

**Academy Maritime  
Sultan Ahmad Shah  
Malaysia**

**PREPARATORY SURVEY REPORT  
ON  
THE PROJECT FOR IMPROVING  
TRAINING EQUIPMENT  
OF  
ACADEMY MARITIME SULTAN AHMAD SHAH  
IN  
MALAYSIA**

**February 2017**

**JAPAN INTERNATIONAL COOPERATION AGENCY**

**SHIPBUILDING RESEARCH CENTRE OF JAPAN**

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## **PREFACE**

Japan International Cooperation Agency (JICA) decided to conduct the preparatory survey and entrust the survey to the Shipbuilding Research Centre of Japan (SRC).

The survey team held a series of discussions with the officials concerned of the Government of Malaysia, and conducted the field investigations. As a result of further studies in Japan, the present report was finalized.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our two countries.

Finally, I wish to express my sincere appreciation to the officials concerned of the Government of Malaysia for their close cooperation extended to the survey team.

March, 2017

Akira NAKAMURA

Director General

Infrastructure and Peacebuilding Department

Japan International Cooperation Agency

# SUMMARY

## (1) Present Situation in Malaysia

Malaysia is a country that consists of the southern part of the Malay Peninsula (40 % of the national land) and the northern part of Borneo Island (60 %). Malaysia is adjacent to Thailand across the border in the Malay Peninsula, as well as adjacent to Indonesia and Brunei in the Borneo Island. While on the sea it adjacent to the countries of Singapore, Philippines and Vietnam across the sea territorial border. Generally, the part of the Malay Peninsula is called "Peninsular Malaysia (district)", the Borneo island part is called "East Malaysia (district)". The Malay Peninsula is 740 km long from north to south, and 320 km wide from east to west. Titiwangsa Mountains are located along the Malay Peninsula. The country has a land area of about 329,847 km<sup>2</sup>, as same as that of around 0.87 times wide of Japan. Malaysia has a population of approximately 30.99 million people (2015 national census report).

Malaysia is the strategic point of the traffic on the seas to bind east and west together and is located on the sea-lane which is important to our country linking Middle East area via Strait of Malacca.

The climate of Malaysia belongs to the tropical climatic zone. The temperature, however, is not relatively high with the stable average temperature of between 27 and 33 degrees since Malaysia is surrounded by the ocean. Humidity is always high throughout the year at 70 – 90 %. The annual rainfall reaches 2,500 mm due to the influence of the southwest monsoon from April to October and the northeast monsoon from November to March.

Malaysian economy is especially active in the field of the production of certain agricultural products and minerals such as rubber plantation derived from the UK colonial period, mining of tin, and excavation of natural gas. By the series of initiatives of Prime Minister Mahathir Bin Mohamad, Malaysia was industrialized and economically developed from the old era of depending upon traditional agricultural and mineral products and tourism industry. Malaysia is now aiming to become one of developed countries until the year of 2020.

The economy growth rate of Malaysia had been around 5 % until the middle of 2008. Due to the rapid fall in the export amount caused by the global financial crisis, the growth rate of 2009 fell sharply to -1.7 %. In 2010, Malaysian domestic demand recovered as 7.2 % per annual with the development of Chinese economy. The growth has been slightly slow down since the second half of 2010 due to the sluggish external demand, however it somehow marked 5.1 % in the year of 2011 with supported by active investment and domestic consumption. After that, it had been maintained at a pace of around 5 % in consecutive three years. According to IMF statistics, in 2015, it was 4.97 % growth. The total amount of the nominal GDP (gross domestic product) in 2015 was 1157.1 billion MYR and the per capita GDP was 9,563 US dollar (by JETRO). The nominal GDP

consists of 22.8 % of manufacturing industry, 18.5 % of the commercial/restaurant/hotel, 10.9 % of the finance, insurance, real estate and business services, 9.0 % of mining, 8.5 % of agricultural, forestry and fishery industries. The working population was composed of 58.7 % of the service industry, 25.7 % of the manufacturing/construction industry, and 12.4 % of the agricultural, forestry and fishery industry. The unemployment rate was relatively low as 3.1 % in 2015. The inflation rate in 2015 was 2.1 % (by Japan Center for International Finance: JCIF).

## **(2) Background of the Project**

Malaysia is adjacent to the international maritime routes like the Malacca and Singapore Straits, where the ships of more than 90,000 are passing across. In recent years, marine accidents, crime at sea such as poaching, smuggling, piracy, and drifting ashore of refugees have been increasing in number. Capability of Malaysian Maritime Enforcement Agency (hereinafter referred to as “MMEA”), however, is insufficient to cope with these issues so far, since it has not equipped with advanced practical skills and capability yet.

MMEA has been established a maritime security training center named as “Sultan Ahmad Shah Coast Guard Academy” (hereinafter referred to as “AMSAS”) in 2013. It has not equipped with simulators and relevant equipment for training maritime safety officials and building their capacities yet. Thus MMEA has not been able to carry out sufficient trainings so far.

In such a circumstance, the Government of Malaysia (hereinafter referred to as “GOM”) requested the Government of Japan (hereinafter referred to as “GOJ”) the cooperation program with Grant Aid titled “the Project for Improving Training Equipment of Academy Maritime Sultan Ahmad Shah” (hereinafter referred to as “the Project”), involving procurement of the navigational simulators and training equipment for maritime safety officials. After equipped with the simulators and the training equipment through the Project, the GOM will conduct the enhanced training with simulators under various situations including the dangerous scenario which could not be carried out actually at real sea, and will find the weakness and problems by reviewing a record of navigation and reproducing the situation as well. With implementation of the Project, it is expected that the content and quality on education and training for maritime safety officers will be improved.

In the “Country Assistance Policy for Malaysia” announced in April 2012, the priority area titled “Response to common issues in East Asian region” has been positioned as one of the most important pillars, and in addition, the “JICA Country Analysis Paper” issued in March 2014 mentions that undertakings on common issues in East Asian region such as maintaining safeguard of the sea should be facilitated. The Project will be consistent with the aforementioned policy and analysis. Moreover, in the “Japan-ASEAN Summit Meeting” held in November 2014, reinforcement of cooperation between both countries in combatting terrorism and transitional crime is declared. Japanese Government has been continuously providing supports on mainly improving

the capability of the maritime law enforcement and the search and rescue. Furthermore, “Japan – Malaysia Summit Meeting” held in May 2015 announced that both countries are willingly to continue for capacity building of the MMEA. The project is also consistent with the aforementioned regional and bilateral cooperation policy.

The basic concept of the project will be to provide Malaysia the following equipment of the items requested by the GOM in the scheme of Japan’s Grant Aid, after the due process including the assessment conducted by the GOJ about appropriateness of the items based on the results of the field surveys and internal analysis in Japan.

- 1) Ship Handling Simulator, and a Briefing room and an Instructor room  
Type: Two (2) bridge type
- 2) A Search and Rescue (SAR) Simulator  
Including: Desk training room with relevant equipment
- 3) A Engine Room Simulator  
Including: Simulated Engine Control Room
- 4) A Main Switch Board Simulator
- 5) A Radio Training Equipment

Regarding the procurement of the equipment, Japanese side decided that Japanese nationals will be principally carrying out the procurement, since the result of the consideration on the various factors which may affect including competitiveness in Japanese domestic market, a product price, a maintenance/service network, and the origin of the products indicated positive. The equipment will be produced in Japan, then will be transported to Malaysia, and, after arrival at the site, installment works will be conducted.

### **(3) Contents of the Project**

In response to the request mentioned above, the Government of Japan decided to conduct a preparatory survey, and JICA sent the survey team to Malaysia from 27<sup>th</sup> June to 19<sup>th</sup> July, 2016 (the first survey) and from 19<sup>th</sup> to 27<sup>th</sup> September, 2016 (the second survey). After the team returned to Japan, further studies was made and the draft report of preparatory survey explanation team was sent to Malaysia from 10<sup>th</sup> to 13<sup>th</sup> January, 2017 and held discussions and confirmation on the contents of the outline design, the items undertaken by the recipient country and both sides mutually agreed. The finalized specification is outlined as follows.

#### **1) Ship Handling Simulator**

Based on the specification requested by the Malaysian side, the basic composition of the ship-

handling simulator was structured as follows in consultation with AMSAS.

① General

This Project will adopt a DNV Class-A or equivalent-grade full mission bridge simulator comprised of main bridge and secondary bridge. As AMSAS has been certified by the Malaysian Maritime Department to carry out part of the training for maritime officers on ships with a gross tonnage of 500 or less engaged in domestic navigation pursuant to the STCW Convention, the specification of the simulator was set to satisfy the requirements under the STCW Amendments of 2010.

The visual graphic display system will use LCD monitors both in the main bridge and the secondary bridge at the eager request of AMSAS to minimize the O&M cost after installation.

Of the components of the ship-handling simulator system, RADAR/ARPA and ECDIS will be used for training freshmen having no previous experience in operating them, as well as for enabling AMSAS to carry out part of RADAR/ARPA and ECDIS simulator training as requested at the meeting. Accordingly, the main bridge will be installed with 2 sets of RADAR/ARPA and 1 set of ECDIS, which are the same machines as the ones used on the actual ships while the secondary bridge will be installed with 1 set each of RADAR/ARPA and ECDIS, which are also real machines.

As for training sea area database and ship models, the items shown in Tables 1 through 3 have been agreed upon.

3 sea areas were selected for the training sea area database (Table 1).

Table 1 Training Sea Area Database

Training sea area	3 areas (Port Klang, Lumut port, Labuan port)
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3 MMEA ships and 5 merchant ships were chosen as own ship models (Table 2).

Table 2 Own Ship Models

Own ship models	
MMEA vessels	
Pekan class	
Marlin class	
Jarak class (NGPC)	
Merchant ships	
VLCC	260,000 DWT Class, full load
Container vessel	2,100 TEU Class, full load
Bulkier	37,000 DWT Class, full load
LNG	125 km <sup>3</sup> Class, full load

Research vessel	9,000 GT Class, full load
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20 models, including merchant ship, fishing boat, warship, and cruise ship, were selected as target ships (Table 3).

Table 3 Target Ship Models

Vessel type	Remarks
Tugboat	Length overall: 25m class, full load
Tanker	10,000 DWT class, full load
RORO ship	10,000 G/T class, full load
Workboat	30 m Class, half load
Container ship	10,000 TEU class, full load
Cargo ship	499 G/T class, full load
Bulk carrier	90,000 DWT class, half load
Bulker	40,000 DWT class, ballast
Cruise ship	29,000 G/T class, full load
Warship	Length overall: 50 m class
Warship	Length overall: 160 m class
Ferryboat	10,000 G/T class, half load
Pleasure boat	320 G/T class
PCC	6,000 unit class, half load
Fishing boat	Length overall: 30 m class, full load
Pilot boat	Length overall: 16 m class
Jetfoil	Length overall: 30 m class
Boat	Length overall: 20 m class
Sampan	Length overall: 45 m class
Yacht	Length overall: 10 m class

## ② System Configuration

- Main bridge will consist of the following instruments:
  - Visual graphic display system (LCD, 240° view), navigation console, VHF/ DSC (real machine), repeater compass, steering stand (real machine), RADAR/ARPA (real machine), binocular, overhead meter, chart table, monitoring camera, and PA system
- Secondary bridge will consist of the following instruments:
  - Visual graphic display system (LCD, 225° view) , navigation console, VHF/ DSC (real machine), RADAR/ARPA (real machine), ECDIS (real machine), binocular, overhead meters, chart table, monitoring camera, and PA system
- Instructors room will consist of the following instruments:
  - Main bridge monitoring system, secondary bridge monitoring system, VHF/DSC, CCTV monitoring system, PA system, PC for editing scenarios, and printer
- Briefing room will consist of the following instruments:
  - Projector and screen
- Server room will consist of the following instruments:
  - Server and UPS

## **2) Search and Rescue (SAR) Simulator**

Its basic composition was structured as follows in consultation with AMSAS.

### ① General

- A controller team comprised of 7 instructors will give trainees diverse information, including the status of marine accidents/emergencies using communication equipment.
- Based on the information provided by the controller, a team of trainees comprised of 6 operators and 1 senior operator will use the communication equipment, nautical charts, electronic navigational chart, and other instruments to gather information, develop a SAR plan, determine the SAR area and SAR unit, issue commands, and perform other activities.
- Information on the SAR area, etc. will be displayed on the trainees' PCs, as well as on the front display panel.
- On the display panel in the controller room, instructors can view the same information as that displayed in the training room.
- 2 white boards will be installed in each room.
- A copy machine with scanning capability will be installed in the operator room.
- Controller room and operator room will be separated by a partition wall.
- The free access floor (raised floor) will be installed in both rooms.

### ② System Configuration

- This system will consist of a controller room and an operator room, which are separated by a partition wall.
- 7 instructors in the controller room will conduct training for 1 senior operator and 6 operators in the operator room.
- Equipment to be installed in the controller room will consist mainly of the following items:
  - Desktop PC × 7, IP telephone × 7, Large LCD monitor × 1, Audio equipment × 1, VHF radiotelephone × 1, Printer × 1, Desk & Chair × 7, Chart table × 1, White Board × 2
- Equipment to be installed in the operator room mainly consists of the following items:
  - Desktop PC × 7, IP telephone × 7, Large LCD monitor × 1, Web camera Electronic chat equipment × 1, VHF radiotelephone × 1, Printer with scanner × 1, Desk & Chair × 7, Chart table × 1, White Board × 2

## **3) Engine Room Simulator**

Its basic composition was structured as follows in consultation with AMSAS.



#### ① General

- Basically, the system will adopt computer-based LCD monitors (touch-panel type).
- The system will enable trainees to simulate the operation of the engine control room and engine room.
- For future expandability (system replacement and compatibility with multi-vessel model), a computer-based simulator will be used.
- Model ships will be: ① 100 m patrol boat and ② mega container ship.
- Main switchboard can display diesel generator, turbo generator, and shaft generator.
- Emergency generator can be displayed.
- Extension alarm panel can be displayed.

#### ② System Configuration

- Engine room control console, main switchboard, alarm monitoring panel, engine room system, instructor system, video & sound recording system, and communication system

### **4) Main Switchboard Simulator**

Its basic composition was structured as follows in consultation with AMSAS.

#### ① General

- Basically, it will be installed in the engine room simulator space.
- It will be a switchboard simulator for conducting training for phase synchronization. Generator (real machine) will not be included in the component.
- The console will be of switchboard type that mimics the actual equipment rather than computer-based touch panels, which are highly susceptible to wear and tear.

#### ② System Configuration

- Generator panel, feeder panel, instructor control panel, and emergency switchboard

### **5) Radio Training Equipment**

Its basic composition was structured as follows in consultation with AMSAS.

#### ① General

- This system will be comprised of 1 desk for the instructor and 25 desks for trainees each installed with a radiotelephone, with which trainees will participate in communication training via a dummy antenna circuit in a simulated environment closely resembling the actual situations.
- Each session of communication training will be recorded by a multi-channel recording

device and used for review.

- Training will be conducted using a VHF radiotelephone (with DSC capability).
- Training equipment will consist of a master console for the instructor and 26 radiotelephones with headsets.
- Trainees will receive training while sitting at desks divided by partition panels.
- The master console will have switch buttons to control training.
- Radio communication training will be conducted between instructor and trainees, as well as between groups of trainees.

#### ② System Configuration

- VHF Radiotelephone with headset × 26, Recorder (8 channel) × 4, Dummy Antenna Circuit × 1, Audio equipment × 1, Desk and Chair × 26, and Partition Panel × 25

#### **(4) Implementation Schedule and Project Cost of the Project**

Preparation of bidding documents and announcement of bid for this Project will be completed in about 2.5 months after the conclusion of the consultant agreement, and the procurement contract will be signed about 1.5 months thereafter. Approximately 13.5 months will be required for production, including inspection, and it will take additional 3 months or so for transport of the equipment from Japan to Kuantan Port in Malaysia and installation and handover.

The entire process after the conclusion of the consultant agreement will take about 20.5 months, and further 12 months will be necessary until the expiration of the warranty period.

The actual work period will depend on the situation of workload of each equipment manufacturer at the time of signing the procurement contract.

## **(5) Relevance of the Project**

Implementation of this project with Japan grant aid is considered relevant from the view points of the content, degree of the effects, capability for the operation and maintenance of the equipment to be installed as follows.

- 1) Implementation of the project will contribute to ensure the safety of the coastal areas of Malaysia and secure the socio-economic activities through providing the training equipment to the AMSAS for improving the capability of MMEA ship crews.
- 2) The implementation Agency (AMSAS) already has a certain number of trainers and substantial number of experiences of training a large number of trainees. Thus there is no obstacle for them to carry out the proper operation and maintenance of the equipment to be installed.
- 3) In accordance with the requirements of Japan's Grant Aids system, installed training equipment will be produced by the Japanese manufacturers. This will be useful to ensure the smooth implementation of the project without any inconvenience on the communication and quality of the products.
- 4) Since the installation and operation of the equipment do not give any adverse effect on the environment and society, the project shall be treated as a Category-C project of the JICA Guideline for Environmental and Social Considerations.

In the "Country Assistance Policy for Malaysia" announced in April 2012, the priority area titled "Response to common issues in East Asian region" has been positioned as one of the most important pillars, and in addition, the "JICA Country Analysis Paper" issued in March 2014 mentions that undertakings on common issues in East Asian region such as maintaining safeguard of the sea should be facilitated. The Project will be consistent with the aforementioned policy and analysis. Moreover, in the "Japan-ASEAN Summit Meeting" held in November 2014, reinforcement of cooperation between both countries in combatting terrorism and transitional crime is declared. Japanese Government has been continuously providing supports on mainly improving the capability of the maritime law enforcement and the search and rescue. Furthermore, "Japan -Malaysia Summit Meeting" held in May 2015 announced that both countries are willingly to continue for capacity building of the MMEA. The project is also consistent with the aforementioned regional and bilateral cooperation policy.

## **(6) Effectiveness**

Expected effectiveness of the project are as follows.

- 1) Quantitative effectiveness

Quantitative effectiveness of the project is shown in the Table 4.

Table 4 Quantitative indicators

Indices	Basis (at 2016)	Target (at 2020, three years after completion of the Project)
Number of trainees of the MMEA trained at external facilities using the simulators	118	0
Number of trainees of the MMEA trained at the AMSAS using the simulators	0	about 500
Number of trainees from other countries trained at the AMSAS using the simulators	0	about 20

2) Qualitative effectiveness

- ① To contribute the rapid and proper search and rescue operation and the prevention of maritime crimes such as, smuggling, smuggling, poaching, illegal migration in Malaysian coastal areas.

As the mentioned above, it is evaluated that the implementation of the Project indicate the high relevance and effectiveness.

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5. Project Monitoring Report (PMR) 1st ver.
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Exchange rates for the project cost estimation apply as 1US\$=104.59 Japanese Yen and 1MYR=25.2697 Japanese Yen.

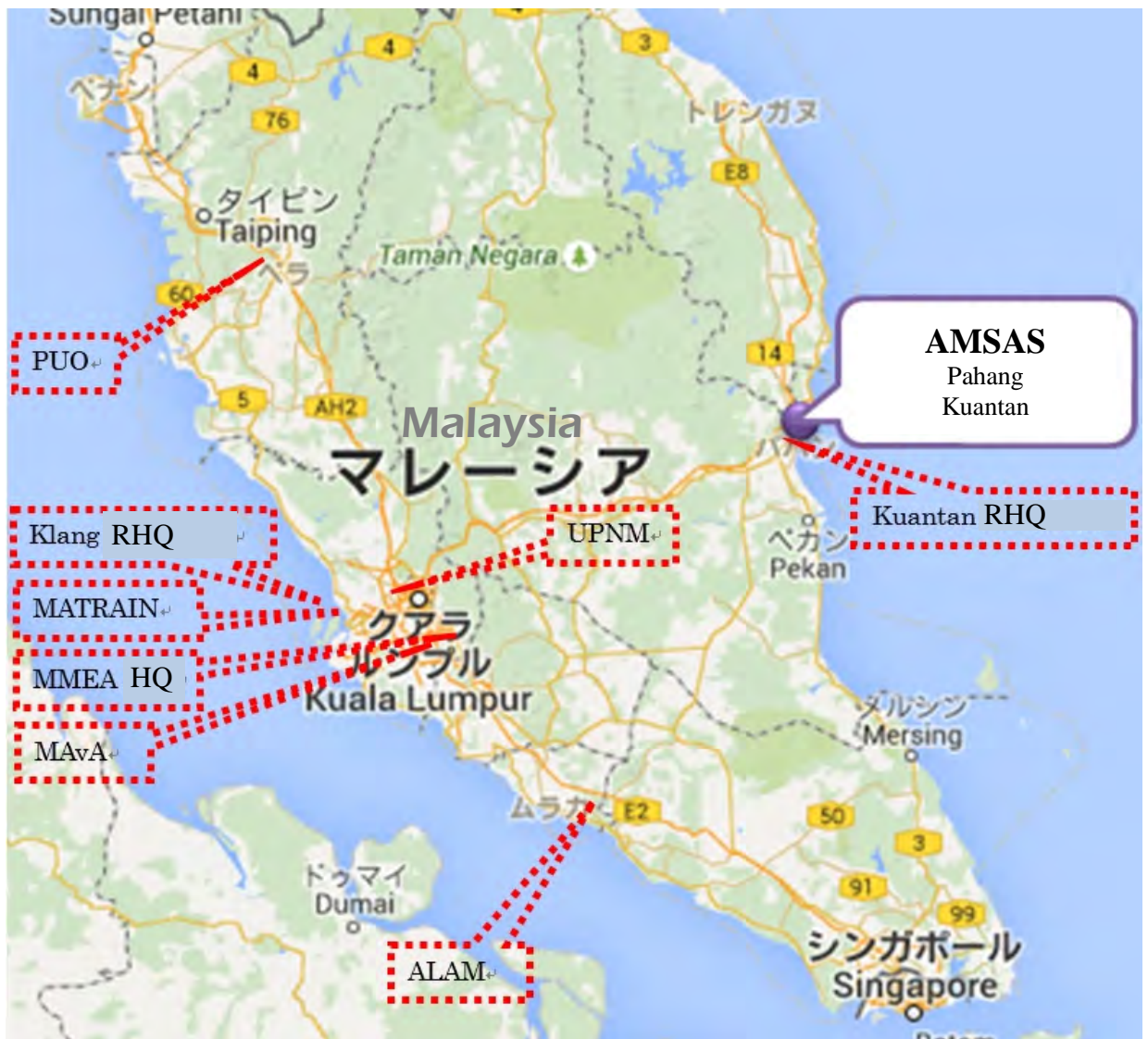


Fig.1 Location Map

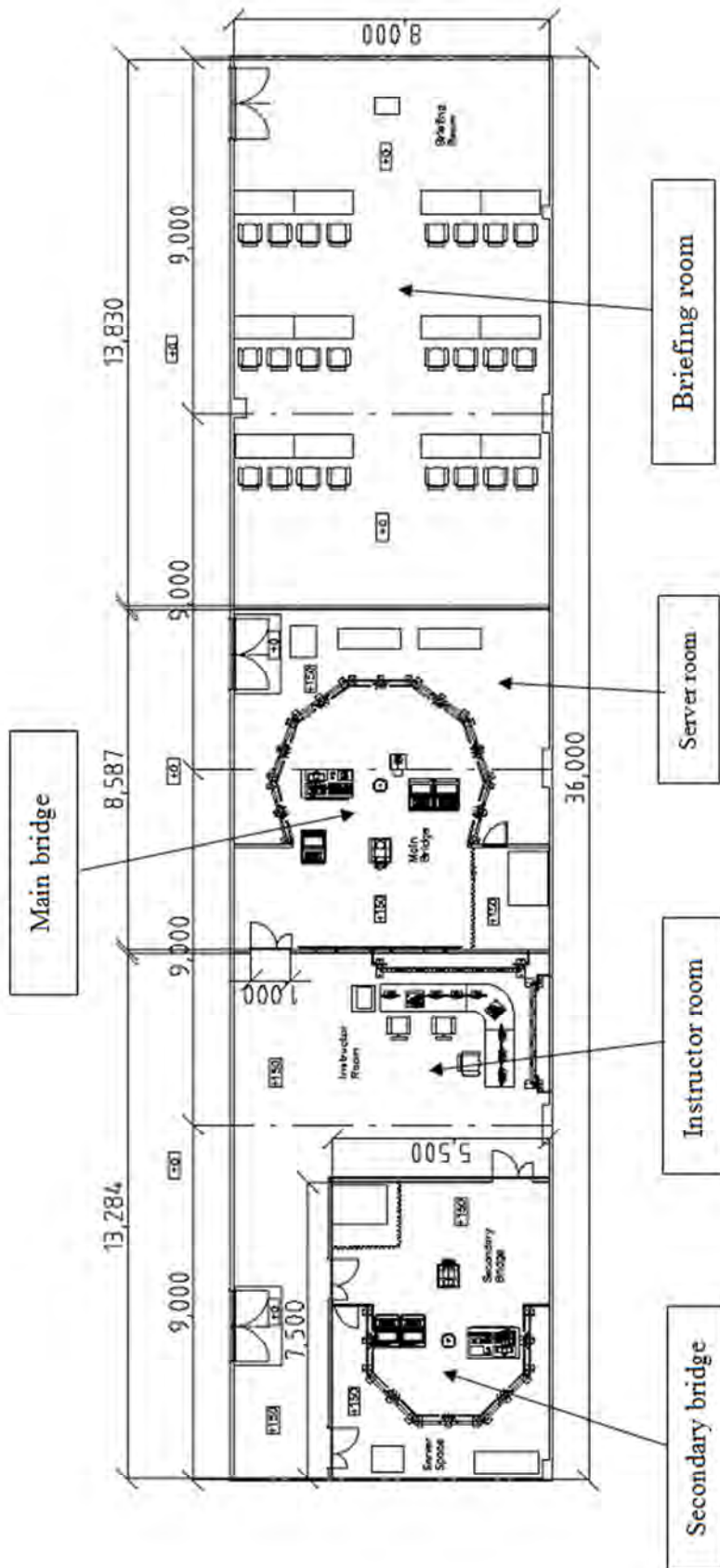


Fig. 2 Layouts of the Ship Handling Simulator



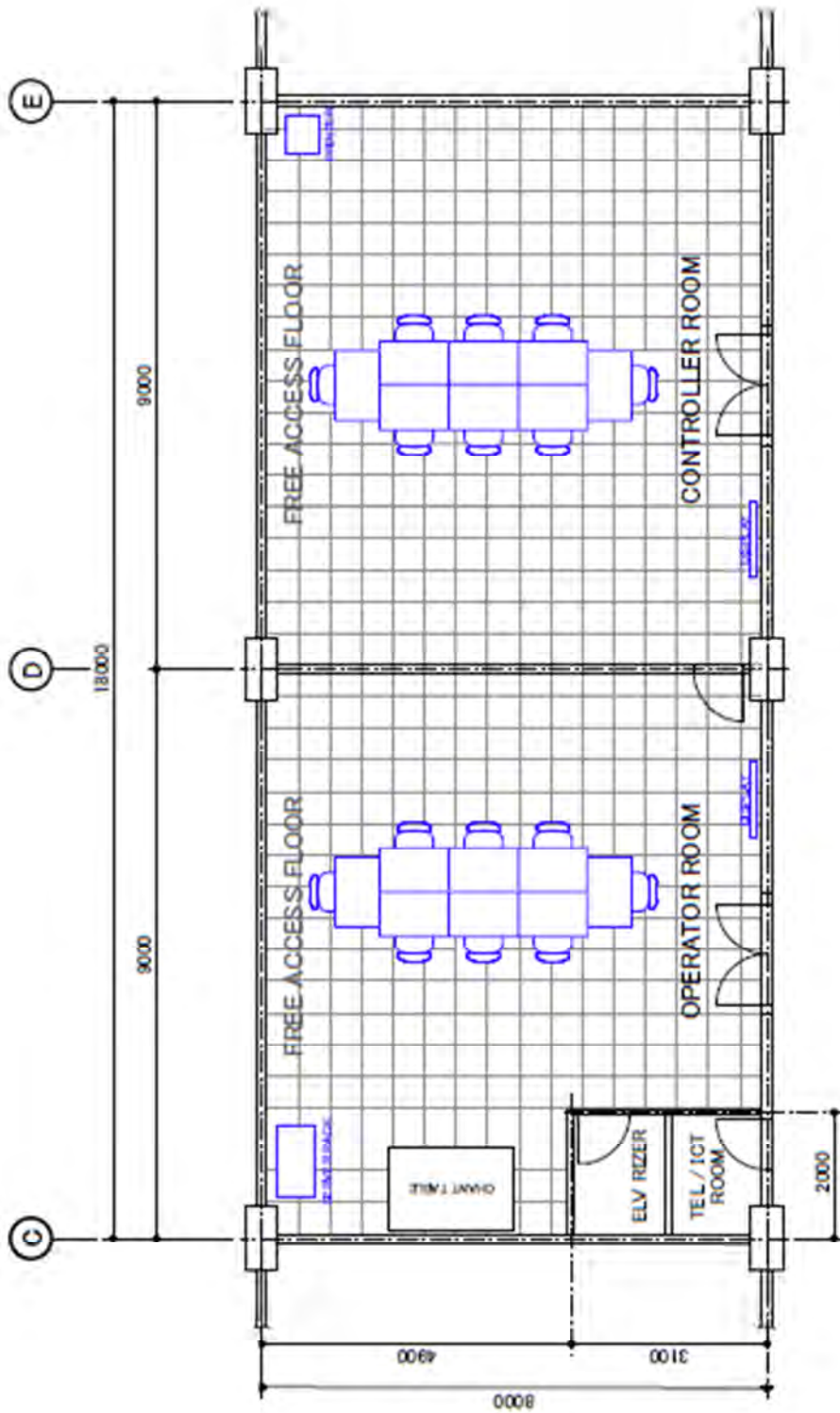


Fig. 3 Layouts of the Search and Rescue (SAR) Simulator

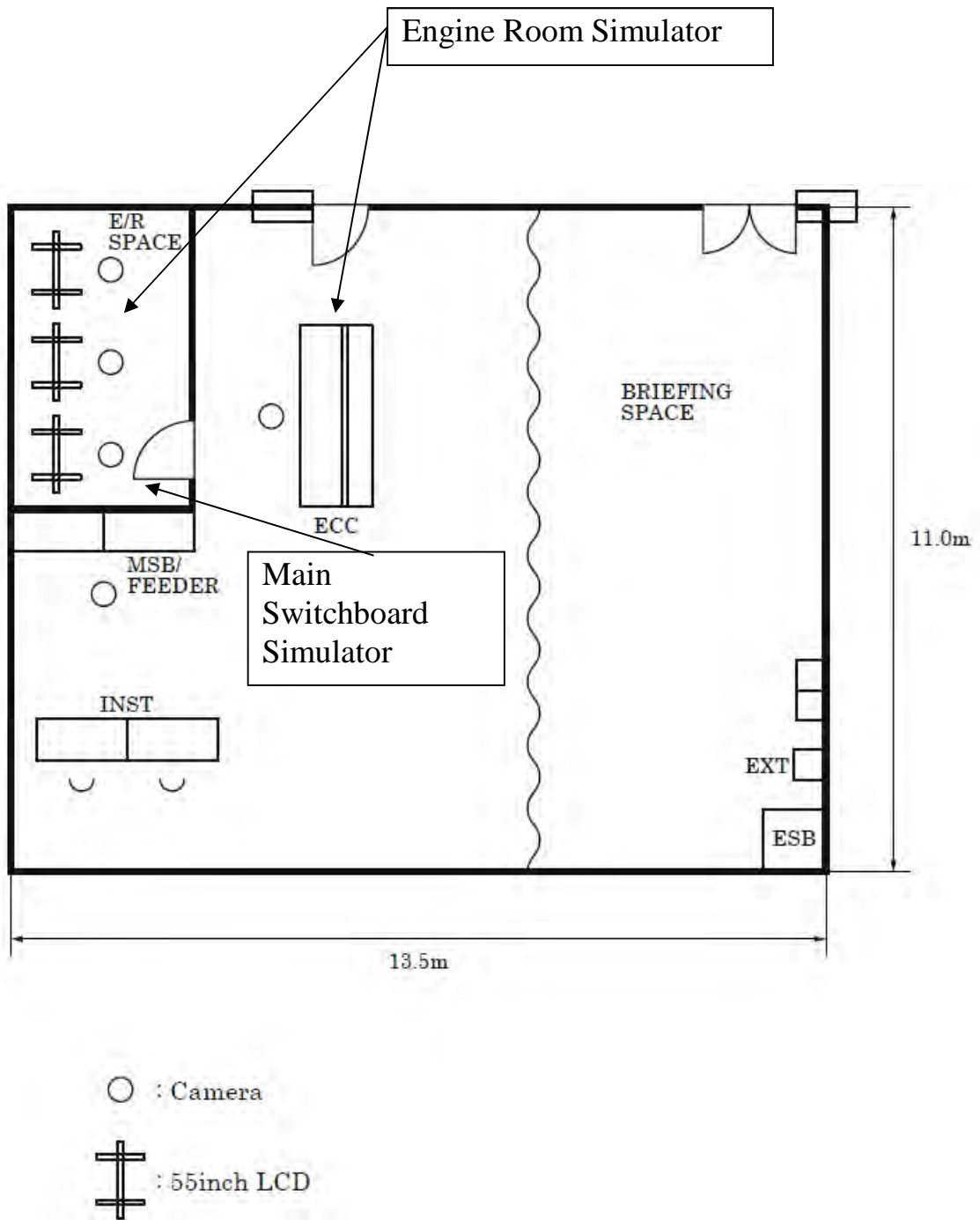


Fig. 4 Layouts of the Engine Room Simulator and Main Switch Board Simulator

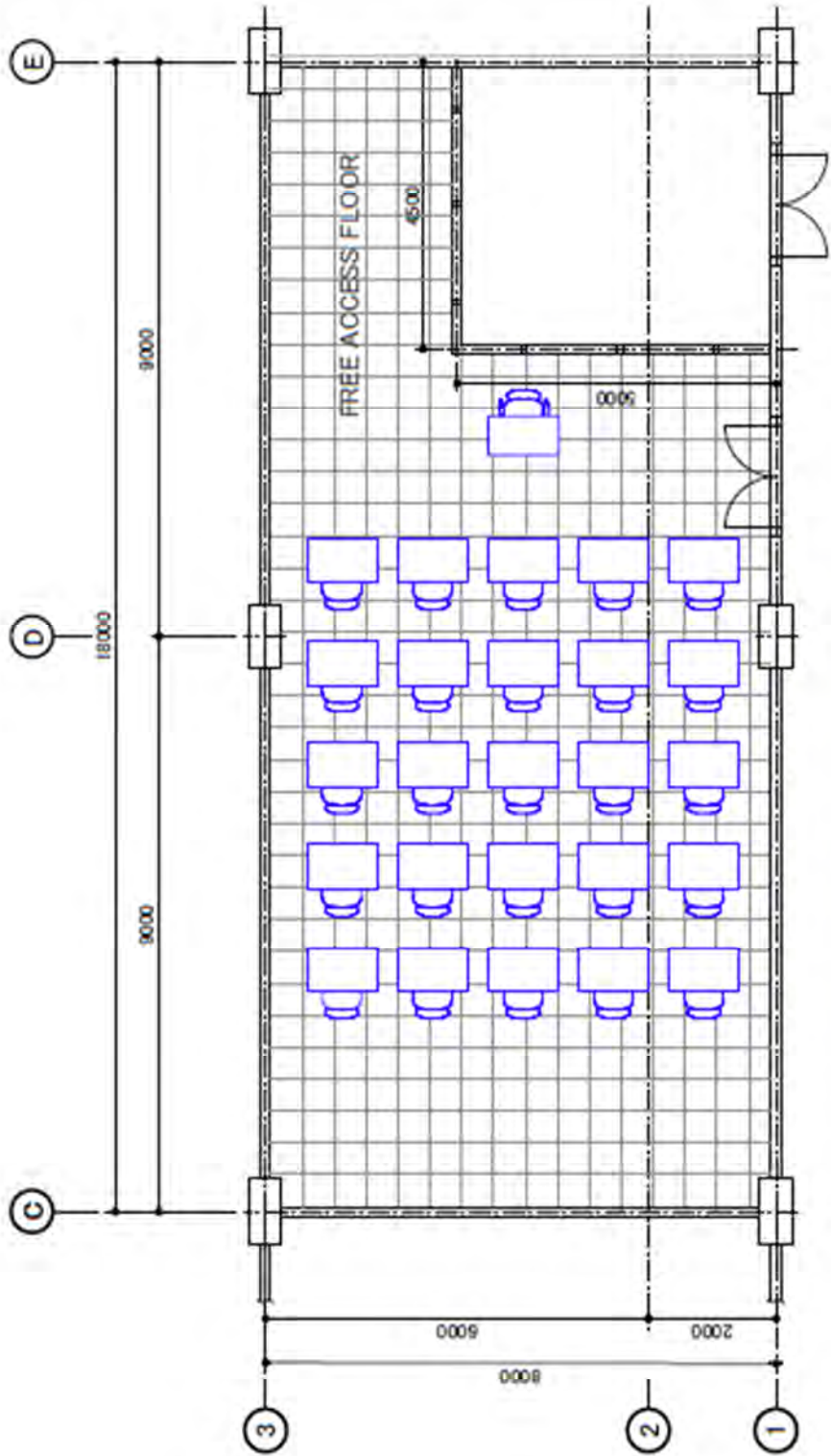


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## ABBREVIATION

ALAM	Malaysian Maritime Academy
AMSAS	Academy Maritime Sultan Ahmad Shah
ARPA	Automatic Radar Plotting Aids
CCTV	Closed Circuit Television
CPP	Controllable Pitch Propeller
DNV	Det Norskes Veritas
DSC	Digital Selective Calling
ECDIS	Electronic Chart Display and Information System
HF	High Frequency
LCD	Liquid Crystal Display
MATRIN	Maritime Transport Training Institute
MAvA	Malaysia Aviation Academy
MCC	Mission Control Center
MRCC	Maritime Rescue Coordination Center
NGPC	New Generation Patrol Craft
PUO	Politeknik Ungku Omar
PCC	Pure Car Carrier
RORO	Roll-on/Roll-off
STCW	International Convention on Standards of Training, Certification and Watch keeping for Seafarers
SAR	Search And Rescue
TEU	Twenty-foot Equivalent Unit
UPNM	National Defense University of Malaysia (Universiti Pertahanan Malaysia)
UPS	Uninterruptible Power Supply
VHF	Very High Frequency

# **Chapter 1 Background of the Project**

## **1-1 Background, circumstance and overview of Grant Aid**

Malaysia is adjacent to the international maritime routes like the Malacca and Singapore Straits, where the ships of more than 90,000 are passing across. In recent years, marine accidents, crime at sea such as poaching, smuggling, piracy, and drifting ashore of refugees have been increasing in number. Capability of Malaysian Maritime Enforcement Agency (hereinafter referred to as “MMEA”), however, is insufficient to cope with these issues so far, since it has not equipped with advanced practical skills and capability yet.

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Regarding the procurement of the equipment, Japanese side decided that Japanese nationals will be principally carrying out the procurement, since the result of the consideration on the various factors which may affect including competitiveness in Japanese domestic market, a product price, a maintenance/service network, and the origin of the products indicated positive. The equipment will be produced in Japan, then will be transported to Malaysia, and, after arrival at the site, installment works will be conducted.

## **1-2 Natural Conditions**

Malaysia is a country that consists of the southern part of the Malay Peninsula (40% of the national land) and the northern part of Borneo Island (60%). Malaysia is adjacent to Thailand across the border in the Malay Peninsula, as well as adjacent to Indonesia and Brunei in the Borneo Island. While on the sea it adjacent to the countries of Singapore, Philippines and Vietnam across the sea territorial border. Generally, the part of the Malay Peninsula is called "Peninsular Malaysia (district)", the Borneo island part is called "East Malaysia (district)". The Malay Peninsula is 740 km long from north to south, and 320 km wide from east to west. Titiwangsa Mountains are located along the Malay Peninsula. The country has a land area of about 329,847 km<sup>2</sup>, as same as that of around 0.87 times wide of Japan. Malaysia has a population of approximately 30.99 million people (2015 national census report).

Malaysia is the strategic point of the traffic on the seas to bind east and west together and is located on the sea-lane which is important to our country linking Middle East area via Strait of Malacca.

The climate of Malaysia belongs to the tropical climatic zone. The temperature, however, is not relatively high with the stable average temperature of between 27 and 33 degrees since Malaysia is surrounded by the ocean. Humidity is always high throughout the year at 70 - 90%. The annual rainfall reaches 2,500 mm due to the influence of the southwest monsoon from April to October and the northeast monsoon from November to March.

### **1-3 Environmental and Social Consideration**

As the result of consideration based on the guidelines entitled as " JICA Guidelines for Environmental and Social Considerations (April 2010)", it is recognized that environmental impacts such as air pollution, water pollution, soil contamination, waste, noise raised by the Project are limited as minimal. Thus the Project should be treated as a Category-C type of the guidelines.



## **Chapter 2 Contents of the Project**

### **2-1. Basic Concept of the Project**

#### **2-1-1 Overall Goal and Project Purpose**

Malaysia is adjacent to the international maritime routes like the Malacca and Singapore Straits, where the ships of more than 90,000 are passing across. In recent years, marine accidents, crime at sea such as poaching, smuggling, piracy, and drifting ashore of refugees have been increasing in number. Capability of Malaysian Maritime Enforcement Agency (hereinafter referred to as “MMEA”), however, is insufficient to cope with these issues so far, since it has not equipped with advanced practical skills and capability yet.

MMEA has been established a maritime security training center named as “Sultan Ahmad Shah Coast Guard Academy” (hereinafter referred to as “AMSAS”) in 2013. It has not equipped with simulators and relevant equipment for training maritime safety officials and building their capacities yet. Thus MMES has not been able to carry out sufficient trainings so far.

In such a circumstance, the Government of Malaysia (hereinafter referred to as “GOM”) requested the Government of Japan (hereinafter referred to as “GOJ”) the cooperation program with Grant Aid titled “the Project for Improving Training Equipment of Academy Maritime Sultan Ahmad Shah” (hereinafter referred to as “the Project”), involving procurement of the navigational simulators and training equipment for maritime safety officials. After equipped with the simulators and the training equipment through the Project, the GOM will conduct the enhanced training with simulators under various situations including the dangerous scenario which could not be carried out actually at real sea, and will find the weakness and problems by reviewing a record of navigation and reproducing the situation as well. With implementation of the Project, it is expected that the content and quality on education and training for maritime safety officers will be improved.

In the “Country Assistance Policy for Malaysia” announced in April 2012, the priority area titled “Response to common issues in East Asian region” has been positioned as one of the most important pillars, and in addition, the “JICA Country Analysis Paper” issued in March 2014 mentions that undertakings on common issues in East Asian region such as maintaining safeguard of the sea should be facilitated. The Project will be consistent with the aforementioned policy and analysis. Moreover, in the “Japan-ASEAN Summit Meeting” held in November 2014, reinforcement of cooperation between both countries in combatting terrorism and transitional crime is declared. Japanese Government has been continuously providing supports on mainly improving the capability of the maritime law enforcement and the search and rescue. Furthermore, “Japan–Malaysia Summit Meeting” held in May 2015 announced that both countries are willingly to

continue for capacity building of the MMEA. The project is also consistent with the aforementioned regional and bilateral cooperation policy.

## **2-1-2 Basic Concept of the Project**

The basic concept of the project will be to provide Malaysia the following equipment of the items requested by the GOM in the scheme of Japan's Grant Aid, after the due process including the assessment conducted by the GOJ about appropriateness of the items based on the results of the field surveys and internal analysis in Japan.

(1) Ship Handling Simulator, and a Briefing room and an Instructor room

Type: Two (2) bridge type

(2) A Search and Rescue (SAR) Simulator

Including: Desk training room with relevant equipment

(3) A Engine Room Simulator

Including: Simulated Engine Control Room

(4) A Main Switch Board Simulator

(5) A Radio Training Equipment

Regarding the procurement of the equipment, Japanese side decided that Japanese nationals will be principally carrying out the procurement, since the result of the consideration on the various factors which may affect including competitiveness in Japanese domestic market, a product price, a maintenance/service network, and the origin of the products indicated positive. The equipment will be produced in Japan, then will be transported to Malaysia, and, after arrival at the site, installment works will be conducted.

## **2-2. Outline Design of the Japanese Assistance**

### **2-2-1 Design Policy**

#### **2-2-1-1 Basic Design Policy**

##### **(1) Ship Handling Simulator**

The Ship Handling Simulator is a kind of the training equipment for maneuvering a ship properly which imitates the wheel house of the ships and provides the same situation as if you are just at sea. The expected Ship Handling Simulator is so called the “two bridge-typed simulator”, and it consists of a main bridge with relatively large space and a secondary bridge with relatively small space. Both of simulators will be installed in the dedicated rooms respectively. If the simulators play rolls of one for the MMEA ship/boat and one for a merchant ship respectively, MMEA officers are able to learn the skills in the coordinated operation for the search and rescue and/or execution of the laws at various scenarios including the dangerous one which could not be carried out actually at real sea.

Based on the specification requested by the Malaysian side, the basic composition of the Ship Handling Simulator was structured as follows in consultation with AMSAS.

##### ① General

This Project will adopt a DNV Class-A or equivalent-grade full mission bridge simulator comprised of main bridge and secondary bridge. As AMSAS has been certified by the Malaysian Maritime Department to carry out part of the training for maritime officers on ships with a gross tonnage of 500 or less engaged in domestic navigation pursuant to the STCW Convention, the specification of the simulator was set to satisfy the requirements under the STCW Amendments of 2010.

The visual graphic display system will use LCD monitors both in the main bridge and the secondary bridge at the eager request of AMSAS to minimize the O&M cost after installation.

Of the components of the ship-handling simulator system, RADAR/ARPA and ECDIS will be used for training freshmen having no previous experience in operating them, as well as for enabling AMSAS to carry out part of RADAR/ARPA and ECDIS simulator training as requested at the meeting. Accordingly, the main bridge will be installed with 2 sets of RADAR/ARPA and 1 set of ECDIS, which are the same machines as the ones used on the actual ships while the secondary bridge will be installed with 1 set each of RADAR/ARPA and ECDIS, which are also real machines.

As for training sea area database and ship models, the items shown in Tables 2-1 through 2-3 have been agreed upon.

3 sea areas were selected for the training sea area database (Table 2-1).

Table 2-1 Training Sea Area Database

Training sea area	3 areas (Port Klang, Lumut port, Labuan port)
-------------------	--

3 MMEA ships and 5 merchant ships were chosen as own ship models (Table 2-2).

Table 2-2 Own Ship Models

Own ship models	
MMEA vessels	
Pekan class	
Marlin class	
Jarak class (NGPC)	
Merchant ships	
VLCC	260,000 DWT Class, full load
Container vessel	2,100 TEU Class, full load
Bulker	37,000 DWT Class, full load
LNG	125k m <sup>3</sup> Class, full load
Research vessel	9,000 GT Class, full load

20 models, including merchant ship, fishing boat, warship, and cruise ship, were selected as target ships (Table 2-3).

Table 2-3 Target Ship Models

Vessel type	Remarks
Tugboat	Length overall: 25m class, full load
Tanker	10,000 DWT class, full load
RORO ship	10,000 G/T class, full load
Workboat	30m Class, half load
Container ship	10,000 TEU class, full load
Cargo ship	499 G/T class, full load
Bulk carrier	90,000 DWT class, half load
Bulker	40,000 DWT class, ballast
Cruise ship	29,000 G/T class, full load
Warship	Length overall: 50m class

Warship	Length overall: 160m class
Ferryboat	10,000 G/T class, half load
Pleasure boat	320 G/T class
PCC	6,000 unit class, half load
Fishing boat	Length overall: 30m class, full load
Pilot boat	Length overall: 16m class
Jetfoil	Length overall: 30m class
Boat	Length overall: 20m class
Sampan	Length overall: 45m class
Yacht	Length overall: 10m class

## ② System Configuration

- Main bridge will consist of the following instruments:  
Visual graphic display system (LCD, 240° view), navigation console, VHF/ DSC (real machine), repeater compass, steering stand (real machine), RADAR/ARPA (real machine), binocular, overhead meter, chart table, monitoring camera, and PA system
- Secondary bridge will consist of the following instruments:  
Visual graphic display system (LCD, 225° view) , navigation console, VHF/ DSC (real machine), RADAR/ARPA (real machine), ECDIS (real machine), binocular, overhead meters, chart table, monitoring camera, and PA system
- Instructors room will consist of the following instruments:  
Main bridge monitoring system, secondary bridge monitoring system, VHF/DSC, CCTV monitoring system, PA system, PC for editing scenarios, and printer
- Briefing room will consist of the following instruments:  
Projector and screen
- Server room will consist of the following instruments:  
Server and UPS

## (2) Search and Rescue (SAR) Simulator

The Search and Rescue Simulator is the training equipment for the MMEA officers to learn how to conduct the search and rescue operations after maritime accidents are reported. Once the accidents occur in the coastal area, coordinated action with the various rescue organizations such as the local fire and police stations will be needed. Pre-Exercise with the Search and Rescue Simulator will contribute to conduct smooth rescue operation in such a complicated operation on the actual sea. The simulator consists of the PCs and the large displays. Various scenarios will be prepared for the training.

Its basic composition was structured as follows in consultation with AMSAS.

### ① General

- A controller team comprised of 7 instructors will give trainees diverse information, including the status of marine accidents/emergencies using communication equipment.
- Based on the information provided by the controller, a team of trainees comprised of 6 operators and 1 senior operator will use the communication equipment, nautical charts, electronic navigational chart, and other instruments to gather information, develop a SAR plan, determine the SAR area and SAR unit, issue commands, and perform other activities.
- Information on the SAR area, etc. will be displayed on the trainees' PCs, as well as on the front display panel.
- On the display panel in the controller room, instructors can view the same information as that displayed in the training room.
- 2 white boards will be installed in each room.
- A copy machine with scanning capability will be installed in the operator room.
- Controller room and operator room will be separated by a partition wall.
- The free access floor (raised floor) will be installed in both rooms.

### ② System Configuration

- This system will consist of a controller room and an operator room, which are separated by a partition wall.
- 7 instructors in the controller room will conduct training for 1 senior operator and 6 operators in the operator room.
- Equipment to be installed in the controller room will consist mainly of the following items:
  - Desktop PC × 7, IP telephone × 7, Large LCD monitor × 1, Audio equipment × 1, VHF radiotelephone × 1, Printer × 1, Desk & Chair × 7, Chart table × 1, White Board × 2
- Equipment to be installed in the operator room mainly consists of the following items:
  - Desktop PC × 7, IP telephone × 7, Large LCD monitor × 1, Web camera Electronic chat equipment × 1, VHF radiotelephone × 1, Printer with scanner × 1, Desk & Chair × 7, Chart table × 1, White Board × 2

### (3) Engine Room Simulator

The Engine room Simulator is the training equipment that imitates the Machinery Control Room (MCR) close to the main engine of the ship. By using the simulator, the MMEA officials are able to learn how to start, operate, stop, respond in emergency and monitor with respect to the principle machineries of the ships including the main engine, generators, electric distribution board, and

hydraulic pumps

Its basic composition was structured as follows in consultation with AMSAS.

① General

- Basically, the system will adopt computer-based LCD monitors (touch-panel type).
- The system will enable trainees to simulate the operation of the engine control room and engine room.
- For future expandability (system replacement and compatibility with multi-vessel model), a computer-based simulator will be used.
- Model ships will be: ① 100m patrol boat and ② mega container ship.
- Main switchboard can display diesel generator, turbo generator, and shaft generator.
- Emergency generator can be displayed.
- Extension alarm panel can be displayed.

② System Configuration

- Engine room control console, main switchboard, alarm monitoring panel, engine room system, instructor system, video & sound recording system, and communication system

#### **(4) Main Switchboard Simulator**

The Main Switchboard Simulator is the training equipment that imitates the Main Switchboard of the ships. By using the simulator, the MMEA officers are able to learn how to stop, operate, stop, synchronize the phase, and respond in emergency with respect to the Main Switchboard.

Its basic composition was structured as follows in consultation with AMSAS.

① General

- Basically, it will be installed in the engine room simulator space.
- It will be a switchboard simulator for conducting training for phase synchronization. Generator (real machine) will not be included in the component.
- The console will be of switchboard type that mimics the actual equipment rather than computer-based touch panels, which are highly susceptible to wear and tear.

② System Configuration

- Generator panel, feeder panel, instructor control panel, and emergency switchboard

#### **(5) Radio Training Equipment**

The Radio Training Equipment is the equipment that imitates the VHF Radio Equipment of the ships. By using the equipment, the MMEA officers are able to learn how to operate and communicate with the radio equipment.

Its basic composition was structured as follows in consultation with AMSAS.

① General

- This system will be comprised of 1 desk for the instructor and 25 desks for trainees each installed with a radiotelephone, with which trainees will participate in communication training via a dummy antenna circuit in a simulated environment closely resembling the actual situations.
- Each session of communication training will be recorded by a multi-channel recording device and used for review.
- Training will be conducted using a VHF radiotelephone (with DSC capability).
- Training equipment will consist of a master console for the instructor and 26 radiotelephones with headsets.
- Trainees will receive training while sitting at desks divided by partition panels.
- The master console will have switch buttons to control training.
- Radio communication training will be conducted between instructor and trainees, as well as between groups of trainees.

② System Configuration

- VHF Radiotelephone with headset × 26, Recorder (8 channel) × 4, Dummy Antenna Circuit × 1, Audio equipment × 1, Desk and Chair × 26, and Partition Panel × 25



## **2-2-1-2 Policy for Operation**

### **(1) Ship Handling Simulator**

AMSAS will train their officials in due course in order to make 3 Instructors and 3 Operators of the Ship Handling Simulator respectively.

### **(2) Search and Rescue (SAR) Simulator**

At present, AMSAS sends trainees under the SAR Mission Coordinator Course to MAVA to be trained using the search and rescue coordinator simulator. Because of this, the AMSAS personnel are versed in the operation of the SAR training simulator and will unlikely encounter problems in operating and maintaining similar equipment to be provided by Japan.

### **(3) Engine Room Simulator and Main Switchboard Simulator**

For instructors and operators necessary for the operation of both simulators, it is important that AMSAS staff receive predetermined training, and AMSAS plans to deploy 10 additional personnel for all the simulators to be developed. Specific allocation of each simulator, instructor, operator, etc. is unknown.

### **(4) Radio Training Equipment**

At present, AMSAS is conducting training using 2 radio communication devices. Expansion of the communication system was requested to allow more trainees to participate in the training. As the content of the training has already been established, introduction of additional equipment from Japan will unlikely create major problems in its operation and maintenance.

## **2-2-1-3 Policy for Maintenance**

### **(1) Ship Handling Simulator**

AMSAS will train their officials in due course in order to make 3 maintenance staffs of the Ship Handling Simulator.

### **(2) Search and Rescue (SAR) Simulator**

Normal operating cost will not be much more than the electricity charges for running the communication equipment, display panels, PCs, etc. Equipment renewal cost will not be significantly different from that for renewing radio equipment and PCs used for normal operations. Use of electronic charts will require upgrading of software, which is already being used on patrol ships and therefore will unlikely be a problem. No concerns were expressed over the maintenance cost during the meeting(s) with AMSAS.

### **(3) Engine Room Simulator and Main Switchboard Simulator**

For the maintenance of the ERS and SBS, it is important to provide adequate training for AMSAS staff. While we have been told that AMSAS would deploy 10 additional personnel to take charge of all the simulators to be provided by this Project, it is unknown specifically how many instructors/operators will be assigned to which simulator.

### **(4) Radio Training Equipment**

Normal operating cost will be the cost of electricity needed to operate the equipment. AMSAS is deemed to possess sufficient knowledge on the repair, upgrade, etc. of the equipment, as it has already been conducting training using radio communication equipment. During the meeting, AMSAS withdrew the request for PC-based training equipment due to the cost of software upgrade, which suggests that AMSAS is using the existing equipment while being conscious of its O&M cost.

#### **2-2-1-4 Policy for Grade of the Equipment**

As AMSAS aims to become a Center of Excellence (COE) for education and training in the South East Asian region, it needs to be equipped with training instruments that are of equal or higher grade than those of other educational institutions in Malaysia. For this reason, we thoroughly investigated the conditions of other institutions in the region, many of which already own a ship-handling simulator and engine room simulator, and selected high-grade models while minimizing the O&M cost.

## 2-2-2 Basic Plan

### 2-2-2-1 Specifications of Equipment

The objective of this Project is to develop the content and quality of education and training of maritime safety personnel by procuring and introducing a ship-handling simulator and other maritime education/training equipment to enable AMSAS to carry out simulation exercises in a variety of situations (including those that cannot be done in actual ship maneuvering training) and to identify shortfalls and weaknesses by recording and replaying ship-handling operations.

In addition, as AMSAS is aiming to become a Center of Excellence (COE) for training and education in the South East Asian region, it should be equipped with machines befitting of such position. More specifically, it will be provided with a ship-handling simulator and other maritime education/training equipment that are of equivalent or higher grades than those of the five educational institutions studied in the 1<sup>st</sup> field survey, namely, National Defense University of Malaysia (UPNM), Malaysian Maritime Academy (ALAM), Ungku Omar Polytechnic (PUO), Maritime Transport Training Institute (MATRAIN), and Malaysian Aviation Academy (MAvA).

Specification of each equipment item is as follows.

#### (1) Ship Handling Simulator

Specification of the Ship Handling Simulator is shown in Table 2-4 below. It complies with the DNV Class-A requirements.

Table 2-4 Specification of the Ship Handling Simulator

	Equipment	Quantity
	<b>Hardware</b>	
	<b>Main bridge</b>	
1	Navigation console Engine telegraph, CPP operation unit, Bow thruster operation unit, Horn switch, Interphone, Multifunction monitor	1 set
2	VHF/DSC (real equipment)	2 sets
3	Repeater compass with stand (real equipment)	1 set
4	Steering stand (real equipment)	1 set
5	Overhead meter	1 set
6	RADAR/ARPA (S-band) (real equipment)	1 set
7	RADAR/ARPA (X-band) (real equipment)	1 set
8	ECDIS (real equipment)	1 set

9	Binocular	2 sets
10	Public address system	1 set
11	Other equipment / system	1 set
12	Chart table	1 set
13	Forward LCD visual graphic display system	1 set
14	Backward LCD visual graphic display system	1 set
15	Bridge mock-up	1 set
<b>Secondary bridge</b>		
16	Navigation console	
17	Steering wheel, Repeater compass, Engine telegraph, Horn switch, Interphone, Multifunction monitor	1 set
18	VHF/DSC (real equipment)	1 set
19	RADAR/ARPA (real equipment)(S-band/X-band)	1 set
20	ECDIS (real equipment)	1 set
21	Public address system	1 set
22	Other relevant system	1 set
23	Chart table	1 set
24	Forward LCD visual graphic display system	1 set
25	Secondary bridge mock-up	1 set
<b>Instructor room</b>		
26	Instructor console with monitoring function (Main bridge)	1 set
27	Instructor console with monitoring function (Secondary bridge)	1 set
28	Visual graphic display monitor	1 set
29	RADAR/ARPA monitor	1 set
30	ECDIS monitor	1 set
31	Binocular monitor	1 set
32	MFD monitor	1 set
33	Printer	1 set
34	Interphone	1 set
35	VHF	1 set
36	CCTV monitoring system	1 set
37	Scenario editing computer	1 set
38	Other equipment / system	1 set
<b>Server room</b>		
39	Main bridge server PC	1 set
40	Secondary bridge server PC	1 set
41	Graphic PC	1 set

42	RADAR signal generator	1 set
43	UPS	1 set
44	Other equipment / system	1 set
<b>Briefing room</b>		
45	Screen	1 set
46	Projector	1 set
<b>Software</b>		
47	Software	1 set
48	Other equipment / system	
<b>Data base</b>		
49	Training area (3 ports; Port Klang, Lumut Port, Labuan port)	1 set
50	Own ship model (3 MMEA patrol ships; Pekan class, Marlin class, Jarak class (NGPC))	1 set
51	Own ship model (5 general merchant ships)	1 set
52	Target ship model (20 ships)	1 set

## (2) Search and Rescue (SAR) Simulator

Specification of the Search and Rescue (SAR) Simulator is shown in Table 2-5 below.

Table 2-5 Specification of the Search and Rescue (SAR) Simulator

	Equipment	Quantity
<b>Hardware</b>		
1	Desk-top PC	14 sets (controller room 7 sets, operator room 7 sets)
2	IP telephone	14 sets (controller room 7 sets, operator room 7 sets)
3	Large LCD monitor	2 sets (controller room 1 set, operator room 1 set)
4	Matrix switcher	1 set
5	Web camera	1 set (operator room)
6	Electronic chart equipment	1 set (operator room)
7	Audio equipment	1 set
8	Simulator server rack	1 set
9	Main server	1 set
10	Electronic chart server	1 set
11	WEB server	1 set
12	Monitor / Switch	1 set
13	Web camera server & Mail server	1 set
14	UPS	1 set
15	VHF	2 sets (controller room 1 set, operator room 1 set)

16	Power unit (DC24V)	2 sets
17	Printer with scanner	1 set (controller room)
18	Printer	1 set (operator room)
19	Desk & Chair	14 sets (controller room 7 sets, operator room 7 sets)
20	Chart table	2 sets (controller room 1 set, operator room 1 set)
21	White Board	4 sets (controller room 2 sets, operator room 2 sets)
22	Partition	1 set
23	Raised floor	1 set
24	Power Distribution Board	1 set
25	Automatic Voltage Regulator	1 set
26	Isolation Transformer	1 set
27	Other equipment / system	1 set
	<b>Software</b>	
28	Scenario WEB Editing Functions	1 set
29	Scenario Database	1 set
30	Scenario creation function	1 set
31	Scenario playback function	1 set
32	Scenario electronic chart control function	1 set
33	ENC	1 set
34	Electronic chart equipment DB	1 set
35	Electronic chart equipment drawing function	1 set
36	Worksheets editing function	1 set
37	Camera recorder function	1 set
38	Mail server function	1 set

### (3) Engine Room Simulator

Specification of the Engine Room Simulator is shown in Table 2-6 below.

Table 2-6 Specification of the Engine Room Simulator

	Equipment	Quantity
	<b>Hardware</b>	
1	Engine control console	1 set
2	Main switchboard panel / Group starter panel	1 set
3	Emergency switchboard	1 set
4	Alarm monitoring panel	1 set

5	Engine room system	1 set
6	Instructor system	1 set
7	Communication equipment	1 set
8	Video & Voice recording system	1 set
9	Other equipment / system	1 set
<b>Software</b>		
10	Simulator software	1 set

#### (4) Main Switch Board Simulator

Specification of the Main Switch Board Simulator is shown in Table 2-7 below.

Table 2-7 Specification of the Main Switch Board Simulator

	Equipment	Quantity
<b>Hardware</b>		
1	Main switchboard panel	1 set
2	Distribution board panel	1 set
3	Emergency switchboard	1 set
4	Other equipment / system	1 set
<b>Software</b>		
5	Simulator software	1 set

#### (5) Radio Training Equipment

Specification of the Radio Training Equipment is shown in Table 2-8 below.

Table 2-8 Specification of the Radio Training Equipment

	Equipment	Quantity
<b>Hardware</b>		
1	VHF Radiotelephone with head sets	26 sets (instructor 1 set, trainees 25 sets)
2	Power unit (DC24V)	26 sets (instructor 1 set, trainees 25 sets)
3	Recorder (8-channel)	4 sets
4	Recorder control PC	1 set
5	Dummy antenna circuit	1 set
6	Audio equipment	1 set
7	HUB	1 set
8	Coaxial cable	52 sets
9	Power ATT	26 sets
10	Desk & Chair	26 sets

11	Partition panel (around desk)	25 sets
12	Raised floor	1 set
13	Power distribution board	1 set
14	Automatic voltage regulator	1 set
15	Isolation transformer	1 set
16	Other equipment / system	1 set
	<b>Software</b>	
17	Recorder control software	1 set

### 2-2-3 Outline Design Drawing

Layouts of each simulators and training equipment are shown from Fig. 2-1 to 2-4 below.



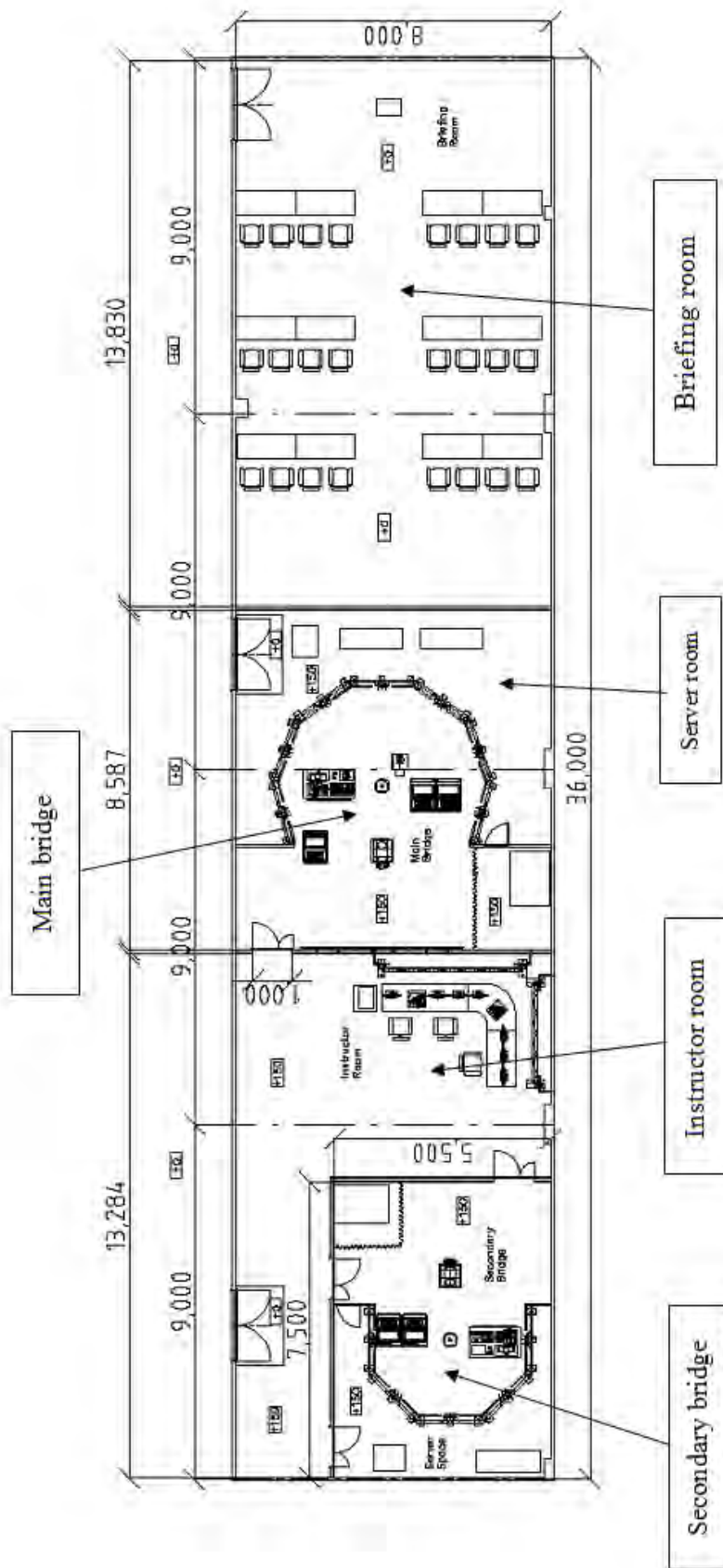


Fig. 2-1 Layouts of the Ship Handling Simulator

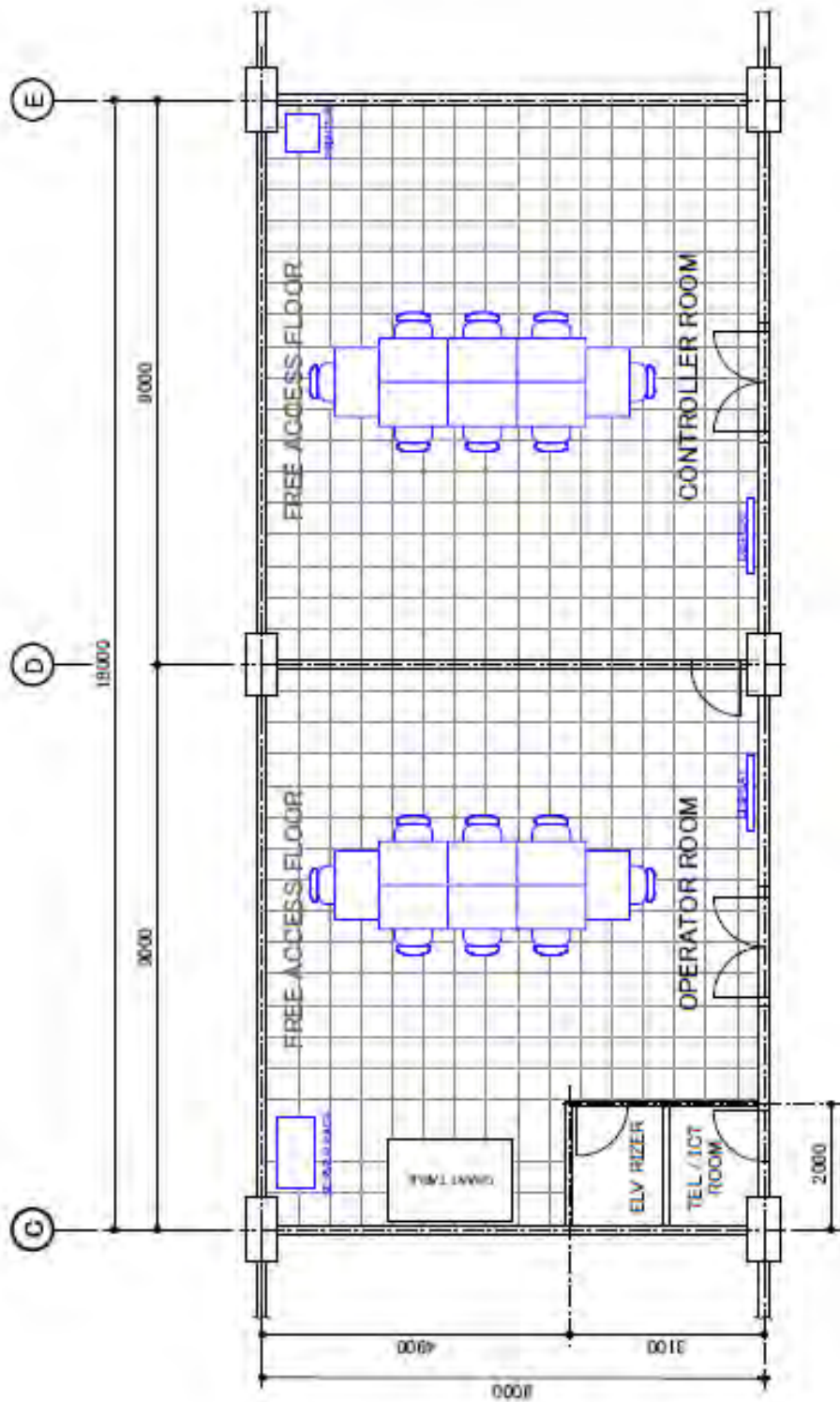


Fig. 2-2 Layouts of the Search and Rescue (SAR) Simulator

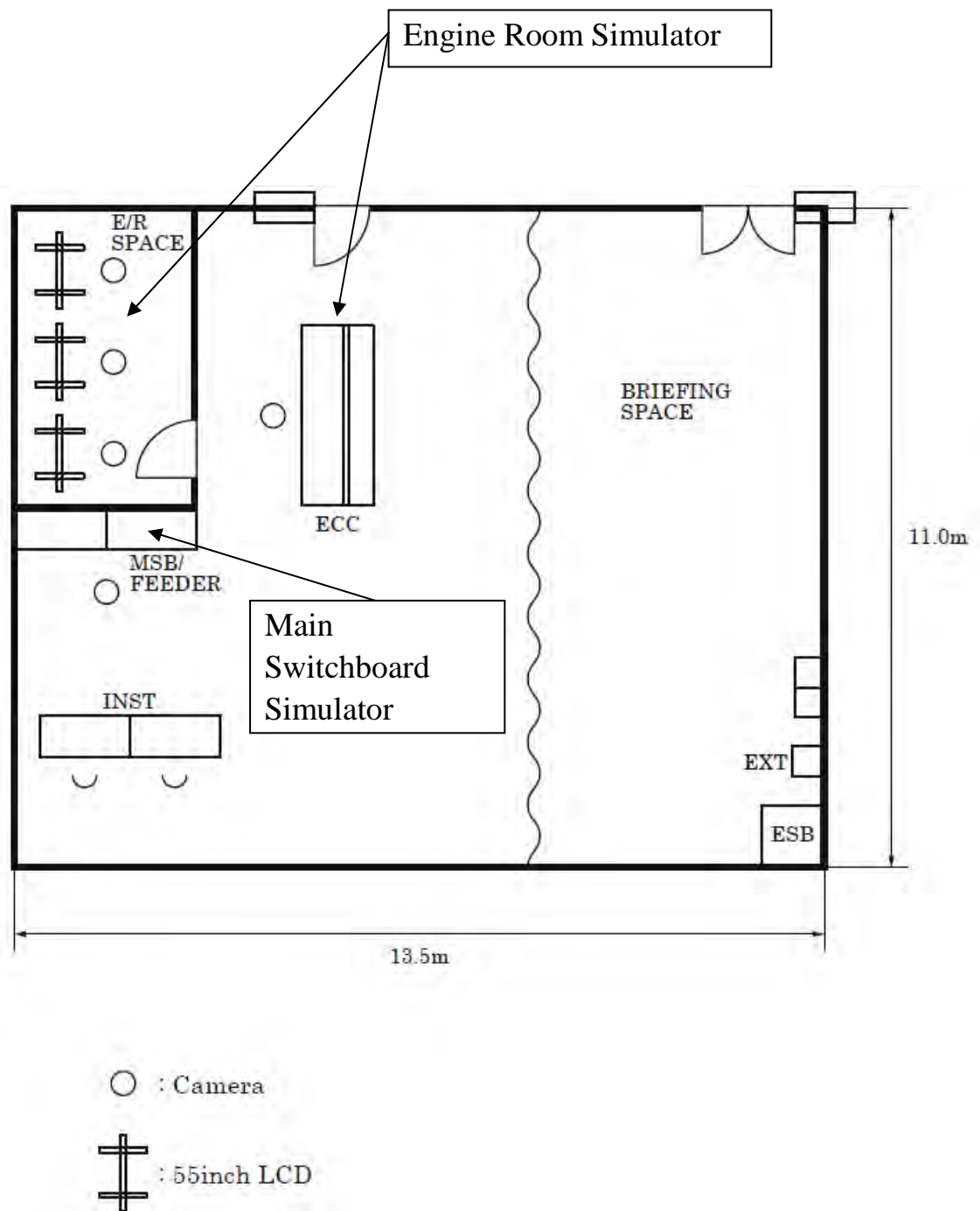


Fig. 2-3 Layouts of the Engine Room Simulator and Main Switch Board Simulator

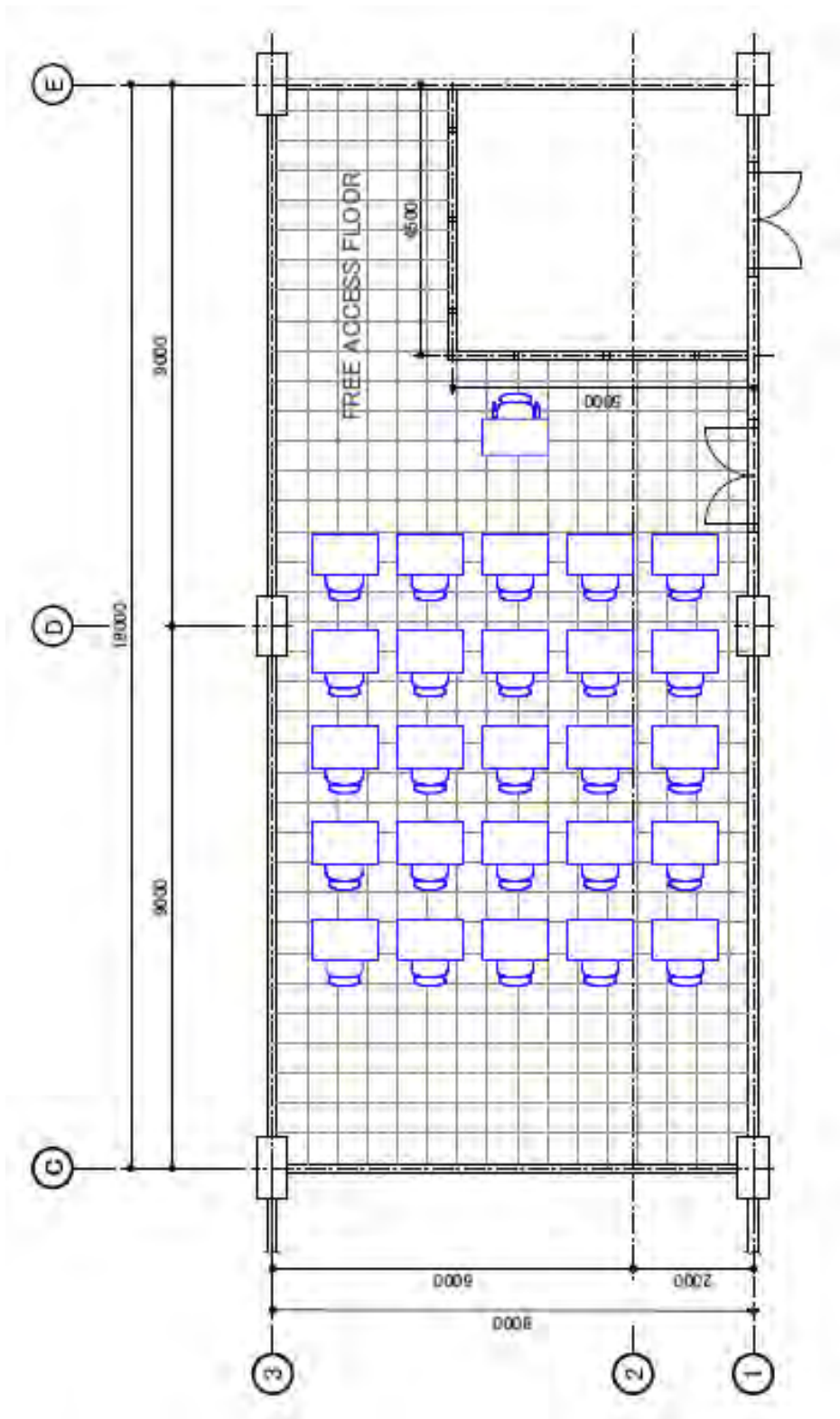


Fig. 2-4 Layouts of the Radio Training Equipment

## **2-2-4 Construction/Procurement Plan**

### **2-2-4-1 Policy for Construction/Procurement**

After the signing of an E/N (Exchange of Notes), an appointed Japanese consultant will carry out detailed design work and conduct bidding to select equipment suppliers based on the design policy and in consultation with the Malaysian Government.

Each equipment supplier selected through the bidding process will conclude a procurement contract with the Government of Malaysia, and the equipment manufacturers will be subject to inspection and supervision by the consultant during the design and production of the equipment.

Products manufactured in Japan will be inspected at their respective factories before shipment, delivered to the Yokohama Port to undergo pre-shipment inspection by a third-party agency, and transported by a 40-foot ocean freight container to the Port of Kuantan, Malaysia. It will take about 16 days to travel from the Yokohama Port to the Kuantan Port, where the goods will undergo a customs clearance procedure and then transported on land by a container truck.

The goods will be delivered to the Project Site (AMSAS), where Japanese engineers and local engineers and construction workers will assemble/install the equipment.

For the assembly and installation of the ship handling simulator, search and rescue (SAR) Simulator, engine room simulator, main switchboard simulator, and Radio Training Equipment, 2 to 5 engineers for each system will be dispatched from their respective manufacturers. In addition, local engineers and workers will be hired on an as needed basis.

Upon completion of assembly/installation, each equipment item will be tuned and test-operated under the guidance of Japanese engineers (2 to 3 engineers per equipment type).

For startup, 1 or so Japanese engineer for each equipment type will be sent to the Project Site to provide guidance on initial operation for AMSAS' operators and maintenance staff for a period of about 10 days.

For operation, 1 or so Japanese engineer for each equipment type will be dispatched, or the engineers, who have provided the above initial operational guidance, will continue to teach AMSAS personnel how to create training scenarios, etc.

### **2-2-4-2 Points to Note During Construction/Procurement**

With regard to the production of the equipment, the following points shall be observed.

#### **(1) Quality Control**

In manufacturing each equipment item, the manufacturer shall discuss closely with the consultant as to the details of process control and inspection procedure. In addition, the consultant

shall often visit each production site to inspect the materials/equipment, control quality preventatively based on various surveys, check quality standards, and carry out other duties to rigorously supervise the manufacturing processes.

## (2) Delivery Control

The production period of the equipment to be procured will differ for each item. While all items are scheduled to be finished at around the same time, each manufacturer must be aware of and strictly adhere to the delivery date so that they can arrive at the port for shipment without delay.

Accordingly, the consultant shall supervise and ensure smooth inter-process links by having each manufacturer prepare and submit a procurement schedules in addition to a production schedule.

### **2-2-4-3 Division of Construction/Procurement Work**

If this Project is to be implemented as a Grant Aid Project of the Government of Japan, the respective responsibilities to be undertaken by Japan and Malaysia are as follows.

#### **2-2-4-3-1 Responsibilities of Japan**

- 1) Detailed design of equipment to be procured and assistance for bidding-related activities, supervision of construction work, and supervision of implementation processes until handover.
- 2) Procurement, as well as testing as necessary, of Japanese-made equipment, spare parts, etc. in Japan.
- 3) Shipment of Japanese-made equipment to Kuantan Port, Malaysia by ocean.
- 4) After disembarkation at Kuantan Port, transport, unpacking, loading, installation, tuning and trial operation of equipment, as well as provision of guidance for startup and operation.

#### **2-2-4-3-2 Responsibilities of Malaysia**

- 1) To secure space for installing the following equipment items:
  - ① Ship handling simulator, Briefing room, and Instructor room
  - ② Training simulator for search and rescue course
  - ③ Engine room simulator
  - ④ Main switchboard simulator
  - ⑤ Radio Training Equipment
- 2) To obtain necessary licenses and permits concerning the Project plan, site, and construction.
- 3) To secure enough wattage for the above equipment by upgrading the capacity of the main switchboard.

- 4) To repair broken (leaking) sections of the ceiling of each room, where the equipment listed in 3.1) and 2) above is to be installed.
- 5) To install a cooling devise with a sufficient capacity in the space, where the engine room simulator, and main switchboard simulator are to be installed.
- 6) To issue work visas for personnel working for the Project.
- 7) To ensure prompt unloading and customs clearance of the equipment at the port of the recipient country.
- 8) To afford special facilities for Japanese and third-country nationals when they enter and stay in Malaysia to supply products or provide related services for the Project pursuant to effective contracts.
- 9) To bear the amount of customs duties, internal taxes, and other levies and duties imposed on products and services to be purchased in Malaysia instead of refunding them.

The above-mentioned customs duties, internal taxes, and other levies and duties include but not limited to business tax, income tax, corporate tax for Japanese corporations, resident tax, and gasoline tax, which may be charged in relation to the provision of products and related services pursuant to effective contracts.

- 10) To bear all expenses not covered by Grant Aid but necessary for the implementation of the Project.
- 11) To provide drawings and data of the three patrol ships (Pekan, Marlin, and Jarak) necessary for the equipment suppliers to generate precise ship models.
- 12) To provide necessary facilities for conducting surveys, including taking pictures of the ports where training will be conducted, for generating precise CGs of the training sea areas.

#### **2-2-4-4 Construction/Procurement Supervision Plan**

According to the design policy, the Japanese consultant will carry out detailed design work and perform a series of supervisory functions on behalf of the Malaysian executing agency from bidding-related work and the signing of procurement contracts to the inspection of drawings and supervision/inspection during production and at the handover.

In addition, the consultant will supervise the production of equipment according to the production schedule, such as having expert engineers supervise the production and attend the inspection of each type of equipment, as well as give advice, instructions, and recommendations as necessary. The consultant will also guide and supervise to ensure that each manufacturer will tune and test-run the equipment and provide guidance for startup and operation properly up to the point of handover.

Further, the consultant will conduct an inspection 1 year after the handover before the expiration of the manufacturer's warranty period.

#### **2-2-4-5 Quality Control Plan**

##### (1) Process Control

The consultant will manage the work progress and delivery status of the equipment ordered in accordance with the separately provided implementation schedule so as not to cause delay or omission. The consultant will keep close communication with the manufacturers so that they can take preventative actions when a possible delay is foreseen.

##### (2) Quality Control

The consultant will ensure that the ship-handling simulator meets the DNV Class-A requirements, and supervise the production of other training equipment sufficiently by visiting their production sites as necessary especially when installing real machines to ensure that they meet the JG regulations, etc.

#### **2-2-4-6 Materials/Equipment Procurement Plan**

Initially, field surveys, etc. were conducted in Malaysia with a possibility of inviting third-country suppliers to the bid. However, the results of the field surveys and the subsequent analysis in Japan of the competitiveness of Japanese products, as well as differences in purchase price and maintenance cost between Japanese and overseas products, indicated that procuring the equipment in Japan would not contradict the fore-mentioned conditions. Thus, the main components of each equipment item will be produced in Japan, shipped to Malaysia, and then assembled and installed at the Project Site.

The warranty period will be 1 year, and no spare parts will be provided.

#### **2-2-4-7 Soft Component (Technical Assistance) Plan**

The soft component is not included in the Project, as knowledge necessary for operating the equipment after installation will be imparted during the startup guidance, which will teach basic operation, and during the subsequent operational guidance, which will teach how to operate the equipment according to various training scenarios.



#### **2-2-4-8 Implementation Schedule**

Preparation of bidding documents and announcement of bid for this Project will be completed in about 2.5 months after the conclusion of the consultant agreement, and the procurement contract will be signed about 1.5 months thereafter. Approximately 13.5 months will be required for production, including inspection, and it will take additional 3 months or so for transport of the equipment from Japan to Kuantan Port in Malaysia and installation and handover.

The entire process after the conclusion of the consultant agreement will take about 20.5 months, and further 12 months will be necessary until the expiration of the warranty period. The implementation schedule is shown in Table 2-9 on the following page.

The actual work period will depend on the situation of workload of each equipment manufacturer at the time of signing the procurement contract.

Table 2-9 Implementation Schedule

Months		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Tender and Procurement Contract	Final Verification of Specification	■																					
	Review of Detailed Design		□																				
	Preparation of Tender Documents			□																			
	Approval of Tender Documents			■																			
	Announcement of Tender				△																		
	Delivery of Tender Document				□																		
	Tender					△																	
	Evaluation of Tender					■																	
	Procurement Contract					▲																	

Months		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Process of Procurement	Making Drawings					□	□	□	□	□													
	Production of Simulators and Equipment						□	□	□	□	□	□	□	□	□	□	□	□	□	□			
	Pre-confirmation and Meeting (Consultant & Malaysia)												■										
	Inspection of Products																		□				
	Pre-shipment Inspection																			□			
	Pre-shipment Verification																			□			
	Shipping																			□			
	Pre-installation Work																			■	■	■	
	Transportation by Ship																				▨		
	Unpacking, Loading, Installation Work																					■	■
	Adjustment and Commissioning																						■
	Initial Guidance																						■
	Operational Guidance																						■
	Verification and Delivery																						■

(Note) □: Activities in Japan  
 ▨: Transportation  
 ■: Activities on site

## 2-3. Obligations of recipient country

Following are the items as “the major undertakings to be taken by the recipient country” which were confirmed in writing between both countries.

### (1) Before the Tender

- 1) To open Bank Account (Banking Arrangement (B/A))
- 2) To issue Authorization to Pay (A/P) to a bank in Japan (the Agent Bank) for the payment to the supplier(s)
- 3) To secure and clear following land
  - ① for Ship Handling Simulator, and a briefing room and an Instructor room
  - ② for the Search and Rescue (SAR) Simulator
  - ③ for the Engine Room Simulator
  - ④ for the Main Switch Board Simulator
  - ⑤ for the Radio Training Equipment
- 4) To obtain the planning, zoning, building permit
- 5) To secure necessary power supply with upgrading distribution boards for the equipment as described above
- 6) To repair the defects of ceilings regarding the rooms for the equipment as described above 3. 1) and 2) respectively
- 7) To install air conditioners with enough capacity in a room for the Engine Room Simulator and Main Switchboard Simulator
- 8) To submit Project Monitoring Report (with the result of Detail Design)

### (2) During the Project Implementation

- 1) To issue A/P to a bank in Japan (the Agent Bank) for the payment to the Supplier(s)
- 2) To bear the following commissions to a bank in Japan for the banking services based upon the B/A
  - ① Advising commission of A/P
  - ② Payment commission for A/P
- 3) To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country
- 4) To accord Japanese physical persons and/or physical persons of third countries whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work

- 5) To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the country of the Recipient with respect to the purchase of the products and /or the services be exempted
- 6) ① To submit Project Monitoring Report after each work under the contract(s) such as shipping hand over, installation and operational training  
② To submit Project Monitoring Report (final)
- 7) To submit a report concerning completion of the Project
- 8) To provide necessary drawings/data of 3 patrol ships (Pekan, Marlin, and Jarak) to the supplier in order to create precise own ship model
- 9) To provide convenience for the target training berth investigation including photographing to the supplier in order to create precise CG of training area

(3) After the Project

- 1) To maintain and use properly and effectively the facilities equipment provided under the Grant Aid
  - ① Allocation of maintenance cost
  - ② Operation and maintenance structure
  - ③ Routine/Periodic inspection

It is estimated that particular budgets relevant to the above items 1) ① and ②, totally amounting to about 28.33 thousand MYR will be allocated by the recipient country.

However, in case the other expenses than the above items 1) ① and ② are actually needed during the procedure of the recipient country, those shall be borne by them.

## **2-4. Project Operation/Maintenance Plan**

### **2-4-1 Operation Plan**

#### **(1) Ship Handling Simulator**

AMSAS will train their officials in due course in order to make 3 Instructors and 3 Operators of the Ship Handling Simulator respectively.

#### **(2) Search and Rescue (SAR) Simulator**

At present, AMSAS sends trainees under the SAR Mission Coordinator Course to MAVA to be trained using the search and rescue coordinator simulator. Because of this, the AMSAS personnel are versed in the operation of the SAR training simulator and will unlikely encounter problems in operating and maintaining similar equipment to be provided by Japan.

#### **(3) Engine Room Simulator and Main Switchboard Simulator**

For instructors and operators necessary for the operation of both simulators, it is important that AMSAS staff receive predetermined training, and AMSAS plans to deploy 10 additional personnel for all the simulators to be developed. Specific allocation of each simulator, instructor, operator, etc. is unknown.

#### **(4) Radio Training Equipment**

At present, AMSAS is conducting training using 2 radio communication devices. Expansion of the communication system was requested to allow more trainees to participate in the training. As the content of the training has already been established, introduction of additional equipment from Japan will unlikely create major problems in its operation and maintenance.

## **2-4--2 Maintenance Plan**

### **(1) Ship Handling Simulator**

AMSAS will train their officials in due course in order to make 3 maintenance staffs of the Ship Handling Simulator.

### **(2) Search and Rescue (SAR) Simulator**

Normal operating cost will not be much more than the electricity charges for running the communication equipment, display panels, PCs, etc. Equipment renewal cost will not be significantly different from that for renewing radio equipment and PCs used for normal operations. Use of electronic charts will require upgrading of software, which is already being used on patrol ships and therefore will unlikely be a problem. No concerns were expressed over the maintenance cost during the meeting(s) with AMSAS.

### **(3) Engine Room Simulator and Main Switchboard Simulator**

For the maintenance of the ERS and SBS, it is important to provide adequate training for AMSAS staff. While we have been told that AMSAS would deploy 10 additional personnel to take charge of all the simulators to be provided by this Project, it is unknown specifically how many instructors/operators will be assigned to which simulator.

### **(4) Radio Training Equipment**

Normal operating cost will be the cost of electricity needed to operate the equipment. AMSAS is deemed to possess sufficient knowledge on the repair, upgrade, etc. of the equipment, as it has already been conducting training using radio communication equipment. During the meeting, AMSAS withdrew the request for PC-based training equipment due to the cost of software upgrade, which suggests that AMSAS is using the existing equipment while being conscious of its O&M cost.

## 2-5. Project Cost Estimation

### 2-5-1 Initial Cost Estimation

#### (1) Costs borne by the GOM

Costs borne by the GOM will be shown on the Table 2-10. However, in case the other expenses than the costs described on the Table 2-10 are actually needed during the procedure of the GOM, those shall be borne by the GOM.

Table 2-10 Estimated costs borne by the GOM

Items	Amount (thousand MYR)	Comments
To bear the following commissions to a bank of Japan for the banking services based upon the B/A (Bank Arrangement) (1) Advising commission of A/P (Authorization to Pay) (2) Payment commission for A/P	28.37	Prime Minister Office (PMO)

### 2-5-2 Operation and Maintenance Cost

#### (1) Annual Operation and Maintenance Costs

Expenditures on the annual operation are limited since they only derived from the electric consumption of PCs, LCD monitors, displays, servers. Expenditures on the maintenance are shown on the Table 2-11 bellow.

Table 2-11 Estimated Maintenance Costs

No.	Items	Contents of the maintenance service	Estimated costs for maintenance (US dollars)	Annual Average (US dollars)
1	Ship Handling Simulator, with a briefing room and an Instructor room	<p>(1-year contract type) Regular check-up for US\$ 7,400 per annual will be conducted every year with dispatched engineers from provider. Regular check-up will cover inspection by each component, cleaning, calibration, minor repair, software update, and something like that. It takes 1 or 2 days by 1 or 2 engineers.</p> <p>However periodic replacement of the component is not covered within the US\$ 7,400. Major repair including component exchanges is not covered by the contract.</p> <p>(5-year contract type) Regular check-up will be conducted annually with dispatched engineers from provider. Regular check-up will cover inspection by each component, cleaning, calibration, minor repair, software update, and something like that. It takes 1 or 2 days by 1 or 2 engineers.</p> <p>Furthermore the contract will also cover periodic replacement of the certain component and complementary repair when necessary.</p>	<p>Approx. US\$ 7,400 to US\$ 213,500 per Annual</p> <p>Approx. US\$ 290,000 per Annual</p>	<p>Approx. US\$ 116,300 per Annual (#1-1)</p> <p>Approx. US\$ 290,000 per Annual (#1-2)</p>
2	Search and Rescue (SAR) Simulator	Exchange equipment every 4 or 5 years	Approx. US\$ 5,500 per Annual	Approx. US\$ 5,500 per Annual (#2)



3	Engine Room Simulator	Annually: General check-up  Every 5 years: General check-up + Exchange UPS batteries  Every 10 years: General check-up + Exchange of UPS batteries + Exchange of PC/LCD/PRT	Approx. US\$ 4,800 to  US\$ 124,800 per Annual	Approx. US\$ 17,040 per Annual (#3)
4	Main Switch Board Simulator	Annually: General check-up Additional repair work is not included	Approx. US\$ 2,400 per Annual	Approx. US\$ 2,400 per Annual (#4)
5	Radio Training Equipment	Exchange equipment every 4 or 5 years	Approx. US\$ 1,500 per Annual	Approx. US\$ 1,500 per Annual (#5)

(Conclusion)

If Malaysian Government choose 1-year contract type maintenance service regarding the Ship Handling Simulator, total annual average costs will be;  
Approx. US\$ 142,740 per Annual.  
(=#1-1+#2+#3+#4+#5)

If Malaysian Government choose 5-year contract type maintenance service regarding the Ship Handling Simulator, total annual average costs will be;  
Approx. US\$ 316,440 per Annual.  
(=#1-2+#2+#3+#4+#5)

(Note)

Maintenance cost will appear from the year of 2020 after the warranty period of 2019 in our estimation. Please refer to attachment 3 for your reference.

(2) Current Budget

Overall budgets of the MMEA during the last three (3) years are as shown in Table 2-12. Total volumes are counting about average 10 billion in JPY (approximately 400 million in MYR) annually.

Tale 2-12 Overall budget of the MMEA

	Year 2013	Year 2014	Year 2015
MYR (Malaysian Ringgit)	450.4 million	392.9 million	401.5 million
JPY (Japanese Yen) (1 MYR = 25.2697 JPY)	11,381 million	9,928 million	10,146 million

Allocated budgets during the last there (3) years to the AMSAS from overall budget of the MMEA are as shown in Table 2-13. During years from 2013 to 2015 the budget for the maintenance has been increasing in the amount steadily. While the budget for training decreased significantly. Japanese side pointed out and advised Malaysian to keep enough amount of the budget enable to maintain and develop the education and training. The GOM will hold a cabinet meeting to agree to secure the necessary budget for maintenance as the Government.

Table 2-13 Allocated budget to the AMSAS

	2013 年	2014 年	2015 年
Procurement	453,852.20 MYR (11,468,709 JPY)	1,190,123.00 MYR (30,074,051 JPY)	468,203.65 MYR (11,831,366 JPY)
Maintenance	770,500.00 MYR (19,470,304 JPY)	918,219.04 MYR (23,203,120 JPY)	1,634,617.00 MYR (41,306,281 JPY)
Education and Training	2,971,200.00 MYR (75,081,333 JPY)	2,716,497.84 MYR (68,645,085 JPY)	1,880,843.00 MYR (47,528,338 JPY)
Others	2,335,841.00 MYR (59,026,001 JPY)	2,473,736.18 MYR (62,510,571 JPY)	2,220,330 MYR (56,107,073 JPY)
Total	6,531,393.20 MYR (165,046,342 JPY)	7,298,576.06 MYR (184,432,827 JPY)	6,203,993.65 MYR (156,773,058 JPY)
Allocation of the budget of the AMSAS in the MMEA's.	1.45 %-	1.86 %	1.55 %

(Note) 1 MYR = 25.2697 JPY

## **Chapter 3 Project Evaluation**

### **3-1 Preconditions**

- The maritime safety activities in its coastal areas by the GOM to be maintained in the same manner as being carried out so far
- Organization of the MMEA to be maintained

### **3-2 Necessary Inputs by Recipient Country**

- Human resources
  - Operators of the simulators and training equipment
  - Maintenance personnel of the simulators and training equipment
- Facilities
  - Building, space and interior for installation of the simulators and training equipment
  - Utilities
- Local costs
  - Operation and maintenance costs to be required

### **3-3 External conditions**

- The political situation and security conditions in Malaysia and neighbor countries not to become worse
- Unexpected natural disaster not to occur.

### **3-4 Project Evaluation**

#### **3-4-1 Relevance**

Implementation of this project with Japan grant aid is considered relevant from the view points of the content, degree of the effects, capability for the operation and maintenance of the equipment to be installed as follows.

- (1) Implementation of the project will contribute to ensure the safety of the coastal areas of Malaysia and secure the socio-economic activities through providing the training equipment to the AMSAS for improving the capability of MMEA ship crews.

- (2) The implementation Agency (AMSAS) already has a certain number of trainers and substantial number of experiences of training a large number of trainees. Thus there is no obstacle for them to carry out the proper operation and maintenance of the equipment to be installed.
- (3) In accordance with the requirements of Japan’s Grant Aids system, installed training equipment will be produced by the Japanese manufacturers. This will be useful to ensure the smooth implementation of the project without any inconvenience on the communication and quality of the products.
- (4) Since the installation and operation of the equipment do not give any adverse effect on the environment and society, the project shall be treated as a Category-C project of the JICA Guideline for Environmental and Social Considerations.

In the “Country Assistance Policy for Malaysia” announced in April 2012, the priority area titled “Response to common issues in East Asian region” has been positioned as one of the most important pillars, and in addition, the “JICA Country Analysis Paper” issued in March 2014 mentions that undertakings on common issues in East Asian region such as maintaining safeguard of the sea should be facilitated. The Project will be consistent with the aforementioned policy and analysis. Moreover, in the “Japan-ASEAN Summit Meeting” held in November 2014, reinforcement of cooperation between both countries in combatting terrorism and transitional crime is declared. Japanese Government has been continuously providing supports on mainly improving the capability of the maritime law enforcement and the search and rescue. Furthermore, “Japan –Malaysia Summit Meeting” held in May 2015 announced that both countries are willingly to continue for capacity building of the MMEA. The project is also consistent with the aforementioned regional and bilateral cooperation policy.

### 3-4-2 Effectiveness

#### (1) Quantitative effectiveness

Quantitative effectiveness of the project is shown in the Table 3-1.

Table 3-1 Quantitative indicators

Indices	Basis (at 2016)	Target (at 2020, three years after completion of the Project)
Number of trainees of the MMEA trained at external facilities using the simulators	118	0

Number of trainees of the MMEA trained at the AMSAS using the simulators	0	about 500
Number of trainees from other countries trained at the AMSAS using the simulators	0	about 20

(2) Qualitative effectiveness

- ① To contribute the rapid and proper search and rescue operation and the prevention of maritime crimes such as, smuggling, smuggling, poaching, illegal migration in Malaysian coastal areas.

As the mentioned above, it is evaluated that the implementation of the Project indicate the high relevance and effectiveness.

## Appendix 1 Member List of the Survey Team

### (1) Preparatory Survey (27<sup>th</sup> June to 19<sup>th</sup> July 2016)

Leader	ISHIMA Toshitaka	Visiting Senior Advisor Japan International Cooperation Agency
Ship handling Simulator Planner	UNO Mizuho	Japan Coast Guard Academy
Maritime Educational Training Equipment Planner	KUMAGAMI Hisao	Japan agency of Maritime Education and Training for Seafarers
Planning Coordinator 1	MURATA Kenji	Team 2 Transportation and ITC Group & Planning and Coordination Division Infrastructure and Peacebuilding department Japan International Cooperation Agency
Planning Coordinator 2	TAKAHASHI Itaru	Team 2 Transportation and ITC Group & Planning and Coordination Division Infrastructure and Peacebuilding department Japan International Cooperation Agency
Chief Consultant/Ship Handling System Planner/ Equipment/Facilities Planner 1/Ship Handling Simulator	KOBASHI Motoki	Shipbuilding research Centre of Japan
Equipment/Facilities Planner 2/Search and Rescue Simulator and Radio Equipment	NISHIGUCHI Masafumi	The Japan Association of Marine Safety
Architect	SHIINA Hiromi	S and N Co., Ltd.
Logistic Planner/ Cost Estimator/Engine Simulator and Main Switchboard Simulator	GOTO Akitoshi	Shipbuilding Research Centre of Japan

### (2) Preparatory Survey (19<sup>th</sup> to 27<sup>th</sup> September 2016)

Leader	ISHIMA Toshitaka	Visiting Senior Advisor Japan International Cooperation Agency
Maritime Educational Training Equipment Planner	KUMAGAMI Hisao	Japan agency of Maritime Education and Training for Seafarers
Planning Coordinator 1	TAKAHASHI Itaru	Team 2 Transportation and ITC Group & Planning and Coordination Division Infrastructure and Peacebuilding department Japan International Cooperation Agency
Planning Coordinator 2	HIRABAYASHI Yurie	Grant Aid Project Management Division 1 Financial Cooperation Implementation Department
Chief Consultant/Ship Handling System Planner/ Equipment/Facilities Planner 1/Ship Handling Simulator	KOBASHI Motoki	Shipbuilding research Centre of Japan
Equipment/Facilities Planner 1/Ship Handling Simulator	YABUKI Hideo	Tokyo University of Marine Science and Technology

Equipment/Facilities Planner 2/Search and Rescue Simulator and Radio Equipment	NISHIGUCHI Masafumi	Shipbuilding Research Centre of Japan
Architect	SHIINA Hiromi	S and N Co., Ltd.
Logistic Planner/ Cost Estimator/Engine Simulator and Main Switchboard Simulator	GOTO Akitoshi	Shipbuilding Research Centre of Japan

**(3) Draft Report Explanation (10<sup>th</sup> to 13<sup>th</sup> January 2017)**

Leader	ISHIMA Toshitaka	Visiting Senior Advisor Japan International Cooperation Agency
Planning Coordinator 1	TAKAHASHI Itaru	Team 2 Transportation and ITC Group & Planning and Coordination Division Infrastructure and Peacebuilding department Japan International Cooperation Agency
Chief Consultant/Ship Handling System Planner/	KOBASHI Motoki	Shipbuilding research Centre of Japan
Equipment/Facilities Planner 1/Ship Handling Simulator	YABUKI Hideo	Tokyo University of Marine Science and Technology
Equipment/Facilities Planner 2/Search and Rescue Simulator and Radio Equipment	NISHIGUCHI Masafumi	Shipbuilding Research Centre of Japan

## Appendix 2 Survey Schedule

### (1) Preparatory Survey (27<sup>th</sup> June to 19<sup>th</sup> July 2016)

M/D	Week	Action
2016/ 6/26	Sun	Arrive at Kuala Lumpur. Moved by car to Kuantan in which the AMSAS is located.
6/27	Mon	Make a courtesy call to the director general of the AMSAS (only Kobashi participated in from Consultant team), after that Consultant team joined the discussion on the Project with JICA team. JICA team made a brief explanation on the grant aid system, followed by an explanation of the inception report from Consultant team.  Afternoon, the AMSAS makes a presentation on its organization and mission by using the power point materials.
6/28	Tue	Discuss with the AMSAS about the specification of the Ship Handling Simulator.  Afternoon, discussed with AMSAS about the specifications of the other training equipment
6/29	Wed	The AMSAS made an explanation about the response to the questionnaire, and then consulted between both sides. Consultant team asked the AMSAS to complete the answers to the questionnaire during the team staying in Malaysia since they have finish only 60% of them as of 29 <sup>th</sup> June.  Afternoon, discussed about Minutes of Discussions (MoD)
6/30	Thu	Discuss about the MoD, after the discussion Mr. Ishima of the JICA team leader and HJ Mohd Sabri bin HJ Mohamed of the AMSAS signed the MoD. After signing, JICA team members and Nishiguchi from Consultant team visited the MMEA District Maritime Kuantan (DM8), and collected information on the search and rescue operation. The other Consultant team members visited and surveyed the rooms again in which the equipment will be installed.
7/1	Fri	Report to the Embassy of Japan in Malaysia (Only Kobashi participated in from Consultant team)  Afternoon, JICA team reported to the JICA Malaysia office (Only Kobashi participated in from Consultant team). The other Consultant team members visited the AMSAS to discuss the remaining technical issues.
7/4	Mon	Analysis of the collected information



7/5	Tue	Meeting with Malaysian simulator manufacturer (Altriz) Consultant team collected information such as experiences of delivery, product specifications, operation and maintenance costs.
7/6	Wed	Malaysia Public Holidays, Analysis of collected information
7/7	Thu	Malaysia Public Holidays, Analysis of collected information
7/8	Fri	Analysis of collected information
7/9	Sat	Meeting between Consultant team and HJS Maritime Sdhd, which is a Malaysian agent of the Kongsberg Maritime Co., Ltd. Consultant team collected information such as experiences of delivery, product specifications, operation and maintenance costs
7/11	Mon	Visit a simulator manufacture, Altriz Sdhd, and Consultant team was explained their product with the power-point materials. After the presentation, Consultant team observed Altriz's facilities, where they have developed the training programs by their selves. Afternoon, Consultant team moved from Kuala Lumpur to Melaka.
7/12	Tue	Visit the Malaysia Maritime Academy (ALAM). Consultant team collected information on the training situation, specifications, operation and maintenance costs about the Ship Handling Simulator, Engine Simulator, Main Switchboard Simulator and Radio Training Equipment during the whole day.
7/13	Wed	Visit the National Defense University of Malaysia (UPNM). Consultant team collected information on the training situation, specifications, operation and maintenance costs about the Ship Handling Simulator, Engine Simulator, and Main Switchboard Simulator during the whole day. After that, the team moved to Ipo.
7/14	Thu	Visit Ungku Omar Polytechnic (PUO). Consultant team collected information on the training situation, specifications, operation and maintenance costs about the Engine Simulator, and Main Switchboard Simulator. Afternoon, move to Kuala Lumpur.
7/15	Fri	Visit the operation room and ships of the Klang Coast Guard (DM 4) of the MMEA in Port Klang and collected information on the search and rescue operation. Afternoon, Consultant team visited the HJS Maritime Sdhd, which is a

		Malaysian agent of the Kongsberg Maritime Co., Ltd., and collected information mainly on the maintenance service network.
7/17	Sun	Yabuki of Consultant team departed Kuala Lumpur to Japan.
7/18	Mon	Kobashi and Goto of Consultant team visited the MMEA headquarters for signing the Memorandum of Technical Discussions (MoTD) with the First Admiral of the MMEA. Nishiguchi and Shiina visited the Malaysia Aviation Academy (MAvA) and collected information on the training situation, specifications, operation and maintenance costs about the search and rescue operation. Afternoon, Kobashi, Nishiguchi, Shiina and Goto visited the Maritime Transport Training Institute (MATRAIN) and collected information on the training situation, specifications, operation and maintenance costs about the Search and Rescue Simulator.
7/19	Tue	Visit the operation room of the MMEA headquarters and collected information on the search and rescue operation. Afternoon, Consultant team reported the JICA Malaysia Office the result of the survey. At night, Consultant team left Kuala Lumpur towards Japan.

**(2) Preparatory Survey (19<sup>th</sup> to 27<sup>th</sup> September 2016)**

M/D	Week	Action
2016/9/18	Sun	Leave Narita, Arrive at Kuala Lumpur
9/19	Mon	Consultant team explained the outline of the specifications of each equipment and their maintenance costs. Afternoon, mainly discussed about maintenance costs.
9/20	Tue	To discuss the details of the specifications of the equipment, some small groups were made, and discussed issues there.
9/21	Wed	JICA team made a presentation on the procedure of the grant aid. Then discussed the major undertakings to be taken by the recipient country. A person in charge from Legal Department of the MMEA, who participated late in the meeting, explained that any international agreements and signatures, which may generate the financial burdens or legal obligations to the Malaysian government, definitely need to gain the approval of the Cabinet of Malaysia in advance. In line with this policy, Malaysian side requested Japanese side to submit the

		necessary documents to the Cabinet.
9/22	Thu	Discussed the issues on signing the Minutes of Discussions (MoD) and the Cabinet of Malaysia. Afternoon, discussed the ICP policy and the major undertakings to be taken by the recipient country.
9/23	Fri	Finalized and signed the MoTD. Afternoon, visited the JICA Malaysia Office and Embassy of Japan in Malaysia. At night, most of the JICA team members left Kuala Lumpur towards Japan, Arrived at Narita next day.
9/24	Sat	Consultant team members, except Kobashi and Shiina who planned to go to a detailed survey on the installation places next week, departed Kuala Lumpur early morning.
9/25	Sun	Kobashi and Shiina moved from Kuala Lumpur to Kuantan by car for a detailed survey on the installation places.
9/26	Mon	Conduct a detailed survey on the installation places of the Search and Rescue Simulator, Engine Simulator, Main Switchboard Simulator, and Radio training Equipment.
9/27	Tue	Conduct a detailed survey on the installation places of the Ship Handling Simulator. Afternoon, moved from Kuantan to Kuala Lumpur.
9/28	Wed	Kobashi and Shiina departed Kuala Lumpur towards Japan.

### (3) Draft Report Explanation (10<sup>th</sup> to 13<sup>th</sup> January 2017)

M/D	Week	Action
2017/ 1/9	Mon	Arrived at Kuala Lumpur.
1/10	Tue	The delegation of Japan and the MMEA/AMSAS officials confirmed the agenda items. Afternoon, Consultant team explained the draft of the preparatory survey report and then discussed.
1/11	Wed	Discussed the contents of the major undertakings to be taken by the recipient country. Afternoon, discussed about the MoD. Since Malaysian side repeatedly stated that it would not sign any documents unless there was approval of the Cabinet in advance, Japanese side only explained the outline of the MoD.

1/12	Thu	Visit the Director General of the MMEA and discussed the G/A. Afternoon, analysis of the collected information.
1/13	Fri	Meeting on the MoD. Afternoon, analysis of the collected information. At night, departed Kuala Lumpur.
1/14	Sat	Early morning, arrived at Narita.

### Appendix 3 List of Parties in the Recipient Country

(1) First Survey (27th June to 19th July 2016)

1) Academy Maritime Sultan Ahmad Shah : AMSAS

1 <sup>st</sup> Admiral (M) HJ Mohd Sabri bin HJ Mohamed	Head of School Training
Cdr. Yousry bin Yaali	Head of Basic School Training (Sailors)/
	Nautical Studies Instructor
Cdr. (M) Mustafa bin Nazeri	Head of Advance School Training/
	Nautical Studies Instructor
Cdr. (M) Nudin bin Jusoh	Head of Basic Academy/
	Engineering Instructor
Lt. Cdr. (M) Zul Fahmi B. Mohamad	Head of Enforcement and SAR Training
Lt. Cdr. (M) Fakrul Akmal bin Mat	Head of Engineering Unit
Lt. Cdr. (M) Mohd Najib bin Sam	Head of Advance Training/
	STCW course
Lt. Cdr. (M). Norrimi bin Hassan	Head of Nautical Studies
Lt. Cdr. (M) Mohd Najib B. San	Head of Management Studies
Lt. Cdr. (M) Maurice Grenville Abeyaratne	Nautical Studies Instructor
PVV I (M) Mohd Ali bin Othman	Nautical Studies Instructor
PVV II (M) Johar bin Thabic	Nautical Studies Instructor
Beby Rossdianty binti Ramli	head of Information Technology Unit
Encik Zairadi bin Razali	Information Technology Unit
Capt. (M) V Pannir	Operation Director, WILTIM (Eastern Region)
Cdr. (M) Asman Bin Jama	Deputy Director of Enforcement and Exercise, District 8 Base
Lt. (M) Mohamad Shafu bakr	WILTIM

2) Malaysian Maritime Academy : ALAM

Dr. Capt. S. Manivannan	Head, Maritime Simulation & Communication Centre (Project and Consultancy)
Capt. David S. Rajan	Head, Maritime Simulation & Communication Centre (Training)

- |  |  |
|--|--|
| Mr. HJ AB. Dollah Bin Baba                               | Seamanship Lab. Assistant  |
| Mr. Azhar Hamzah   | Account, Corporate Planning & Business Development   |
| 3) National Defense University of Malaysia : UPNM        |  |
| Dr. Zulkifly bin Mat Radzi (Retired) RMN                 | Dean of Defense Science and Technology Faculty   |
| Cdr. Mohd Arif bin Ahmad (Retired) RMN                   | Navigation Specialist, Senior Lecturer   |
| TLDM (B) KDR Heman Bin Buang (Retired) RMN               | Navigational Specialist, Chief Operation Officer, Senior Lecturer                          |
| Lt Cdr Hardy Azmir bin Anuar RNM                         | Electrical/Electronic Engineer, Senior Lecturer  |
| Lt Cdr Mohd Najib bin Abdul Ghani Yolhamid (Retired) RMN | Navigation Specialist- Head of Science and Maritime Technology Department, Senior Lecturer |
| Mr. Mohamad Abu Ubaidah Amir Abu Zarim                   | Telecommunication and Electronic/Computer Programmer/Engineer and Lecturer                 |
| 4) Ungku Omar Polytechnic : PUO                          |  |
| Tn. Hj. Syed Amear bin Syed Ariffin                      | Head of Department   |
| En. Hairi Haizri bin Che Amat                            | head of programme  |
| Tn. Hj. Mohamed Zulkifli bin Mohamad                     | Senior Lecturer  |
| Tn. Hj. Nidzar bin Hj. Che Ari                           | Senior Lecturer  |
| En. Mohana Krishnan A/L Gobalakrishnan                   | Senior Lecture   |
| En. Yee Lee Chnua  | Senior Lecture   |
| Tn. Hj. Ridzuan bin Md. Daud                             | Senior Lecturer  |
| En. Zamri bin Yusoff                                     | Senior Lecturer  |
| En. Mohd. Hashim bin. Adb.Razak                          | Lecture  |
| En. Mohd Afandi bin AbdHamid                             | Lecturer   |
| En. Mohd Nasruddin binAbMuaid                            | Lecturer   |
| En. Zakiman bin Zali                                     | Lecturer   |
| En. Nor Ashimy bin Mohd Noor                             | Lecturer   |
| En. Mizanur Rahman bin Mohd Ali                          | Lecturer   |

En. Mohamed Hairy bin Yahya	Lecturer
En. Shahri bin Jalil	Lecturer
En. Amrul Zani bin Mahadi	Lecturer
En. Mohd Naim bin Awang	Lecturer
En. Nor Isha bin Nordin	Lecturer
En. Ridwan Saputra bin Nursal	Lecturer
En. Ahmad Azrizal bin Mohd Ariffin	Lecturer
En. Azwansyah bin Zulkifli	Lecturer
En. Shahrman bin Abd Rashid	Lecturer
En. Yusaimi bin Yunus	Lecturer
En. Marzuki bin Mohammad	Lecturer
En. Sarafuddin bin Alang Osman	Lecturer
En. Mohd. Redzuwan bin Danuri	Lecturer
En. Mannan Miah bin Wabulah	Assistant Engineer
En. Norizan bin Md. Zin	Pembantu Laut
En. Nor' Azman bin Ahmad Zabidi	Pekerja Rendah Awam

5) Malaysian Aviation Academy : MAVA

Dr. Manjit Singh	Director
HJ. Razali Bin Ujang	Deputy Director
HJ Tajul Annwar Bin Ismail	Principal Assistant Director
Mr. Michael Lim Hock Ann	Principal Assistant Director
Mr. Aminuddin Bin ahmad	Senior Assistant Director
Mr. Anthony Xavier	Senior Manager, Puncak teknologi

6) Maritime Transport Training Institute : MATRAIN

Mr. Nordin Bin Mchamadin	Director
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7) Malaysia Maritime Enforcement Agency : MMEA

Lt. Cdr. (M) Siti Khairunnisak Binti Abd Aziz	Operation Officer
Lt. Cdr. (M) Mahathir Bin Mohamad	SAR Officer
Lt. Cdr. (M) Muzafira Binti Mukholit	Strategic officer/Lo
Lt. (M) Noor Faridah Binti Mohamad	SAR Officer
Lt. (M) Madya Mohd Fazmin Shah	Operation Officer

8) MMEA District Maritime Kuantan (DM8)

	Captain (M) V Pannir	Operation Director of Eastern Region
	Cdr (M) Asman Bin Jamak	Deputy Director of enforcement and exercise of DM8
	Cdr (M) Nudin bin Jusoh	Head of basic academy of AMSAS
9)	MMEA District Maritime Klang (DM4)	
	Capt. (M) Mod Rosli Bin Abdullah	Maritime State Director (Selangor)
	LCdr (M) Suzanna Razali Chan	Logistics/Operation Director
	Lt (M) Mohd Wan Fuad Bin Wan Hassan	Operation Officer
	Lt (M) Nazeefah Binti Mohd Sharif	Operation Officer
	Lt Cdr. (M) Abdul Hakim Bin Idris	Commanding Officer of KM KUKUP
10)	Altriz Technology Sdn Bhd	
	Mr. Ahmad Safie Adami	Business Department Director
11)	HJS Maritime Sdn Bhd	
	Mr. Mohd Anwar Sadat	Executive Director
	Hamzah Abdul Wahab	Managing Director



(1) Second Survey (19th to 27th September 2016)

1) Malaysia Maritime Enforcement Agency : MMEA

Capt. (M) Hamid Bin Mohd Amin	Director of Strategic Planning
Lt. Cdr. (M) Muzafira Binti Mukholit	Senior Assistant Director of Starategic Planning & International Affairs
Mr. Mohd Zul Fahmi Mohamad	Senior Assistant Director
Mr. Mohhd Zuhaidy A. Rahman	Senior Assistant Director training Division
Ms. Joyce Evalyn Ejau	Deputy Director (Policy) of Maritime Enforcemrnt Affairs Division
Mr. Nur Suhana Mohammad	Assistant Director of Finance Department
Ms. Kathijah Johnidi	Budget Unit of Finance Departmrent
Ms. Nur Ezdiana Binti Roleb	Legal Department
Ms. Syazana Binti Abd. Lajis	Legal Department
Ms. Joyce Melai Chan	Senior Assistant Director Human Resource Department

2) Academy Maritime Sultan Ahmad Shah : AMSAS

1 <sup>st</sup> Admiral (M) HJ Mohd Sabri bin HJ Mohamed	Head of School Training
Cdr. Yousry bin Yaali	Head of Basic Scool Training (Sailors)/ Nautical Studies Instructor
Lt. Cdr. (M) Fakrul Akmal bin Mat	Head of Engineering Unit
Lt. Cdr. (M). Norrimi bin Hassan	Head of Nautical Studies

3) eneral Department of Malaysia

Mr. Rusdi B Ahmad Ali	Accountant
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4) Ministry of Foreign Affairs of Malaysia

Mr. Farawati Ismail	Accountant
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5) Ministry of Finance of Malaysia

Ms. Saharundin Yusoff	Principal Director Secretary
Ms. Jamaliah Rahmat	Assistant Secretary
Ms. Nur Huda Adris	Accountant

(3) Draft Report Explanation (10<sup>th</sup> to 13<sup>th</sup> January 2017)

1) Malaysia Maritime Enforcement Agency : MMEA

First Admiral Haji Abdul Razak Bin Lebai Omar	Deputy Director, Exercise & Enforcement
First Admiral Yusof Bin Ali	Project Management Director
Lt. Cdr. (M) Muzafira Binti Mukholit	Senior Assistant Director I of Strategic Planning & International Affairs
Lt. Cdr. (M) Noor Muhamad Faizal Bin Mohd Yunus	Senior Assistant Director II of Strategic Planning & International Affairs
Mr. Mohhd Zuhaidy A. Rahman	Senior Assistant Director training Division
Ms. Joyce Evalyn Ejau	Deputy Director (Policy) of Maritime Enforcement Affairs Division
Ms. Nur Ezdiana Binti Roleb	Legal Department
Ms. Syazana Binti Abd. Lajis	Legal Department
Ms. Joyce Melai Chan	Senior Assistant Director Human Resource Department
Mr. James Anak Mathew Lidi	Director, Procurement Branch
Ms. Kavitha	Procurement Branch

2) Academy Maritime Sultan Ahmad Shah : AMSAS

First Admiral (M) HJ Mohd Sabri bin HJ Mohamed	Head of School Training
Cdr. Yousry bin Yaali	Head of Basic School Training (Sailors)/ Nautical Studies Instructor
Cdr. (M) Nudin bin Jusoh	Head of Basic Academy/ Engineering Instructor

**MINUTES OF DISCUSSIONS  
ON THE PREPARATORY SURVEY  
ON THE PROJECT FOR IMPROVING TRAINING EQUIPMENT  
OF ACADEMY MARITIME SULTAN AHMAD SHAH  
IN MALAYSIA**

In response to a request from the Government of Malaysia (hereinafter referred to as "the GOM"), the Government of Japan (hereinafter referred to as "the GOJ") decided to conduct a Preparatory Survey (hereinafter referred to as "the Survey") on "The Project for Improving Training Equipment of Academy Maritime Sultan Ahmad Shah" (hereinafter referred to as "the Project"). In accordance with this decision, Japan International Cooperation Agency (hereinafter referred to as "JICA") decided to commence the survey.

JICA sent the Preparatory Survey Team for the First Field Survey (hereinafter referred to as "the Team"), which is headed by Mr. Toshitaka ISHIMA, Visiting Senior Advisor for Maritime Safety and Security, JICA, and is scheduled to stay in the country from June 26<sup>th</sup> to July 20<sup>th</sup>, 2016.

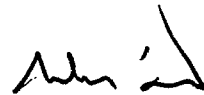
The Team held discussions with the officials concerned of the GOM side, and conducted a field survey at the Project site.

In the course of discussions and field survey, both sides confirmed the main items described on the attached sheets. The Team will proceed to further works and prepare a Draft Report of the Preparatory Survey.

Kuantan, 30 June, 2016



\_\_\_\_\_  
Mr. Toshitaka ISHIMA  
Leader  
Preparatory Survey Team  
Japan International Cooperation Agency



\_\_\_\_\_  
Mr. Hj Mohd Sabri Bin Hj Mohamed  
First Admiral Maritime  
Malaysia Maritime Enforcement Agency,  
Malaysia

Witnessed by

\_\_\_\_\_  
Datuk Seri Dr. Rahamat Bivi Yusoff  
Director General  
Economic Planning Unit  
Prime Minister's Department

## ATTACHMENT

### 1. Objective of the Project

The objective of the Project is to enhance the ability of staff of Malaysia Maritime Enforcement Agency (hereinafter referred to as "MMEA") on vessel operation through providing training equipment.

### 2. Title of the Preparatory Survey

Both sides confirmed the title of the Preparatory Survey as "the Preparatory Survey for The Project for Improving Training Equipment of Academy Maritime Sultan Ahmad Shah."

### 3. Project Site

Both sides confirmed that site of the Project is Maritime Academy Sultan Ahmad Shah hereinafter referred to as "AMSAS"), Sg Ular Gebeng, 26100 Kuantan, Pahang Darul Makmur, Malaysia.

### 4. Line Ministry and Executing Agency

Both sides confirmed the line ministry and executing agency as follows:

- 4-1. The line ministry is Prime Minister's Department and the Executing Agency of the Project is MMEA/AMSAS.
- 4-2. MMEA/AMSAS shall coordinate with all the relevant agencies to ensure smooth implementation of the Project and ensure that the Undertakings are taken by relevant agencies properly and on time.
- 4-3. The organization chart of MMEA and AMSAS is shown in Annex-1.

### 5. Item Requested by GOM

5-1. As a result of discussions, with the Team, both sides confirmed that the items requested by the GOM are as follows (in priority order):

- (1) A Bridge Simulator and Simulator Area;
- (2) A Training Simulator for Machinery Control Room System (MCRS) for Engineering Course, and a Complete Workshop for Generator Set and Synchronizing Board for Engineering Course;
- (3) A Training Simulator for Search and Rescue (SAR) Course;
- (4) A Voice Cubicle Lab for radio user trainees under Communication course;  
and
- (5) Complete Boat Hut facilities for Navigation, Boarding, Seamanship and Engineering Course.



- 5-2. The Team explained to the GOM side that the “Complete Boat Hut facilities for Navigation, Boarding, Seamanship and Engineering Course” mentioned on 5.5-1.(5) will not be included in the scope of the Survey because this Project had been approved by the GOJ as an equipment providing type project, not facility construction type. The GOM side understood and accepted the explanation by the Team.
- 5-3. Both sides confirmed that appropriateness of the request except completed boat hut facilities will be examined in accordance with the further studies and analysis in Japan from the viewpoint of necessity, technical and financial viability and cost-effectiveness. The GOM side understood that the quantities and specifications of requested items, therefore, may not be accepted as final components of the Project.
- 5-4. Both sides confirmed that the Team will assess the appropriateness of the above requested items through the survey and will report findings to the GOJ. The final components of the Project would be decided by the Government of Japan.

## **6. Japan’s Grant Aid Scheme**

- 6-1. The GOM side understood the Japan’s Grant Aid Scheme and its procedures as described in Annex-2, Annex-3 and Annex-4, and necessary measures to be taken by the GOM.
- 6-2. The GOM side agreed to take the necessary measures, as described in Annex-5, for smooth implementation of the Project, as a condition for the Japan’s Grant Aid to be implemented. The detailed contents of the Annex-5 will be worked out during the survey and shall be agreed no later than by the Explanation of the Draft Preparatory Survey Report.

The contents of Annex-5 will be used to determine the following:

- (1) The scope of the Project
- (2) The timing of the Project implementation
- (3) Timing and possibility of budget allocation

Contents of Annex-5 will be updated as the Survey progresses, and will finally become the Attachment to the Grant Agreement.

## **7. Schedule of the Study**

- 7-1. The Team will proceed with further field survey in Malaysia until July 20<sup>th</sup>, 2016.
- 7-2. JICA will dispatch a second field survey team to Malaysia to explain the result of first survey to the GOM side in around September 2016.
- 7-3. JICA will prepare the draft Preparatory Survey Report and dispatch a mission to Malaysia in order to explain its contents of the Project in around January, 2017.



7-4. If the contents of the draft Preparatory Survey Report are accepted in principle and the Undertakings are fully agreed by the GOM side, JICA will complete the final report and send it to the GOM in around February, 2017.

7-5. The above schedule is tentative and subject to change.

## **8. Environmental and Social Considerations**

8-1. The GOM side confirmed to give due environmental and social considerations during implementation of the Project, and after completion of the Project, in accordance with the JICA Guidelines for Environment and Social Considerations (April, 2010).

8-2. The Project is categorized as C in JICA Guidelines because the sector, scale and other characteristics of the Project indicate that adverse impacts on environment and/or society of the Project are minimal.

## **9. Disclosure of Information**

Both sides confirmed that the study results, excluding the Project cost, will be disclosed to the public after the completion of the Survey. All the study results including the Project cost will be disclosed to the public after all the verification of contracts for the Project are concluded by JICA.

## **10. Other Relevant Issues**

10-1. The Team explained the GOM side the outline and schedule of the Survey. In the tentative schedule, JICA would dispatch 3 missions for field survey, June and September 2016 and January 2017 respectively.

1<sup>st</sup> Mission: from 26th June to 20th July 2016, Gathering basic information for project formulation.

2<sup>nd</sup> Mission: September 2016

3<sup>rd</sup> Mission: January 2017

To obtain GOJ's approval for the Project, basic concept of the Project, basic specification and quantity of each equipment should be determined by or earlier than 2<sup>nd</sup> mission.

For keeping the schedule mentioned above, the Team requested the GOM side to provide all necessary information for the Team upon requests from the Team as quickly as possible.

At the 2<sup>nd</sup> mission, the Team would present draft version of basic concept of the Project, basic specification quantity, undertakings of the GOM side including estimated O/M cost of each equipment with some options to the GOM side.

JICA will receive comments of the GOM side for the draft version, but JICA has

a full authority to determine basic concept of the Project and basic specification quantity.

The GOM side understood the above and committed to cooperate with the Team.

10-2. The Team stressed that under the Japan's Grant Aid scheme, all operation and maintenance cost for all equipment after installation shall be covered by the GOM side, and requested the GOM side to consult with relevant Malaysian financial authority (ies) to secure necessary budget for operation and maintenance for the Project.

The GOM side agreed to it and requested the Team to propose simulators and equipment with appropriate and manageable operation and maintenance cost to the GOM.

10-3. The Team explained Japan's Grant Aid procedures after Exchange of Note and Grant Agreement as shown in Annex 3 and Annex 4. The Team requested the GOM side to identify responsible ministry (ies) and agency (ies) in the GOM side for Exchange of Note, Grant Agreement, Banking Arrangement, Authorization to Pay, and other steps after Exchange of Note between the GOJ and the GOM, and report the result to the Team at 2<sup>nd</sup> mission to be held in September 2016.

- Annex-1 Organization Chart of MMEA and AMSAS
- Annex-2 Japan's Grant Aid
- Annex-3 Flow Chart of Japan's Grant Aid
- Annex-4 Financial Flow of Japan's Grant Aid
- Annex-5 Major Undertakings to be taken by Each Government
- Annex-6 Project Monitoring Report







**DIRECTOR GENERAL**

**MIMEA HQ**



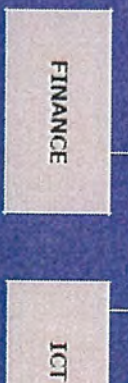
**DEPUTY DIRECTOR GENERAL OPERATIONS**

**DEPUTY DIRECTOR GENERAL LOGISTICS**

**DEPUTY DIRECTOR GENERAL MANAGEMENT**

LEGAL AFFAIRS

TRAINING



AIR STATIONS

5	REGIONS
18	DISTRICTS
18	BASES
7	POSTS

OPERATIONAL TRAINING CENTRE

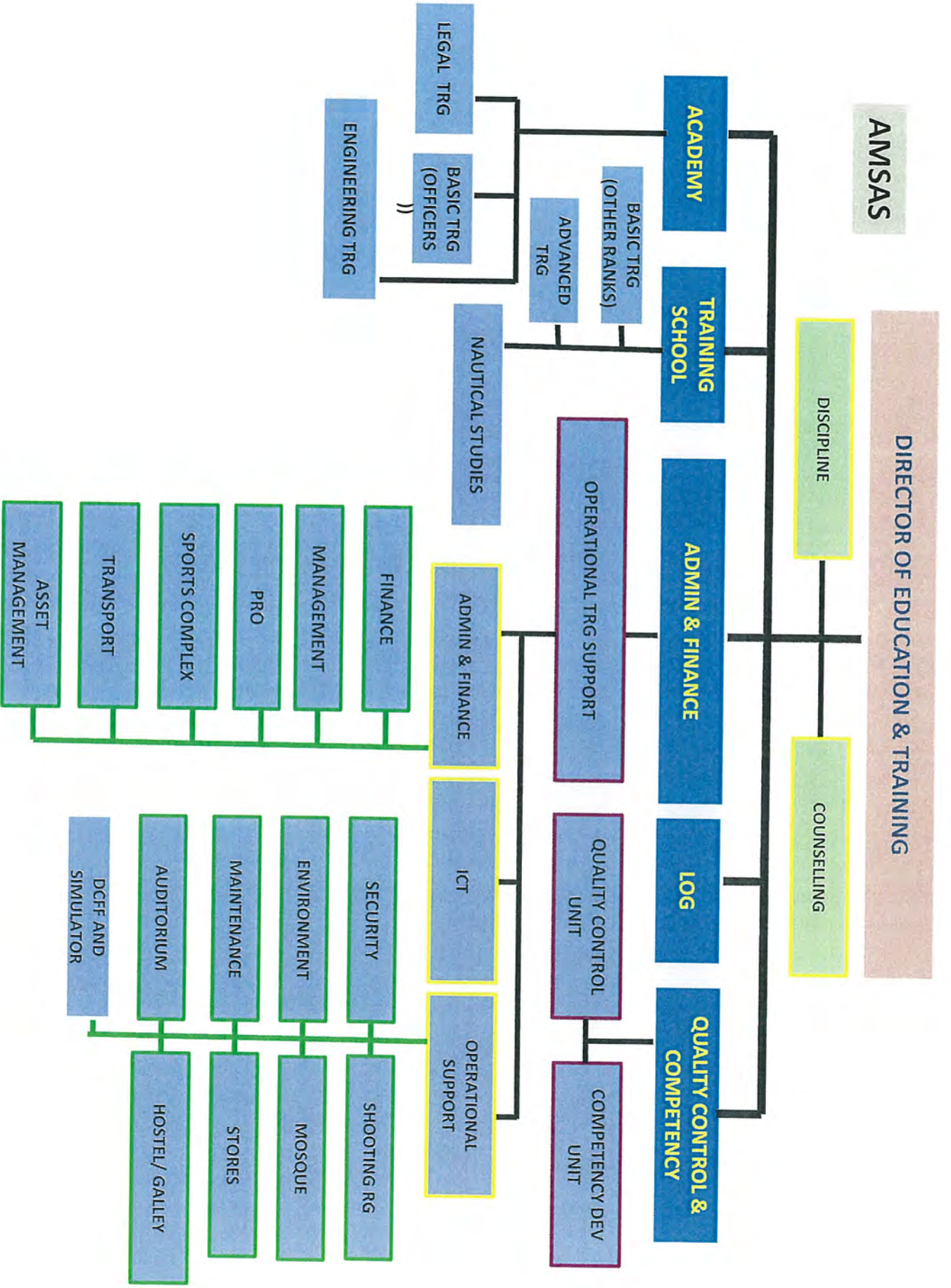
ACADEMY (OFFICERS TRAINING)

OTHER RANKS TRAINING CENTRE

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# ORGANISATION STRUCTURE OF AKADEMI MARITIM SULTAN AHMAD SHAH (AMSSAS)



**TELAH DIKEMASKINI PADA 20 OKT 2014**  
Ruj: W.P Bil. A 210 (Berkuatkuasa 1 Jan 2014)

PENGARAH	
LAKSMA	XA24
	1

PEM.KHAS, PSP/SP	N17/N22/N27/N28	1
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AKADEMI MARITIM				SEKOLAH LATIHAN MARITIM				BAHAGIAN PENTADBIRAN & KEWANGAN				BAHAGIAN LOGISTIK				BAHAGIAN PEMBANGUNAN KOMPETENSI & KAWALAN MUTU				RINGKASAN	
JAWATAN	GREED	BIL.		JAWATAN	GREED	BIL.		JAWATAN	GREED	BIL.		JAWATAN	GREED	BIL.		JAWATAN	GREED	BIL.		GREED	BIL.
<b>AKADEMI MARITIM</b>				<b>SEKOLAH LATIHAN MARITIM</b>				<b>BAHAGIAN PENTADBIRAN &amp; KEWANGAN</b>				<b>BAHAGIAN LOGISTIK</b>				<b>BAHAGIAN PEMBANGUNAN KOMPETENSI &amp; KAWALAN MUTU</b>				<b>RINGKASAN</b>	
KEPTEN	XA22	1		KEPTEN	XA22	1		PTD	M48	1		KOMANDER	XA20	1		KEPTEN	XA22	1		XA24	1
<b>RANCANG KURSUS</b>				<b>RANCANG KURSUS</b>				<b>PENTADBIRAN AM</b>				<b>RANCANG KURSUS</b>				<b>PENGANGKUTAN KOMPETENSI</b>				XA19/044	3
LEFTEMAN	XA16	1		LEFTEMAN	XA16	1		PEM.PEG.TADBIR	N32	1		LEFTEMAN MUDAMADYA	XA13/ XA14	1		LEFTEMAN	XA16	1		X13/16	1
PEG WARAN III	XA10/ XA12	1		PEG WARAN III	XA10/ XA12	1		PEL.TAD (PIO)	W27/W32	1		PEG WARAN III	XA10/ XA12	1		BINTARA MUDA/ KANAN	XA6/XA8	1		XA20/A42	10
PT (PIO)	N17/N22	1		PT (PIO)	N17/N22	1		PEL.TAD (KEM)	W17/W22	2		LK.II/III/IV	XA1X2/ XA4	2		<b>KAWALAN MUTU</b>				XA5/XA6/XA9/XA10	3
<b>AKADEMI PENGAJIAN SASAS</b>				<b>LATIHAN SASAS</b>				<b>PEMADU</b>				<b>PUSAT DEFSIMULATOR</b>				<b>KOMANDER</b>				XA4	1
KOMANDER	XA20	1		KOMANDER	XA20	1		PEM.TAD (PIO)	N17/N22	1		LEFTEMAN KOMANDER	XA20	1		LEFTEMAN	XA16	1		XA16/044	22
LEFTEMAN KOMANDER	XA18	1		LEFTEMAN KOMANDER	XA18	1		PEMADU	H11/H14	4		LEFTEMAN MUDAMADYA	XA10/ XA12	1		LEFTEMAN MUDAMADYA	XA13/ XA14	1		<b>JUMLAH</b>	85
PEG WARAN III	XA10/ XA12	1		PEG WARAN III	XA10/ XA12	1		LK.II/III/IV	XA1X2/2X4	12		PEG WARAN III	XA10/ XA12	1		BINTARA MUDA/ KANAN	XA6	1		M48	1
BINTARA MUDA/ KANAN	XA6/XA8	2		BINTARA MUDA/ KANAN	XA6/XA8	2		<b>PUSAT SUMBER</b>				BINTARA MUDA/ KANAN	XA6/XA8	1		LASKAR KANAN	XA4	1		L44	1
<b>AKADEMI PENGAJIAN LANJUTAN</b>				<b>SEKOLAH PENGAJIAN LANJUTAN</b>				<b>PEL. PUSTAKAWAN</b>				<b>GEDUNG SEMULATA &amp; LAPANG SASAR</b>				<b>KOMANDER</b>				FA1/FA4	1
LEFTEMAN KOMANDER	XA18	1		LEFTEMAN KOMANDER	XA18	1		PEM. PEG. PUSTAKAWAN	S27/S32	1		LEFTEMAN MUDAMADYA	XA13/ XA14	1		LEFTEMAN	XA16	1		SA1/SA4	2
LEFTEMAN	XA16	1		LEFTEMAN	XA16	1		PEL. PUSTAKAWAN	S17/S22	1		PEG WARAN III	XA10/ XA12	1		LEFTEMAN MUDAMADYA	XA13/ XA16	1		N22	1
PEG WARAN III	XA10/ XA12	1		PEG WARAN III	XA10/ XA12	1		<b>KEROHANIAN &amp; KAUNSELING</b>				LEFTEMAN MUDAMADYA	XA13/ XA16	1		LEFTEMAN	XA16	1		FA1/FA2	2
BINTARA MUDA/ KANAN	XA6/XA8	1		BINTARA MUDA/ KANAN	XA6/XA8	1		PEG HAL. EHWAL ISLAM	S41	1		LK.II/III/IV	XA1X2/ XA4	5		LEFTEMAN MUDAMADYA	XA13/ XA16	1		S27/S32	1
<b>AKADEMI PENGAJIAN LANJUTAN</b>				<b>SEKOLAH PENGAJIAN LANJUTAN</b>				<b>TEKNOLOGI MAKLUMAT</b>				<b>STOR AM DAN SELENGGARA</b>				<b>KOMANDER</b>				N22	1
KOMANDER	XA20	1		KOMANDER	XA20	1		PEG.TEK.MAKLUMAT	FA1	1		LEFTEMAN MUDAMADYA	XA13/ XA16	1		LEFTEMAN	XA16	1		FA1	1
LEFTEMAN KOMANDER	XA18	8		LEFTEMAN KOMANDER	XA18	8		PEM.PEG.TEK.MAKLUMAT	E29/F32	2		BINTARA MUDA/ KANAN	XA6/XA8	1		LEFTEMAN	XA16	1		S27/S32	1
PEG WARAN III	XA10/ XA12	1		PEG WARAN III	XA10/ XA12	1		AT	F17/F22	1		LK.II/III/IV	XA1X2/ XA4	1		LEFTEMAN	XA16	1		W27/W32	1
BINTARA MUDA/ KANAN	XA6/XA8	1		BINTARA MUDA/ KANAN	XA6/XA8	1		<b>JURUTEKNIK KOMPUTER</b>				LEFTEMAN MUDAMADYA	XA13/ XA16	1		LEFTEMAN	XA16	1		N22	1
<b>AKADEMI PENGAJIAN LANJUTAN</b>				<b>AKADEMI PENGAJIAN LANJUTAN</b>				<b>JURUTEKNIK KOMPUTER</b>				<b>STOR AM DAN SELENGGARA</b>				<b>KOMANDER</b>				FA1/FA2	2
BINTARA MUDA/ WARAN II	XA6/XA8	3		BINTARA MUDA/ WARAN II	XA6/XA8	3		JURUTEKNIK KOMPUTER	F17/F22	1		LEFTEMAN MUDAMADYA	XA13/ XA16	1		LEFTEMAN	XA16	1		N22	1
BINTARA MUDA	XA6	4		BINTARA MUDA	XA6	4		<b>JUMLAH</b>				<b>JUMLAH</b>				<b>JUMLAH</b>				FA1/FA2	2
BINTARA MUDAKANAN	XA6/XA8	3		BINTARA MUDAKANAN	XA6/XA8	3				32											
<b>JUMLAH</b>				<b>JUMLAH</b>				<b>JUMLAH</b>				<b>JUMLAH</b>				<b>JUMLAH</b>				<b>JUM. KESSELURUHAN</b>	11
		25				25				32					20						

## JAPAN'S GRANT AID SCHEME

The Government of Japan (hereinafter referred to as "the GOJ") is implementing the organizational reforms to improve the quality of ODA operations, and as a part of this realignment, a new JICA law was entered into effect on October 1, 2008. Based on this law and the decision of the GOJ, JICA has become the executing agency of the Grant Aid for General Projects, for Fisheries and for Cultural Cooperation, etc.

The Grant Aid is non-reimbursable fund provided to a recipient country to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for its economic and social development in accordance with the relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

### 1. Grant Aid Procedures

The Japanese Grant Aid is supplied through following procedures:

- Preparatory Survey
  - The Survey conducted by JICA
- Appraisal & Approval
  - Appraisal by the GOJ and JICA, and Approval by the Japanese Cabinet
- Authority for Determining Implementation
  - The Notes exchanged between the GOJ and a recipient country
- Grant Agreement (hereinafter referred to as "the G/A")
  - Agreement concluded between JICA and a recipient country
- Implementation
  - Implementation of the Project on the basis of the G/A

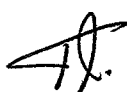
### 2. Preparatory Survey

#### (1) Contents of the Survey

The aim of the preparatory Survey is to provide a basic document necessary for the appraisal of the Project made by the GOJ and JICA. The contents of the Survey are as follows:

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of relevant agencies of the recipient country necessary for the implementation of the Project.
- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, financial, social and economic point of view.
- Confirmation of items agreed between both parties concerning the basic concept of the Project.
- Preparation of an outline design of the Project.
- Estimation of costs of the Project.

The contents of the original request by the recipient country are not necessarily approved in their initial form as the contents of the Grant Aid project. The Outline Design of the Project is confirmed based on the guidelines of the Japan's Grant Aid scheme.




JICA requests the Government of the recipient country to take whatever measures necessary to achieve its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization of the recipient country which actually implements the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country based on the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Survey, JICA employs (a) registered consulting firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms.

(3) Result of the Survey

JICA reviews the Report on the results of the Survey and recommends the GOJ to appraise the implementation of the Project after confirming the appropriateness of the Project.

### 3. Japan's Grant Aid Scheme

(1) The E/N and the G/A

After the Project is approved by the Cabinet of Japan, the Exchange of Notes(hereinafter referred to as "the E/N") will be signed between the GOJ and the Government of the recipient country to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Government of the recipient country to define the necessary articles to implement the Project, such as payment conditions, responsibilities of the Government of the recipient country, and procurement conditions.

(2) Selection of Consultants

In order to maintain technical consistency, the consulting firm(s) which conducted the Survey will be recommended by JICA to the recipient country to continue to work on the Project's implementation after the E/N and G/A.

(3) Eligible source country

Under the Japanese Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased. When JICA and the Government of the recipient country or its designated authority deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm are limited to "Japanese nationals".

(4) Necessity of "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by JICA. This "Verification" is deemed necessary to fulfill accountability to Japanese taxpayers.

(5) Major undertakings to be taken by the Government of the Recipient Country

In the implementation of the Grant Aid Project, the recipient country is required to undertake such necessary measures as Annex.

(6) "Proper Use"



The Government of the recipient country is required to maintain and use properly and effectively the facilities constructed and the equipment purchased under the Grant Aid, to assign staff necessary for this operation and maintenance and to bear all the expenses other than those covered by the Grant Aid.

(7) "Export and Re-export"

The products purchased under the Grant Aid should not be exported or re-exported from the recipient country.

(8) Banking Arrangements (B/A)

a) The Government of the recipient country or its designated authority should open an account under the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). JICA will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the Verified Contracts.

b) The payments will be made when payment requests are presented by the Bank to JICA under an Authorization to Pay (A/P) issued by the Government of the recipient country or its designated authority.

(9) Authorization to Pay (A/P)

The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commissions paid to the Bank.

(10) Social and Environmental Considerations

A recipient country must carefully consider social and environmental impacts by the Project and must comply with the environmental regulations of the recipient country and JICA socio-environmental guidelines.

(11) Monitoring

The Government of the recipient country must take their initiative to carefully monitor the progress of the Project in order to ensure its smooth implementation as part of their responsibility in the G/A, and must regularly report to JICA about its status by using the Project Monitoring Report (PMR).

(12) Safety Measures

The Government of the recipient country must ensure that the safety is highly observed during the implementation of the Project.

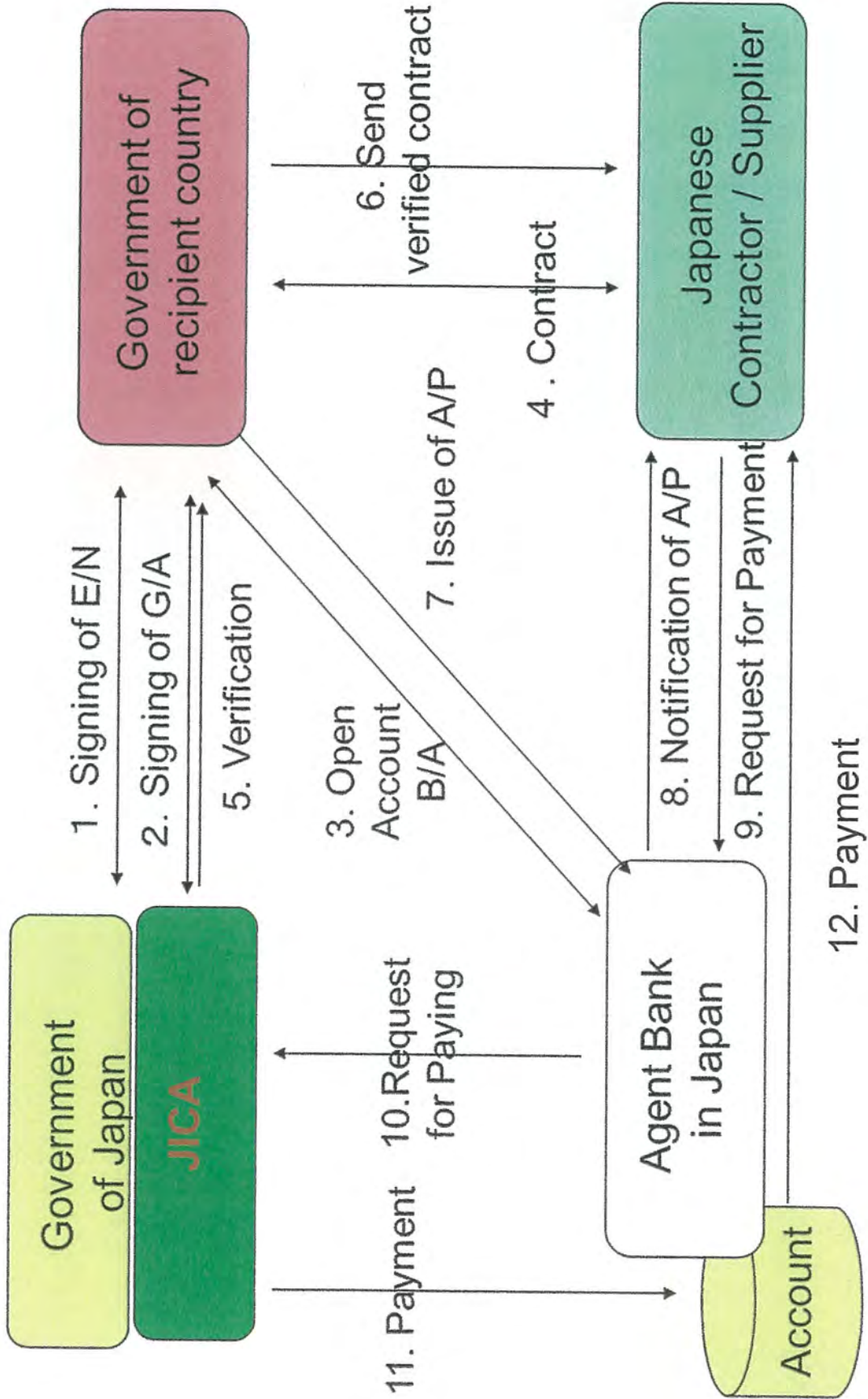


FLOW CHART OF JAPAN'S GRANT AID PROCEDURES

Stage	Flow & Works	Recipient Government	Japanese Government	JICA	Consultant	Contract or	Others	
Application	Request (T/R: Terms of Reference)	✓						
	Screening of Project → Evaluation of T/R → Project Identification Survey*		✓	✓				
Project Formulation & Preparation	Preparatory Survey	Preliminary Survey* → Field Survey Home Office Work Reporting	✓	✓	✓			
		Outline Design Study → Selection & Contracting of Consultant by Proposal → Field Survey Home Office Work Reporting	✓	✓	✓	✓		
		Explanation of Draft Final Report → Final Report Final Report	✓	✓	✓	✓		
Appraisal & Approval	Appraisal of Project		✓	✓				
	Inter Ministerial Consultation		✓					
	Presentation of Draft Notes	✓	✓					
	Approval by the Cabinet		✓					
Implementation	E/N and G/A (E/N: Exchange of Notes, G/A: Grant Agreement)	✓	✓	✓				
	Banking Arrangement (A/P: Authorization to Pay)	✓					✓	
	Consultant Contract → Verification → Issuance of A/P	✓		✓	✓			
	Detailed Design & Tender Documents → Approval by Recipient Government → Preparation for Tendering	✓		✓	✓			
	Tendering & Evaluation	✓		✓	✓	✓		
	Procurement /Construction Contract → Verification → A/P	✓		✓	✓	✓		
	Construction → Completion Certificate Recipient Government → A/P	✓		✓	✓	✓		
	Operation → Post Evaluation Study	✓		✓				
	Evaluation & Follow up	Ex-post Evaluation → Follow up	✓	✓	✓			



# Financial Flow of Grant Aid



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## Major Undertakings to be taken by Each Government

## Major Undertakings to be taken by Recipient Government

## 1. Before the Tender

NO	Items	Deadline	In charge	Ref.
1	To open Bank Account (Banking Arrangement (B/A))	within 1 month after G/A	GOM	
2	To secure lands 1) temporary construction yard and stock yard near the Project area 2) borrow pit and disposal site near the Project area	before notice of the tender document	GOM	
3	To obtain the planning, zoning, building permit	before notice of the tender document	GOM	
4	To clear, level and reclaim the following sites when needed	before notice of the tender document	GOM	

## 2. During the Project Implementation

NO	Items	Deadline	In charge	Ref.
1	To bear the following commissions to a bank of Japan for the banking services based upon the B/A 1) Advising commission of A/P 2) Payment commission for A/P	within 1 month after the signing of the contract every payment	GOM GOM	
2	To issue the Working Visa for workers	before commencement of the Project	GOM	
3	To construct the passenger terminal building	during the Project	GOM	
4	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country	during the Project	GOM	
5	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work	during the Project	GOM	
6	To bear the cost which is equivalent to the customs duties, internal taxes and other fiscal levies which may be imposed in the country of the Recipient with respect to the purchase of the Products and/or the Services, instead of tax exemption system. Such customs duties, internal taxes and other fiscal levies mentioned above include VAT, commercial tax, income tax and corporate tax of Japanese nationals, resident tax, fuel tax, but not limited, which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract	during the Project	GOM	
7	To bear all the expenses, other than those to be borne by the Grant Aid, necessary for the Project implementation	during the Project	GOM	



3. After the Project

NO	Items	Deadline	In charge	Ref.
1	To maintain and use properly and effectively the facilities equipment provided under the Grant Aid 1) Allocation of maintenance cost 2) Operation and maintenance structure 3) Routine/Periodic inspection	After completion of the construction	GOM	

**Major Undertakings to be covered by the Grant Aid**

No	Items	Deadline	Cost Estimated (Million Japanese Yen)*	
1	To construct ferry terminal jetty and necessary facilities (or To procure equipment)		XX.XX	
	- Improvement of ferry terminal jetty			
	- Improvement of necessary facilities			
	1) To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country			
	a) Marine(Air) transportation of the products from Japan to the recipient country			
	b) Internal transportation from the port of disembarkation to the project site			
2)	To construct access roads			
	a) Within the site			
2	To implement detailed design, tender support and construction supervision (Consultant)		YY.YY	
3	Contingencies		ww.ww	
	Total		ZZ.ZZ	

<u>(Sample)</u>
<u>Project Monitoring Report</u>
on
<u>Project Name</u>
Grant Agreement No. <u>XXXXXXXX</u>

**Organization Information**

<b>Authority (Signer of the G/A)</b>	_____ Person in Charge _____ _____ (Division) _____ Contacts _____ Address: _____ Phone/FAX: _____ Email: _____
<b>Executing Agency</b>	_____ Person in Charge _____ _____ (Division) _____ Contacts _____ Address: _____ Phone/FAX: _____ Email: _____
<b>Line Ministry</b>	_____ Person in Charge _____ _____ (Division) _____ Contacts _____ Address: _____ Phone/FAX: _____ Email: _____

**Outline of Grant Agreement:**

<b>Source of Finance</b>	Government of Japan: Not exceeding JPY _____ mil. Government of (_____): _____
<b>Project Title</b>	
<b>E/N</b>	Signed date: Duration:
<b>G/A</b>	Signed date: Duration:




**1: Project Description**

**1-1 Project Objective**

**1-2 Necessity and Priority of the Project**

- Consistency with development policy, sector plan, national/regional development plans and demand of target group and the recipient country.

**1-3 Effectiveness and the indicators**

- Effectiveness by the project

**2: Project Implementation**

**2-1 Project Scope**

Table 2-1-1a: Comparison of Original and Actual Location

<b>Location</b>	<b>Original: (M/D)</b> Attachment(s):Map	<b>Actual: (P/R and PCR)</b> Attachment(s):Map
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Table 2-1-1b: Comparison of Original and Actual Scope

Items	Original	Actual
(M/D)	(M/D)	(P/R and PCR)

**2-1-2 Reason(s) for the modification if there have been any.**

(P/R and PCR)

**2-2 Implementation Schedule**  
**2-2-1 Implementation Schedule**

Table 2-2-1: Comparison of Original and Actual Schedule

Items	Original		Actual
	DOD	G/A	
[M/D]	(M/D)		(P/R,PCR) As of (Date of Revision)  Please state not only the most updated schedule but also other past revisions chronologically.
Project Completion Date*			

\*Project Completion was defined as \_\_\_\_\_ at the time of G/A.

**2-2-2 Reasons for any changes of the schedule, and their effects on the project.**

(P/R and PCR)
---------------

**2-3 Undertakings by each Government**

**2-3-1 Major Undertakings**  
 See Attachment 2.

**2-3-2 Activities**  
 See Attachment 3.

**2-4 Project Cost**

**2-4-1 Project Cost**

Table 2-3-1 Comparison of Original and Actual Cost by the Government of Japan  
 (Confidential until the Tender)

Items	Cost (Million Yen)			
	Original	Actual	Original	Actual
Construction Facilities (or Equipment)				
Consulting Services	- Detailed design - Procurement Management - Construction Supervision			

Total		
-------	--	--

Note: 1) Date of estimation:  
 2) Exchange rate: 1 US Dollar = Yen

Table 2-3-2 Comparison of Original and Actual Cost by the Government of XX

Items	Cost (Million USD)	
	Original	Actual
Total		

Note: 1) Date of estimation:  
 2) Exchange rate: 1 US Dollar = (local currency)

2-4-2 Reason(s) for the wide gap between the original and actual, if there have been any, the remedies you have taken, and their results.

(P/R, PCR)

**2-5 Organizations for Implementation**

**2-5-1 Executing Agency:**

- Organization's role, financial position, capacity, cost recovery etc,
- Organization Chart including the unit in charge of the implementation and number of employees.

**Original:** (M/D)

---

**Actual, if changed:** (P/R and PCR)

**2-6 Environmental and Social Impacts**

Report based on the agreed environmental checklist and monitoring form (See Attachment 4)

**3: Operation and Maintenance (O&M)**

**3-1 O&M and Management**

- Organization chart of O&M
- Operational and maintenance system (structure and the number ,qualification and skill of staff or other conditions necessary to maintain the outputs and benefits of the project soundly, such as manuals, facilities and equipment for maintenance, and spare part stocks etc)

Original: (M/D)
Actual: (PCR)

**3-2 O&M Cost and Budget**

- The actual annual O&M cost for the duration of the project up to today, as well as the annual O&M budget.

Original: (M/D)
-----------------

**4: Precautions (Risk Management)**

- Risks and issues, if any, which may affect the project implementation, outcome, sustainability and planned countermeasures to be adapted are below.

Original Issues and Countermeasure(s): (M/D)	
Potential Project Risks	Assessment
1.	Probability: H/M/L
(Description of Risk)	Impact: H/M/L
	Analysis of Probability and Impact:
	Mitigation Measures:

	Action during the Implementation:
	Contingency Plan (if applicable):
2.	Probability: H/M/L
(Description of Risk)	Impact: H/M/L
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action during the Implementation:
	Contingency Plan (if applicable):
3.	Probability: H/M/L
(Description of Risk)	Impact: H/M/L
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action during the Implementation:
	Contingency Plan (if applicable):
<b>Actual issues and Countermeasure(s)</b>	
(P/R and PCR)	

**5: Evaluation**

**5-1 Overall evaluation**

Please describe your evaluation on the overall outcome of the project.

(PCR)

**5-2 Lessons Learnt and Recommendations**

Please raise any lessons learned from the project experience, which might be valuable for the future assistance or similar type of projects, as well as any recommendations, which might be beneficial for better realization of the project effect, impact and assurance of sustainability.

(PCR)

**Attachment**

1. Project Location Map
2. Undertakings to be taken by each Government
3. Monthly Report
4. Monitoring report on environmental and social considerations






**MEMORANDUM OF TECHNICAL DISCUSSIONS  
ON PREPARATORY SURVEY  
ON THE PROJECT FOR IMPROVING TRAINING EQUIPMENT  
OF ACADEMY MARITIME SULTAN AHMAD SHAH  
IN MALAYSIA**

From June 26<sup>th</sup> to July 20<sup>th</sup>, 2016, the Preparatory Survey Team for the Field Survey (hereinafter referred to as “the Team”) held a series of technical discussions with the officials of the Academy Maritime Sultan Ahmad Shah (hereinafter referred to as “the AMSAS”) in Malaysia.

Recognizing the quantities and specifications of the final components would be decided after the consultation with the Government of Japan and the Japan International Cooperation Agency, the both side confirmed the items described in the annexes as a result of the technical discussions and field survey.

Putrajaya, July 18<sup>th</sup>, 2016



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Motoki Kobashi  
Chief of the Consultant  
Shipbuilding Research Centre of Japan  
Japan



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Hj Mohd Sabri Bin Hj Mohamed  
First Admiral Maritime  
Malaysia Maritime Enforcement Agency  
Malaysia

Bridge Simulator and Simulator Area (Ship Handling Simulator)

With regard to a Ship Handling Simulator, the AMSAS and the Team agreed as follows.

1. Training purpose

Purpose of ship handling simulator training is:

- (1) Ship handling (various type and size of ship)
- (2) Training and assessment of seafarers
- (3) Ship casualty investigation
- (4) Search and rescue training
- (5) Combating oil spill
- (6) Crisis management
- (7) In-house personnel training: and
- (8) Other special requirement

2. Trainee

Ship handling training will be provided for the AMSAS students, the AMSAS personals, officers and crew of MMEA patrol ships.

3. The simulator shall be the DNV Class A full mission ship handling simulator or equivalent and, designed to meet the DNV standards and the requirements of 2010 STCW Convention.
4. The simulator shall consist of one main ship bridge with at least 240 degrees of horizontal view and one secondary bridge with at least 180 degrees of horizontal view.
5. The main bridge shall be designed as a general cargo ship and the secondary bridge shall be designed as the MMEA own patrol ship (Langkawi class). Necessary documents such as drawings of Langkawi class patrol ship shall be provided by the AMSAS.

*Mk*

*Adh*

6. System configurations are shown in Table 1 and 2.

Table 1 Main bridge system configuration

70 Inch Wide Information Display	1set
Steering stand(Auto pilot unit, Mode select switch HAND/AUTO/NFU)	1
Repeater compass with stand	1
Navigation console (Engine Telegraph x2, CPP operation unit x2, Bow thruster operation unit x 1, Horn switch, Alarm switch lamp, Multifunction monitor with touch sensor (Echo sounder, Doppler Log, GPS, Fire control panel, NAVTEX and others ), Joystick for Searchlight control)	1 set
VHF communication system	2
RADAR/ARPA	2
ECDIS	1
Overhead Meter (RPM x2/Propeller pitch x2, Speed, Rudder, Turn rate, Anemometer, Clock)	1 set
Virtual Binocular with motion sensor and hand-held display	2
Public addresser	1
Chart table with adjustable light and curtain	1

Remarks: Yellow shading indicates the real equipment.

Table 2 Secondary bridge system configuration

Navigation console (Steering Handle, Engine Telegraph, Horn switch, Interphone, Multifunction monitor with touch sensor, Repeater Compass, Joystick for Searchlight control)	1
Multifunction Control computer	1
VHF communication system	1
RADAR/ARPA	1
ECDIS	1
Public addresser	1
Chart table with adjustable light, curtain and paper chart	1
52 inch LCD display monitor with monitor stand	1set

Remarks: Yellow shading indicates the real equipment.

## 7. Data base

The following data bases shall be provided.

### (1) Own ship model

MMEA patrol ship model: 3

Another type of ships: 5

### (2) Target ship model: 10

### (3) Training area data base

Virtual training area

Malaysian Ports; 3 (Lumut Port, Port Klang, Labuan Port)

## 8. UPS

UPS (uninterrupted power supply) installation is not necessary, because

(1) In the AMSAS campus, qualified power is available and power failure happens very rarely.

(2) The AMSAS has its own emergency power supply system.

## 9. Warranty

The warranty period for the ship handling simulator shall be one year.

*Mk*

*Signature*

A Training Simulator for Machinery Control Room System (MCRS) for Engineering Course, and a Complete Workshop for Generator Set and Synchronizing Board for Engineering Course (Engine Room Simulator (ERS), and Diesel Generator and Switch Board Simulator (SBS))

With regard to an Engine Room Simulator (ERS), and a Diesel Generator and Switch Board Simulator (SBS), the AMSAS and the Team agreed as follows.

1. Purpose of the introduction of the Engine Room Simulator (ERS) to the AMSAS is;
  - (1) To train practically as on board actual patrol boat.
  - (2) To acquire basic and practical knowledge relevant to Marine engineering.
  - (3) To meet satisfactorily the competency of the capability for marine engineers required on the navigation at coastal area of domestic sea as described in STCW convention.

Under these situation, the AMSAS is requesting eagerly to install the software of engine room model of the commercial vessel for the purpose of acquire the knowledge of the ordinary main engine, and the introduction of practical training of machinery operation which has not yet conducted at the AMSAS.

2. Engine Room Simulator (ERS)

- (1) Type: Computer based LCD Monitor type

The reason to have been selected is as follows;

- a. Compact as installable in the existing class room without major construction work
- b. Extensibility as easy exchange of software, modification and additional installation of various engine room models

- (2) Engine Room Model (3 kinds)

- a. Merchant ship (e.g. Container ship)  
Equipped with two (2) -stroke, low speed, burning heavy fuel oil Main Engine (M/E), Boiler and Economizer
- b. 75m length as current patrol vessel (proven model)  
Equipped with bow thrusters and small boilers for accommodation heating
- c. 100m length as modern patrol vessel (proven model)  
Equipped with bow thruster, small boiler for accommodation heating and advanced technology equipment, such as electronic governor and so on

3. Animation software for basic knowledge of the two (2)-stroke main engine and four (4)-stroke main engine.

The AMSAS requested to install animation-like software for the student to easily understand differences of the Construction, Running, and Piping Arrangement, etc. of those two kinds of M/Es.



#### 4. Diesel Generator and Switch Board Simulator (SBS)

- (1) Switch Board Simulator (SBS) is to be installed in the same room of ERS.
- (2) Training purpose of the SBS is the Phase Synchronization.
- (3) Actual model of Diesel Generator is not to be installed due to the difficulties of incidental works, serious vibration to the simulators and operation and maintenance cost, etc.
- (4) Touch panel type (computer base) is not to be provided since the panel is expected easily worn, but mimic switch board type is to be provided.
- (5) The type of SBS to be independent or built-in with ERS is to be investigated furthermore due to consideration of the total budget.
- (6) An example of overlooking image of LCD-typed monitor of the ERS is shown on the Fig 1.



Fig 1 Overlooking image of LCD-typed monitor of the ERS

*mk*

*mk*

### Training Simulator for Search and Rescue (SAR) Course

With regard to a Training Simulator for Search and Rescue (SAR) Course, the AMSAS and the Team agreed as follows.

#### 1. Training purpose

Purpose of the SAR simulator training is to create more interactive training for a better practical with understanding of SAR operations

#### 2. SAR operation training program

The AMSAS conducts the SAR course as shown in Table 1. The AMSAS has not been equipped with a training simulator yet, thus it sends their trainees to Malaysia Aviation Academy (MAVA) for conducting the advance course instead. The AMSAS gives their trainees only a classroom-typed theoretical practice by its own, for conducting the basic training course.

Table 1 List of course organized by the AMSAS

	Course	Duration	Total/year	Number of participants
1	On-scene coordinator (OSC)	1 week	2	25 (officers) per course
2	SAR Mission Coordinator (SMC)	3 week	1	10 (officers)
3	Boat Leader	3 days	2	20 (other ranks) per course
4	International Intermediate Maritime SAR Course	2 weeks	1	15 (ASEAN countries)
5	Search and Rescue Exercise (SAREX)	1 week	5	30 (officers and other ranks) per course
6	Ships crew	1 week	25	as requested

#### 3. Outline of the simulator system

- (1) An example image of training simulator for SAR Course is shown on Fig 1.
- (2) The controller team which consists of 4 instructors gives trainees some situations on marine distress through communication devices.
- (3) The trainee team which consist of 6 operators and 2 senior operators conduct the SAR Operation, such as gathering information, planning, deciding the SAR area, choosing the SAR assets, commanding, etc. by using the communication devices, paper chart, electric chart ant so on.
- (4) The information such as the SAR area is shown on the PC. It is also shown on the image display to share with all of persons in the training room.
- (5) The instructors in the controller room can see the same information on the image display.



### 3. System configuration

Configuration of the SAR simulator is as follows.

#### (1) The training room

Communication devices (VHF, MF/HF, Inmarsat, telephone), 1 or 2 PC per person, image display splittable into 2 parts, electric navigational chart shown in PC, tilting chart table, white board (details are to be decided in due course)

#### (2) The controller room

Communication devices (VHF, MF/HF, Inmarsat, telephone), 1 or 2 PC per person, image display splittable into 2 parts, electric navigational chart shown in PC, tilting chart table (details are to be decided in due course)

(3) An example image of training simulator for SAR Course is shown on Fig 1.

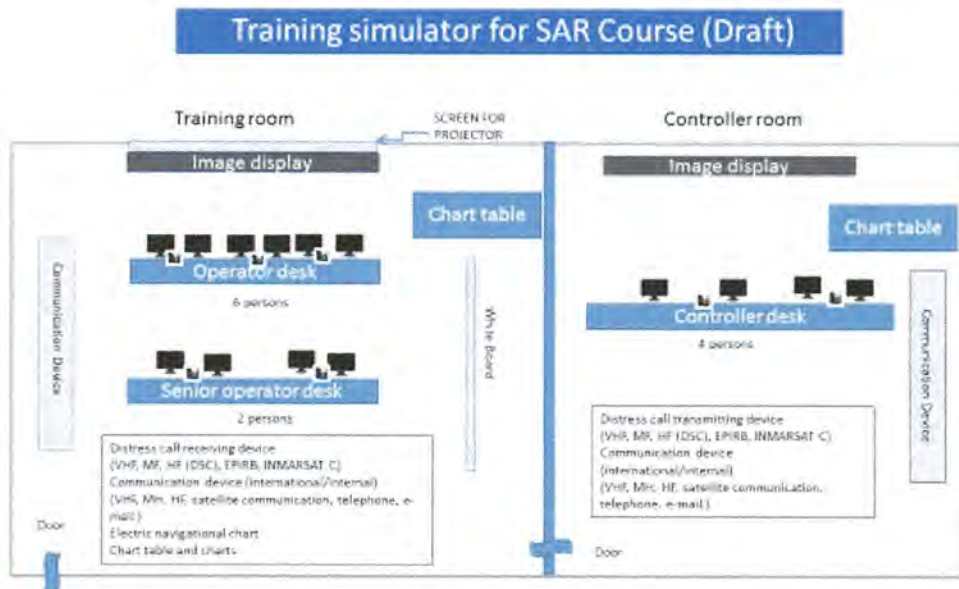


Fig 1 An example image of training simulator for SAR Course

## Voice Cubicle Lab for radio user trainees under Communication Course

With regard to a Voice Cubicle lab for radio user trainees under Communication Course, the AMSAS and the Team agreed as follows.

## 1. Training purpose

Purpose of the radio communication training is to exercise a proper voice procedure and how to use communication equipment.

## 2. Training program

The AMSAS conducts the radio communication course as shown in Table 1. As the AMSAS has 2 sets of the radio communication console at present, 2 participants can engage in the radio communication training at one time.

Table 1 List of course organized by the AMSAS

No.	Subject	Participants	Days
1	Navigation (Basic course)		
	1. Sailors	120	5
	2. Officers	40	5
2	Navigation (nautical level 2)	25	5
3	Navigation (nautical level 3)	25	5
4	Radar plotters (basic course)		
	1. Sailors	120	5
	2. Officers	40	5
5	Radar plotters course for petty officer (advance course)	25	5
6	Radar plotters course for officer (advance course)	25	5
7	Tactical communication level 1	25	5
8	Tactical communication level 2	25	5
9	Tactical communication level 3	25	5
10	Command & control course level 1	25	5
11	Command & control course level 2	25	5
12	Command & control course level 3	25	5
13	Foreigner language course		
	1. Thailand language	25	5
	2. Vietnam language	25	5
14	Voice procedure course level 1	25	5
15	Voice procedure course level 2	25	5
	Total	670	90

## 3. Outline of the a Voice Cubicle Lab for radio user trainees

- (1) An example image of a Voice Cubicle Lab for radio user trainees under Communication Course is shown on Fig 1.
- (2) The training is conducted with VHF radio equipment.
- (3) The VHF radio equipment shall have the functions to communicate by the VHF radio telephone and Digital Selective Calling (DSC).
- (4) One master console is equipped for the instructor. 26 VHF Radio equipment with a



handheld and headset are equipped for 1 instructor and 25 trainees.

- (5) All trainees are trained in each cubicle.
- (6) The master console is equipped with selected button to control the training.
- (7) The radio communication training is conducted between an instructor and each trainee and also between trainees.

#### 4. System configuration

Configuration of a Voice Cubicle Lab for radio user trainees is as follows.

- (1) One (1) master console
- (2) 26 sets of radio telephone devices (refer to a picture on Fig 1) with headset.
- (3) One (1) desk for an instructor and 25 desks with cubicle for trainees. The front side of the cubicle is transparent though, the left and right side are not transparent.
- (4) An example image of a Voice Cubicle Lab for radio user trainees under Communication Course is shown on Fig 1.



Fig 1 An example image of a Voice Cubicle Lab for radio user trainees under Communication Course

### Allocated Rooms to Simulators and/or Training Equipment

With regard to allocated rooms to simulators or training equipment, the AMSAS and the Team agreed as follows.

#### 1. Allocated rooms

Following rooms are available and allocated for each simulators or training equipment as shown in Table 1.

Table 1 List of allocated rooms for each simulators and/or training equipment

No.	Purpose for use	Principal dimension (*)
1	Ship Handling Simulator	Length: 36,000mm Width: 8,000mm Height: 3,400mm
2	Engine Room Simulator (ERS), and Diesel Generator and Switch Board Simulator (SBS)	Length: 13,500mm Width: 11,000mm Height: 3,100mm
3	Training Simulator for Search and Rescue (SAR) course	Length: 18,000mm Width: 8,000mm Height: 3,000mm
4	Voice Cubicle Lab for radio user trainees under Communication Course	Length: 18,000mm Width: 8,000mm Height: 3,000mm

(\*) Some dimension may include trivial differences.

#### 2. Power supply

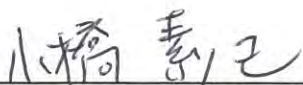
Both sides confirmed required power supply is provided. The AMSAS is preparing for power supply on the simulators and training equipment at free 100 Ampere, and will be develop its capacities as required.

**MINUTES OF TECHNICAL DISCUSSIONS  
ON PREPARATORY SURVEY  
ON THE PROJECT FOR IMPROVING TRAINING EQUIPMENT  
OF ACADEMY MARITIME SULTAN AHMAD SHAH  
IN MALAYSIA**

From September 19<sup>th</sup> to 23<sup>rd</sup>, 2016, the Consultant Survey Team of the Second Preparatory Survey (hereinafter referred to as “the Team”) held a series of technical discussions with the officials of the Academy Maritime Sultan Ahmad Shah (hereinafter referred to as “the AMSAS”), in Malaysian Maritime Enforcement Agency (hereinafter referred to as “the MMEA”) head office in Malaysia.

Recognizing the final decision on the quantities and specifications of the components to be provided would be made after the consultation with the Government of Japan and the Japan International Cooperation Agency, the both side confirmed the items described in the annexes as a result of the technical discussions.

Putrajaya, September 23<sup>rd</sup>, 2016



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Motoki Kobashi  
Chief of the Consultant Team  
Second Field Survey of JICA  
Shipbuilding Research Centre of Japan  
Japan



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Hj Mohd Sabri Bin Hj Mohamed  
First Admiral Maritime  
Malaysian Maritime Enforcement Agency  
Malaysia



The specifications of the Ship Handling Simulator and a briefing room and an instructor room

## 1. Outline

The team proposed two bridge type DNV-GL Class A full mission Ship Handling Simulator and discussed on the system configuration and Data base with the AMSAS. As a result, the both side agreed as follows.

## 2. System configuration

Equipment	
<b>Main Bridge</b>	
Visual graphic display system	240-degree
Navigation console with engine telegraph, CPP operation unit, Bow thruster operation unit, Horn switch, Interphone, Multifunction monitor	1 set
VHF/DSC (real equipment)	1 set
Repeater compass with stand (real equipment)	1 set
Steering stand (real equipment)	1 set
RADAR/ARPA (real equipment)	2 (S-band, X-band)
ECDIS (real equipment)	1 set
Binocular	2 set
Overhead meter	1 set
Chart table	1 set
Monitoring camera	1 set
Public address system	1 set
<b>Secondary Bridge</b>	
Visual graphic display system	225-degree
Navigation console with Steering handle, Repeater compass, engine telegraph, Horn switch, Interphone, Multifunction monitor	1 set
VHF/DSC (real equipment)	1 set
RADAR/ARPA (real equipment)	1 (S-band/X-band)
ECDIS (real equipment)	1 set
Binocular	1 set
Overhead meter	1 set
Chart table	1 set
Monitoring camera	1 set
Public address system	1 set
<b>Instructor Room</b>	
Monitoring system for Main bridge and Secondary bridge equipment	1 set
Monitoring system for Secondary bridge equipment	1 set
VHF/DSC communication system	1 set
CCTV monitoring system	1 set
Public address system	1 set
Interphone	1 set
Senario editing computer	1 set
Printer	1 set
<b>Briefing Room</b>	
Projector	1 set
Screen	1 set
<b>Server Room</b>	
Server	1 set
UPS	1 set

### 3. Data base

#### (1) Own ship model

In order to create precise own ship model of three patrol ships (Langkawi, Marlin, Gagah), AMSAS need to provide necessary drawings/data of these ships to the supplier during the project implementation stage.

The type of five general merchant ships for the own ship model was selected.

#### (2) Target ship model

Twenty types of ship for the target ship model were selected.

#### (3) Training area database

In order to create precise CG of three training area (Port Klang, Lumut Port, Labuan Port), the AMSAS need to provide convenience for the target training berth investigation including photographing to the supplier during the project implementation stage.





## The specifications of the SAR Simulator

## 1. Outline

The training simulator for search and rescue (SAR) course system is to acquire the knowledge for search and rescue activities and support the development of RCC (Rescue Co-ordination Center) operator.

This system is established to train the SAR coordination procedures of information gathering, planning, command and control of maritime SAR. Trainees can learn how to response the marine accident and get the knowledge of all procedures to manage the search and rescue activities.

Regarding the system configuration, the Team proposed the specifications of the SAR Simulator and discussed with the AMSAS. As a result, the both side agreed as follows.

## 2. System

This training simulator consists of Controller room and Operator room. Two rooms are divided by the partition. Following devices will be installed in each room:

Hardware

(1) Desktop PC	14 (controller 7, operator 7)
(2) IP telephone	14 (controller 7, operator 7)
(3) Large LCD monitor	2 (controller room 1, operator room 1)
(4) Matrix switcher	1
(5) Web camera	1 (operator room)
(6) Electronic chart equipment	1 (operator room)
(7) Audio equipment	1
(8) Simulator server lack	1
(9) Main server	1
(10) Electronic chart server	1
(11) WEB server	1
(12) Monitor / Switch	1
(13) Web camera server & Mail server	1
(14) UPS	1
(15) VHF Radiotelephone	2 (controller room 1, operator room 1)
(16) Power unit (DC24V)	2
(17) Printer with scanner	1 (operator room)
(18) Printer	1 (controller room)

Software

(1) Main server	1
(2) Electronic chart server	1
(3) WEB server	1
(4) Web camera server & Mail server	1

Others

(1) Desk & Chair	14 (controller 7, operator 7)
(2) Chart table	2 (controller room 1, operator room 1)
(3) White Board	4 (controller room 2, operator room 2)
(4) Raised floor	
(5) Partition	

## The Specifications of the Engine Room Simulator

## 1. Outline

Regarding the system configuration, the Team proposed the specifications of the Engine Room Simulator, which is able to be satisfied with the training in the STCW convention, and discussed with the AMSAS. As a result, the both side agreed as follows.

## 2. System configuration

Item		Reference
Number of model ships	(1) 100m Patrol ship	Included
	(2) Mega container ship	Included
Main switchboard:		
Generator System of Container ship	(1) Diesel Generator	2
	(2) Turbo Generator	1
Generator System of Patrol ship	(1) Diesel Generator	3
Emergency switchboard		
Emergency switchboard		Included
Extension alarm panel		Included
Audible alarm signal devise		2
Components		
Engine room control console		1 set
Main switch board		1 set
Feeder panel		1 set
Starter panel		1 set
Emergency switch board		1 set
Alarm monitoring panel		2 set
Engine room system		1 set
Instructor		1 set
Video and sound recording system		1 set
Communication equipment		1 set
Incidental equipment for network system		1 set






The specifications of the Main Switchboard Simulator

1. Outline

Regarding the system configuration, the Team proposed the specifications of the Main Switchboard Simulator, which is able to be satisfied with the training in the STCW convention, and discussed with the AMSAS. As a result, the both side agreed as follows.

2. System

(1) Generator panel

Start-stop, Governor Control, On/Off operation for 3 generators, and operation check of Generator protection device and power control and monitoring to be carried out.

Manual operation, emergency operation of Generator single operation and parallel operation can be simulated on main switchboard. Synchronizing function shall be provided on one generator panel in auto mode or manual mode. (or synchronizing panel to be provided individually. )

Whole equipment shall be provided same as actual ship or equivalent. ACB shall be applied classification society, and can be trained maintenance. Diesel Generator and Turbo Generator are installed in ERS to be reproduction, and can be controlled mutually or individually.

(2) Feeder panel

Simulated load, shore power feeder circuit and insulated resistance meters to be provided. Interlock between Shore power feeder circuit and Main switchboard, response for low level alarm of insulation resistance value, response for preferential trip to be trained.

(3) Starter panel

Starter panel which can be indicated and operated each pumps and motors in Engine room for administration of power load, and it can be trained maintenance by change the circuit for each different system of each ship. 4 kind of starting method (Direct on line, reversible, star-delta, korndorfer) to be provided at least each one set for starter panel.

(4) Emergency switchboard panel

Emergency switchboard is provided separated from generator panel, and trained to feed electrical power from emergency switchboard when blackout condition. Start / stop of Firefighting pump depend on fire alarm condition shall be trained.





## The Specifications of the Radio Training Simulator

## 1. Outline

Radio Training Equipment is established to learn the operation of the radio and cultivate the swiftness, appropriateness and accuracy of the communication behavior. The trainees can learn how to operate the radio communication by using real radio communication equipment. All communication between the instructor and each trainee is recorded to verify their communication.

Regarding the system configuration, the Team proposed the specifications of the Radio Training Simulator and discussed with the AMSAS. As a result, the both side agreed as follows.

## 2. System

This system consists of one instructor console and 25 trainees consoles. The following devices should be installed;

Hardware

(1) VHF Radiotelephone with headset	26	(Instructor 1、 trainee 25)
(2) Power unit (DC24V)	26	(Instructor 1、 trainee 25)
(3) Recorder (8channel)	4	
(4) Recorder Control PC	1	
(5) Dummy Antenna Circuit	1	
(6) Audio equipment	1	
(7) HUB	1	
(8) Coaxial Cable	52	
(9) power ATT	26	(Instructor 1、 trainee 25)

Software

Recorder Control PC	1	
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Others

(1) Desk and Chair	26	(Instructor 1、 trainee 25)
(2) Partition Panel	25	(trainee console)
(3) Raised floor		

January 13<sup>th</sup>, 2017

First Admiral Haji Abdul Razak bin Lebai Omar  
Deputy Director of Exercise and Enforcement  
Malaysia Maritime Enforcement Agency

**Subject:** Memorandum on the Discussion of the 3<sup>rd</sup> mission of the Project for Improving Training Equipment of Academy Maritime Sultan Ahmad Shah

Dear Sir,

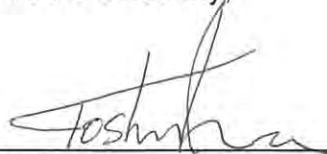
Firstly, we, the JICA Preparatory Survey Team (hereinafter referred to as “the Team”) would like to express our sincere appreciation for your cooperation for the Project for Improving Training Equipment of Academy Maritime Sultan Ahmad Shah (hereinafter referred to as “the Project”) under Japan’s Grant Aid.

From 10<sup>th</sup> to 12<sup>th</sup> January 2017, the Team and Malaysian side had a series of discussions on all contents of the Main Points and its Annexes attached herewith for implementing the Project.

The Team wishes to continue our cooperation for smooth proceeding to acquire approval of higher authorities of the both governments for realizing the Project, and request your comments regarding the Main Points and its Annexes in a written form by 20<sup>th</sup> January 2017, if necessary.

We appreciate your kind understanding and cooperation.

Yours sincerely,



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Toshitaka Ishima  
Leader  
Preparatory Survey Team  
Japan International Cooperation Agency

## Main Points

1. Objective of the Project  
The objective of the Project is to enhance the ability of staff of Malaysia Maritime Enforcement Agency (hereinafter referred to as "MMEA") on vessel operation through providing training equipment.
2. Title of the Preparatory Survey  
The title of the Preparatory Survey is "the Preparatory Survey for The Project for Improving Training Equipment of Academy Maritime Sultan Ahmad Shah."
3. Project site  
The site of the Project is Maritime Academy Sultan Ahmad Shah hereinafter referred to as "AMSAS"), Sg Ular Gebeng, 26100 Kuantan, Pahang Darul Makmur, Malaysia.
4. Line Ministry and Executing Agency
  - 4-1. The line ministry is Prime Minister's Department and the Executing Agency of the Project is MMEA/AMSAS.
  - 4-2. MMEA/AMSAS will coordinate with all the relevant agencies to ensure smooth implementation of the Project.
5. Contents of the Draft Report  
The team explained the contents of the Draft Report. The Malaysia side understood its contents and requested the Team to modify several contents of the Draft Report. The Team agreed to it as below;
  - 5-1. Own ship models  
Own ship models are changed as follows in accordance with the request from Malaysian side. Corrections will be made in the Table 2-1 of the Page 4, Table 2-4 of the Page 12, and the Section 2-4-2 (1) 11) of the Page 22
    - (1) "Langkawi class" will be replaced by "Pekan class".
    - (2) "Gagah class" will be replaced by "Jarak class".
  - 5-2. Guidance on the initial operation  
Duration of the guidance on the initial operation will be modified from "5 days" to "10 days" in order to ensure the enough period for the guidance. A correction will be made in the paragraph 7 of the section 2-4-1 of the Page 20.

#### 6. Cost estimate

The Team explained to the MMEA that the rough estimate of the Project Cost described in Annex-1. The final Project Cost including the contingency would be appraised by the Government of Japan. The contingency would cover the additional cost against natural disaster, unexpected natural conditions, etc. The MMEA understood that the cost estimation described in the Annex-1 is provisional and will be examined further by the Government of Japan for its approval.

#### 7. Confidentiality of the cost estimate and technical specifications

The cost estimate and technical specifications in the Draft Report should never be duplicated or disclosed to any third parties until all the contracts under the Project are concluded.

#### 8. Procedures and Basic Principles of Japanese Grant

The procedures and basic principles of Japanese Grant as described in Annex-2 shall be applied to the Project. The necessary measures are according to the procedures in accordance with Attachment 1 and 2 of Annex-2.

#### 9. Timeline for the project implementation

The expected timeline for the project implementation is as attached in Annex-3.

#### 10. Expected outcomes and indicators

Key indicators for expected outcomes are as follows. The Team explained the Malaysian side will be responsible for the achievement of the key indicators targeted in year 2022 and shall monitor the progress based on those indicators.

[Quantitative indicators]

Indices	Basis (at 2016)	Target (at 2022, three years after completion of the Project)
Number of trainees of the MMEA trained at external facilities using the simulators	118	0
Number of trainees of the MMEA trained at the AMSAS using the simulators	0	about 500
Number of trainees from other countries trained at the AMSAS using the simulators	0	about 20

[Qualitative indicators]

- The ability of maritime patrol of MMEA is improved.

11. Undertakings of the Project

The undertakings of the Project are described in Annex-4. The Malaysian side will take the necessary measures and coordination including allocation of the necessary budget which are preconditions of implementation of the Project. It is further agreed that the costs are indicative, i.e. at Outline Design level. More accurate costs will be calculated at the Detailed Design stage. The Annex-4 will be used as an attachment of G/A.

12. Monitoring during the implementation

The Project will be monitored every six months during the project period by the executing agency using the Project Monitoring Report (PMR) described in Annex-5.

13. Project completion

The project completes when all the equipment procured by the grant are in operation. The completion of the Project will be reported to JICA promptly, but in any event not later than six months after completion of the Project.

14. Ex-Post Evaluation

JICA will conduct ex-post evaluation after three (3) years from the project completion, in principle, with respect to five evaluation criteria (Relevance, Effectiveness, Efficiency, Impact, and Sustainability). The result of the evaluation will be publicized. The Malaysian side is required to provide necessary support for the data collection.

15. Schedule of the Study

JICA will finalize the Preparatory Survey Report based on the confirmed items. The report will be sent to the the Malaysian side around March 2017.

16. Environmental and Social Considerations

The Team explained that 'JICA Guidelines for Environmental and Social Considerations (April 2010)' (hereinafter referred to as "the Guidelines") is applicable for the Project. The Project is categorized as C because the Project is likely to have minimal adverse impact on the environment under the Guidelines.



## 17. Other Relevant Issues

### 17-1. Disclosure of Information

The Preparatory Survey Report from which project cost is excluded will be disclosed to the public after completion of the Preparatory Survey. The comprehensive report including the project cost will be disclosed to the public after all the contracts under the Project are concluded.

### 17-2. Safety Measures

To avoid accidents on site during the implementation of the Project, the Malaysian side will cause the consultant and the contractor to enforce safety measures such as setting safety assurance to the site, providing information for security control to public, and deploying adequate security personnel, based on "The Guidance for the Management of Safety for Construction Works in Japanese ODA Projects" which has been published on JICA's website.

### 17-3. Misconduct

If JICA receives information related to suspected corrupt or fraudulent practices in the implementation of the Project, MMEA and relevant organizations will provide JICA with such information as JICA may reasonably request, including information related to any concerned official of the government and/or public organizations of Malaysia. MMEA and relevant organizations will not, unfairly or unfavorably treat the person and/or company which provided the information related to suspected corrupt or fraudulent practices in the implementation of the Project.

### 17-4. Military Purposes

The Malaysian side understood the principle of the Japan's Development Cooperation Charter, which stresses that ODA must not be utilized for military purpose or promoting international conflicts, and agreed to ensure that the equipment to be procured in the Project will never be used for any military purposes.

### 17-5. Maintenance

The Procurement Branch explained the requirement for the contract in Malaysia. The tentative idea for the condition for the bidding is "the supplier or manufactures shall have a link to at least one Malaysian local company in order to ensure the appropriate maintenance for all of the equipment to be installed".

### 17-6. Schedules for the Malaysian Cabinet's approval

The Malaysian side explained that they are not able to sign any documents until the Project is approved by the Malaysian cabinet. They also informed JICA that a completed draft version of "Exchange of Notes" and "Grant Agreement" for the Project with estimated project amount, "Contract with the consultant", "Contract with the supplier" and "Banking Arrangement" are

necessary to enter into a cabinet approval procedure. The Team explained that a draft of Exchange of Notes would be provided by Ministry of Foreign Affairs (“MOFA”) and Grant Agreement would be presented by JICA around in the beginning of February 2017 after the consultation with Ministry of Finance of Japan, however, “Contract with the consultant”, “Contract with the supplier” and “Banking Arrangement” would be finalized only in the implementation stage. The Malaysian side understood the procedure. The Malaysian side will take the prompt procedure to put the Project to the Malaysian Cabinet by using the draft version of Exchange of Notes and Grant Agreement and the templates of “Contract with the consultant”, “Contract with the supplier” and Banking Arrangement.

Annex 1 Cost Estimation

Annex 2 Japanese Grant

Annex 3 Tentative Schedule

Annex 4 Major Undertakings

Annex 5 Project Monitoring Report (template)

-End-

Project Cost Estimation

## (1) Cost Borne by the Government of Japan

This item is closed due to the confidentiality.
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## (2) Cost Borne by the Government of Malaysia

Description	Estimated Cost (thousand Malaysian Ringgit: MYR)	Converted to Japanese Yen (thousand JPY)
Commissions to the Japanese bank for banking services based upon the Banking Arrangement (B/A) - Advising commissions of Authorization to Pay (A/P) - Payment commissions	28.37	717
<b>TOTAL</b>	<b>28.37</b>	<b>717</b>

## Notes:

(1) The cost estimates in the above table are provisional and will be further examined by the Government of Japan for the approval of the Grant.

(2) This Part is closed due to the confidentiality.



## JAPANESE GRANT

The Japanese Grant is non-reimbursable fund provided to a recipient country (hereinafter referred to as “the Recipient”) to purchase the products and/or services (engineering services and transportation of the products, etc.) for its economic and social development in accordance with the relevant laws and regulations of Japan. Followings are the basic features of the project grants operated by JICA (hereinafter referred to as “Project Grants”).

### 1. Procedures of Project Grants

Project Grants are conducted through following procedures (See “PROCEDURES OF JAPANESE GRANT” for details):

(1) Preparation

- The Preparatory Survey (hereinafter referred to as “the Survey”) conducted by JICA

(2) Appraisal

- Appraisal by the government of Japan (hereinafter referred to as “GOJ”) and JICA, and Approval by the Japanese Cabinet

(3) Implementation

Exchange of Notes

- The Notes exchanged between the GOJ and the government of the Recipient

Grant Agreement (hereinafter referred to as “the G/A”)

- Agreement concluded between JICA and the Recipient

Banking Arrangement (hereinafter referred to as “the B/A”)

- Opening of bank account by the Recipient in a bank in Japan (hereinafter referred to as "the Bank") to receive the grant

Construction works/procurement

- Implementation of the project (hereinafter referred to as “the Project”) on the basis of the G/A

(4) Ex-post Monitoring and Evaluation

- Monitoring and evaluation at post-implementation stage

### 2. Preparatory Survey

(1) Contents of the Survey

The aim of the Survey is to provide basic documents necessary for the appraisal of the the Project made by the GOJ and JICA. The contents of the Survey are as follows:

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of

relevant agencies of the Recipient necessary for the implementation of the Project.

- Evaluation of the feasibility of the Project to be implemented under the Japanese Grant from a technical, financial, social and economic point of view.
- Confirmation of items agreed between both parties concerning the basic concept of the Project.
- Preparation of an outline design of the Project.
- Estimation of costs of the Project.
- Confirmation of Environmental and Social Considerations

The contents of the original request by the Recipient are not necessarily approved in their initial form. The Outline Design of the Project is confirmed based on the guidelines of the Japanese Grant.

JICA requests the Recipient to take measures necessary to achieve its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the executing agency of the Project. Therefore, the contents of the Project are confirmed by all relevant organizations of the Recipient based on the Minutes of Discussions.

## (2) Selection of Consultants

For smooth implementation of the Survey, JICA contracts with (a) consulting firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms.

## (3) Result of the Survey

JICA reviews the report on the results of the Survey and recommends the GOJ to appraise the implementation of the Project after confirming the feasibility of the Project.

### **3. Basic Principles of Project Grants**

#### (1) Implementation Stage

##### 1) The E/N and the G/A

After the Project is approved by the Cabinet of Japan, the Exchange of Notes (hereinafter referred to as “the E/N”) will be signed between the GOJ and the Government of the Recipient to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Recipient to define the necessary articles, in accordance with the E/N, to implement the Project, such as conditions of disbursement, responsibilities of the Recipient, and procurement conditions. The terms and conditions generally applicable to the Japanese Grant are stipulated in the “General Terms and Conditions for Japanese Grant (January 2016).”

## 2) Banking Arrangements (B/A) (See “Financial Flow of Japanese Grant (A/P Type)” for details)

- a) The Recipient shall open an account or shall cause its designated authority to open an account under the name of the Recipient in the Bank, in principle. JICA will disburse the Japanese Grant in Japanese yen for the Recipient to cover the obligations incurred by the Recipient under the verified contracts.
- b) The Japanese Grant will be disbursed when payment requests are submitted by the Bank to JICA under an Authorization to Pay (A/P) issued by the Recipient.

## 3) Procurement Procedure

The products and/or services necessary for the implementation of the Project shall be procured in accordance with JICA's procurement guidelines as stipulated in the G/A.

## 4) Selection of Consultants

In order to maintain technical consistency, the consulting firm(s) which conducted the Survey will be recommended by JICA to the Recipient to continue to work on the Project's implementation after the E/N and G/A.

## 5) Eligible source country

In using the Japanese Grant disbursed by JICA for the purchase of products and/or services, the eligible source countries of such products and/or services shall be Japan and/or the Recipient. The Japanese Grant may be used for the purchase of the products and/or services of a third country as eligible, if necessary, taking into account the quality, competitiveness and economic rationality of products and/or services necessary for achieving the objective of the Project. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm, which enter into contracts with the Recipient, are limited to "Japanese nationals", in principle.

## 6) Contracts and Concurrence by JICA

The Recipient will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be concurred by JICA in order to be verified as eligible for using the Japanese Grant.

## 7) Monitoring

The Recipient is required to take their initiative to carefully monitor the progress of the Project in order to ensure its smooth implementation as part of their responsibility in the G/A, and to regularly report to JICA about its status by using the Project Monitoring Report (PMR).

## 8) Safety Measures

The Recipient must ensure that the safety is highly observed during the implementation of the Project.

## 9) Construction Quality Control Meeting

Construction Quality Control Meeting (hereinafter referred to as the “Meeting”) will be held for quality assurance and smooth implementation of the Works at each stage of the Works. The member of the Meeting will be composed by the



Recipient (or executing agency), the Consultant, the Contractor and JICA. The functions of the Meeting are as followings:

- a) Sharing information on the objective, concept and conditions of design from the Contractor, before start of construction.
- b) Discussing the issues affecting the Works such as modification of the design, test, inspection, safety control and the Client's obligation, during of construction.

## (2) Ex-post Monitoring and Evaluation Stage

- 1) After the project completion, JICA will continue to keep in close contact with the Recipient in order to monitor that the outputs of the Project is used and maintained properly to attain its expected outcomes.
- 2) In principle, JICA will conduct ex-post evaluation of the Project after three years from the completion. It is required for the Recipient to furnish any necessary information as JICA may reasonably request.

## (3) Others

### 1) Environmental and Social Considerations

The Recipient shall carefully consider environmental and social impacts by the Project and must comply with the environmental regulations of the Recipient and JICA Guidelines for Environmental and Social Considerations (April, 2010).

### 2) Major undertakings to be taken by the Government of the Recipient

For the smooth and proper implementation of the Project, the Recipient is required to undertake necessary measures including land acquisition, and bear an advising commission of the A/P and payment commissions paid to the Bank as agreed with the GOJ and/or JICA. The Government of the Recipient shall ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the Recipient with respect to the purchase of the Products and/or the Services be exempted or be borne by its designated authority without using the Grant and its accrued interest, since the grant fund comes from the Japanese taxpayers.

### 3) Proper Use

The Recipient is required to maintain and use properly and effectively the products and/or services under the Project (including the facilities constructed and the equipment purchased), to assign staff necessary for this operation and maintenance and to bear all the expenses other than those covered by the Japanese Grant.

#### 4) Export and Re-export

The products purchased under the Japanese Grant should not be exported or re-exported from the Recipient.

## PROCEDURES OF JAPANESE GRANT

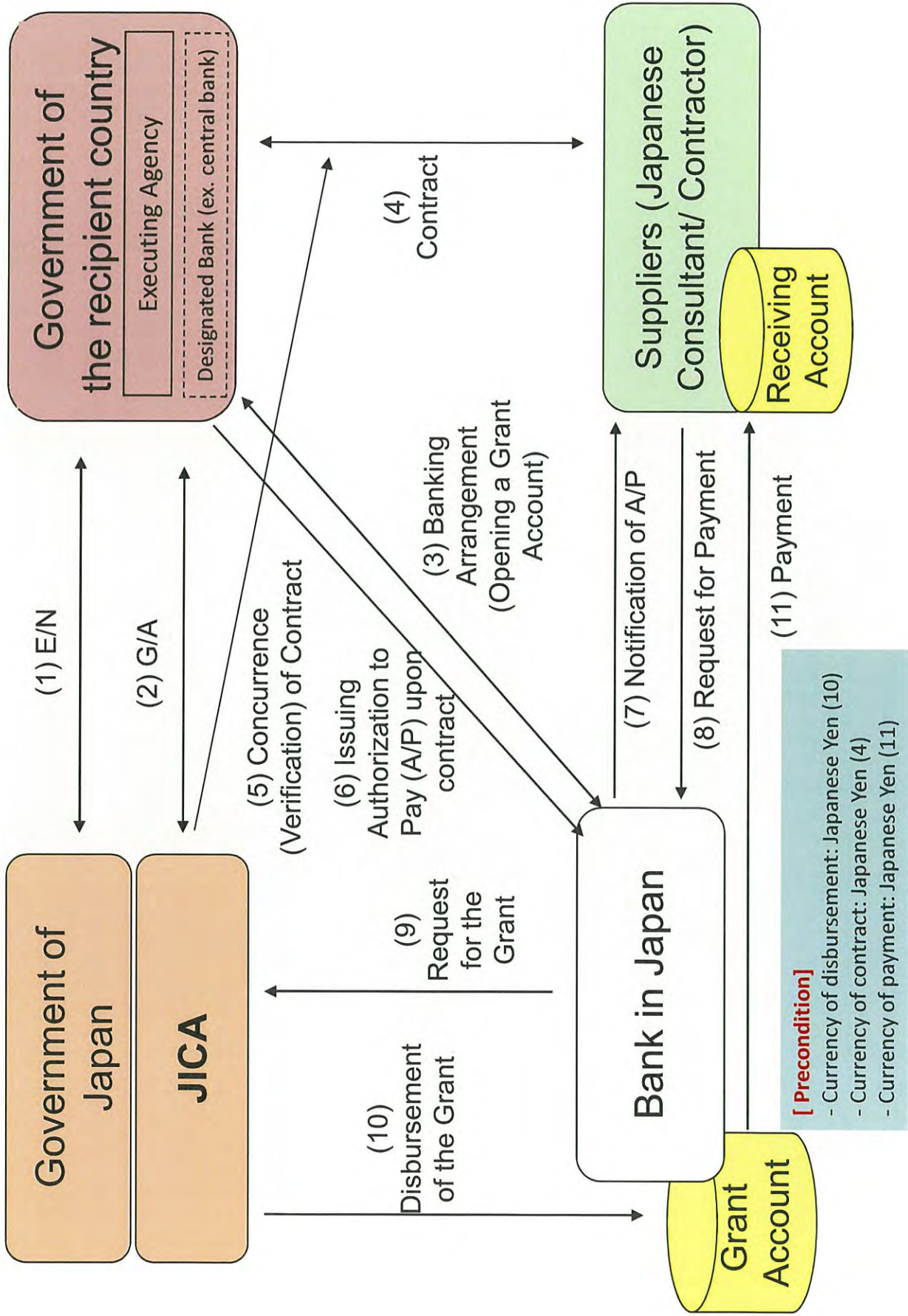
Stage	Procedures	Remarks	Recipient Government	Japanese Government	JICA	Consultants	Contractors	Agent Bank
Official Request	Request for grants through diplomatic channel	Request shall be submitted before appraisal stage.	x	x				
1. Preparation	(1) Preparatory Survey Preparation of outline design and cost estimate		x		x	x		
2. Appraisal	(2) Preparatory Survey Explanation of draft outline design, including cost estimate, undertakings, etc.		x		x	x		
	(3) Agreement on conditions for implementation	Conditions will be explained with the draft notes (E/N) and Grant Agreement (G/A) which will be signed before approval by Japanese government.	x	x (E/N)	x (G/A)			
	(4) Approval by the Japanese cabinet			x				
3. Implementation	(5) Exchange of Notes (E/N)		x	x				
	(6) Signing of Grant Agreement (G/A)		x		x			
	(7) Banking Arrangement (B/A)	Need to be informed to JICA	x					x
	(8) Contracting with consultant and issuance of Authorization to Pay (A/P)	Concurrence by JICA is required	x			x		x
	(9) Detail design (D/D)		x			x		
	(10) Preparation of bidding documents	Concurrence by JICA is required	x			x		
	(11) Bidding	Concurrence by JICA is required	x			x	x	
	(12) Contracting with contractor/supplier and issuance of A/P	Concurrence by JICA is required	x				x	x
	(13) Construction works/procurement	Concurrence by JICA is required for major modification of design and amendment of contracts.	x			x	x	
	(14) Completion certificate		x			x	x	
4. Ex-post monitoring & evaluation	(15) Ex-post monitoring	To be implemented generally after 1, 3, 10 years of completion, subject to change	x		x			
	(16) Ex-post evaluation	To be implemented basically after 3 years of completion	x		x			

notes:

1. Project Monitoring Report and Report for Project Completion shall be submitted to JICA as agreed in the G/A.
2. Concurrence by JICA is required for allocation of grant for remaining amount and/or contingencies as agreed in the G/A.



# Financial Flow of Japanese Grant (A/P Type)







## Major Undertakings to be taken by Each Government

**Major Undertakings to be taken by Recipient Government**

## 1. Before the Tender

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To open Bank Account (Banking Arrangement (B/A))	within 1 month after G/A	Embassy of Malaysia in Japan		Instruction by Accountant General (AG)
2	To issue A/P to a bank in Japan for the payment to the consultant	within 1 month after the signing of the contract	Prime Minister Office (PMO)		
3	To secure and clear following land 1) for Ship Handling Simulator, and a briefing room and an Instructor room 2) for the Search and Rescue (SAR) Simulator 3) for the Engine Room Simulator 4) for the Main Switch Board Simulator 5) for the Radio Training Equipment	before notice of the tender document	AMSAS		Coordination with Public Works Department (JKR)
4	To obtain the planning, zoning, building permit	before notice of the tender document	AMSAS		Coordination with JKR
5	To secure necessary power supply with upgrading distribution boards for the equipment as described above	before notice of the tender document	AMSAS	300,000 MYR	Coordination with JKR
6	To repair the defects of ceilings regarding the rooms for the equipment as described above 3. 1) and 2) respectively	before notice of the tender document	AMSAS		Coordination with JKR
7	To install air conditioners with enough capacity in a room for the Engine Room Simulator and Main Switchboard Simulator	before notice of the tender document	AMSAS	50,000 MYR	Coordination with JKR
8	To submit Project Monitoring Report (with the result of Detail Design)	before preparation of bidding documents	AMSAS		Coordination with JKR

2. During the Project Implementation

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the Supplier(s)	within 1 month after the signing of the contract(s)	PMO		
2	To bear the following commissions to a bank of Japan for the banking services based upon the B/A				
	1) Advising commission of A/P	within 1 month after the signing of the contract	PMO	12000 Yen	
	2) Payment commission for A/P	every payment	PMO	0.1% of the payment for the contract	
3	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country	during the Project	AMSAS		Support by Custom
4	To accord Japanese physical persons and/or physical persons of third countries whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work	during the Project	Immigration		MMEA will provide the supporting letters
5	To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the country of the Recipient with respect to the purchase of the products and/or the services be exempted	during the Project	MMEA		MOF and Custom Approval
6	1) To submit Project Monitoring Report after each work under the contract(s) such as shipping hand over, installation and operational training	every six months	AMSAS		
	2) To submit Project Monitoring Report (final)	within one month after signing of Certificate of Completion for the works under the contract(s)	AMSAS		
7	To submit a report concerning completion of the Project	within six months after completion of the Project	AMSAS		
8	To provide necessary drawings/data of 3 patrol ships to the supplier in order to create precise own ship model	during the Project	AMSAS		
9	To provide convenience for the target training berth investigation including photographing to the supplier in order to create precise CG of training area	during the Project	AMSAS		

3. After the Project

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To maintain and use properly and effectively the facilities equipment provided under the Grant Aid 1) Allocation of maintenance cost 2) Operation and maintenance structure 3) Routine/Periodic inspection	After completion of the construction	MMEA AMSAS MMEA/AMSAS		

**Major Undertakings to be covered by the Grant Aid**

No	Items	Deadline	Cost Estimated*
1	To procure and install following equipment	before the end of the contract	/
	1) Ship Handling Simulator, with a briefing room and an Instructor room		
	2) Search and Rescue (SAR) Simulator		
	3) Engine Room Simulator		
	4) Main Switch Board Simulator		
	5) Radio Training Equipment		
2	To implement detailed design, tender support and construction supervision (Consultant)	before the end of the contract	
	Total		*

\*The Amount is provisional. This is subject to the approval of the Government of Japan.



**Project Monitoring Report**  
**on**  
**Project Name**  
**Grant Agreement No. XXXXXXXX**  
 20XX, Month

**Organizational Information**

<b>Signer of the G/A (Recipient)</b>	_____ Person in Charge (Designation) _____ Contacts            Address: _____ Phone/FAX: _____ Email: _____
<b>Executing Agency</b>	_____ Person in Charge (Designation) _____ Contacts            Address: _____ Phone/FAX: _____ Email: _____
<b>Line Ministry</b>	_____ Person in Charge (Designation) _____ Contacts            Address: _____ Phone/FAX: _____ Email: _____

**General Information:**

<b>Project Title</b>	
<b>E/N</b>	Signed date: Duration:
<b>G/A</b>	Signed date: Duration:
<b>Source of Finance</b>	Government of Japan: Not exceeding JPY _____ mil. Government of (_____): _____

<b>1: Project Description</b>	
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**1-1 Project Objective**

**1-2 Project Rationale**

- Higher-level objectives to which the project contributes (national/regional/sectoral policies and strategies)
- Situation of the target groups to which the project addresses

**1-3 Indicators for measurement of "Effectiveness"**

Quantitative indicators to measure the attainment of project objectives		
Indicators	Original (Yr      )	Target (Yr      )
Qualitative indicators to measure the attainment of project objectives		

<b>2: Details of the Project</b>
----------------------------------

**2-1 Location**

Components	Original <i>(proposed in the outline design)</i>	Actual
1.		

**2-2 Scope of the work**

Components	Original* <i>(proposed in the outline design)</i>	Actual*
1.		

Reasons for modification of scope (if any).

*(PMR)*

**2-3 Implementation Schedule**

Items	Original		Actual
	<i>(proposed in the outline design)</i>	<i>(at the time of signing the Grant Agreement)</i>	

Reasons for any changes of the schedule, and their effects on the project (if any)

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**2-4 Obligations by the Recipient**

**2-4-1 Progress of Specific Obligations**

See Attachment 2.

**2-4-2 Activities**

See Attachment 3.

**2-4-3 Report on RD**

See Attachment 11.

**2-5 Project Cost**

**2-5-1 Cost borne by the Grant(Confidential until the Bidding)**

Components			Cost (Million Yen)	
	Original <i>(proposed in the outline design)</i>	Actual <i>(in case of any modification)</i>	Original <sup>1),2)</sup> <i>(proposed in the outline design)</i>	Actual
1.				
Total				

Note: 1) Date of estimation:

2) Exchange rate: 1 US Dollar = Yen

**2-5-2 Cost borne by the Recipient**

Components			Cost (1,000 Taka)	
	Original <i>(proposed in the outline design)</i>	Actual <i>(in case of any modification)</i>	Original <sup>1),2)</sup> <i>(proposed in the outline design)</i>	Actual
1.				



- Note: 1) Date of estimation:  
2) Exchange rate: 1 US Dollar =

Reasons for the remarkable gaps between the original and actual cost, and the countermeasures (if any)

(PMR)
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**2-6 Executing Agency**

- Organization's role, financial position, capacity, cost recovery etc,
- Organization Chart including the unit in charge of the implementation and number of employees.

<b>Original</b> (at the time of outline design) name: role: financial situation: institutional and organizational arrangement (organogram): human resources (number and ability of staff):
<b>Actual</b> (PMR)

**2-7 Environmental and Social Impacts**

- The results of environmental monitoring based on Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- The results of social monitoring based on in Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- Disclosed information related to results of environmental and social monitoring to local stakeholders (whenever applicable).

**3: Operation and Maintenance (O&M)**

**3-1 Physical Arrangement**

- Plan for O&M (number and skills of the staff in the responsible division or section, availability of manuals and guidelines, availability of spareparts, etc.)

<b>Original</b> (at the time of outline design)
<b>Actual</b> (PMR)

**3-2 Budgetary Arrangement**

- Required O&M cost and actual budget allocation for O&M

<b>Original</b> (at the time of outline design)
---

**Actual (PMR)**

**4: Potential Risks and Mitigation Measures**

- Potential risks which may affect the project implementation, attainment of objectives, sustainability
- Mitigation measures corresponding to the potential risks

**Assessment of Potential Risks (at the time of outline design)**

Potential Risks	Assessment
1. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
2. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
3. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:



	Contingency Plan (if applicable):
<b>Actual Situation and Countermeasures</b>	
(PMR)	

**5: Evaluation and Monitoring Plan (after the work completion)**

**5-1 Overall evaluation**

Please describe your overall evaluation on the project.

--

**5-2 Lessons Learnt and Recommendations**

Please raise any lessons learned from the project experience, which might be valuable for the future assistance or similar type of projects, as well as any recommendations, which might be beneficial for better realization of the project effect, impact and assurance of sustainability.

--

**5-3 Monitoring Plan of the Indicators for Post-Evaluation**

Please describe monitoring methods, section(s)/department(s) in charge of monitoring, frequency, the term to monitor the indicators stipulated in 1-3.

--

Attachment

1. Project Location Map
  2. Specific obligations of the Recipient which will not be funded with the Grant
  3. Monthly Report submitted by the Consultant
- Appendix - Photocopy of Contractor's Progress Report (if any)
- Consultant Member List
  - Contractor's Main Staff List
4. Check list for the Contract (including Record of Amendment of the Contract/Agreement and Schedule of Payment)
  5. Environmental Monitoring Form / Social Monitoring Form
  6. Monitoring sheet on price of specified materials (Quarterly)
  7. Report on Proportion of Procurement (Recipient Country, Japan and Third Countries) (PMR (final) only)
  8. Pictures (by JPEG style by CD-R) (PMR (final) only)
  9. Equipment List (PMR (final) only)
  10. Drawing (PMR (final) only)
  11. Report on RD (After project)

Monitoring sheet on price of specified materials

1. Initial Conditions (Confirmed)

Items of Specified Materials		Initial Volume A	Initial Unit Price (¥) B	Initial total Price C=A×B	1% of Contract Price D	Condition of payment	
						Price (Decreased) E=C-D	Price (Increased) F=C+D
1	Item 1	●●t	●	●	●	●	●
2	Item 2	●●t	●	●			
3	Item 3						
4	Item 4						
5	Item 5						

2. Monitoring of the Unit Price of Specified Materials

(1) Method of Monitoring : ●●

(2) Result of the Monitoring Survey on Unit Price for each specified materials

Items of Specified Materials		1st month, 2015	2nd month, 2015	3rd month, 2015	4th	5th	6th
1	Item 1	●	●	●			
2	Item 2						
3	Item 3						
4	Item 4						
5	Item 5						

(3) Summary of Discussion with Contractor (if necessary)

-  
-  
-

Report on Proportion of Procurement (Recipient Country, Japan and Third Countries)  
 (Actual Expenditure by Construction and Equipment each)

	Domestic Procurement (Recipient Country) A	Foreign Procurement (Japan) B	Foreign Procurement (Third Countries) C	Total D
Construction Cost	(A/D%)	(B/D%)	(C/D%)	
Direct Construction	(A/D%)	(B/D%)	(C/D%)	
Cost others	(A/D%)	(B/D%)	(C/D%)	
Equipment Cost	(A/D%)	(B/D%)	(C/D%)	
Design and Supervision Cost	(A/D%)	(B/D%)	(C/D%)	
Total	(A/D%)	(B/D%)	(C/D%)	

**Project Monitoring Report**  
**on**  
**The Project for improving Training Equipment of**  
**Academy Maritime Sultan Ahmad Shah**  
*Grant Agreement No. XXXXXXXX*  
 20XX, Month

**Organizational Information**

<b>Signer of the G/A (Recipient)</b>	_____ Person in Charge (Designation) _____ Contacts                      Address: _____ Phone/FAX: _____ Email: _____
<b>Executing Agency</b>	<b><u>Malaysia maritime Enforcement Agency (MMEA) and Academy maritime Sultan Ahmad (AMSAS)</u></b> Person in Charge (Designation) _____ _____ Contacts                      Address: _____ Phone/FAX: _____ Email: _____
<b>Line Ministry</b>	<b><u>Prime Minister's Department</u></b> Person in Charge (Designation) _____ _____ Contacts                      Address: _____ Phone/FAX: _____ Email: _____

**General Information:**

<b>Project Title</b>	
<b>E/N</b>	Signed date: Duration:
<b>G/A</b>	Signed date: Duration:
<b>Source of Finance</b>	Government of Japan: Not exceeding JPY _____ mil. Government of (_____): _____

<b>1: Project Description</b>	
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**1-1 Project Objective**

This project aims to improve the training capability of the MMEA through providing the equipment such as the Ship Handling Simulator, and furthermore thereby to improve the operational capability of the MMEA ships/boats.

**1-2 Project Rationale**

- Higher-level objectives to which the project contributes (national/regional/sectoral policies and strategies)
- Situation of the target groups to which the project addresses

Implementation of the project will contribute to ensure the safety of the coastal areas of Malaysia and secure the socio-economic activities through providing the training equipment to the AMSAS for improving the capability of MMEA ship crews

**1-3 Indicators for measurement of "Effectiveness"**

<b>Quantitative indicators to measure the attainment of project objectives</b>		
Indicators	Original (Yr 2016)	Target (Yr 2020)
Number of trainees of the MMEA trained at external facilities using the simulators	118	0
Number of trainees of the MMEA trained at the AMSAS using the simulators	0	about 500
Number of trainees from other countries trained at the AMSAS using the simulators	0	about 20
<b>Qualitative indicators to measure the attainment of project objectives</b>		
To contribute the rapid and proper search and rescue operation and the prevention of maritime crimes such as, smuggling, poaching, illegal migration in Malaysian coastal areas.		

<b>2: Details of the Project</b>
----------------------------------

**2-1 Location**

Components	Original <i>(proposed in the outline design)</i>	Actual
1.		

**2-2 Scope of the work**

Components	Original* <i>(proposed in the outline design)</i>	Actual*
1.		

Reasons for modification of scope (if any).

*(PMR)*

### 2-3 Implementation Schedule

Items	Original		Actual
	<i>(proposed in the outline design)</i>	<i>(at the time of signing the Grant Agreement)</i>	

Reasons for any changes of the schedule, and their effects on the project (if any)

### 2-4 Obligations by the Recipient

#### 2-4-1 Progress of Specific Obligations

See Attachment 2.

#### 2-4-2 Activities

See Attachment 3.

#### 2-4-3 Report on RD

See Attachment 11.

### 2-5 Project Cost

#### 2-5-1 Cost borne by the Grant(Confidential until the Bidding)

Components			Cost (Million Yen)	
	Original <i>(proposed in the outline design)</i>	Actual <i>(in case of any modification)</i>	Original <sup>1),2)</sup> <i>(proposed in the outline design)</i>	Actual
This part is closed due to the confidentiality.				

Note: 1) Date of estimation: September 2016  
 2) Exchange rate: 1 US Dollar = Yen

#### 2-5-2 Cost borne by the Recipient



Components			Cost (1,000 MYR)	
	Original <i>(proposed in the outline design)</i>	Actual <i>(in case of any modification)</i>	Original <sup>1),2)</sup> <i>(proposed in the outline design)</i>	Actual
	To bear the following commissions to a bank of Japan for the banking services based upon the B/A (Bank Arrangement) (1) Advising commission of A/P (Authorization to Pay) (2) Payment commission for A/P		28.37	

Note: 1) Date of estimation: September 2016  
 2) Exchange rate: 1 US Dollar =

Reasons for the remarkable gaps between the original and actual cost, and the countermeasures (if any)

(PMR)

**2-6 Executing Agency**

- Organization's role, financial position, capacity, cost recovery etc,
- Organization Chart including the unit in charge of the implementation and number of employees.

<p><b>Original</b> <i>(at the time of outline design)</i>          name:          role:          financial situation:          institutional and organizational arrangement (organogram):          human resources (number and ability of staff):</p>
<p><b>Actual</b> (PMR)</p>

**2-7 Environmental and Social Impacts**

- The results of environmental monitoring based on Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
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- Disclosed information related to results of environmental and social monitoring to local stakeholders (whenever applicable).

**3: Operation and Maintenance (O&M)**



**3-1 Physical Arrangement**

- Plan for O&M (number and skills of the staff in the responsible division or section, availability of manuals and guidelines, availability of spareparts, etc.)

<b>Original</b> (at the time of outline design)
<b>Actual</b> (PMR)

**3-2 Budgetary Arrangement**

- Required O&M cost and actual budget allocation for O&M

<b>Original</b> (at the time of outline design)
<b>Actual</b> (PMR)

**4: Potential Risks and Mitigation Measures**

- Potential risks which may affect the project implementation, attainment of objectives, sustainability
- Mitigation measures corresponding to the potential risks

**Assessment of Potential Risks** (at the time of outline design)

Potential Risks	Assessment
1. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
2. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:

	Contingency Plan (if applicable):
3. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
	Contingency Plan (if applicable):
<b>Actual Situation and Countermeasures</b>	
(PMR)	

**5: Evaluation and Monitoring Plan (after the work completion)**

**5-1 Overall evaluation**

Please describe your overall evaluation on the project.

**5-2 Lessons Learnt and Recommendations**

Please raise any lessons learned from the project experience, which might be valuable for the future assistance or similar type of projects, as well as any recommendations, which might be beneficial for better realization of the project effect, impact and assurance of sustainability.

**5-3 Monitoring Plan of the Indicators for Post-Evaluation**

Please describe monitoring methods, section(s)/department(s) in charge of monitoring, frequency, the term to monitor the indicators stipulated in 1-3.

Attachment

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8. Pictures (by JPEG style by CD-R) (PMR (final) only)
9. Equipment List (PMR (final) only)
10. Drawing (PMR (final) only)
11. Report on RD (After project)

## Monitoring sheet on price of specified materials

## 1. Initial Conditions (Confirmed)

	Items of Specified Materials	Initial Volume A	Initial Unit Price (¥) B	Initial total Price C=A×B	1% of Contract Price D	Condition of payment	
						Price (Decreased) E=C-D	Price (Increased) F=C+D
1	Item 1	●●t	●	●	●	●	●
2	Item 2	●●t	●	●	●		
3	Item 3						
4	Item 4						
5	Item 5						

## 2. Monitoring of the Unit Price of Specified Materials

(1) Method of Monitoring : ●●

(2) Result of the Monitoring Survey on Unit Price for each specified materials

	Items of Specified Materials	1st	2nd	3rd	4th	5th	6th
		●month, 2015	●month, 2015	●month, 2015			
1	Item 1						
2	Item 2						
3	Item 3						
4	Item 4						
5	Item 5						

(3) Summary of Discussion with Contractor (if necessary)

-  
-  
-

Report on Proportion of Procurement (Recipient Country, Japan and Third Countries)  
 (Actual Expenditure by Construction and Equipment each)

	Domestic Procurement (Recipient Country) A	Foreign Procurement (Japan) B	Foreign Procurement (Third Countries) C	Total D
Construction Cost	(A/D%)	(B/D%)	(C/D%)	
Direct Construction Cost	(A/D%)	(B/D%)	(C/D%)	
others	(A/D%)	(B/D%)	(C/D%)	
Equipment Cost	(A/D%)	(B/D%)	(C/D%)	
Design and Supervision Cost	(A/D%)	(B/D%)	(C/D%)	
Total	(A/D%)	(B/D%)	(C/D%)	

## Appendix 6 References

No.	Name of Reference Materials	Issue	Type
1	ANSWER TO QUESTIONNAIRE FOR THE PREPARATORY SURVEY ON THE PROJECT FOR IMPROVING TRAINING EQUIPMENT OF ACADEMY MARITIME SULTAN AHMAD SHAH IN MALAYSIA	AMSAS	Electric
2	AMSAS EXPLANATORY PRESENTATION	AMSAS	Electric
3	AMSAS GUIDANCE OF SHIP HANDLING SIMULATOR	AMSAS	Electric
4	MMEA EXPLANATORY PRESENTATION	MMEA	Electric
5	POLICY AND GUIDANCE ON INDUSTRY COLLABORATION PROGRAM (ICP) IN GOVERNMENT PROCUREMENT (ICP Policy)	Ministry of Finance	Electric