IVA	NON GMDSS		X
	9	Seba		IVA	NON GMDSS		X

Table 6 Status of CRS and GMDSS Questionnaires (Kalimantan and Sulawesi)

No	Name of DisNav Location of Radio		Delivery Date	Class	Criteria	Area	Quessionaires Status
14	Pontianak		14-Aug-19		3 Stations		
	1	Pontianak		IIIA	GMDSS (SAILOR)	A2	O
	2	Ketapang		IIIA	GMDSS (JRC)	A2	O
	3	Sintete		IVA	GMDSS (SAILOR)	A2	O
15	Banjarmasin		11-Jul-19		5 Stations		
	1	Banjarmasin		II	GMDSS (JRC)	A3	O
	2	Sampit		IIIA	GMDSS (JRC)	A2	X
	3	Kumai		IIIB	GMDSS (SAILOR)	A2	X
	4	Batulicin		IIIB	GMDSS (JRC)	A2	X
	5	Kotabaru		IIIB	NON GMDSS		X
16	Samarinda		24-Jul-19		3 Stations		
	1	Samarinda		III/A	GMDSS (SAILOR)	A3	Δ
	2	Balikpapan		I	GMDSS JRC)	A3	Δ
	3	Tanjung Santan		IV/A	GMDSS (SAILOR)	A2	Δ
17	Tarakan		26-Jul-19		4 Stations		
	1	Tarakan		IIIA	GMDSS (SAILOR)	A2	O
	2	Nunukan		IVA	NON GMDSS		O
	3	Tg. Selor		IVA	NON GMDSS		O
	4	Tg. Redep		IVA	NON GMDSS		O
18	Makassar		7-Aug-19		5 Stations		
	1	Makassar		I	GMDSS (JRC)	A3	O
	2	Pare-Pare		IIIB	GMDSS (JRC)	A2	X
	3	Mamuju		IVA	NON GMDSS		X
	4	Palopo		IVA	GMDSS (INVELCO)	A2	X
	5	Selayar		IVB	GMDSS (INVELCO)	A2	X
19	Kendari		X		6 Stations		
	1	Kendari		IIIA	GMDSS (SAILOR)	A2	X
	2	Bau-bau		IIIA	GMDSS (JRC)	A2	X
	3	Raha		IVA	GMDSS (SAILOR)	A2	X
	4	Kolaka		IVA	GMDSS (SAILOR)	A2	X
	5	Pomalaa		IVA	GMDSS (SAILOR)	A2	X
	6	Banabungi		IVB	NON GMDSS		X
20	Bitung		25-Jul-19		15 Stations		
	1	Bitung		I	GMDSS (JRC)	A3	X
	2	Pantoloan		IIIA	GMDSS (SAILOR)	A2	X
	3	Poso		IIIA	GMDSS (JRC)	A2	X
	4	Toli-Toli		IIIA	GMDSS (JRC)	A2	X
	5	Donggala		IVA	GMDSS (KENTA)	A2	X
	6	Gorontalo		IVA	NON GMDSS		X
	7	Luwuk		IVA	GMDSS (SAILOR)	A2	X
	8	Siau		IVA	NON GMDSS		X
	9	Manado		IVA	GMDSS (JRC)	A2	X
	10	Tahuna		IVA	GMDSS (KENTA)	A2	X
	11	Parigi		IVA	GMDSS (SAILOR)	A2	X
	12	Kolonedale		IVA	NON GMDSS		X
	13	Kwandang		IVA	GMDSS (SAILOR)	A2	X
	14	Banggai		IVB	NON GMDSS		X
	15	Ampana		IVB	NON GMDSS		X

Table 7 Status of CRS and GMDSS Questionnaires (Maluku and Papua)

No	Name of DisNav Location of Radio		Delivery Date	Class	Criteria	Area	Quessionaires Status
21	Ambon		5-Sep-19		7 Stations		
	1	Ambon		I	GMDSS (JRC)	A3	X
	2	Ternate		IIIA	GMDSS (SAILOR)	A2	X
	3	Namlea		IIIA	GMDSS (SAILOR)	A2	X
	4	Sanana		IIIA	GMDSS (SAILOR)	A2	X
	5	Tobelo		IVA	NON GMDSS		X
	6	Banda		IVA	GMDSS (INVELCO)	A2	X
	7	Amahai		IVB	NON GMDSS		X
22	Tual		18-Jul-19		3 Stations		
	1	Tual		IIIA	GMDSS (JRC)	A2	O
	2	Saumlaki		IIIA	GMDSS (JRC)	A2	X
	3	Dobo		IVA	GMDSS (SAILOR)	A2	X
23	Sorong		6-Aug-19		6 Stations		
	1	Sorong		II	GMDSS (JRC)	A3	O
	2	Manokwari		IIIA	GMDSS (SAILOR)	A2	X
	3	Fak-Fak		IIIA	GMDSS (INVELCO)	A2	X
	4	Kaimana		IVA	GMDSS (INVELCO)	A2	X
	5	Bintuni		IIIA	GMDSS (INVELCO)	A2	X
	6	Amamapare		IVB	NON GMDSS		X
24	Jayapura		5-Aug-19		5 Stations		
	1	Jayapura		I	GMDSS (JRC)	A3	O
	2	Biak		IIIA	GMDSS (SAILOR)	A2	X
	3	Serui		IVA	GMDSS (SAILOR)	A2	X
	4	Sarmi		IVA	GMDSS (KENTA)	A2	X
	5	Nabire		IVA	NON GMDSS		X
25	Merauke		7-Aug-19		3 Stations		
	1	Merauke		IIIA	GMDSS (SAILOR)	A2	O
	2	Agats		IIIA	GMDSS (JRC)	A2	X
	3	Bade		IVA	NON GMDSS		X

3.2 Summary of Questionnaires

3.2.1 Aids to Navigation (AtoN)

Summary of questionnaires for AtoN are tabulated in Table 8, Table 9, Table 10, Table 11 and

Quessionaire / Class of District Navigation	Samarinda Class I	Tarakan Class III	Makassar Class I	Kendari Class III	Bitung Class I
1) Is there any light not being listed on the latest version of "LIST OF LIGHTS"?	No Answer	No	Yes	No	No
○ If there is, let us know its specification as the same as "LIST OF LIGHTS".					
○ Please fill out another sheet	No Answer	N/A	N/A	N/A	N/A
2) Do you have detailed information on each component of the AtoN, i.e. model name, serial number, date of manufacture?	No Answer	No	Yes	Yes	Yes
3) In case of the light cease, how do you know it? /	No Answer	From third party reports (fishermen, passing vessels, pilotage services, government agency posts)	Receive reports of damage / outages from the community (fishermen), passing vessel via the Coastal Radion Station, and the local port office (harbor master).	Information via telephone or radio telegram from TMS	Reports from ships, fishermen and communities which reported to nearest Coastal Radio Station and Lighthouse keeper
4) Whom do you report to?	No Answer	Nearest Coastal Radio Station, Head of AtoN group, Head of operations section and finally will be reported to the head of navigation district office	Report to Head of Operations Division and then to the Head of Facilities and Infrastructure Section of the District Navigation Office of Makassar	Report to Operation Division	Section Head of facilities and infrastructure which is then forwarded to Head of Operation Division then forwarded to Head of Navigation District
5) When you report the light cease, what means do you use to report?					
○ Telephone	No Answer	No	No	No Answer	No
○ e-mail	No Answer	No	No	No Answer	No
○ Other / Radio SSB	No Answer	letter	No	No Answer	Radio Station
6) Do you have a maintenance manual on aid to navigation or facilities?	No Answer	Yes	N/A	Yes	No
○ If Yes					
○ That is defined by DGSC (Dangerous Goods Security Card)	No Answer	No Answer	No Answer	No Answer	No Answer
○ That is defined by our office	No Answer	No Answer	No Answer	No Answer	No Answer

Table 12.

Table 8 AtoN Questionnaires for Sabang, Belawan, Sibolga, Dumai, and Tanjung Pinang

Quessionaire / Class of District Navigation	Sabang Class II	Belawan Class I	Sibolga Class III	Dumai Class I	Tanjung Pinang Class I
1) Is there any light not being listed on the latest version of "LIST OF LIGHTS"?	No	No	Yes	No	No
○ If there is, let us know its specification as the same as "LIST OF LIGHTS".					
○ Please fill out another sheet	N/A	N/A	N/A	N/A	N/A
2) Do you have detailed information on each component of the AtoN, i.e. model name, serial number, date of manufacture?	Yes / however date of manufacture unknown	Yes	Yes	No	No
3) In case of the light cease, how do you know it? /	From inpection of the light devices received when the goods arrive / are delivered, if the AtoN has been installed the information obtained from ships passing through.	Via users report, pilotage services and fisherman communities	Inspection results of AtoN officer, fisherman reports, passing ships / users, community and coastal radio stations as well as written notice from the local harbormaster	Based on inpection of buoy tender, information from pilotage service, information from Harbormaster, information from fishing communities	Through ship reports, Coastal Radio Station Report, and Lighthouse keeper report
4) Whom do you report to?	Report to Head of Operations Section and forwarded to the Head of District Navigation Office	Report to Belawan Harbour Master office via Morning Report, also to VTS to broadcast "Notices To Mariner" to the passing ships to be careful.	Head of District Navigation Office and Section Chief of operations	Head of Operations Section and forwarded to the Head of Office	reports usually via telegram from the VTS / CRS / lighthouse keeper and the disposition of the Head of Navigation office. The telegram was forwarded to the head of operations and the Head of the AtoN group for repairs
5) When you report the light cease, what means do you use to report?					
○ Telephone	Yes	Yes	Yes	Yes	Yes
○ e-mail	Yes	No	No	No	No
○ Other / Radio SSB	No	Others, i.e Use Morning Report	No	Report Directly	CRS and Cellphone
6) Do you have a maintenance manual on aid to navigation or facilities?	Yes	No	N/A	No	Yes
○ If Yes					
○ That is defined by DGSC (Dangerous Goods Security Card)	No Answer	No Answer	No Answer	No Answer	No Answer
○ That is defined by our office	No Answer	No Answer	No Answer	No Answer	No Answer

Table 9 AtoN Questionnaires for Teluk Bayur, Palembang, Tj. Priok, Cilacap, and Semarang

Quessionaire Class of District Navigation	Teluk Bayur Class II	Palembang Class I	Tanjung Priok Class I	Cilacap Class II	Semarang Class II
1) Is there any light not being listed on the latest version of "LIST OF LIGHTS"?	Yes	No	N/A	No	No
◯ If there is, let us know its specification as the same as "LIST OF					
◯ Please fill out another sheet	N/A	N/A	Yes	N/A	N/A
2) Do you have detailed information on each component of the AtoN, i.e. model name, serial number, date of manufacture?	Yes	Yes	Yes	Yes	Yes
3) In case of the light cease, how do you know it? /	•For Light House information is obtained from Light House Technician or Light House Technician Keeper report. •For Light beacon information is obtained from reports from Service Users, ships (sailors), fishermen and the local community.	The lamp does not turn on when the LPR on the lamp is closed	Report from harbormaster, ships passing by the concerned AtoN, residents / fishermen around the AtoN or from internal supervision / inspection by District Navigation office.	Lights that are not guarded are known from report from service users and local community	Reports from monitoring officers, related institutions and community reports
4) Whom do you report to?	Report to Head of District Navigation Office	The technician reports to Work Group Coordinator, Work Group Coordinator then continues to report the Head of Operations Division	To Head of District Navigation Office	Reporting to the Head of the District Navigation Office and then to the Director of Sea Navigation of DGST in the form monthly report	Report to the Head of District Navigation office
5) When you report the light cease, what means do you use to report?					
◯ Telephone	Yes	Yes	Yes	Yes	No
◯ e-mail	Yes	No	Yes	No	Yes
◯ Other / Radio SSB	No	No	other from local residents / fishermen who are reported through the Harbormaster Office	No	monthly reliability report
6) Do you have a maintenance manual on aid to navigation or facilities?	Yes	Yes	Yes	Yes	No
◯ If Yes					
◯ That is defined by DGSC (Dangerous Goods Security Card)	No Answer	No Answer	No Answer	No Answer	No Answer
◯ That is defined by our office	No Answer	No Answer	No Answer	No Answer	No Answer

Table 10 AtoN Questionnaires for Surabaya, Benoa, Kupang, Pontianak, and Banjarmasin

Quessionaire Class of District Navigation	Surabaya Class I	Benoa Class II	Kupang Class II	Pontianak Class III	Banjarmasin Class II
1) Is there any light not being listed on the latest version of "LIST OF LIGHTS"?	No	No		No	No
○ If there is, let us know its specification as the same as "LIST OF LIGHTS".					
○ Please fill out another sheet	N/A	N/A	N/A	N/A	N/A
2) Do you have detailed information on each component of the AtoN, i.e. model name, serial number, date of manufacture?	No	No		Yes	Yes
3) In case of the light cease, how do you know it? /	Inspection	The results of Inspection by officers and information from the ship who passing bay which inform the nearest Lighthouse Keeper or Coastal Radion Station and also information from residents			Come directly to the location of the cease lamp by checking the condition of the battery , checking the voltage of the power source / solar cell and checking on the condition of the lamp
4) Whom do you report to?	Head of District Navigation Office	AtoN officers report to the Head of Sub-district Navigation Office and then repoft to Head of Operation Section and Head of AtoN Group			The Head of Operations Section with copy to the Head of Navigation District
5) When you report the light cease, what means do you use to report?					
○ Telephone	No	Yes			Yes
○ e-mail	No	No			No
○ Other / Radio SSB	Nota Dinas	SSB Radio			Radio SSB
6) Do you have a maintenance manual on aid to navigation or facilities?	No	No			Yes
○ If Yes					
○ That is defined by DGSC (Dangerous Goods Security Card)	No Answer	No Answer			No Answer
○ That is defined by our office	No Answer	No Answer			No Answer

Table 11 AtoN Questionnaires for Samarinda, Tarakan, Makassar, Kendari and Bitung

Quessionaire / Class of District Navigation	Samarinda Class I	Tarakan Class III	Makassar Class I	Kendari Class III	Bitung Class I
1) Is there any light not being listed on the latest version of "LIST OF LIGHTS"?	No Answer	No	Yes	No	No
○ If there is, let us know its specification as the same as "LIST OF LIGHTS".					
○ Please fill out another sheet	No Answer	N/A	N/A	N/A	N/A
2) Do you have detailed information on each component of the AtoN, i.e. model name, serial number, date of manufacture?	No Answer	No	Yes	Yes	Yes
3) In case of the light cease, how do you know it? /	No Answer	From third party reports (fishermen, passing vessels, pilotage services, government agency posts)	Receive reports of damage / outages from the community (fishermen), passing vessel via the Coastal Radion Station, and the local port office (harbor master).	Information via telephone or radio telegram from TMS	Reports from ships, fishermen and communities which reported to nearest Coastal Radio Station and Lighthouse keeper
4) Whom do you report to?	No Answer	Nearest Coastal Radio Station, Head of AtoN group, Head of operations section and finally will be reported to the head of navigation district office	Report to Head of Operations Division and then to the Head of Facilities and Infrastructure Section of the District Navigation Office of Makassar	Report to Operation Division	Section Head of facilities and infrastructure which is then forwarded to Head of Operation Division then forwarded to Head of Navigation District
5) When you report the light cease, what means do you use to report?					
○ Telephone	No Answer	No	No	No Answer	No
○ e-mail	No Answer	No	No	No Answer	No
○ Other / Radio SSB	No Answer	letter	No	No Answer	Radio Station
6) Do you have a maintenance manual on aid to navigation or facilities?	No Answer	Yes	N/A	Yes	No
○ If Yes					
○ That is defined by DGSC (Dangerous Goods Security Card)	No Answer	No Answer	No Answer	No Answer	No Answer
○ That is defined by our office	No Answer	No Answer	No Answer	No Answer	No Answer

Table 12 AtoN Questionnaires for Ambon, Tual, Sorong, Jayapura, and Merauke

Quessionaire	Ambon	Tual	Sorong	Jayapura	Merauke
Class of District Navigation	**Class I**	**Class III**	**Class I**	**Class II**	**Class III**
1) Is there any light not being listed on the latest version of "LIST OF LIGHTS"?	Yes	No	N/A	Yes	Yes
○ If there is, let us know its specification as the same as "LIST OF LIGHTS".					
○ Please fill out another sheet	N/A	N/A	N/A	N/A	N/A
2) Do you have detailed information on each component of the AtoN, i.e. model name, serial number, date of manufacture?	Yes	Yes	N/A	No	No
3) In case of the light cease, how do you know it? /	Get information from the local Port Authority	• Lighthouse keeper, or • Users of Navigation Services • Fishermen and the local community	Through field observations and reports from ships	By visual means and reports from the public / shipping service users for Lightbuoy and for the guarded Ligthouse is reported by the keeper reported by official wire thru SSB radio.	Based on information from ships passing through the shipping lane
4) Whom do you report to?	Report to the Secation Head of Facilities and Infrastructure section then to the Division Head of the Operations to be forwarded to Head of Navigation District	District Navigation Office	Report to the radio station which is then forwarded to the office	To the Head of Operations Section Section	Head of Operation Section
5) When you report the light cease, what means do you use to report?					
○ Telephone	Yes	Yes	No	Yes	No
○ e-mail	Yes	No	No	No	No
○ Other	Telex from CRS to the Disnav Office	Letter	No	orally	No
6) Do you have a maintenance manual on aid to navigation or facilities?	No Answer	Yes	N/A	No	No
○ If Yes					
○ That is defined by DGSC (Dangerous Goods Security Card)	No Answer	No Answer	No Answer	No Answer	No Answer
○ That is defined by our office	No Answer	No Answer	No Answer	No Answer	No Answer

3.2.2 Vessel Traffic System (VTS)

Summary of questionnaires for VTS are tabulated in Table 13, Table 14, Table 15, Table 16 and Table 17.

Table 13 VTS Questionnaires for Sabang, Belawan, Sibolga, Dumai, and Tanjung Pinang

Quessionaire	Sabang	Belawan	Sibolga	Dumai	Tanjung Pinang
Class of District Navigation	Class II	Class I	Class III	Class I	Class I
1) How many VTS stations do you have?	None	1 (one) VTS	None	No Answer	1 (one) VTS Center and 3 (three) Subtations
2) Tell us its type and name /	None	VTS Belawan	None	No Answer	Port and Costal and VTS Center Batam
3) How many personnel is there in your VTS site?					
◯ Port	None	Port	None	No Answer	Port
◯ Costal	-	-			Coastal
◯ Name	None	Belawan	None	No Answer	1 (one) VTS Center and 3 (three) Subtations
◯ persons	None	16 personnel	None	No Answer	25 personnel
4) How do you work in shifts ?	None	Personnel A from 08:00 to 20.00 Personnel B from 20.00 to 08.00 Personnel C from 08.00 to 20.00 Personnel D from 20.00 to 08.00	None	No Answer	Personnel A from 08.00 to 15.00 Personnel B from 15.00 to 22.00 Personnel C from 22.00 to 08.00
5) What equipment do you have?					
◯ Radar	-	Radar	-	No Answer	Radar
◯ AIS	AIS	AIS	AIS	No Answer	AIS
◯ VHF	-	VHF	VHF	No Answer	VHF
◯ Other	SSB dan GMDSS	Others	-	No Answer	CCTV Long Range at Takong Kecil Island
◯ Metrological measures	-	-	-	No Answer	Yes
◯ wind direction	-	-	-	No Answer	Yes
◯ wind speed	-	-	-	No Answer	Yes
◯ barometer	-	-	-	No Answer	Yes
6) Do you provide weather information	Yes	Yes	Yes	No Answer	Yes
If yes - What means of?	No Answer	VHF	-	No Answer	VHF
◯ VHF					
◯ Other	No Answer	-	Yes, Obtain data from Meteorology, Climatology, and Geophysical Agency of Indonesia	No Answer	Broadcast news about the weather through VHF with data sources from Meteorology, Climatology, and Geophysical Agency of Indonesia
7) Can your site connect to the Internet?	Yes	Yes	Yes	No Answer	Yes
If yes - What means of?					
◯ metal cable	-	-	No Answer	No Answer	metal cable
◯ optical fiber	-	Optical Fiber	No Answer	No Answer	Optical Fiber
◯ Wi-Fi	Wi-Fi	Wi-Fi	No Answer	No Answer	Wi-Fi

Table 14 VTS Questionnaires for Teluk Bayur, Palembang, Tj. Priok, Cilacap, and Semarang

Quessionaire	Teluk Bayur	Palembang	Tanjung Priok	Cilacap	Semarang
Class of District Navigation	Class II	Class I	Class I	Class II	Class II
1) How many VTS stations do you have?	1 (one) VTS	1 (one) VTS	No answer	None	1 (one) VTS
2) Tell us its type and name	VTS Teluk Bayur	VTS Palembang	No answer	None	VTS Semarang (INS / Information Service)
3) How many personnel is there in your VTS site?					
◯ Port	Port	No answer	No answer	None	Port
◯ Costal	-	No answer	No answer	None	-
◯ Name	VTS Teluk Bayur (Padang)	VTS Palembang	No answer	None	Tanjung Emas
◯ persons	15 Personnel	No answer	No answer	None	17 Personnel
4) How do you work in shifts?	Personnel A from 08.00 to 20.00 Personnel B from 20.00 to 08.00 Personnel C from 08.00 to 20.00 Personnel D from 20.00 to 08.00	Personnel A from 08:00 to 20:00 Personnel B from 20:00 to 08:00 Personnel C from 08:00 to 20:00 Personnel D from 20:00 to 08:00 Personnel E from 08:00 to 20:00	No answer	None	Personnel A from 08:05 to 15:55 Personnel A from 16:05 to 23:55 Personnel B from 08:05 to 15:55 Personnel B from 16:05 to 23:55 Personnel C from 08:05 to 15:55 Personnel C from 16:05 to 23:55 Personnel D from 08:05 to 15:55 Personnel D from 16:05 to 23:55 Personnel E from 08:05 to 15:55 Personnel E from 16:05 to 23:55
5) What equipment do you have?					
◯ Radar	Radar	Radar	Radar	No answer	Radar
◯ AIS	AIS	AIS	AIS	No answer	AIS
◯ VHF	VHF	VHF	VHF	No answer	VHF
◯ Other	Other	Long Range CCTV Surveillance	-	No answer	-
◯ Metrological measures	Yes	Yes	Yes	No answer	-
◯ wind direction	Yes	Yes	Yes	No answer	-
◯ wind speed	Yes	Yes	Yes	No answer	-
◯ barometer	Yes	Yes	Yes	No answer	-
6) Do you provide weather information					
If yes - What means of?	Yes	Yes	Yes		Yes
◯ VHF	VHF		VHF	No answer	No answer
◯ Other	-	-	Every news / weather forecast that we receive from Meteorology, Climatology, and Geophysical Agency of Indonesia (BMKG)is broadcast via VHF radio on VTS working frequency (one of the INS / Information Services)	No answer	No answer
7) Can your site connect to the Internet?	Yes	Yes	Yes	No answer	Yes
If yes - What means of?					
◯ metal cable	-	-	-	No answer	-
◯ optical fiber	-	Optical Fiber	Optical Fiber	No answer	Optical Fiber
◯ Wi-Fi	Wi-Fi	Wi-Fi	-	No answer	Wi-Fi
			Internet services use Dedicated Bandwidth of 5 MBps.	No answer	

Table 15 VTS Questionnaires for Surabaya, Benoa, Kupang, Pontianak, and Banjarmasin

Quessionaire	Surabaya	Benoa	Kupang	Pontianak	Banjarmasin
Class of District Navigation	Class I	Class II	Class II	Class III	Class II
1) How many VTS stations do you have?	1 (one) VTS	2 (two) VTS	No answer	2 (two) VTS	2 (two) VTS
2) Tell us its type and name /	1. Transponder AIS : SAAB (12:40) 2. POPT WAT AIS : XAMATOS 3. Server : XAMATOS	1) Benoa VTS 2) Lembar VTS	No answer	1) VTS Pontianak as central VTS 2) VTS Tanjung Intan as center building (bserver)	1) VTS Banjarmasin 2) VTS Batulicin
3) How many personnel is there in your VTS site?					
◯ Port	Port	1) Port 2) Port	No answer	Port	1) Port 2) Port
◯ Costal	-		No answer	-	
◯ Name	VTS Surabaya	1) Benoa VTS 2) Lembar VTS	No answer	Dwikora Pontianak	1) Banjarmasin 1) Batulicin
◯ persons	12 personnel	1) 20 personnel 2) 20 personnel	No answer	14 personnel	1) 8 personnel 2) 8 personnel
4) How do you work in shifts?	Personnel A from 07:00 to 19:00 Personnel B from 19:00 to 07:00 Personnel C from OFF Personnel D from OFF	No answer	No answer	Personnel A from 07:00 to 15:00 Personnel B from 15:00 to 23:00 Personnel B from 23:00 to 07:00	Personnel A from 08.00 to 14.00 Personnel B from 14.00 to 20.00 Personnel C from 20.00 to 08.00 Personnel D from 08.00 to 14.00
5) What equipment do you have?					
◯ Radar	Radar	Radar	No answer	Radar	Radar
◯ AIS	AIS	AIS	No answer	AIS	AIS
◯ VHF	VHF	VHF	No answer	VHF	VHF
◯ Other	Long Range Camera	CCTV	No answer	-	-
◯ Metrological measures	Yes	Yes	No answer	Yes	-
◯ wind direction	Yes	Yes	No answer	Yes	-
◯ wind speed	Yes	Yes	No answer	Yes	-
◯ barometer	Yes	-	No answer	Yes	-
6) Do you provide weather information					
If yes - What means of?	Yes	Yes	No answer	Yes	Yes
◯ VHF	VHF	VHF	No answer	Marine Fequency between 154 MHz - 174 MHz	-
◯ Other	-	-	No answer	-	Other - Weather information from Meteorology, Climatology, and Geophysical Agency of Indonesia then broadcast to ships
7) Can your site connect to the Internet?	Yes	Yes	No answer	Yes	Yes
If yes - What means of?					
◯ metal cable	metal cable	-	No answer	-	No answer
◯ optical fiber	Optical Fiber	Optical Fiber	No answer	Optical Fiber	No answer
◯ Wi-Fi	Wi-Fi	Wi-Fi	No answer	Wi-Fi	No answer NOTE : Using the Astinet network

Table 16 VTS Questionnaires for Samarinda, Tarakan, Makassar, Kendari, and Bitung

Quessionaire	Samarinda	Tarakan	Makassar	Kendari	Bitung
Class of District Navigation	Class I	Class III	Class I	Class III	Class I
1) How many VTS stations do you have?	2 (Two) VTS	1 (one) VTS	1 (one) VTS	No Answer	1 (one) VTS
2) Tell us its type and name /	1) Samarinda VTS - Sensor muara Pegah - Sensor Tanjung Mangkalihat - Sensor samarinda 2) Balikpapan VTS	VTS Tarakan INS (Information Service)	Makassar VTS	No Answer	Bitung VTS
3) How many personnel is there in your VTS site?					
○ Port	1) Port 2) Port	Yes	Yes	No Answer	No Answer
○ Costal	-	-	-	No Answer	No Answer
○ Name	1) Samarinda VTS 2) Balikpapan VTS	VTS Tarakan	Makassar VTS	No Answer	No Answer
○ persons	1) 20 personnel 2) 20 personnel	12 personnel	18 personnel'	No Answer	No Answer
4) How do you work in shifts?	Personnel A from 07:30 to 16:00 Personnel B from 15:00 to 22:00 Personnel C from 22:00 to 08:00 Personnel D standby (replacement) Personnel E Off Duty	Personnel A from 07.30 to 14.30 Personnel B from 14.30 to 21.00 Personnel C from 21.00 to 07.30	Personnel A from 08.00 to 20.00 Personnel B from 20.00 to 08.00 Personnel C from 08.00 to 20.00 Personnel C from 20.00 to 08.00	No Answer	Personnel A from 08.00 to 14.50 Personnel B from 14:00 to 20:00 Personnel C from 20:00 to 08:00 Personnel D Off Duty Personnel 8 from 08.00 to 16.00
5) What equipment do you have?					
○ Radar	Yes	Yes	Yes	No Answer	Yes
○ AIS	Yes	Yes	Yes	No Answer	Yes
○ VHF	Yes	Yes	Yes	No Answer	Yes
○ Other	CCTV	CCTV Long Range	CCTV	-	-
○ Metrological measures	-	Yes	Yes	No Answer	Yes
○ wind direction	-	Yes	Yes	No Answer	Yes
○ wind speed	-	Yes	Yes	No Answer	Yes
○ barometer	-	Yes	Yes	No Answer	Yes
6) Do you provide weather information	Yes	Yes	Yes	No Answer	Yes
If yes - What means of?					
○ VHF	Yes	Yes	Yes	No Answer	Yes
○ Other	-	-	Data from Meteorology, Climatology, and Geophysical Agency of Indonesia	No Answer	-
7) Can your site connect to the Internet?	Yes	Yes	Yes	No Answer	Yes
If yes - What means of?					
○ metal cable	-	-	-	No Answer	-
○ optical fiber	Yes	Yes	Yes	No Answer	-
○ Wi-Fi	Yes	Yes	Yes	No Answer	Yes

Table 17 VTS Questionnaires for Ambon, Tual, Sorong, Jayapura, and Merauke

Quessionaire	Ambon	Tual	Sorong	Jayapura	Merauke
Class of District Navigation	Class I	Class III	Class I	Class II	Class III
1) How many VTS stations do you have?	None	None	2 (Two) VTS	None	None
2) Tell us its type and name /	-	-	1) Sorong VTS (AIS System) 2) Bintuni VTS (BP Tangguh LNG)	None	None
3) How many personnel is there in your VTS site?					
◯ Port	-	-	No Answer	None	None
◯ Costal	-	-	No Answer		
◯ Name	-	-	No Answer		
◯ persons	-	-	No Answer		
4) How do you work in shifts?	-	-	Personnel A from 08:00 to 14:00 Personnel A from 15:00 to 22:00 Personnel B from 14:00 to 20:00 Personnel B from 22:00 to 09:00 Personnel C from 20:00 to 02:00 Personnel D from 02:00 to 08:00	Personnel A from 08.00 to 14.00 Personnel B from 14.00 to 20.00 Personnel C from 20.00 to 08.00 Personnel D from 08.00 to 14.00 Personnel E from 14.00 to 20.00	Personnel A from 07.00 to 15.00 Personnel B from 15.00 to 21.00 Personnel C from 21.00 to 07.00 Personnel D Off Duty Personnel E from 07.30 to 16.00
5) What equipment do you have?					
◯ Radar	-	-	Radar	Radar	-
◯ AIS	AIS	AIS	AIS	AIS	AIS
◯ VHF	VHF	VHF	VHF	VHF	VHF
◯ Other	-	-	-	HF, MF, DSC, NBDP	MF / HF (GMDSS) and CRS
◯ Metrological measures	-	-	-	-	-
◯ wind direction	-	-	-	-	-
◯ wind speed	-	-	-	-	-
◯ barometer	-	-	-	-	-
6) Do you provide weather information					
If yes - What means of?	Yes	Yes	Yes	Yes	Yes
◯ VHF	-	VHF	VHF	No answer	No answer
◯ Other	Weather information is received from Meteorology, Climatology, and Geophysical Agency and broadcast to ships via Navtex and GMDSS telephony (MF dan HF)	-	-	No answer	No answer
7) Can your site connect to the Internet?	Yes	Yes	Yes	Yes	Yes
If yes - What means of?					
◯ metal cable	No answer	-	-	-	-
◯ optical fiber	No answer	Yes	-	-	Optical Fiber
◯ Wi-Fi	No answer	-	Wi-Fi	Wi-Fi	Wi-Fi

3.2.3 Coastal Radio Station (CRS) including GMDSS

Due to the length of questionnaire, for Coastal Radio Station summary can be read directly in the soft file provided.

3.2.4 Financial Aspects

(1) Regulation on Tariffs

Tariff per metrical tonnage for VTS is regulated by Government Regulation No. 15 of 2016 regarding *Types and Tariff of Non-Tax State Revenue Applies to the Ministry of Transportation*. Because this regulation applies throughout Indonesia, all answers to the questionnaire must be based on this rule

Table 18 Light dues per Metrical Tonnage Vessel per 30 days

Category of Vessel	Tariff per GT per 30 days
Foreign Registered Vessel	USD 0.034
Local Registered Vessel	IDR 250
Pioneer vessels / Traditional Shipping (PELRA)*	IDR 125
Ferryboat / passage boat	IDR 250

*Pelayaran Rakyat

Table 19 VTS dues per Metrical Tonnage Vessel

Tonnage	Foreign Registered Vessel
0 - 5,000	USD 20
5,001 - 10,000	USD 25
10,000 above	USD 30

Tonnage	Local RegisteredVessel
0 - 300	IDR 75,000
300 - 1000	IDR 100,000
1000 – 3000	IDR 125,000
3000 – 5,000	IDR 150,000
5,000 – 10,000	IDR 175,000
10,000 above	IDR 200,000

(2) Result of Questionnaires

Summary of questionnaires for Financial Aspects are tabulated in Table 20, Table 21, Table 22, Table 23 and Table 24.

Table 20 Financial Aspects for Sabang, Belawan, Sibolga, Dumai, and Tanjung Pinang

Quessionaire	Sabang	Belawan	Sibolga	Dumai	Tanjung Pinang
Class of District Navigation	Class II	Class I	Class III	Class I	Class I
1) Light dues, VTS dues tariff per tonnage within particular Disnav zone					
○ Annual revenue total	None	IDR 900,000,000	No answer	No answer	IDR 14,750,658,109
○ In Light dues	None	No answer	No answer	No answer	IDR 0
○ In VTS dues	None	No answer	No answer	No answer	IDR 14,750,658,109
2) Numbers of tariff per metrical tonnage in above dues applicable **See Notes Regarding Tariif on section 3.2.4**	**See Notes Regarding Tariif on section 3.2.4**				
3) Total amount of revenues of both dues					
○ Year of 2017	None	IDR 827,899,738	No answer	No answer	IDR 43,289,854,536
○ Year of 2018	None	IDR 862,357,978	No answer	No answer	IDR 14,750,658,109
4) Total maintenance cost for AtoN, VTS, Coastal Radio Station (CRS) ncluding GMDSS, Tender Vessel (TV) (Approximately 2017, 2018)					
○ Year of 2017	IDR 2,125,010,035	IDR 5,749,136,106	No answer	No answer	IDR 6,022,759,000
○ Year of 2018	IDR 1,585,157,850	IDR 2,962,505,021	No answer	No answer	IDR 17,129,860,000
5) Upcoming project to upgrade facilities of VTS, AtoN, CRS (existing or newly), Tender Vessel (TV) in budget 2019 onward / (existing or newly)	None	No answer	No answer	No answer	Upgrade Hardware and Software VTS Batam Additional VTS Sensor Site Purchasing AIS Base Station in each Coastal Radio Station which doesn't have
6) Estimated numbers of distress case and estimated total loss amount in past 20 years record (if available)	No answer	No answer	No answer	No answer	No answer
7) Monthly (or annual) cost (estimated)	Monthly	Yearly			Yearly
○ Commercial electricity purchase for AtoN	None	No answer	No answer	No answer	No answer
○ Diesel fuel for genset to activate AtoN	5343.84 Liter / Month	IDR 649,789,000	No answer	No answer	IDR 1,068,658,000
○ Fix telephone line bill (local and trunk)	IDR 900,000	IDR 5,818,203	No answer	No answer	IDR 11,600,000
○ Internet subscription (Optical fibre/ADSL/Dial up/3G/4G/LTE)	IDR 11,859,000	IDR 442,229,726	No answer	No answer	IDR 499,900,000
○ Overhead total amount in District Navigation	No answer	No answer	No answer	No answer	IDR 1,019,614,000

Table 21 Financial Aspects for Teluk Bayur, Palembang, Tj. Priok, Cilacap, and Semarang

Quessionaire	Teluk Bayur	Palembang	Tanjung Priok	Cilacap	Semarang
Class of District Navigation	**Class II**	**Class I**	**Class I**	**Class II**	**Class II**
1) Light dues, VTS dues tariff per tonnage within particular Disnav zone					
◯ Annual revenue total	IDR 370,337,880	No answer	No answer	No answer	No answer
◯ In Light dues	No answer	IDR 12,689,124,310	No answer	No answer	No answer
◯ In VTS dues	No answer	IDR 3,333,683,022	No answer	No answer	No answer
2) Numbers of tariff per metrical tonnage in above dues applicable **See Notes Regarding Tariif on section 3.2.4**	**See Notes Regarding Tariif on section 3.2.4**				
3) Total amount of revenues of both dues					
◯ Year of 2017	IDR 365,678,950	IDR 3,171,716,560	No answer	No answer	IDR 688,141,088
◯ Year of 2018	IDR 380,370,880	IDR 3,333,623,000	No answer	No answer	IDR 787,094,365
4) Total maintenance cost for AtoN, VTS, Coastal Radio Station (CRS) ncluding GMDSS, Tender Vessel (TV) (Approximately 2017, 2018)					
◯ Year of 2017	IDR 2,206,560,000	IDR 5,186,588,000	No answer	No answer	No answer
◯ Year of 2018	IDR 3,169,139,000	IDR 3,618,572,930	No answer	No answer	No answer
5) Upcoming project to upgrade facilities of VTS, AtoN, CRS (existing or newly), Tender Vessel (TV) in budget 2019 onward / (existing or newly)	• VTS (2019)	• Light Beacon • VTS • Master Cable	No answer	No answer	No answer
6) Estimated numbers of distress case and estimated total loss amount in past 20 years record (if available)	No answer	No answer	No answer	No answer	No answer
7) Monthly (or annual) cost (estimated)	Monthly	Yearly		Yearly	
◯ Commercial electricity purchase for AtoN	No answer	IDR 271,908,900	No answer	IDR 15,000,000	No answer
◯ Diesel fuel for genset to activate AtoN	Diesel Oil for Lighthouse keeper shelter	IDR 68,000,000	No answer	11,400 Liter	No answer
◯ Fix telephone line bill (local and trunk)	IDR 270,293	IDR 17,601,000	No answer	No answer	No answer
◯ Internet subscription (Optical fibre/ADSL/Dial up/3G/4G/LTE)	IDR 1,786,873	IDR 548,760,000	No answer	No answer	No answer
◯ Overhead total amount in District Navigation	No answer	IDR 906,269,900	No answer	No answer	No answer

Table 22 Financial Aspects for Surabaya, Benoa, Kupang, Pontianak, and Banjarmasin

Quessionaire	Surabaya	Benoa	Kupang	Pontianak	Banjarmasin
Class of District Navigation	Class I	Class II	Class II	Class III	Class II
1) Light dues, VTS dues tariff per tonnage within particular Disnav zone					
◯ Annual revenue total	No answer	IDR 2,522,590,045	No answer	No answer	No answer
◯ In Light dues	No answer	No answer	No answer	No answer	No answer
◯ In VTS dues	No answer	No answer	No answer	No answer	No answer
2) Numbers of tariff per metrical tonnage in above dues applicable **See Notes Regarding Tariif on section 3.2.4**	**See Notes Regarding Tariif on section 3.2.4**				
3) Total amount of revenues of both dues					
◯ Year of 2017	IDR 2,937,711,935	IDR 2,306,129,990	No answer	No answer	No answer
◯ Year of 2018	IDR 3,115,833,700	IDR 2,522,590,045	No answer	No answer	No answer
4) Total maintenance cost for AtoN, VTS, Coastal Radio Station (CRS) ncluding GMDSS, Tender Vessel (TV) (Approximately 2017, 2018)					
◯ Year of 2017	No answer	No answer	No answer	No answer	No answer
◯ Year of 2018	No answer	IDR 6,597,589,180	No answer	No answer	No answer
5) Upcoming project to upgrade facilities of VTS, AtoN, CRS (existing or newly), Tender Vessel (TV) in budget 2019 onward / (existing or newly)	Long Range CCTV (3 unit)	No answer	No answer	Upgrading existing and new development of Kijing Port	No answer
6) Estimated numbers of distress case and estimated total loss amount in past 20 years record (if available)				Yearly	No answer
7) Monthly (or annual) cost (estimated)		Yearly	No answer	IDR 1,500,000 only for Tj Intan Light house	No answer
◯ Commercial electricity purchase for AtoN	No answer	IDR 75,000,000	No answer	42,000 Liter for other AToN	No answer
◯ Diesel fuel for genset to activate AtoN	No answer	No answer	No answer	IDR 56,297,968	No answer
◯ Fix telephone line bill (local and trunk)	No answer	IDR 17,000,000	No answer	IDR 56,297,968	No answer
◯ Internet subscription (Optical fibre/ADSL/Dial up/3G/4G/LTE)	No answer	IDR 46,000,000	No answer	No answer	No answer
◯ Overhead total amount in District Navigation	No answer	IDR 138,000,000	No answer	No answer	No answer

Table 23 Financial Aspects for Samarinda, Tarakan, Makassar, Kendari, and Bitung

Quessionaire	Samarinda	Tarakan	Makassar	Kendari	Bitung
Class of District Navigation	Class I	Class III	Class I	Class III	Class I
1) Light dues, VTS dues tariff per tonnage within particular Disnav zone					
◯ Annual revenue total	no answer	no answer	no answer	no answer	IDR 360,000,000
◯ In Light dues	no answer	no answer	no answer	no answer	IDR 0
◯ In VTS dues	no answer	no answer	IDR 800,000,000		IDR 360,000,000
2) Numbers of tariff per metrical tonnage in above dues applicable **See Notes Regarding Tariif on section 3.2.4**	**See Notes Regarding Tariif on section 3.2.4**				
3) Total amount of revenues of both dues					
◯ Year of 2017	IDR 1,850,307,039	no answer	IDR 894,072,000	no answer	IDR 360,995,680
◯ Year of 2018	IDR 2,170,923,600	no answer	IDR 781,951,375	no answer	IDR 388,521,800
4) Total maintenance cost for AtoN, VTS, Coastal Radio Station (CRS) ncluding GMDSS, Tender Vessel (TV) (Approximately 2017, 2018)					
◯ Year of 2017	no answer	no answer	IDR 12,282,035,000	no answer	no answer
◯ Year of 2018	no answer	no answer	IDR 15,133,369,000	no answer	no answer
5) Upcoming project to upgrade facilities of VTS, AtoN, CRS (existing or newly), Tender Vessel (TV) in budget 2019 onward / (existing or newly)	Additional VTS sensors in Tanjung Santan or Costal Radio Station and Sensors in Bontang	VTS, AToN, Coastal Radio Station and Buoy Tender	VTS : Up Grade Equipment + Software + Repeater Stations	no answer	no answer
6) Estimated numbers of distress case and estimated total loss amount in past 20 years record (if available)	IDR 500,000,000 (Lightning Strike)	IDR 20,000,000,000 (10 cases)	no answer	no answer	no answer
7) Monthly (or annual) cost (estimated)	Yearly	Yearly	Yearly	no answer	Monthly IDR 600,000
◯ Commercial electricity purchase for AtoN	no answer	IDR 6,000,000	IDR 18,978,638	no answer	37.2 Liter
◯ Diesel fuel for genset to activate AtoN	no answer	21,000 Liter	no answer	no answer	no answer
◯ Fix telephone line bill (local and trunk)	no answer	IDR 43,000,000	IDR 57,303,287	no answer	no answer
◯ Internet subscription (Optical fibre/ADSL/Dial up/3G/4G/LTE)	IDR 100,000,000	IDR 150,000,000	no answer	no answer	no answer
◯ Overhead total amount in District Navigation	no answer	IDR 500,000,000	no answer	no answer	no answer

Table 24 Financial Aspects for Ambon, Tual, Sorong, Jayapura, and Merauke

Quessionaire	Ambon	Tual	Sorong	Jayapura	Merauke
Class of District Navigation	**Class I**	**Class III**	**Class I**	**Class II**	**Class III**
1) Light dues, VTS dues tariff per tonnage within particular Disnav zone					
◯ Annual revenue total	no answer	IDR 38,300,016	no answer	no answer	no answer
◯ In Light dues	no answer	no answer	no answer	no answer	no answer
◯ In VTS dues	no answer	no answer	no answer	no answer	no answer
2) Numbers of tariff per metrical tonnage in above dues applicable **See Notes Regarding Tariif on section 3.2.4**	**See Notes Regarding Tariif on section 3.2.4**				
3) Total amount of revenues of both dues					
◯ Year of 2017	no answer	IDR 2,202,066,000	IDR 578,432,225	no answer	no answer
◯ Year of 2018	no answer	IDR 32,843,816,000	IDR 691,846,324	no answer	no answer
4) Total maintenance cost for AtoN, VTS, Coastal Radio Station (CRS) ncluding GMDSS, Tender Vessel (TV) (Approximately 2017, 2018)					
◯ Year of 2017	no answer	no answer	no answer	IDR 1,925,647,700	no answer
◯ Year of 2018	no answer	IDR 38,300,016 (Master Cable)	no answer	IDR 1,101,027,800	no answer
5) Upcoming project to upgrade facilities of VTS, AtoN, CRS (existing or newly), Tender Vessel (TV) in budget 2019 onward / (existing or newly)	no answer	Light Beacon,Marine Observation Laboratory and Air Base Station	VTS Upgrading	no answer	no answer
6) Estimated numbers of distress case and estimated total loss amount in past 20 years record (if available)	no answer	None	no answer	Not recorded	no answer
7) Monthly (or annual) cost (estimated)	no answer	Yearly	Yearly	Yearly	no answer
◯ Commercial electricity purchase for AtoN	no answer	IDR 466,396,000	no answer	IDR 30,849,998	no answer
◯ Diesel fuel for genset to activate AtoN	HSD Solar	no answer	no answer	32,000 Liter	no answer
◯ Fix telephone line bill (local and trunk)	no answer	IDR 71,000,000	no answer	IDR 12,333,120	no answer
◯ Internet subscription (Optical fibre/ADSL/Dial up/3G/4G/LTE)	no answer	IDR 150,000,000	no answer	IDR 115,288,776	no answer
◯ Overhead total amount in District Navigation	no answer	no answer	IDR 8,291,673,483	no answer	no answer

3.2.5 Buoy and Aids Tenders

Due to the length of Questionnaire, for Buoy and Aids Tender, a summary that can be shown directly in the General Questionnaire contained in Table 25, Table 26, Table 27, Table 28, and Table 29, while for the other Questionnaires it can be read directly in the soft file provided.

Table 25 General Questionnaire of Buoy and Aids Tenders for Sabang, Belawan, Sibolga, Dumai, and Tanjung Pinang

General Questionnaire	Sabang	Belawan	Sibolga	Dumai	Tanjung Pinang
	Class II	Class I	Class III	Class I	Class I
1 Only for class one (1) vessel of Buoy Tender (KIP) and Aids Tender (KBP),					
1) What are the reasons of the gap between planned navigation days in 2018 (refer to ⑬ of Questionnaire 2(1/2))	Abnormalities SBNP out of plan and budget constraints	It could be that the schedule does not match the circumstances caused by engine trouble ot weather conditions that are not conductive when the ship wants to sail		No Answer	Because of weather condition
2) If the reason(s) of the gap is (are) the malfunction of the machinery, what kind of malfunction occurred on the vessel ? (Break down of main engine, generators, cargo gear, etc.)	No Answer	The main engine gearbox on the left side is damages		No Answer	No difference
2 Life extension repair for class one (1) vessel of Buoy Tender (KIP) and Aids Tender (KBP) Have you ever made the life-extension repair on class one (1) vessel? If you have, please mention the specific repair such as main engine replacement, generator replacement and buoy handling gear replacement with its ship name.					
1) Specific repair work for life extension	Never	Never		No Answer	Docking/annual routine maintenance
2) Ship Name	Bouy tender KN Antares, Aids to Navigation KN Benggala	No Answer		No Answer	KN.JADAYAT and KN ADHARA
3 For light bouy replacement work,					
1) Did you have the difference between planed numbers of buoy replacement and actual replaced buoys in 2018. If you did, fill up the table under		No Answer			
a No. of planned bouy to be replaced	3 units			8 units	6 units
b No of actual replaced bouy	1 units			8 units	6 units
c= b/a x 100 Replacement condition	30%			100%	100%
2) If you had the difference, please write down the reason	Planned buoys that were planned to be replaced were still feasible to use	No Answer		No	No
4 For light bouy maintanance work,					
1) Did you have the difference between planed number of maintenance buoys and actual maintenance buoys in 2018. If you did, fill up the table under		No Answer			
a No. of planned bouy to be maintananced	28 units			104 units	44 units
b No of actual maintananced bouy	21 units			75 units	42 units
c= b/a x 100 Mainatanance condition	75%			72%	80%
2) If you had the difference, please write down the reason	Changing weather conditions so that not all light buoys can be maintained	No Answer		Weather factor	There is a difference, due to weather/waves
5 Supporting facilities for ATN. Supporting facilities comprises bouy bases and workshops					
1) The buoy base consists of a buoy base to maintain and repair buoys and an open storage to keep mooring system of buoy such as chain and sinker.		No Answer		No Answer	
2) The workshop consists of a workshop and a storehouse.Please fill out the each area (length) at your Disnav. in the followine table.		No Answer			
Office	19m x 28m				1000m2 (25m x 20m)
Open storage	6.60m x 6.40m				3200m2 (71.12m x 45m)
Workshop	24m x 10m				420m2 (20mx 18m)
Storehouse	14m x 10m				300m2 (20m x 15m)
Jetty	40m x 8m x 23m				552m
3) Do you have any shortage of machinery and equipment, such as machine tools, wood work machine, welding machine, compressor and pump, hand tools, bench tools, testing and measurement equipment, electric equipment, handling equipment, generator set, to repair and maintain the ATN including light buoy? If you have, please write down under	Yes	No Answer		None	None
6 On the average, how many buoys are loaded on the Buoy Tender for one trip as buoy replace work.					
a) In case of buoys without tails	8 units	5 units		4 units	6 units buoy with diameter 2.2m
b) In case of buoys with tails	3 units	3 units		3 units	None
c) In case of mixed loading, buoys without tails and buoys with tails	Bouy without tail 3 units and with tail 5 units	4 units		5 units	Buoy without tails 4 units; Buoy with tail, none
7 Is acetylene gas still in use as lighting power source	No	No Answer		No	None
8 Where the buoy maintenance work is being carried out? Only at Buoy Base? Or also onboard?	If maintenance is carried out in the middle of the sea then the selection of a flare buoy is carried out over the sea but if on land is carried out in a navigation workshop	No Answer		At workshop and on board	at workshop and onboard
9 For newly built Bouy Tender after 2002, are they equipped with bouy maintenance machinery onboard such as a.Work bench; b. Vice; c. Compressor; d. Grinder; e. Drilling machine; f. Electric welder; g.Gas welder(oxygen and acetylene); h.Rotary band sawing machine; i. High speed precision lathe		No Answer		Nothing	
	c; d; e; f; g Not all of them are at KN Antares, including workbenches, rotary saws, and high-precision				High speed precision lathe is not equipped
10 How to decide the point where the sinker of buoy is dropped in the sea? DGPS? Direction finder? Triangulation? Etc.	DGPS, by observing /surveying it first by a group of sea	No Answer		Yes	None
11 Are new Buoy Tenders required to be equipped with any additional functions such as SAR(search and rescue)?	Yes	No		Yes	None
12 Can we have the Principal Particulars and General Arrangement of Buoy Tenders and Aid Tenders which were built after 2002?	The aid tender implementation and procurement in 2016, currently 3 years old, while the buoy tender is being built in 1998 and is 20 years oldm planning to change ships is planned for 15 years to come	No Answer		No Answer	Can be obtained at Directorate Navigation Office

Table 26 General Questionnaire of Buoy and Aids Tenders for Teluk Bayur, Palembang, Tj. Priok, Cilacap, and Semarang

General Questionnaire	Teluk Bayur Class II	Palembang Class I	Tanjung Priok Class I	Cilacap Class II	Semarang Class II
1 Only for class one (1) vessel of Buoy Tender (KIP) and Aids Tender (KBP).					
1) What are the reasons of the gap between planned navigation days in 2018 (refer to ⑬ of Questionnaire 2(1/2))	Because there is a BMN revaluation team from DJKNL to review and field visits to the location of Teluk Bayur Navigation Class II beacon	Preparation of sailing activities that are usually constrained, starting from the ship and preparation of supporting equipment		Sail day plannig is what plan to be carried out while actual sailing is sail day that haas been implemented	No Answer
2) If the reason(s) of the gap is (are) the malfunction of the machinery, what kind of malfunction occurred on the vessel ? (Break down of main engine, generators, cargo gear, etc.)	Because the DJKNL team conducted a BMN revaluation at the beacon location	The main engine gearbox on the left side is damages		Damage to the sea water cooling system	No Answer
2 Life extension repair for class one (1) vessel of Buoy Tender (KIP) and Aids Tender (KBP)					
Have you ever made the life-extension repair on class one (1) vessel? If you have, please mention the specific repair such as main engine replacement, generator replacement and buoy handling gear replacement with its ship name.					
1) Specific repair work for life extension	None	Never		Reapir of auxiliary engine 1, replacement of valve settings on the 6 cylinders	No Answer
2) Ship Name	No Answer	No Answer		KN. Prajapati	
3 For light bouy replacement work,					
1) Did you have the difference between planed numbers of buoy replacement and actual replaced buoys in 2018. If you did, fill up the table under	No Answer	No Answer			
a No. of planned bouy to be replaced				4 units	
b No of actual replaced bouy				4 units	
c= b/a x 100 Replacement condition				100%	
2) If you had the difference, please write down the reason	Nothing	No Answer		No Answer	No Answer
4 For light bouy maintanance work,					
1) Did you have the difference between planed number of maintenance buoys and actual maintenance buoys in 2018. If you did, fill up the table under	No Answer				
a No. of planned bouy to be maintananced		39 units		No Answer	No Answer
b No of actual maintananced bouy		24 units			
c= b/a x 100 Mainatanance condition		80%			
2) If you had the difference, please write down the reason	Nothing	Nothing		No Answer	No Answer
5 Supporting facilities for ATN.					
Supporting facilities comprises bouy bases and workshops					
1) The buoy base consists of a buoy base to maintain and repair buoys and an open storage to keep mooring system of buoy such as chain and sinker.					
2) The workshop consists of a workshop and a storehouse.Please fill out the each area (length) at your Disnav. in the following table.					
Office	900m2	1162 m2		500 m2	No Answer
Open storage	500m2	444.92 m2		241.8 m2	No Answer
Workshop	320m2	488 m2		388.8 m2	No Answer
Storehouse	300m2	1071 m2		No Answer	No Answer
Jetty	20m2	716.37 m2		200 m2	No Answer
3) Do you have any shortage of machinery and equipment, such as machine tools, wood work machine, welding machine, compressor and pump, hand tools, bench tools, testing and measurement equipment, electric equipment, handling equipment,	There are defienciencies: 1.Sandblasting; 2. Carbide welding equipment	No		Shaving machine, automatic wood sawing machine	No Answer
6 On the average, how many buoys are loaded on the Buoy Tender for one trip as buoy replace work.				No Answer	No Answer
a) In case of buoys without tails	2 units	6 units			
b) In case of buoys with tails	2 units	No Answer			
c) In case of mixed loading, buoys without tails and buoys with tails	1 standing and 1 lying down	No Answer			
7 Is acetylene gas still in use as lighting power source	No	No		No	No Answer
8 Where the buoy maintenance work is being carried out? Only at Buoy Base? Or also	Onboard	At workshop and on board		At workshop and on board	No Answer
9 For newly built Bouy Tender after 2002, are they equipped with bouy maintenance machinery onboard such as					
a.Work bench; b. Vice; c. Compressor; d. Grinder; e. Drilling machine; f. Electric welder; g.Gas welder(oxygen and acetylene); h.Rotary band sawing machine; i. High speed precision lathe	Avaiable	a;c;d;e;f;g;h;i		No Answer	No Answer
10 How to decide the point where the sinker of buoy is dropped in the sea? DGPS? Direction finder? Triangulation? Etc.	DGPS, Baringan Snellius	GPS		No Answer	No Answer
11 Are new Buoy Tenders required to be equipped with any additional functions such as SAR(search and rescue)?	Avaiable	Available		No Answer	No Answer
12 Can we have the Principal Particulars and General Arrangement of Buoy Tenders and Aid Tenders which were built after 2002?	1. The vessel can carry out buoy installation work with weights above 25 tons; 2. Vessel can conduct sea lane sureys and mapping; 3. Ships can do SAR work; 4.Delivering logistics	No Answer		No Answer	No Answer

Table 27 General Questionnaire of Buoy and Aids Tenders for Surabaya, Benoa, Kupang, Pontianak, and Banjarmasin

General Questionnaire	Surabaya Class I	Benoa Class II	Kupang Class II	Pontianak Class III	Banjarmasin Class II
1 Only for class one (1) vessel of Buoy Tender (KIP) and Aids Tender (KBP),					
1 What are the reasons of the gap between planned navigation days in 2018 (refer to ⑬ of Questionnaire 2(1/2))	Engine failure, the installation of SBNP has been delayed	1. The crews pick up KN Nusa Penida to Batam; 2. Maintenance is carried out in conjunction with personel replacement activities	The bottom shell of this ship is getting thinner. Rust on the bow deck is widespreaded. For this reason, time for the maintenance is required.	1. Because the budget of diesel fuel for state vessel of navigation decreasws and is not in accordance with the prposed route pattern proposed in the RKA-KL: 2. The price of diesel fuel for industries used by State Vessel of Navigation is not stable, up and down.	Often there are differences in the calculation of the time of works due to weather factors and tidal factors.
2 If the reason(s) of the gap is (are) the malfunction of the machinery, what kind of malfunction occurred on the vessel ? (Break down of main engine, generators, cargo gear, etc.)	Main Engine Failure, Generators, Crane	-	It is difffcult to get consumable parts such as oil filter, fuel filter	1. Cranes often experience abnormalities due to lifting capacity of the 10 T crane when lifting the light buoy 5 T ballast the load will increase because the ballast is buried in the bottom mud of the river which will add weight to the light buoy ballast. ; 2. For the main engine (ME) and auxiliary engine (AE) often experience abnormalities during light buoy maintenance in shallow areas because often grounded on the estuary with mud at the bottom of the river so that it will affect the cooling of the main engine (ME) and auxiliary engine (AE).	Breakdown is often occured on ships built in 1999 such as KN. ALTAIR such as breakdown of the main engine and steering system
2 Life extension repair for class one (1) vessel of Buoy Tender (KIP) and Aids Tender (KBP) Have you ever made the life-extension repair on class one (1) vessel? If you have, please mention the specific repair such as main engine replacement, generator					
1 Specific repair work for life extension	No Answer	Main engine and auxiliary engine replacement	and Guascor made in Spain on 201	In 2018 General Overhaul (GO) was carried out on the main engine. electric auxiliary engine I	Breakdown of main engine then replaced by a new main engine
2 Ship Name	No Answer	KN Mizan	No Answer	KN ALNILAM	KN. ALTAIR
3 For light bouy replacement work,					
1 Did you have the difference between planed numbers of buoy replacement and actual replaced buoys in 2018. If you did, fill up the table under	No Answer				
a No. of planned bouy to be replaced		6 units	5 units by NIPA	30 units	2 units
b No of actual replaced bouy		0 units	5 units by NIPA	27 units	3 units
c= b/a x 100 Replacement condition		0%	100%	90%	66.6%
2 If you had the difference, please write down the reason	No Answer	The unavailability of budget allocations for the procurement of buoys	KN MINA doesn't have to replace the buoy	The ship cannot approach because the buoy area is silting up/ sedimentation	Due to a bouy lost by being hit etc. When the ship is going to the location of the buoy for maintanance as planned.
4 For light bouy maintanance work,					
1 Did you have the difference between planned number of maintenance buoys and actual maintenance buoys in 2018. If you did, fill up the table under	No Answer			No Answer	
a No. of planned bouy to be maintananced		33 units	9 units by NIPA/ 4 units by MINA		2 units
b No of actual maintananced bouy		33 units	9 units by NIPA/ 4 units by MINA		4 units
c= b/a x 100 Mainatanance condition		100%	100%		66.6%
2 If you had the difference, please write down the reason	No Answer	-	No Answer	No Answer	Differences in calculations are possible due to damage of the buoy so it is necessary to take care as soon as possible
5 Supporting facilities for ATN.					
Supporting facilities comprises bouy bases and workshops					
1 The buoy base consists of a buoy base to maintain and repair buoys and an open storage to keep mooring system of buoy such as chain and sinker.					No Answer
2 The workshop consists of a workshop and a storehouse.Please fill out the each area (length) at your Disnav. in the following table.					No Answer
Office	165 m2	-	832 m2	604 m2	
Open storage	963 m2	-	10,000 m2	1,473 m2	
Workshop	336 m2	505.48 m2	400 m2	595 m2	
Storehouse	165 m2	200 m2	200 m2	398 m2	
Jetty	No Answer	-	320 m	-	
3 Do you have any shortage of machinery and equipment, such as machine tools, wood work machine, welding machine, compressor and pump, hand tools, bench tools, testing and measurement equipment, electric equipment, handling equipment, generator set, to repair and maintain the ATN including light buoy? If you have, please write down under	Yes, Saw Machine. Scrap Machine, Water Jet 500 Bar, Pipe Rolling Machine, Compressor, On Shore Crane	Generator, Cut Grinding Machine	Ultrasonic test	Work equipment is sufficient enough, in the future it will readjust to the required equipment	No Answer
6 On the average, how many buoys are loaded on the Buoy Tender for one trip as buoy replace work.		No Answer			
a In case of buoys without tails	4 units		4 units by NIPA/ 3 units by MINA	3 units light buoy along with stan removed and loaded on deck	3 (three) to 4 (four) buoys on deck
b) In case of buoys with tails	4 units		no buoy with tail	2	(two) to 3 (three) buoys on deck
c) In case of mixed loading, buoys without tails and buoys with tails	4 units		No Answer	a) Buoy without tail : Loading on the deck of the ship is erected and arranged so that there is work space for anchor assembly and does not interfere with the placement of light buoy at the location. ; b) Buoy with tail: The loading on the deck of the ship is laid and arranged so that there is a workspace for anchor assembly and does not interfere when going to place of light buoy at the location.	3 (three) on deck
7 Is acetylene gas still in use as lighting power source	No	No	No	The acetylene gas is no longer used, for ligth buoy and signs already using a battery with solat cell charger	No
8 Where the buoy maintenance work is being carried out? Only at Buoy Base? Or also onboard?	At workshop and on board	At workshop and on board	Onboard	The work of maintainace a light buoy for remote areas is carried out on board, while for close areas are carried out in the Workshop	For easy work can be done on board
9 For newly built Bouy Tender after 2002, are they equipped with bouy maintenance machinery onboard such as		No Answer			
a.Work bench; b. Vice; c. Compressor; d. Grinder; e. Drilling machine; f. Electric welder; g.Gas welder(oxygen and acetylene); h.Rotary band sawing machine; i. High speed precision lathe	Yes		No Answer	KN ALNILAM, first class vessel, built in 2019, Equipment Point b and point h not available.	no high speed precision lathe
10 How to decide the point where the sinker of buoy is dropped in the sea? DGPS? Direction finder? Triangulation? Etc.	DGPS	DGPS	GPS	The placement of a light buoy	No Answer
11 Are new Buoy Tenders required to be equipped with any additional functions such as SAR(search and rescue)?	No	No Answer	Fully equipped	No Answer	Yes
12 Can we have the Principal Particulars and General Arrangement of Buoy Tenders and Aid Tenders which were built after 2002?	No Answer	Permitted	No Answer	No Answer	The main operations of the bouy tender are carrying out maintenance work and to deliver fuel and other official needs as well as replacement of officers who serve in the light towers.

Table 28 General Questionnaire of Buoy and Aids Tenders for Samarinda, Tarakan, Makassar, Kendari, and Bitung

Questionnaire	Samarinda Class I	Tarakan Class III	Makassar Class I	Kendari Class III	Bitung Class I
1 Only for class one (1) vessel of Buoy Tender (KIP) and Aids Tender (KBP),					
1) What are the reasons of the gap between planned navigation days in 2018 (refer to ⑬ of Questionnaire 2(1/2))	Miang Besar stopped sailing for 17 days due to bad weather.	SBNP Abnormalities in Certain Areas, Other Government Tasks	Planned days sometimes not fulfilled because 1. Ship damage, 2. Bad weather.	No Answer	No Answer
2) If the reason(s) of the gap is (are) the malfunction of the machinery, what kind of malfunction occurred on the vessel ? (Break down of main engine, generators, cargo gear, etc.)	2 generators made in Spanish was replaced, the synchro scope for the combined use of the two generators does not work and is started manually	No Answer	Main Engine Problems (Turbo is out of order), Leaking cooling pipe, Propeller shaft leaking due to vibration, Damaged of round bearing of generator engine, Crankshaft defects.	No Answer	No Answer
2 Life extension repair for class one (1) vessel of Buoy Tender (KIP) and Aids Tender (KBP) Have you ever made the life-extension repair on class one (1) vessel? If you have, please mention the specific repair such as main engine replacement, generator					
1) Specific repair work for life extension	Main engine and 2 generators made by GUASCOR was replaced in 2114 at Dock SURABAYA	No (New Vessel)	Once, Engine replacement of Aids to Tender vessel	No Answer	No Answer
2) Ship Name	KN MITHUNA	KN. MARATUA	B-120		
3 For light bouy replacement work,					
1) Did you have the difference between planed numbers of buoy replacement and actual replaced buoys in 2018. If you did, fill up the table under					
a No. of planned bouy to be replaced	its by Miang Besar/ 2 units by Mitl	-	0 units		
b No of actual replaced bouy	its by Miang Besar/ 2 units by Mitl	-	0 units		
c= b/a x 100 Replacement condition	100%	-	0.0%		
2) If you had the difference, please write down the reason	No Answer	New Installation, Abnormalities of SBNP and Theft	There is no replacement, because in 2017 there was new replacement of steel buoy to polytelin buoy.	No Answer	No Answer
4 For light bouy maintanance work,					
1) Did you have the difference between planed number of maintenance buoys and actual maintenance buoys in 2018. If you did, fill up the table under					
a No. of planned bouy to be maintananced	its by Miang Besar/ 37 units by Mi	-	11 units	No Answer	No Answer
b No of actual maintananced bouy	its by Miang Besar/ 37 units by Mi	-	5 units		
c= b/a x 100 Mainatanance condition	100%	-	45.4%		
2) If you had the difference, please write down the reason	No Answer	No difference	Maintenance does not reach maximum because there is damage to the ship	No Answer	No Answer
5 Supporting facilities for ATN.					
Supporting facilities comprises bouy bases and workshops					
1) The buoy base consists of a buoy base to maintain and repair buoys and an open storage to keep mooring system of buoy such as chain and sinker.					
2) The workshop consists of a workshop and a storehouse.Please fill out the each area (length) at your Disnav. in the following table.					
Office	772m2	814 m2	1000 m2	No Answer	No Answer
Open storage	423.6 m2	-	480 m2	No Answer	No Answer
Workshop	600 m2	300 m2	300 m2	No Answer	No Answer
Storehouse	350 m2	200 m2	400 m2	No Answer	No Answer
Jetty	192 m	348 m + 70 m	70 m	No Answer	No Answer
3) Do you have any shortage of machinery and equipment, such as machine tools, wood work machine, welding machine, compressor and pump, hand tools, bench tools, testing and measurement equipment, electric equipment, handling equipment, generator set, to repair and maintain the ATN including light buoy? If you have, please write down under	No Answer	Water High Pressure (To Eliminate Oysters At Bouy)	Yes, Testing Equipment, Handling of Generator Equipment are needed	No Answer	No Answer
6 On the average, how many buoys are loaded on the Buoy Tender for one trip as buoy replace work.					
a) In case of buoys without tails	Miang on deck 5 buoys Mithuna on deck 3 buoys, in hold 9 buoy	5 units	3 to 4 units	No Answer	No Answer
b) In case of buoys with tails	no with tail	5 units	3 units		
c) In case of mixed loading, buoys without tails and buoys with tails	No Answer	5 units	4 units		
7 Is acetylene gas still in use as lighting power source	No	No	No	No Answer	No Answer
8 Where the buoy maintenance work is being carried out? Only at Buoy Base? Or also onboard?	Working to remove shellfish is carried out on deck in the sea area. Repair work at the work	At workshop and onboard the vessel	At workshop and on board	No Answer	No Answer
9 For newly built Bouy Tender after 2002, are they equipped with bouy maintenance machinery onboard such as a.Work bench; b. Vice; c. Compressor; d. Grinder; e. Drilling machine; f. Electric welder; g.Gas welder(oxygen and acetylene); h.Rotary band sawing machine; i. High speed precision lathe	a;b;c;d;e;f;g equiped h and i. no equipment	Available	Incomplete (point h and point i are not available)	No Answer	No Answer
10 How to decide the point where the sinker of buoy is dropped in the sea? DGPS? Direction finder? Triangulation? Etc.	GPS	GPS	DGPS	No Answer	No Answer
11 Are new Buoy Tenders required to be equipped with any additional functions such as SAR(search and rescue)?	Sufficient equipment	Yes (Transponder Radar, Two	Not equipped	No Answer	No Answer
12 Can we have the Principal Particulars and General Arrangement of Buoy Tenders and Aid Tenders which were built after 2002?		Permitted	Can	No Answer	No Answer

Table 29 General Questionnaire of Buoy and Aids Tenders for Ambon, Tual, Sorong, Jayapura, and Merauke

Questionnaire	Ambon Class I	Tual Class III	Sorong Class I	Jayapura Class II	Merauke Class III
1 Only for class one (1) vessel of Buoy Tender (KIP) and Aids Tender (KBP),					
1) What are the reasons of the gap between planned navigation days in 2018 (refer to ⑬ of Questionnaire 2(1/2))	A problem / break down to the main engine	a. Weather and high waves factors during east and west wind; b. Fuel oill (HSD) is not enough for ship operation	No Answer	Engine trouble	The reason is because of the weather factor caused the planned sailing day is not on the schedule
2) If the reason(s) of the gap is (are) the malfunction of the machinery, what kind of malfunction occurred on the vessel ? (Break down of main engine, generators, cargo gear, etc.)	Exhaust gas temperature in the main engine is high, intercoler in the main engine and turbo charger are not normal.	a. Main engine conditions, generators and equipments do not have constraints; b. The constraints until now and be overcome is corrosion in part of sea water pipes, fresh water floor plates and leakage in current chain holes	Weather factor	Aux Engine	Damage of sea water pumps and fresh water pumps due to frequent inhalation of mud, the sea conditions in the Merauke are muddy
2 Life extension repair for class one (1) vessel of Buoy Tender (KIP) and Aids Tender (KBP) Have you ever made the life-extension repair on class one (1) vessel? If you have, please mention the specific repair such as main engine replacement, generator					
1) Specific repair work for life extension	Never	a. In 2016 implementing the replacement of under water line plate; b. In 2017 implementing work on above water line; c. In 2018 implementing ship engine replacement work	No Answer	repair of injectors of auxiliary engine and main engines, replacement of left-hand auxiliary cylinder head motor	Main engine replacement, auxiliary engine replacement, generator replacement, celenoid replacement, exhaust hose, Crane hydraulic pump pipe
2) Ship Name		KN.MAHKOTA	No Answer	KN. Aldebaran	KN. Merpati
3 For light bouy replacement work,					
1) Did you have the difference between planed numbers of buoy replacement and actual replaced buoys in 2018. If you did, fill up the table under	No Answer		No Answer		No Answer
a No. of planned bouy to be replaced		0 units		-	
b No of actual replaced bouy		0 units		-	
c= b/a x 100 Replacement condition		0 units		-	
2) If you had the difference, please write down the reason	No Answer	No		-	-
4 For light bouy maintanance work,					
1) Did you have the difference between planed number of maintenance buoys and actual	No Answer		No Answer		No Answer
a No. of planned bouy to be maintananced		0 units		1 unit	
b No of actual maintananced bouy		0 units		1 unit	
c= b/a x 100 Mainatanance condition		0 units		100%	
2) If you had the difference, please write down the reason	No Answer	No	No Answer	-	-
5 Supporting facilities for ATN.					
Supporting facilities comprises bouy bases and workshops					
1) The buoy base consists of a buoy base to maintain and repair buoys and an open storage to keep mooring system of buoy such as chain and sinker.					
2) The workshop consists of a workshop and a storehouse.Please fill out the each area	No Answer				
Office		45 x 25 m	1,200 m2	450 m2	549 m2
Open storage		0	1,417 m2	No Answer	-
Workshop		35 x 20 m	896 m2	400 m2	540 m2
Storehouse		15 x 10 m	200 - 300 m2	No Answer	302 m2
Jetty		250 m	40 x 8 m2	-	289 m2
3) Do you have any shortage of machinery and equipment, such as machine tools, wood work machine, welding machine, compressor and pump, hand tools, bench tools, testing and measurement equipment, electric equipment, handling equipment, generator set, to repair and maintain the ATN including light buoy? If you have, please	No Answer	Workshop tools are avaible for treatment and maintenance of atn and buoy	No Answer	Yes, there is a lack of equipment to support workshop operations	Wood work machine, yanmar welding machine, alkon machine, Jet pump, Ragum, Stingy, Test pump, Tool Set.
6 On the average, how many buoys are loaded on the Buoy Tender for one trip as buoy replace work.					
a) In case of buoys without tails	No Answer	Hasn't been done of loading buoy because the class III navigation district only has 1 unit of aids to navigation	10 units	4 units	-
b) In case of buoys with tails	No Answer	Hasn't been done of loading buoy because the class III navigation district only has 1 unit of aids to navigation	8 units	4 units	-
c) In case of mixed loading, buoys without tails and buoys with tails	No Answer	Hasn't been done of loading buoy because the class III navigation district only has 1 unit of aids to navigation	9 units	-	-
7 Is acetylene gas still in use as lighting power source	No Answer	No	No	No	-
8 Where the buoy maintenance work is being carried out? Only at Buoy Base? Or also onboard?	No Answer	never done a buoy maintenance	At workshop and on board	The work is done in the workshop and on board	-
9 For newly built Bouy Tender after 2002, are they equipped with bouy maintenance machinery onboard such as					
a.Work bench; b. Vice; c. Compressor; d. Grinder; e. Drilling machine; f. Electric welder; g.Gas welder(oxygen and acetylene); h.Rotary band sawing machine; i. High speed precision lathe	No Answer	Class III tual navigarion districts only have 1 unit of aids to navigation vessel	No Answer	Yes, it is equipped with the above equipment	-
10 How to decide the point where the sinker of buoy is dropped in the sea? DGPS? Direction finder? Triangulation? Etc.	No Answer	KN MAHKOTA has never been done of Buoy Work	DGPS	DGPS	-
11 Are new Buoy Tenders required to be equipped with any additional functions such as SAR(search and rescue)?	No Answer	Yes	Equipped	Yes, equipped	-
12 Can we have the Principal Particulars and General Arrangement of Buoy Tenders and Aid Tenders which were built after 2002?	No Answer	KN MAHKOTA aids to tender vessel that was built in 1997, 1. Implementing the installation/distribution and treatment of the buoy and its instalation in the work; 2. To maintan the buoy; 3. Shifting/securing the float off light buoy; 4. Replacement the personel of light house and their family; 5. implementing SAR Tasks and other government duties	No Answer	-	No Answer

4 Conclusions

Until end of October 2019, the additional data required to complete the questionnaire is still uncompleted. The JST team need to set up a meeting with DGST regarding how to complete the additonal data.

5 Attachments

5.1 List of Photos

5.1.1 Workshop in Jakarta

Photo 1 Workshops Registration Desk

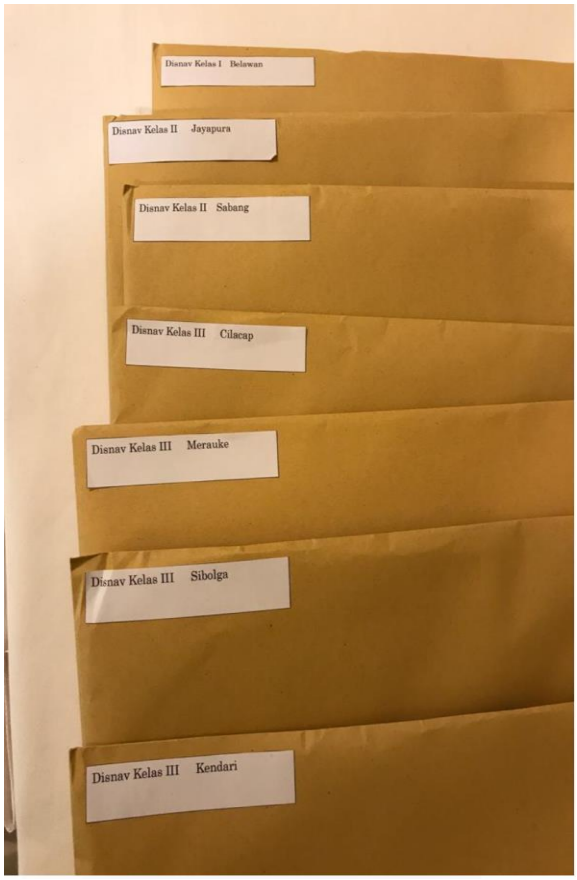


Photo 2 Seven Sets of Questionnaires Remains after the Workshop

Photo 3 Photo of Participants after the Workshops

Photo 4 Workshop regarding Marine Traffic Safety System Development in Indonesia

5.1.2 Field Survey to District Navigation Class III Tual

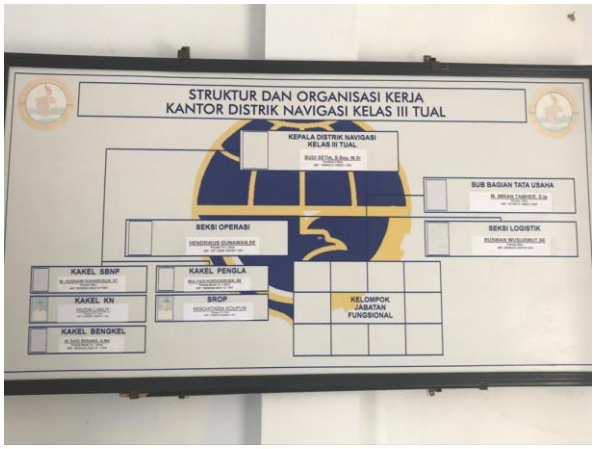


Photo 5 Tual Visit - Organization Chart

Photo 6 Tual Visit - Opening Meeting

Photo 7 Tual Visit - Workshops

Photo 8 Tual Visit - Workshops Facilities

	
Photo 9 Tual Visit - Inside Workshop	Photo 10 Tual Visit - Ex-Engine KN Mahkota (Niigata) in Workshops Yard
	
Photo 11 Tual Visit - Emergency / Temporary Light Buoy at Workshop Yard	Photo 12 Tual Visit - Inside Workshop
	
Photo 13 Tual Visit - KN Mahkota Aid Tender (1)	Photo 14 Tual Visit - KN Mahkota Aid Tender (2)

Photo 15 Tual Visit - KN Mahkota Engineer Controller

Photo 16 Tual Visit - KN Mahkota GPS

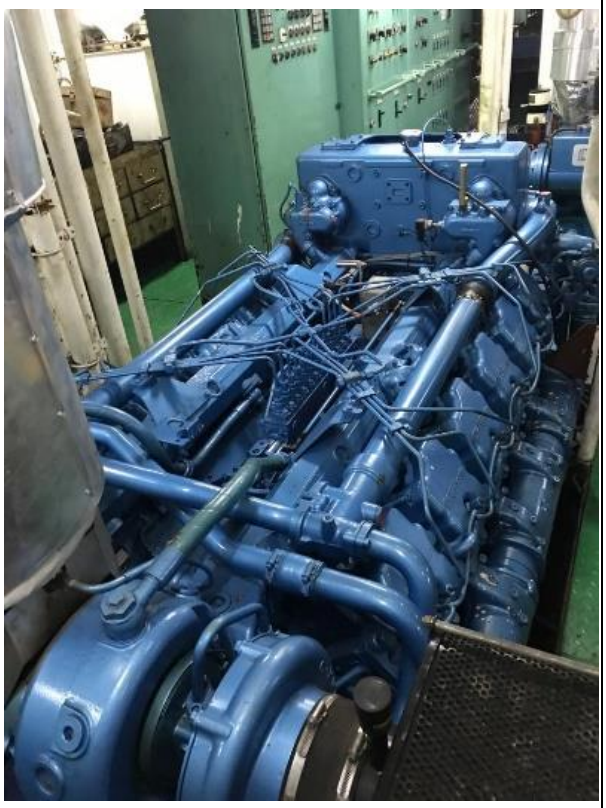


Photo 17 Tual Visit - KN Mahkota Main Engine

Photo 18 Tual Visit - KN Sea Rider

Photo 19 Tual Visit - Approaching Tanjung Burang Light House

Photo 20 Tual Visit - Used Small Boat to Visit Tanjung Burang Light House

Photo 21 Tual Visit - Tanjung Burang Light House

Photo 22 Tual Visit - Tanjung Burang Light House

Photo 23 Tual Visit - SWRO Tanjung Burang

Photo 24 Tual Visit - Container Yard

Photo 25 Tual Visit - Coastal Radio Station

Photo 26 Tual Visit - Disnav Port Light Beacon

Photo 27 Tual Visit - GMDSS at Coastal Radio Station

Photo 28 Tual Visit - JRC Radio at Coastal Radio Station

Photo 29 Tual Visit - Meeting with Harbourmaster (UPP Tual)

Photo 30 Tual Visit - Visit Tual Coast Guard

Photo 31 Tual Visit - Container Yard at Tual Port

Photo 32 Tual Visit - Ships Berthing at terminal of Tual Port

5.1.3 Field Survey to District Navigation Class I Ambon

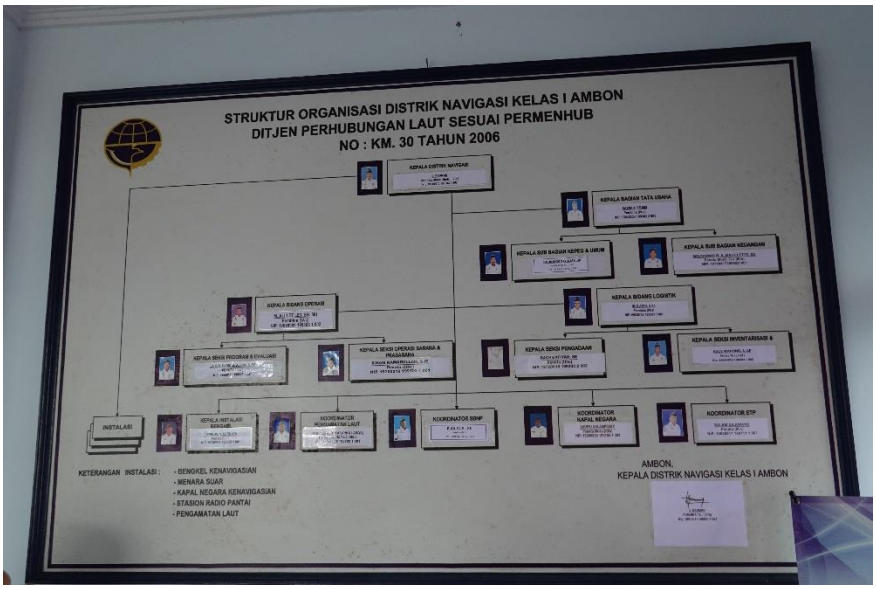


Photo 33 Ambon Visit – Ambon District Navigation Organization Chart

Photo 34 Ambon Visit – JRC Radio at Coastal Radio Station

Photo 35 Ambon Visit – Inside Ambon Coastal Radio Station

Photo 36 Ambon Visit - Inside Ambon Coastal Radio Station

Photo 37 Ambon Visit - Radio Tower

Photo 38 Ambon Visit - Inside Ambon Coastal Radio Station

Photo 39 Ambon Visit - Container Yard Port of Ambon

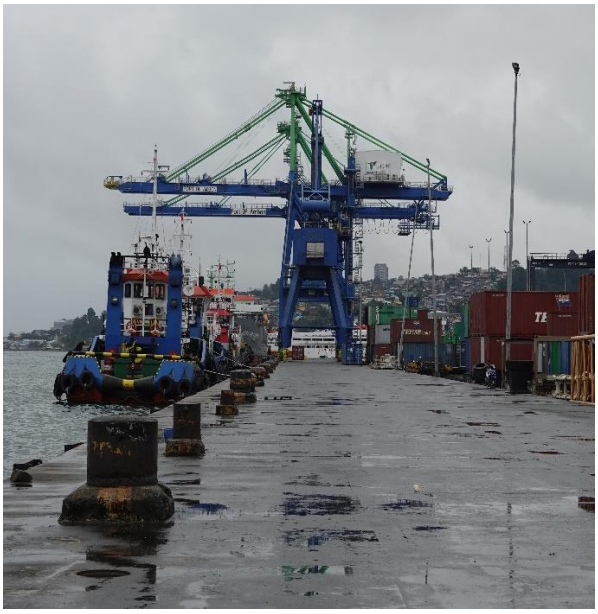


Photo 40 Ambon Visit – Container Crane Port of Ambon

Photo 41 Ambon Visit – Port of Ambon

Photo 42 Ambon Visit – Tanjung Nusaniwe Light house (1)

Photo 43 Ambon Visit – Tanjung Nusaniwe Light house (3)

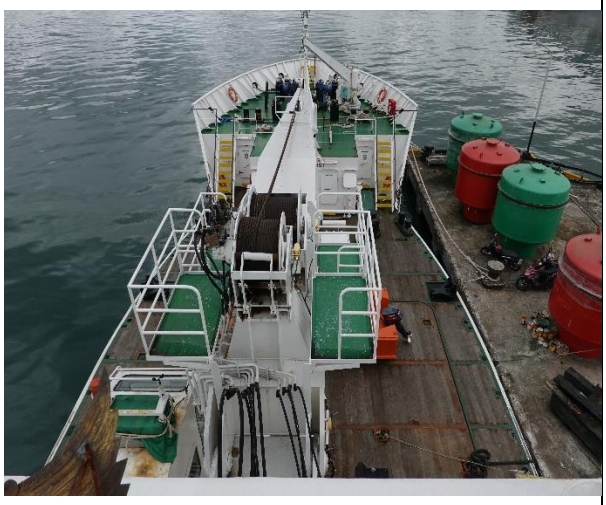
	
Photo 44 Ambon Visit - Tanjung Nusaniwe Lighthouse (3)	Photo 45 Ambon Visit - KN Bacan Aux Engine
	
Photo 46 Ambon Visit - Bouy at Pier	Photo 47 Ambon Visit - KN Bacan Engine Room
	
Photo 48 Ambon Visit - KN Bacan Engine Room	Photo 49 Ambon Visit - KN Bacan Hull

Photo 50 Ambon Visit - KN Bacan (1)

Photo 51 Ambon Visit - KN Bacan (2)

Photo 52 Ambon Visit - KN Bacan Main Engine (1)

Photo 53 Ambon Visit - KN Bacan Main Engine (2)

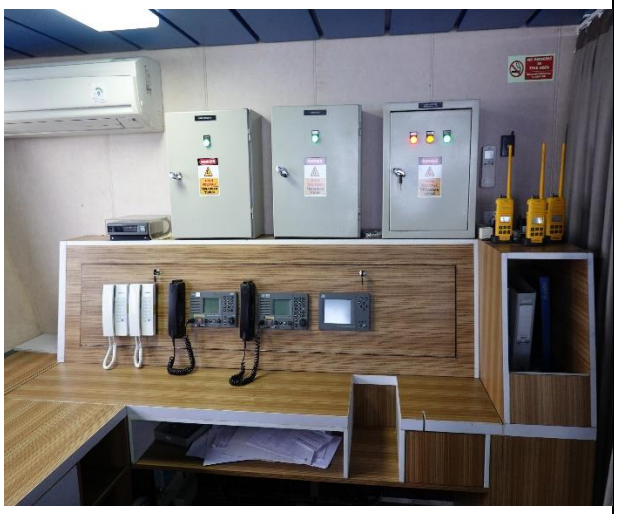


Photo 54 Ambon Visit - KN Bacan Radio

Photo 55 Ambon Visit - KN Bacan Sonar

Photo 56 Ambon Visit - KN Bacan Workshop on Board

Photo 57 Ambon Visit - KN Bacan Sonar

5.1.4 Field Survey to District Navigation Class III Tarakan

Photo 58 Tarakan Visit - District Navigation Office

Photo 59 Tarakan Visit - Workshops Facilities

Photo 60 Tarakan Visit - Buoy at Workshop Yard

Photo 61 Tarakan Visit - Lantern for Light House

Photo 62 Tarakan Visit - Warehouse (1)

Photo 63 Tarakan Visit - Warehouse (1)

Photo 64 Tarakan Visit - Workshops (1)

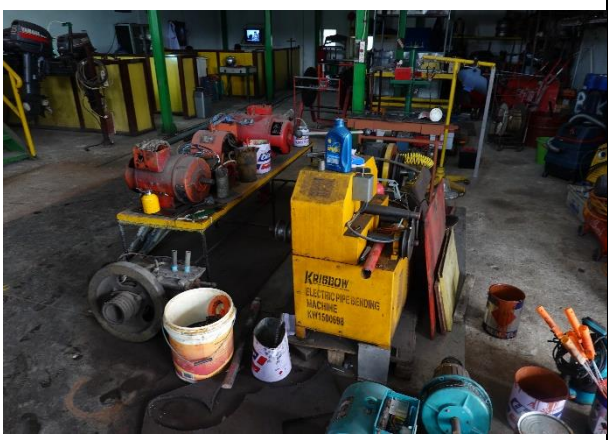


Photo 65 Tarakan Visit - Workshops (1)

Photo 66 Tarakan Visit - VTS Station

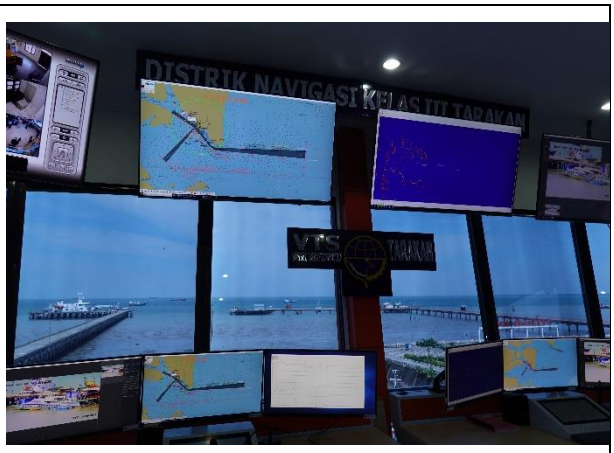


Photo 67 Tarakan Visit - Inside VTS Station

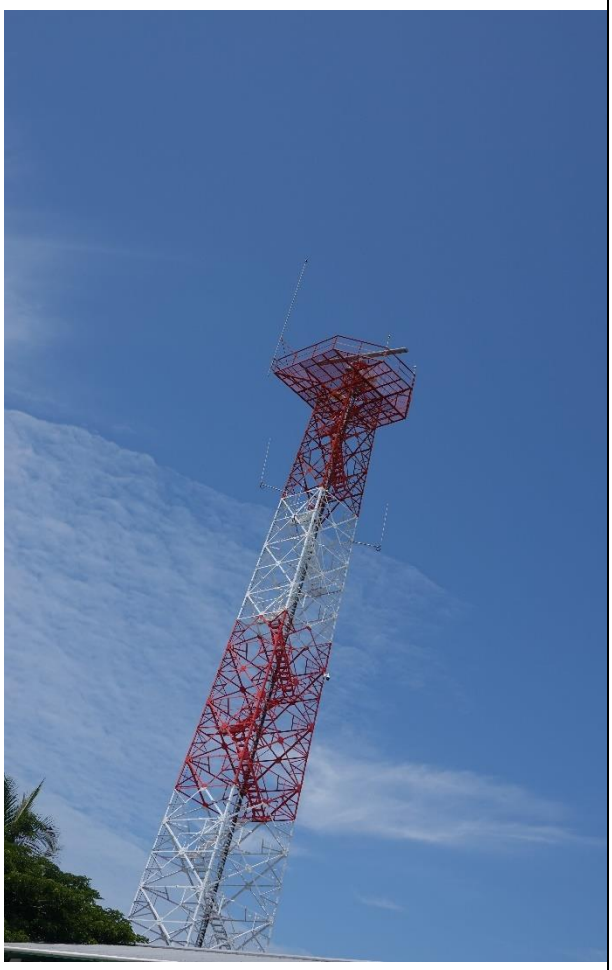


Photo 68 Tarakan Visit - Radar Tower

Photo 69 Tarakan Visit - Radar

Photo 70 Tarakan Visit - GMDSS at Coastal Radio Station

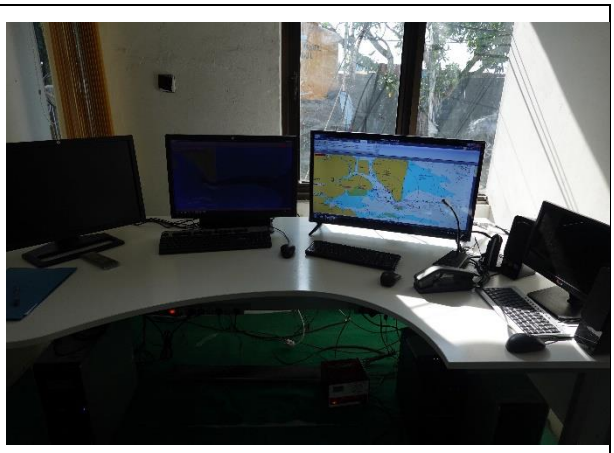


Photo 71 Tarakan Visit - GMDSS

Photo 72 Tarakan Visit - KN Maratua Aids Tender (1)

Photo 73 Tarakan Visit - KN Maratua Aids Tender (2)

Photo 74 Tarakan Visit - KN Maratua Wheelhouse (1)

Photo 75 Tarakan Visit - KN Maratua Wheelhouse (2)

Photo 76 Tarakan Visit - KN Maratua Radio

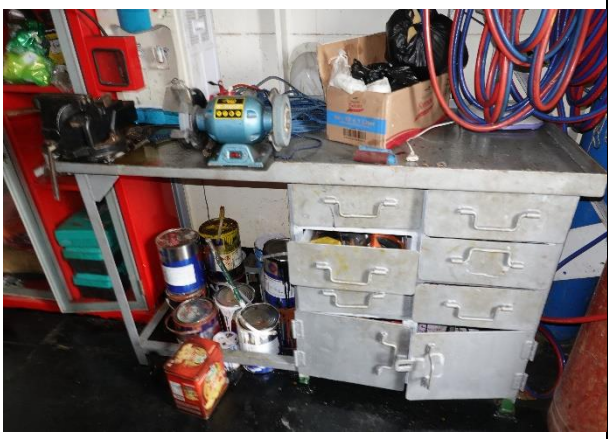


Photo 77 Tarakan Visit - KN Maratua Workshops (1)

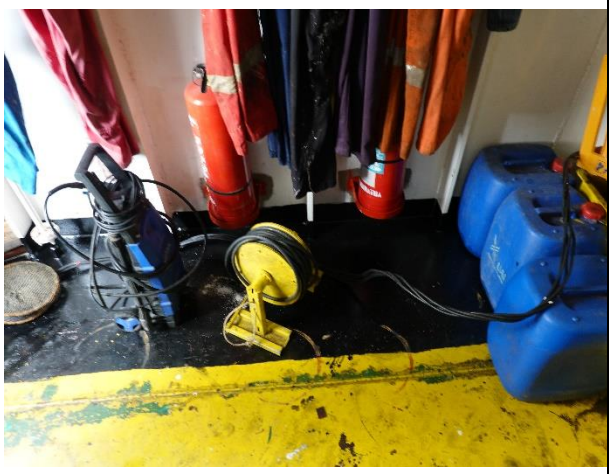


Photo 78 Tarakan Visit - KN Maratua Workshops (2)

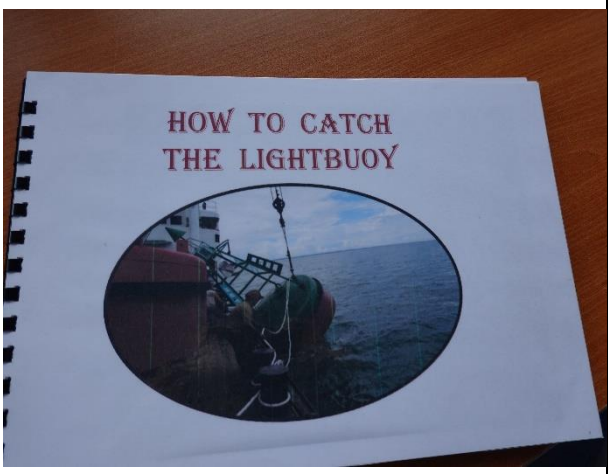


Photo 79 Tarakan Visit - KN Maratua Manual Light Buoy

Photo 80 Tarakan Visit - KN Maratua Main Engine (1)

Photo 81 Tarakan Visit - KN Maratua Main Engine (2)

Photo 82 Tarakan Visit - KN Maratua Aux Engine (1)

Photo 83 Tarakan Visit - KN Maratua Aux Engine (2)

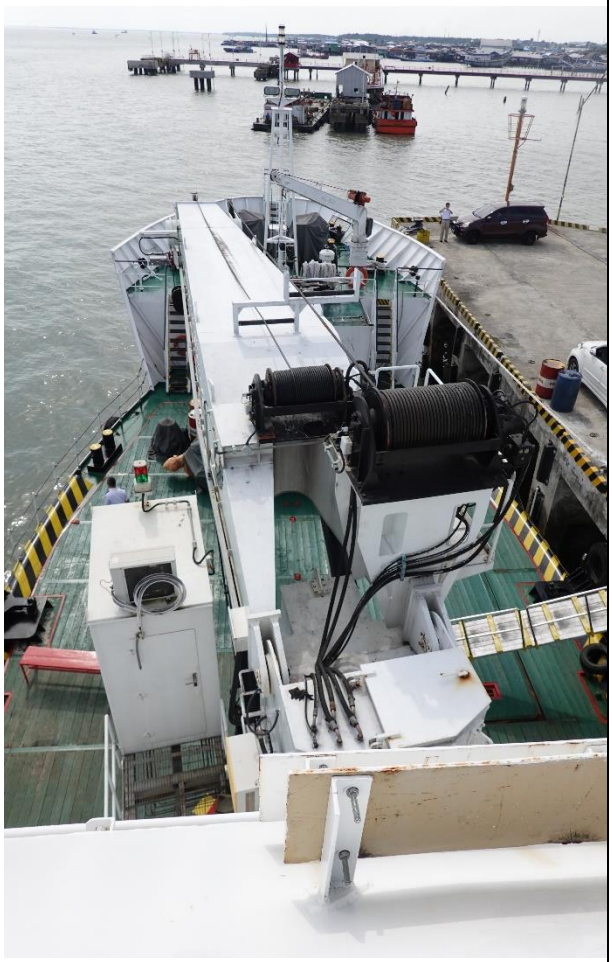


Photo 84 Tarakan Visit - KN Maratua Crane (1)

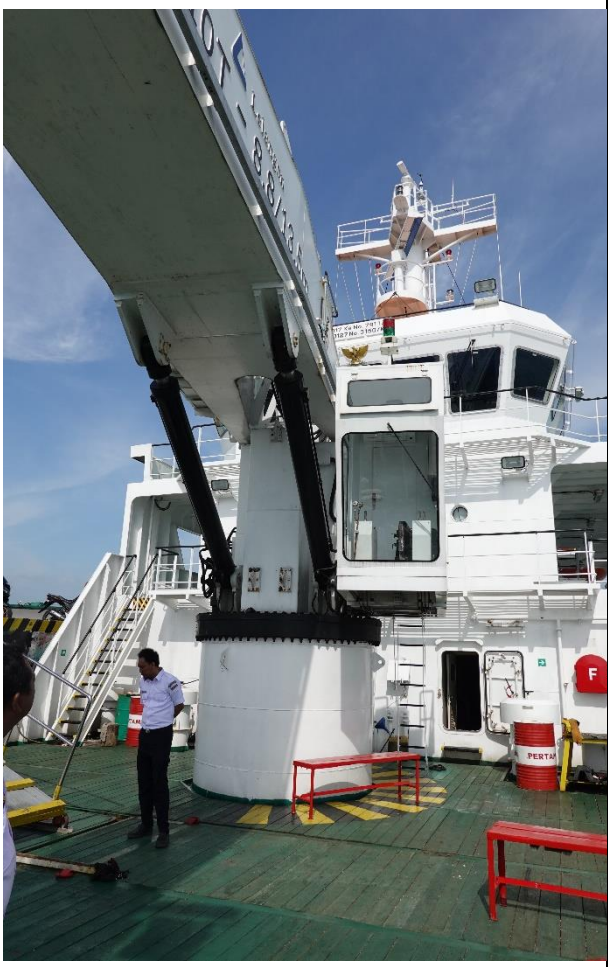


Photo 85 Tarakan Visit - KN Maratua Crane (2)

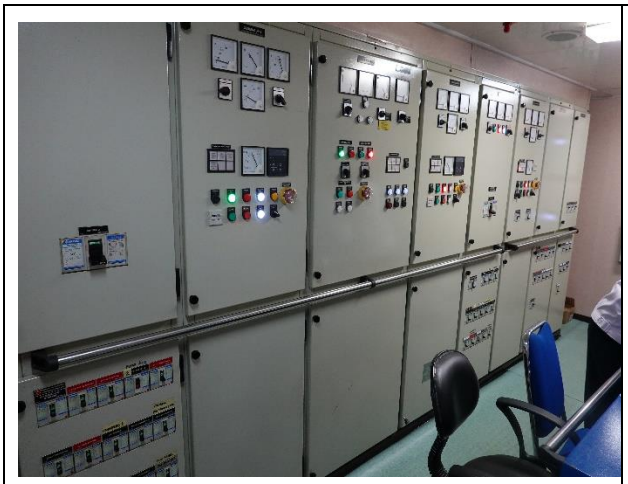


Photo 86 Tarakan Visit - KN Maratua Engine Room (1)

Photo 87 Tarakan Visit - KN Maratua Engine Room (2)

5.1.5 Field Survey to District Navigation Class I Makassar

Photo 88 Makassar Visit - Meeting at Makassar District Navigation Office

Photo 89 Makassar Visit - Workshop

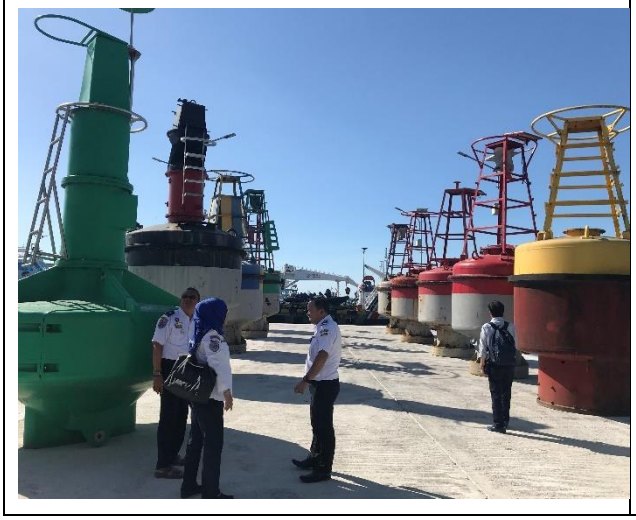


Photo 90 Makassar Visit - Light Buoy at Pier (1)	Photo 91 Makassar Visit - Buoy Tender KN De Brill (1)
	
Photo 92 Makassar Visit - Buoy Tender KN De Brill (2)	Photo 93 Makassar Visit - Inside Engine Control Room KN De Brill

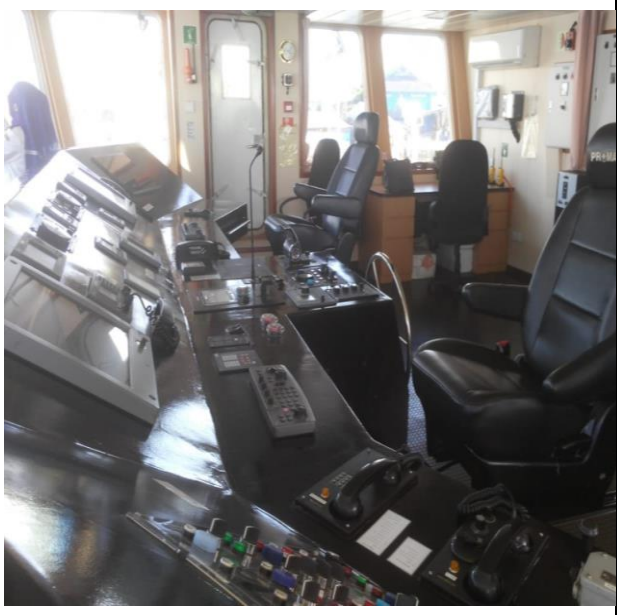



Photo 94 Makassar Visit - Wheelhouse	Photo 95 Makassar Visit - KN De Brill Engine Controller

Photo 96 Makassar Visit - Meeting at KN De Brill Buoy Tender

Photo 97 Makassar Visit - Main Engine

Photo 98 Makassar Visit - Makassar VTS

Photo 99 Makassar Visit - Inside Makassar VTS

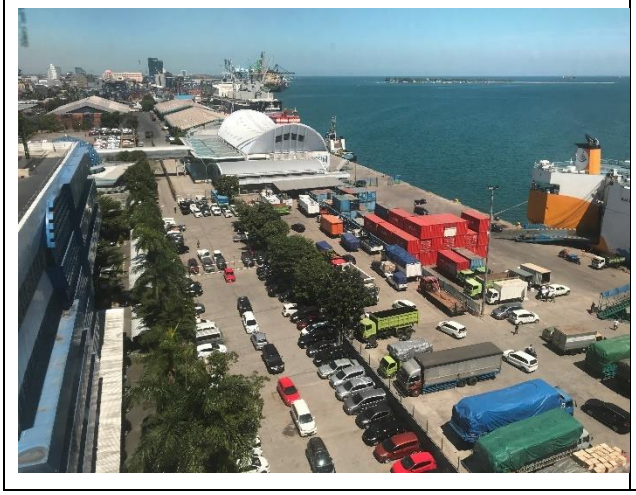
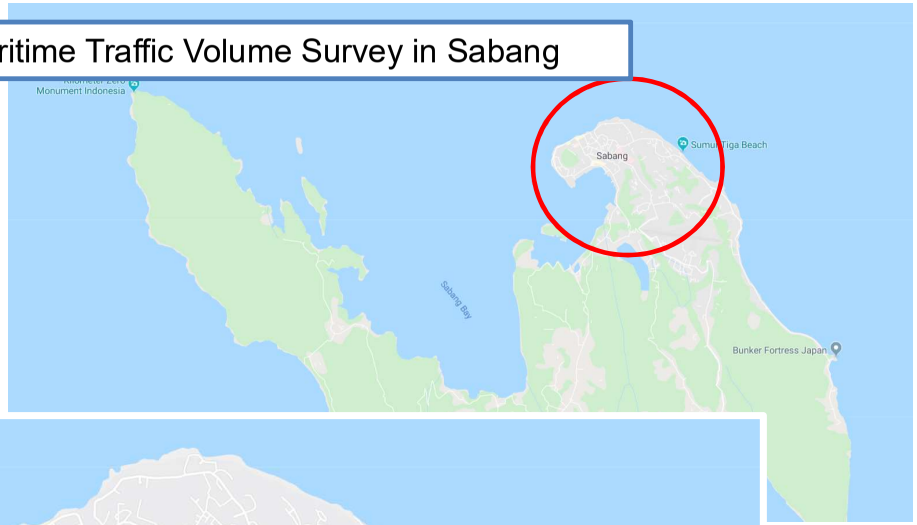


Photo 100 Makassar Visit – A View From Makassar VTS	Photo 101 Makassar Visit – Meeting at Makassar New Port
	
Photo 102 Makassar Visit – Container Crane at Makassar New Port	Photo 103 Makassar Visit – Container Yard at Makassar New Port
	
Photo 104 Makassar Visit – RTG Crane at Makassar New Port	Photo 105 Makassar Visit – Activities at Makassar New Port

Lampiran 5 -1

Survey of Traffic

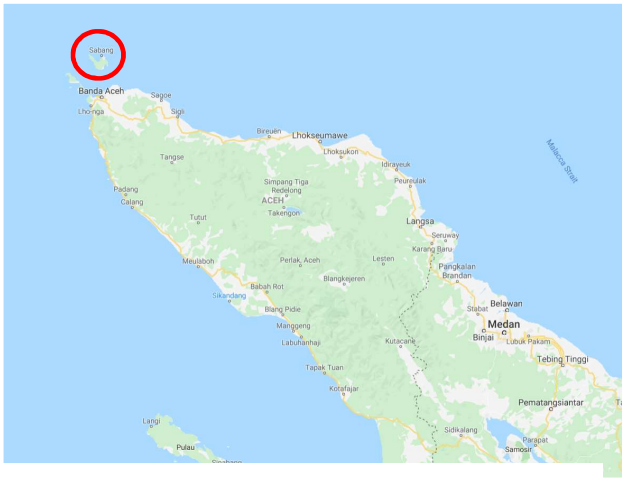
Maritime Traffic Volume Survey in Sabang

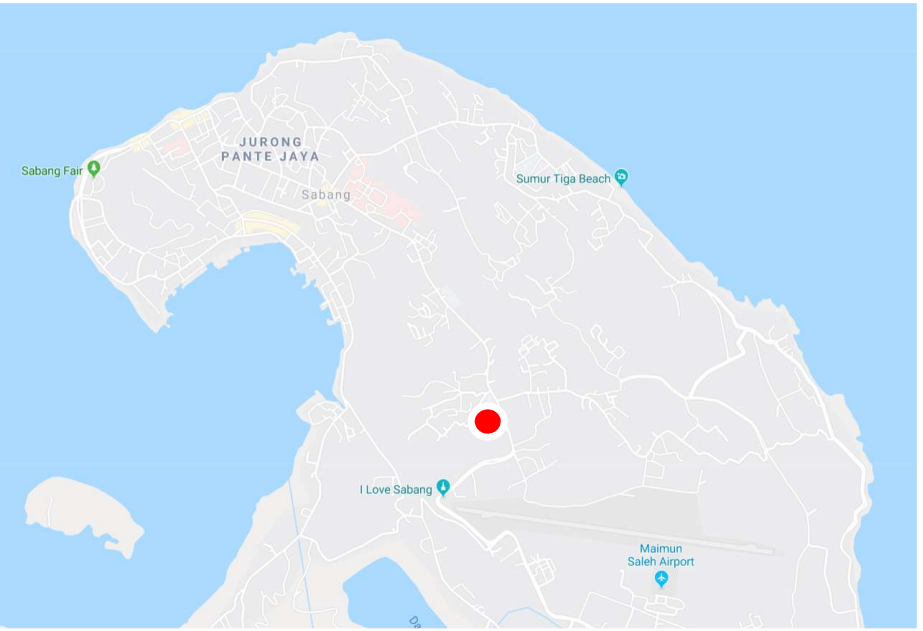


① Sabang

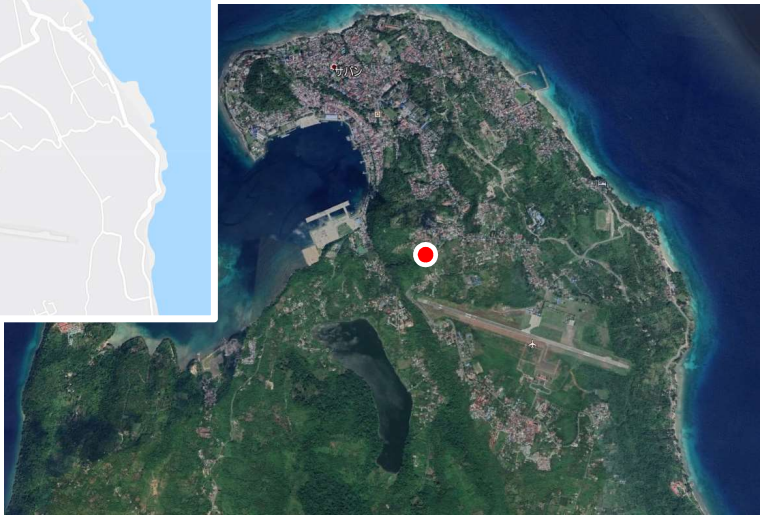
Survey with AIS

① Sabang

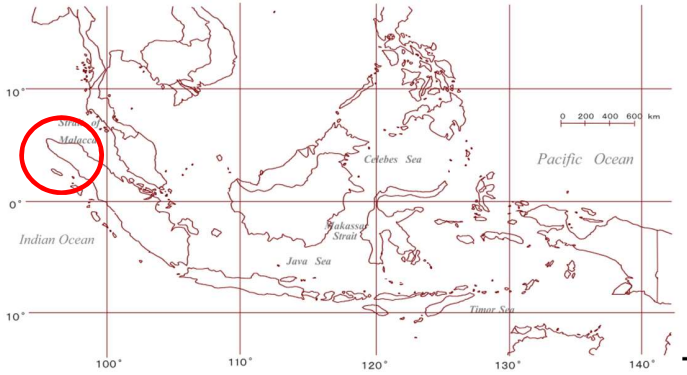




Location of AIS Antenna

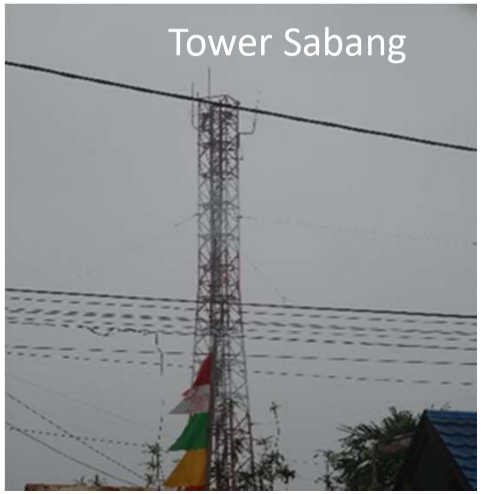


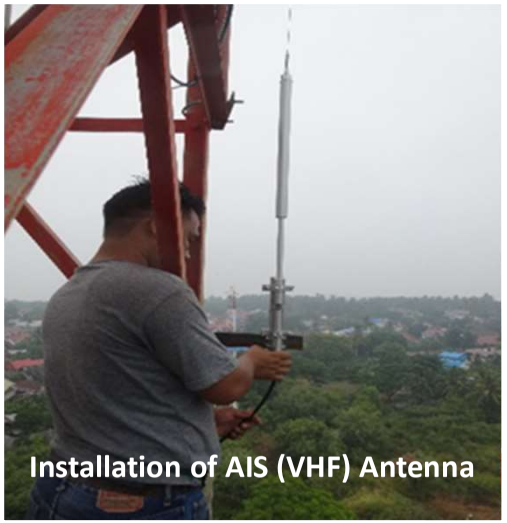
Location of AIS Antenna



Appendix 4.5

SROP Sabang





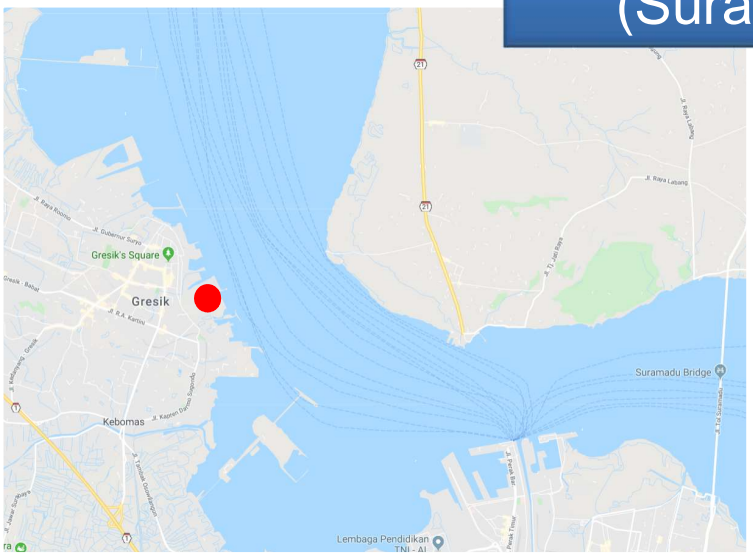
① Sabang

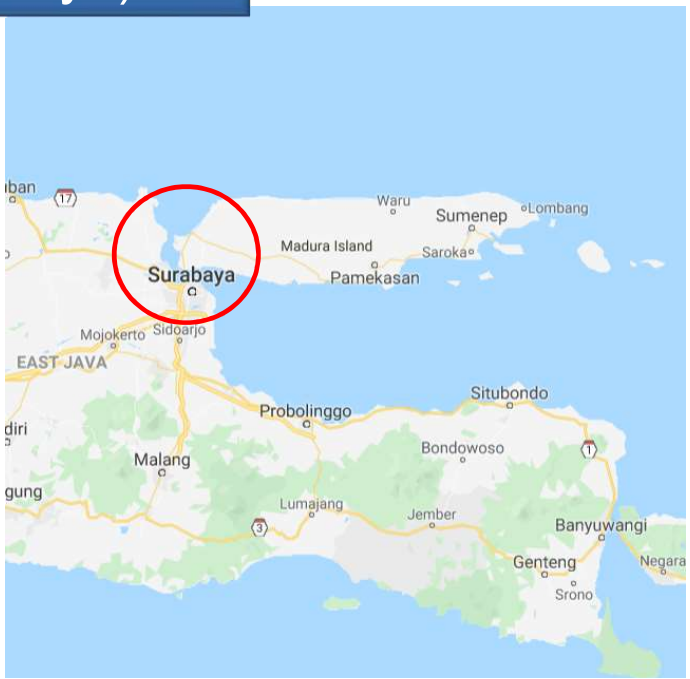
Maritime Traffic Volume Survey in Tanjung Perak (Surabaya)

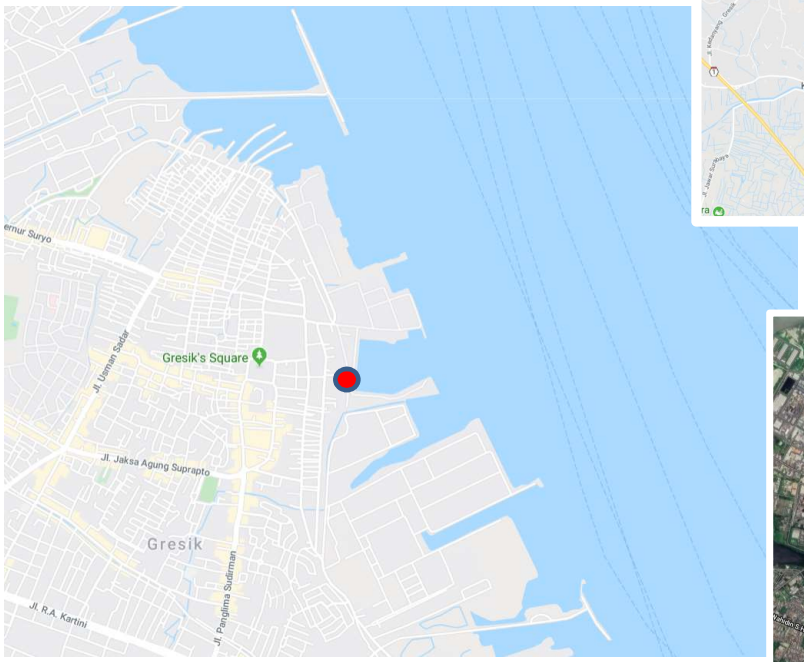
② Tanjung Perak (Surabaya)

Survey with AIS & Radar

② Tanjung Perak



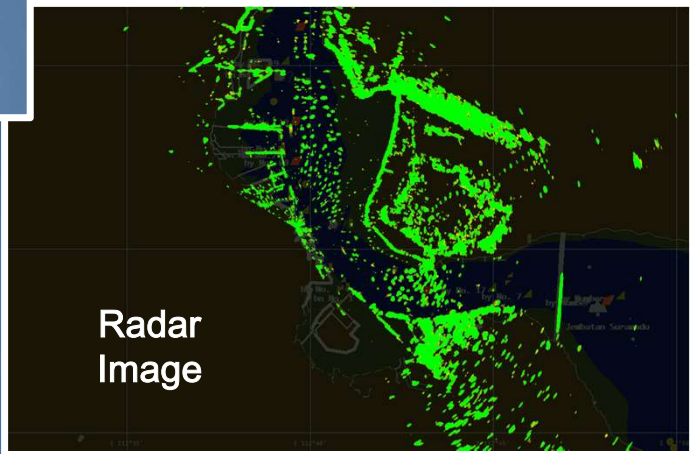


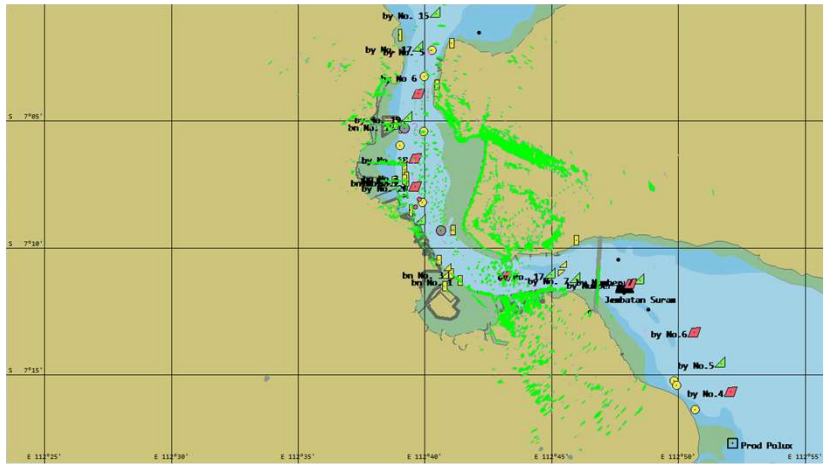


Location of AIS Antenna

Location of AIS Antenna

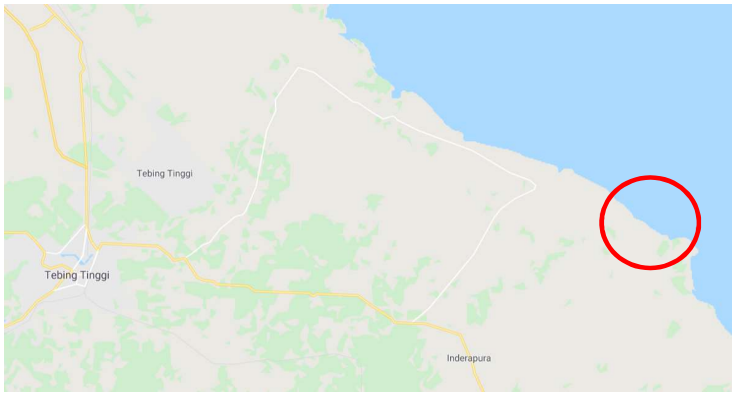
② Tanjung Perak (Surabaya)



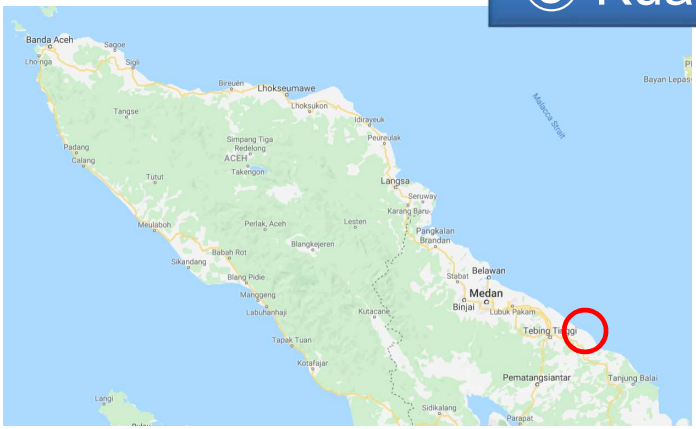


② Tanjung Perak (Surabaya)

Maritime Traffic Volume Survey in Kuala Tanjung

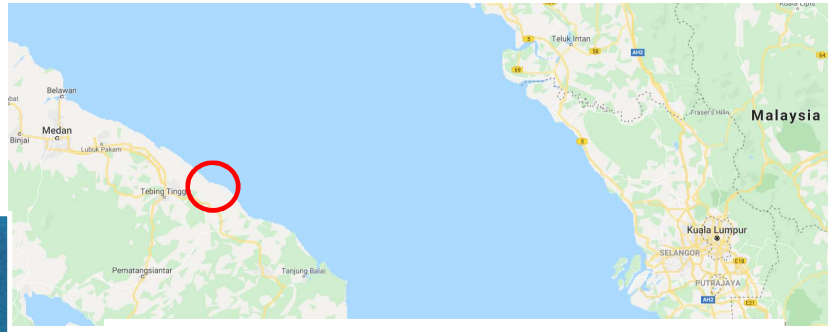


③ Kuala Tanjung



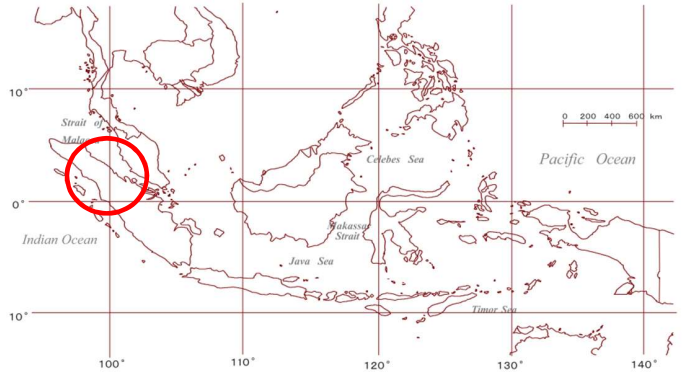
Survey with AIS

③ Kuala Tanjung



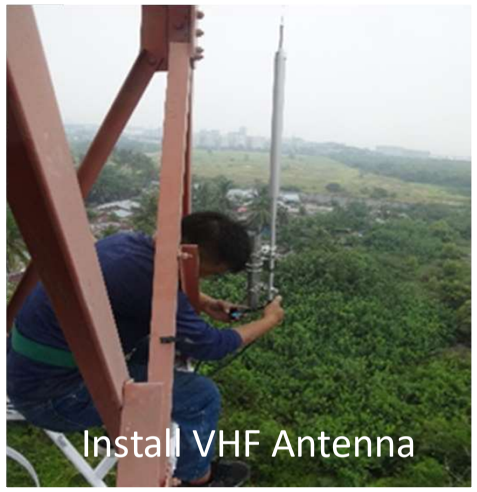
Location of AIS Antenna

Location of AIS Antenna



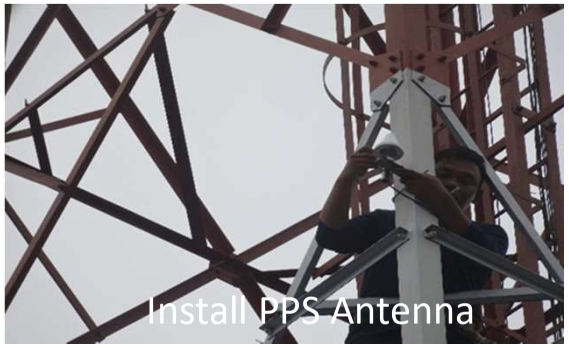
SROP Kuala Tanjung


Tower Kuala Tanjung


Install VHF Antenna


Capture Data


Unobstructed view of the smoke haze


Install PPS Antenna

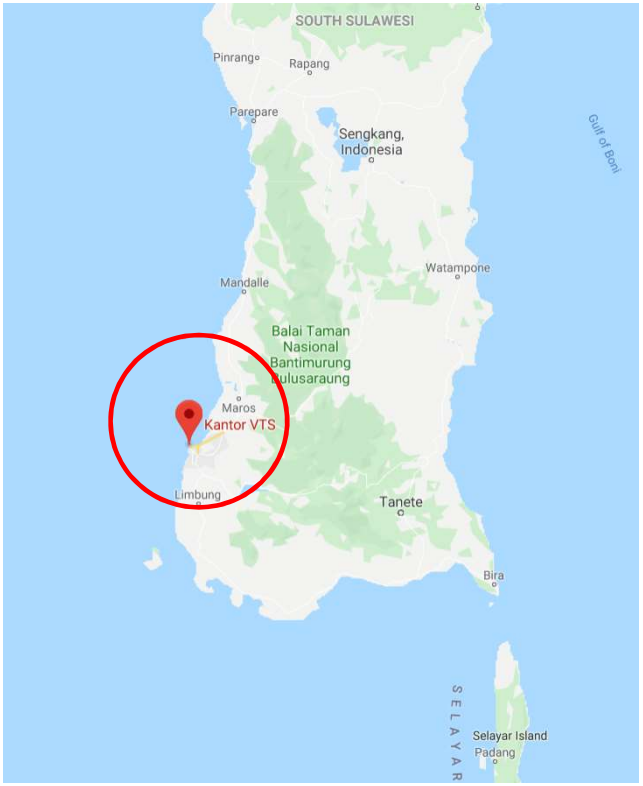
③ Kuala Tanjung

Maritime Traffic Volume Survey in Makassar

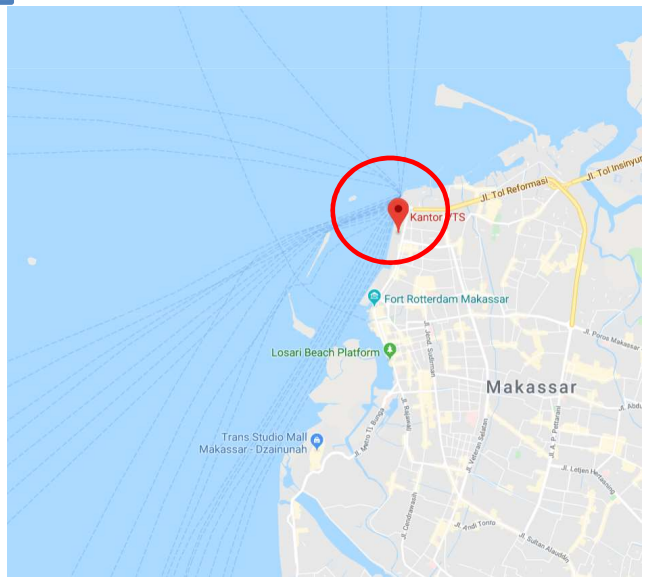
④ Makassar

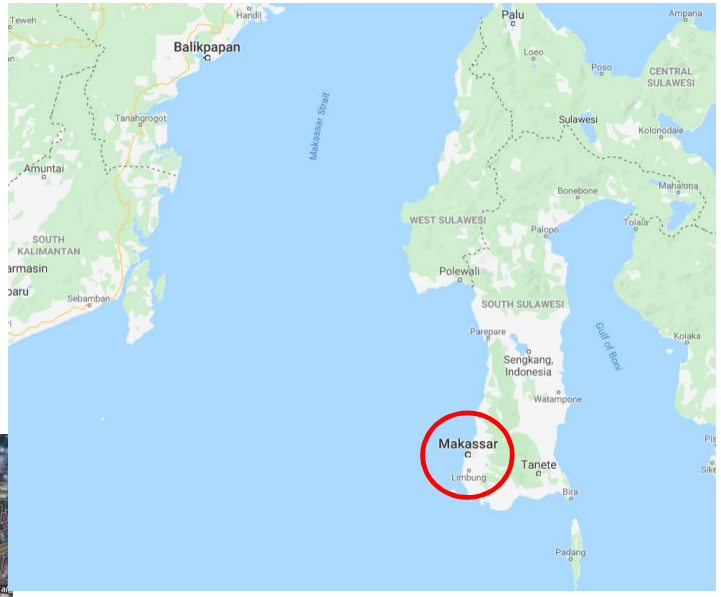
Survey with AIS & Radar

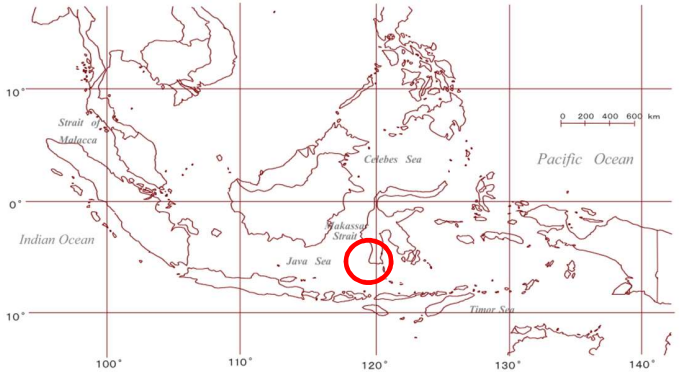
④ Makassar



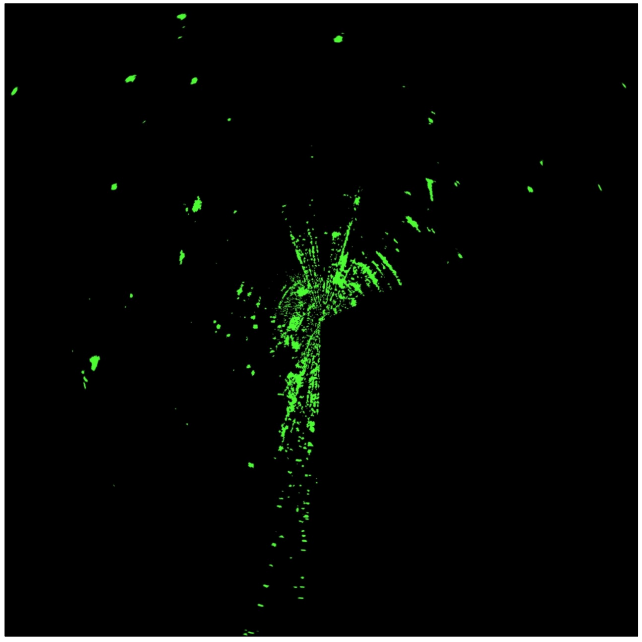
Location of AIS Antenna

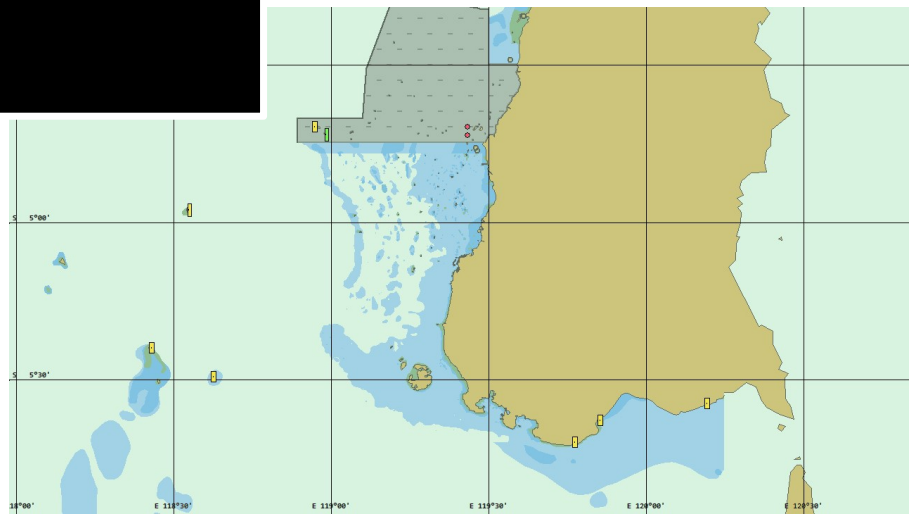






④ Makassar





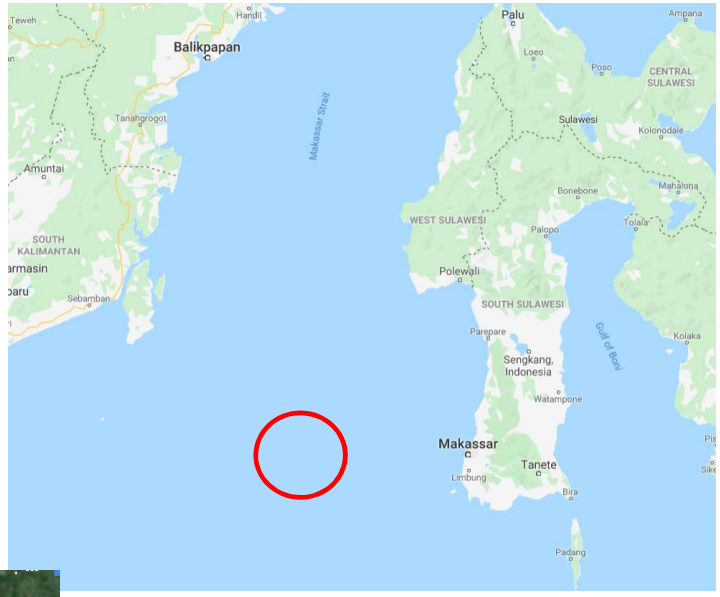
Maritime Traffic Volume Survey in Kalukalakuang

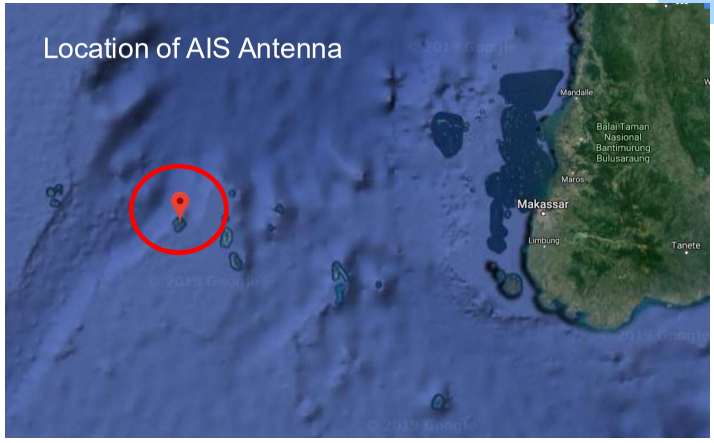
⑤ Kalukalakuang

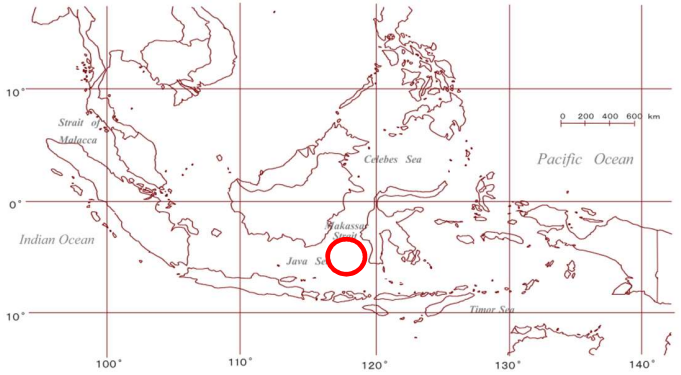
Location of AIS Antenna

Survey with AIS

⑤ Kalukalakuang
(Makassar Offshore)







Install PPS

⑤ Kalukalakuang

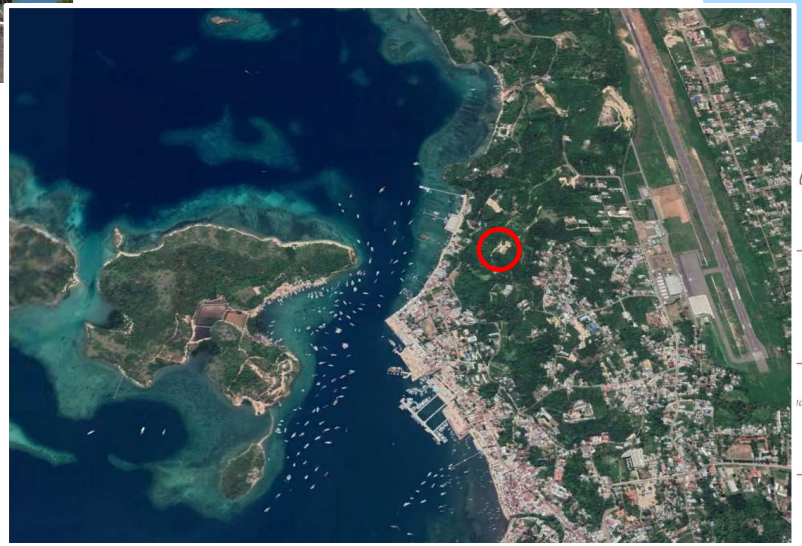
Maritime Traffic Volume Survey in Labuan Bajo

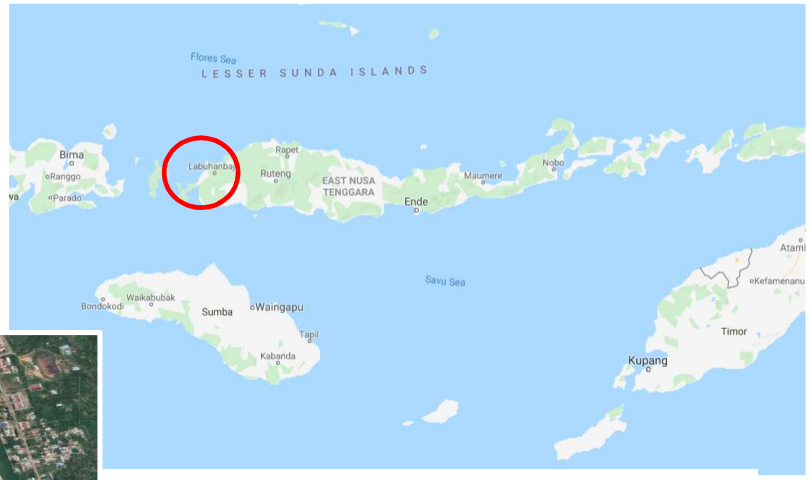
⑥ Labuan Bajo

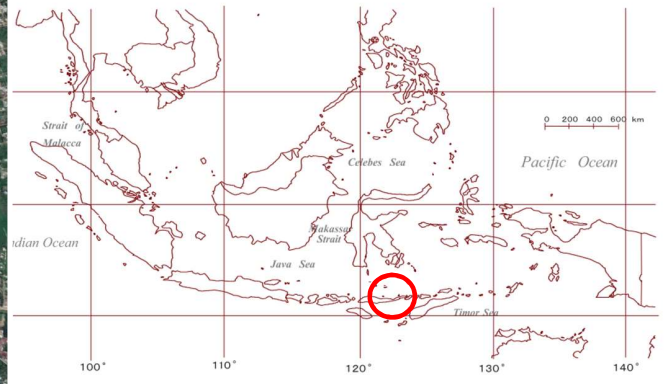
Survey with AIS & Radar

⑥ Labuan Bajo

Location of AIS Antenna







⑥ Labuan Bajo

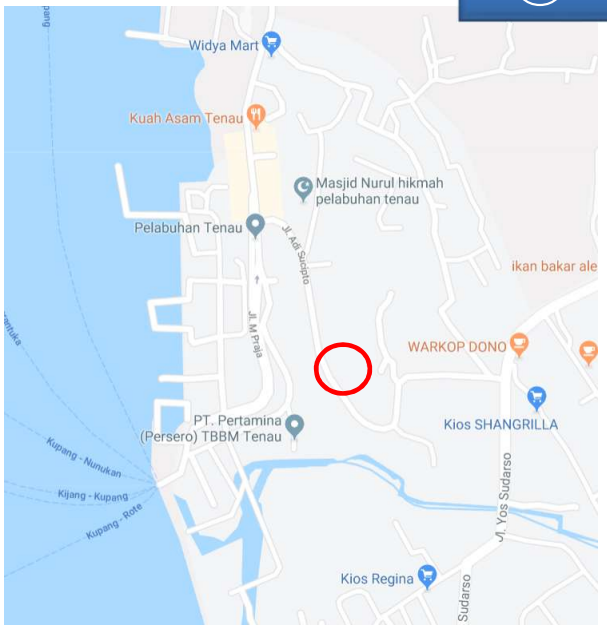
Maritime Traffic Volume Survey in Kupang

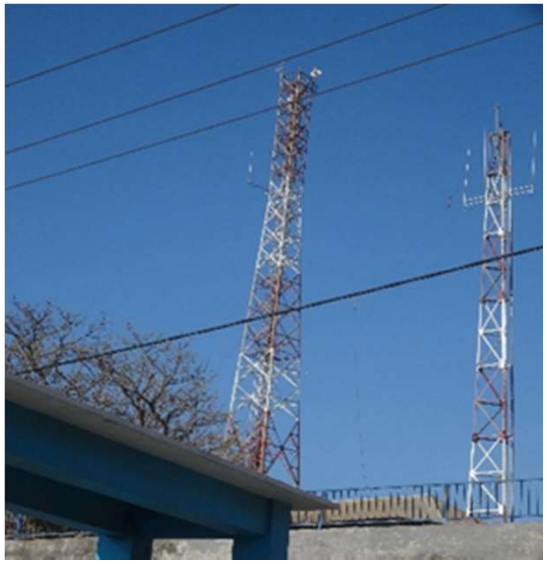
⑦ Kupang

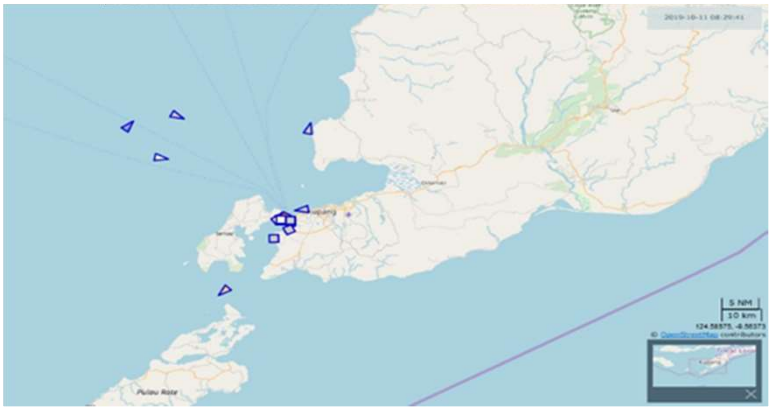
Survey with AIS

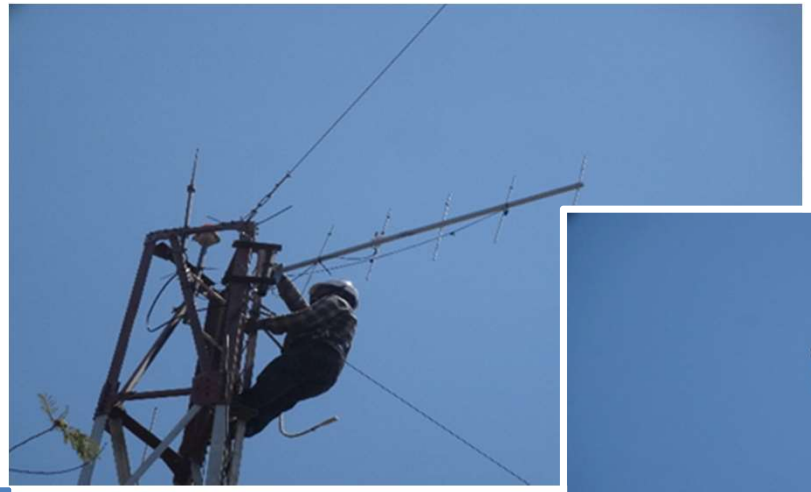
⑦ Kupang

Location of AIS Antenna









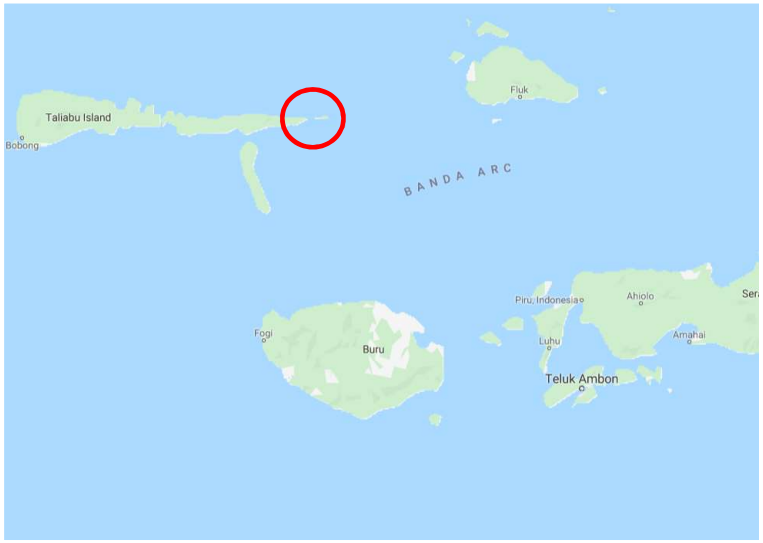
⑦ Kupang

Maritime Traffic Volume Survey in Tanjung Dehekalano (Ambon)

⑧ Tanjung Dehekalano

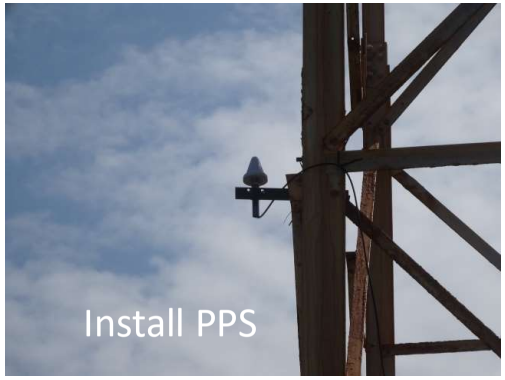
Survey with AIS

⑧ Tanjung Dehekalano



Location of AIS Antenna

⑧ Tanjung Dehekalano



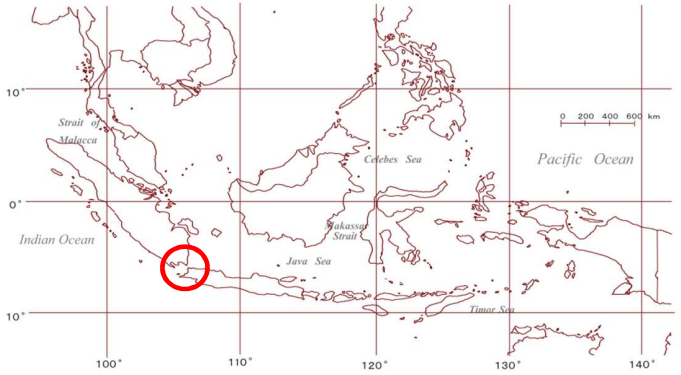
Maritime Traffic Volume Survey in Merak

⑨ Merak

Survey with AIS

⑨ Merak

Location of AIS Antenna



Lampiran 6.6.1 -1

The Tokyo Bay User Manual

TOKYO WAN
VESSEL TRAFFIC SERVICE CENTER
“TOKYO MARTIS”
USER MANUAL

TOKYO WAN VESSEL TRAFFIC SERVICE CENTER
“TOKYO MARTIS”
USER MANUAL

TABLE OF CONTENTS

TOKYO WAN VESSEL TRAFFIC SERVICE CENTER "TOKYO MARTIS" USER MANUAL

Ⅰ INTRODUCTION

Tokyo Wan Vessel Traffic Service Center, "Tokyo MARTIS", whose mission is to maintain and improve safety and efficiency of vessel traffic in the Tokyo Bay, has been established and operated by Japan Coast Guard.

This User manual aims at contributing to safe navigation of vessels by explaining about services provided by "Tokyo MARTIS" and essential information while navigating in the Tokyo Bay.

A vessel navigating in the Tokyo Bay is highly recommended to carry this manual in the bridge and utilize as a reference book.

Tokyo MARTIS is operated in accordance with acts, cabinet orders, ministerial ordinance, public notices and administrative guidance listed below.

Exact application of rules should be referred to these regulations.

- Act on Aids to Navigation
- Act on Maritime Traffic Safety
- Cabinet Order for Enforcement of the Act on Maritime Traffic Safety
- Ordinance for Enforcement of the Act on Maritime Traffic Safety
- "Designation of the Routes, referred in paragraph 2, article 25 of the Act on Maritime Traffic Safety"（Japan Coast Guard Public Notice No. 92, in 2010）
- "Codes to indicate necessary information to inform other vessels of the destination information and the way, referred in paragraph 4, article 6 of the Ordinance for Enforcement of the Act on Maritime Traffic Safety"
  （Japan Coast Guard Public Notice No. 95, in 2010）
- "Public Notice on the Procedure of the Report related to the Navigation of a very large vessel, etc."（Japan Coast Guard Public Notice No. 109, in 1973）
- "Public Notice on the Standards of Details of the Instruction Related to Arrangement of the Forward Lookout Boat, the Boat with Fire Fighting Equipment or the Side Lookout Boat"（Japan Coast Guard Public Notice No. 29, in 1976）
- "Public Notice on the Designation of the Forward Lookout Boat, the Boat with Fire Fighting Equipment and the Side Lookout Boat"
  （Japan Coast Guard Public Notice No. 76, in 1976）
- Notification about the method of the report about the entry into a zone to the designation sea area (Japan Coast Guard Public Notice No. 4, in 2017)
- Notification about the methods such as offers of the information that the Yokohama vessel traffic signal station operated by Tokyo Wan Vessel Traffic Service Center and the providing information. (Japan Coast Guard Public Notice No. 5, in 2017)

Ⅱ OPERATIONAL CONCEPT OF "TOKYO MARTIS"

Tokyo MARTIS maintains and improves vessel traffic safety of the Tokyo Bay by

① collecting, verifying and monitoring vessel traffic information by sensors such as RADAR, ITV, AIS and VHF radiotelephone,

② providing information which is necessary for safety of vessels,

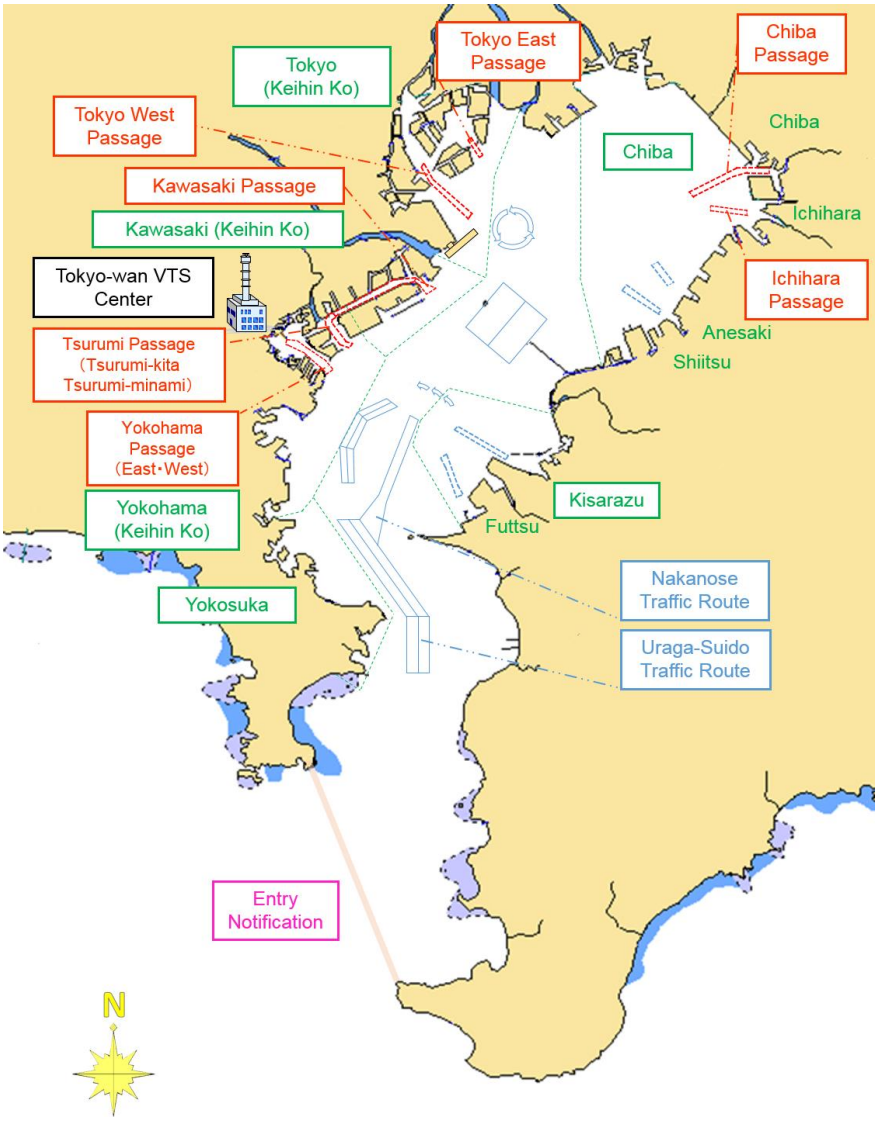
③ providing navigational advice to vessels when it is considered necessary to avoid imminent danger or possibility of violation of traffic rules,

④ instructing vessels to stand by outside the traffic routes if visibility is restricted, and instructing the permission or arrange the time of entry into the traffic route.

In addition to VHF radiotelephone communication, Tokyo MARTIS provides navigational assistance information by radio broadcast and Internet Homepage.

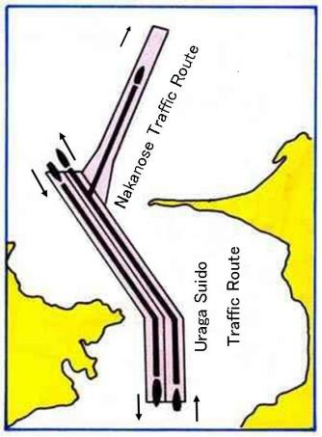
Ⅲ IMPORTANT NAVIGATIONAL RULES

Establishment of the traffic routes and navigational rules of the Tokyo Bay are regulated by the Act on Maritime Traffic Safety and relating regulations and public notices as local rules. Other than specifically regulated by these regulations, the Act for Preventing Collision at Sea, which is Japanese Law for the International Regulation for Preventing Collision at Sea, is applied. The traffic routes in the Tokyo Bay are shown in the figure on the right. Important navigational rules, which are regulated by the Act on Maritime Traffic Safety and applied in the Tokyo Bay, are explained below. It is recommended to refer to the Act and related regulations for exact application of these rules.



1 Uraga-Suido Traffic Route and Nakanose Traffic Route

① Compulsory Usage of the Traffic Route



When a vessel of 50 meters and upward in length, goes through the area in which traffic routes are established, she shall use those traffic route(s); provided, however, that this shall not apply to the cases in which compelling reasons exist such as keeping away from a marine accident or engaging in the rescue of human lives or other vessels.

And also, a vessel of 20 meters and upward of draft is exempted from compulsory usage of the Nakanose Traffic Route because available depth of the Nakanose Traffic Route is 23 meters.

② Keeping out of the way of the other vessel

i When a vessel is entering into a traffic route, going out of a traffic route, crossing a traffic route or not navigating along a traffic route（except a vessel engaging in fishing, construction work or any other work（hereinafter referred to as "a fishing vessel, etc."））, so as to involve risk of collision with a vessel navigating along the traffic route, the former vessel shall keep out of the way of the latter.

In this case, the provisions of paragraph 2 of article 9, paragraph 1 of article 12, paragraph 1 of article 13, paragraph 1 of article 14, the first sentence of paragraph 1 of article 15 and paragraph 1（limited to item 4）of article 18 of the Act on Preventing Collisions at Sea are not applied to that latter vessel.

ii When a fishing vessel, etc. is entering into a traffic route, going out of a traffic route, crossing a traffic route or not navigating along a traffic route or a vessel is drifting in a traffic route, so as to involve risk of collision with a very large vessel（"a very large vessel" means a vessel of 200 meters and upward in length. The same shall apply hereinafter.）which is navigating along the traffic route, that fishing vessel, etc. or that drifting vessel shall keep out of the way of that very large vessel.

In this case, the provisions of paragraph 2 and 3 of article 9, paragraph 1 of article 13, paragraph 1 of article 14, the first sentence of paragraph 1 of article 15 and paragraph 1（limited to item 3 and 4）of article 18 of the Act on Preventing Collisions at Sea are not applied to that very large vessel.

③ Essential navigation rules of the Traffic Routes in the Tokyo Bay

i Uraga-Suido Traffic Route : A vessel shall keep right of the center line.

ii Nakanose Traffic Route : A vessel shall navigate northbound only.

④ The right of way of a very large vessel entering the Nakanose Traffic Route from the Uraga-Suido Traffic Route

When a vessel（except a very large vessel）is navigating or drifting so as to involve risk of collision with a very large vessel which is entering the Nakanose Traffic Route from the Uraga-Suido Traffic Route, the former vessel shall keep out of the way of that very large vessel.

In this case, the provisions prescribed in section Ⅲ② i of this user manual and paragraph 2 and 3 of article 9, paragraph 1 of article 13, paragraph 1 of article 14, the first sentence of paragraph 1 of article 15 and paragraph 1（limited to item 3 and 4）of article 18 of the Act on Preventing Collisions at Sea are not applied to that very large vessel.

⑤ Limitation of navigation speed

A vessel (except a vessel which is crossing a traffic route) shall not navigate at a speed of more than 12 knots through the water in the Uraga-Suido Traffic Route and the Nakanose Traffic Route.

Provided, however, that this shall not apply to the cases in which compelling reasons exist such as keeping away from a marine accident or engaging in the rescue of human lives or other vessels.

⑥ Transmitting destination information by AIS

When a vessel equipped with AIS navigates in the Tokyo Bay, that vessel shall transmit the code of the destination port as the destination information of AIS in order to inform other vessels of the route of that vessel.

The destination codes are shown in attached reference 1 and 2.

⑦ Route signal

When a vessel of 100 tons gross tonnage and upward is entering into a traffic route or going out a traffic route, that vessel shall inform her route to other neighboring vessels by designated international signal flags in the day time and signals on her whistle in the night time.（See attached reference 1）

2 Designated tracks in the Tokyo Bay outside the traffic routes

Pursuant to the Act on Maritime Traffic Safety, a vessel shall take any applicable track(s) explained below in the Tokyo Bay.

① West of Nakanose area（See attached figure 1）

i A vessel which navigates southbound in the west of Nakanose area shall navigate west side of the line "A"

ii A vessel which navigates northbound in the west of Nakanose area（except a vessel crossing the line "B" bound for the west of the line "B"）shall

navigate

a) east of the line "A" until when she alters the course in order to enter the destination port,

and

b) 400 meters and upward apart westward from the line "C" if the draft of that vessel is 20 meters and upward.

② Vicinity of the “Kisarazu Port Offing Light Buoy”（See attached figure 2）

A vessel which intends to cross the line "A" and "B" in sequence shall navigate looking the Kisarazu Port Offing Light Buoy on her port side.

③ Vicinity of the Tokyo Bay Aqua Line East Channel (See attached figure 3)

i A vessel which navigates southbound through the Tokyo Bay Aqua Line East Channel shall navigate

a) west of the line "A",

and

b) near the line "A" when she comes from Chiba direction or to keep away from the line "A" when she comes from Tokyo direction.

ii A vessel which navigates northbound through the Tokyo Bay Aqua Line East Channel shall navigate

a) east of the line "A",

and

b) to keep away from the line "A" when she goes to Chiba direction or near the line "A" when she goes to Tokyo direction.

④ Vicinity of the "Tokyo Offing Light Buoy" （See attached figure 4）

A vessel which navigates in the circle with the radius of 1,850 meters from the Tokyo Offing Light Buoy (except port area) shall navigate looking the buoy on her port side.

3 Main Navigation Rules applied to the Chiba Port

Establishment of the passages and navigation rules of the Chiba Port are regulated by the local rules of the Act on Port Regulations and Administrative guidance by the Captain of the port. Other than specifically regulated by these regulations, the Act for Preventing Collision at Sea, which is Japanese Law for the International Regulation for Preventing Collision at Sea, is applied. It is recommended to refer to the Act and related regulations for exact application of these rules.

① The Basic Navigation rules in the Chiba Port

i The vessel shall navigate with safety speed does not make danger to other

vessels near by the border of the port and inside of the port.

ii In Chiba port, the small vessels shall avoid the course of the vessel except small vessels.

Furthermore, a vessel of 500 tons gross tonnage or less and except small vessels, shall avoid the course of the vessel 500 tons gross tonnage and upward.

(When the vessel 500 tons gross tonnage and upward navigates Chiba port, the international code number flag “1” shall be raised for an easy recognition.)

② Indication of the Destination Signal

i Indication by the AIS

The vessel operating AIS shall transmit the code indicating the port of forwarding and the signal indicating the course (When it is necessary, add the codes indicating the passage to go by way of) in the forwarding port as information about the destinations of the AIS to tell other vessels about the course when the vessel navigates Chiba port or border neighborhood.

Refer to ref. 1 and ref. 2 for the codes indicating the port of forwarding.

ii Indication by the International Signal Flag

The vessel entering into and going out the Chiba port shall raise the signal flag indicating the destination on the mast or other places for its easy identification during navigation.

For details, see ref.1 for more information.

However, there is no necessary to raise it when the vessel does not have international signal flags or during the navigation in the night time.

③ Compulsory Usage of the Passage

The vessel except small vessels shall use the passage to enter and leave in the Chiba port. (In the Anesaki Passage, except the vessel less than 1,000 tons gross tonnage.)

However, this shall not apply to the cases in which compelling reasons exist such as keeping away from marine accidents or unavoidable reasons.

④ Navigation rules in the Passage

i A vessel entering or going out the passage shall keep out of the way of other vessels navigating in the passage.

ii A vessel shall not navigate in parallel in the passage.

iii When the vessel comes across other vessels in the passage, the vessel shall navigate the right side.

iv A vessel shall not overtake other vessel in passages.

⑤ Traffic Signals of the Chiba Port

When a vessel navigates Chiba Passage or Ichihara Passage, who shall navigate in according with the traffic signals.

In the Chiba Port, a vessel shall keep the traffic signals in order to ensure the safety navigation, which given by a flash of light-type signal or an electric board signal at each signal station of “Chiba Offing Light Buoy” and “Chiba Chuoko.”

The kind of signals and means are shown as figure 5.

⑥ Prohibition against anchoring in the passage, etc.

A vessel shall not anchor or release a tugging vessel in the passage except following cases.

i When a vessel intends to keep away from a marine accident.

ii When a vessel is not under command.

iii When a vessel engages in the rescue of human lives or a vessel facing an imminence peril.

iv When a vessel engages in construction works or duties under the permission of Captain of the port.

4 Main Navigation Rules applied to the Keihin Port

Establishment of the passages and navigational rules of the Keihin Port are regulated by the local rules of the Act on Port Regulations and Administrative guidance by the Captain of the port. Other than specifically regulated by these regulations, the Act for Preventing Collision at Sea, which is Japanese Law for the International Regulation for Preventing Collision at Sea, is applied. It is recommended to refer to the Act and related regulations for exact application of these rules.

① The Basic Navigation rules in the Keihin Port

i A vessel shall navigate with safety speed which does not make danger to other vessels near by the border of the port and inside of the port.

ii In the Keihin port, a small vessel shall avoid the course of the vessel except small vessels.

Furthermore, a vessel of 500 tons gross tonnage or less and except for small vessels, shall avoid the course of vessels 500 tons gross tonnage and upward.

(When a vessel 500 tons gross tonnage and upward navigates Keihin port, the international code number flag “1” shall be raised for an easy recognition.)

② Indication of the Destination Signal

i Indication by AIS

A vessel operating AIS shall transmit the codes which indicating the destination port and the navigation route, (when it is necessary, add the code of the point by way of destination) in order to tell the destination information to other vessels using AIS codes, when the vessel navigates Keihin port or border neighborhood.

The destination codes are shown in attached reference 1 and 2.

ii Indication of International Signal Flags

A vessel entering into and going out the Keihin port, who shall raise the signal flags indicating the destination on her mast or other places for its easy identification during the navigation. For more details, see attached reference 1. However, there is no necessary to raise it when a vessel does not have the international signal flags or during the night time.

③ Compulsory Usage of the passage

A vessel except small vessels shall use the passage to enter and leave in the Keihin port.

However, this shall not apply to the cases in which compelling reasons exist such as keeping away from marine accidents or unavoidable reasons.

Passages are shown as figure 6 ～ 9.

④ Navigation rules in the Passage

i A vessel entering or going out a passage shall keep out of the way of other vessels navigating in the passage.

ii A vessel shall not navigate in parallel in the passage.

iii When a vessel comes across other vessels in the passage, the vessel shall navigate on the right side of the passage.

iv A vessel shall not overtake other vessels in the passage. However, a vessel may overtake other vessel in the Tokyo West Passage, Kawasaki Section 1 and Yokohama Section 4, considering surrounding situation and only when all conditions described below are met.

a) when a vessel being overtaken does not need to take any cooperative movement in order for an overtaking vessel to pass safety.

b) when an overtaking vessel can keep out of the way of any other vessels safety.

Ⅴ A vessels of 500 tons gross tonnage and upward shall not proceed to east area within southeast of 13 Go Chi (2), where over the line between East edge of 13 Go Chi (2) and North edge of Central Breakwater Naiko Wharf. (N 35° 36′ 25″ and E 139° 47′ 55″).

A vessel of 500 tons gross tonnage and upward shall not go through the Keihin Unga (Keihin canal).

vi A vessel of 1,000 tons gross tonnage and upward shall not navigate westbound through Keihin Unga beyond the line drawn at 152 degrees from the position 1,080 m 238 degrees of the Shiohama Traffic Signal Station to Higashi-Ogishima.

vii A vessel of 1,000 tons gross tonnage and upward shall not turn in Keihin Unga during time from 6:30 A.M. to 9 A.M.

viii When a vessel intends to enter the Keihin Unga from others or enter the other Unga from the Keihin Unga, the vessel shall sound a prolonged blast once with whistle or siren when she arrived at the point of 150 meters before the junction of Keihin Unga and the others.

ix A vessel of 5,000 tons gross tonnage and upward (for an oil tanker of 1,000 tons gross tonnage and upward), who shall sound a prolonged blast twice at the entrance of the passage when the vessel proceeds to Kawasaki Section 1 from the Kawasaki Passage or proceeds to Yokohama Section 4 from the Tsurumi Passage.

A vessel as above mentioned proceeds to Kawasaki Passage from Kawasaki Section 1 or proceeds to Tsurumi Passage from Yokohama Section 4, the Kawasaki direction vessel shall sound a prolonged blast twice in front of TEPCO Fuel Power Kawasaki Thermal Power Station and the Tsurumi direction one shall sound in front of Sakai Unga.

⑤ Traffic Signals of the Keihin Port

A vessel shall keep the Traffic Signals when navigates the passages of Keihin port. For the safety navigation in the Keihin Port, Traffic Signal Stations provide traffic regulations using electric light letter-type signals for navigating vessels on passages as following signal stations: “15 Go-Chi South”, “15 Go-Chi North”, “Chuobou”, “10 Go-Chi”, “Haneda”, “Oi, “Aomi”, “Harumi”, “Tsurumi”, “Tsurumi-No2”, “Tanabe”, “Ikegami”, “Shiohama”, “Mizue”, “Kawasaki”, “Daishi”, “Daikoku”, “Naikou”, “Hommoku”.

The pattern of traffic signals and means are shown as attached Figure 6～9.

⑥ Prohibition against anchoring in the passage, etc.

A vessels shall not anchor or release a tugging vessel in the passage except following cases.

i When a vessel intends to keep away from a marine accident.

ii When a vessel is not under command.

iii When a vessel engages in the rescue of human lives or a vessel facing an imminence peril.

iv When a vessel engages in construction work or duties with a permission of the Captain of the port.

5　Lights, shapes and flags for a very large vessel and a dangerous goods carrying vessel

A very large vessel or a dangerous goods carrying vessel shall each exhibit following light, shapes or flags while navigating, drifting or anchoring, where outside of Harbor limits of the ports in the Tokyo Bay.

① A very large vessel

i A light to be exhibited in the night time

A green all-round flashing light which flashes at regular intervals of a frequency of 180 and upward but not more than 200 flashes per minute with 2 miles of minimum range of visibility

ii Shapes to be exhibited in the day time

2 cylinders apart 1.5 meters and upward in a vertical line（A cylinder shall be black and have a diameter of 0.6 meters and upward and height of twice the diameter.）

② A dangerous goods carrying vessel

i A light to be exhibited in the night time

A red all-round flashing light which flashes at regular intervals of a frequency of 120 and upward but not more than 140 flashes per minute with 2 miles of minimum range of visibility

ii Flags to be exhibited in the day time

The international signal flags "The first substitute" and alphabetical flag "B" from the upper in sequence.

Ⅳ COMMUNICATION

1　VHF Channels

VHF channels to communicate with Tokyo MARTIS are as follows. Tokyo MARTIS monitors channels 16 and 13 all the time. Vessels equipped with VHF radiotelephone are strongly recommended to monitor channels 16 and 13 while navigating within the information service area of Tokyo MARTIS.

VHF radio telephone CH used by the Tokyo Wan Vessel Traffic Service Center

12CH, 13CH, 14CH,
16CH, 22CH, 69CH

Channel 16, 13: calling and response
Channel 12, 13, 14, 22, 69: communication

2　Communication Languages

Japanese and English

3 Call Sign of Tokyo MARTIS, etc.

The Call Sign of obligation reports using VHF radiotelephone, regulated by Act on Port Regulations and Maritime Traffic Safety Law, is unified as “Tokyo MARTIS”. However, when a vessel requires information of a passage and the vicinity area in the port, add “the area name” as described below on the beginning of the VHF communication after the VHF channel coordination (Call Tokyo MARTIS with Ch16 and shift to the other channel for communication).

“Chiba”: Chiba Passage, Ichihara Passage

“Tokyo”: Tokyo West Passage, Tokyo East Passage

“Kawasaki”: Kawasaki Passage, Tsurumi Passage and Keihin Unga

“Yokohama”: Yokohama passage

Ⅴ PRE-ENTRY REPORT AND POSITION REPORT

1 Pre-Entry Report

① Pre-Entry Report of one day advance

i Vessels with obligation to report

Pursuant to the Act on Maritime Traffic Safety, when each of following vessels intend to navigate the Uraga-Suido Traffic Route and/or the Nakanose Traffic Route, the master of that vessel shall submit the pre-entry report of one day advance to Tokyo MARTIS by the noon of the day before the day of arrival at the traffic route entrance.

When any changes occur in the report, they shall be reported 3 hours before the time of entering the traffic route. If any other changes occur after that, they shall be reported as soon as possible.

Furthermore, if a vessel meet the exemption conditions described as Ⅴ1① iii and add the items concerned name of the port mooring facility and ETA to the port, it is available to omit the pre-entry report mentioned by Ⅴ1③ and Ⅴ1④ which is regulated by Act on Port regulations.

a） a very large vessel

b） a vessel of 160 meters and upward in length（except a very large vessel）

c） a vessel of 25,000 tons gross tonnage and upward carrying liquefied gas

d） a vessel towing or pushing any objects such as vessels or rafts, and the length between the front end of the towing vessel and the after end of the object or between the after end of the pushing vessel and the front end of the object is 200 meters and upward

ii Items to be reported

a） vessel's name, gross tonnage and length

b） section of the traffic route where the vessel is going to navigate, ETA at the entrance of the traffic route, ETD from the traffic route

c） signal letters or call sign of the vessel（applied to a vessel equipped with

radio apparatus）

d） means of communication with Japan Coast Guard（applied to a vessel without radio apparatus）

e） destination port

f） draft（applied to a very large vessel）

g） dangerous goods being carried and each quantity of the goods（applied to the vessel carrying dangerous goods only of this user manual）

h） length between the front end of the towing vessel and the after end of the object or between the after end of the pushing vessel and the front end of the object, outline of the object（applied to the vessel prescribed in section Ⅴ ① i d) of this user manual）

iii Conditions for omission of the Pre-Entry Report by Act on Port Regulation

a) A vessel passes the Uraga-Suido Traffic Route and intends to enter the passage in Chiba Ko (Chiba Passage, Ichihara Passage), passage in Keihin Ko (Tokyo East Passage, Tokyo West Passage, Tsurumi South Fairway, Tsurumi North fairway, Kawasaki Passage, Yokohama Passage (East Fairway, West Fairway) and who does not enter the other ports and without anchoring.

b) A vessel passes the passage in the Chiba Ko or Keihin Ko, described above item a), and intends to proceed Uraga-Suido Traffic Route without entering the other ports and anchoring.

② Pre-Entry Report of 3- hour advance

i Vessels with obligation to report

Pursuant to the Act on Maritime Traffic Safety, when a dangerous goods carrying vessel (except vessels prescribed in Ⅴ. 1. ① of this user manual) intends to navigate the Uraga-Suido Traffic Route and/or the Nakanose Traffic Route, the master of that vessel shall submit the pre-entry report of 3-hour advance to Tokyo MARTIS by the time 3 hours before the expected time of arrival at the traffic route entrance.

When any changes occur in the report, they shall be reported as soon as possible.

The term “dangerous goods carrying vessel” means any of following vessel.

a) a vessel of 300 tons gross tonnage and upward carrying certain amount of powder (Please refer to item 1, paragraph 1 of article 11 of the Ordinance for Enforcement of the Act on Maritime Traffic Safety for the exact amount.)

b) a vessel of 1,000 tons gross tonnage and upward carrying inflammable high-pressure gas in bulk

c) a vessel of 1,000 tons gross tonnage and upward carrying inflammable liquid in bulk

d) a vessel of 300 tons gross tonnage and upward carrying organic peroxide of 200 tons and upward

ii Items to be reported

a) vessel's name, gross tonnage and length

b) section of the traffic route where the vessel is going to navigate, ETA at the entrance of the traffic route, ETD from the traffic route

c) signal letters or call sign of the vessel (applied to a vessel equipped with radio apparatus)

d) means of communication with Japan Coast Guard (applied to a vessel without radio apparatus)

e) destination port

f) dangerous goods being carried and each quantity of the goods

③ Pre-Entry Report of Chiba Port

Pursuant to the Act on Port regulations, a vessel prescribed item i, intends to navigate a passage in the Chiba Port who shall submit the Pre-Entry Report of one day advance to Tokyo MARTIS by the noon of the day before the day of arrival at the passage entrance.

When any changes occur in the report and the expected time changed more than 10 minutes concerned the passage of ETA and ETD, the vessel shall report to the Tokyo MARTIS.

Furthermore, if a vessel meet the exemption conditions described as Ⅴ1①iii and add the items concerned name of the port mooring facility and ETA to the port, it is available to omit the pre-entry report to Chiba Port.

i Vessels with obligation to report

a) Chiba Passage

A vessel of 140 meters and upward in length

(An Oil Tanker of 1,000 tons gross tonnage and upward)

b) Ichihara Passage

A vessel of 125 meters and upward in length

(An Oil Tanker of 1,000 tons gross tonnage and upward)

ii Items to be reported

《INDISPENSABLE》

a) vessel’s name

b) gross tonnage and length

c) ETA at the entrance of the passage or ETD

d) means of communication with Japan Coast Guard

e) wharf facilities for mooring or berthing

《Option》

f) call sign
g) MMSI
h) type of vessel
i) dangerous goods being carried and each quantity of the goods
j) maximum draft in the Port
k) sailing plan (enter, outer and shift)
l) proceeding passage
m) schedule of anchor
n) plan of pilotage
o) plan of tugboats

iii Conditions for omission of the Pre-Entry Report

a) A vessel passes the Uraga-Suido Traffic Route and intends to enter the passage in Chiba Ko (Chiba Passage, Ichihara Passage), and who does not enter the other ports and without anchoring.
b) A vessel passes the passage in the Chiba Ko and intends to proceed Uraga-Suido Traffic Route without entering the other ports and anchoring.

④ Pre-Entry Report of Keihin Port (Tokyo, Kawasaki, Yokohama)

Pursuant to the Act on Port regulations, a vessel, prescribed item i intends to navigate a passage in the Keihin Port who shall submit the Pre-Entry Report of one day advance to Tokyo MARTIS by the noon of the day before the day of arrival at the passage entrance.

When any changes occur in the report and the expected time changed more than 10 minutes concerned the passage of ETA and ETD, the vessel shall report to the Tokyo MARTIS.

Furthermore, if a vessel meets the exemption conditions described as Ⅴ1① iii and add the items concerned name of the port mooring facility and ETA to the port, it is available to omit the pre-entry report to Keihin Ko.

i Vessels with obligation to report

a） Tokyo East Passage
A vessel of 150 meters and upward in length
(An Oil Tanker of 1,000 tons gross tonnage and upward)
b） Tokyo West Passage
A vessel of 300 meters and upward in length
(An Oil Tanker of 1,000 tons gross tonnage and upward)
c） Kawasaki Passage
A vessel of 1,000 tons gross tonnage and upward

d） Tsurumi Passage
A vessel of 1,000 tons gross tonnage and upward
e） Kawasaki Section 1 and Yokohama Section 4
A vessel of 1,000 tons gross tonnage and upward
f） Yokohama Passage
A vessel of 160 meters and upward in length
(An Oil Tanker of 1,000 tons gross tonnage and upward)

ii Items to be reported
《INDISPENSABLE》
a） vessel's name
b） gross tonnage and length
c） ETA at the entrance of the passage or ETD
d) means of communication with Japan Coast Guard
e) wharf facilities for mooring or berthing
《REQUEST》
f) call sign
g) MMSI
h) type of vessel
i) dangerous goods being carried and each quantity of the goods
j) maximum draft
k) sailing plan (enter, outer and shift)
l) proceeding Passage
m) schedule of anchoring
n) pilotage
o) plan of tugboats

iii Conditions for omission of the Pre-Entry Report
a) A vessel passes the Uraga-Suido Traffic Route and intends to enter the Tokyo East Passage, Tokyo West Passage, Tsurumi South Fairway, Tsurumi North fairway, Kawasaki Passage, Yokohama Passage (East Fairway, West Fairway) and does not enter the other ports and without anchoring.
b) A Vessel passes the passage in Tokyo East Passage, Tokyo West Passage, Tsurumi South Fairway, Tsurumi North fairway, Kawasaki Passage, Yokohama Passage (East Fairway, West Fairway) and does not enter the other ports and without anchoring.

⑤ Addressee and means of report
i Addressee
Tokyo Wan Vessel Traffic Service Center（"Tokyo MARTIS"）

ii Means of report

When a master submits the pre-entry report, one of following means may be chosen.

a) submitted in writing

Please fill in the report form and bring it to any of the Japan Coast Guard offices or mail it to Tokyo Wan Vessel Traffic Service Center.

5 - 57 Kitanaka-dori, Naka-ku, Yokohama City, Kanagawa Prefecture, JAPAN, 231-8818

b) telephone

045-225-9140, 9141 (Uraga-Suido and Nakanose Traffic Route.)
045-225-9150 (Port of Chiba)
045-225-9151 (Tokyo area in Port of Keihin)
045-225-9152 (Kawasaki and Yokohama area in Port of Keihin)

c) facsimile

Please fill in the report form and send to the MARTIS.

045-225-9142 (Uraga-Suido and Nakanose Traffic Route)
045-225-9153 (Port of Chiba)
045-225-9154 (Tokyo area in Port of Keihin)
045-225-9155 (Kawasaki and Yokohama area in Port of Keihin)

d) radio communication

When a vessel located in the VHF communication area of the MARTIS, call to the Tokyo MARTIS with VHF channel 16 or channel 13.

Frequencies : 156.8 MHz (VHF channel 16)
156.65 MHz (VHF channel 13)

When a vessel located in the outside of VHF communication area of the MARTIS, call to “Yokohama Coast Guard Radio”: Japan Coast Guard shore-based radio station as follows.

Frequencies: 156.8 MHz (VHF channel 16), 2189.5 KHz

e) NACCS using WEB

URL:http://www.naccs.jp

iii Pre-Entry report and the application form

The Pre-Entry Report for the traffic route and the other report for entering the port should be submitted by the common application form. Furthermore, if the each report submitted individually, the common application form is available. The common application form is obtained from the below URL.

URL: http://www6.kaiho.mlit.go.jp/TOKYOwan/

2 Instructions to a very large vessel , etc.

① Items instructed to a very large vessel, etc.

Pursuant to the Act on Maritime Traffic Safety, Tokyo MARTIS may instruct a master of a vessel, which has submitted a pre-entry report according to the provisions prescribed in sections Ⅴ 1 and 2 of this user manual（hereinafter referred to as "a very large vessel, etc."）, about following matters when Tokyo MARTIS finds necessary to avoid dangerous situations against vessel traffic which may be caused by passage of that very large vessel and etc. in the traffic route.

a） change of ETA at the traffic route entrance

b） navigation speed

c） keeping of communication with Tokyo MARTIS by continuous listening watch on VHF channel16 during the period from the time 3 hours before entry into the traffic route until the time of going out the traffic route

d） keeping of under keel clearance（in case of a very large vessel）

e） disposition of a forward lookout boat in case of a very large vessel of 250 meters and upward in length or a very large vessel carrying dangerous goods

f） disposition of a navigation assistance boat in case of a very large vessel or a dangerous goods carrying vessel

g） disposition of a boat equipped with firefighting facilities in case of a dangerous goods carrying vessel of 50,000 tons gross tonnage and upward（in case of a liquefied gas carrying vessel of 25,000 tons gross tonnage and upward）

h） disposition of a side lookout boat in case of a long object towing vessel (a vessel towing or pushing any objects such as vessels or rafts, and the length between the front end of the towing vessel and the after end of the object or between the after end of the pushing vessel and the front end of the object is 200 meters and upward; hereinafter referred to as "a long object towing vessel"), etc.

i） other items considered necessary regarding operation of a very large vessel and etc.

② Means of instruction

Radio communication, telephone, fax, NACCS or delivery of paper

③ Standards on a forward lookout boat and etc.

Concerning the standards of a forward lookout boat and etc. which are mentioned in Ⅴ 2 ① e）, g）and h）of this user manual, please refer to "Public Notice of the Standards of Details of the Instruction Related to Arrangement of

the Forward Lookout Boat, the Boat with Fire Fighting Equipment or the Side Lookout Boat"（Japan Coast Guard Public Notice No. 29, in 1976）and "Public Notice of the Designation of the Forward Lookout Boat, the Boat with Fire Fighting Equipment and the Side Lookout Boat"（Japan Coast Guard Public Notice No. 76, in 1976）

3 Notification of entry into the designated sea area

Pursuant to the Act on Maritime Traffic Safety, when a vessel of 50 meters and upward in length (except a vessel which is equipped with AIS and is transmitting accurate information by AIS as ②), shall submit the Notification of entry into the designated sea area to the Tokyo MARTIS as below.

① When to report

a) When an inbound vessel crosses the line between Tsurugizaki and Sunosaki.

b) When a vessel entering the designated sea area or before the entry.

② Items to be reported

a) vessel's name and the length

b) call sign

c) vessel position of the Notification of the entry

d) destination port (If it is available.)

e) draft

③ Means of report

i VHF radiotelephone

a) call sign: "Tokyo MARTIS"

b) call channel: channel 16 or channel 13

ii telephone

045-225-9132, 9134, 9135

4 Restrictions of vessel traffic

① Instruction items

Pursuant to the Act on Port Regulations, Tokyo MARTIS may instruct a master of vessel about following matters, when a dangerous situation for such vessel is likely occurred against vessel traffic in passage and to take any necessary action to avoid the danger.

a) change of ETA at the entrance of the passage

b) keeping of communication with Tokyo MARTIS by continuous listening watch on VHF channel 16 during the period from the time 3 hours before entry into the passage until the time of going out the passage

c) disposition of a forward lookout boat or a assisting boat for navigation

d) other items considered necessary regarding operation of vessel

② Means of Instruction

Delivery of paper, telephone, facsimile, radio communication, or NACCS.

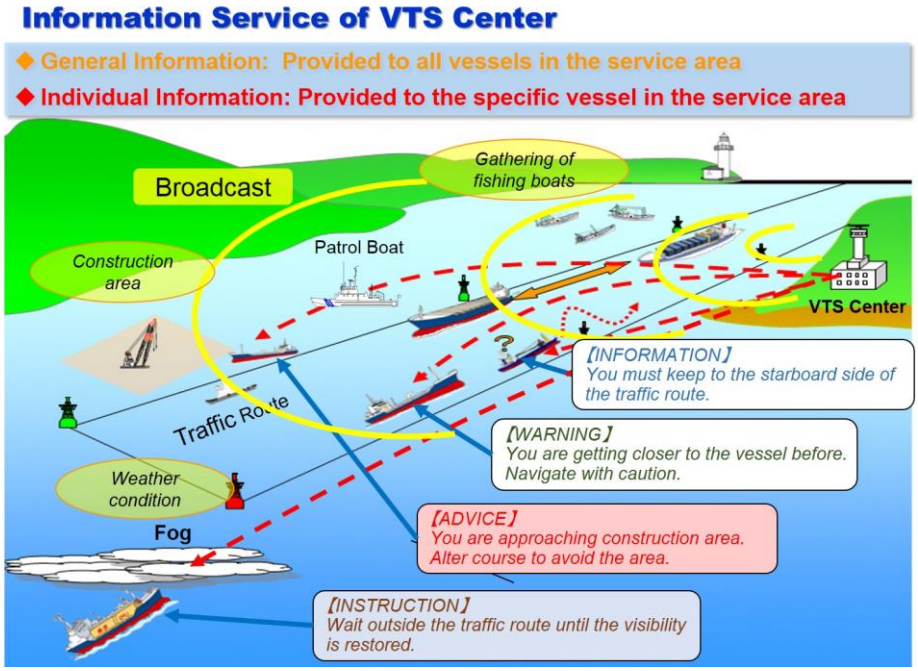
5 Information service area and monitoring of vessel traffic

Tokyo MARTIS monitors vessel traffic in the information service area by RADAR, AIS, position reports, ITV and so forth.

Ⅵ SERVICES PROVIDED BY VHF RADIOTELEPHONE

1 Application of MESSAGE MARKERS

When Tokyo MARTIS provides information via VHF radiotelephone, warning, advice or instruction to a vessel, one of following message markers ("INFORMATION", "WARNING", "ADVICE", and "INSTRUCTION") is used preceding the message to increase the probability of the purpose of the message being properly understood. Message markers are used in accordance with the IMO Standard Marine Communication Phrases and meanings of message markers used are as follows.



① "INFORMATION"

This indicates that Tokyo MARTIS is informing observed facts, situations, etc. which contribute to navigational safety. Consequences of INFORMATION will be up to the recipient.

② "WARNING"

This indicates that Tokyo MARTIS is informing any dangerous situation that may impede safe navigation of vessels. The recipient of this message should pay immediate attention to the situation mentioned and consequences of WARNING will be up to the recipient.

③ "ADVICE"

This indicates that Tokyo MARTIS is providing advice, pursuant to the Act on Maritime Traffic Safety, to take any necessary action to keep traffic regulations on the traffic route, such as altering the vessel's way and so forth, to avoid the

dangerous situation that may impede safe navigation of the vessel. The recipient of this message should maneuver considering this advice very carefully. The decision whether to follow the ADVICE still stays with the recipient.

④ "INSTRUCTION"

This indicates that Tokyo MARTIS is instructing vessels to take a certain action, pursuant to the Act of Maritime Traffic Safety. The recipient has to follow this message unless he/she has contradictory safety reasons.

2 Type of information services within the information service area

Tokyo MARTIS provides following information within its information service area.

① A vessel with 50 meters and upward in length is navigating in Tokyo Bay applied the Act on Maritime Traffic Safety; and a vessel more than 500 tons gross tonnage is navigating in Chiba port and Keihin port, where applied the Act on Port Regulations; and the vessel navigating in the area described at Ⅵ３ (hereinafter referred to as a “specified vessel”), who are provided following information. (Message Marker: “INFORMATION” or “WARNING”)

a) information of the navigational rules when it is found that a specified vessel is likely to navigate not keeping the navigational rule in the area where the vessel should listen the information provided

b) information of occurrence of any impediment to safe navigation of a specified vessel such as a sunken vessel, functional disorder of aids to navigation, etc.

c) information of a sea area where a vessel has difficulty to navigate safely such as an area where any construction or work is underway, a very shallow water area, etc. , and in case that a specified vessel is likely to close in extremely on that area

d) information of a vessel, which has difficulty to keep out the way for other vessels and is likely to cause a serious peril to safe navigation of a specified vessel

e) information of a specified vessel which is found to close in extremely on any other specified vessel

f) any other information which is considered necessary for a specified vessel

② Any information referred in the preceding section ① a)~f), which Tokyo MARTIS considers necessary for a vessel which is equipped with AIS (except a specified vessel) (hereinafter referred to as an "AIS equipped vessel". (Message Marker "INFORMATION" or "WARNING")

③ Any navigational safety information which Tokyo MARTIS considers necessary for a vessel or requested by a vessel.（Message Marker: "INFORMATION")

3 A vessel should listen to information provided

Pursuant to the Act on Maritime Traffic Safety or the Act on Port Regulations, a specified vessel (except a vessel which is not equipped with VHF radiotelephone) while navigating in the sea area where a vessel should listen to information provided by Tokyo MARTIS and except when it is difficult to monitor using VHF radiotelephone.

4 ADVICE

① Provision of advice

Pursuant to the Act on Maritime Traffic Safety or the Act on Port Regulations, Tokyo MARTIS may provide advice to a specified vessel to take any necessary action such as altering the vessel's way and so forth, when it is found that such vessel is likely to navigate not keeping the navigational rules applied in the traffic routes or when it is found that a dangerous situation for such vessel such as risk of closing in on any other specified vessel or an obstruction, is likely to occur, and when Tokyo MARTIS considers necessary to have such vessel keep the navigational rules or avoid the dangerous situation.

In addition to VHF radiotelephone, advice may be conveyed by telephone, etc.

② Action of the vessel which receives advice

The vessel which receives advice should decide the action to keep the rule or to avoid the dangerous situation after considering the advice very carefully, getting the traffic image around the vessel and judging if any conflicting situation exists.

③ Request for report about vessel's action taken according to the advice

When it is considered necessary, Tokyo MARTIS may request for report from the vessel about the action taken according to the advice given.

5 INSTRUCTION

Instruction to a very large vessel, etc.

Tokyo MARTIS may provide instruction referred in Ⅴ 2 to a very large vessel, etc. by VHF radiotelephone. (Message Marker "INSTRUCTION")

① Instruction to stand by at outside of the traffic routes

i Instruction in the case of restricted visibility

Pursuant to the Act on Maritime Traffic Safety, Tokyo MARTIS may provide instruction to stand by at outside of the traffic routes in cases and to vessels

listed below in order to prevent dangerous situations for such vessels which are navigating or going to navigate through the Uraga-Suido Traffic route and/or the Nakanose Traffic route.

In addition to VHF radiotelephone, instruction may be conveyed by telephone, etc.

a) When visibility is more than 1,000 meters but not more than 2,000 meters

- A very large vessel
- A dangerous goods carrying vessel of 50,000 tons gross tonnage and upward (liquefied gas carrying vessels of 25,000 tons gross tonnage and upward)
- an object towing vessel, etc.

b) when visibility is not more than 1,000 meters

- A vessel of 160 meters and upward in length
- A dangerous goods carrying vessel of 10,000 tons gross tonnage and upward
- A long object towing vessel, etc.

ii Instructions to prevent danger

Pursuant to Act on Port Regulations, Tokyo MARTIS may instruct a vessel to wait outside of Yokohama passage in Keihin Ko, when it is found that such vessel likely to an obstruction to other vessel's safety navigation due to stuck movement or others, and such vessel likely to does not keep safety clearance to other vessel of 50 meters and to upward (except less than 500 tons gross tonnage) in the passage.

In addition to VHF radiotelephone, instruction may be conveyed by telephone, etc.

iii Action of the vessel which receives instruction

The vessel which receives instruction has to stand by at outside of the navigation passage until Tokyo MARTIS lifts the instruction.

② Instruction when may occur danger situation despite traffic signals

Tokyo MARTIS may instruct a master of vessel to change of ETA (ETD) to the passage, disposition of a forward lookout boat, other items considered necessary when it is found that a vessel likely to danger despite traffic signals are working in following passages; Chiba port (Chiba Passage and Ichihara Passage), passage of Keihin Ko (Tokyo East Passage, Tokyo West Passage, Tsurumi South Fairway, Tsurumi North fairway, Kawasaki Passage, Yokohama Passage (West Fairway, East Fairway)).

Ⅶ OTHER MEANS OF INFORMATION SERVICES

1 Automatic Identification System (AIS)

Tokyo MARTIS provides information which is necessary for safe navigation in the Tokyo Bay such as information on accidents, information on vessel traffic restriction, movements of navigating vessels, present state of weather conditions, any disorder of aids to navigation, present situation of fishing boats, etc., to vessels navigating in the AIS service area by making good use of communication function of AIS.

When any dangerous situation which may impede safe navigation of a vessel is found within AIS service area, such as heading for shallow water area and so forth, Tokyo MARTIS will provide information on such a dangerous situation whenever necessary by AIS.

2 Radio Broadcast

Tokyo MARTIS broadcasts the information on the traffic route entry schedule of large vessels, weather, sea, tidal current, etc., according to schedule and frequency explained below. Emergency information such as occurrence of collision and so forth is broadcast whenever necessary.

① Broadcast in Japanese

i Time : 0 ~ 15 minute and 30 ~ 45 minute in every hour

ii Frequency : 1,665 kHz

② Broadcast in English

i Time : 15 ~ 30 minute in every hour

ii Frequency : 2,019 kHz

3 Internet Homepage

Useful information is posted on the Internet home page of Tokyo MARTIS.

URL: http://www6.kaiho.mlit.go.jp/tokyowan/

Ⅷ IN CASE OF EMERGENCY DISASTER

In case of emergency disaster such as the issue of a Major Tsunami Warning in Tokyo Bay when there is a risk of danger to maritime traffic within Tokyo Bay, the commandant of the Japan Coast Guard notifies the fact that an emergency disaster has occurred, pursuant to the Act on Maritime Traffic Safety and the Act on Port Regulations.

When the notification is issued, following obligation is applied to the vessels.

1 A vessel should listen to Information provided and the sea area

Pursuant to the Act on Maritime Traffic Safety, in case of emergency disaster notification is issued, a vessel of 50 meters and upward navigates in the area applied to Act on Maritime Traffic Safety (herein after referred to as “the designated sea area”) or navigates in Chiba Port, Kisarazu Port, Yokosuka Port and Tateyama Port (herein after referred to as “the designated port”), shown in the below map; the vessel should listen to the information provided emergency disaster as following item ①～⑤, etc. (except a vessel does not equip with VHF radiotelephone.)

① information of emergency disaster and the occurring situation

② information of vessel traffic restriction and the area

③ information of occurrence of any impediment to safe navigation of a specified vessel such as sunken vessel, functional disorder of aids to navigation, etc.

④ information of a sea area where a specified vessel in the designated sea area or in the designated ports, the vessel has difficulty to navigate safely due to heavy congestion of anchoring vessels, a very shallow water area, or in case that a specified vessel in the designated sea area or designated port is likely to close in extremely on that area or obstacles

⑤ any other information which is considered necessary for a vessel traffic safety in the designated sea area or in the designated ports

2 Navigation Restrictions, etc.

Pursuant to the Act on Maritime Traffic Safety and the Act on Port Regulations, Tokyo MARTIS instructs a vessel; restriction of enter into the Tokyo Bay, restriction of the navigation, order to depart from the sea area, and order to move to the other sea area for avoiding vessel traffic danger.

If VHF radiotelephone Channel 16 is busy when calling Tokyo Wan Vessel Traffic Service Center (Tokyo MARTIS), use Channel 13 for calling.

3 Priority evacuation anchorage for large-size vessels*

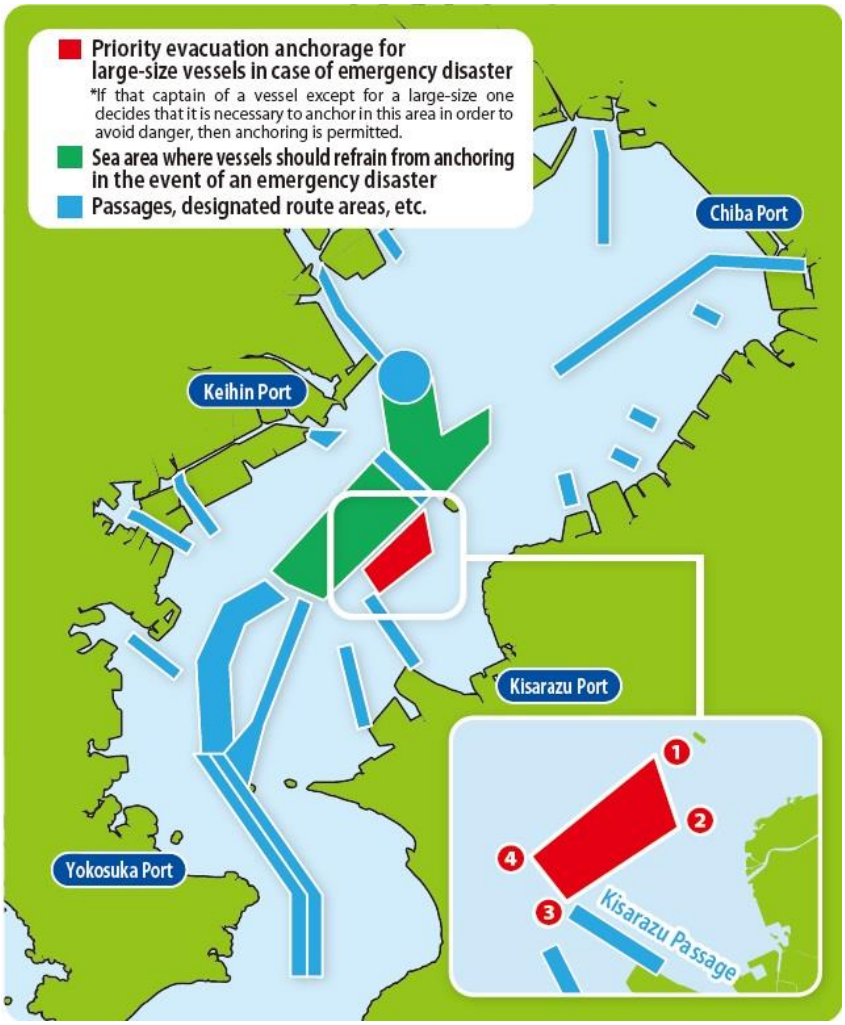
The sea off of Kisarazu is designated as the priority evacuation anchorage for large-size vessels (ships requiring tugboat assistance or on-board pilot), the

co-operation of other ships in avoiding this sea area is requested.

In addition, in order to ensure a traffic route for evacuating vessels, it is highly requested to refrain from anchoring in nearby passages or designated route areas.

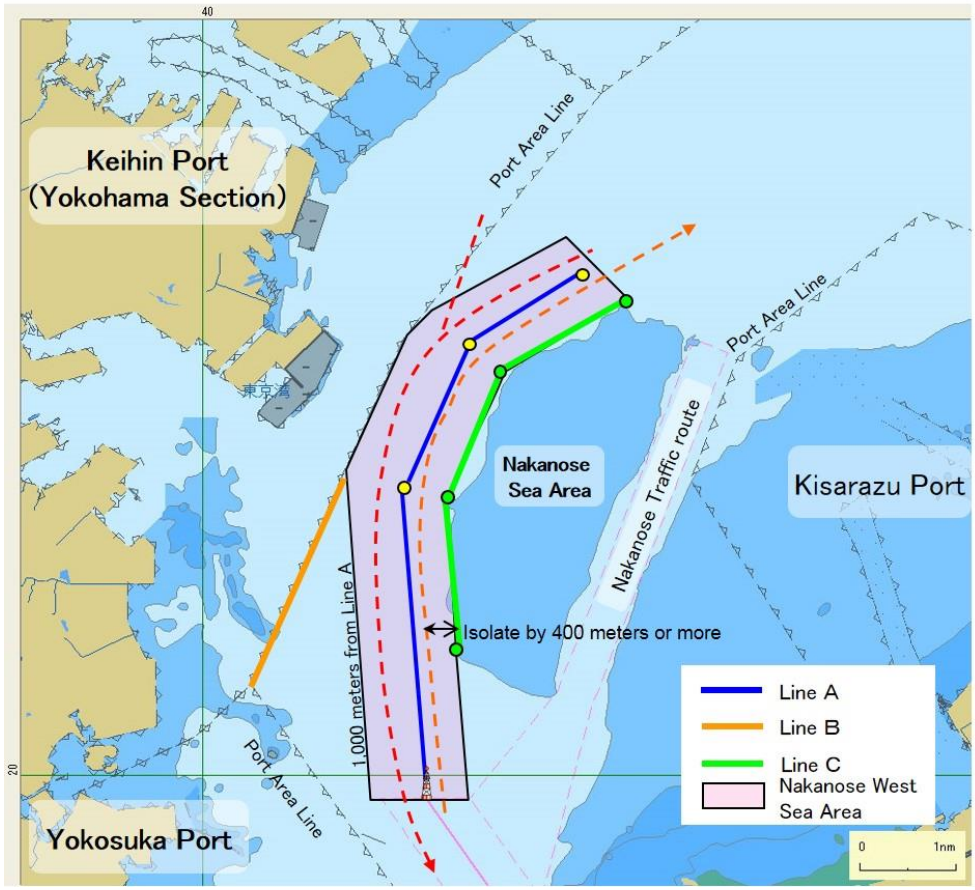
Priority evacuation anchorage for large-size vessels in case of emergency disaster area enclosed by the lines connecting each of the following points in sequence and the line connecting ❶ and ❹.

❶ N 35°27′25″ E 139°51′14″
❷ N 35°25′39″ E 139°52′00″
❸ N 35°23′54″ E 139°48′42″
❹ N 35°25′03″ E 139°47′40″



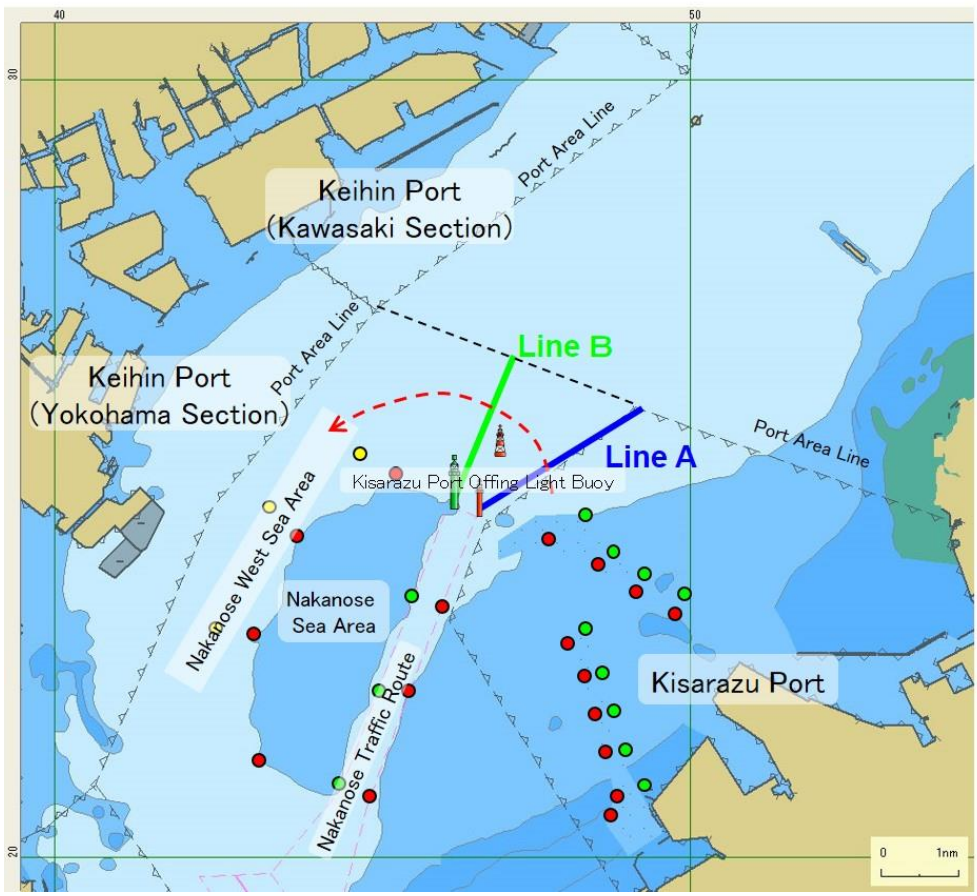
Nakanose West Sea Area

Fig. 1



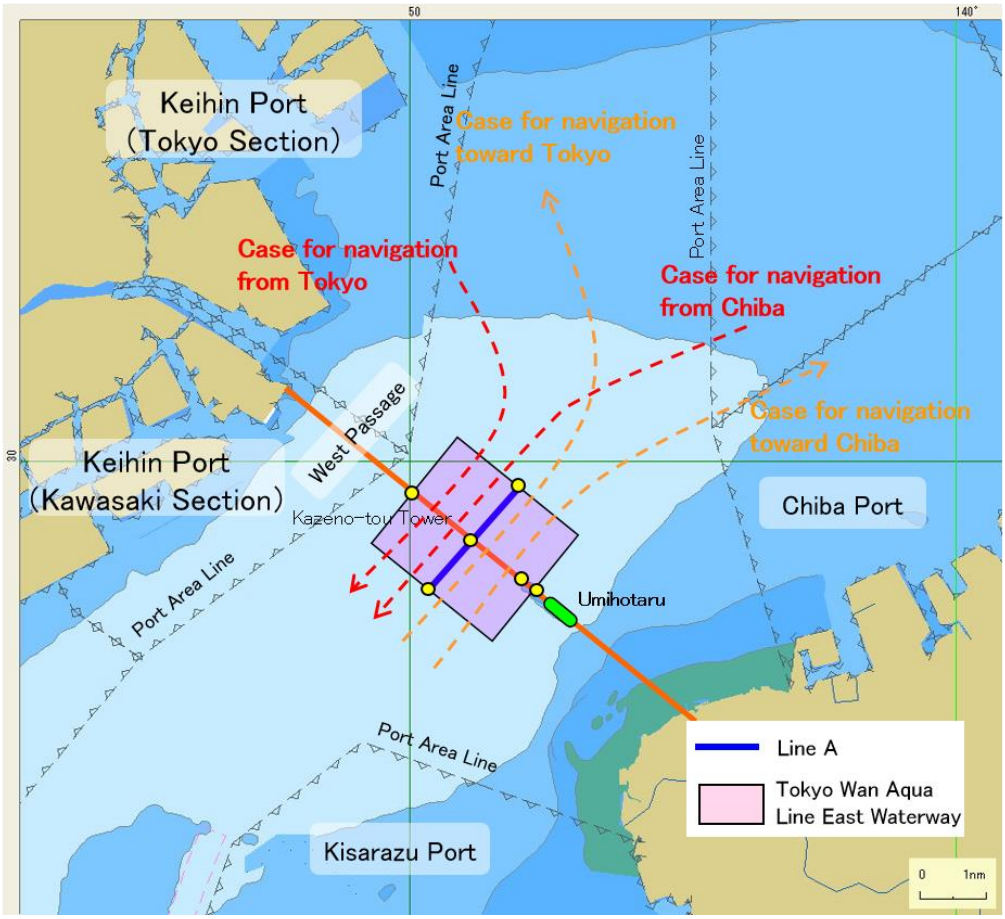
Sea area near the Kisarazu Port Offing Light Buoy

Fig. 2



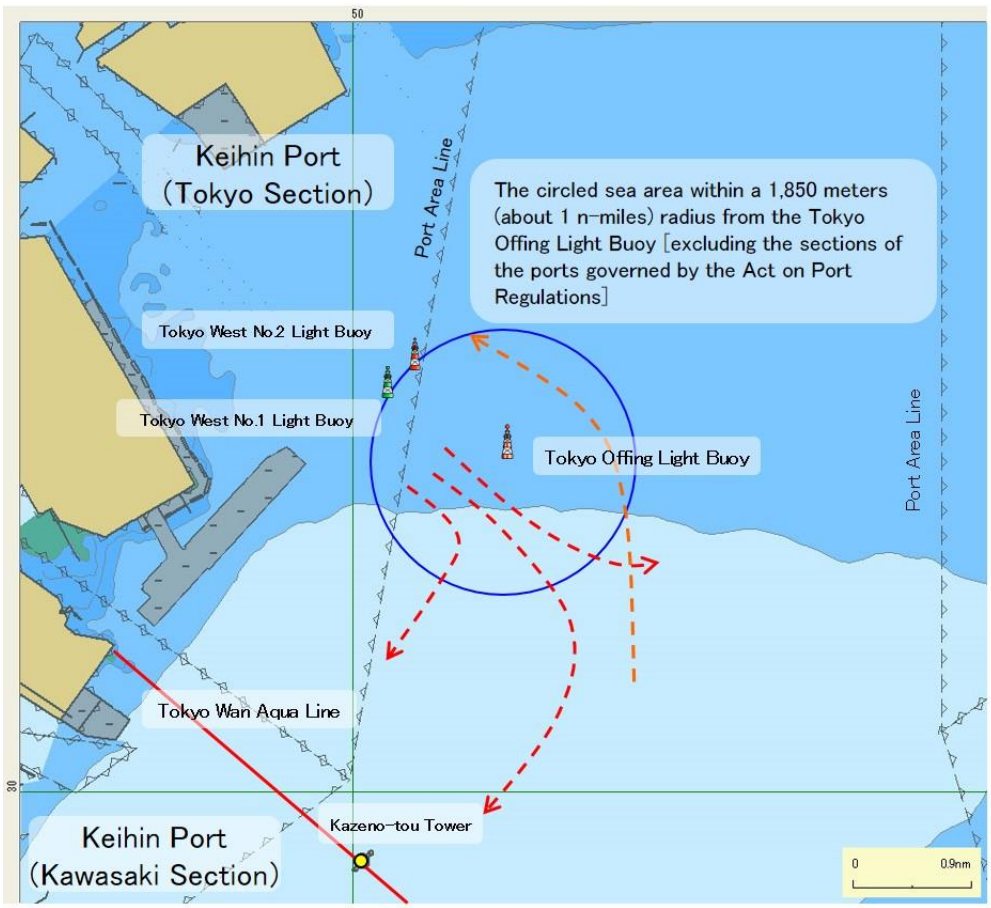
Sea area near Tokyo Wan Aqua Line East Waterway

Fig. 3



Sea area near Tokyo Offing Light Buoy

Fig. 4

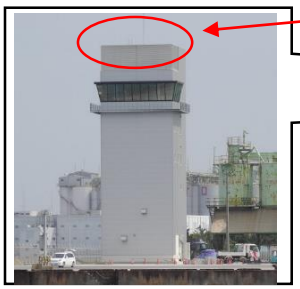


Type and Means of Signals in Chiba Port

Fig. 5

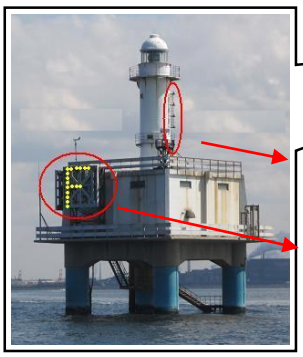
Pursuant to the Port Regulations Act, Chiba and Ichihara Passages in Chiba Port are regulated by traffic signals. When a vessel enter into or going out the passages, contact to Tokyo MARTIS and keep the traffic signals.

Traffic Signals and the Position



Flashing signals

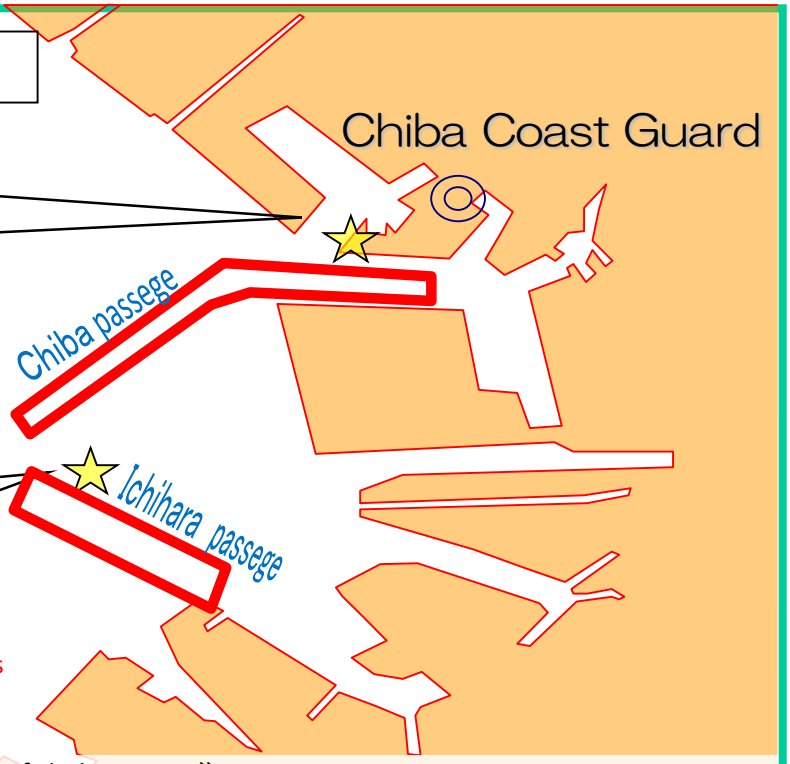
Chibachuoko S.S.



Chibatohyo S.S.

Flashing signals (Ichihara passage)

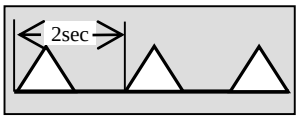
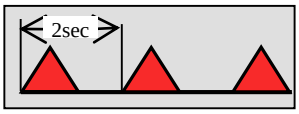
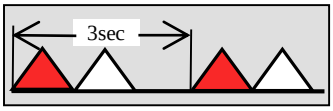
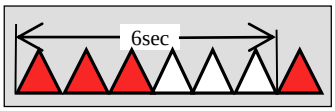
Electronic board signals (Chiba passage)



≪ Means of Flash Patterns≫

- Red Light is seen by arriving vessel ⇒ NOT proceed inbound
- White Light is seen by leaving vessel ⇒ NOT proceed outbound
- Alternate Flashing of Red and White ⇒ large vessels not proceed inbound

MEANING OF SIGNALS

	Electronic board pattern	Flash pattern	
Inbound signal	I Flashing	 A white flash for every 2sec.	◎ Inbound vessels is possible for the entry. ◎ Vessels of 50m or more (except less than 500G/T) are prohibited to enter. However, a vessel instructed by captain of the Chiba port is possible to the entry. ◎ Vessels less than 50m or 500 G/T is possible to enter.
Outbound signal	O Flashing	 A red flash for every 2sec.	◎ Outbound vessels is possible for the entry. ◎ Vessels 50 m or more (except less than 500G/T) are prohibited to enter. However, a vessel instructed by captain of the Chiba port is possible to the entry. ◎ Vessels less than 50m or 500 G/T is possible to enter.
Free signal	F Flashing	 A red white flash for every 3sec.	◎ Vessels of 140m or more in Chiba passage, 125m or more in Ichihara passage, tanker of 1,000 G/T or more in both passages, are prohibited to enter and depart. ◎ All other vessels are possible for the entry.
Prohibition signal	X Continuously lit	 Three red and white flashes for every 6sec.	◎ Prohibit to navigate unless instructed by the Captain of the Port.

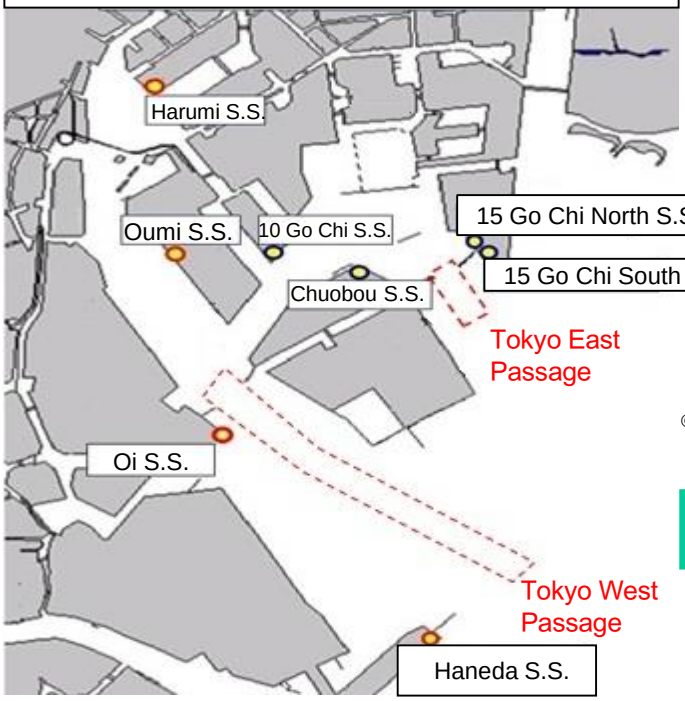
©JCGA

When you call Tokyo Wan VTS Center by VHF, add the word "Tokyo MARTIS Chiba" once, before you start the VHF communication to the Tokyo MARTIS.

Type and Means of signals in Tokyo East Passage

Fig. 6

Traffic Signals and the Position



Pursuant to the Port Regulations Act, Tokyo East Passage and Tokyo West Passage in Keihin Port are regulated by traffic signals. When a vessel enter into or going out the passage, contact to Tokyo NARTIS and keep the traffic signals.

When you call Tokyo Wan VTS Center by VHF, add the word "Tokyo MARTIS Tokyo" once, before you start the VHF communication to the Tokyo MARTIS.

TOKYO EAST PASSAGE MEANING OF SIGNALS

NAME of SIGNAL STATIONS
15 Go Chi North, 15 Go Chi South, Chuobou, 10 Go Chi

Inbound signal	I Flashing	◎ Inbound vessels is possible for the entry. ◎ Vessels 50m or more (except less than 500G/T) are prohibited to depart. However, a vessel instructed by the captain of Keihin port is possible to depart. ◎ Vessels less than 50m or 500 G/T is possible to depart.
Outbound signal	O Flashing	◎ Outbound vessels is possible for the entry. ◎ Vessels 50m or more (except less than 500G/T) are prohibited to enter. However, a vessel instructed by the captain of Keihin port is possible for the entry. ◎ Vessels less than 50m or 500 G/T is possible for the entry.
Free signal	F Flashing	◎ Vessels of 150m and upward (for oil tanker: 1,000G/T) are prohibited both entering and leaving the port. ◎ Vessels less than 150m (for oil tanker: 1,000G/T) are possible to entering and leaving the port.
Prohibition signal	X Continuously lit	◎ Prohibited to navigate unless instructed by the Captain of the Port.

Electronic board pattern

Forthcoming signals

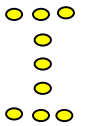
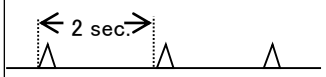
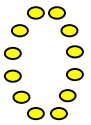
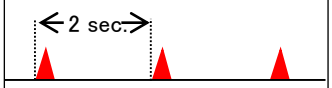
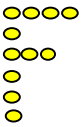
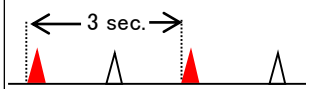
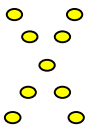
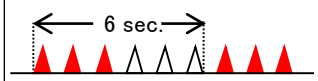
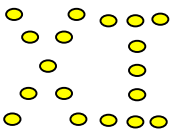
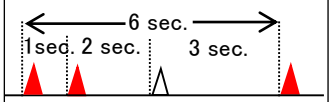
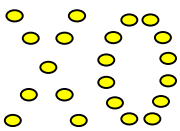
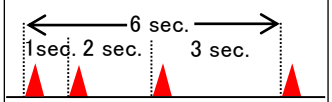
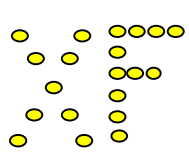
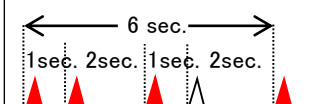
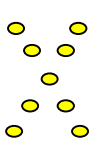
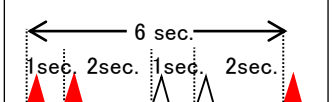
XI Alternately Flashing	Signal turns into Flashing of "I" soon	◎ Navigation vessel in the passage can enter or leave.
XO Alternately Flashing	Signal turns into Flashing of "O" soon	◎ Enter or outer vessels, of 50m and upward, should avoid the way of the vessel navigating in the passage and wait outside the passage (except less than 500 G/T)
XF Alternately Flashing	Signal turns into Flashing of "F" soon	◎ A vessel less than 50m or 500 G/T are possible to enter or going out the passage.
X Alternately Flashing	◎Vessels navigating in the passage is able to enter or leave the passage. ◎ All vessels outside the passage should give a way to a vessel navigating in the passage and wait outside the passage. ◎ The signal turns into light of "X" soon.	

Type and Means of signals in Tokyo West Passage

Fig. 7

TOKYO WEST PASSAGE
MEANING OF SIGNALS

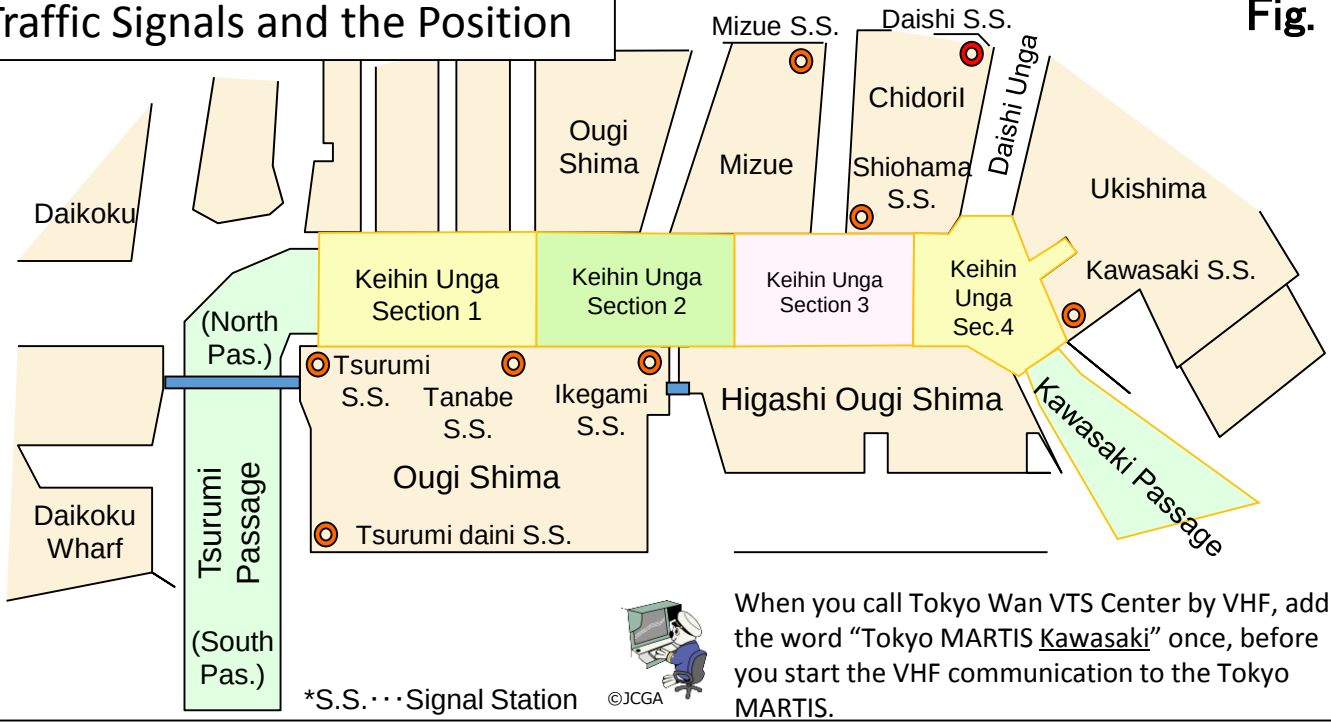
(Abbreviation of COP is Captain of the Port)

Signal Station	Oi , Oumi , Harumi , Signal Station		Haneda Signal Station	
	Signal Type: letter	Meaning	Signal Type: flash light	Meaning
Inbound Signal	 Flashing	・Inbound vessel : entry ・Vessels of 100 m or more: prohibited to entry, except instructed vessel by COP ・Vessel less than 100 m: possible to entry	 1 White light flashing in every 2 seconds	・Inbound vessel : entry ・Vessels of 100 m or more: prohibited to entry, except instructed vessel by COP ・Vessel less than 100 m: possible to entry
Outbound Signal	 Flashing	・Outbound vessel : entry ・Vessels 100 m or more: prohibited to entry except instructed vessel by COP ・Vessels less than 100 m: entry.	 1 Red light flashing in every 2 seconds	・Outbound vessel : entry ・Vessels 100 m or more: prohibited to entry except instructed vessel by COP ・Vessels less than 100 m: entry.
Free Signal	 Flashing	・Vessels of 300 m or more: prohibited to entry (Oil tanker: 5,000 G/T or more) ・Vessels less than 300 m: entry (Oil tanker: less than 5,000 G/T)	 3 times sequent flashing of Red & White in every 3 seconds	・Vessels of 300 m or more: prohibited to entry (Oil tanker: 5,000 G/T or more) ・Vessels less than 300 m: entry (Oil tanker: less than 5,000 G/T)
Prohibition Signal	 Continuously lit	・Prohibited to navigate unless instructed by the Captain of the Port.	 3 times sequent flashing of Red & White in every 6 seconds	Prohibited to navigate unless instructed by the Captain of the Port.
Forthcoming Signals	 Alternately Flashing	・Sailing vessels in the passage: entry ・Vessels of 100m or more in outside the passage: avoid sailing vessel in the passage and wait outside, except instructed vessel by COP ・Vessels less than 100 m: entry ・The signal to be blink “I” soon.	 2 times Red light & 1 time White light flashing sequent in every 6 seconds (flashing interval is 1-2-3 second in sequential order)	・Sailing vessels in the passage: entry ・Vessels of 100m or more in outside the passage: avoid sailing vessel in the passage and wait outside, except instructed vessel by COP ・Vessels less than 100 m: entry ・Signals turns 1 white flash in every 2 sec soon.
	 Alternately Flashing	・Vessels in the passage: entry ・Vessels of 100m or more in outside the passage: avoid sailing vessel in the passage and wait outside, except instructed vessel by COP ・Vessels less than 100 m: entry ・The signal to be blink “o” soon.	 2 times Red light & 1 time Red light flashing sequent in every 6 seconds (flashing interval is 1-2-3 second in sequential order)	・Vessels in the passage: entry ・Vessels of 100m or more in outside the passage: avoid sailing vessel in the passage and wait outside, except instructed vessel by COP ・Vessels less than 100 m: entry ・The signal turns 1 red flash in every 2 sec soon.
	 Alternately Flashing	・Vessels in the passage: entry ・Vessels of 100m or more in outside the passage: avoid sailing vessel in the passage and wait outside, except instructed vessel by COP ・Vessels less than 100 m: entry ・The signal to be blink “F” soon.	 2 Red lights & 1 time Red & White flashing sequent in every 6 seconds (flashing interval is 1-2-1-2 sec. in sequential order)	・Vessels in the passage: entry ・Vessels of 100m or more in outside the passage: avoid sailing vessel in the passage and wait outside, except instructed vessel by COP ・Vessels less than 100 m: entry ・Signal turns 1 red and 1 white flash in every 3 sec soon.
	 Flashing	・Vessels in the passage: entry ・All vessels outside the passage: avoid vessels in the passage and wait outside the passage. ・The signal to be continuous lit “X” soon.	 2 Red lights & 2 White flashing sequent in every 6 seconds (flashing interval is 1-2-1-2 sec. in sequential order)	・Vessels in the passage: entry ・All vessels outside the passage: avoid vessels in the passage and wait outside the passage. ・Signal turns 3 red and 3 white flash in every 6 sec soon.

Type and Means of signals in Kawasaki

Traffic Signals and the Position

Fig. 8



When you call Tokyo Wan VTS Center by VHF, add the word "Tokyo MARTIS Kawasaki" once, before you start the VHF communication to the Tokyo MARTIS.

＊ OBJECT VESSELS --- Vessels more than 1,000 G/T (X signal is applicable for all vessels.)

＊ ONE WAY --- Vessels more than 1,000 G/T should enter into Keihin Unga from Tsurumi Passage and leaving from Kawasaki Passage as the one way in principle.

＊ Prohibition of overtaking --- Vessels are prohibited from overtaking in the Passage. (Kawasaki and Tsurumi Passage.)

･･ It is prohibited that the vessel overtakes within the areas of Kawasaki Ku Section 1 and Yokohama Ku Section 4 (in the Keihin Unga) with exception of following cases:

・When it is not necessary to take the movement to pass other vessels safely.

・When the course of other vessels is avoided safely.

＊ Prohibition of Passing-– Vessels more than 500 G/T are not permitted passing through in Keihin Unga.

＊ Prohibition of Westbound -– Vessels more than 1,000 G/T are prohibited to navigate to the Westbound crossing over the boundary of Keihin Unga Section 2 and Section 3.

＊ Prohibition of Turning --- Vessels more than 1,000 G/T are prohibited to turning in Keihin Unga during the period of time 06:00 – 09:00.

＊ All vessels should wait outside the Passage or fairway as following conditions:

・ When a vessel more than 15,000 G/T navigates on Tsurumi North Passage or Kawasaki Passage.

At the time of entering to Tsurumi North Passage --- X signal ･･･ Keihin Unga Section 1

At the time of leaving from Tsurumi North Passage --- X signal ･･･ Tsurumi North Fairway

At the time of entering to Kawasaki Passage --- X signal ･･･ Keihin Unga Section 4

At the time of leaving from Kawasaki Passage --- X signal ･･･ Kawasaki Passage.

"I" Flashing --- Inbound signal as able to enter the passage (Kawasaki, Tsurumi Passage)

"O" Flashing --- Outbound signal as able to going out the passage (Kawasaki, Tsurumi Passage)

"T" Flashing --- Westbound signal as able to proceed West and going out from branch canal*.

"T" Continuously lit --- Westbound signal as able to proceed West and enter into branch canal*.

"K" Flashing --- Eastbound signal as able to proceed East and going out from branch canal*.

"K" Continuously lit --- Eastbound signal as able to East and enter into branch canal*.

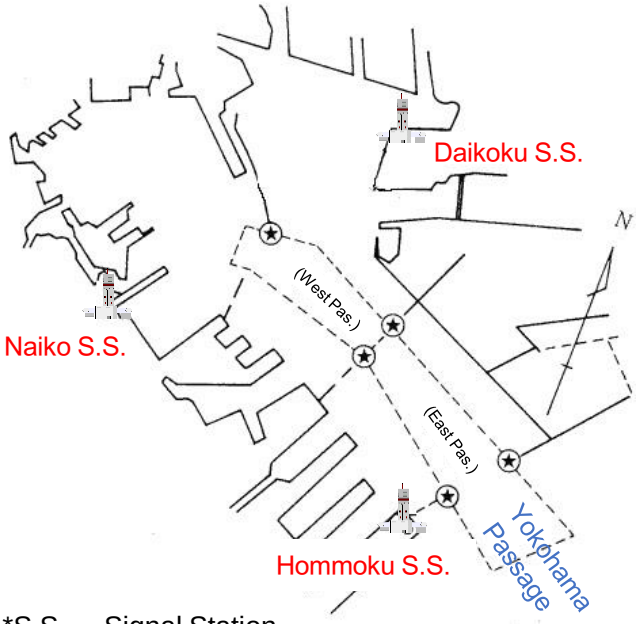
"X" Flashing --- Attention signal: Vessels navigating within Passage and Keihin Unga Areas are permitted for entering and leaving the port. Vessels outside the above mentioned are prohibited to enter the passages. However, when a vessel can see the signal I, T, K, is able to proceed. (Tsurumi North Passage, Kawasaki Passage, Keihin Unga Section1 and Section 4.)

"X" Continuously lit --- Prohibition signal : all vessels are prohibited without permission of Captain of the Port. However, when a vessel can see the signal I, T, K, is able to proceed. (Tsurumi North fairway, Kawasaki Passage, Keihin Unga Section 1 and 4.)

*Branch Canal ･･･ Keihin Unga Section1 ～ 4

Type and Means of signals in Yokohama

Fig. 9



*S.S.･･･Signal Station

Pursuant to the Port Regulations Act, Keihin Ko Yokohama Ku (West and East Passage) are regulated by traffic signals. When a vessel enter into or going out the passages, contact to Tokyo MARTIS and keep the traffic signals.
A vessel crossing the Yokohama passage is not applied the traffic signals without prohibition “X”.
Then such vessel is able to cross the passage does not depend on the traffic signals, however strongly requested to cross the passage under the traffic signal as “F” (Free signal).


©JCGA

When you call Tokyo Wan VTS Center by VHF, add the word “Tokyo MARTIS Yokohama” once, before you start the VHF communication to the Tokyo MARTIS.

YOKOHAMA PASSAGE MEANING OF SIGNALS

Inbound signal	I Flashing	◎ Inbound vessels is possible for the entry. ◎ Vessels 50m or more (except less than 500G/T) are prohibited to depart
Outbound signal	O Flashing	◎ Outbound vessels is possible for the entry. ◎ Vessels 50m or more (except less than 500G/T) are prohibited to enter.
Free signal	F Flashing	◎ Vessels 160m or more(for oil tanker: more than 1,000G/T) are prohibited both entering and leaving the port. ◎ Vessels other than the above conditions are possible to entering and leaving the port.
Prohibition signal	X Continuously lit	◎ Prohibited to navigate unless instructed by the Captain of the Port.

Electronic board pattern

Forthcoming signals

XI Alternately Flashing	Signal turns into Flashing of “I” soon
XO Alternately Flashing	Signal turns into Flashing of “O” soon
XF Alternately Flashing	Signal turns into Flashing of “F” soon

◎ Vessels in the passage can enter and leave the port.
◎ Vessels more than 50m and outside of the passage (except less than 500 G/T) should avoid the course of the sailing vessel in the passage and wait outside the passage.

X Alternately Flashing	◎ Navigation vessel in the passage can enter and leave the port. ◎ All vessels in outside the passage should avoid the course of the sailing vessel in the passage and wait outside the passage. ◎ The signal turns into light of “X” soon.

1 Signals showing course by AIS

From July first 2010, Act on Port Regulations and Act on Maritime Traffic Safety was amended and then procedures of input AIS data concerned the destination as compulsory duty on board. A master of vessel equipped with AIS is requested to understand this procedure and operate it adequately.

Input data

[Input codes of destination to AIS]

For those ships navigate in the port concerned or in the vicinity or boundary of the destination port applied Act on Port Regulations (except a vessel not equipped AIS), a master of vessel should input the code indicating destination port to the AIS.

[Additional codes indicating the course in the port or vicinity, if required.]

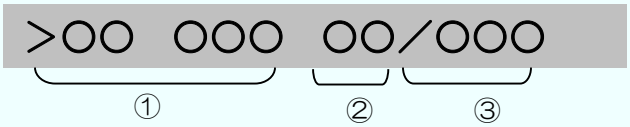
When a vessel anchor in the port or vicinity of the boundary, add the codes of anchoring.
(The code of anchoring is "OFF" which is the same to all ports.)

[Additional codes indicating the passing route, if necessary.]

It is necessary for passing the route, add the code adequately.

[Entry Examples] (IMO recommendation)

Column for Information on Destination of AIS



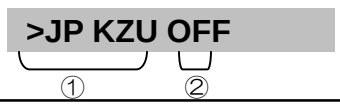
① code of the destination port
② code of in port of the course
③ code of other courses

* When the final port is applied Act on Port Regulations, input the codes defined by the Act, (If the port is not applied the Act, input the U.N. LO Code.)
* If the final port name is unknown, enter " ?? ???" instead of the UN LO Code.
* If the final port does not have the UN LO Code, or if the UN LO Code of the final port is unknown, enter the English name which is generally accepted of the final port as follow the mark of "===". If such English name is unknown, enter the name used in that area.

[Example] The destination is Yokohama Ku, Keihin Port. The vessel proceed to berth in Mizuho, Shinko Futo in Yokohama Ku.

① The destination is Yokohama Ku, Keihin Port.
② Heading for the berthing facility in Mizuho / Shinko, the destination port.

[Example] The destination is Kisarazu Port (JP KZU). The vessel will anchor boundary of the port before the entering.



① The destination is Kisarazu Port.
② The vessel will anchor boundary of the port before the entering.

[Example] The destination is Section 4 Chiba Port (JP ANE) .

>JP ANE

①

① The destination is Section 4, Chiba Port,

※Port of Chiba has three CODES.
Section 4 : (JP ANE), Katsunan : (JP FNB) , the others : (JP CHB)

[Example] The destination is Hakata Port (JP HKT) Section 2 and proceed to berth of Section 2 in Hakata Port.
The vessel proceeds eastbound Mutsurejima passing west entrance of Kanmon Port (Strait).

>JP HKT E2／WM

① ② ③

① The destination is Hakata Port.
② In the destination port, proceed to the berth of Section 2.
③ The vessel proceeds eastbound of Kanmon port on the way.

[Example] The destination is Keihin Port (Yokohama Ku). The vessel will anchor on her way at Nakanose sea area in Tokyo Bay. (In the port, the vessel will proceed to the pier of East Japan Works of JFE Steel corporation in Section 3.)

>JP YOK K／NNX

① ②

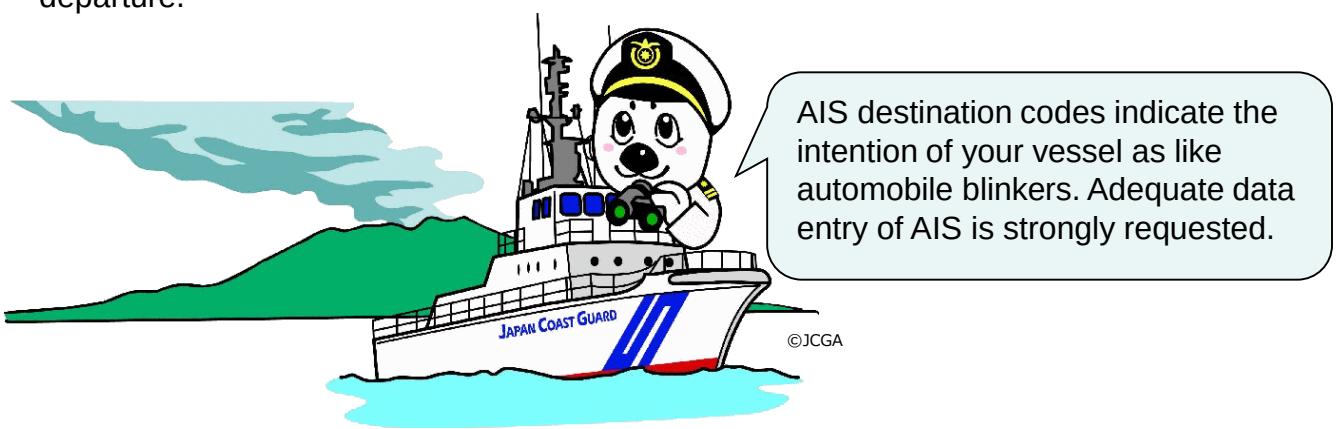
① The destination is Yokohama Port.
② The vessel proceed to the berth of JFE steel in the port.
③ The vessel anchors at the Nakanose sea area in Tokyo Bay on her way.

NOTICE

Destination information by AIS is quite useful to inform around vessels of her course in sea are, even not applied Act on Port regulations and Act on Maritime Traffic Safety.

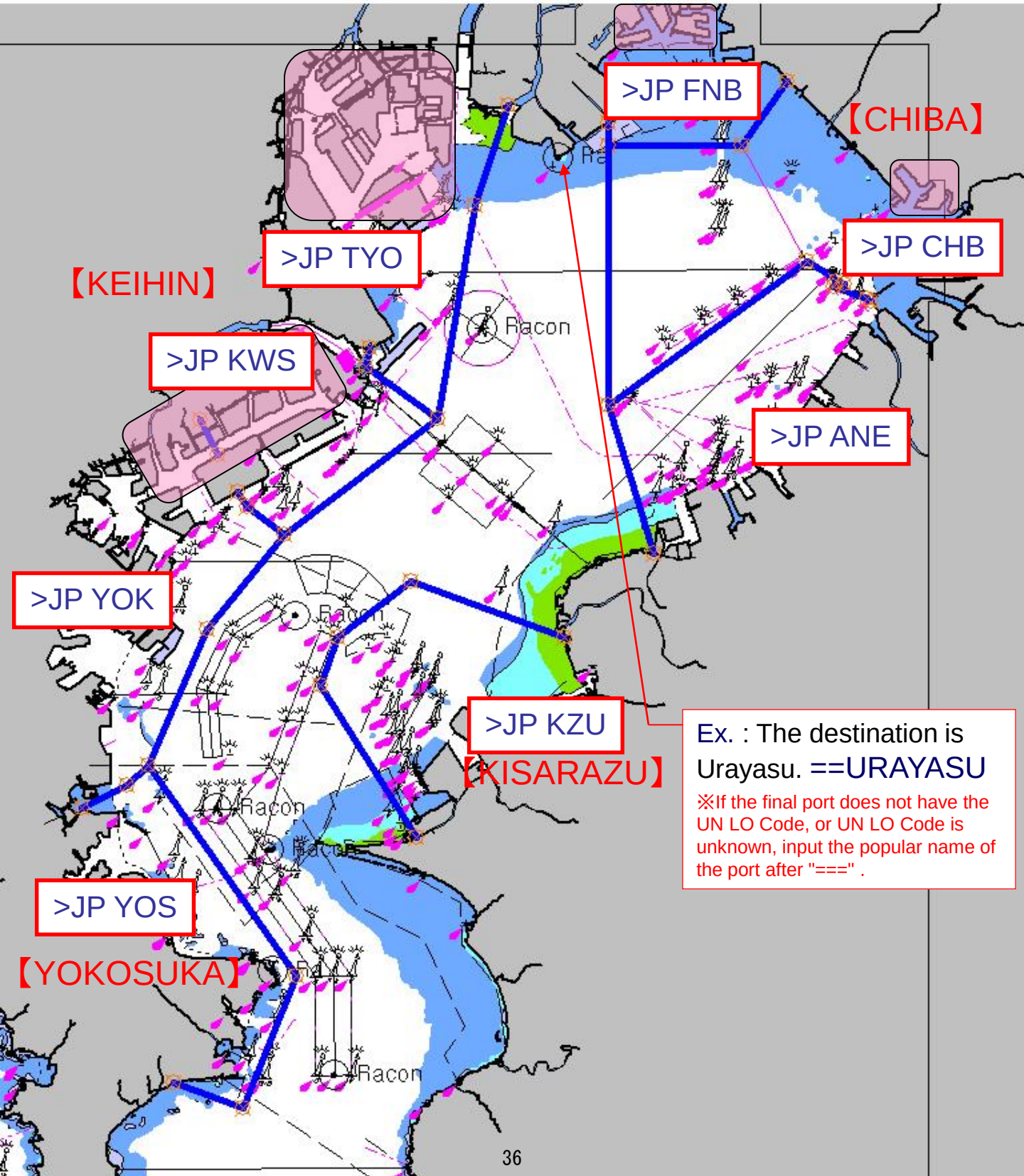
A master of vessel highly requested to input the destination data of AIS in early enough, which will not impede the look out, etc. while entering traffic route applied Act on Maritime Traffic Safety and entering port applied Act on Port Regulations.

It is convenient to input the data of destination port and planned courses before the departure.

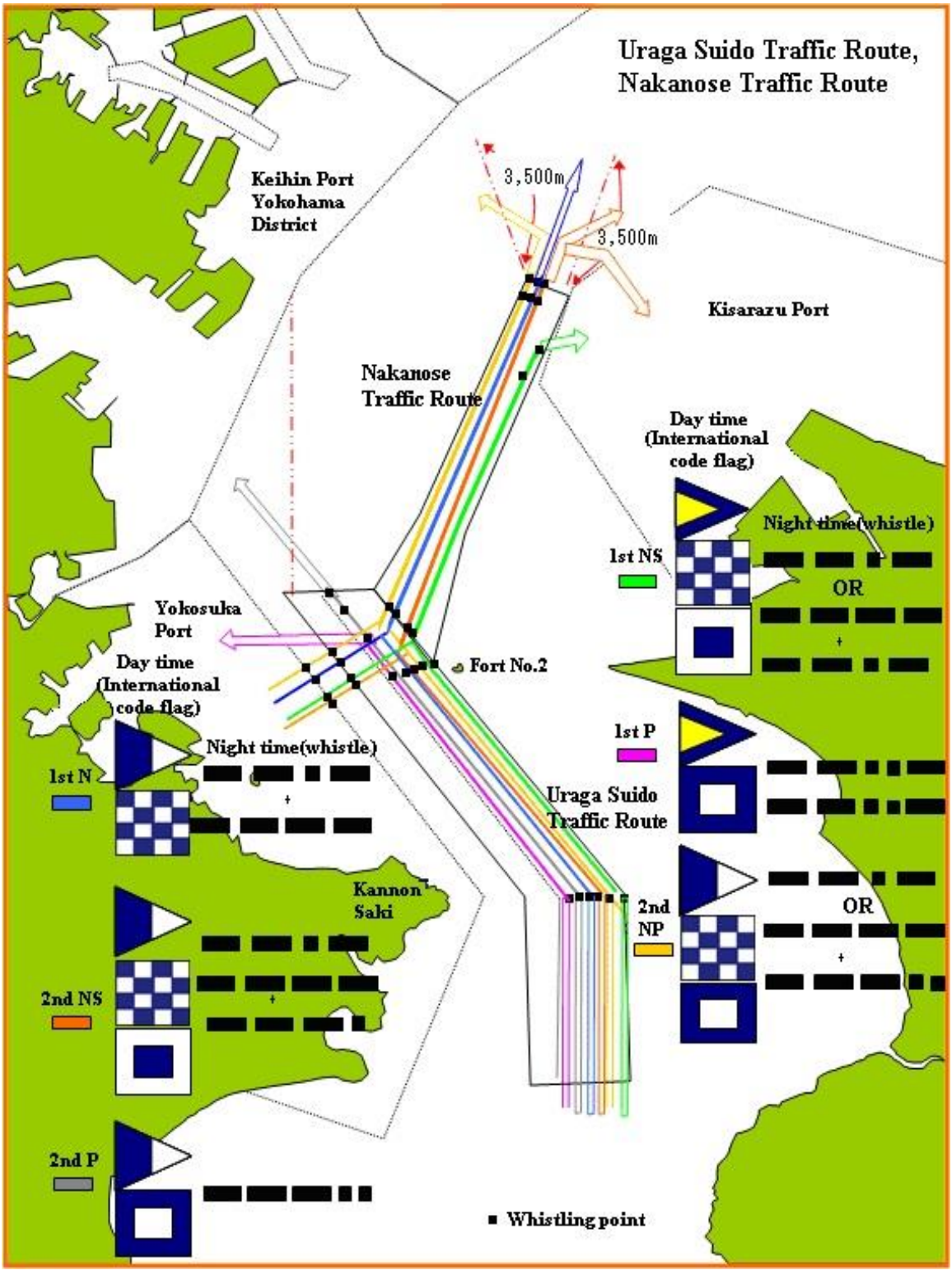


This map shows example of AIS destination codes in Tokyo Bay, Chiba, Keihin, Kisarazu and Yokosuka, which ports are applied Act on Port Regulations. Regarding these port, there are 8 ports codes due to Keihin Ko (Tokyo Ku and Kawasaki Ku and Yokohama Ku) and Chiba Port (Katsunan Ku, Section 4 and the others).

At the time of entry, input the Port Code after the symbol of “＞”, which inform around vessel of your destination port even outside of Tokyo Bay.

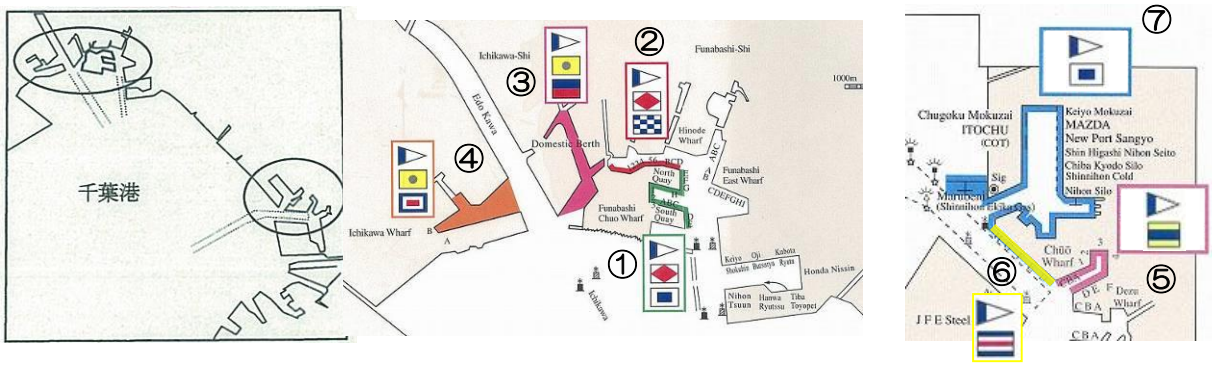


2 Signals showing course at Uraga Suido , Nakanose Traffic Route by International Flags and Whistle



3　Signals showing by AIS and international Flags　in Tokyo Bay

（1）Chiba　Port



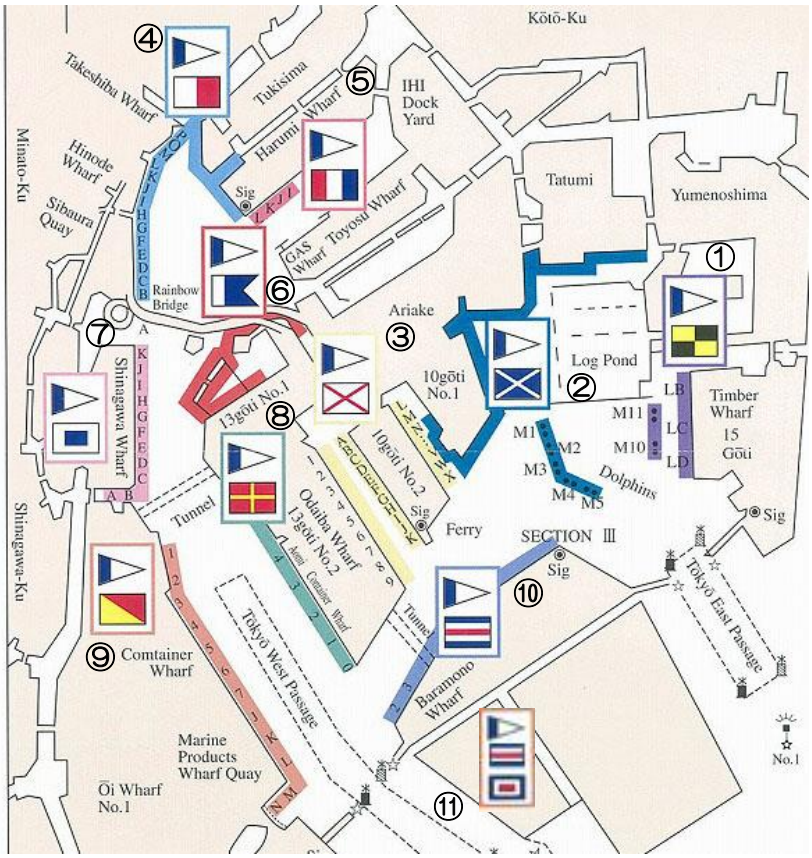
Port		CODE	Course Signal of International Signal Frags		In－port Course Code	Ex.
CHIBA	No. 4 Sec.. (ANEGASAKI・SODEGAURA)	JP ANE	－			＞JP ANE
	KATSUNAN	JP FNB	①	2nd Sub.・F・S	FS	＞JP FNB FS
			②	2nd Sub・F・N	FN	＞JP FNB FN
			③	2nd Sub・I・W	IW	＞JP FNB IW
			④	2nd Sub・I・E	IE	＞JP FNB IE
			Purposes other than stated Above course in the port		XX	＞JP FNB XX
	No. 1,2,3 Sec.	JP CHB	⑤	2nd Sub・D	D	＞JP CHB D
			⑥	2nd Sub・C	C	＞JP CHB C
			⑦	2nd Sub・S	S	＞JP CHB S

AIS CODE is the same as International Signal Flags.

Please insert a space between words.

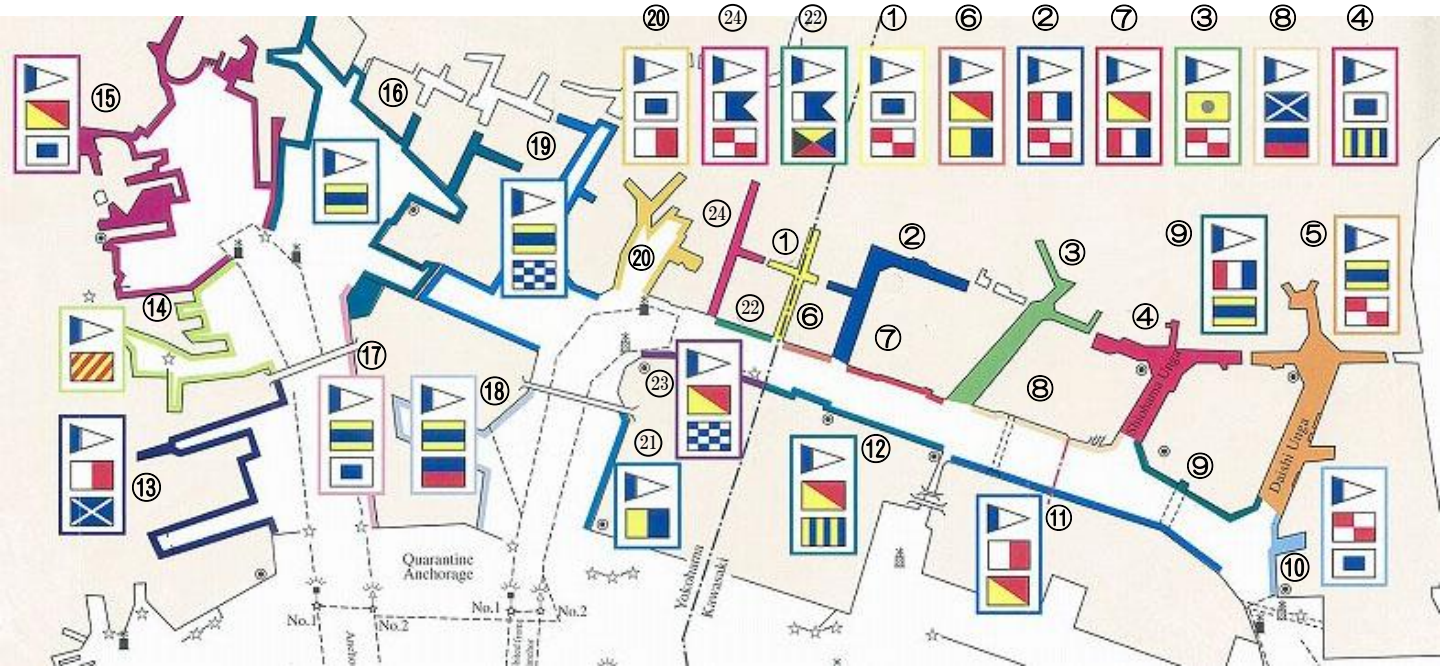
（2）Tokyo

（Keihin ko）



Port		CODE	Course Signal of International Signal Frags	In－port Course Code	Ex.
KEIHIN	TOKYO	JP TYO	① 2nd Sub・L	L	>JP TYO L
			② 2nd Sub・M	M	>JP TYO M
			③ 2nd Sub・V	V	>JP TYO V
			④ 2nd Sub・H	H	>JP TYO H
			⑤ 2nd Sub・T	T	>JP TYO T
			⑥ 2nd Sub・A	A	>JP TYO A
			⑦ 2nd Sub・S	S	>JP TYO S
			⑧ 2nd Sub・R	R	>JP TYO R
			⑨ 2nd Sub・O	O	>JP TYO O
			⑩ 2nd Sub・C	C	>JP TYO C
			⑪ 2nd Sub・CW	CW	>JP TYO CW
			Purposes other than stated Above course in the port	XX	>JP TYO XX

(3) Kawasaki , Yokohama (Keihin ko)



Port		CODE	Course Signal of International Signal Frags	In－port Course Code	Ex.
KEIHIN	KAWASAKI	JP KWS	① 2nd Sub・S・U	SU	>JP KWS SU
			② 2nd Sub・T・U	TU	>JP KWS TU
			③ 2nd Sub・I・U	IU	>JP KWS IU
			④ 2nd Sub・S・G	SG	>JP KWS SG
			⑤ 2nd Sub・D・U	DU	>JP KWS DU
			⑥ 2nd Sub・O・K	OK	>JP KWS OK
			⑦ 2nd Sub・O・T	OT	>JP KWS OT
			⑧ 2nd Sub・M・E	ME	>JP KWS ME
			⑨ 2nd Sub・T・D	TD	>JP KWS TD
			⑩ 2nd Sub・U・S	US	>JP KWS US
			⑪ 2nd Sub・H・O	HO	>JP KWS HO
			⑫ 2nd Sub・O・G	OG	>JP KWS OG
			Purposes other than stated Above course in the port	XX	>JP KWS XX

Port		CODE	Course Signal of International Signal Frags	In－port Course Code	Ex.
KEIHIN	YOKOHAMA	JP YOK	⑬ 2nd Sub・H・M	HM	>JP YOK HM
			⑭ 2nd Sub・Y	Y	>JP YOK Y
			⑮ 2nd Sub・O・S	OS	>JP YOK OS
			⑯ 2nd Sub・D	D	>JP YOK D
			⑰ 2nd Sub・D・S	DS	>JP YOK DS
			⑱ 2nd Sub・D・E	DE	>JP YOK DE
			⑲ 2nd Sub・D・N	DN	>JP YOK DN
			⑳ 2nd Sub・S・H	SH	>JP YOK SH
			㉑ 2nd Sub・K	K	>JP YOK K
			㉒ 2nd Sub・A・Z	AZ	>JP YOK AZ
			㉓ 2nd Sub・O・N	ON	>JP YOK ON
			㉔ 2nd Sub・A・U	AU	>JP YOK AU
			① 2nd Sub・S・U	SU	>JP YOK SU
			Purposes other than stated Above course in the port	XX	>JP YOK XX
			* NEGISHI	XX	>JP YOK XX NGI
			* MINAMI-HOMMOKU	XX	>JP YOK XX SHN
			* HOMMOKU	XX	>JP YOK XX HNN

If final port is Negishi or Minami-Hommoku or Hommoku , please enter the In-Port course CODE.

4 Via-Route CODE in Tokyo Bay

Via-Route	CODE	Example of Input
The ship anchors in the Nakanose sea area in Tokyo Bay on its way.	NNX	>JP YOK K/NNX Those ships whose final port Yokohama. Those ships that are going to anchor in the Nakanose sea area in Tokyo Bay.

Please insert "／" before Via-Route CODE. Ex： K／NNK

Table of Input Codes to AIS

AISへの入力コード表

List of Port Codes (in the order of port name)
・適用港の港コード一覧表（港名順）

List of Codes showing the courses in port
・港内での進路を示すコード一覧表

List of Codes showing other courses
・経由進路を示すコード一覧表

<Notice>
・Adequate entry of data into AIS leads to improvement in ship safety while sailing. Please be sure of to enter the data properly.
・When leaving the port, please enter the data as soon as possible.

<お願い>
・AISの適正入力は船舶航行の安全性向上につながります、適切な入力をお願いします。
・出航前等、できる限り、早期の入力をお願いします。

適用港の港コード一覧表（港名順）
List of Port Codes (in the order of port name)

入力時：コード入力前に「＞」を入力してください。
「＞」が入力できない場合は「TO」と入力してください。

At the time of entry : Enter 「＞」 before proceeding to entry.
In case of can not enter 「＞」, enter 「TO」 to make up it.

港名（都道府県名）	PORT（DISTRICT）	コード／CODE
網走（北海道）	ABASHIRI（HOKKAIDO）	JP ABA
油津（宮崎県）	ABURATSU（MIYAZAKI）	JP NIC
安下庄（山口県）	AGENOSYO（YAMAGUCHI）	JP AGN
相浦（長崎県）	AINOURA（NAGASAKI）	JP AIN
秋穂（山口県）	AIO（YAMAGUCHI）	JP AII
相生（兵庫県）	AIOI（HYOGO）	JP AIO
合津（熊本県）	AIZU（KUMAMOTO）	JP AIZ
鰺ケ沢（青森県）	AJIGASAWA（AOMORI）	JP AJK
味野（岡山県）	AJINO（OKAYAMA）	JP AJN
網代（静岡県）	AJIRO（SHIZUOKA）	JP AJR
網代（鳥取県）	AJIRO（TOTTORI）	JP AZJ
赤碕（鳥取県）	AKASAKI（TOTTORI）	JP ASK
明石（兵庫県）	AKASHI（HYOGO）	JP AKA
秋田船川（秋田県）	AKITAFUNAGAWA（AKITA）	JP AFG
安芸津（広島県）	AKITSU（HIROSHIMA）	JP AKT
鮎川（宮城県）	AYUKAWA（MIYAGI）	JP AYU
別府（大分県）	BEPPU（OITA）	JP BPU
千葉4区（千葉県）	CHIBA No. 4 Sec.（CHIBA）	JP ANE
千葉(上記を除く)（千葉県）	CHIBA（CHIBA）	JP CHB
千葉 葛南区（千葉県）	CHIBA KATSUNAN area（CHIBA）	JP FNB
千代崎（三重県）	CHIYOZAKI（MIE）	JP CYZ
銚子（茨城県・千葉県）	CHOSHI（IBARAKI・CHIBA）	JP CHO
伊達（北海道）	DATE（HOKKAIDO）	JP DAT
江迎（長崎県）	EMUKAE（NAGASAKI）	JP EMU
江名（福島県）	ENA（FUKUSHIMA）	JP ENA
えりも（北海道）	ERIMO（HOKKAIDO）	JP EMM
江崎（山口県）	ESAKI（YAMAGUCHI）	JP ESK
江差（北海道）	ESASHI（HOKKAIDO）	JP ESI
枝幸（北海道）	ESASHI（HOKKAIDO）	JP ESS
恵曇（島根県）	ETOMO（SHIMANE）	JP ETM
郷ノ浦（長崎県）	GONOURA（NAGASAKI）	JP GON
江津（島根県）	GOTSU（SHIMANE）	JP GOT
郡家（兵庫県）	GUNGE（HYOGO）	JP GNG
郡中（愛媛県）	GUNTYU（EHIME）	JP IYO
羽幌（北海道）	HABORO（HOKKAIDO）	JP HBO

港名（都道府県名）	PORT（DISTRICT）	コード／CODE
厚岸（北海道）	AKKESHI（HOKKAIDO）	JP AKE
赤穂（兵庫県）	AKO（HYOGO）	JP AKO
阿久根（鹿児島県）	AKUNE（KAGOSHIMA）	JP AKN
穴水（石川県）	ANAMIZU（ISHIKAWA）	JP ANM
青方（長崎県）	AOKATA（NAGASAKI）	JP AOK
青森（青森県）	AOMORI（AOMORI）	JP AOM
青苗（北海道）	AONAE（HOKKAIDO）	JP AON
有川（長崎県）	ARIKAWA（NAGASAKI）	JP ARK
厚狭（山口県）	ASA（YAMAGUCHI）	JP ASA
浅川（徳島県）	ASAKAWA（TOKUSHIMA）	JP ASW
浅茂川（京都府）	ASAMOGAWA（KYOTO）	JP AMG
芦辺（長崎県）	ASHIBE（NAGASAKI）	JP ASB
芦屋（福岡県）	ASHIYA（FUKUOKA）	JP ASZ
熱海（静岡県）	ATAMI（SHIZUOKA）	JP AMI
粟野（山口県）	AWANO（YAMAGUCHI）	JP YYA
深浦（青森県）	FUKAURA（AOMORI）	JP FKK
深浦（愛媛県）	FUKAURA（EHIME）	JP FKR
深日（大阪府）	FUKE（OSAKA）	JP FUE
福江（愛知県）	FUKUE（AICHI）	JP FKE
福江（長崎県）	FUKUE（NAGASAKI）	JP FKN
福井（福井県）	FUKUI（FUKUI）	JP FKJ
福良（兵庫県）	FUKURA（HYOGO）	JP FRA
福島（北海道）	FUKUSHIMA（HOKKAIDO）	JP FKU
福島（宮崎県）	FUKUSHIMA（MIYAZAKI）	JP FMS
福浦（石川県）	FUKUURA（ISHIKAWA）	JP FRJ
福山（広島県）	FUKUYAMA（HIROSHIMA）	JP FKY
福山（鹿児島県）	FUKUYAMA（KAGOSHIMA）	JP FYM
船泊（北海道）	FUNADOMARI（HOKKAIDO）	JP FND
伏木富山（富山県）	FUSHIKI(TOYAMA)（TOYAMA）	JP FTX
五ケ所（三重県）	GOKASYO（MIE）	JP GKS
浜名（静岡県）	HAMANA（SHIZUOKA）	JP HMN
浜坂（兵庫県）	HAMASAKA（HYOGO）	JP HKJ
羽茂（新潟県）	HAMOCHI（NIIGATA）	JP HMC
花咲（北海道）	HANASAKI（HOKKAIDO）	JP HNK
阪南（大阪府）	HANNAN（OSAKA）	JP HAN

港名 （都道府県名）	PORT （DISTRICT）	コード／CODE
土生 （広島県）	HABU （HIROSHIMA）	JP HAB
波浮 （東京都）	HABU （TOKYO）	JP HAU
八戸 （青森県）	HACHINOHE （AOMORI）	JP HHE
萩 （山口県）	HAGI （YAMAGUCHI）	JP HAG
榛原 （静岡県）	HAIBARA （SHIZUOKA）	JP HBA
伯方 （愛媛県）	HAKATA （EHIME）	JP HKS
博多 （福岡県）	HAKATA （FUKUOKA）	JP HKT
函館 （北海道）	HAKODATE （HOKKAIDO）	JP HKP
浜田 （島根県）	HAMADA （SHIMANE）	JP HMD
浜島 （三重県）	HAMAJIMA （MIE）	JP HJM
日置 （和歌山県）	HIKI （WAKAYAMA）	JP HIK
引本 （三重県）	HIKIMOTO （MIE）	JP HMT
姫戸 （熊本県）	HIMEDO （KUMAMOTO）	JP HDO
姫路 （兵庫県）	HIMEJI （HYOGO）	JP HIM
姫川 （新潟県）	HIMEKAWA （NIIGATA）	JP HMK
氷見 （富山県）	HIMI （TOYAMA）	JP HMJ
日生 （岡山県）	HINASE （OKAYAMA）	JP HIN
平戸 （長崎県）	HIRADO （NAGASAKI）	JP HRD
平潟 （茨城県）	HIRAKATA （IBARAKI）	JP HRK
平生 （山口県）	HIRAO （YAMAGUCHI）	JP HRA
平良 （沖縄県）	HIRARA （OKINAWA）	JP HRR
平沢 （秋田県）	HIRASAWA （AKITA）	JP HSW
広島 （広島県）	HIROSHIMA （HIROSHIMA）	JP HIJ
広田 （岩手県）	HIROTA （IWATE）	JP HTA
日立 （茨城県）	HITACHI （IBARAKI）	JP HTC
伊万里 （佐賀県・長崎県）	IMARI （SAGA・NAGASAKI）	JP IMI
稲取 （静岡県）	INATORI （SHIZUOKA）	JP INR
伊根 （京都府）	INE （KYOTO）	JP INE
伊良湖 （愛知県）	IRAGO （AICHI）	JP IRK
石垣 （沖縄県）	ISHIGAKI （OKINAWA）	JP ISG
石狩湾 （北海道）	ISHIKARIWAN （HOKKAIDO）	JP ISW
石巻 （宮城県）	ISHINOMAKI （MIYAGI）	JP ISM
一色 （愛知県）	ISSIKI （AICHI）	JP IKJ
一湊 （鹿児島県）	ISSO （KAGOSHIMA）	JP KYR
伊東 （静岡県）	ITOH （SHIZUOKA）	JP ITJ
厳島 （広島県）	ITSUKUSHIMA （HIROSHIMA）	JP ITS
岩船 （新潟県）	IWAFUNE （NIIGATA）	JP IWH

港名 （都道府県名）	PORT （DISTRICT）	コード／CODE
阪神 尼崎西宮芦屋区 （大阪府・兵庫県）	HANSHIN AMAGASAKI/NISHINOMIYA/ASHIYA area （OSAKA・HYOGO）	JP AMX
阪神 神戸区 （大阪府・兵庫県）	HANSHIN KOBE area （OSAKA・HYOGO）	JP UKB
阪神 大阪区 （大阪府・兵庫県）	HANSHIN OSAKA area （OSAKA・HYOGO）	JP OSA
阪神 堺泉北区 （大阪府・兵庫県）	HANSHIN SAKAISENBOKU area （OSAKA・HYOGO）	JP SBK
戸田 （静岡県）	HEDA （SHIZUOKA）	JP HAD
日比 （岡山県）	HIBI （OKAYAMA）	JP HIB
日高 （和歌山県）	HIDAKA （WAKAYAMA）	JP HDK
東播磨 （兵庫県）	HIGASHIHARIMA （HYOGO）	JP HHR
東幡豆 （愛知県）	HIGASHIHAZU （AICHI）	JP HGH
引田 （香川県）	HIKETA （KAGAWA）	JP HEA
常陸那珂 （茨城県）	HITACHINAKA （IBARAKI）	JP HIC
比田勝 （長崎県）	HITAKATSU （NAGASAKI）	JP HTK
日和佐 （徳島県）	HIWASA （TOKUSHIMA）	JP HWS
北条 （愛媛県）	HOJO （EHIME）	JP HJO
本渡 （熊本県）	HONDO （KUMAMOTO）	JP HOD
本荘 （秋田県）	HONJO （AKITA）	JP HON
本庄 （京都府）	HONJYO （KYOTO）	JP HNJ
細島 （宮崎県）	HOSOSHIMA （MIYAZAKI）	JP HSM
百貫 （熊本県）	HYAKKAN （KUMAMOTO）	JP HKK
飯田 （石川県）	IIDA （ISHIKAWA）	JP IDA
池田 （香川県）	IKEDA （KAGAWA）	JP IKA
生月 （長崎県）	IKITSUKI （NAGASAKI）	JP IKK
今治 （愛媛県）	IMABARI （EHIME）	JP IMB
今福 （長崎県）	IMAFUKU （NAGASAKI）	JP IMA
今切 （徳島県）	IMAGIRI （TOKUSHIMA）	JP IGR
厳原 （長崎県）	IZUHARA （NAGASAKI）	JP IZH
泉 （愛知県）	IZUMI （AICHI）	JP IZM
香深 （北海道）	KAFUKA （HOKKAIDO）	JP KBK
加布里 （福岡県）	KAFURI （FUKUOKA）	JP KAF
加賀 （島根県）	KAGA （SHIMANE）	JP KJG
鹿児島 （鹿児島県）	KAGOSHIMA （KAGOSHIMA）	JP KOJ
加治木 （鹿児島県）	KAJIKI （KAGOSHIMA）	JP KJK
蒲江 （大分県）	KAMAE （OITA）	JP KME
蒲刈 （広島県）	KAMAGARI （HIROSHIMA）	JP KGR
釜石 （岩手県）	KAMAISHI （IWATE）	JP KIS
上川口 （高知県）	KAMIKAWAGUCHI （KOCHI）	JP KMW
神湊 （東京都）	KAMINATO （TOKYO）	JP KMM

入力時:コード入力前に「＞」を入力してください。
「＞」が入力できない場合は「TO」と入力してください。

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In case of can not enter「＞」, enter「TO」to make up it.

港名 （都道府県名）	PORT （DISTRICT）	コード／CODE
岩国 （山口県）	IWAKUNI （YAMAGUCHI）	JP IWK
岩内 （北海道）	IWANAI （HOKKAIDO）	JP IWN
岩屋 （兵庫県）	IWAYA （HYOGO）	JP IWY
金沢 （石川県）	KANAZAWA （ISHIKAWA）	JP KNZ
関門 響新港区 （山口県・福岡県）	KANMON HIBIKISINKOU area （YAMAGUCHI・FUKUOKA）	JP HBK
関門 新門司区 （山口県・福岡県）	KANMON SHINMOJI area （YAMAGUCHI・FUKUOKA）	JP SMJ
関門 上記を除く （山口県・福岡県）	KANMON （YAMAGUCHI・FUKUOKA）	JP KNM
観音寺 （香川県）	KANONJI （KAGAWA）	JP KJN
甲浦 （高知県）	KANNOURA （KOCHI）	JP KRA
唐津 （佐賀県）	KARATSU （SAGA）	JP KAR
苅田 （福岡県）	KANDA （FUKUOKA）	JP KND
笠岡 （岡山県）	KASAOKA （OKAYAMA）	JP KSA
鹿島 （茨城県）	KASHIMA （IBARAKI）	JP KSM
柏崎 （新潟県）	KASHIWAZAKI （NIIGATA）	JP KWZ
香住 （兵庫県）	KASUMI （HYOGO）	JP KXS
片上 （岡山県）	KATAKAMI （OKAYAMA）	JP KKM
勝本 （長崎県）	KATSUMOTO （NAGASAKI）	JP KSU
勝浦 （千葉県）	KATSUURA （CHIBA）	JP KUR
木更津 （千葉県）	KISARAZU （CHIBA）	JP KZU
岐宿 （長崎県）	KISHIKU （NAGASAKI）	JP KSH
北浦 （秋田県）	KITAURA （AKITA）	JP KJT
北浦 （宮崎県）	KITAURA （MIYAZAKI）	JP KIT
高知 （高知県）	KOCHI （KOCHI）	JP KCZ
小泊 （青森県）	KODOMARI （AOMORI）	JP KOD
小串 （岡山県）	KOGUSHI （OKAYAMA）	JP KOG
小串 （山口県）	KOGUSHI （YAMAGUCHI）	JP KGS
小松 （山口県）	KOMATSU （YAMAGUCHI）	JP KMX
米ノ津 （鹿児島県）	KOMENOTSU （KAGOSHIMA）	JP KKO
小湊 （青森県）	KOMINATO （AOMORI）	JP KMN
古仁屋 （鹿児島県）	KONIYA （KAGOSHIMA）	JP KNY
金浦 （秋田県）	KONOURA （AKITA）	JP KNO
鹿屋 （鹿児島県）	KONOYA （KAGOSHIMA）	JP KYA
琴浦 （岡山県）	KOTOURA （OKAYAMA）	JP JKT
沓形 （北海道）	KUTSUGATA （HOKKAIDO）	JP KTG
桑名 （三重県）	KUWANA （MIE）	JP KNA
舞鶴 （京都府）	MAIZURU （KYOTO）	JP MAI
枕崎 （鹿児島県）	MAKURAZAKI （KAGOSHIMA）	JP MKK

港名 （都道府県名）	PORT （DISTRICT）	コード／CODE
上ノ加江 （高知県）	KAMINOKAE （KOCHI）	JP KMK
上関 （山口県）	KAMINOSEKI （YAMAGUCHI）	JP KOX
加茂 （山形県）	KAMO （YAMAGATA）	JP KMO
勝浦 （和歌山県）	KATSUURA （WAKAYAMA）	JP KAT
川之石 （愛媛県）	KAWANOISHI （EHIME）	JP KWI
川内 （青森県）	KAWAUCHI （AOMORI）	JP KAW
京浜 川崎区 （東京都・神奈川県）	KEIHIN KAWASAKI area （TOKYO・KANAGAWA）	JP KWS
京浜 東京区 （東京都・神奈川県）	KEIHIN TOKYO area （TOKYO・KANAGAWA）	JP TYO
京浜 横浜区 （東京・神奈川県）	KEIHIN YOKOHAMA area （TOKYO・KANAGAWA）	JP YOK
気仙沼 （宮城県）	KESENNUMA （MIYAGI）	JP KSN
喜入 （鹿児島県）	KIIRE （KAGOSHIMA）	JP KII
菊間 （愛媛県）	KIKUMA （EHIME）	JP KIK
金武中城 （沖縄県）	KINNAKAGUSUKU （OKINAWA）	JP KNX
木ノ江 （広島県）	KINOE （HIROSHIMA）	JP KNE
木本 （三重県）	KINOMOTO （MIE）	JP KNT
衣浦 （愛知県）	KINUURA （AICHI）	JP KNU
霧多布 （北海道）	KIRITAPPU （HOKKAIDO）	JP KRT
象潟 （秋田県）	KISAKATA （AKITA）	JP KST
特牛 （山口県）	KOTTOI （YAMAGUCHI）	JP KTO
香西 （香川県）	KOZAI （KAGAWA）	JP KZJ
古座西向 （和歌山県）	KOZANISHIMUKAI （WAKAYAMA）	JP KOB
口之津 （長崎県）	KUCHINOTSU （NAGASAKI）	JP KUC
久慈 （岩手県）	KUJI （IWATE）	JP KJI
久賀 （山口県）	KUKA （YAMAGUCHI）	JP KGB
熊本 （熊本県）	KUMAMOTO （KUMAMOTO）	JP KMP
久美浜 （京都府）	KUMIHAMA （KYOTO）	JP KMH
国東 （大分県）	KUNISAKI （OITA）	JP KNS
呉 （広島県）	KURE （HIROSHIMA）	JP KRE
久礼 （高知県）	KURE （KOCHI）	JP KUE
串木野 （鹿児島県）	KUSHIKINO （KAGOSHIMA）	JP KSO
串本 （和歌山県）	KUSHIMOTO （WAKAYAMA）	JP KUJ
釧路 （北海道）	KUSHIRO （HOKKAIDO）	JP KUH
久手 （島根県）	KUTE （SHIMANE）	JP KUT
松崎 （静岡県）	MATSUZAKI （SHIZUOKA）	JP MTZ
鯥崎 （広島県）	MEBARUZAKI （HIROSHIMA）	JP MBR
三重式見 （長崎県）	MIESHIKIMI （NAGASAKI）	JP MSI
美保関 （島根県）	MIHONOSEKI （SHIMANE）	JP MIH

港名 （都道府県名）	PORT （DISTRICT）	コード／CODE
真鶴 （神奈川県）	MANAZURU （KANAGAWA）	JP MNA
丸亀 （香川県）	MARUGAME （KAGAWA）	JP MAR
丸尾 （山口県）	MARUO （YAMAGUCHI）	JP MRU
増毛 （北海道）	MASHIKE （HOKKAIDO）	JP MSK
益田 （島根県）	MASUDA （SHIMANE）	JP MSD
松江 （島根県）	MATSUE （SHIMANE）	JP MTE
松前 （北海道）	MATSUMAE （HOKKAIDO）	JP MTM
松島 （長崎県）	MATSUSHIMA （NAGASAKI）	JP MAT
松浦 （長崎県）	MATSUURA （NAGASAKI）	JP MTS
松山 （愛媛県）	MATSUYAMA （EHIME）	JP MYJ
松坂 （三重県）	MATSUZAKA （MIE）	JP MSA
御手洗 （広島県）	MITARAI （HIROSHIMA）	JP MTI
三机 （愛媛県）	MITSUKUE （EHIME）	JP MTK
宮古 （岩手県）	MIYAKO （IWATE）	JP MYK
宮之浦 （鹿児島県）	MIYANOURA （KAGOSHIMA）	JP MNO
宮浦 （愛媛県）	MIYAURA （EHIME）	JP MYU
宮崎 （宮崎県）	MIYAZAKI （MIYAZAKI）	JP KMI
宮津 （京都府）	MIYAZU （KYOTO）	JP MIY
水島 （岡山県）	MIZUSHIMA （OKAYAMA）	JP MIZ
湊 （兵庫県）	MINATO （HYOGO）	JP MNT
茂木 （長崎県）	MOGI （NAGASAKI）	JP MOG
紋別 （北海道）	MONBETSU （HOKKAIDO）	JP MBE
森 （北海道）	MORI （HOKKAIDO）	JP MOR
守江 （大分県）	MORIE （OITA）	JP MOO
諸富 （佐賀県）	MORODOMI （SAGA）	JP MOM
師崎 （愛知県）	MOROZAKI （AICHI）	JP MRZ
那覇 （沖縄県）	NAHA （OKINAWA）	JP NAH
奈半利 （高知県）	NAHARI （KOCHI）	JP NHI
中浜 （京都府）	NAKAHAMA （KYOTO）	JP NKJ
中甑 （鹿児島県）	NAKAKOSHIKI （KAGOSHIMA）	JP NKK
那珂湊 （茨城県）	NAKAMINATO （IBARAKI）	JP NMT
中之作 （福島県）	NAKANOSAKU （FUKUSHIMA）	JP NKX
中津 （福岡県・大分県）	NAKATSU （FUKUOKA・OITA）	JP NAT
波切 （三重県）	NAKIRI （MIE）	JP NKR
七尾 （石川県）	NANAO （ISHIKAWA）	JP NNO
直江津 （新潟県）	NAOETSU （NIIGATA）	JP NAO
直島 （香川県）	NAOSHIMA （KAGAWA）	JP NAS
奈良尾 （長崎県）	NARAO （NAGASAKI）	JP NRO

港名 （都道府県名）	PORT （DISTRICT）	コード／CODE
三池 （福岡県）	MIIKE （FUKUOKA）	JP MII
三瓶 （愛媛県）	MIKAME （EHIME）	JP MKM
三河 （愛知県）	MIKAWA （AICHI）	JP MKW
水俣 （熊本県）	MINAMATA （KUMAMOTO）	JP MIN
三厩 （青森県）	MINMAYA （AOMORI）	JP MNY
三崎 （愛媛県）	MISAKI （EHIME）	JP MSX
三崎 （神奈川県）	MISAKI （KANAGAWA）	JP MIK
三島川之江 （愛媛県）	MISHIMAKAWANOE （EHIME）	JP MKX
三角 （熊本県）	MISUMI （KUMAMOTO）	JP MIS
三隅 （島根県）	MISUMI （SHIMANE）	JP MMI
三田尻中関 （山口県）	MITAJIRINAKANOSEKI （YAMAGUCHI）	JP MNX
元町 （東京都）	MOTOMACHI （TOKYO）	JP MOT
牟岐 （徳島県）	MUGI （TOKUSHIMA）	JP MUG
室蘭 （北海道）	MURORAN （HOKKAIDO）	JP MUR
室戸岬 （高知県）	MUROTOMISAKI （KOCHI）	JP MRJ
室津 （高知県）	MUROTSU （KOCHI）	JP MUX
室津 （山口県）	MUROTSU （YAMAGUCHI）	JP MRT
室積 （山口県）	MUROZUMI （YAMAGUCHI）	JP MZM
むつ小川原 （青森県）	MUTSUOGAWARA （AOMORI）	JP MUT
撫養 （徳島県）	MUYA （TOKUSHIMA）	JP MYA
長浜 （愛媛県）	NAGAHAMA （EHIME）	JP NGH
長崎 （長崎県）	NAGASAKI （NAGASAKI）	JP NMX
長島 （三重県）	NAGASHIMA （MIE）	JP NSA
長洲 （熊本県）	NAGASU （KUMAMOTO）	JP NGU
長洲 （大分県）	NAGASU （OITA）	JP NSU
名古屋 （愛知県）	NAGOYA （AICHI）	JP NGO
鼠ヶ関 （山形県）	NEZUGASEKI （YAMAGATA）	JP NEZ
新潟 （新潟県）	NIIGATA （NIIGATA）	JP IKIJ
新居浜 （愛媛県）	NIIHAMA （EHIME）	JP IIHA
新島 （東京都）	NIIJIMA （TOKYO）	JP NIJ
仁万 （島根県）	NIMA （SHIMANE）	JP NIM
仁尾 （香川県）	NIO （KAGAWA）	JP NIO
西之表 （鹿児島県）	NISHINOOMOTE （KAGOSHIMA）	JP IIN
延岡 （宮崎県）	NOBEOKA （MIYAZAKI）	JP NOB
野原 （京都府）	NOHARA （KYOTO）	JP NOH
野辺地 （青森県）	NOHEJI （AOMORI）	JP NHJ
野間池 （鹿児島県）	NOMAIKE （KAGOSHIMA）	JP NMK
能代 （秋田県）	NOSHIRO （AKITA）	JP NSR

入力時:コード入力前に「＞」を入力してください。
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港名 （都道府県名）	PORT （DISTRICT）	コード／CODE
奈留島 （長崎県）	NARUSHIMA （NAGASAKI）	JP NRS
名瀬 （鹿児島県）	NAZE （KAGOSHIMA）	JP NAZ
根室 （北海道）	NEMURO （HOKKAIDO）	JP NEM
大洗 （茨城県）	OARAI （IBARAKI）	JP OAR
小浜 （福井県）	OBAMA （FUKUI）	JP OBM
小浜 （長崎県）	OBAMA （NAGASAKI）	JP OBB
大泊 （鹿児島県）	ODOMARI （KAGOSHIMA）	JP ODM
大船渡 （岩手県）	OFUNATO （IWATE）	JP OFT
小木 （石川県）	OGI （ISHIKAWA）	JP OII
小木 （新潟県）	OGI （NIIGATA）	JP OGI
荻浜 （宮城県）	OGINOHAMA （MIYAGI）	JP OGH
大畑 （青森県）	OHATA （AOMORI）	JP OHT
大井川 （静岡県）	OIGAWA （SHIZUOKA）	JP OIG
大分 （大分県）	OITA （OITA）	JP OIP
小値賀 （長崎県）	OJIKA （NAGASAKI）	JP OJI
岡田 （東京都）	OKADA （TOKYO）	JP OAA
岡村 （愛媛県）	OKAMURA （EHIME）	JP OMR
岡山 （岡山県）	OKAYAMA （OKAYAMA）	JP OKP
大島 （福岡県）	OSHIMA （FUKUOKA）	JP OSS
大島 （長崎県）	OSHIMA （NAGASAKI）	JP OSM
大竹 （広島県）	OTAKE （HIROSHIMA）	JP OTK
小樽 （北海道）	OTARU （HOKKAIDO）	JP OTR
大津 （茨城県）	OTSU （IBARAKI）	JP OSJ
大槌 （岩手県）	OTSUCHI （IWATE）	JP OTJ
雄武 （北海道）	OMU （HOKKAIDO）	JP OUM
会瀬 （茨城県）	OUSE （IBARAKI）	JP OUS
尾鷲 （三重県）	OWASE （MIE）	JP OWA
羅臼 （北海道）	RAUSU （HOKKAIDO）	JP RAU
留萌 （北海道）	RUMOI （HOKKAIDO）	JP RMI
両津 （新潟県）	RYOTSU （NIIGATA）	JP RYO
佐伯 （大分県）	SAEKI （OITA）	JP SAE
佐賀 （高知県）	（SAGA） （KOCHI）	JP SGA
佐賀関 （大分県）	SAGANOSEKI （OITA）	JP SAG
佐敷 （熊本県）	SASHIKI （KUMAMOTO）	JP SSI
佐須奈 （長崎県）	SASUNA （NAGASAKI）	JP SSN
川内 （鹿児島県）	SENDAI （KAGOSHIMA）	JP SEN
仙台塩釜 （宮城県）	SENDAISHIOGAMA （MIYAGI）	JP SGM

港名 （都道府県名）	PORT （DISTRICT）	コード／CODE
能生 （新潟県）	NOU （NIIGATA）	JP NOU
沼津 （静岡県）	NUMAZU （SHIZUOKA）	JP NUM
壬生川 （愛媛県）	NYUGAWA （EHIME）	JP NWA
大久保 （東京都）	OKUBO （TOKYO）	JP OKB
大間 （青森県）	OMA （AOMORI）	JP OAX
御前崎 （静岡県）	OMAEZAKI （SHIZUOKA）	JP OMZ
大湊 （青森県）	OMINATO （AOMORI）	JP OMT
大村 （長崎県）	OMURA （NAGASAKI）	JP OMJ
大牟田 （福岡県）	OMUTA （FUKUOKA）	JP OMU
女川 （宮城県）	ONAGAWA （MIYAGI）	JP ONG
小名浜 （福島県）	ONAHAMA （FUKUSHIMA）	JP ONA
大根占 （鹿児島県）	ONEJIME （KAGOSHIMA）	JP ONE
鬼池 （熊本県）	ONIIKE （KUMAMOTO）	JP ONJ
大西 （広島県）	ONISHI （HIROSHIMA）	JP ONS
鬼脇 （北海道）	ONIWAKI （HOKKAIDO）	JP ONW
小野田 （山口県）	ONODA （YAMAGUCHI）	JP OND
尾道糸崎 （広島県）	ONOMICHIITOSAKI （HIROSHIMA）	JP ONX
鴛泊 （北海道）	OSHIDOMARI （HOKKAIDO）	JP OSD
相良 （静岡県）	SAGARA （SHIZUOKA）	JP SGR
佐木 （広島県）	SAGI （HIROSHIMA）	JP SGJ
佐井 （青森県）	SAI （AOMORI）	JP SJA
西大寺 （岡山県）	SAIDAIJI （OKAYAMA）	JP SDZ
西郷 （島根県）	SAIGO （SHIMANE）	JP SAI
西条 （愛媛県）	SAIJO （EHIME）	JP SAJ
境 （鳥取県・島根県）	SAKAI （TOTTORI・SHIMANE）	JP SMN
坂出 （香川県）	SAKAIDE （KAGAWA）	JP SKD
酒田 （山形県）	SAKATA （YAMAGATA）	JP SKT
坂手 （香川県）	SAKATE （KAGAWA）	JP SAT
崎戸 （長崎県）	SAKITO （NAGASAKI）	JP STO
様似 （北海道）	SAMANI （HOKKAIDO）	JP SAM
三本松 （香川県）	SANBONMATSU （KAGAWA）	JP SAN
寒川 （愛媛県）	SANGAWA （EHIME）	JP SAW
佐世保 （長崎県）	SASEBO （NAGASAKI）	JP SSB
島間 （鹿児島県）	SHIMAMA （KAGOSHIMA）	JP SIM
清水 （高知県）	SHIMIZU （KOCHI）	JP TSZ
清水 （静岡県）	SHIMIZU （SHIZUOKA）	JP SMZ
下田 （高知県）	SHIMODA （KOCHI）	JP SMO

港名 （都道府県名）	PORT （DISTRICT）	コード／CODE
泉州 （大阪府）	SENSYU （OSAKA）	JP SSU
仙崎 （山口県）	SENZAKI （YAMAGUCHI）	JP SZK
瀬棚 （北海道）	SETANA （HOKKAIDO）	JP STN
瀬戸 （長崎県）	SETO （NAGASAKI）	JP SET
瀬戸田 （広島県）	SETODA （HIROSHIMA）	JP STD
柴山 （兵庫県）	SHIBAYAMA （HYOGO）	JP SBY
志布志 （鹿児島県）	SHIBUSHI （KAGOSHIMA）	JP SBS
七類 （島根県）	SHICHIRUI （SHIMANE）	JP SCR
志度 （香川県）	SHIDO （KAGAWA）	JP SID
重井 （広島県）	SHIGEI （HIROSHIMA）	JP SIG
島原 （長崎県）	SHIMABARA （NAGASAKI）	JP SMB
住ノ江 （佐賀県）	SUMINOE （SAGA）	JP SUM
洲本 （兵庫県）	SUMOTO （HYOGO）	JP SUH
須佐 （山口県）	SUSA （YAMAGUCHI）	JP SUS
須崎 （高知県）	SUSAKI （KOCHI）	JP SUZ
寿都 （北海道）	SUTTSU （HOKKAIDO）	JP STU
田平 （長崎県）	TABIRA （NAGASAKI）	JP TBR
橘 （徳島県）	TACHIBANA （TOKUSHIMA）	JP TBN
忠海 （広島県）	TADANOUMI （HIROSHIMA）	JP TDN
多度津 （香川県）	TADOTSU （KAGAWA）	JP TAD
田子の浦 （静岡県）	TAGONOURA （SHIZUOKA）	JP TGO
田井 （京都府）	TAI （KYOTO）	JP TAZ
平館 （青森県）	TAIRADATE （AOMORI）	JP TDT
大社 （島根県）	TAISYA （SHIMANE）	JP TIA
間人 （京都府）	TAIZA （KYOTO）	JP TZA
田後 （鳥取県）	TAJIRI （TOTTORI）	JP TJR
鳥羽 （三重県）	TOBA （MIE）	JP TOB
戸賀 （秋田県）	TOGA （AKITA）	JP TOJ
土肥 （静岡県）	TOI （SHIZUOKA）	JP TOI
十勝 （北海道）	TOKACHI （HOKKAIDO）	JP TOK
常滑 （愛知県）	TOKONAME （AICHI）	JP TXN
渡久地 （沖縄県）	TOKUCHI （OKINAWA）	JP TCC
徳島小松島 （徳島県）	TOKUSHIMA KOMATSUJIMA （TOKUSHIMA）	JP TKX
徳山下松 （山口県）	TOKUYAMA KUDAMATSU （YAMAGUCHI）	JP TXD
苫小牧 （北海道）	TOMAKOMAI （HOKKAIDO）	JP TMK
苫前 （北海道）	TOMAMAE （HOKKAIDO）	JP TJJ
富江 （長崎県）	TOMIE （NAGASAKI）	JP TME
富岡 （熊本県）	TOMIOKA （KUMAMOTO）	JP TMO

港名 （都道府県名）	PORT （DISTRICT）	コード／CODE
下田 （静岡県）	SHIMODA （SHIZUOKA）	JP SMD
下津井 （岡山県）	SHIMOTSUI （OKAYAMA）	JP STI
新宮 （和歌山県）	SHINGU （WAKAYAMA）	JP SHN
篠島 （愛知県）	SHINOJIMA （AICHI）	JP SNJ
白浜 （千葉県）	SHIRAHAMA （CHIBA）	JP SRX
尻屋岬 （青森県）	SHIRIYAZAKI （AOMORI）	JP SYZ
宍喰 （徳島県）	SHISHIKUI （TOKUSHIMA）	JP SIS
志津川 （宮城県）	SHIZUGAWA （MIYAGI）	JP SZG
静浦 （静岡県）	SHIZUURA （SHIZUOKA）	JP SZU
相馬 （福島県）	SOMA （FUKUSHIMA）	JP SMA
宿毛湾 （高知県）	SUKUMOWAN （KOCHI）	JP SUK
高田 （大分県）	TAKADA （OITA）	JP TKD
高松 （香川県）	TAKAMATSU （KAGAWA）	JP TAP
竹田津 （大分県）	TAKEDATSU （OITA）	JP TDJ
竹原 （広島県）	TAKEHARA （HIROSHIMA）	JP THR
滝 （石川県）	TAKI （ISHIKAWA）	JP TKI
詫間 （香川県）	TAKUMA （KAGAWA）	JP TKM
玉之浦 （長崎県）	TAMANOURA （NAGASAKI）	JP TMN
田辺 （和歌山県）	TANABE （WAKAYAMA）	JP TAE
垂水 （鹿児島県）	TARUMIZU （KAGOSHIMA）	JP TMZ
館山 （千葉県）	TATEYAMA （CHIBA）	JP TTY
手石 （静岡県）	TEISHI （SHIZUOKA）	JP TIS
寺泊 （新潟県）	TERADOMARI （NIIGATA）	JP TRD
天塩 （北海道）	TESHIO （HOKKAIDO）	JP TSO
手打 （鹿児島県）	TEUCHI （KAGOSHIMA）	JP TEU
天売 （北海道）	TEURI （HOKKAIDO）	JP TER
富島 （兵庫県）	TOSHIMA （HYOGO）	JP TJO
土々呂 （宮崎県）	TOTORO （MIYAZAKI）	JP TOT
鳥取 （鳥取県）	TOTTORI （TOTTORI）	JP TTJ
豊浜 （愛知県）	TOYOHAMA （AICHI）	JP TYJ
豊浜 （香川県）	TOYOHAMA （KAGAWA）	JP TYH
津 （三重県）	TSU （MIE）	JP TSU
津田 （香川県）	TSUDA （KAGAWA）	JP TUD
津居山 （兵庫県）	TSUIYAMA （HYOGO）	JP TYN
津久見 （大分県）	TSUKUMI （OITA）	JP TMI
津名 （兵庫県）	TSUNA （HYOGO）	JP TNA
角島 （山口県）	TSUNOSHIMA （YAMAGUCHI）	JP TNS
敦賀 （福井県）	TSURUGA （FUKUI）	JP TRG

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港名 （都道府県名）	PORT （DISTRICT）	コード／CODE
富岡 （徳島県）	TOMIOKA （TOKUSHIMA）	JP TOM
土庄 （香川県）	TONOSYO （KAGAWA）	JP TNO
外浦 （宮崎県）	TONOURA （MIYAZAKI）	JP TON
津吉 （長崎県）	TSUYOSHI （NAGASAKI）	JP TYP
宇部 （山口県）	UBE （YAMAGUCHI）	JP UBJ
内海 （香川県）	UCHINOMI （KAGAWA）	JP UCN
内之浦 （鹿児島県）	UCHINOURA （KAGOSHIMA）	JP UUR
内海 （宮崎県）	UCHIUMI （MIYAZAKI）	JP UCH
内浦 （福井県）	UCHIURA （FUKUI）	JP UCU
宇久須 （静岡県）	UGUSU （SHIZUOKA）	JP UGU
宇治山田 （三重県）	UJIYAMADA （MIE）	JP UJY
宇久井 （和歌山県）	UKUI （WAKAYAMA）	JP UKI
宇野 （岡山県）	UNO （OKAYAMA）	JP UNO
宇島 （福岡県）	UNOSHIMA （FUKUOKA）	JP UNS
運天 （沖縄県）	UNTEN （OKINAWA）	JP UNT
魚津 （富山県）	UOZU （TOYAMA）	JP UOZ
浦神 （和歌山県）	URAGAMI （WAKAYAMA）	JP URM
浦郷 （島根県）	URAGO （SHIMANE）	JP UAO
脇野沢 （青森県）	WAKINOSAWA （AOMORI）	JP WKW
稚内 （北海道）	WAKKANAI （HOKKAIDO）	JP WKJ
渡波 （宮城県）	WATANOHA （MIYAGI）	JP WAT
八重根 （東京都）	YAENE （TOKYO）	JP YNE
八木 （兵庫県）	YAGI （HYOGO）	JP YAG
八木 （岩手県）	YAGI （IWATE）	JP YGI
焼尻 （北海道）	YAGISHIRI （HOKKAIDO）	JP YGR
焼津 （静岡県）	YAIZU （SHIZUOKA）	JP YZU
山田 （岩手県）	YAMADA （IWATE）	JP YAD
山川 （鹿児島県）	YAMAGAWA （KAGOSHIMA）	JP YAM
山口 （山口県）	YAMAGUCHI （YAMAGUCHI）	JP YMG
柳井 （山口県）	YANAI （YAMAGUCHI）	JP YAN
安来 （島根県）	YASUGI （SHIMANE）	JP YSG
八代 （熊本県）	YATSUSHIRO （KUMAMOTO）	JP YAT
八幡浜 （愛媛県）	YAWATAHAMA （EHIME）	JP YWH

港名 （都道府県名）	PORT （DISTRICT）	コード／CODE
鶴海 （岡山県）	TSURUMI （OKAYAMA）	JP TRU
都志 （兵庫県）	TSUSHI （HYOGO）	JP TSH
豆酘 （長崎県）	TSUTSU （NAGASAKI）	JP TST
浦河 （北海道）	URAKAWA （HOKKAIDO）	JP URK
宇佐 （高知県）	USA （KOCHI）	JP USA
牛深 （熊本県）	USHIBUKA （KUMAMOTO）	JP UBK
牛窓 （岡山県）	USHIMADO （OKAYAMA）	JP USH
宇出津 （石川県）	USHITSU （ISHIKAWA）	JP UST
臼尻 （北海道）	USUJIRI （HOKKAIDO）	JP USJ
臼杵 （大分県）	USUKI （OITA）	JP USK
臼浦 （長崎県）	USUNOURA （NAGASAKI）	JP USU
内海 （愛知県）	UTSUMI （AICHI）	JP UTM
宇和島 （愛媛県）	UWAJIMA （EHIME）	JP UWA
和田 （福井県）	WADA （FUKUI）	JP WDA
輪島 （石川県）	WAJIMA （ISHIKAWA）	JP WJM
和歌山下津 （和歌山県）	WAKAYAMASHIMOTSU （WAKAYAMA）	JP WAK
若津 （福岡県）	WAKATSU （FUKUOKA）	JP WKT
脇岬 （長崎県）	WAKIMISAKI （NAGASAKI）	JP WKI
呼子 （佐賀県）	YOBUKO （SAGA）	JP YBK
余市 （北海道）	YOICHI （HOKKAIDO）	JP YIC
四日市 （三重県）	YOKKAICHI （MIE）	JP YKK
横須賀 （神奈川県）	YOKOSUKA （KANAGAWA）	JP YOS
米子 （鳥取県）	YONAGO （TOTTORI）	JP YNG
吉田 （愛知県）	YOSHIDA （AICHI）	JP YDA
吉田 （愛媛県）	YOSHIDA （EHIME）	JP YSD
吉海 （愛媛県）	YOSHIUMI （EHIME）	JP YHI
四倉 （福島県）	YOTSUKURA （FUKUSHIMA）	JP YOT
湯浅広 （和歌山県）	YUASAHIRO （WAKAYAMA）	JP YSH
由岐 （徳島県）	YUKI （TOKUSHIMA）	JP YUK
由良 （兵庫県）	YURA （HYOGO）	JP YRA
由良 （和歌山県）	YURA （WAKAYAMA）	JP YUR
由良 （山形県）	YURA （YAMAGATA）	JP YUJ

港内での進路を示すコード一覧表／List of Codes showing the course in port.

港の名称 Port		コード CODE	規則第11条に基づく進路信号 Course Signal of International Signal Flags	港内進路コード In-port Course Code	入力例 Example
For the case that the ship is going to anchor in the destination port of in the vicinity of the boundary.		—	—	OFF	＞JP YOK OFF
釧路／KUSHIRO		JP KUH	2代(2nd Sub.)・1	1	＞JP KUH 1
			2代(2nd Sub.)・2	2	＞JP KUH 2
			2代(2nd Sub.)・3	3	＞JP KUH 3
			2代(2nd Sub.)・4	4	＞JP KUH 4
			2代(2nd Sub.)・5	5	＞JP KUH 5
			Purposes other than stated above course in the port	XX	＞JP KUH XX
苫小牧／TOMAKOMAI		JP TMK	2代(2nd Sub.)・C	C	＞JP TMK C
			2代(2nd Sub.)・N	N	＞JP TMK N
			2代(2nd Sub.)・E	E	＞JP TMK E
			2代(2nd Sub.)・S	S	＞JP TMK S
			2代(2nd Sub.)・2・E	2E	＞JP TMK 2E
			2代(2nd Sub.)・2・W	2W	＞JP TMK 2W
			Purposes other than stated above course in the port	XX	＞JP TMK XX
函館／HAKODATE		JP HKP	2代(2nd Sub.)・1	1	＞JP HKP 1
			2代(2nd Sub.)・2	2	＞JP HKP 2
			2代(2nd Sub.)・3	3	＞JP HKP 3
			2代(2nd Sub.)・4	4	＞JP HKP 4
			Purposes other than stated above course in the port	XX	＞JP HKP XX
秋田船川／AKITAFUNAKAWA		JP AFG	2代(2nd Sub.)・N	N	＞JP AFG N
			2代(2nd Sub.)・E	E	＞JP AFG E
			2代(2nd Sub.)・E・N	EN	＞JP AFG EN
			2代(2nd Sub.)・E・C	EC	＞JP AFG EC
			2代(2nd Sub.)・E・S	ES	＞JP AFG ES
			2代(2nd Sub.)・W	W	＞JP AFG W
			Purposes other than stated above course in the port	XX	＞JP AFG XX
鹿島／KASHIMA		JP KSM	2代(2nd Sub.)・O	O	＞JP KSM O
			2代(2nd Sub.)・C・N	CN	＞JP KSM CN
			2代(2nd Sub.)・C・S	CS	＞JP KSM CS
			2代(2nd Sub.)・S・E	SE	＞JP KSM SE
			2代(2nd Sub.)・S・W	SW	＞JP KSM SW
			2代(2nd Sub.)・N・W	NW	＞JP KSM NW
			2代(2nd Sub.)・N・E	NE	＞JP KSM NE
			Purposes other than stated above course in the port	XX	＞JP KSM XX
千葉／CHIBA	4区（姉ヶ崎・袖ヶ浦地区） No. 4 Sec.(ANEGASA-KI・SODEGAURA)	JP ANE	—		＞JP ANE
	葛南区／KATUNAN	JP FNB	2代(2nd Sub.)・F・S	FS	＞JP FNB FS
			2代(2nd Sub.)・F・N	FN	＞JP FNB FN
			2代(2nd Sub.)・I・W	IW	＞JP FNB IW
			2代(2nd Sub.)・I・E	IE	＞JP FNB IE
			Purposes other than stated above course in the port	XX	＞JP FNB XX
	1区、2区、3区／No. 1,2,3 Sec.	JP CHB	2代(2nd Sub.)・D	D	＞JP CHB D
			2代(2nd Sub.)・C	C	＞JP CHB C
			2代(2nd Sub.)・S	S	＞JP CHB S
			Purposes other than stated above course in the port	XX	＞JP CHB XX
京浜／KEIHIN	東京区／TOKYO	JP TYO	2代(2nd Sub.)・L	L	＞JP TYO L
			2代(2nd Sub.)・M	M	＞JP TYO M
			2代(2nd Sub.)・V	V	＞JP TYO V
			2代(2nd Sub.)・H	H	＞JP TYO H
			2代(2nd Sub.)・T	T	＞JP TYO T
			2代(2nd Sub.)・A	A	＞JP TYO A
			2代(2nd Sub.)・S	S	＞JP TYO S
			2代(2nd Sub.)・R	R	＞JP TYO R
			2代(2nd Sub.)・O	O	＞JP TYO O
			2代(2nd Sub.)・C	C	＞JP TYO C
			2代(2nd Sub.)・CW	CW	＞JP TYO CW
			Purposes other than stated above course in the port	XX	＞JP TYO XX

港の名称 Port		コード CODE	規則第11条に基づく進路信号 Course Signal of International Signal Flags	港内進路コード In-port Course Code	入力例 Example
京浜／KEIHIN	川崎区／KAWASAKI	JP KWS	1代(1st Sub.)・E	—	—
			1代(1st Sub.)・W	—	—
			2代(2nd Sub.)・S・U	SU	＞JP KWS SU
			2代(2nd Sub.)・T・U	TU	＞JP KWS TU
			2代(2nd Sub.)・I・U	IU	＞JP KWS IU
			2代(2nd Sub.)・S・G	SG	＞JP KWS SG
			2代(2nd Sub.)・D・U	DU	＞JP KWS DU
			2代(2nd Sub.)・O・K	OK	＞JP KWS OK
			2代(2nd Sub.)・O・T	OT	＞JP KWS OT
			2代(2nd Sub.)・M・E	ME	＞JP KWS ME
			2代(2nd Sub.)・T・D	TD	＞JP KWS TD
			2代(2nd Sub.)・U・S	US	＞JP KWS US
			2代(2nd Sub.)・H・O	HO	＞JP KWS HO
			2代(2nd Sub.)・O・G	OG	＞JP KWS OG
			Purposes other than stated above course in the port	XX	＞JP KWS XX
	横浜区／YOKOHAMA	JP YOK	1代(1st Sub.)・E	—	—
			1代(1st Sub.)・W	—	—
			2代(2nd Sub.)・H・M	HM	＞JP YOK HM
			2代(2nd Sub.)・Y	Y	＞JP YOK Y
			2代(2nd Sub.)・O・S	OS	＞JP YOK OS
			2代(2nd Sub.)・D	D	＞JP YOK D
			2代(2nd Sub.)・D・S	DS	＞JP YOK DS
			2代(2nd Sub.)・D・E	DE	＞JP YOK DE
			2代(2nd Sub.)・D・N	DN	＞JP YOK DN
			2代(2nd Sub.)・S・H	SH	＞JP YOK SH
			2代(2nd Sub.)・K	K	＞JP YOK K
			2代(2nd Sub.)・A・Z	AZ	＞JP YOK AZ
			2代(2nd Sub.)・O・N	ON	＞JP YOK ON
			2代(2nd Sub.)・A・U	AU	＞JP YOK AU
			2代(2nd Sub.)・S・U	SU	＞JP YOK SU
			Purposes other than stated above course in the port	XX	＞JP YOK XX
新潟／NIIGATA		JP KIJ	2代(2nd Sub.)・W	W	＞JP KIJ W
			2代(2nd Sub.)・W・B	WB	＞JP KIJ WB
			2代(2nd Sub.)・W・D	WD	＞JP KIJ WD
			2代(2nd Sub.)・W・T	WT	＞JP KIJ WT
			2代(2nd Sub.)・W・R	WR	＞JP KIJ WR
			2代(2nd Sub.)・E	E	＞JP KIJ E
			2代(2nd Sub.)・E・W	EW	＞JP KIJ EW
			Purposes other than stated above course in the port	XX	＞JP KIJ XX
四日市／YOKKAICHI		JP YKK	1代(1st Sub.)・1	—	—
			1代(1st Sub.)・U	—	—
			1代(1st Sub.)・2	—	—
			2代(2nd Sub.)・M・Y	MY	＞JP YKK MY
			2代(2nd Sub.)・I・S	IS	＞JP YKK IS
			2代(2nd Sub.)・D・M	DM	＞JP YKK DM
			2代(2nd Sub.)・C・E	CE	＞JP YKK CE
			2代(2nd Sub.)・C・W	CW	＞JP YKK CW
			2代(2nd Sub.)・T	T	＞JP YKK T
			2代(2nd Sub.)・U	U	＞JP YKK U
			2代(2nd Sub.)・K・W	KW	＞JP YKK KW
			2代(2nd Sub.)・K・S	KS	＞JP YKK KS
			2代(2nd Sub.)・K・E	KE	＞JP YKK KE
			2代(2nd Sub.)・S・N	SN	＞JP YKK SN
			2代(2nd Sub.)・S・W	SW	＞JP YKK SW
			2代(2nd Sub.)・F	F	＞JP YKK F
			2代(2nd Sub.)・A	A	＞JP YKK A
			2代(2nd Sub.)・E	E	＞JP YKK E
			2代(2nd Sub.)・W	W	＞JP YKK W
			Purposes other than stated above course in the port	XX	＞JP YKK XX

港の名称 Port		コード CODE	規則第11条に基づく進路信号 Course Signal of International Signal Flags	港内進路コード In-port Course Code	入力例 Example
名古屋／NAGOYA		JP NGO	1代(1st Sub.)・E	—	—
			1代(1st Sub.)・W	—	—
			2代(2nd Sub.)・E・1	E1	＞JP NGO E1
			2代(2nd Sub.)・E・2	E2	＞JP NGO E2
			2代(2nd Sub.)・E・3	E3	＞JP NGO E3
			2代(2nd Sub.)・E・4	E4	＞JP NGO E4
			2代(2nd Sub.)・E・5	E5	＞JP NGO E5
			2代(2nd Sub.)・B・1	B1	＞JP NGO B1
			2代(2nd Sub.)・B・2	B2	＞JP NGO B2
			2代(2nd Sub.)・B・3	B3	＞JP NGO B3
			2代(2nd Sub.)・B・4	B4	＞JP NGO B4
			2代(2nd Sub.)・N・1	N1	＞JP NGO N1
			2代(2nd Sub.)・N・2	N2	＞JP NGO N2
			2代(2nd Sub.)・N・3	N3	＞JP NGO N3
			2代(2nd Sub.)・N・4	N4	＞JP NGO N4
			2代(2nd Sub.)・K・1	K1	＞JP NGO K1
			2代(2nd Sub.)・K・2	K2	＞JP NGO K2
			2代(2nd Sub.)・K・3	K3	＞JP NGO K3
			2代(2nd Sub.)・W・1	W1	＞JP NGO W1
			2代(2nd Sub.)・W・2	W2	＞JP NGO W2
			2代(2nd Sub.)・W・3	W3	＞JP NGO W3
			2代(2nd Sub.)・W・4	W4	＞JP NGO W4
			2代(2nd Sub.)・W・5	W5	＞JP NGO W5
			2代(2nd Sub.)・P・1	P1	＞JP NGO P1
			2代(2nd Sub.)・S・1	S1	＞JP NGO S1
			Purposes other than stated above course in the port	XX	＞JP NGO XX
阪神／HAN-SHIN	堺泉北区／SAKAISENBOKU	JP SBK	2代(2nd Sub.)・1	1	＞JP SBK 1
			2代(2nd Sub.)・2	2	＞JP SBK 2
			2代(2nd Sub.)・3	3	＞JP SBK 3
			Purposes other than stated above course in the port	XX	＞JP SBK XX
	大阪区／OSAKA	JP OSA	2代(2nd Sub.)・H	H	＞JP OSA H
			2代(2nd Sub.)・2・T	2T	＞JP OSA 2T
			2代(2nd Sub.)・2・A	2A	＞JP OSA 2A
			2代(2nd Sub.)・3・W	3W	＞JP OSA 3W
			2代(2nd Sub.)・3・E	3E	＞JP OSA 3E
			2代(2nd Sub.)・3・C	3C	＞JP OSA 3C
			2代(2nd Sub.)・3・K	3K	＞JP OSA 3K
			2代(2nd Sub.)・4・N	4N	＞JP OSA 4N
			2代(2nd Sub.)・4・S	4S	＞JP OSA 4S
			2代(2nd Sub.)・5	5	＞JP OSA 5
			Purposes other than stated above course in the port	XX	＞JP OSA XX
	尼崎西宮芦屋区 AMAGASAKI/NISHI-NOMIYA/ASHIYA	JP AMX	—		＞JP AMX
	神戸区／KOBE	JP UKB	2代(2nd Sub.)・K	K	＞JP UKB K
			2代(2nd Sub.)・T	T	＞JP UKB T
			2代(2nd Sub.)・N	N	＞JP UKB N
			2代(2nd Sub.)・S・W	SW	＞JP UKB SW
			2代(2nd Sub.)・P・W	PW	＞JP UKB PW
			2代(2nd Sub.)・P・2	P2	＞JP UKB P2
			2代(2nd Sub.)・P・E	PE	＞JP UKB PE
			2代(2nd Sub.)・P・N	PN	＞JP UKB PN
			2代(2nd Sub.)・S・E	SE	＞JP UKB SE
			2代(2nd Sub.)・M・W	MW	＞JP UKB MW
			2代(2nd Sub.)・M	M	＞JP UKB M
			2代(2nd Sub.)・A	A	＞JP UKB A
			2代(2nd Sub.)・E・1	E1	＞JP UKB E1
			2代(2nd Sub.)・E・2	E2	＞JP UKB E2
			2代(2nd Sub.)・R・N	RN	＞JP UKB RN
			2代(2nd Sub.)・R・W	RW	＞JP UKB RW
			2代(2nd Sub.)・R・S	RS	＞JP UKB RS
			2代(2nd Sub.)・R・E	RE	＞JP UKB RE
			2代(2nd Sub.)・R	R	＞JP UKB R
			2代(2nd Sub.)・E・3	E3	＞JP UKB E3
			2代(2nd Sub.)・F	F	＞JP UKB F
			2代(2nd Sub.)・E・4	E4	＞JP UKB E4
			Purposes other than stated above course in the port	XX	＞JP UKB XX
那覇／NAHA		JP NAH	1代(1st Sub.)・Y	—	—
			1代(1st Sub.)・U	—	—

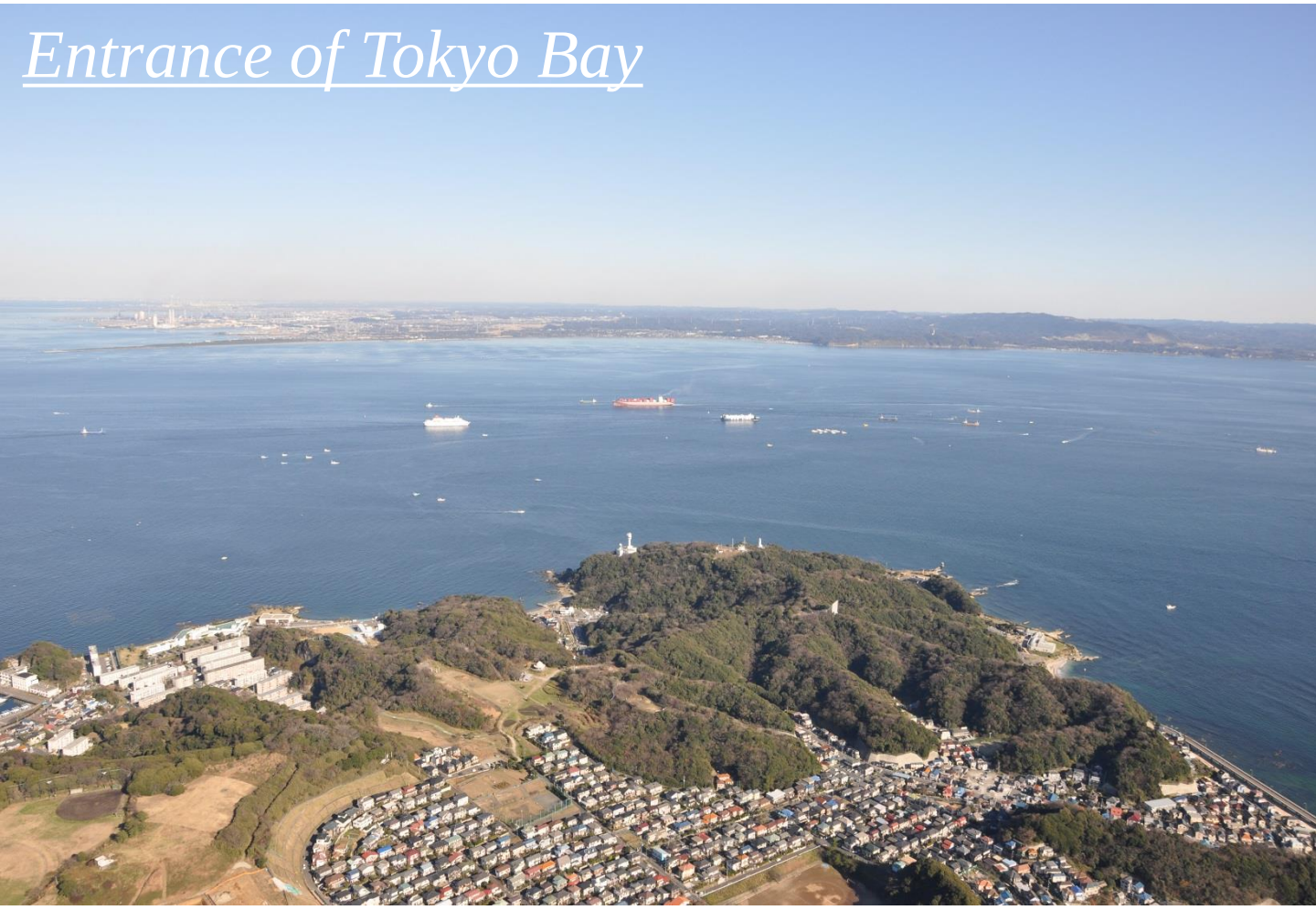
港の名称 Port		コード CODE	規則第11条に基づく進路信号 Course Signal of International Signal Flags	港内進路コード In-port Course Code	入力例 Example
水島／MIZUSHIMA		JP MIZ	1代(1st Sub.)・M or 1代(1st Sub.)・P	—	—
			1代(1st Sub.)・T	—	—
			2代(2nd Sub.)・A	A	＞JP MIZ A
			2代(2nd Sub.)・B	B	＞JP MIZ B
			2代(2nd Sub.)・C	C	＞JP MIZ C
			2代(2nd Sub.)・D	D	＞JP MIZ D
			2代(2nd Sub.)・T・H	TH	＞JP MIZ TH
			2代(2nd Sub.)・T・S	TS	＞JP MIZ TS
			2代(2nd Sub.)・F・M	FM	＞JP MIZ FM
			2代(2nd Sub.)・F・T	FT	＞JP MIZ FT
			Purposes other than stated above course in the port	XX	＞JP MIZ XX
関門／KAN-MON	響新港区／HIBIKISHINKO	JP HBK	—		＞JP HBK
	新門司区／SHINMOJI	JP SMJ	—		＞JP SMJ
	上記以外の港域 Sea areas other than HIBIKISHINKO and SHINMOJI	JP KNM	1代(1st Sub.)・E	—	—
			1代(1st Sub.)・W・A	—	—
			1代(1st Sub.)・W・S	—	—
			1代(1st Sub.)・W・M	—	—
			2代(2nd Sub.)・T	T	＞JP KNM T
			2代(2nd Sub.)・U・W	UW	＞JP KNM UW
			2代(2nd Sub.)・U	U	＞JP KNM U
			2代(2nd Sub.)・U・S	US	＞JP KNM US
			2代(2nd Sub.)・U・E	UE	＞JP KNM UE
			2代(2nd Sub.)・M	M	＞JP KNM M
			2代(2nd Sub.)・S	S	＞JP KNM S
			2代(2nd Sub.)・N	N	＞JP KNM N
			2代(2nd Sub.)・N・F	NF	＞JP KNM NF
			2代(2nd Sub.)・K・A	KA	＞JP KNM KA
			2代(2nd Sub.)・K・S	KS	＞JP KNM KS
			2代(2nd Sub.)・K・H	KH	＞JP KNM KH
			2代(2nd Sub.)・R	R	＞JP KNM R
			2代(2nd Sub.)・R・S	RS	＞JP KNM RS
			2代(2nd Sub.)・Y・O	YO	＞JP KNM YO
			2代(2nd Sub.)・Y・R	YR	＞JP KNM YR
			2代(2nd Sub.)・Y・K	YK	＞JP KNM YK
			2代(2nd Sub.)・Y・D	YD	＞JP KNM YD
			2代(2nd Sub.)・Y・B	YB	＞JP KNM YB
			2代(2nd Sub.)・Y	Y	＞JP KNM Y
			2代(2nd Sub.)・Y・E	YE	＞JP KNM YE
			2代(2nd Sub.)・Y・W	YW	＞JP KNM YW
			2代(2nd Sub.)・Y・N	YN	＞JP KNM YN
			2代(2nd Sub.)・Y・X	YX	＞JP KNM YX
			2代(2nd Sub.)・Y・H	YH	＞JP KNM YH
			2代(2nd Sub.)・Z	Z	＞JP KNM Z
			2代(2nd Sub.)・A	A	＞JP KNM A
			2代(2nd Sub.)・J・C	JC	＞JP KNM JC
			2代(2nd Sub.)・J・B	JB	＞JP KNM JB
			2代(2nd Sub.)・C	C	＞JP KNM C
			Purposes other than stated above course in the port	XX	＞JP KNM XX
博多／HAKATA		JP HKT	2代(2nd Sub.)・C	C	＞JP HKT C
			2代(2nd Sub.)・P	P	＞JP HKT P
			2代(2nd Sub.)・S	S	＞JP HKT S
			2代(2nd Sub.)・E・1	E1	＞JP HKT E1
			2代(2nd Sub.)・E・2	E2	＞JP HKT E2
			Purposes other than stated above course in the port	XX	＞JP HKT XX
長崎／NAGASAKI		JP NMX	2代(2nd Sub.)・F	F	＞JP NMX F
			2代(2nd Sub.)・1・E	1E	＞JP NMX 1E
			2代(2nd Sub.)・1・W	1W	＞JP NMX 1W
			2代(2nd Sub.)・1・B	1B	＞JP NMX 1B
			2代(2nd Sub.)・2・E	2E	＞JP NMX 2E
			2代(2nd Sub.)・2・W	2W	＞JP NMX 2W
			2代(2nd Sub.)・3・N	3N	＞JP NMX 3N
			2代(2nd Sub.)・3・E	3E	＞JP NMX 3E
			2代(2nd Sub.)・4・E	4E	＞JP NMX 4E
			2代(2nd Sub.)・4・W	4W	＞JP NMX 4W
			Purposes other than stated above course in the port	XX	＞JP NMX XX
那覇／NAHA		JP NAH	2代(2nd Sub.)・N	N	＞JP NAH N
			2代(2nd Sub.)・T	T	＞JP NAH T
			2代(2nd Sub.)・S	S	＞JP NAH S
			2代(2nd Sub.)・U	U	＞JP NAH U
			Purposes other than stated above course in the port	XX	＞JP NAH XX

経由進路を示すコード一覧表／List of Codes showing other courses

経由進路	経由進路コード	入力例
港則法		
関門港を東口に向かって航行し、関門港（響新港区、新門司区を除く。）を通過又は出港しようとする船舶	E	＞JP MIZ TS/E 水島港の玉島地区の係留施設に向かって航行する船舶であって、途中、関門港を東口に向かって航行して同港を通過しようとする船舶
関門港を西口の六連島東方に向かって航行し、関門港（響新港区、新門司区を除く。）を通過又は出港しようとする船舶	WM	＞RU VVO/WM ウラジオストック港（ロシア）に向かって航行する船舶であって、途中、関門港を西口の六連島東方に向かって航行して同港を通過しようとする船舶
関門港を西口の馬島西方を通過して白州（白島）南方に向かって航行し、関門港（響新港区、新門司区を除く。）を通過又は出港しようとする船舶	WS	TO JP HKT 2/WS 博多港第2区の係留施設に向かって航行する船舶であって、途中、関門港西口の馬島西方を通過して白州（白島）南方に向かって航行して同港を通過しようとする船舶
関門港を西口の馬島西方を通過して藍島東方に向かって航行し、関門港（響新港区、新門司区を除く。）を通過又は出港しようとする船舶	WA	TO KR BUS/WA 韓国プサン港に向かって航行する船舶であって、途中、関門港西口の馬島西方を通過して藍島東方に向かって航行して同港を通過しようとする船舶
海上交通安全法		
東京湾の中ノ瀬海域で錨泊しようとする船舶	NNX	＞JP YOK K/NNX 京浜港横浜第3区のJFEスチール東日本製鉄所岸壁に向かって航行する船舶であって、途中、東京湾内の中ノ瀬西方海域で錨泊しようとする船舶

Via－Route	CODE	Example of Input
in Port of Kanmon		
Those ships that are sailing in Kanmon Port heading for the East Exit and are passing by or leaving Kanmon Port. (Excluding Hibiki-Shinko area and Shinmoji area)	E	＞JP MIZ TS/E Those ships that are sailing heading for the berthing facility in the Tamashima area of Mizushima Port and are passing by Kanmon Port after saling into Kanmon Port heading for the East Exit on the way.
Those ships that are sailing in Kanmon Port heading for east of Mutsure-shima Is. at the West Exit and are passing by or leaving Kanmon Port. (Excluding Hibiki-Shinko area and Shinmoji area)	WM	＞RU VVO/WM Those ships that are sailing for Vladivostok Port (Russia) and are passing by Kanmon Port after saling into Kanmon Port heading for the east of Mutsure-shima Is.at the West Exit.
Those ships that are sailing in Kanmon Port heading for south of Shira-su shoal (Shiro-shima Is.) and passing by to the west of Uma-shima Is. at the West Exit , and are passing by or leaving Kanmon Port. (Excluding Hibiki-Shinko area and Shinmoji area)	WS	TO JP HKT 2/WS Those ships that are sailing heading for berthing facility in No.2 division of Hakata Port and are passing by Kanmon Port after saling passing by West Exit of Kanmon Port and are passing by the port after sailing to south of Shira-su shoal (Shiro-shima Is.)on the way.
Those ships that are sailing in Kanmon Port heading for the east of AI-SHIMA after passing by to the west of Uma-shima at the West Exit and are passing by or leaving Kanmon Port. (Excluding Hibiki-Shinko area and Shinmoji area)	WA	TO KR BUS/WA Those ships that are sailing heading for Busan Port (Korea) and are passing by Kanmon Port after saling into Kanmon Port by west of Uma-shima Is. at West Exit of Kanmon Port and are passing by the Port after sailing heading for east of Ai-shima Is. on the way.
in Tokyo Bay		
Those ships that are going to anchor in the Nakanose sea area in Tokyo Bay.	NNX	＞JP YOK K/NNX Those ships that are sailing heading for piea of East Japan Works of JFE Steel Corporation in Yokohama area No.3 division of Keihin Port and are anchoring in the sea area to west of Nakanose in Tokyo Bay.

Entrance of Tokyo Bay



For inquiries, contact

Tokyo Wan Vessel Traffic Service Center, Japan Coast Guard

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Phone Number：045 - 211 - 9118

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3rd Regional Coast Guard Headquarters , Japan Coast Guard

Address：5 - 57 Kitanaka-dori, Naka-ku,Yokohama City,
Kanagawa Prefecture, 231-8818, JAPAN

Phone Number ：045 - 211 - 1118

Internet Homepage：http://www.kaiho.mlit.go.jp/03kanku/

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Syllabus / Curriculum

Appendix 6.10.3 -1 (1-14)

BASIC LEVEL TRAINING OF AIDS TO NAVIGATION

APPENDIX I DECISION OF MINISTRY OF TRANSPORTATION
NUMBER : SK. 416 / BPSDM.P-2014
DATE : 14 AUGUST 2014

SYLLABUS CURRICULUM FOR PARTICIPANTS OF SEA TRANSPORTATION FUNCTIONAL TECHNICAL TRAINING AT THE SEA TRANSPORTATION EDUCATION AND TRAINING CENTER (BPPTL) JAKARTA

BASIC LEVEL TRAINING OF AIDS TO NAVIGATION SYLLABUS CURRICULUM (SEA TRANSPORTATION FUNCTIONAL TECHNICAL TRAINING)

Program : **BASIC LEVEL TECHNICAL TRAINING OF AID TO NAVIGATION**
Program Objectives : **Participants have ability and skill in the field AtoN operation**
Curricular Purpose : **Participants have expertise and skills in the operation and maintenance of AtoN.**
Study Period : **30 Days**
Study Load : **175 Lesson Hours**
Legal Basis : **1. Law No.17 of 2008, concerning Sailing**
2. Government Regulation No. 5 of 2010 concerning Navigation
3. Minister of Transportation Regulation No. PM 25 of 2011 concerning Aids to Navigation
4. Minister of Transportation Regulation No. PM 26 of 2011 concerning Navigation Telecommunications
5. Minister of Transportation Regulations PM 68 of 2011 concerning Sea Line
6. International of Association of Lighthouse Authorities (IALA)

(175 Lesson Hours / 30 Days)

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
Personality Development Course ***(Personality)***	1. Discretion Discourse Sub Sector of Sea Transportation	a. Discretion of DGST	5	-	5
		b. Discretion of Human Resources Development Agency and Center of Sea Transportation	10	-	10
		c. Discretion of Head of Sea Transportation Education and Training Center (BPPTL)	5	-	5
	2. English	a. Terminology b. Grammar c. Writing & Conversation	5	5	10
	3. Character Building	a. Personality of Civil Service Employee b. Cooperation c. Employee Discipline d. Employee Development	10	-	10
	4. Basic Military Regulation	a. Line-up regulation b. Military Ceremonies c. Military Respect Regulations d. Attitude and Discipline	-	10	10
SUB TOTAL I			**35**	**15**	**50**
Science and Skill Course ***(Know how and why)***	1. Navigation General Knowledge		5	-	5
	2. AtoN General Technical	a. Definition and type of AtoN b. Visual and electronic AtoN c. Optical light theory d. The distance appears AtoN e. AtoN light sources	10	10	20
	3. VTS Introduction	a. Introduction and VTS theory b. VTS equipment c. Basic law	5	-	5
	4. Electricity and electronics	a. Basics of electricity b. Insulators, conductors and semiconductors c. Voltage and current resistance d. Series and parallel relations e. Measuring instruments and its use f. Flash diagram and series g. The basics of electronic beacon lights h. Flasher and lamp changer i. Beacon radar	10	5	15

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
	5. Motor	a. Motor basics b. Fuel System Knowledge c. Lubrication system knowledge d. Cooling system knowledge e. Knowledge of Air Starting / Dynamo Starter	5	5	10
	6. Operation and maintenance of AtoN	a. Operation and maintenance of AC power b. Operation and maintenance of DC electricity c. Operation and maintenance of solar panels d. Battery / accu operation and maintenance e. Operation and maintenance of flare buoys and life buoys f. Anchoring system g. Operation and maintenance of Beacon Lights (Revolving, Rotating, Flashing and LED) h. Radar Beacon operation and maintenance (RACON) i. Painting	10	5	15
SUB TOTAL II			**45**	**25**	**70**
Craft Work Course = ***Know to do***)	1. K-3 (Kesehatan dan Keselamatan Kerja) (Work Safety and Health)	a. Work Safety b. SOLAS c. Work Safety Act 1971 d. Knowledge of hazardous materials e. Electrical and gas hazards f. Knowledge of lightning	5	-	5
	2. Weather Knowledge	a. season in Indonesia b. tidal c. sea water currents d. wind e. wave	5	-	5
	3. Rigging Rope	a. types of knot b. make rigging c. the use of rigging	5	5	10
	4. Knowledge of Sign	a. Sign on the air b. Morse code c. Flag code	5	-	5
	5. Introduction of SSB	a. The use of SSB b. The maintenance of SSB	5	-	5
	6. Basics of Map Reading	a. map types and scales b. latitude and longitude c. map signs and abbreviations d. calculate the visible distance and determine the direction angle	5	-	5
SUB TOTAL III			**30**	**5**	**35**
Work Behaviour Course = ***Capable to be)***	1. Food and Nutrition Knowledge	a. Types of 4 healthy 5 perfect food b. Knowledge of healthy c. Make living dispensaries and food stalls	5	-	5
	2. First Aid	a. First Aid b. Knowledge of medicine	5	-	5
	3. Safety Equipment on Ship	a. Lifeboats, rafts and life buoys b. Life jackets c. Rope aid d. Emergency Sign	5	-	5
	4. Ship types introduction	a. Ship types b. Foreign country flag	5	-	5
SUB TOTAL IV			**20**	**0**	**20**

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
Social Living Course ***Able to live together)***	1. Field Work Practice	a. Field survey b. Data / information collection c. Question and Answer / Discussion	Package	-	Package
	2. Making Field Work Practice Paper	a. Procedur of making field work practice paper b. Technic of making field work practice paper c. Mastery of field work paper material	Package	-	Package
	3. Seminar	a. Group Work Paper Presentation b. Disclaimer / Question c. Response / Answer d. Referral Resources	Package	-	Package
	4. Evaluation	a. Manuscript Making & Research Script b. Participant exams c. Supervision of examinations d. Test correction e. Assessment	Package	-	Package
SUB TOTAL V			**0**	**0**	**0**
TOTAL AMOUNT			**130**	**45**	**175**

Remarks :

Practice can be interpreted as a demonstration in the laboratory / simulator, counting exercises, or field explanations during field study to the port / to the ship

T : Theory

P: Practical

Appendix 6.10.3 -1 (2-14)

AIDS TO NAVIGATION

TECHNICAL TRAINING

SKILLED LEVEL

SYLLABUS CURRICULUM OF AIDS TO NAVIGATION TRAINING SKILLED LEVEL
(SEA TRANSPORTATION FUNCTIONAL TECHNICAL TRAINING)

Program : **AIDS TO NAVIGATION TECHNICAL TRAINING SKILLED LEVEL**
Program Objectives : **Participants have the ability and skills in the field aids to navigation operation**
Curricular Purpose : **Participants have expertise and skills in operations, maintenance and repairs of aids to navigation**
Study Period : **30 days**
Study Load : **175 lesson hour**
Legal Basis : **1. Law No.17 of 2008, concerning Shipping**
2. Government Regulation No. 5 of 2010 concerning Navigation
3. Minister of Transportation Regulation No. PM 25 of 2011 concerning Sailing Navigation Aids
4. Minister of Transportation Regulation No. PM 26 of 2011 concerning Shipping Telecommunications
5. Minister of Transportation Regulation No. PM 68 of 2011 concerning Sea Line
6. International of Association of Lighthouse Authorities (IALA)

(175 lesson hour / 30 days)

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
Personality Development Course ***(Personality)***	1. Discretion Discourse Sub Sector of Sea Transportation	a. Discretion of DGST b. Discretion of Human Resources Development Agency and Center of Sea Transportation c. Discretion of Head of Sea Transportation Education and Training Center (BPPTL)	5 10 5	- - -	5 10 5
	2. English	a. Terminology b. Grammar c. Writing & Conversation	5	5	10
	3. Character Building	a. Personality of Civil Service Employee b. Cooperation c. Employee Discipline d. Employee Development	10	-	10
	4. Basic Military Regulation	a. Line-up regulation b. Military Ceremonies c. Military Respect Regulations d. Attitude and Discipline	-	10	10
SUB TOTAL I			**35**	**15**	**50**
Science and Skill Course ***(Know how and* why)**	1. Modul Fundamental of Electrical Engineering	a. Introduction to Electrical Engineering b. Electrical Fundamental	5	5	10
	2. Modul Electrical Measurement	a. Introduction to electronic Measurement b. Analog Intrumentation c. Digital Intrumentation d Analog digital conversion e Electrical measurement	10	5	15
	3. Modul Electric Circuit	a. Introduction to electric circuit b. Introduction to balance phase circuit c. Thevenin and Norton equivalent circuit d. Introduction to frequncy selective e. electric circuit	10	10	20
	4. Modul electronic devices and circuits	a. Introduction to electronic devices b. basic microelectronic circuit analysis c. basic circuit analysis and design d. basic resistive elements and network e. circuit and electronics	10	10	20
	5. Modul electrical power system	a. Mechanical and electromagnetic fundamental b. Three phase circuit fundamentals c. Transformers fundamentals d. AC Machinery fundamentals	5	5	10
	6. Modul electrical power generators	a. Diesel generators basic theory and practice b. Engine diagnosa and tune up c. Circuit analysis dan diagnosis d Engine and altenator component replacement e Diesel engine maintanance best practise	5	5	10
SUB TOTAL II			**45**	**40**	**85**

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
Craft Work Course (***Know to do***)	1. Shipping and Work Safety	a. Shipping safety b. SOLAS 1974 c. Work Safety Act	5	-	5
	2. Vessel Trafic System (VTS)	a. Legal Basis b. Equipment c. Care / Maintenance	5		5
	3. Search And Rescue (S A R)	a. Legal Basis b. SAR implementation c. Follow-up	10	-	10
SUB TOTAL III			**20**	**0**	**20**
Work Behaviour Course (***Capable to be)***	1. Navigation Knowledge	a. Knowledge of navigation hazard b. Buoy System A type c. Types of beaches d. Types of seabed e. Advanced map knowledge f. Map correction g. Knowledge line and crossing h. Positioning i. Map making	10	-	10
	2. Management of Aids to Navigation	a. Management Theory of Aids to Navigation b. Management techniques of Aids to Navigation	5	-	5
	3. Regional Autonomy	a. Legal Basis b. Explanation c. Purpose and objectives	5	-	5
SUB TOTAL IV			**20**	**0**	**20**
Social Living Course ***(Able to live together)***	1. Field Work Practice	a. Field survey b. Data / information collection c. Question and Answer / Discussion	Package	-	Package
	2. Making Field Work Practice Paper	a. Procedur of making field work practice paper b. Technic of making field work practice paper c. Mastery of field work paper material	Package	-	Package
	3. Seminar	a. Group Work Paper Presentation b. Disclaimer / Question c. Response / Answer d. Referral Resources	Package	-	Package
	4. Evaluation	a. Manuscript Making & Research Script b. Participant exams c. Supervision of examinations d. Test correction e. Assessment	Package	-	Package
SUB TOTAL V			**-**	**-**	**-**
TOTAL AMOUNT			**120**	**55**	**175**

Remarks :

Practice can be interpreted as a demonstration in the laboratory / simulator, counting exercises, or field explanations during field study to the port / to the ship

T : Theory

P: Practical

Appendix 6.10.3 -1 (3-14)

TECHNICAL TRAINING OF MARINE INSPECTOR RADIO

SYLLABUS CURRICULUM OF MARINE INSPECTOR RADIO TRAINING
(SEA TRANSPORTATION FUNCTIONAL TECHNICAL TRAINING)

Program : **TECHNICAL TRAINING OF MARINE INSPECTOR RADIO**
Program Objectives : **Participants who have the ability and skills in investigating radio equipment**
Curricular Purpose : **Participants have expertise and skills in supervision and equipment management radio**
Study Period : **35 days**
Study Load : **195 lesson hour**
Legal Basis : **1. Law No.17 of 2008, concerning Shipping**
2. Government Regulation No. 5 of 2010 concerning Navigation
4. Minister of Transportation Regulation No. PM 26 of 2011 concerning Shipping Telecommunications
4. International Telecommunication Union (ITU/ Radio Regulation)

(195 lesson hours / 35 days)

GROUP	SUBJECT		LESSON HOURS		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
MPK (Mata Kuliah) Pengembangan Kepribadian = ***Personality)***	1. Discretion Discourse Sub Sector of Sea Transportation	a. Discretion of DGST	5	-	5
		b. Discretion of Human Resources Development Agency and Center of Sea Transportation	10	-	10
		c. Discretion of Head of Sea Transportation Education and Training Center (BPPTL)	5	-	5
	2. English	a. Terminology b. Grammar c. Writing & Conversation	10	-	10
	3. Character Building	a. Personality of Civil Service Employee b. Cooperation c. Employee Discipline d. Employee Development	10	-	10
	4. Basic Military Regulation	a. Line-up regulation b. Military Ceremonies c. Military Respect Regulations d. Attitude and Discipline	-	20	20
SUB TOTAL I			**40**	**20**	**60**
Science and Skill Course ***(Know how and* why)**	1. Introduction	a. The Course (Back Ground and purpose of Marine Radio Inspector and Inspector Regulation)	10	-	10
	2. Radio Regulation	a. Solas CONV 1974 b. Solas CONV 1995 c. Radio Regulation d. Law No. 36 of 1999 concerning e. Law No. 17 of 2008 concerning Shipping f. PP 05 of 2010 concerning Navigation g. PM No. 26 of 2011 concerning Shipping Telecommunication	20	-	20
	3. GMDSS Communication System	a. Purpose and use of GMDSS b. General Principles of DSC,NBDP and EGC c. Knowledge and use of Inmarsat System d. Knowledge and Practical Use of Ship station e. Foult location and Rectification on Maritime Electronic Equipment	10	-	10
	4. Vessel Traffic Service (VTS)	a. Legal Basis b. Equipment c. Operation and maintenance	10	10	20
SUB TOTAL II			**50**	**10**	**60**
Craft Work Course (***Know to do***)	1. Other GMDSS Equipment	a. EPIRB 406 MHZ b. EPIRB 1.6 MHZ c. Radar Transporder (SART) d. MSI service e. AIS and ISPS Code f. NAVTEX g. SSAS h. Inmarsat i. VDR j. LRIT	10	-	10

GROUP	SUBJECT		LESSON HOURS		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
	2. Implementation to GMDSS In	a. Master Plan to GMDSS b. Concept of GMDSS for search and rescue c. Standart of servicing GMDSS equipment and maintenance system	10	-	10
	3. Source of Electrical Power	a. Main Source of Electrical Power b. Emergency source of electrical power c. Reserve source of energy	5	-	5
SUB TOTAL III			**25**	**-**	**25**
Work Behaviour Course (***Capable to be)***	1. Documentation and log book of GMDSS	a. Report and Certification b. Certificates of Radio Personal c. ITU Publication d. Radio Log Book	10	5	15
	2 Theory / Simulation	a. Survey and Inspection b. GMDSS Equipment c. Other GMDSS Equipment	10	5	15
	3 How to inspection **(Inside the City)**	a. GMDSS equipment b. SSB transceiver c. VHF transceiver d. Battery room e. Power suplly f. SART g. Inmarsat h NAVTEX i. EPIRB	-	10	10
	4 Check List	a. Inspection check list	-	10	10
SUB TOTAL IV			**20**	**30**	**50**
Social Living Course ***(Able to live together)***	1. Field Work Practice	a. Field survey b. Data / information collection c. Question and Answer / Discussion	Package	-	Package
	2. Making Field Work Practice Paper	a. Procedur of making field work practice paper b. Technic of making field work practice paper c. Mastery of field work paper material	Package	-	Package
	3. Seminar	a. Group Work Paper Presentation b. Disclaimer / Question c. Response / Answer d. Referral Resources	Package	-	Package
	4. Evaluation	a. Manuscript Making & Research Script b. Participant exams c. Supervision of examinations d. Test correction e. Assessment	Package	-	Package
SUB TOTAL V			**-**	**-**	**-**
TOTAL AMOUNT			**135**	**60**	**195**

Remarks :

Practice can be interpreted as a demonstration in the laboratory / simulator, counting exercises, or field explanations during field study to the port / to the ship

T : Theory

P: Practical

Appendix 6.10.3 -1 (4-14)

VESSEL TRAFFIC SYSTEM TECHNICAL TRAINING (BASIC)

SYLLABUS CURRICULUM OF VESSEL TRAFFIC SYSTEM (BASIC) TRAINING
(SEA TRANSPORTATION FUNCTIONAL TECHNICAL TRAINING)

Program : **VESSEL TRAFFIC SYSTEM TECHNICAL TRAINING (BASIC)**
Program Objective : **Participants have the ability and skill of Vessel Traffic Service equipment**
Curricular Objectiv : **Participants are expected to know and understand Vessel Traffic Service equipment**
Study Period : **28 days**
Study Load : **155 lesson hours**
Legal Basis : **1. Law No.17 of 2008, concerning Shipping**
2. Government Regulation No. 5 of 2010 concerning Navigation
3. Minister of Transportation Regulation No. PM 26 of 2011 concerning Shipping Telecommunications
4. International of Association of Lighthouse Authorities (IALA)

(155 lesson hours / 28 days)

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
Personality Development Course ***(Personality)***	1. Discretion Discourse Sub Sector of Sea Transportation	a. Discretion of DGST	5	-	5
		b. Discretion of Human Resources Development Agency and Center of Sea Transportation	10	-	10
		c. Discretion of Head of Sea Transportation Education and Training Center (BPPTL)	5	-	5
	2. Character Building	a. Personality of Civil Service Employee b. Cooperation c. Employee Discipline d. Employee Development	10	-	10
	3. Basic Military Regulation	a. Line-up regulation b. Military Ceremonies c. Military Respect Regulations d. Attitude and Discipline	-	10	10
	4. English	a. Grammar b. Making VTS news c. Standard sentence for ship communication d. Information Collection	10	-	10
SUB TOTAL I			**40**	**10**	**50**
Science and Skill Course ***(Know how and* why)**	1. Traffic Management	a. Requirements according to regulations b. Duties and responsibilities c. VTS environment d. The principle of flow and management of traffic e. Traffic arrangements and organization	10	-	10
	2. Equipment	a. Telecommunication b. Vessel Taffic Management (Management of ship traffic) c. Radar, Audio, Video and other sensors d. VHF / Direction Finding (VHF / DF) e. Tracking System (automatic searching system) f. Technology Development	10		10
	3. Nautical Knowledge	a. Chart Work b. COLREG c. Aid to Navigation d. Shipboard knowledge e. Port Operation and Other Allied Services	5 5 5 5 5	5 5 5 5 5	10 10 10 10 10
	4. Communication Coordination	a. General communication skill b. Communication procedure c. Log and Record Keeping	10	-	10
	5. VHF Radio Operator Communication Practice and Procedure	a. Radio operator activities and procedures b. VHF radio system and its use in VTS c. Operation of radio equipment d. Communication procedures include SAR		10	10
	6. Personal Skill	a. Diplomacy b. Interaction c. Emergency management d. Management attributes e. Reliability	5		5

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
	7. Emergency Situation	a. International, National, Regional, and Local regulations; b. Internal and external emergencies c. Responses to contingencies d. Enforcement of priorities and responses to the circumstances e. Coordination, and support for shared services (with other institutions) f. Recording activities in an emergency situation g. Maintain the security of the flow in an emergency situation	10		10
SUB TOTAL II			**70**	**35**	**105**
Social Living Course ***(Able to live together)***	1. Field Work Practice	a. Field survey b. Data / information collection c. Question and Answer / Discussion	Paket	-	Paket
	2. Evaluation	a. Manuscript making b. Participant exams c. Supervision of examinations d. Test correction e. Assessment	Paket	-	Paket
SUB TOTAL III			**-**	**-**	**-**
TOTAL AMOUNT			**110**	**45**	**155**

Remarks :

Practice can be interpreted as a demonstration in the laboratory / simulator, counting exercises, or field explanations during field study to the port / to the ship

T : Theory

P: Practical

Appendix 6.10.3 -1 (5-14)

VESSEL TRAFFIC SYSTEM OPERATOR TECHNICAL TRAINING

SYLLABUS CURRICULUM OF VESSEL TRAFFIC SYSTEM OPERATOR TRAINING
(SEA TRANSPORTATION FUNCTIONAL TECHNICAL TRAINING)

Program : **VESSEL TRAFFIC SYSTEM OPERATOR TECHNICAL TRAINING**
Program Objective : **Participants have the ability and skills in operating Vessel Traffic Service equipment**
Curricular Objecti : **Participants are expected to operate the Vessel Traffic Service equipment**
Study Period : **42 Days**
Study Load : **260 Lesson Hour**
Legal Basis : **1. Law No.17 of 2008, concerning Shipping**
2. Government Regulation No. 5 of 2010 concerning Navigation
3. Minister of Transportation Regulation No. PM 26 of 2011 concerning Shipping Telecommunications
4. International of Association of Lighthouse Authorities (IALA)

(260 LESSON HOUR / 42 DAYS)

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
Personality Development Course ***(Personality)***	1. Discretion Discourse Sub Sector of Sea Transportation	a. Discretion of DGST	5	-	5
		b. Discretion of Human Resources Development Agency and Center of Sea Transportation	10	-	10
		c. Discretion of Head of Sea Transportation Education and Training Center (BPPTL)	5	-	5
	2. Character Building	a. Personality of Civil Service Employee b. Cooperation c. Employee Discipline d. Employee Development	10	-	10
	3. Basic Military Regulation	a. Line-up regulation b. Military Ceremonies c. Military Respect Regulations d. Attitude and Discipline	-	10	10
	4. English	a. Grammar b. Making VTS news c. Standard sentence for ship communication d. Information Collection	20	50	70
SUB TOTAL I			**50**	**60**	**110**
Science and Skill Course ***(Know how and why)***	1 Language_3	a. Language Structure b. Specific VTS Messages construction c. Standard Phrases d. Collecting Information	**10**	**10**	**20**
	2 Traffic Management	a. Regulatory requirements b. Roles and esponsibilities c. VTS Environment d. Principles of waterway and traffic management e. Traffic Monitoring and organisation	**10**	**10**	**20**
	3 Equipment	a. Telecommunications b. Radar, audio, video and other sensors c. VHF/Direction finding (VHF/DF) d. Tracking system e. Information management f. Equipment performance monitoring g. Evolving technologies	**10**	**10**	**20**
	4 Nautical Knowledge	a. Chartwork b. Collision regulations c. Aids to navigation d. Navigational aids (ship bome) e. Shipboard knowledge f. Port operations and other allied service	**10**	**10**	**20**
	5 Communication Co-Ordination	a. General communication skills b. Communications c. Log and record keeping		**10**	**10**
	6 VHF Radio	a. Radio operator practice and procedures b. VHF radio systems and their use in VTS c. Operation of radio equipment d. Communication Procedures, including SAR	**10**	**10**	**20**

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
	7 Personal Attributes	a. Interaction with others b. Human relation skills c. Responsibility and Realibility	**10**	**10**	**20**
	8 Emergency Situations	a. * International, national, regional, local regulations b. * Contingency plans c. * Priorities and respond to situations d. * Record activities concerning emergencies e. * Maintain a safe waterway throughout emergency situations f. * Internal / external emergencies	**10**	**10**	**20**
SUB TOTAL II			**70**	**80**	**150**
Social Living Course ***(Able to live together)***	1. Field Work Practice	a. Field survey b. Data / information collection c. Question and Answer / Discussion	Package	-	Package
	2. Evaluation	a. Manuscript making b. Participant exams c. Supervision of examinations d. Test correction e. Assessment	Package	-	Package
SUB TOTAL IV			**-**	**-**	**-**
TOTAL AMOUNT			**120**	**140**	**260**

Remarks :

Practice can be interpreted as a demonstration in the laboratory / simulator, counting exercises, or field explanations during field study to the port / to the ship

T : Theory

P: Practical

Appendix 6.10.3 -1 (6-14)

VESSEL TRAFFIC SYSTEM SUPERVISOR TECHNICAL TRAINING

SYLLABUS CURRICULUM OF SUPERVISOR VESSEL TRAFFIC SYSTEM TRAINING
(SEA TRANSPORTATION FUNCTIONAL TECHNICAL TRAINING)

Program : **VESSEL TRAFFIC SYSTEM SUPERVISOR TECHNICAL TRAINING**
Program Objective : **Participants have the ability and skills to supervise the operation of Vessel Traffic Service equipment**
Curricular Objectiv : **Participants are expected to have the ability and expertise to control, regulate and coordinate operation of Vessel Traffic Service equipment**
Study Period : **40 days**
Study Load : **250 lesson hour**
Legal Basis : **1. Law No.17 of 2008, concerning Shipping**
2. Government Regulation No. 5 of 2010 concerning Navigation
3. Minister of Transportation Regulation No. PM 26 of 2011 concerning Shipping Telecommunications
4. International of Association of Lighthouse Authorities (IALA)

(250 JP / 40 HARI)

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
Personality Development Course ***(Personality)***	1. Discretion Discourse Sub Sector of Sea Transportation	a. Discretion of DGST b. Discretion of Human Resources Development Agency and Center of Sea Transportation c. Discretion of Head of Sea Transportation Education and Training Center (BPPTL)	5 10 5		20
	2. Character Building	a. Personality of Civil Service Employee b. Cooperation c. Employee Discipline d. Employee Development	10	-	10
	3. Basic Military Regulation	a. Line-up regulation b. Military Ceremonies c. Military Respect Regulations Attitude and Discipline	-	10	10
	4. English	a. Grammar b. Making VTS news c. Standard sentence for ship communication d. Information Collection	20	50	70
SUB TOTAL I			**50**	**60**	**110**
Science and Skill Course ***(Know how and* why)**	1 **Module Course 103 / 2** * Advanced Traffic Management	**a.** Data Used in VTS * Charts and publications * Monitoring normal operation of aids to navigation * Other data sources **b.** Marine Organisations * International / national / local organisations * Roles and function of maritime organisations **c.** Traffic / Port Management * Principles of waterway and traffic management * Traffic monitoring and organisation * Supervisory responsibilities and interaction * Harbour operations * Coastal VTS **d.** Dangerous Cargoes * Types of dangerous cargo * Special consideration for ships carrying dangerous cargoes in a VTS area * Pollution control and response	**15**	**10**	**25**
	*** VTS Equipment** *** VTS Equipment**	**a.** Operation of equipment and systems * Monitoring and maintaining optimum performance and types of : * Equipment and systems for collecting data * Equipment and systems for data analysis * Equipment and systems for disseminating data * Shutdowns / equipment degradation * Scheduled * Unscheduled * Rectification * Impact on operational procedures and levels of service * New Technology	**15**	**15**	**30**

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
		b. Maintenance procedures * Routine Maintenance * Daily * Weekly * Monthly and longer intervals of time * Unschedule maintenance **c.** Redudancy of equipment * Systems and equipment for data collection * Systems and equipment for data analysis * Systems and equipment for data dissemination			
	*** Additional Personal Attributes**	**a.** Leadership * Team management * Job performance and professional * development **b.** Communication Skills * Effective communication * Media and general public * Operational communications **c.** Stress Management * Recognizing stress / stressful situations and fatigue * Responding to stress / fatigue	**10**	**10**	**20**
	*** Responding to Emergency Situations** *** Contingency Plans**	**a.** Description and purpose of contingency plans **b.** Implementation of and participating in contingency plans **c.** Incident response **d.** Special circumstances **e.** Delegation of rersponsibilities	**10**	**5**	**15**
	*** Administrative Functions** *** Planning and Organisation**	**a.** Traffic Schedules * Monitoring Traffic Schedules * Promulgating traffic shedules * Managing traffic shedules **b.** Performance of VTS centre * Supervising / maintaining log keeping functions * Shift scheduling **c.** Performance of VTS personnel * Assessing performance * Documenting performance and record keeping * Training, and improving performance **d.** Preparation of reports (internal and external) * Routine reports * Incident reports * Technical reports * Other reports as required by operation (e.g. statistical, medical, comments, ets.) * Billing arrangements **e.** Allied services * Co-ordination and communicatioin with allied service * Producing / approving VTS sailing / route plans	**10**	**10**	**20**
	*** Legal Knowledge** *** General**	**a.** Legal basis for VTS in International law * UNCLOS * SOLAS (Chapter V) * COLREGS * IMO Resolutions and recommendations * IALA recommendations and guidelines **b.** Legal liabilities and their implicatiions to VTS * Routine operations * Incidents * Accuracy of information promulgated * Legal responsibilities / consequences of actions * Requirements and limitations of their authority **c.** Legal liabilities and the implication to others in a VTS area * Routine operations * Incidents * Other circumstances	**20**	**10**	**30**

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
		d. Shipping acts and regulations relating to VTS * International regulations and resolution * Natonal shipping acts and regulations * Local bye-laws, circulars, guidance notes and accepted procedures * Means of commenting on / promulgating changes to acts and regulations			
SUB TOTAL II			**80**	**60**	**140**
Social Living Course	1. Field Work Practice	a. Field survey b. Data / information collection c. Question and Answer / Discussion	Package	-	Package
(Able to live together)	2. Evaluation	a. Manuscript making b. Participant exams c. Supervision of examinations d. Test correction e. Assessment	Package	-	Package
SUB TOTAL III			**-**	**-**	**-**
TOTAL AMOUNT			**130**	**120**	**250**

Remarks :

Practice can be interpreted as a demonstration in the laboratory / simulator, counting exercises, or field explanations during field study to the port / to the ship

T : Theory

P: Practical

Appendix 6.10.3 -1 (7-14)

VESSEL TRAFFIC SYSTEM ON THE JOB TRAINING (OJT)

SYLLABUS CURRICULUM OF VESSEL TRAFFIC SYSTEM ON THE JOB TRAINING (OJT)
(SEA TRANSPORTATION FUNCTIONAL TECHNICAL TRAINING)

(190 LESSON HOUR / 33 DAYS)

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
Personality Development Course ***(Personality)***	1. Discretion Discourse Sub Sector of Sea Transportation	a. Discretion of DGST	5	-	5
		b. Discretion of Human Resources Development Agency and Center of Sea Transportation	10	-	10
		c. Discretion of Head of Sea Transportation Education and Training Center (BPPTL)	5	-	5
	2. Character Building	a. Personality of Civil Service Employee b. Cooperation c. Employee Discipline d. Employee Development	10	-	10
	3. Basic Military Regulation	a. Line-up regulation b. Military Ceremony Regulations c. Attitude and Discipline	-	10	10
	4. English	a. Grammar b. Making VTS news c. Standard sentence for ship communication d. Information Collection	20	50	70
SUB TOTAL I			**50**	**60**	**110**
Science and Skill Course ***(Know how and why)***	1 **Module Course 103 / 3** *** Traffic Management I**	**a.** Application of International, National and Local Legislation * Application of International, national and local VTS standard Operating procedures * Enforcement of legislation/VTS procedure * Delivery of an INS, TOS and NAS * Traffic routering measures * Fairways, sea-lanes and associated traffic densities * Anchoring and berthing * Traffic composition * Types of vessel expected * Ships entering the area * Ships Leaving the area * Ships transiting the area * Port risk assessment * Risk mitigation measures/procedure * Ship domain procedure * Pre arrival planning * VTS sail/passage planning * Liasion with adjacent VTS sectors/centres * Near miss reporting/lessons learned procedures * Incidents reporting	**20**	**10**	**30**
	*** Traffic Management II**	**b.** Local Knowledge & Local Publications / regulations * Duties of VTS Operators and Supervisors * Movements of dangerous goods * Port and harbour services (tugs, linesmen etc) * Pilotage service	**10**	**10**	**20**
	*** Traffic Management III**	**c.** Personal Attributes * Dealing with complaints * Dealing with conflict situations * Conflict management / conflict resolution * Dealing with high workload scenarios / multi tasking procedure * Crisis management * Dealing with stress / health and safety * Stakeholder relations / stakeholder service * Liasion with Supervisors VTS Management / Senior personnel	**10**	**5**	**15**
	*** Traffic Management IV**	**d.** Emergency Situations * Contingency Planning * Businnes continuity planning * Decision support * Potential resources available to the VTS Centre * Liasion with emergency services/responders and emergency response units circumstances * Emergency procedures in response to specific incidents, including reporting arrangements * Communications network to coordinate information flow * Record keeping procedures	**10**	**5**	**15**
SUB TOTAL II			**50**	**30**	**80**

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
Social Living Course ***(Able to live together)***	1. Field Work Practice	a. Field survey b. Data / information collection c. Question and Answer / Discussion	Package	-	Package
	2. Evaluation	a. Manuscript making b. Participant exams c. Supervision of examinations d. Test correction e. Assessment	Package	-	Package
SUB TOTAL III			**-**	**-**	**-**
TOTAL AMOUNT			**100**	**90**	**190**

Remarks:

Practice can be interpreted as a demonstration in the laboratory / simulator, counting exercises, or field explanations during field study to the port / to the ship

T : Theory

P: Practical

Appendix 6.10.3 -1 (8-14)

VESSEL TRAFFIC SYSTEM

(OJT INSTRUCTURE)

SYLLABUS CURRICULUM OF VESSEL TRAFFIC SYSTEM (OJT INSTRUCTURE)
(SEA TRANSPORTATION FUNCTIONAL TECHNICAL TRAINING)

(160 LESSON HOUR / 30 DAYS)

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
Personality Development Course ***(Personality)***	1. Discretion Discourse Sub Sector of Sea Transportation	a. Discretion of DGST b. Discretion of Human Resources Development Agency and Center of Sea Transportation c. Discretion of Head of Sea Transportation Education and Training Center (BPPTL)	5 10 5	- - -	20
	2. Character Building	a. Personality of Civil Service Employee b. Cooperation c. Employee Discipline d. Employee Development	10	-	10
	3. Basic Military Regulation	a. Line-up regulation b. Military Ceremony Regulations c. Attitude and Discipline	-	10	10
	4. English	a. Grammar b. Making VTS news c. Standard sentence for ship communication d. Information Collection	20	50	70
SUB TOTAL I			**50**	**60**	**110**
Science and Skill Course ***(Know how and why)***	1 Development of a VTS centre specific training programme	a. * Desired outcome of the training programme b. * Expectations of training staff c. * Diversity of the audience / cultural expectations	10	-	10
	2 Preparation of a trainee specific programme	a. * Adult learning concepts and models b. * Instructional techniques relevant to the audience c. * Communication skills	5	5	10
	3 Delivery of On the job training **(Dalam Kota)**	a. * Instruction / presentations b. * one on one coaching c. * continous mentoring	5	5	10
	4 Evaluation / Assessment / Examination of Trainees	a. * Written / oral examination b. * Practical demonstration c. * On the job delivery under close one on one supervision	5	5	10
	5 Completion of OJT leading to authorisation to operate **(Dalam Kota)**	a. * Obtaining feedback from trainees b. * Obtaining feedback from instructors c. * Sharing expertise with the wider VTS industry	5	5	10
SUB TOTAL II			**30**	**20**	**50**
Social Living Course	1. Field Work Practice	a. Field survey b. Data / information collection c. Question and Answer / Discussion	Package	-	Package
(Able to live together)	2. Evaluation	a. Manuscript making b. Participant exams c. Supervision of examinations d. Test correction e. Assessment	Package	-	Package
SUB TOTAL III			**-**	**-**	**-**
TOTAL AMOUNT			**80**	**80**	**160**

Remarks :

Practice can be interpreted as a demonstration in the laboratory / simulator, counting exercises, or field explanations during field study to the port / to the ship

Appendix 6.10.3 -1 (9-14)

SHIP TELECOMMUNICATION

TECHNICAL TRAINING

LEVEL III

SYLLABUS CURRICULUM OF SHIP TELECOMMUNICATION TECHNICAL TRAINING LEVEL III
(SEA TRANSPORTATION FUNCTIONAL TECHNICAL TRAINING)

(225 LESSON HOUR / 37 DAYS)

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	**SUB SUBJECT MATTER**	**T**	**P**	**TOTAL**
Personality Development Course ***(Personality)***	1. Discretion Discourse Sub Sector of Sea Transportation	a. Discretion of DGST b. Discretion of Human Resources Development Agency and Center of Sea Transportation c. Discretion of Head of Sea Transportation Education and Training Center (BPPTL)	5 10 5	- - -	5 10 5
	2. English	a. Terminology b. Grammar c. Writing and conversation	10	-	10
	3. Character Building (Out Bound)	a. Personality of Civil Service Employee b. Cooperation c. Employee Discipline d. Employee Development	10	-	10
	4. Basic Military Regulation	a. Line-up regulation b. Military Ceremony Regulations c. Attitude and Discipline	-	10	10
SUB TOTAL I			**40**	**10**	**50**
Science and Skill Course ***(Know how and why)***	1. Introduction	Technical Telecommunication Level III	5	-	5
	2. Electric circuit theory	a. Electrical Circuit Components b. Analog Electronic Component Symbols c. Digital Electronic Component Symbols d LawOhm e Series and Parallel f Resistor g Capacitor h Inductor	10	-	10
	3 Theory of Electronic Engineering	a Semiconductors b Power Supply, Amplifier System etc. c Pulse Technique d Microwave	5	-	5
	3. Electrical and Electronic Measuring Instruments	a. Multimeter b Osiloscop c Spectrum Analyser d VSWR dan Dummy Load e Signal Generator f Frequency Counter	5	5	10
	4 Semiconductors and Applications	a Semiconductor Phenomena b Diode p-n c Bipolar Junction Transistor d Field Effect Transistor	5	5	10
	5 Electronic Communication Network	a Theory of Electronic Communication b Network Applications	5	5	10
	6 Digital Electronics Network and Microprosessor	a Logic Network b. Decoder c Number System d Multi vibrator e Register f Miroprosessor outline g Types of Buses h Computer Design and Logic	10	10	20

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
	7 Wave Propagation & Antennas	a Type of Wave Propagation b Antenna type c Ground Wave d Sky Wave e Space Wave f Antenna g MF / HF Band h VHF band	5	5	10
	8 Telephone Sign	a Basic of telephone b Procedure	5		5
	9 Additional document	a SOLAS 1974 b RADIO REGULATION c SERVICE DOCUMENT	5		5
SUB TOTAL II			**60**	**30**	**90**
Craft Work Course (***Know to do***)	10 Computer and Application Programs	a Introduction to the basics of the Program b Application System c Microsoft	10	5	15
	11 Coast Station Configuration System	a Radio VHF b Radio MF/HF	10	10	20
	12 Electronic Navigation System	a AIS (automatic identification system) b LRIT (long range identification tracking) c SRS (ship reporting system) d VTS (vessel traffic system)	10	10	20
SUB TOTAL III			**30**	**25**	**55**
Work Behaviour Course (***Capable to be)***	13 Troubleshooting Methode and Tecnique	a By Input Output System b By Input Output Module c By Input Output Component	5	5	10
	14 Operation System and Maintenance	a Radio Maintenance b Supporting equipment maintenance	5	5	10
	15 **Inspection** **(Dinside the city, 1 day)**	a **Operation Test Inspection** b **Performance Test Inspection**	-	10	10
SUB TOTAL IV			**10**	**20**	**30**
Social Living Course ***(Able to live together)***	1. Field Work Practice	a. Field survey b. Data / information collection c. Question and Answer / Discussion	Paket	-	Paket
	2. Making Field Work Practice Paper	a. Procedur of making field work practice paper b. Technic of making field work practice paper c. Mastery of field work paper material	Paket	-	Paket

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
	3. Seminar	a. Group Work Paper Presentation b. Disclaimer / Question c. Response / Answer d. Referral Resources	Paket	-	Paket
	4. Evaluation	a. Manuscript Making & Research Script b. Participant exams c. Supervision of examinations d. Test correction e. Assessment	Paket	-	Paket
SUB TOTAL V			**-**	**-**	**-**
TOTAL AMOUNT			**140**	**85**	**225**

Remarks :

Practice can be interpreted as a demonstration in the laboratory / simulator, counting exercises, or field explanations during field study to the port / to the ship

Appendix 6.10.3 -1 (10-14)

ELECTRONICA CERTIFICATE

TRAINING LEVEL II

SYLLABUS CURRUCULUM OF ELECTRONICA CERTIFICATE TRAINING LEVEL II
(SEA TRANSPORTATION FUNCTIONAL TECHNICAL TRAINING)

(330 LESSON HOUR / 50 Day)

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	**SUB SUBJECT MATTER**	**T**	**P**	**TOTAL**
Personality Development Course ***(Personality)***	1. Discretion Discourse Sub Sector of Sea Transportation	a. Discretion of DGST	5	-	5
		b. Discretion of Human Resources Development Agency and Center of Sea Transportation	10	-	10
		c. Discretion of Head of Sea Transportation Education and Training Center (BPPTL)	5	-	5
	2. Character Building	a. Personality of Civil Service Employee b. Cooperation c. Employee Discipline d. Employee Development	10	-	10
	3. Basic Military Regulation	a. Line-up regulation b. Military Ceremony Regulations c. Attitude and Discipline	-	10	10
	4. English	a. The use of English, writing, and speaking concerning the relevant communication transfer for life safety on the sea b. Official procedures and practices	10	10	20
SUB TOTAL I			**40**	**20**	**60**
Science and Skill Course ***(Know how and why)***	1. Radio Technic	a. Radio Frequency b. Radio Wave Propagation c. Modulation d. Antenna e. Basic Transmitter and Receiver f. Battery / accu	10	10	20
	2. International Agreement	a. Energy Resources b. Tools to guarantee availability Ship Station Equipment c. Primary and secondary guarding equipment d. Radio telephone (Solas amendment 88) e. Organization Structure and Objectives f. General provisions are related to telecommunications	10	-	10
	3. Radio Regulation	a. Certificate for operation of GMDSS b. Agreement on the type of communication in ship moving service c. Preparation of station types in ship moving service d. Frequency allocation in band ship moving e. Ship permits and radio safety certificates f. Guarding records and log book requirements for ship stations	20	-	20
	4 Service documents	a. Types of stations in service moving cruise b. Cruise mobile service identity (MMSI) and MMSI selection for Calls c. Details about radio telegrams d. Financing Methods (International Financing and calculation systems)	20		20
	5. Radio Telecommunication (Telephone Radio)	a. Details of radio telephone procedures for distress communication, immediately and safety b. Detailed procedures for radio telephone calls	10	10	20

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
	6. GMDSS Theory and Practice	a. Background and purpose of GMDSS b. distress and safety system I global maritime Description and demonstration of the basic c. functions of the DSC d. Call format description and demonstration and type of call e. Description and identification of shipping mobile (MMSI) and MMSI call selection f. Priority description and call grouping g. Description and demonstration of remote orders (Tele command) and traffic information h. Description and facilities for using DSC i. Settings and usage VHF DSC receiver j. Description and demonstration of the helicopter raft k. Emergency position indicator radio sign (EPIRB), COSPAS and SARSAT l. precautionary steps to avoid distress alert m. Additional description of EPIRB n. Operation and use of SART o. Maritime Safety Information Services p. Operation and use of the NAVTEX system q. A description of the role of the Rescue Coordination office (TRC + RCC) r. Description of the Role of SAR units s. Description of distress communication demonstration and DSC standby t. Description of the need and safety of communication u. Protection against distress frequencies and false avoidance and alert v. System knowledge and usage INMARSAT A / B / C w System knowledge and usage NBDP	50	20	70
	7 Electronic Navigation	a Echo sounder b Radio Direction Finder/ RDF c Radar d DECCA e LORAN A dan C f OMEGA g SATNAV (NNSS) h Gyro Compass i AIS j Radar Arpha	20	20	40
	8 Digit and Microprocessor Engineering	a Introduction b Overview of the Microprocessor c Types of bus d Computer design and logic, etc.	10		10
	9 PC Software dan Hardware computer	a PC Hardware b PC Operasional c PC Maintenance d System software	10	10	20
	10 Radio Communication Equipment **(Inside the city 1 day)**	a GMDSS equipment configuration and characteristics b VHF, MF / HF Radio Installation c Other equipment	10	10	20
	11 GMDSS equipment engineering	a Maintenance procedure b Localization of damage c Techniques to replace components, blocks and modules d Assemble system	10	10	20

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
	12 Earth Science Telecommunication	a. Stations that are opened for correspondence (CP) b. Capital city c. Waters (Strait, Bay and Ocean) d. The islands e. Big / important rivers) f. Important shipping routes g. Telecommunications route h. Coast Earth Station i NAVTEX Stations	10	-	10
	13 Electrical Engineering	a. Electric current b. Direct current source c. Alternating current source d Series and Parallel	10	-	10
SUB TOTAL II			**190**	**80**	**270**
Social Living Course ***(Able to live together)***	1. Field Work Practice	a. Field survey b. Data / information collection c. Question and Answer / Discussion	Package	-	Package
	2. Making Field Work Practice Paper	a. Procedur of making field work practice paper b. Technic of making field work practice paper c. Mastery of field work paper material	Package	-	Package
	3. Seminar	a. Group Work Paper Presentation b. Disclaimer / Question c. Response / Answer d. Referral Resources	Package	-	Package
	4. Evaluation	a. Manuscript Making & Research Script b. Participant exams c. Supervision of examinations d. Test correction e. Assessment	Package	-	Package
SUB TOTAL III			**-**	**-**	**-**
TOTAL AMOUNT			**230**	**100**	**330**

Remarks :
Practice can be interpreted as a demonstration in the laboratory / simulator, counting exercises, or field explanations during field study to the port / to the ship

Appendix 6.10.3 -1 (11-14)

GENERAL OPERATOR GMDSS TRAINING

SYLLABUS CURRICULUM OF GENERAL OPERATOR GMDSS TRAINING
(SEA TRANSPORTATION FUNCTIONAL TECHNICAL TRAINING)

(245 LESSON HOUR / 38 DAY)

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT	SUB SUBJECT MATTER	T	P	TOTAL
Personality Development Course ***(Personality)***	1. Discretion Discourse Sub Sector of Sea Transportation	a. Discretion of DGST	5	-	5
		b. Discretion of Human Resources Development Agency and Center of Sea Transportation	10	-	10
		c. Discretion of Head of Sea Transportation Education and Training Center (BPPTL)	5	-	5
	2. Character Building	a. Personality of Civil Service Employee b. Cooperation c. Employee Discipline d. Employee Development	10	-	10
	3. Basic Military Regulation	a. Line-up regulation b. Military Ceremony Regulations c. Attitude and Discipline	-	10	10
SUB TOTAL I			30	10	40
Supporting Basic Course	1 Pancasila	a Basic Law 1945 b Opening of Basic Law 1945 c Body of Basic Law 1945	5	-	5
	2 Science Earth Telecommunication	Stations that are opened for correspondence (CP) Capital city Waters (Strait, Bay and Ocean) The islands Big / important rivers) Important shipping routes Telecommunications route Coast Earth Station NAVTEX Stations	5	-	5
	3. English	a. The use of English, writing, and speaking concerning the relevant for life safety on the sea b. Official procedures and practices	10	10	20
SUB TOTAL II			**20**	**10**	**30**
Science and Skill Course ***(Know how and why)***	1. Radio Technic	a. Radio Frequency b. Radio Wave Propagation c. Modulation d. Antenna e. Basic Transmitter and Receiver f. Battery / accu	20	-	20
	2. International Agreement	a. Energy Resources b. Tools to guarantee availability Ship Station Equipment c. Primary and secondary guarding equipment d. Radio telephone (Solas amendment 88) e. Organization Structure and Objectives f. General provisions are related to telecommunications	10	-	10

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT	SUB SUBJECT MATTER	T	P	TOTAL
	3. Radio Regulation	a. Certificate for operation of GMDSS b. Agreement on the type of communication in ship moving service c. Preparation of station types in ship moving service d. Frequency allocation in band ship moving e. Ship permits and radio safety certificates f. Guarding records and log book requirements for ship stations	10	-	10
	4 Service documents	a. Types of stations in service moving cruise b. Cruise mobile service identity (MMSI) and MMSI selection for Calls c. Details about radio telegrams d. Financing Methods (International Financing and calculation systems)	15	5	20
	5. Radio Telecommunication (Telephone Radio)	a. Details of radio telephone procedures for distress communication, immediately and safety b. Detailed procedures for radio telephone calls	10	10	20
	6. GMDSS Theory and Practice **(Inside the city 2 days)**	a. Background and purpose of GMDSS b. distress and safety system l global maritime c. Description and demonstration of the basic d. Call format description and demonstration and type of call e. Description and identification of shipping mobile (MMSI) and MMSI call selection f. Priority description and call grouping g. Description and demonstration of remote orders (Tele command) and traffic information h. Description and facilities for using DSC i. Settings and usage VHF DSC receiver j. Description and demonstration of the helicopter raft k. Emergency position indicator radio sign (EPIRB), COSPAS and SARSAT l. precautionary steps to avoid distress alert m. Additional description of EPIRB n. Operation and use of SART o. Maritime Safety Information Services p. Operation and use of the NAVTEX system q. A description of the role of the Rescue Coordination office (TRC + RCC) r. Description of the Role of SAR units s. Description of distress communication demonstration and DSC standby t. Description of the need and safety of communication u. Protection against distress frequencies and false avoidance and alert v. System knowledge and usage INMARSAT A / B / C w System knowledge and usage NBDP	30	45	75
	14 Electrical Engineering	a. Electric current b. Direct current source c. Alternating current source d Series and Parallel	20	-	20
SUB TOTAL III			**115**	**60**	**175**

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT	SUB SUBJECT MATTER	T	P	TOTAL
Social Living Course ***(Able to live together)***	1. Field Work Practice	a. Field survey b. Data / information collection c. Question and Answer / Discussion	Paket	-	Paket
	2. Making Field Work Practice Paper	a. Procedur of making field work practice paper b. Technic of making field work practice paper c. Mastery of field work paper material	Package	-	Package
	3. Seminar	a. Group Work Paper Presentation b. Disclaimer / Question c. Response / Answer d. Referral Resources	Package	-	Package
	4. Evaluation	a. Manuscript Making & Research Script b. Participant exams c. Supervision of examinations d. Test correction e. Assessment c. Supervision of examinations d. Test correction e. Assessment	Package	-	Package
SUB TOTALIV			**-**	**-**	**-**
TOTAL AMOUNT			**165**	**80**	**245**

Remarks :

Practice can be interpreted as a demonstration in the laboratory / simulator, counting exercises, or field explanations during field study to the port / to the ship

Appendix 6.10.3 -1 (12-14)

SURVEY HYDROGRAPHY TRAINING

SYLLABUS CURRICULUM OF SURVEY HYDROGRAPHY TRAINING
(SEA TRANSPORTATION FUNCTIONAL TECHNICAL TRAINING)

Program : **TECHNICAL SURVEYOR HYDROGRAPHY TRAINING**
Program Objectives : **Participants have skills and expertise in the field of hydrographic surveys**
Curricular Purpose : **Participants have the expertise in operating hydrographic survey equipment**
Study Period : **91 days**
Study Load : **700 Lesson Hour**
Legal Basis : **1. Law No.17 of 2008, concerning Sailing**
2. Government Regulation No. 5 of 2010 concerning Navigation
3. Minister of Transportation Regulation No. PM 25 of 2011 concerning Aids to Navigation
4. Minister of Transportation Regulations PM 68 of 2011 concerning Sea Line
5. (International Hydrografi Organization) IHO

(180 LESSON HOURS / 30 DAYS)

GROUP	SUBJECT		LESSON HOURS		
	SUBJECT	SUB SUBJECT MATTER	T	P	TOTAL
Personality Development Course ***(Personality)***	1. Discretion Discourse Sub Sector of Sea Transportation	a. Discretion of DGST	5	-	20
		b. Discretion of Human Resources Development Agency and Center of Sea Transportation	10		
		c. Discretion of Head of Sea Transportation Education and Training Center (BPPTL)	5		
	2. Character Building	a. Personality of Civil Service Employee b. Cooperation c. Employee Discipline d. Employee Development	10	-	10
	3. Basic Military Regulation	a. Line-up regulation b. Military Ceremonies c. Military Respect Regulations d. Attitude and Discipline	-	10	10
	4. English for Maritime	a. Terminology Understanding (Management) b. Grammar c. Writing and Conversation	10	-	10
SUB TOTAL I			**40**	**10**	**50**
Science and Skill Course ***(Know how and* why)**	1. Legal Basis	a. Law No. 17 of 2008 concerning Shipping b. PP 05 of 2010 concerning Navigation c. PM No. 25 of 2011 concerning Assistance Facilities Navigation-Navigation d. PM No. 68 of 2011 concerning Sea Sailing Channel e. International Association of Lighthouse Authorities (IALA) Navguide	10		10
	2. **Introduction**	a. Hydrographic history b. The role of hydrography in marine life c. Hydrographic survey work e. Understanding and functioning of sea maps f. Types of sea maps and map publisher bodies	10		10
	3. **Basic Mathematic**	a. Basic trigonometry b. Basic linear algebra c. Basic statistics	30		30
	4. **Mathematical Computing**	a. Computer Basic b. Ms-excel operating system c. AutoCAD Basic d. AutoCAD operating system for hydrography	40		40
	5. **Framework**	a. Definition and mapping process b. Basic mapping framework c. Method of determining the position of the basic frame points - Terrestrial Method (polar, advance binding, polygon) - Extra-Terrestrial Method (static GPS)	20	20	40

GROUP	SUBJECT		LESSON HOURS		
	SUBJECT	SUB SUBJECT MATTER	T	P	TOTAL
	6. **Positioning**	a. The concept of position lines and positioning b. Methods of positioning at sea - Method of actress (polar, advance binding, back binding, intersection of circles and hyperbole) - Extra-Terrestrial Method (kinematic GPS)	20	30	50
	7. **Basic Topographic Mapping**	a. Angle measurement b. Distance measurement c. Measurement and horizontal framework base data process terrestrial d. Height difference measurement e. Measurement of vertical bottom frame f. Detailed situation measurement	30	30	60
	8. **Tides and Flow**	a. Definition of tides and ocean currents b. Installation and observation of tides and ocean currents c. Determination of Datum Chart d. Determination of tidal correction e. Making maps and charts of ocean currents	20	30	50
	9. **Sounding**	a. Definition and type of sea level b. Methods of measuring ocean depth - Simple method (stick, rope) - MAcoustic method (*Echosounder*) c. Error measuring depth	30	30	60
	10. **Coastline**	a. Definition of coastline b. Types of coastlines c. Coastline measurement method: - Electric methods (offset, trilateration, tecimetric) - Extra-terrestrial method (stop and go GPS)	20	30	50
	11. **Data processing** **(OJT inside the city)**	a. Field data processing - Check the quality data size (wrong cover, gap, etc.) - Track pot checking b. Final data processing: - Determination of initial data correction Coordinate counts (skeleton points, fum points perum, detail points coastline - Depth calculation (barcheck, transducer laden, tide) - Counts direction and speed of currents c. Data Presentation : - Drawing of a field painting sheet (draft) - Meticulous (final) painting sheet	-	250	250
SUB TOTAL II			**230**	**420**	**650**
Social Living Course ***(Able to live together)***	1. Field Work Practice	a. Field survey b. Data / information collection c. Question and Answer / Discussion	Package	-	Package
	2. Making Field Work Practice Paper	a. Procedur of making field work practice paper b. Technic of making field work practice paper c. Mastery of field work paper material	Package	-	Package
	3. Seminar	a. Group Work Paper Presentation b. Disclaimer / Question c. Response / Answer d. Referral Resources	Package	-	Package
	4. Evaluation	a. Manuscript Making & Research Script b. Participant exams c. Supervision of examinations d. Test correction e. Assessment	Package	-	Package
SUB TOTAL III			**0**	**0**	**0**
TOTAL AMOUNT			**270**	**430**	**700**

Remarks :

Practice can be interpreted as a demonstration in the laboratory / simulator, counting exercises, or field explanations during field study to the port / to the ship

Appendix 6.10.3 -1 (13-14)

CARTOGRAPHY TRAINING

SYLLABUS CURRICULUM OF CARTOGRAPHY TRAINING
(SEA TRANSPORTATION FUNCTIONAL TECHNICAL TRAINING)

Program : **CARTOGRAPHY TECHNICAL TRAINING**
Program Objectives : **Participants have the ability and skills in making sea maps**
Curricular Purpose : **Participants have competence in making sea maps**
Study Period : **30 Days**
Study Load : **180 Lesson hour**
Legal Basis : **1. Law No.17 of 2008, concerning Shipping**
2. Government Regulation No.5 of 2010, concerning navigation
3. Minister of Transportation Regulation No. 25 of 2011, concerning navigation navigation aids
4. Minister of Transportation Regulation No. 68 of 2011, concerning sea shipping lanes
5. (International Hydrografi Organization) IHO

(180 LESSON HOUR / 30 DAYS)

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
Personality Development Course ***(Personality)***	1. Discretion Discourse Sub Sector of Sea Transportation	a. Discretion of DGST b. Discretion of Human Resources Development Agency and Center of Sea Transportation c. Discretion of Head of Sea Transportation Education and Training Center (BPPTL)	5 10 5	-	20
	2. Character Building	a. Personality of Civil Service Employee b. Cooperation c. Employee Discipline d. Employee Development	10	-	10
	3. Basic Military Regulation	a. Line-up regulation b. Military Ceremonies c. Military Respect Regulations d. Attitude and Discipline	-	10	10
	4. English for Maritime	a. Terminology Understanding (Management) b. Grammar c. Writing and Conversation	10	-	10
SUB TOTAL I			**40**	**10**	**50**
Science and Skill Course ***(Know how and* why)**	1. Legal Basis	a. Law No. 17 of 2008 concerning Shipping b. PP 05 of 2010 concerning Navigation c. PM No. 25 of 2011 concerning Assistance Facilities Navigation-Navigation d. PM No. 68 of 2011 concerning Sea Shipping Lanes	10		10
	2. Basic Cartography & Marine Cartography	a. Cartography Basics b. The concept of the shape of the earth c. Geodetic concepts and projection systems d. Mercator Projection & Transverse Mercator e. Independent task f. Characteristics of sea navigation maps g. Types of marine navigation maps and their manufacturing organizations h. Marine navigation map symbols i. Marine navigation map production flow j. Independent task k. Marine navigation map design practicum l. Independent task	20 20 20	30 30	20 50 50
SUB TOTAL II			**70**	**60**	**130**

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
Social Living Course ***(Able to live together)***	1. Field Work Practice	a. Field survey b. Data / information collection c. Question and Answer / Discussion	Package	-	Package
	2. Making Field Work Practice Paper	a. Procedur of making field work practice paper b. Technic of making field work practice paper c. Mastery of field work paper material	Package	-	Package
	3. Seminar	a. Group Work Paper Presentation b. Disclaimer / Question c. Response / Answer d. Referral Resources	Package	-	Package
	4. Evaluation	a. Manuscript Making & Research Script b. Participant exams c. Supervision of examinations d. Test correction e. Assessment	Package	-	Package
SUB TOTAL III			**0**	**0**	**0**
TOTAL AMOUNT			**110**	**70**	**180**

Remarks :

Practice can be interpreted as a demonstration in the laboratory / simulator, counting exercises, or field explanations during field study to the port / to the ship

Appendix 6.10.3 -1 (14-14)

MARITIME ENGLISH TRAINING

SYLLABUS CURRICULUM OF MARITIME ENGLISH TRAINING
(SEA TRANSPORTATION FUNCTIONAL TECHNICAL TRAINING)

Program : **MARITIME ENGLISH TRAINING**
Program Objectives : **Participants have the ability to understand maritime English**
Curricular Purpose : **Participants have the ability to use maritime English well in communicate**
Study Period : **36 Days**
Study Load : **280 Lesson Hour**
Legal Basis : **1. Law No.17 of 2008, concerning Shipping**
2. Decree of the Minister of Transportation Number KM 60 of 2010 concerning Organization and Work Procedures of Ministry of Transportation
3. IMO Model Course 6.13

(280 LESSON HOUR / 36 DAYS)

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
Personality Development Course ***(Personality)***	1. Discretion Discourse Sub Sector of Sea Transportation	a. Discretion of DGST	5	-	5
		b. Discretion of Human Resources Development Agency and Center of Sea Transportation	10		10
		c. Discretion of Head of Sea Transportation Education and Training Center (BPPTL)	5		5
	2. Character Building	a. Personality of Civil Service Employee b. Cooperation c. Employee Discipline d. Employee Development	10	-	10
	3. Basic Military Regulation	a. Line-up regulation b. Military Ceremonies c. Military Respect Regulations d. Attitude and Discipline	-	10	10
SUB TOTAL I			**30**	**10**	**40**
Science and Skill Course ***(Know how and* why)**	1 Describe crew roles and routines	a. Grammar * uses Present Simple questions, third person and negative forms correctly to describe routine activities on board * selects appropriate prepositions for phrases relating to time b. Vocabulary * uses common verbs to describe work routines * refers to 24 hour clock orally and in writing * memorizes and uses the international maritime alphabet for noting and giving vessel call signs c. Phonology * understands the concept of word stress * pronounces months of the year with correct stress d. Communication skills / Reading * notes ships' call signs correctly from speech * identifies errors when comparing numbers and times in writing and speech * dictates messages using times and the international maritime alphabet * reads a text to check the key responsibilities of all crew members e. describes key responsibilities of all crew members	10	10	20
	2 Name type of vessels; describe parts of a vessel	a. Grammar * uses there is / are to describe places on board * uses singular and plural forms of regular and irregular nouns orally and in writing * uses 'a', 'an' and 'the' correctly orally and in writing * uses prepositions of place to describe various places on board * uses 's to indicate possession b. Vocabulary * identifies various types of ship from pictures * labels a diagram showing places on a vessel c. Phonology * pronounces places on board using correct word stress patterns d. Communication skills / Reading * describes a vessel in speech and writing * dentifies types of vessels by reading descriptions * exchanges information about vessels orally e. sketches the general arrangement plan of a vessel by listening to an oral description	-	10	10

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
	3 Describe the location and purpose of safety equipment	a. Grammar * describes position of equipment on board using appropriate prepositions b. Vocabulary * identifies and names life-saving appliances * gives examples of occasions when each item of life saving equipment is required c. Phonology * pronounces the names of life-saving equipment using correct word stress patterns d. Communication skills / Reading * uses a checklist to identify items of life-saving equipment * identifies items mentioned in oral commands * writes vessel specifications accurately in numerical form from an oral exchange of information * identifies equipment from spoken descriptions e. describes the position of items on board orally and in writing f. asks about and explains function and operation of main equipment used by all levels on board	10	10	20
	4 Discuss navigational routes and geographic locations; understand helm orders	a. Grammar * selects appropriate prepositional phrase to describe location of countries and towns * uses it as a subject pronoun b. Vocabulary * gives the longitude and latitude of international cities using maps/charts * describes the geographic relationship of one place to another * gives approximate distances between points on land and at sea using maps and charts * repeats helm orders clearly, accurately and fluently c. Phonology * pronounces large numbers correctly * notes large numbers from peer dictation d. Communication skills / Reading * follows a spoken description of a ship's route * writes a description of places in a country * describes ships' positions from information on a nautical chart * identifies aids to navigation from nautical charts e. demonstrates understanding of helm orders by explaining their meanings and indicating the correct actions	10	10	20
	5 Name positions on board; ask for and give directions on board and ashore	a. Grammar 1 * uses the imperative form for giving directions * asks for directions using yes/no and the wh-questions * uses a variety of prepositional phrases for indicating directions Grammar 2 * uses comparative and superlative adjectives to compare vessels and cargoes * uses the structures to + infinitive and for + ing to explain the equipment used for specific tasks b. Vocabulary 1 * identifies parts of a vessel from diagrams * names positions on board from diagrams * describes vessel directions in relation to objects and landmarks * refers to features of towns Vocabulary 2 * gives ship's dimensions using appropriate nouns and adjectives * names main equipment on deck / on the bridge / in the engine room * describes selected equipment in term~ of shape and dimension * uses appropriate verbs to explain mechanical operations (including common multi-word verbs such as switch on,start up, close down etc)	15	10	25

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
		c. Phonology 1 * repeats rising intonation in model 'wh-questions' (which, where, when, why, what, etc.) * repeats fall in model yes/no questions and confirmation replies Phonology 2 * practises intonation and pitch from 1.6.1.8 * practises sentence stress from 1.6.1.8 * practises linking sounds from 1.6.1.8 * monitors own performance by listening to a recording of own voice d. Communication skills / Reading * identifies places on board by listening to descriptions * asks for and gives clear directions * follows and supplies directions by interpreting basic maps e. writes directions clearly and accurately			
	6 Describe routine operations on board; understand standard engine orders	a. Grammar * uses the Present Continuous form to describe activities currently in progress * uses the correct spelling with regular and irregular continuous verb forms * understands the differences in form and meaning between the Present Continuous tense (for activities in progress) and the Present Simple tense (for routine activities) b. Vocabulary * revises common verbs to describe work routines * describes activities taking place from pictures / video / audio prompts * repeats standard engine orders accurately, clearly and fluently c. Phonology * practises word and sentence stress * practises rising and falling intonation * monitors own performance by listening to a recording of own voice d. Communication skills / Reading * notes which activities crew members are engaged in by listening to / watching a description of events in process * exchanges information about current and routine situations * writes a description of activities in action e. demonstrates understanding of standard engine orders by explaining their meanings and indicating the correct	10	10	20
	7 Understand commands in emergency situations on board	a. Grammar * understands the difference in meaning between this,that, these and those * uses the imperative form correctly for giving urgent commands * uses must to express obligation and must not to express prohibition in appropriate circumstances b. Vocabulary * names different types of emergency situations on board * knows and correctly pronounces the names of emergency equipment * uses correct verbs and tenses to describe what happens in emergency situations * uses SMCP message markers correctly to precede instructions, questions and answers in simulated external communications * demonstrates understanding of the meaning and use of the vocabulary in SMCP for simulated external distress communications regarding fire / explosion / abandon ship	10	10	20

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
		c. Phonology * identifies key words in short commands * puts stress on key words in short commands d. Communication skills / Reading * correctly identifies message types when listening to a selection of instructions, questions and answers which use SMCP * understands short oral commands in simulated emergency situations * reacts to simulated emergency situations with single spoken commands which are clear and accurate * uses SMCP for simulated external distress * reads and understands written instructions for carrying e. describes the stages for a general emergency procedure orally and in writing			
	8 Check supplies; provide quantities, weights and prices; discuss cargo handling procedures	a. Grammar * categorizes countable and uncountable nouns * enquires about quantities of goods using how much and how many * gives information about quantities of various goods using the quantifiers too much / too many, (not) enough b. Vocabulary * exchanges information about prices of various goods and cargoes in major currencies * identifies types of cargo ship * categorizes cargoes and lists appropriate containers * names types of cargo handling gear and matches with relevant cargoes * understands and rises tonnage measurements to describe ships' volumes * understands and uses the vocabulary of measurements relating to loading capacities and quantities in SMCP c. Phonology * demonstrates ability to link final consonant in word to initial vowels in connected speech * practises vowel-consonant linking in given phrases d. Communication skills / Reading * comprehends requests for numerical information relating to quantities, capacities and measurements * correctly writes down measurements and quantities given by another person * reads and dictates a variety of numerical information correctly * converses about price of goods in the contexts of shopping for and ordering goods e. uses SMCP relating to loading capacities and quantities to exchange cargo details in simulated onboard communication	-	10	10
	9 Describe weather conditions; understand forecasts	a. Grammar * uses it to describe weather conditions * uses the structure going to + verb to describe future events that are planned or certain * demonstrates an understanding of the difference in meaning between going to / will b. Vocabulary * knows and pronounces the names of months and seasons correctly * uses various adjectives to describe a wide range of weather patterns * uses abbreviations of compass points in written note form * describes the meaning of various lights, shapes and fog signals and gives examples of occasions when they are used * uses SMCP to provide weather information in onboard communications * uses SMCP message markers during simulated external communications for giving information and warnings regarding meteorological information	10	-	10

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
		c. Phonology * practises weak forms in connected speech d. Communication skills / Reading * writes down temperatures and wind directions correctly when listening to spoken weather forecasts * exchanges information on current and anticipated weather in different areas * correctly interprets and explains symbolic data from satellite charts weather maps e. simulates external radio communication regarding meteorological warnings using message markers from SMCP			
	10 Report events from past voyages	a. Grammar * manipulates Past Simple regular verb changes correctly orally and in writing * memorizes Past Simple forms of key irregular verbs with attention to spelling changes * uses Past Simple irregular verb forms correctly orally and in writing * uses the Past Simple tense in sustained oral and written narrative when describing past events b. Vocabulary * uses regular and irregular verbs connected with sea travel and cargo operations to describe the ports of call on a ship's passage * uses verbs connected with general repairs and maintenance to describe a breakdown * uses vocabulary of safety, navigation and pilotage to describe a ship's voyage (revises terminology connected with sea routes. directions, dates, weather and sea conditions) c. Phonology * distinguishes between the pronunciation of -ed endings when speaking d. Communication skills / Reading * describes stages of a sea passage orally, based on samples of passage plans and sea charts * describes events that occurred during a sea passage orally, from prompts * writes notes about key details of specific past events by listening to spoken accounts e. writes a report of events that occurred during a sea passage	20	5	25
	11 Report details of incidents at sea; simulate VHF communications for distress and urgency messages	a. Grammar * revises the Past Simple form of regular and irregular verbs in speech and writing * manipulates the negative form of the Past Simple correctly in speech and writing * manipulates the question form of the Past Simple tense correctly in speech and writing * uses a variety of wh questions with the Past Simple inspeech b. Vocabulary * names and understands the nature of various types of incident at sea * uses a variety of key verbs for explaining the details of different incidents at sea * revises SMCP message markers for giving information and warnings * uses SMCP message markers for issuing requests * demonstrates understanding of the meaning and use of the vocabulary in SMCP for distress communication sregarding collision and grounding * demonstrates understanding of the meaning and use of the vocabulary in SMCP for urgency communications regarding engines and equipment and cargo problems	-	10	10

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
		c. Phonology * revises linking final consonant in word sounds With initial vowel sounds * practises linking in Past Simple wh questions d. Communication skills / Reading * asks for and provides information about the details of completed an incident at sea * reads and comprehends the details of a formal report of an incident at sea * writes notes about the details of incidents at sea by listening to spoken accounts * expands written notes into a formal report giving details of an incident at sea * identifies appropriate types of VHF communications. based on descriptions of incidents at sea * uses SMCP and message markers during simulated external distress communications for giving information and warnings regarding collision and grounding e. uses SMCP and message markers during simulated external urgency communications for issuing requests regarding engines and equipment and cargo problems			
	12 Explain personal injuries at sea; request medical assistance	a. Grammar * demonstrates understanding of the meaning of basic conjunctions by using them to combine sentences appropriately * writes simple sentences using conjunctions to link ideas b. Vocabulary * names all types of protective clothing used at sea * names parts of the body * uses verbs describing injuries that affect particular parts of the body * names and states the purpose of items used in basic First Aid treatment * uses SMCP for requesting medical assistance with appropriate urgency message marker * uses standard phrases from the International Code of Signals to describe medical problems c. Communication skills / Reading * identifies type of injury from spoken description of physical symptoms * identifies the causes, prevention and treatment of common injuries on board from written reports or texts * writes basic reports of the causes of minor accidents on board d. uses SMCP, message markers and phrases from the International Code of Signals during simulated external urgency communications requesting medical assistance	5	10	15
	13 Check task completion in routine operations; VHF communications regarding bunkering	a. Grammar * memorizes the past participle forms of known key irregular verbs with attention to pronunciation and spelling * manipulates the Present Perfect tense correctly in speech and writing * demonstrates understanding of the specific use of the Present Perfect tense to describe recent actions by using the tense in speech and writing * uses the question form of the Present Perfect tense to check completion of operational procedures * uses the positive and negative forms of the Present Perfect tense to give information about activities at different stages of completion b. Vocabulary * revises verbs relating to operational procedures * uses an appropriate range of verbs to describe maintenance duties in various departments * uses nouns and verbs to describe the stages involved in bunkering procedures * correctly identifies and labels diagrams of parts of a vessel (deck and engine room) * names hand and machine tools used in metalwork	-	10	10

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
		c. Phonology * repeats model pronunciation of past participles with reasonable accuracy * uses the correct pronunciation of past participles in speech d. Communication skills / Reading * exchanges information about recent activities with partner * checks stages of completion of a variety of tasks from spoken information * refers to a checklist to describe stages of completion in a routine procedure e. simulates VHF communication regarding bunkering operations			
	14 Produce external written and spoken communications to request and give advice	a. Grammar * distinguishes between content and structure words * demonstrates understanding of the use of the definite article by inserting it into an abbreviated text * uses the definite article, the, correctly in speech and writing * uses should (not) to give advice and personal opinions b. Vocabulary * uses common telex abbreviations in place of full word forms * revises SMCP message markers for questions * uses SMCP message markers for asking for advice c. Phonology * identifies content words in spoken sentences * stresses content words in single phrases * shows awareness of rhythm patterns in English by repeating model sentences correctly d. Communication skills / Reading * identifies the request in a written text and supplies appropriate advice in writing e. simulates VHF communication using SMCP and message markers to make requests and give advice	5	10	15
	15 Understand Instructions and give explanations; practise VHF exchange procedures	a. Grammar * uses the Past Continuous tense correctly in speech and writing to describe repeated or continuous actions in the past * uses the Past Continuous tense correctly in speech and writing to describe ongoing activities in the past which were interrupted by another event * understands the differences in form and meaning between the Past Simple and Past Continuous tenses * uses 'say' and 'tell' correctly in reported speech b. Vocabulary * describes routine onboard tasks orally and in writing using verbs and nouns previously learned * uses the Past Continuous tense with appropriate verbs with reported speech to explain a problem that occurred in the past * memorizes and uses the readability code for checking and reporting radio reception * revises phrases for each stage of a VHF exchange procedure: making contact; agreeing a working channel and switching over; exchanging messages; terminating the exchange c. Phonology * practises using rhythm and sentence stress in conversation * monitors own performance by listening to a recording of own voice	5	5	10

GROUP	SUBJECT		LESSON HOUR		
	SUBJECT MATTER	SUB SUBJECT MATTER	T	P	TOTAL
		d. Communication skills / Reading * describes the reasons for and consequences of a miscommunication on board * comprehends the topic of a VHF communication from an initial listening * accurately writes down the details of required action from a VHF communication * accurately reports the message from a VHF communication in speech * accurately reports the general content of a short conversation in writing e. simulates a VHF exchange procedure using the readability code and appropriate phrases for each stage			
SUB TOTAL II			**110**	**130**	**240**
Social Living Course ***Able to live together)***	1. Evaluation	a. Manuscript Making & Research Script b. Participant exams c. Supervision of examinations d. Test correction e. Assessment	Package	-	Package
SUB TOTAL III			**-**	**-**	**-**
TOTAL JAMOUNT			**140**	**140**	**280**

Remarks :

Practice can be interpreted as a demonstration in the laboratory / simulator, counting exercises, or field explanations during field study to the port / to the ship

Lampiran 6.10.3 -2

Hearing Results and Training Schedule in 2019

20 December 2019

Answer sheet

(If not be enough space, please use additional sheets.)

Questionnaire on Current Education and Training Programs on Maritime Traffic Safety Services for DGST personnel		
P-1	Name of Implementing body	Sea Transportation Education and Training Center
P-2	Period (Days)	Based on Academic Calendar of STETC (BPPTL) from January to December (attached)
P-3	Number of the program	Consist of 74 Functional Technic of Education and Training Programs for 5 Directorates from Directorate General of Sea Transportation, Ministry of Transportation. In 2019 there are 55 Programs have been implemented, some Education and Training Programs implemented more than 1 batch.
P-4	Purpose	Increase knowledge, expertise, skills and the formation of behavioral attitudes in accordance with the competencies needed to occupy certain positions within the Ministry of Transportation.
P-5	Place	The implementation of the Education and Training Program was carried out at the Jakarta BPPTL Campus. Jln. M. Kahfi II No. 88 Cipedak Jagakarsa – South Jakarta 12630
P-6	Accommodation, Meals, Daily allowance	Accommodation in the form of a Dormitory / Mess is provided, Meals and Allowances for Participants are provided from the BPPTL Budget.
P-7	Qualifications/criteria to candidates	Qualifications and Criteria for Prospective participants in Education and Training in accordance with the Decree of the Minister of Transportation No. SK.416 / BPSDMP-2014 Regarding Curriculum, Syllabus, Administrative and Academic Requirements for Participants in Technic Functional of Education and Training of Sea Transportation at the Sea Transportation Education and Training Center.
P-8	Number of participants	Maximum total of Participants for each Education and Training Program are 30 persons.
P-9	Outline of training contents	Training Content In accordance with Decree of the Minister of Transportation Number SK.416 / BPSDM-2014 Regarding Curriculum, Syllabus, Administrative and Academic Requirements for Participants in Technic Functional of Education and Training of Sea Transportation at the Sea Transportation Education and Training Center.
P-10	Job assigned	Assignment of participants in Education and Training after completing Education and Training is the authority of the Agency sending Education and Training Participants (DGST or Technical implementation Unit DGST).
P-11	Equipment, tools	Devices in the form of laboratories, simulators and workshops, equipment in the form of computers, projectors and other learning and teaching tools.
Common questionnaire to training programs on Maritime Traffic Safety Services in Indonesia		
C-1	Instructors	The instructor / instructor comes from BBPTL internal instructors. Officials / Trustees from the Directorate General of Sea Transportation, Head of Technical implementation Unit / Head of Installation / Implementing (Syahbandar, Port Authority, Navlrigation District, PLP Base and Installation of Traffic Vessel Service, Coastal Radio Station, Workshop and Lighthouse Tower, and Practitioners, who have a TOT certificate , experienced and experts in the field
C-2	Estimated budget	Estimated budget allocated by BPPTL in 1 year for Education and Training of the Directorate General of Sea Transportation related to the Traffic Safety training program (A to N, VTS, Radio Communication and Maritime Telecommunication's Technician) is Rp.12,000,000,000, – (Twelve Billion Rupiah)
C-3	Career path system	Participants who have attended the Training and obtained a Competency Certificate can be promoted to occupy appropriate positions at each Directorate, Technical Implementation Unit of the DGST (Syahbandar, Port Authority, Navigation District, Fleet Base and Sea and Coastal Fleet Guard) and Installation (Vessel Traffic Service, Stations Pantal Radio, Navigation Workshop and Lighthouse)
C-4	Assessment by DGST	From the results of the coordination meeting between the DGST and BPPTL related to the Navigation Functional Technical Training for the Directorate General of Sea Transportation officers, it is necessary to increase the program (Batch) to meet the competence for the personal that will be placed in the Traffic Service Vessel Installation, Coastal Radio Station and Lighthouse and further improved quality lagl graduates.
C-5	Motivation and/or ability by participants	We hope that as the organizer of the Functional Technical Training after completing the Training the participants have the motivation to further improve their knowledge and skills in order to be able to carry out tasks in accordance with the requirements.
C-6	Future plan	DGST plans to propose additional types of new Education and Training programs to meet the competencies of new positions within the DGST environment such as Marine Surveyor Education and Training and Seafarers' Skills Training for state-owned vessels.
C-7	Overseas training programs	Education and training programs prepared by foreign organizations should not only be for technical implementers in the field, but also instructors / instructors from educational institutions whose internal teaching staff is still lacking, such as Vessel Traffic Service Training and Education Instructure, Education and Training Instructures for Maritime Telecommunications Engineering and Education and Training for Aids to Navigation (A to N)

Common questionnaire to training programs on Maritime Traffic Safety Services in Indonesia			
C-8	*Free opinion*: (Proposal) Plan for the Establishment of a College (Tentative) Technical Sailing Traffic Safety Service.	The establishment of the Education and Technical Training Institute for Shipping Traffic Safety Services is still not needed because the training program in the framework of facilitating knowledge and capabilities about marine traffic services such as A to N, VTS, Radio Communication and IT has been carried out by BPPTL Jakarta and can still meet the needs of personnel technical traffic safety services for shipping, which should be done is to develop and improve BPPTL facilities and infrastructure.	
C-9	Number of personnel to be recruited	Recruiting of personnel who will take part in the Education and Training of functional technical Sea Traffic Services such as A to N, VTS, Radio Communication and IT is the authority of the DGST, BPPTL only prepares and organizes its Education and training programs according to the needs and requests of the DGST based on the available budget at DIPA BPPTL.	
C-10	Number of hours to be trained in AtoN service, VTS, Radio Communication	1. VTS OPERATOR	260 Jam
		2. VTS SUPERVISOR	250 Jam
		3. MARITIME AIDS TO NAVIGATION BASIC LEVEL	175 Jam
		4. MARITIME AIDS TO NAVIGATION ADVANCE LEVEL	170 Jam
		5. ELECTRONIC RADIO CERTIFICATE LEVEL II	330 Jam
		6. GENERAL RADIO OPERATOR (ORU) GMDSS	245 Jam
		7. MARITIME TELECOMMUNICATION TECHNICIAN LEVEL III	225 Jam
		8. MARITIME ENGLISH	280 Jam
C-11	Free opinion	***BPPTL as the organizer of Functional Education and Technical Training for the Directorate General of Sea Transportation Officials, please provide information related to the Study conducted by JICA, in order to keep abreast of developments and so that the graduates meet the competencies needed.***	

Submitted by	(Name)	: Capt. DIAN WAHDIANA, MM
	(Responsible office)	: Head of Sea Transportation Education and Training Center
	(Date)	: December 20, 2019

APPENDIX I Letter of Head of Sea Transportation
Education and Training Center
Number : SM.106/209/1/BPPTL-2019
Dated : October 11, 2019

TENTATIVE SCHEDULE EDUCATION AND TRAINING BPPTL FISCAL YEAR 2019

Rev.09

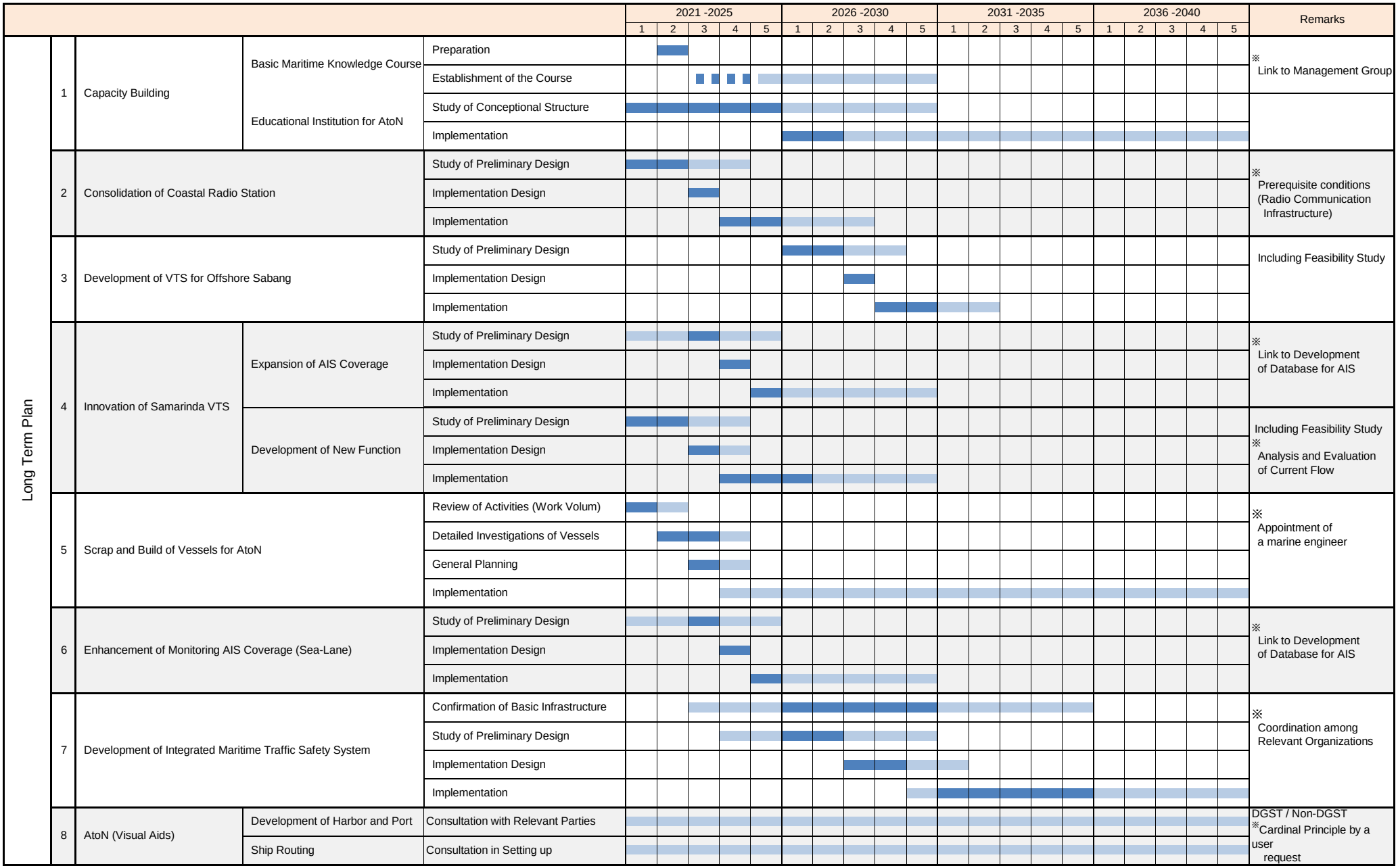
No.	Education and Training	Day	Implementation Hours	OPENING	CLOSING
1	HANDLING HAZARDOUS LOADING BATCH-I	20	145	24/01/2019	12/02/2019
2	REGISTRATION AND NATIONALITY OF VESSEL BATCH-I	42	365	24/01/2019	06/03/2019
3	SHIP MEASUREMENT BATCH-I	54	520	24/01/2019	18/03/2019
4	EARLY TECHNICAL OF THE BASIS OF HARBOR MASTER BATCH-I	9	85	24/01/2019	01/02/2019
5	EARLY TECHNICAL OF THE BASIS OF HARBOR MASTER BATCH-II	9	85	24/01/2019	01/02/2019
6	REGISTRATION AND NATIONALITY OF VESSEL BATCH-II	42	365	30/01/2019	12/03/2019
7	HANDLING HAZARDOUS LOADING BATCH-II	20	145	30/01/2019	18/02/2019
8	1st LEVEL OF PREVENTION OF POLLUTION BATCH-II	21	135	01/02/2019	21/02/2019
9	EARLY TECHNICAL OF THE BASIS OF HARBOR MASTER BATCH-III	9	85	06/02/2019	14/02/2019
10	EARLY TECHNICAL OF THE BASIS OF HARBOR MASTER BATCH-IV	9	85	06/02/2019	14/02/2019
11	PREVENTION OF POLLUTION BATCH-I	29	190	14/02/2019	14/03/2019
12	EARLY TECHNICAL OF THE BASIS OF HARBOR MASTER BATCH-V	9	85	18/02/2019	26/02/2019
13	EARLY TECHNICAL OF THE BASIS OF HARBOR MASTER BATCH-VI	9	85	18/02/2019	26/02/2019
14	ISPS CODE BATCH-I	20	125	21/02/2019	12/03/2019
15	MARITIME ENGLISH BATCH-I	30	280	26/02/2019	27/03/2019
16	INTEGRATED TECHNICAL OF SEA TRANSPORTATION BATCH-I	30	205	28/02/2019	29/03/2019
17	PORT AUTHORITY AND ADMINISTRATOR	41	340	06/03/2019	15/04/2019
18	AUDITOR OF ISM CODE	20	145	08/03/2019	27/03/2019
19	BASIC LEVEL OF MARITIME A to N	28	175	14/04/2019	10/04/2019
20	EARLY TECHNICAL OF THE BASIS OF HARBOR MASTER BATCH-VII	28	175	14/04/2019	22/03/2019
21	EARLY TECHNICAL OF THE BASIS OF HARBOR MASTER BATCH-VIII	9	85	19/03/2019	27/03/2019
22	EARLY TECHNICAL OF THE BASIS OF HARBOR MASTER BATCH-IX	9	85	19/03/2019	27/03/2019
23	EARLY TECHNICAL OF THE BASIS OF HARBOR MASTER BATCH-X	9	85	25/03/2019	02/04/2019
24	PREVENTION OF POLLUTION BATCH-II	29	190	29/03/2019	26/04/2019
25	B CLASS HARBOR MASTER BATCH-I	33	245	29/03/2019	30/04/2019
26	BASIC OFFICER OF KPLP	35	275	29/03/2019	02/05/2019
27	ISPS CODE BATCH-II	20	125	29/03/2019	17/04/2019
28	VTS OPERATOR BATCH-I	34	280	04/04/2019	07/05/2019
29	SEA AND COAST GUARD	37	305	04/04/2019	10/05/2019
30	MARITIME ENGLISH BATCH-II	30	280	11/04/2019	10/05/2019
31	INTEGRATED TECHNICAL OF SEA TRANSPORTATION BATCH-II	30	205	22/04/2019	21/05/2019
32	ISPS CODE BATCH-III	20	125	24/04/2019	13/05/2019
33	1st LEVEL OF PREVENTION OF POLLUTION BATCH-II	21	135	02/05/2019	22/05/2019
34	REGISTRATION AND NATIONALITY OF VESSEL BATCH-III	42	365	12/06/2019	23/07/2019
35	MARITIME ENGLISH BATCH-III	30	280	12/06/2019	11/07/2019
36	SHIP MEASUREMENT BATCH-II	54	520	14/06/2019	06/08/2019
37	VTS OPERATOR BATCH-II	34	280	14/06/2019	17/07/2019
38	SHIP MEASUREMENT BATCH-III	54	520	17/06/2019	09/08/2019
39	EARLY TECHNICAL OF THE BASIS OF HARBOR MASTER BATCH-XI	9	85	17/06/2019	25/06/2019
40	EARLY TECHNICAL OF THE BASIS OF HARBOR MASTER BATCH-XII	9	85	17/06/2019	25/06/2019
41	REGISTRATION AND NATIONALITY OF VESSEL BATCH-IV	42	365	19/06/2019	30/07/2019
42	PORT STATE CONTROL	44	395	18/07/2019	03/08/2019
43	EARLY TECHNICAL OF THE BASIS OF HARBOR MASTER BATCH-XIII	9	85	24/07/2019	01/08/2019
44	EARLY TECHNICAL OF THE BASIS OF HARBOR MASTER BATCH-XIV	9	85	24/07/2019	01/08/2019
45	EARLY TECHNICAL OF THE BASIS OF HARBOR MASTER BATCH-XV	9	85	01/08/2019	09/08/2019
46	MARITIME ENGLISH BATCH-IV	30	280	06/08/2019	04/09/2019
47	HANDLING HAZARDOUS LOADING BATCH-III	20	145	14/08/2019	02/09/2019
48	HANDLING HAZARDOUS LOADING BATCH-IV	20	145	14/08/2019	02/09/2019
49	EARLY TECHNICAL OF THE BASIS OF HARBOR MASTER BATCH-XVI	9	85	19/08/2019	27/08/2019
50	EARLY TECHNICAL OF THE BASIS OF HARBOR MASTER BATCH-XVII	9	85	27/08/2019	04/09/2019
51	EARLY TECHNICAL OF THE BASIS OF HARBOR MASTER BATCH-XVIII	9	85	27/08/2019	04/09/2019
52	EARLY TECHNICAL OF THE BASIS OF HARBOR MASTER BATCH-XIX	9	85	09/10/2019	17/10/2019
53	PREVENTION OF POLLUTION BATCH-III	29	190	09/10/2019	06/11/2019
54	MARITIME ENGLISH BATCH-V	30	280	09/10/2019	07/11/2019
55	HANDLING HAZARDOUS LOADING BATCH-V	20	145	18/10/2019	06/11/2019

Head of Sea Transportation
Education and Training Center

Lampiran 7.1 -1

Long Term Plan

Development Plan for Maritime Traffic Safety System (Long-Term Plan)



Lampiran 7.1 -2

Priority Project

Development Plan for Maritime Traffic Safety System (Priority Project)

					2021 -2025					2026 -2030					2031 -2035					2036 -2040					Remarks
					1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
Priority Project	1	Capacity Buidling	Setting up the Management Group	Preparation of Project																					※ Invitation of Expert 3 years Project (Budget) Approx. $95.000.-
				Implementation of Activities																					
				Support to Each Plan																					
	2	VTS	VTS Operator (E-Learning)	Implementation Design																					※ 25 VTS Centers (Budget) Approx. $543,000.-
				Procurement of Equipment																					
				Setting up the System																					
	3	Development of Database for AIS		Study of Preliminary Design																					※ Existing AIS Stations and MCC (Budget) Approx. $2,562,000.-
				Implementation Design																					
				Procurement of Equipment																					
				Setting up the System																					
				Training and Exercise																					Including IWRAP Training
	4	Innovation of VTS Operation	*Preparation of Operation Manual*	Setting up the Project																					※ Setting up the Project, if necessary
				Field Study and Formulation																					
				Exercise and OJT																					
			Installation of Operation Console	Implementation Design																					※ Preparation of SOP (Budget) Approx. $592,800.-/Center
				Procurement of Equipment																					
				Setting up the System																					
				Training and OJT																					
	5	Development of Maritime Safety Measures for Tourism		Implementation Design																					※ Feasibility Study, if necessary (Budget) Approx. $8,037,800.-
				Procurement of Equipment																					
				Setting up the System																					
				Training and OJT																					

Legend : Implemenatation Period Preparation / Preliminary Period

Lampiran 7.3.1

Priority Project

Schedule and Budget

Appendix 7.3.1 1) -1

Training Course for

Instructor (Roardmap)

Capacity Building
Training framework for Instructor

			1st Year				2nd Year				3rd Year				
			I	II	III	IV	I	II	III	IV	I	II	III	IV	
1	**Adoption of Long Term Expert**	1													※ JICA Scheme
	Request of Expert														
	Setting up the preparatory office	Jakarta													
	Invitation of Short Term Experts	3× 3													
2	**Selection of candidates for Instructor**	4 × 3													
	Setting up the group of a preparatory Instructor														
	Orientation														
3	**General Course**														
	General Discipline														
	(Marine Affairs, Laws and Regulations)														
	Academic Discipline														
	(Hydrographic, Ship, Radio-communication, IT)														
4	**Specialized Course**														
	Visual Aids to Navigation														
	VTS, AIS														
	Radio Operator (VTS, GMDSS)														
5	**Practical Exercise**														
	Excursion (VTS, CRS, Lighthouse, Ship)														

Appendix 7.3.1 1) -2

Training Course for

Instructor (Budget)

Budget

	Item	Spec.	Quan.	Price ($)	Total ($)	Remarks
1	Equipment	PC, Book	1	18,500	18,500	
2	Expenses (Expert)*	Training Course for Instructor	3	6,800	20,400	1 x 3 years
3	Expenses (Short-term Expert)*	〃	3	18,525	55,575	2 x 3 months x 3 years
	* Excluding the expensies for labor costs of Expert and Short-term experts					
			Total		94,475	

Appendix 7.3.1 2) -1

Establishment of
E-Learning System
(Roadmap)

Capacity Building
E-Learning System for VTS Operator

	Items	1st Year				2nd Year				
		I	II	III	IV	I	II	III	IV	
1	**Implementation Design**									
	Preparation of Specification for Contruct									
	Contract									
	Design									***Customized Program***
2	**Establishment of Communication Network and Procurement of Equipment**									
	Contract with Telecommunication Company									
	Perchase of Equipment									***PC, Server***
3	**Setting up the System and Exercise**									
	Contract with Execution Supplier									
	Setting up the System									
	Exercise									

Appendix 7.3.1 2) -2

Establishment of
E-Learning System
(Budget)

Implementation Design						
	Item	Spec.	Quan.	Price ($)	Total ($)	Remarks
	Transportation	Domestic Tirp (VTS)	23	300	6,900	Local Engineer
	〃	Taxi, Rent Car	23	50	1,150	
	Labor cost	Local Engineer x 1	69	150	10,350	1 x 3 days
	Management Cost	Labor cost x 50%	1	5,175	5,175	
				Total	23,575	

Equipment List (Including Setting-Up)						
	Item	Spec.	Quan.	Price ($)	Total ($)	Remarks
1	E-Learning Console	VTS Station (1)	2	1,000	2,000	Lap top PC
	Control Unit	〃	1	3,000	3,000	Hub, Router
2	E-Lerning Server	Management Office (1)	1	370,000	370,000	E-larning Software
	E-Learning Console	〃	2	2,500	5,000	Desk top PC
	Control Unit	〃	1	5,000	5,000	Hub, Router
	E-Learning Console	*VTS Station (22)*	*24*	*1,000*	*24,000*	*Lap top PC*
	Control Unit	*〃*	*22*	*5,000*	*110,000*	*Hub, Router*
				Sub Total	*134,000*	*One (1) VTS Station*
				Total	385,000	***(519,000)***

Lampiran 7.3.2 -1

Establishment of Data
Base for AIS (Roadmap)

Establishment of AIS Data Base

	Items	1st Year				2nd Year				
		I	II	III	IV	I	II	III	IV	
1	**Implementation Design**									
	Preparation of Specification for Contruct									
	Contract									
	Design									***62 staions***
2	**Establishment of Communication Network and Procurement of Equipment**									
	Contract with Telecommunication Company									
	Perchase of Equipment									***Server, Operatinal Console, Network Equipment***
3	**Setting up the System and Exercise**									
	Contract with Execution Supplier									
	Setting up the System									
	Guidance									***Training (MRAP)***

Lampiran 7.3.2 -2

Establishment of Data
Base for AIS (Budget)

Budget

	Item	Spec.	Quan.	Price ($)	Total ($)	Remarks
1	Implementation Design		1	75,000	75,000	
2	Equipment		1	2,365,000	2,365,000	MCC, 62 AIS sites
3	Installation and Testing		1	122,000	122,000	
				Total	2,562,000	

Implementation Design

	Item	Spec.	Quan.	Price ($)	Total ($)	Remarks
	Transportation	Japan - Indonesia	2	3,000	6,000	Engineer x 2
	〃	Domestic Trip (AIS Site)	10	350	3,500	2 x 5 sites
	〃	Taxi, Rent Car	5	100	500	〃
	Labor cost	Engineer x 2	10	1,500	15,000	2 x 5 days
	Transportation	Domestic Trip (AIS Site)	62	350	21,700	1 x 62 sites
	〃	Taxi, Rent Car	57	100	5,700	
	Labor cost	Local Staff x 1	67	150	10,050	62 + 5
	Management Cost	Labor cost x 50%	1	12,525	12,525	
				Total	74,975	

Equipment List (AIS Data Base : MCC)

	Item	Spec.	Quan.	Price ($)	Total ($)	Remarks
	Operation Console	Multi Function Console	3	15,000	45,000	Desk top PC
	Network Terminal		1	23,000	23,000	Hub, Router, Firewall
	Integrated AIS Data Base Server		1	174,000	174,000	Dual system
	System Software		1	500,000	500,000	
	DNS Server		1	35,000	35,000	
	Proxy Server		1	50,000	50,000	
				Total	827,000	

Equipment List (AIS Data Base : Site)

	Item	Spec.	Quan.	Price ($)	Total ($)	Remarks
	IP Converter	Serial - LAN	1	1,800	1,800	
	Network Terminal		1	11,000	11,000	Switching Hub, Router
	Firewall		1	12,000	12,000	
				Total	24,800	

Lampiran 7.3.3 -1

Innovation of VTS

Operation (Roadmap)

Development of Customized Operation Console and OJT

	Items	1st Year				2nd Year				3nd Year				
		I	II	III	IV	I	II	III	IV	I	II	III	IV	
1	**Implementation Design**													*Several stations*
	Preparation of Specification for Contruct													
	Contract													
	Design													***Customized Software***
2	**Procurement of Equipment including Setting Up**													*Several stations*
	Contract with Supplier													
	Manufacturing of Equipment													***MFC, DB Server***
	Installation of Equipment													*Several stations*
3	**Review of SOP and OJT with New Console**													
	Contract with Consultant													
	Preparation (Review of SOP)													
	Workshop and Training													*Several stations*
	OJT													

Lampiran 7.3.3 -2

Innovation of VTS

Operation (Budget)

Budget						
	Item	Spec.	Quan.	Price ($)	Total ($)	Remarks
1	Implementation Design		1	44,300	44,300	
2	Equipment		1	269,000	269,000	
3	Installation and Testing		1	89,500	89,500	
			Total		402,800	

Implementation Design						
	Item	Spec.	Quan.	Price ($)	Total ($)	Remarks
	Transportation	Japan - Indonesia	3	3,000	9,000	
	〃	Domestic Trip (VTS)	3	350	1,050	
	〃	Taxi, Rent Car	5	100	500	
	Labor cost	Engineer x 3	15	1,500	22,500	3 x 5 days
	Management Cost	Labor cost x 50%	1	11,250	11,250	
			Total		44,300	

Equipment List (One VTS Station)						
	Item	Spec.	Quan.	Price ($)	Total ($)	Remarks
	Operation Console	Multi Function Console	2	15,000	30,000	Desk top PC
	Network Terminal		1	10,000	10,000	Hub, Router
	Integrated Monitoring Information Server		1	55,000	55,000	Mount rack
	Database Server		2	32,000	64,000	〃
	System Software		1	110,000	110,000	〃
	DNS Server			*35,000*		*Expansion system*
	Proxy Server			*50,000*		*〃*
			Total		269,000	

Engineer						
	Item	Spec.	Quan.	Price ($)	Total ($)	Remarks
	Transportation	Japan - Indonesia	3	3,000	9,000	
	〃	Domestic Trip (VTS)	3	350	1,050	
	〃	Taxi, Rent Car	7	100	700	
	Labor cost (Installation and Testing)	Engineer x 3	30	1,500	45,000	3 x 10 days
	〃 (Guidance and Training)	Engineer x 2	5	1,500	7,500	2 x 3 days
	Management Cost	Labor cost x 50%	1	26,250	26,250	
	Review of SOP and OJT	*Expert*				
	Transportation	*Japan - Indonesia*	*2*	*3,000*	*6,000*	
	〃	*Domestic Trip (VTS)*	*2*	*350*	*700*	
	Labor Cost	*Expert x 2*	*60*	*1,000*	*60,000*	*2 x 30 days*
	Management Cost	*Labor cost x 50 %*	*1*	*30,000*	*30,000*	*(96,700)*
			Total		89,500	

Lampiran 7.3.4 -1

Development of
Maritime Safety System
(Roadmap)

Development of Maritime Safety System for Small Craft

	Items	1st Year				2nd Year				3nd Year				
		I	II	III	IV	I	II	III	IV	I	II	III	IV	
1	**Implementation Design**													*Site survey*
	Preparation of Specification for Contruct													
	Contract													
	Design													
2	**Procurement of Equipment and Construction Work**													*Radar, AIS Base statin Marine Office*
	Contract with Supplier													
	Manufacturing of Equipment													*Radar, AIS,Operation Console*
	Preparation of facilities													*Tower, Renovation of Office*
	Installatino of Equipment													
3	**Guidance for Equipment and Training for Operation**													
	Contract with Consultant													
	Guidance and Training													*Vessel's Registeration*
	OJT													

Lampiran 7.3.4 -2

I Development of
Maritime Safety System
(Budget)

Budget						
	Item	Spec.	Quan.	Price ($)	Total ($)	Remarks
1	Implementation Design		1	57,800	57,800	
2	AIS Base Station		1	540,000	540,000	
3	Radar Station		2	2,570,000	5,140,000	
4	Marine Office		1	459,000	459,000	
5	Installation and Testing	Equiipment cost x 30 %	1	1,841,000	1,841,000	
				Total	8,037,800	

Implementation Design						
	Item	Spec.	Quan.	Price ($)	Total ($)	Remarks
	Transportation	Japan - Indonesia	3	3,000	9,000	
	〃	Domestic Trip	3	350	1,050	
	〃	Rent Car, Boat	5	100	500	
	Labor cost	Engineer x 3	21	1,500	31,500	3 x 7 days
	Management Cost	Labor cost x 50%	1	15,750	15,750	
				Total	57,800	

Equipment List (AIS Base Station)						
	Item	Spec.	Quan.	Price ($)	Total ($)	Remarks
1	AIS Transponder	Dual Type	1	125,000	125,000	
2	CCTV Camera		1	120,000	120,000	
3	Meteorological Sensor		1	40,000	40,000	
4	Shed		1	30,000	30,000	
5	Solar Power System		1	180,000	180,000	
6	Monopole Tower		1	45,000	45,000	
	Do not include special transportation and special construction methods, which are required depending on the conditions of the installation site.					
				Total	540,000	

Equipment List (Radar Station)						
	Item	Spec.	Quan.	Price ($)	Total ($)	Remarks
	Radar Antenna	18 Feet	1	180,000	180,000	
	Radar TRX		1	450,000	450,000	
	Radar Images Processor		1	250,000	250,000	
	CCTV Camera		1	120,000	120,000	
	Meteorological Sensor		1	40,000	40,000	
	Shed		1	30,000	30,000	
	Solar Power System		1	250,000	250,000	
	Radar Tower		1	1,250,000	1,250,000	
	Special conditions are not considered.					
				Total	2,570,000	

Equipment List (Marine Office)						
	Item	Spec.	Quan.	Price ($)	Total ($)	Remarks
1	Multi Function Console		2	15,000	30,000	
2	Network Terminal		1	10,000	10,000	Hub, Router
3	Integrated Monitoring Information Server		1	55,000	55,000	Mount rack
4	Database Server		2	32,000	64,000	〃
5	System Software		1	300,000	300,000	
	Do not include the cost for Communication Line					
				Total	459,000	