

第7章 教訓および提言等

7-1 計画策定に関するもの

船員教育訓練センターは非常勤講師がいるため、非常勤講師に対しても積極的に技術移転を行うことにより機材の有効活用および広報普及が図れると思われる。

7-2 実施および実施管理に関するもの

各専門家が常に問題意識を持ち、かつその改善策を検討し、JICAタイ事務所と相談のうえ、改善すべき分野にかかる短期専門家の追加派遣やカウンターパート研修の増員など、早め早めに手を打った結果、致命的な問題にならずに済んだ。これは専門家の力量に負うところが大きい、それに応えられるような柔軟な体制を整えておくことが重要である。

また、GOC (General Operator's Certificate) コースを開設しようとした際、同じ省内の郵便通信局が同じコースを承認しないとの話になり、港湾局が承認するよう申し入れたが受け入れられなかった。専門家、JICAタイ事務所、在タイ日本大使館が一丸となって対応したところ、多大な労力は必要であったが問題を解決することができた。港湾局からも、過去に他の局ともめて和解したことはない、感謝の言葉をいただいたとのことである。

このように、プロジェクト活動が円滑に実施されるには専門家だけの力では限界があり、JICAタイ事務所、在タイ日本大使館のサポートが重要である。

本プロジェクトは最高責任者である港湾局長の考え方ひとつで大きく左右されるため、人事異動によりプロジェクトに対し後ろ向きな考えの局長が配置されるとプロジェクト活動が停滞してしまう。どのようにしたら解決できるかは、今後の課題である。

7-3 評価活動に関するもの

本プロジェクトの訓練コースは非常勤講師任関与しているため、非常勤講師のカリキュラムなどに関する理解度を知るためアンケート調査を行った。カウンターパートに対してはヒアリングも行ったが、非常勤講師は常時センターにいるわけではないので、アンケート調査は有効であった。

7-4 終了時に残された課題に関するもの

事前調査の段階でカウンターパートの増員がプロジェクト実施の前提条件とされ、カウンターパートが増員されたとの回答を受けてプロジェクトは実施された。しかし、一部の

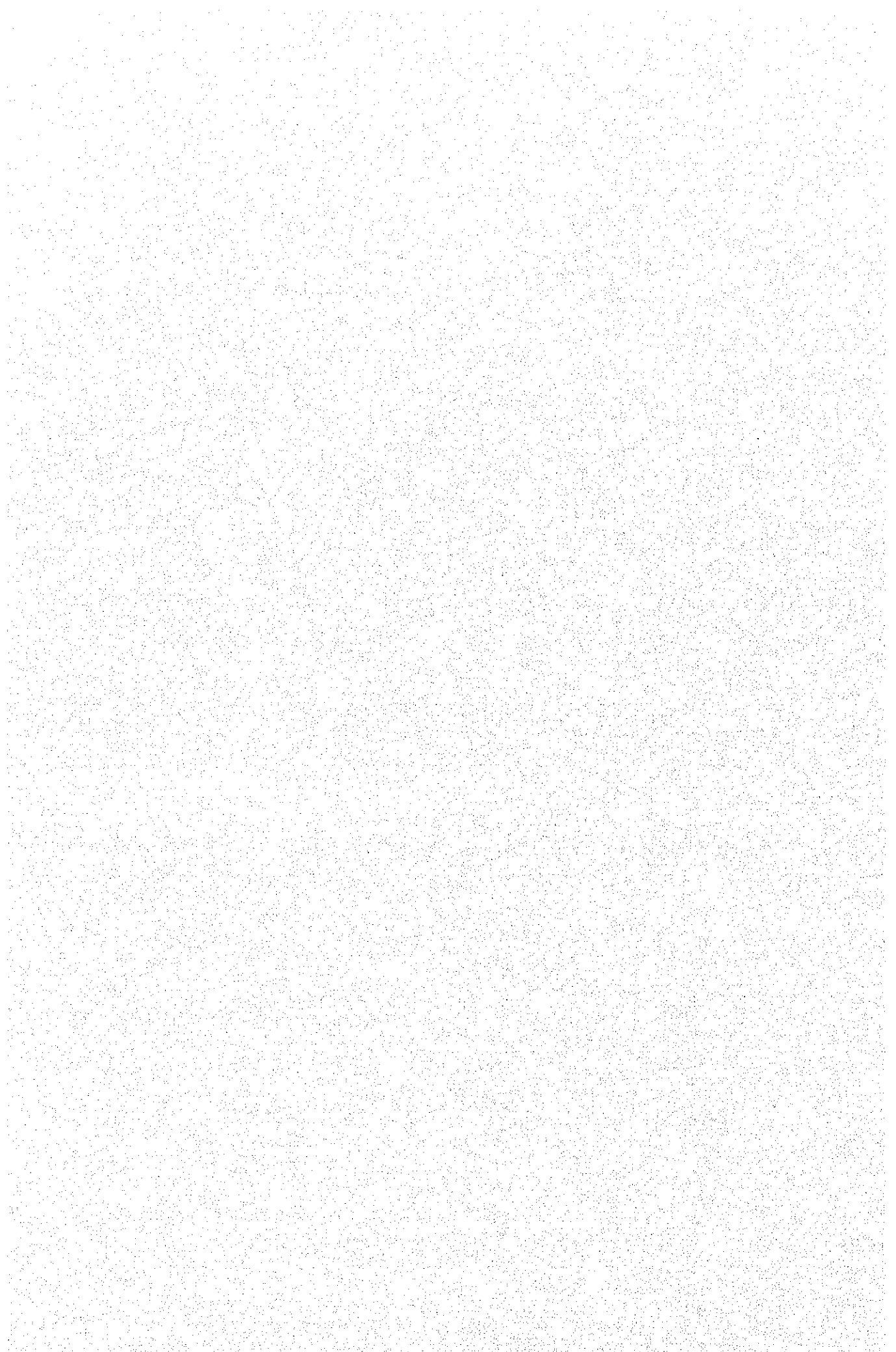
カウンターパートは他部署と兼務のためプロジェクト活動の参加が限られたり、講師としての能力が必ずしも十分でない者がカウンターパートとなっていた。

あらかじめカウンターパートとしてふさわしいかどうか、日本側がカウンターパートの人選により深く関与することが望ましい。

資 料

- 1 ミニッツ
- 2 プロジェクト活動計画
- 3 プロジェクトの投入計画
- 4 専門家派遣実績
- 5 カウンターパート研修員受入実績
- 6 機材供与実績
- 7 ローカルコスト負担実績
- 8 専門家派遣の投入計画と実績
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- 10 カウンターパートの動き
- 11 機材供与の投入計画と実績
- 12 供与機材使用の指導状況
- 13 カリキュラムの作成・修正の計画と実績

(資料4～13は専門家作成)



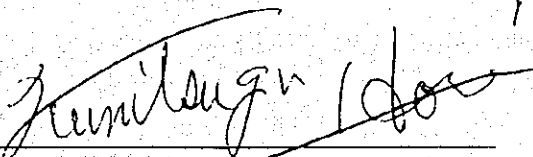
MINUTES OF DISCUSSIONS
BETWEEN
THE JAPANESE EVALUATION TEAM
AND
THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF
THE KINGDOM OF THAILAND
ON
THE JAPANESE TECHNICAL COOPERATION
FOR
THE PROJECT FOR THE EXPANSION AND MODERNIZATION OF
THE MERCHANT MARINE TRAINING CENTER

The Japanese Evaluation Team organized by Japan International Cooperation Agency and headed by Mr. Kunitsugu Hori (hereinafter referred to as "the Team"), visited the kingdom of Thailand from November 30, to December 9, 1997.

During its stay in the Kingdom of Thailand, the Team exchanged views and had a series of discussions with the Thai authorities concerned and jointly evaluated the achievement of the Project for the Expansion and Modernization of the Merchant Marine Training Center (hereinafter referred to as "the Project").

As a result of the discussions, the Team and the Thai authorities concerned agreed to recommend to their respective Governments the matters referred to in the document attached hereto.

Bangkok, December 8, 1997

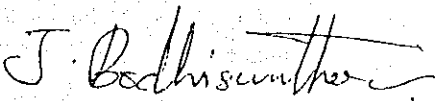


KUNITSUGU HORI

Leader

Evaluation Team

Japan International Cooperation Agency



JONG-ARCH BODHISUNTHORN

Director General

Harbour Department

Ministry of Transport and Communications

The Kingdom of Thailand

THE ATTACHED DOCUMENT

I. INTRODUCTION

The evaluation has been undertaken for the Project jointly by the Thai authorities concerned (hereinafter referred to as "the Thai side") and the Team. The Team studied and reviewed the progress of the Project through documents prepared by the Project side, observation, interviews and a series of discussions with the Thai side.

For the evaluation of the Project, both the Thai side and the Team referred to the Record of Discussion (R/D) on the Project made on March 3, 1993 and several Minutes of the Joint Committee Conferences held so far.

The Annex shows the participants of the joint committee regarding the evaluation.

II. SUMMARY OF THE PROJECT

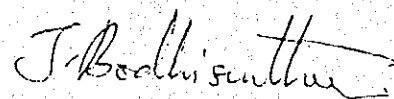
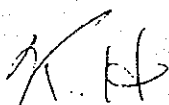
1. Objective of the Project

According to the R/D, the objective of the Project is to improve maritime training standard for merchant marine officers and ratings at Merchant Marine Training Center (hereinafter referred to as "MMTC"), thus contribute to the development of Thai merchant shipping industry by supplying well-qualified seafarers and expanding employment opportunities for Thai seafarers at home and abroad through ratification of the STCW Convention of 1978 and the compliance of related regulations by the Kingdom of Thailand.

2. The Scope of Japanese Technical Cooperation

The scope of Japanese technical cooperation is to assist and advise Thai counterpart personnel of the Project for technical transfer in the following fields:

- (1) Navigation (including Maritime Communications)
- (2) Marine Engineering



3. Project Achievement

3.1 Inputs to the Project

1) Japanese Side

(i) Dispatch of Japanese Experts

Three (3) long-term experts such as Chief Advisor who has concurrently served as the expert on navigation, Coordinator and the Expert on Marine Engineering have been dispatched as scheduled in the plan of the R/D.

Fifteen (15) short-term experts were dispatched in total.

(ii) Acceptance of the Thai Counterparts for Training in Japan

Japanese Government received twelve (12) Thai counterparts for training in Japan and will receive four (4) more Thai counterparts in Japanese fiscal year 1997.

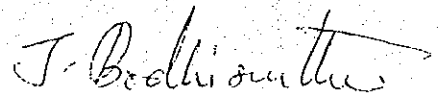

(iii) Provision of the Technical Equipment

Japanese Government has provided not only the training equipment specifically listed in ANNEX III of the R/D but also the other necessary training equipment including the related equipment (hereinafter referred to as "the Technical Equipment") according to a series of discussions between both sides, of which the total value is almost 500 million Japanese Yen.

In addition to the preceding equipment, Japanese Government has also procured the necessary equipment for Japanese experts and other necessary equipment supplementary to the Technical Equipment of which the total value is approximately 14 million Japanese Yen. All of this equipment is to be handed over to MMTC.

(iv) Sharing Local Cost (The Japanese side's Local Cost)

In addition to the general administration cost for Japanese experts' activities, about 3.5 million Thai Baht was allocated by the Japanese Government.



2) Thai Side

(i) Services of Counterparts and Administrative Personnel

In case of navigation, five (5) or more Thai counterparts have been assigned to the Project as scheduled in ANNEX IV of the R/D.

In case of marine engineering, at least five (5) Thai counterparts have so far been assigned so as to meet ANNEX IV of the R/D. However, the lack of the appropriate Thai counterpart has been the key issue since commencement of the Project. In particular, the fact of no permanent chief of the engine section continued to put the Project in the quite serious situation for nearly one (1) year from August 1996 to August 1997 while six (6) Japanese short-term experts on marine engineering were dispatched for that period.

(ii) Provision of Land, Buildings and Facilities

Japanese experts have been provided with the appropriate facilities.

The necessary rooms and spaces were offered to install the Technical Equipment provided by Japanese side. Some of the facilities concerned such as the training ship Visud Sakorn, the workshop etc. were renovated to install the Technical Equipment effectively.

The new building for the special courses was completed in 1995 and the renovation work has been in process to expand the library on the first floor of the Library and Simulator Building.

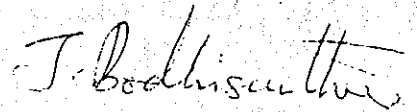
(iii) Sharing Local Cost (The Thai side's Local Cost)

The expenses necessary for transportation within the Kingdom of Thailand of the Technical Equipment supplied by Japanese side were appropriately provided.

The necessary expenditure on the renovation of facilities concerned was implemented in order to install the Technical Equipment provided by Japanese side.

The other necessary running cost for the implementation of the Project was appropriately provided to make the daily activities smooth.

There were some urgent cases for Japanese side to support Thai side with the Japanese side's Local Cost.



3.2 Project Activities

1) Improvement of the Curricula for the Officer Courses

In 1991 before the Project was commenced, Danish International Development Agency (hereinafter referred to as "DANIDA") reported the development plan for maritime training in Thailand (1992-2001) according to Thai Government's request. MMTC studied the possible improvement of the existing curricula in this plan to introduce the 1992 curricula for the officer courses. DANIDA proved into this 1992 curricula to make out the final report on the MMTC modernized curricula in 1994. In this final report, it was recommended that practical training on board Thai merchant vessels be implemented during the one and half years period from the first half of the third year to the first half of the fourth year in the five-year programme.

In the Project, both Thai counterparts and Japanese experts examined DANIDA's reports, comparing with IMO model courses and found them enough to meet the International Standards. Then in Thai academic 1995, MMTC introduced the 1995 curricula for the officer courses which were somewhat modified from the DANIDA's final report in the Thai own view point that education should be implemented in not so tight schedule i.e. the reduction of lesson hours per week from 36 to 30. In order to supplement the 1997 curriculum for engineering cadets particularly for the second year cadets, the practical training at dock yards was introduced for the first time in the end of Thai academic 1996 i.e. in February and March 1997.

Since the beginning of the second semester in 1997, the 1997 curricula were introduced for the officer courses in order to introduce bachelor degrees under affiliation to Burapa University. Those satisfy the International Standards for seafarers training.

2) Selection and Procurement of the Necessary Textbooks and Teaching Materials

Selection of the indispensable textbooks was carried out through proving into the lesson programmes in IMO model courses. The Japanese side's Local Cost contributed to procurement of such textbooks totally six hundred fifty three (653).

This procurement was implemented for MMTC to publish its own textbooks. A textbook for the GOC Training Course is in process to be published by Thai counterparts with the Japanese side's Local Cost. The

publication of this textbook is furthermore expected to be a measure in order to enable its second edition or another publication to be realized.

As implementation of MMTC's seafarers training should be examined in the view point of the International Standards, a complete set of "Seafarers Evaluation and Training System (SETS)" was introduced as an attempt after having ensured its effectiveness in order to establish the modernized training evaluation system at MMTC.

And other teaching materials concerned such as video cassettes, necessary publications, etc. were also introduced.

3) Establishment and Improvement of the Special Courses

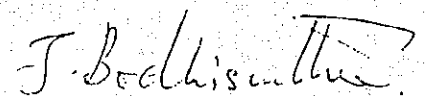
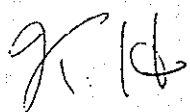
(i) Establishment of General Operator's Certificate (GOC) Training Course

Having been prepared through various ways on technical cooperation, the GOC Training Course was established in order to produce Thai GOC holders to be required under the Global Maritime Distress and Safety System (GMDSS) which will fully come into force on 1st February 1999 around the world. Since January 1997, GOC Training Course has periodically been being conducted for the existing Thai seafarers and graduates from the deck officer course of MMTC.

The graduates from the deck officer course of MMTC under the present curriculum are supposed to be entitled to obtain GOC if they succeed the compulsory examination.

(ii) Establishment of the Advanced Tanker Course

In 1996, the Advanced Tanker Course was attempted by consulting Japanese short-term expert on Tanker and inviting even a foreign instructor to lecture on subjects related. In 1997, the said course was conducted two times under cooperation with Japanese short-term expert on Tanker who implemented technical transfer not only to Thai counterparts but also to Thai guest instructors.



(iii) Improvement of the Other Special Courses

Other special courses were improved through introduction of the necessary training equipment, amendment of the contents of the programme for the courses and/or technical transfer by Japanese short-term experts.

4) Improvement in Effective Use of the Training Ship

(i) Introduction of the Waste Oil Incinerator

The waste oil incinerator was introduced in the engine room of the training ship.

The introduction of this incinerator was to improve knowledge and skills on marine environment protection.

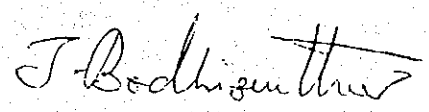
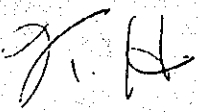
(ii) Improvement of the Maintenance System for the Machinery on board Visud Sakorn

Through six-month stay of the Japanese short-term expert, the following technical transfers on maintenance of mainly the machinery installed in the Visud Sakorn were implemented to Thai counterparts:

- a) Realizing the actual maintenance work,
- b) Settling up the instruction manuals,
- c) Making out lists of necessary spare parts and tools,
- d) Giving necessary advices on preparation for docking work, on making out the docking orders, and on supervising docking work,
- e) Giving necessary advices on the watch keeping in the engine room and stand-by procedures,
- f) Making out the short term, mid term and long term maintenance plan for the machinery.

As a matter of fact, the preceding technical transfers were implemented in the serious situation because of no qualified and permanent chief engineer.

This dispatch was implemented as the possible countermeasure against lack of teaching staff in marine engineering field at MMTC. Its direct aim was to improve both the maintenance system for the machinery on board the Visud Sakorn and ability on maintenance of her engineers and engine crew. In addition, it was expected that this improvement might



contribute to the better implementation of practical training on board the Visud Sakorn. Furthermore, it was expected that MMTC could make use of this improvement to utilize the training equipment installed in the engine workshop by strengthening the cooperation between the training ship and the engine workshop.

(iii) Publication of the Training Textbook

A booklet named as " A Booklet Introducing To Practical Training On Board Visud Sakorn" was published by Japanese experts, being addressed to the first year cadets, as an example of the training textbook.

5) Selection of the Effective Training Equipment

Selection of the effective training equipment was carefully carried out so as to correspond to the 1995 curriculum for marine engineer officer course and to implement the special courses such as the GOC Training Course, the Advanced Tanker Course etc. As a result, the various items of the training equipment, which had not specifically been listed in ANNEX III of the R/D, were introduced.

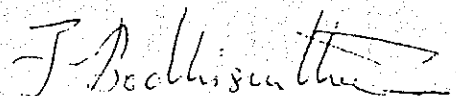
A series of discussion on this selection led MMTC to introduce the refrigeration experimental unit by MMTC itself of which necessary specification was prepared by MMTC with support of the Japanese expert.

The audio visual equipment was also carefully selected to supplement the other training equipment introduced and to contribute to the effective training.

6) Improvement of the Maintenance System for the Technical Equipment

Technical transfer on improvement of maintenance system for the Technical Equipment has been being carried out in various ways such as providing maintenance record formats, providing cabinets for spare parts and tools, providing necessary spare parts, realizing the actual maintenance work, settling up the instruction manuals and giving necessary advices.

As an example of the results of these technical transfers, the budget for maintenance on the Technical Equipment for navigation has been secured in Thai fiscal 1998. And MMTC has been trying to secure the budget for maintenance on the Technical equipment for marine engineering in Thai fiscal 1999.



7) Acceleration of the Effective Use of the Training Equipment Introduced in the Workshop

The demonstrations and presentations on ten (10) items of the training equipment, which have been installed in the workshop, were implemented in series through three-month stay of the two Japanese short-term experts in 1997.

Not only engineering staff of MMTC but also most of part-time lecturers, who had been lecturing on almost all engineering subjects, attended such demonstrations and presentations. It was indispensable to have part-time lecturers' attendance in order that the training equipment installed in the engine workshop could be used continuously and effectively even after termination of the Project.

The accumulated number of participants to these demonstrations etc. came up to almost one hundred (100).

III. EVALUATION

1. General

As a result of the evaluation, both Thai side and Japanese side observed that a good progress had been made in the Project and that the Project could be terminated by the 2nd of March 1998.

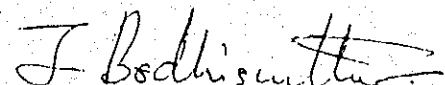
2. Effects of the Project

The curricula for the marine officer courses of MMTC were made out, being satisfied with the International Standards.

The contents of the lesson programmes for the existing special courses were improved so as to be satisfied with the International Standards.

The GOC Training Course was established to be conducted periodically, satisfying the International Standards, in order to produce Thai holders of the GOC to be required under GMDSS which will fully come into force on 1st February 1999.

The Advanced Tanker Course, which has followed the International Standards, was established to be conducted periodically under cooperation with the Oil Industries Environment Safety Group (IESG).



The Technical Equipment necessary for seafarers training was carefully selected to be completely provided by the end of the Project.

The maintenance system on the Technical Equipment for seafarers training and the machinery installed in the training ship has been being improved.

The teaching material, "Seafarers Evaluation and Training System" was introduced as an attempt in order that implementation of MMTC's seafarers training was examined in the view point of the International Standards.

The specific practical training on Seamanship has been introduced since June 1997 by utilizing cutter boats and the equipment concerned.

The efforts to recruit the teaching staff for MMTC or make the positions of the teaching staff attractive have been being extended. Some results already came out as follows:

The scholarship had been introduced to be applied to MMTC's cadets in 1993 but has been suspended since 1996,

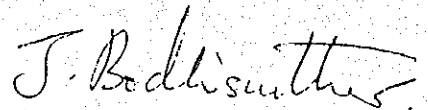
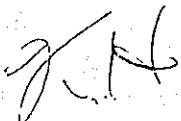
The amendment of the qualification in order to employ the teaching staff was approved in 1996 and 1997,

The salary levels for the some positions of the teaching staff were upgraded in 1997.

3. Objective of the Project

The objective of the Project has been accomplished by having introduced the new curricula for the marine officer courses, by having established the new special courses such as the GOC Training Course and the Advanced Tanker Course, and by having improved the contents of the programmes for the other special courses.

With regard to the overall goal of the Project, it is clear that at least the establishments of the GOC Training Course and the Advanced Tanker Course have been contributing to the development of Thai merchant shipping industry because of the following reasons. Originally Thai shipping companies had been obliged to send their designated seafarers to Singapore so as to have them trained there until the GOC Training Course was established in the Kingdom of Thailand. And Thai shipping companies related to the oil industry had so far



strongly requested the authorities concerned to establish the Advanced Tanker Course.

However, it takes some time after termination of the Project to evaluate the contribution of the marine officer courses of MMTC to the Thai merchant shipping industry.

4. Impact of the Project

The Thai Government, paying attention to the achievement of the Project, has ratified the STCW Convention which entered into force to the Kingdom of Thailand on 19th September 1997.

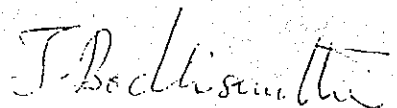
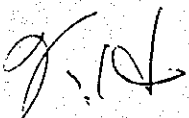
On the occasion of the establishment of the GOC Training Course in the Kingdom of Thailand, there was a severe difficulty caused by a issue related to responsibilities of the authorities concerned. However, the authorities concerned successfully coordinated, recognizing the Project activities, so that MMTC took charge of the practical training programme in the said course, on the other hand the Post and Telegraph Department took charge of its theory programme. Through this coordination, many government officials concerned got better understanding on STCW Convention and GMDSS.

Through the establishment of the Advanced Tanker Training Course and the improvement of the Tanker Familiarization Course, the cooperation closer than ever between MMTC and IESG has been created.

While the demonstrations and presentations on the training equipment installed in the workshop were implemented in series, there were some participants who were not part-time lecturers. It was expected that those would become part-time lecturers in the future.

MMTC library has become the considered library to provide the maritime studies textbooks, publications and journals.

N.B. In February 1997, MMTC in name of the Harbour Department signed on the agreement of the educational cooperation with Burapa university, which is one of the universities under the jurisdiction of the Ministry of University Affairs. Both parties agreed on the obtaining bachelor degree in Nautical Studies and Marine Engineering for MMTC 5-year cadets after their graduation. This is believed that it could be one attractive point to encourage the applicants to become marine officers and it could be a resolution to increase the number of



applicants enrolling at MMTC in the following years. At present it is understood that the approval of obtaining the bachelor degree under this affiliation is in the process. In this connection, Japanese experts have viewed the affiliation of MMTC to Burapa university as a countermeasure to keep the number of applicants at such a competitive level for passing the entrance examination of MMTC. However, Japanese experts has just advised on this matter only the concern to the standard of seafarers training. It meant that the contents of IMO Model courses which have been written in the curricula should be implemented in the right procedure. In this case, Japanese experts have been confirmed by Thai counterparts that the standard of seafarers training were still kept and maintained to comply with the International Standards.

5. Sustainability of Implementing the Improved Maritime Training Standard or Further Improvement of the Standard at MMTC

Since the maritime training standard at MMTC has been improved through amendment of the curricula and lesson programmes, introducing the necessary training equipment, textbooks written in English and other teaching materials, MMTC may continue to implement the improved maritime training standard and improve the standard furthermore, provided the following aspects are realized:

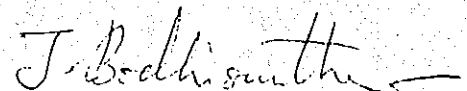
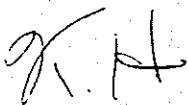
1) Human Resources Aspect

The prescribed positions particularly for the teaching staff including marine officers of the training ships should fully be filled.

The tentative countermeasure i.e. assigning well-qualified engineers, whose fundamental work place is the Harbour Department, to MMTC's engine section as part-time lectures should be undertaken for the time being as the Project activities in marine engineering have been carried out mainly by the great efforts of most of Thai part-time counterparts. Because it might take rather long time to fully fill the preceding positions.

2) Financial Aspect

The budget necessary for maintenance should be allocated in order to utilize the technical equipment.



3) Institutional Aspect

In October 1997, the engine workshop was transferred in organizational scheme, from the engine section to the educational service section by approved restructure of the five-year human resources development plan. However, the engine workshop should belong to the engine section so that the training equipment installed in the workshop can be fully utilized under supervision of the engine section.

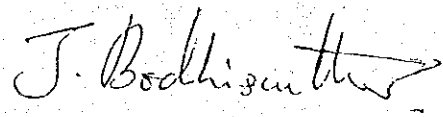
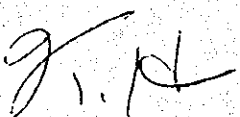
4) Equipment Maintenance Aspect

The capability on maintenance of the technical equipment and the machinery should continuously be encouraged and simultaneously establishment of the maintenance system should be accelerated in order not only to utilize the technical equipment but also to contribute to improvement of the contents of practical training on board training ships.

IV. RECOMMENDATION

The Team emphasized the following points in order that MMTC could continue to implement the improved training standard and improve the standard futhermore and that Thai maritime training standard could be maintained:

- 1) Every effort should be continuously extended, even though it take a long time, in order to recruit the full-time teaching staff until at least the prescribed positions at MMTC are fulfilled.
- 2) Enough efforts should be extended in calling back the persons, who used to be Thai counterpart personnel, as permanent staff or as part-time lecturers and in keeping the part-time lecturers in marine engineering, who joined the demonstarations on the training equipment for marine engineering held in the Project, as long as possible.
- 3) Keen attention should be paid also to the complete vacancy on the prescribed positions in the deck section, while the discussion has so far been focussed mainly on lack of the teaching staff in marine engineering field at MMTC. In spite of this complete vacancy, the training on navigation and communications has been being managed in good way by great efforts of the deck officers assigned to the training ships.



On spot of the Joint Committee Conference, Deputy Director General, Chairman declared that MMTC has been fulfilled with one (1) navigator in the deck section on 1st December 1997 and another was supposed to be filled in vacant posts in the same section consecutively.

4) The following fact should be clearly acknowledged. As a matter of fact, the big difference in quality between the deck officers and engineering staff including engineer officers of the training ships has been existing.

5) Possible tentative countermeasures should be taken for the time being until the necessary conditions will be satisfied through improvement/development of capability of the engineering staff or assigning appropriate persons.

6) Strengthening the relationship between engineering staff of the training ships and other engineering staff must be a countermeasure in order to utilize the training equipment in the workshop.

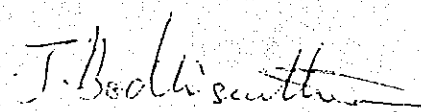
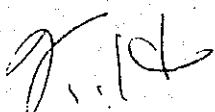
7) The strong leadership may be required in order to accelerate the move to improve the maintenance system on board the training ship because the atmosphere, which has historically been made, was often observed to block the move.

8) It should be noted that part-time lecturers can be expected to take an important role even in development of the young teaching staff's capabilities through possible measures such as discussion and giving advices.

9) The teaching staff particularly young staff should be provided with opportunities other than the counterpart training in Japan to develop their capabilities in order to meet A- I /6 of STCW CODE A.

10) The specific special courses such as the Advanced Tanker Course and the Tanker Familiarization Course should be conducted under cooperation with the private sector such as IESG even from now on.

In addition, the teaching staff responsible for these courses should be provided with at least an opportunity to experience one cycle of tanker operation including docking and undocking work on board a real crude oil tanker in order to meet A- I /6 of STCW CODE A.



11) The Harbour Department/MMTC itself should examine, particularly in aspects of human resources, the training equipment and facilities, the present circumstances to implement the seafarers training standard at MMTC, referring to the STCW Convention.

12) It should be noted that simple increase of the annual intake of both deck and engine cadets alone, corresponding to the demand from Thai shipping industry, may cause contents of the training to downgrade.

13) In the situation that the specific Thai regulation on maritime training standard is still not laid down, MMTC's training standard appears to be the unwritten Thai regulation which should be applied to other institutions in which the seafarers training programme has recently been introduced in order to produce more Thai seafarers than ever.

[Handwritten signature]

J. Berthelsen

Annex

LIST OF PARTICIPANTS

[JAPANESE SIDE]

The Final Evaluation Team

- | | | |
|----|----------------------|-------------------------|
| 1. | Mr. Kunitsugu Hori | Leader |
| 2. | Mr. Eiichi Sakamaki | Maritime Management |
| 3. | Mr. Yoshiaki Kunieda | Navigation |
| 4. | Mr. Kazuyuki Nogawa | Marine Engineering |
| 5. | Mr. Yasuyoshi Nagai | Planning & Coordination |
| 6. | Mr. Kenzo Miyoshi | Consultant |

Long Term Expert

- | | | |
|----|---------------------|----------------------------|
| 1. | Mr. Yoshinari Okano | Chief Advisor & Navigation |
| 2. | Mr. Hiromi Mizuta | Coordinator |
| 3. | Mr. Atsushi Ihara | Marine Engineering |

Thailand Office, JICA

- | | | |
|----|------------------|-----------------------------------|
| 1. | Mr. Eiryō Sumida | Resident Representative |
| 2. | Mr. Naoto Okawa | Assistant Resident Representative |

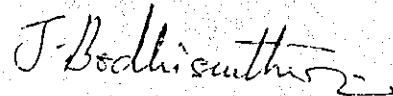
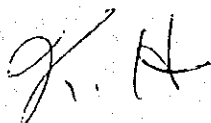
[THAI SIDE]

The Harbour Department, Ministry of Transport and Communications

- | | | |
|----|------------------------|---|
| 1. | Mr. Sanchai Kulpreecha | Deputy Director General |
| 2. | Ms. Pomtip Poti | Staff, Foreign Relation Section, Technical Division |

Merchant Marine Training Center

- | | | |
|-----|------------------------------|-----------------------------------|
| 1. | Mr. Vinai Chueysupakatu | Director |
| 2. | Mr. Sukhin Rattanasathien | Harbour Master Office, 7 |
| 3. | Ms. Cha-on Sawakon | Lecturer, 6 |
| 4. | Ms. Jistupaksinee Suksuebnuh | Lecturer, 6 |
| 5. | Ms. Phongphan Kripatanaphong | General Administration Officer, 6 |
| 6. | Ms. Paowana Pongparit | General Administration Officer, 5 |
| 7. | Ms. Suganda Sukhawat | Lecturer, 5 |
| 8. | Mr. Surat Sirisaiyas | Lecturer, 5 |
| 9. | Mr. Aree Pichitklaieum | Lecturer, 6 |
| 10. | Mr. Jirasak Chawanajak | Harbour Master Office, 6 |



- | | | |
|-----|--------------------------|-----------------------------------|
| 11. | Mr. Wiwat Chitcheodwong | Navigator, 5 |
| 12. | Mr. Pagorn Karnsomlap | Harbour Master Office, 3 |
| 13. | Mr. Perah Thidtakuno | Radio Officer, 4 |
| 14. | Mr. Paibool Poolsuk | Chief of Engine Section |
| 15. | Mr. Somchai Rodthongterm | Ship Survey Division, Engineer, 5 |
| 16. | Mr. Sitthipan Bouaphuan | Engineer, 3 |
| 17. | Mr. Sompoch Kaewdam | Lecturer, 3 |
| 18. | Mr. Bordin Srimancee | Lecturer, 3 |
| 19. | Ms. Jumpen Treechoti | Secretary to the Project |

The Department of Technical and Economic Cooperation, Prime Minister Office

Mr. Banchong Amornchewin Chief, Japan Sub-division

K. A.

J. Bordin Srimancee

2 プロジェクト活動計画

(1) 実施協議調査団暫定実施計画

TENTATIVE SCHEDULE OF IMPLEMENTATION

ITEM	Year Month	1993				1994				1995				1996				1997				1998				
		1	4	7	10	1	4	7	10	1	4	7	10	1	4	7	10	1	4	7	10	1	4	7	10	
Terms of Technical Cooperation	March																									March
Operation of Courses																										
1. Cadet Courses	March																									
(1) Navigation (Including Maritime Communications)	March																									
(2) Marine Engineering	When necessity arises																									
2. Special Courses	When necessity arises																									
JAPANESE SIDE																										
Dispatch of Japanese Experts																										
1. Chief Advisor	June																									March
2. Coordinator	May																									March
3. Long-term Experts	June																									March
(1) Navigation	October																									March
(2) Marine Engineering	When necessity arises																									March
4. Short-term Experts	When necessity arises																									March
Provision of Equipment	September					January												December								
Training of Thai Personnel in Japan	September																									March
Dispatch of Japanese Learners																										
THAI SIDE																										
Service of Counterpart Personnel and Administrative Personnel																										
1. Director	March																									
2. Counterpart Personnel	March																									
3. Maintenance Personnel	March																									
4. Administrative Personnel	March																									
Budget for the Implementation of the Project	March																									
Land, Building and Facilities	March																									

Note: (1) Chief Advisor may take the role of one of the long-term experts.
 (2) This is tentatively formulated on the assumption that the necessary budget will be acquired.
 (3) This schedule is subject to change within the scope of the Record of Discussions, if necessity arises.

(2) 訓練コース改善スケジュール

THE SCHEDULE CONCERNING IMPROVEMENT OF THE TRAINING COURSES

Item	The Japanese Fiscal Year	1993/1994	1994/1995	1995/1996	1996/1997	1997/1998
	Month	4 7 10 1	4 7 10 1	4 7 10 1	4 7 10 1	4 7 10 1
1.Selection of Teaching Materials and Textbooks	June _____			March		
2.Study of Curriculum	June _____			March		
3.Making of Curriculum			April _____			March
4.Making of Teaching Guideline			April _____			March
5.Evaluation and Amendment of Curriculum and Teaching Guideline					April _____	March

(3) 航海科スケジュール

NAUTICAL DIVISION. PROJECT FOR EXPANSION AND MODERNIZATION OF MERCHANT MARINE TRAINING CENTER, THAILAND. 1993-1998
 (GENERAL)

YEAR.	MONTH											
	1	2	3	4	5	6	7	8	9	10	11	12
FISCAL YEAR - JPN.	1993	1993	1993	1993	1994	1994	1994	1994	1994	1995	1995	1995
FISCAL YEAR - THAI	1993	1993	1994	1994	1994	1995	1995	1995	1995	1996	1996	1996
PROJECT TERM	1993	1993	1994	1994	1994	1995	1995	1995	1995	1996	1996	1996
C/P TRAINING IN JAPAN	NI NI NI NI NI NI NI NI NI NI NI NI NI GJ CI CI CI CI CI CI CI CI CI CI CI CI CI											
TRAINING EQUIPMENT FROM JAPAN	FIRE FIGHTING GMDSS GMDSS FIRST AID HULL MODEL GARGO OIL CONT. SIGNALS/LIGHTS TRAINING MODEL CARGO HANDLING LOADING CAL. TRAINING MODEL CYAO COMP. MODEL CUTTER											
RESEARCH AND STUDY ON SPECIFICATIONS ARRANGING TEXT BOOKS FOR LECTURE	TO SATISFY STCR STANDARDS											
SUPPLEMENTING TEXT BOOKS FOR LECTURE	TO SUPPLEMENT BOOKS NECESSARY											
ARRANGING TEACHING EQUIPMENT (s/v)	TO ENRICH AUDIO VISUAL TEACHING EQUIPMENT											
RESEARCH AND STUDY ON NEW CURRICULUM	TO SATISFY STCR STANDARDS											
RESEARCH AND STUDY ON MHTC'S SYLLABUS	REVIEW SYLLABUS AND APPLY GRADUALLY, PARTLY IF APPLICABLE											
COLLECTING INFORMATION ON CHANGE OF INTERNATIONAL TRAINING STANDARDS	SET UP SYLLABUS NEWLY											
COLLECTING DATA AND INFORMATION ON SUBROUNDINGS	APPLY NEW SYLLABUS FOR ALL CADETS											
EVALUATION OF THE PROJECT'S EFFECT	(ALL STAFF CONCERNED SHOULD COLLECT INFORMATION ON LATEST STANDARD OF SHIP'S OFFICER'S TRAINING AND MAKE EFFORT TO IMPROVE TRAINING STANDARD OF THE MHTC)											

(4) 機関科スケジュール

Engineering Division : Project for Expansion & Modernization of Merchant Marine Training Centre, Thailand
 The Abstract Plan of Operation
 1993 ~ 1998

Calendar Year	1993			1994			1995			1996			1997			1998								
	2	4	6	8	10	12	2	4	6	8	10	12	2	4	6	8	10	12	2	4	6	8	10	12
Month																								
Fiscal Year - Japan	1993			1994			1995			1996			1997			1998								
Fiscal Year - Thai	1993			1994			1995			1996			1997			1998								
C/P Training in Japan	<ul style="list-style-type: none"> • Main Diesel engine model • Steering gear outway model • Electric Generator panel simulator • Test & measuring equipment • Work shop machinery • Process control device • Work shop machinery 																							
Training Equipment from Japan	<ul style="list-style-type: none"> • Process control device • Work shop machinery 																							
Research & Study on Specifications	_____																							
Arranging Text Books for Lecture	_____ to satisfy STCW convention standards																							
Supplementing Text Books for Lecture	_____ to supplement Books necessary																							
Arranging Teaching Equipments (AV)	_____ to enrich audio & visual teaching equipment																							
Research & Study on New Curriculum	_____																							
Research & Study on MMTC's Syllabus	<ul style="list-style-type: none"> • review syllabus and apply gradually (partly if applicable) • set up syllabus newly • apply new syllabus for all cadets 																							
Collecting Information on Change of International Trainings Standards	All personnel concerned should collect information on the latest standard of ship's officer's training and make effort to improve training standard of the MMTC																							
Collecting Data & information on surroundings	_____																							
Evaluation of the Project's Effect	/ mission			/ mission			/ mission			/ mission			/ mission			/ mission								

3 プロジェクトの投入計画

(1) 長期専門家派遣

ANNEX II

JAPANESE EXPERTS

1. Chief advisor: 1

2. Coordinator: 1

3. Long-term experts in the fields of:

(1) Navigation: 1

(2) Marine Engineering: 1

4. Short-term Experts

Short-term experts of Maritime Communications and other fields will be dispatched as necessary for smooth implementation of the Project.

Note : Chief advisor may take the role of one of the long-term experts.

(2) 短期専門家派遣

DISPATCH OF JAPANESE SHORT-TERM EXPERTS

The Japanese Fiscal Year Field	1994/1995	1995/1996	1996/1997	1997/1998
Navigation	-	-	-	-
Maritime Communications	1	2	2	-
Marine Engineering	-	-	1	-

(3) 機材供与

ANNEX III

LIST OF MACHINERY AND EQUIPMENT

1. Navigation

1-1. Navigation

- (1) Fire-fighting equipment
- (2) First Aid equipment
- (3) Cargo handling & Storage equipment
- (4) Table-top models displaying proper signals or lights
- (5) Model of cargo oil piping and loading control system
- (6) Gyro compass exploded model
- (7) Loading calculator and other related instruments
- (8) Hull construction model

1-2. Maritime Communications

- (1) NAVTEX receiver
- (2) Satellite EPIRB
- (3) VHF DSC
- (4) MF/HF Radio equipment
- (5) INWARSAT SES standard A
- (6) INWARSAT EGC receiver
- (7) Two-way VHF radiotelephone apparatus
- (8) Radar transponder

2. Marine Engineering

- (1) Cut away models for engineering department
- (2) Electric generator switch board simulator
- (3) Testing and measuring equipment
- (4) Work shop machines
- (5) Pneumatic and electric process control device
- (6) Samples of various type of valves

3. Other necessary equipment

4 専門家派遣実績

ACHIEVEMENT OF DISPATCH OF JICA EXPERTS

LONG TERM EXPERT

1) Chief advisor, serving concurrently with expert on navigation

Mr. Jiro Ikegami,	from June 22, 1993 to Oct. 21, 1995	-- 2yrs 4ms
Mr. Yoshinari Okano,	from Oct. 11, 1995 to Mar. 2, 1998	-- 2yrs 4ms 20dys

2) Coordinator

Mr. Hiromi Mizuta,	from May 24, 1993 to Mar. 2, 1998	-- 4yrs 9ms 10dys
--------------------	-----------------------------------	-------------------

3) Expert on marine engineering

Mr. Kazunori Hayashi,	from Oct. 13, 1993 to Oct. 12, 1995	-- 2yrs
Mr. Atsushi Ihara,	from Oct. 3, 1995 to Mar. 2, 1998	-- 2yrs 5ms

Sub total = 167 person·month

SHORT TERM EXPERT

--MARITIME COMMUNICATIONS--

1) Mr. Shuko Terada,	from Feb. 21 to Mar. 22, 1994	----- 1m
2) Mr. Ryoichi Takahashi,	from Feb. 20 to Mar. 22, 1995	----- 1m
3) Mr. Shigeki Uchiya,	from May 24 to July 12, 1995	----- 20dys
4) Mr. Shigeki Sugiyama,	from Feb. 14 to Mar. 14, 1996	----- 1m 1dy
5) Mr. Hajime Terada,	from June 20 to July 18, 1996	----- 29dys
6) Mr. Ryuji Maruyama,	from July 4 to Aug. 1, 1996	----- 29dys
7) Mr. Hajime Fujii,	from Aug. 11 to Sept. 24, 1997	----- 1m 15dys

--NAVIGATION--

8) Mr. Ryuji Sasaki,	from May 28 to Aug. 28, 1996	----- 3ms 1dy
9) Mr. Masaki Noma,	from June 3 to Dec. 5, 1997	----- 6ms 3dys

--MARINE ENGINEERING--

10) Mr. Kunio Kitazawa,	from Mar. 25 to Sept. 26, 1997	----- 6ms 2dys
11) Mr. Koichi Okamoto,	from July 22 to Aug. 15, 1997	----- 25dys
12) Mr. Moichi Sawada,	from Aug. 1 to Oct. 31, 1997	----- 3ms
13) Mr. Tadashi Sonoda,	from Aug. 1 to Oct. 31, 1997	----- 3ms
14) Mr. Yoshio Suzuki,	from Aug. 11 to Aug. 23, 1997	----- 13dys
15) Mr. Tsuneo Miyoshi,	from Aug. 12 to Aug. 23, 1997	----- 12dys

Sub total = 30 person·month

=====
Total 197 person·month

付属資料 専門家派遣実績

(1) 長期専門家

担当業務	派遣期間	専門家氏名	所属先
チーフアドバイザー (航海)	1993. 6.22～1995.10.21	池上 二郎	運輸省航海訓練所研究調査部教授
チーフアドバイザー (航海)	1995.10.11～1998. 3. 2	岡野 良成	運輸省航海訓練所研究調査部教授
業務調整	1993. 5.24～1998. 3. 2	水田 広実	財団法人日本国際協力センター
機 関	1993.10.13～1995.10.12	林 和 宣	運輸省航海訓練所研究調査部研究担当
機 関	1995.10. 3～1998. 3. 2	伊原 厚司	運輸省館山海員学校教頭

(2) 短期専門家

担当分野	派遣期間	専門家氏名	所属先
通 信	1994. 2.21～1994. 3.22	寺田 修幸	運輸省航海訓練所研究調査部
通 信	1995. 2.20～1995. 3.22	高橋 亮一	運輸省航海訓練所研究調査部
通 信	1995. 5.24～1995. 7.12	打矢 繁樹	日本無線(株)海上装備技術部
通 信	1996. 2.14～1996. 3.14	杉山 茂樹	運輸省航海訓練所研究調査部
航 海	1996. 5.28～1996. 8.28	佐々木 隆司	ナビックスライン(株)船員部船長
通 信	1996. 6.20～1996. 7.18	寺田 肇	日本無線(株)技術第7部
通 信	1996. 7. 4～1996. 8. 1	丸山 隆司	日本無線(株)人事部研修センター課長
機 関	1997. 3.25～1997. 9.26	北澤 邦生	運輸省波方海員学校運輸教官
航 海	1997. 6. 3～1997.12. 5	野間 正樹	三光汽船(株)総務人事部海務監督
機 関	1997. 8. 1～1997.10.31	澤田 茂一	運輸省館山海員学校教務課運輸教官
機 関	1997. 8. 1～1997.10.31	園田 忠	運輸省唐津海員学校教務課運輸教官
通 信	1997. 8.11～1997. 9.24	藤井 肇	運輸省航海訓練所研究調査部助教授
機 関	1997. 7.22～1997. 8.15	岡本 耕一	三保造船(株)工作部品質管理課課長代理
機 関	1997. 8.12～1997. 8.23	三好 庸雄	ザーケ日本トラテック(株)
機 関	1997. 8.11～1997. 8.23	鈴木 義雄	大洋電機(株)群馬事業所制御機器工場 品質管理部係長
機 関	1998. 2.22～1998. 2.28	梶田 悦司	東京メーター(株)技術部部长

5 カウンターパート研修員受入実績

ACHIEVEMENT OF COUNTERPART TRAINING IN JAPAN

Japanese fiscal	Period	No.	Name	Field	Present Occupation
1993	30 days Mar. 1 - Mar 31, 1994	1	Mr. Pitsanu Singhathep	Navigation	Officer of Training Ship (T/S)
		2	Mr. Parnupong Patisink	Marine Engineering	-Resigned-
		3	Ms. Suganda Pannak	General Education	Lecturer
1994	45 days Oct. 4 - Nov. 17, 1994	4	Mr. Anan Sadabpod	Nav. & M. Communication	-Resigned-
		5	Mr. Watin Kongsuwan	Nav. & M. Communication	Officer of T/S
		6	Mr. Noppadol Rumsab	Marine Engineering	-Resigned-
1995	45 days Oct. 2 - Nov. 15, 1995	7	Mr. Pornsak Sonthanapipat	Navigation	Officer of T/S
		8	Mr. Kuwan Imvidhaya	Marine Engineering	-Transferred- (Ship Surveyor)
		9	Mr. Perah Thidtakuno	Maritime Communication	Officer of T/S
1996	45 days Sept. 10 - Oct. 24, 1996	10	Mr. Sungkom Rattanangkul	Navigation	Officer of T/S, Chief of Nav.
		11	Mr. Adul Luengprasert	Marine Engineering	Electrician of T/S *
		12	Mr. Pradit Pienwicha	Maritime Communication	Officer of T/S
1997	48 days Jan. 5 - Feb. 21, 1998	13	Mr. Niwat Chitchoedwong	Navigation	Officer of T/S
		14	Mr. Somboch Kaewdam	Marine Engineering	Lecturer
		15	Mr. Kampanart Panthai	Marine Engineering	Lecturer
		16	Mr. Sithiphan Bouapuan	Marine Engineering	Officer of T/S

N.B. 1) Regarding the mark '**' MWC immediately realized JICA expert's advice that Mr. Adul, electrician of the training ship Visud Sakorn should have been appointed one of the counterpart personnel because of lack of full-time counterpart personnel.

2) Counterpart training in Japanese fiscal 1997 is in the process to be carried out as of October 1997. And the number of participant was increased by one to four because Thai side strongly requested in Jan. 1997, emphasizing the necessity for young engineering C/P to be trained systematically in Japan.

CATEGOLIZED TECHNICAL EQUIPMENT, Fiscal Year 1993 to 1997

1. Navigation

1-1. Navigation

- (1) Fire-fighting equipment
Portable foam appreciation unit & others:
Spare parts (expected):
- (2) First Aid equipment
Human body model with clothes & others:
- (3) Cargo handling & storage equipment
Cargo handling equipment model & others:
- (4) Table top models displaying proper signals or lights
Masthead light & others:
- (5) Model of cargo oil piping and loading control system
Cargo oil handling simulator & others related to the tanker course:
- (6) Gyro compass exploded model
Gyro compass (consist of master compass) & others:
- (7) Loading calculator and other related instrument
Loading calculator & others:
- (8) Hull construction model
Hull construction model, bow, stern, middle & others:
- (9) Other necessary equipment
Cutter boat, equipment for tanker course & others:

1-2. Maritime Communications

- (1) GMDSS real equipment set
JRC MF/HF radio communication equipment main unit & others:
Spare parts (expected):
- (2) GMDSS simulator equipment set
Inmarsat-B above deck equipment & others:
Spare parts (expected):
- (3) Other necessary equipment
Equipment for GOC course improvement:

2. Marine Engineering

- (1) Cut away models for engineering department
Cut away model of main boiler, oil purifier & others:
- (2) Electric generator switch board simulator
Main power distribution panel with accessories & others:
- (3) Testing and measuring equipment
Ultra sonic thickness gauge & others:
- (4) Work shop machines
Lath machine, drilling and milling machine & others:
- (5) Pneumatic and electric process control device
Process feed back control unit & its accessories:
Spare parts (expected):
- (6) Samples of various type of valves
Hydraulic butterfly valve model & others:
Note: These valves are included in the training equipment which appear in the list of technical equipment as "Pump and Motor Assembly Training Apparatus".
- (7) Other necessary equipment
Diesel engine simulator, Pump performance exp apparatus & Others:
Spare parts (expected):

3. Other necessary equipment

- (1) OA equipment
Copying machine, Overhead projector & others:
- (2) Vehicle
Mini bus:

TECHNICAL EQUIPMENT**FISCAL YEAR 1993****(1) EQUIPMENT PROCURED IN JAPAN:**

1. Fire fighting equipment
2. First aid equipment
3. Table top models displaying proper signals or light
4. Loading calculator
5. Gyro compass exploded model
6. Diesel engine test unit
7. Cutaway models for engineering

(2) EQUIPMENT PROCURED LOCALLY:

1. Vehicle
2. Copying machine

FISCAL YEAR 1994**(1) EQUIPMENT PROCURED IN JAPAN:**

1. GMDSS real equipment
2. Hull construction models
3. Cutaway models

FISCAL YEAR 1995**(1) EQUIPMENT PROCURED IN JAPAN:**

1. GMDSS simulator
2. Cargo oil handling simulator
3. Process control study unit
4. Steering gear study unit

(2) EQUIPMENT PROCURED LOCALLY:

1. Workshop machines
2. Audio visual teaching equipment
3. Printing machine
4. Photo copy machine
5. Star finder for celestial navigation
6. Parallel ruler for chart work

FISCAL YEAR 1996**(1) EQUIPMENT PROCURED IN JAPAN:**

1. Cargo handling model
2. Loading calculator
3. Equipment for tanker course
4. Cutter boats
5. Main switch board training equipment
6. Diesel engine and steam system simulator
7. Gas turbine experimental unit
8. Cutaway models
9. Pump performance and pipe friction experimental apparatus
10. Electric-hydraulic servo mechanism experimental apparatus
11. Pump and motor assemble and running unit
12. Universal structure testing frame
13. Testing/ measuring and supplemental equipment
14. Incinerator
15. Others

FISCAL YEAR 1997**(1) EQUIPMENT TO BE PROCURED IN JAPAN (expected):**

1. Supplement to the existing training equipment

(2) EQUIPMENT PROCURED LOCALLY:

1. CD-ROM for evaluation on seafarer's education
2. Presentation system
3. Cabinet for tools & spare-parts
4. Copying machine

TECHNICAL EQUIPMENT FOR EXPERTS AND OTHERS

FISCAL YEAR 1993

- (1) EQUIPMENT PROCURED IN JAPAN:
- (2) EQUIPMENT PROCURED LOCALLY:

FISCAL YEAR 1994

- (1) EQUIPMENT PROCURED LOCALLY:

FISCAL YEAR 1995

- (1) EQUIPMENT PROCURED LOCALLY:

FISCAL YEAR 1996

- (1) EQUIPMENT PROCURED IN JAPAN:
- (2) EQUIPMENT PROCURED LOCALLY:

FISCAL YEAR 1997 (as of December 1997)

- (1) EQUIPMENT PROCURED IN JAPAN:
- (2) EQUIPMENT PROCURED LOCALLY:

JAPANESE SIDE'S LOCAL COST

FISCAL YEAR 1993

1. Teaching materials:	B303,325.00
2. Endurables:	B39,002.00
3. Others :	B299,673.00
Total amount:	B642,000.00

FISCAL YEAR 1994

1. Teaching materials:	B467,055.10
2. Endurables:	B128,778.00
3. Others :	B279,166.90
Total amount:	B875,000.00

FISCAL YEAR 1995

1. Teaching materials:	B388,831.95
2. Endurables:	B31,185.33
3. Others :	B454,361.72
Total amount:	B874,379.00

FISCAL YEAR 1996

1. Teaching materials:	B15,395.00
2. Endurables:	B153,947.03
3. Others :	B562,712.97
Total amount:	B732,055.00

FISCAL YEAR 1997 (as of November 1997)

1. Teaching materials:	B21,945.00
2. Endurables:	B4,660.00
3. Others :	B368,554.74
Total amount:	B395,159.74

TOTAL AMOUNT: B3,518,593.74

ATTACHED SHEET NO-

TEACHING MATERIALS PROCURED BY JAPANESE SIDE'S LOCAL COST

FISCAL YEAR 1993

TEXTBOOK

- (1) NAVIGATION: 76 items.
- (2) ENGINEERING: 88 items.
- (3) GENERAL: 83 items.

FISCAL YEAR 1994

TEXTBOOK

- (1) NAVIGATION: 114 items.
- (2) ENGINEERING: 52 items.
- (3) GENERAL: 165 items.
- (4) SPECIAL: 7 items.

CHART

- (1) BA: 75 sheets.
- AUS: 4 sheets.

RADIO SIGNAL

- (1) NP281&286: 2 vols.

FISCAL YEAR 1995

TEXTBOOK

- (1) NAVIGATION: 29 items.
- (2) ENGINEERING: 33 items.

VIDEO CASSETTE

- (1) NAVIGATION: 2 items.
- (2) ENGINEERING: 5 items.

CD-ROM

- (1) SETS program: 1 lot.
- (2) Additional Qtns: 1 lot.

FISCAL YEAR 1996

TEXTBOOK

- (1) NAVIGATION: 6 items.

FISCAL YEAR 1997

CHART

- (1) Admiral: 21 sheets

CATEGOLIZED TOTAL

TEXTBOOK

- (1) NAVIGATION: 225 items.
 - (2) ENGINEERING: 173 items.
 - (3) GENERAL: 248 items.
 - (4) SPECIAL: 7 items.
- (Total: 653 items.)

CD-ROM

- SETS & add Q: 1 lot

CHART

Admiral BA, AUS: 100 sheets.

RADIO SIGNAL

- NP: 2 vols.

VIDEO CASSETTE

- (1) NAVIGATION: 2 items.
- (2) ENGINEERING: 5 items.

(Total: 7 items.)

8 専門家派遣の投入計画と実績

COMPARISON BETWEEN PLANNED DISPATCHES OF JICA EXPERTS AND IMPLEMENTED ONES

CALENDAR YEAR		1993				1994				1995				1996				1997				'98
JAPANESE FISCAL YEAR		1993				1994				1995				1996				1997				
THAI FISCAL YEAR		1993				1994				1995				1996				1997				1998
PROJECT PERIOD		4th qr	1st qr	2nd qr	3rd qr	4th qr	1st qr	2nd qr	3rd qr	4th qr	1st qr	2nd qr	3rd qr	4th qr	1st qr	2nd qr	3rd qr	4th qr				
		[Mar.3]===== [Mar.2]																				
	PLANNED	Chief adviser x 1, Coordinator x 1,																				
	LONG TERM	Expert on Navigation x 1, Expert on Marine Engineering x 1																				
	IMPLEMENTED	N.B.: Chief adviser will serve concurrently with expert on navigation or expert on marine engineering.																				
	LONG TERM	Chief adviser x 1, Coordinator x 1, Expert on Navigation x 1																				
		N.B.: Chief adviser has served concurrently with expert on navigation.																				
	PLANNED	Dispatch if necessary. Navigation none																				
	SHORT TERM	Regarding commu., 1 expert Communication																				
JICA		for 3 months annually from 1 expert Marine Engineering																				
EXPERT		1995. none																				
	IMPLEMENTED	Communication 1 expert x 1 month																				
	SHORT TERM	1 expert x 1 month																				
	REMARKS	*1 *2 *2 *2 *2 *3, *4 *4																				

N.B. Remarks : Regarding '1', one expert on communication was dispatched to make out specification of GHDSS equipment in a hurry.
 Regarding '2', revision of the plan was emphasized on the occasion of the mutual consultation held in March 1994.
 Regarding '3', revision of the plan was emphasized on the occasion of the joint committee conference held in August 1995, particularly because of the Thai side's request on tanker.
 Regarding '4', revision of the plan was emphasized on the occasion of the midterm evaluation held in July 1996 particularly in the view points of serious situation in marine engineering field and development of tanker course.

9 カウンターパート研修受入計画と実績

COMPARISON BETWEEN PLANNED C/P TRAINING AND IMPLEMENTED ONE

CALENDAR YEAR	1993				1994				1995				1996				1997				'98			
	1992		1993		1994		1995		1996		1997		1998		1999		2000		2001		2002			
JAPANESE FISCAL YEAR	4th qr	1st qr	2nd qr	3rd qr	4th qr	1st qr	2nd qr	3rd qr	4th qr	1st qr	2nd qr	3rd qr	4th qr	1st qr	2nd qr	3rd qr	4th qr	1st qr	2nd qr	3rd qr	4th qr			
THAI FISCAL YEAR	1993				1994				1995				1996				1997				1998			
PROJECT PERIOD	3rd Mar. =====																							
C/P TRAINING	PLANNED		Three (3) persons				Three (3) persons				Three (3) persons				Four (4) persons									
	ENGINEERING	COMMUNICATION	Deck	Engine	Admi.	Deck & Commu.	Engine	Admi.	Deck	Communication	Engine	Deck	Communication	Engine	Deck & Commu.	Engine	Admi.							
IMPLEMENTED	ENGINEERING	COMMUNICATION	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3		
REMARKS			*1				*2				*3													

N.B. Remarks:
 *1 ; An English lecturer joined the training to enhance the administration of the project.
 *2 ; A plan to receive three (3) persons was emphasized on the occasion of the mutual consultation held in March 1994.
 *3 ; The number of participant was increased by one to four because Thai side strongly had requested in Jan. 1997, emphasizing the necessity for young engineering C/P to be trained systematically in Japan.

10 カウンターパートの動き

Attached sheet No.6

1/3

Transition of the Counterparts

J/Year	Allocation						Remarks
	1993	1994	1995	1996	1997		
Month	4 7 10	1 4 7 10	1 4 7 10	1 4 7 10	1 4 7 10	1 4 7 10	
Mr. Aon Aon							Transferred to the Pilot Division on Nov 1994
Mr. Dujsiek Dujsiek							Appointed on Oct 1993 and transferred to the Pilot Division on Oct 1995
Mr. Sangkom Sangkom							Appointed on Dec 1994 ~ as of Dec 1997
Mr. Ruangon Ruangon							Appointed on Aug 1994 and transferred to the Pilot Division on Oct 1995
Mr. Pitsap Pitsap							Transferred to the Pilot Division on Nov 1997
Mr. Poruak Poruak							Appointed on Dec 1993 ~ as of Dec 1997
Mr. Pitsap Pitsap							Appointed on Feb 1994 and transferred to the Pilot Division on Oct 1995
Mr. Waha Waha							From beginning ~ as of Dec 1997
Mr. Pears Pears							From beginning ~ as of Dec 1997
Mr. Padi Padi							From beginning ~ as of Dec 1997
Mr. Ace Ace							Appointed on Oct 1995 ~ as of Dec 1997
Mr. Thiti Thiti							Appointed on Oct 1995 and currently Overseas Training since Jan 1997
Mr. Wiwat Wiwat							Appointed Oct 1995 ~ as of Dec 1997
Mr. Pagon Pagon							Appointed Nov 1996 ~ as of Dec 1997
Mr. Jirak Jirak							Appointed Nov 1997 ~ as of Dec 1997

Note 1: Allocation, Training in Japan

Note 2: Name with an oblique line means transferred, retirement, resignation or excused etc.

J/Year Month	Allocation						Remarks
	1993	1994	1995	1996	1997		
Mr. Nopphachit Kraamsab	4 7 10 1	4 7 10 1	4 7 10 1	4 7 10 1	4 7 10 1		(Chief) resigned on July 1996
Mr. Pampong Pulsing			xxxxxx	xxxxxxxx			Transferred to H/Dept on April 1994. But became part-time C/P and resigned on Oct 1996
Mr. Sanjivani Wanhook							Appointed on Oct 1993, transferred to M/Education on Feb 1994
Mr. Boonjany V/Prisal							Excused on Oct 1997
Mr. Wachan Krahaonaki							Excused on Oct 1997
Mr. Kawya Arvichaya			-----				Transferred to H/Dept & resigned on Jan 1996
Mr. Teeraporn Thwiri							Transferred to H/Dept & resigned on Oct 1995
Mr. Pritchar Fahong							Appointed on Jan 1997, excused on Oct 1997
Mr. Adel Lungpraeati							Appointed on Dec 1995 ~ as of Dec 1997
Mr. Chokchai Pitapradit				xxxxxxx	xxxxxxxx		(A/Chief) Appointed Aug 96, excused Sept 97
Mr. Somsak Redhongsitro				xxxxxxxx	xxxxxxxxxxxx		Appointed on July 1996 ~ as of Dec 1997
Mr. Sibipan Bouphuan							Appointed on June 1996 ~ as of Dec 1997
Mr. Kamnart Panhai							Appointed on Oct 1996 ~ as of Dec 1997
Mr. Somsoch Kerwain							Appointed on Oct 1996 ~ as of Dec 1997
Mr. Wihajorn Panyopitrom					xxxxxxx		Appointed on Jan 97, excused on Oct 1997
Mr. Tongchai Fongwichai					xxxxxxx		Appointed on Jan 97, excused on Oct 1997
Mr. Tiansak Moolinnee							Appointed on Feb 97, resigned on Jun 1997
Mr. Borlin Sumanee							Appointed on Jun 1997 ~ as of Dec 1997
Mr. Palboon Poolak							(Chief) Appointed on Sept 1997 ~ as of Dec 1997

E N G I N E E

Note 1: Allocation, Training in Japan

Note 2: Name with an oblique line means transferred, retirement, resignation or excused etc. Note 3: xxxxx means a part-time counterpart

Transition of the Counterparts

Attached sheet No.6

3/3

	J/F/Year	Allocation							Remarks
		1993	1994	1995	1996	1997			
Month	4 7 10	1 4 7 10	1 4 7 10	1 4 7 10	1 4 7 10	1 4 7 10	1 4 7 10	1 4 7 10	
Ms. Prawjit Wattana									(Director) Transferred to H/Dept on Oct 1994
Mr. Vini Cheusapakani									(Director) Appointed on Oct 1994 ~ as of Dec 1997
Mr. Somjai Ettakob									Retired on Oct 1995
Mr. Ong-aw Prohassri									Transferred to H/Dept on July 1994
Mr. Sukhin Rattanasathien									Transferred to H/Dept (Sept 93 ~ Dec 94) and returned as C/P ~ as of Dec 1997
Ms. Jitnapakdioc Sukreemuch									From beginning ~ as of Dec 1997
Ms. Phongphan Kratpatasrongsong									Appointed on Nov 1996 ~ as of Dec 1997
Ms. Peewana Pongpani									Appointed on Dec 1993 ~ as of Dec 1997
Ms. Suganda Panak									From beginning ~ as of Dec 1997
Mrs. Chai-on Sawabon									Appointed on Nov 1997 ~ as of Dec 1997
Mrs. Charinya Pankaseno									Appointed on Nov 1997 ~ as of Dec 1997
Mr. Surat Sittanyis									Appointed on Jan 1997 ~ as of Dec 1997

Note 1: Allocation, Training in Japan

Note 2: Name with an oblique line means transferred, retirement, resignation or excused etc.

11 機材供与の投入計画と実績

COMPARISON between PLANNED PROVISION of TRAINING EQUIPMENT and IT IMPLEMENTED

CALENDAR YEAR	1993		1994		1995		1996		1997		1998	
	1st qr	2nd qr	3rd qr	4th qr	1st qr	2nd qr	3rd qr	4th qr	1st qr	2nd qr	3rd qr	4th qr
JAPANESE FISCAL YEAR	1993											
THAI FISCAL YEAR	1993											
PROJECT PERIOD	[Mar.3]											
Planned	-- Navigation -- 1) Fire Fighting Equipment 4) Table-top Models Displaying Signals/Lights 6) Cyro Compas Exploded Models 1) Cutaway Models 4) Workshop Machines 1) NAVTEX Receiver 5) INMARSAT A											
	-- Engine -- 2) Satellite EPiRB 3) VHF DSC 7) Two-way VHF Radio Telephone 8) Radar Transponder											
	-- Communication -- 2) First Aids Equipment 5) Model of cargo Oil Piping & Loading Control System 7) Loading Calculator & other relatives 8) Hull Construction Model 3) Testing & Measuring Equip.											
	-- Other Necessary Equipment -- 3) Cargo Handling & Stowage Equipment											
	-- Budget 1993 -- --Others-- Vehicle Copying Machine <Budget 1993> --Navigation-- 1) Fire Fighting Equip 2) First Aids Equip. 4) Model/Channel Marks 4) Sig. Equip.(3 items) 4) Navigational Lights 7) Loading Calculator 6) Model/Cyco(2 types) --Engine-- 1) Cutaway Models (5 items) 1) Models (4 items) A) Diesel Eng. Test Bed											
Provision of Only Equipment with Implemented A-4 Form	<Budget 1994> --Navigation-- 8) Hull Construction Models --Engine-- 1) Cut Model (1 item) --Communication-- 1)-8) One Complete System with Antenna etc. *1 <Budget 1995> --Navigation-- A) Star Finder x 65 Parallel Ruler x 60 --Engine-- 4) Lathe Machine x 4 Drilling Milling M. x 2 Hydraulic Hacksaw M. --Others-- Video Display ORP Copy Printing Machine											
	<Budget 1995> --Navigation-- A) Cargo Oil Handling Simu. --Engine-- 5) Process Feedback Control Training Unit 1) Model/Steering gear (2 types) --Communication-- 1)-3) GROSS Simulator *1 <Budget 1996> --Navigation-- A) Video Cassettes for Tanker Co. (12 items) --Engine-- B) Spare Parts & Special Tools B) Accessories/PTC Tr. Unit A) Sealers Eva. & Tr.Sys. B) Storage Cabinet --Communication-- B) Presentation System B) Spare Parts --Others-- A) Copying Machine											
	<Budget 1996> --Navigation-- 7) Loading Calculator 3) Model/Cargo Handling Equip. (3 items) 5) Model/Cargo Oil Piping etc A) Var. Equip./Tanker Co. A) Cutter Boat (2 sets) --Engine-- 1) Cut Model (13 items) 2) Main Switchboard Training Unit 3) Various measuring & Testing Instruments 4) AC Arc Welder x 5, & etc. 6) Model/Valve (9 items) A) Diesel Eng. & Steam Sys. Simulator (5 sets) A) Gas Turbine Experi. unit A) Pump Performance & Pipe Friction Experi. Unit A) Pump/Motor Assembly Kit A) Small Eng. Assembly Training Kit x 5 A) Universal Testing Frame <Budget 1997> --Navigation-- B) Spare Parts											
	<Budget 1996> --Navigation-- 7) Loading Calculator 3) Model/Cargo Handling Equip. (3 items) 5) Model/Cargo Oil Piping etc A) Var. Equip./Tanker Co. A) Cutter Boat (2 sets) --Engine-- 1) Cut Model (13 items) 2) Main Switchboard Training Unit 3) Various measuring & Testing Instruments 4) AC Arc Welder x 5, & etc. 6) Model/Valve (9 items) A) Diesel Eng. & Steam Sys. Simulator (5 sets) A) Gas Turbine Experi. unit A) Pump Performance & Pipe Friction Experi. Unit A) Pump/Motor Assembly Kit A) Small Eng. Assembly Training Kit x 5 A) Universal Testing Frame <Budget 1997> --Navigation-- B) Spare Parts											
	<Budget 1996> --Navigation-- 7) Loading Calculator 3) Model/Cargo Handling Equip. (3 items) 5) Model/Cargo Oil Piping etc A) Var. Equip./Tanker Co. A) Cutter Boat (2 sets) --Engine-- 1) Cut Model (13 items) 2) Main Switchboard Training Unit 3) Various measuring & Testing Instruments 4) AC Arc Welder x 5, & etc. 6) Model/Valve (9 items) A) Diesel Eng. & Steam Sys. Simulator (5 sets) A) Gas Turbine Experi. unit A) Pump Performance & Pipe Friction Experi. Unit A) Pump/Motor Assembly Kit A) Small Eng. Assembly Training Kit x 5 A) Universal Testing Frame <Budget 1997> --Navigation-- B) Spare Parts											

M.B. 1) *1 : The plan to provide the equipment item 1) to 8) on maritime communications was amended according to JICA expert advice that one complete system for the training ship should have been installed and GROSS simulator for a laboratory should have been installed.
 2) The item with 'A)' means that it was additionally provided through a series of discussion between Thai side and JICA side.
 3) The item with 'B)' means that the preceding M.B.2) and that it was to maintain the equipment or to supplement the equipment.

12 供与機材使用の指導状況

Implementation of The Demonstration and Presentation for the practical use of the equipment

The demonstration and presentation were held about ten type apparatus at the each guest lecturer's convenient days and time for the whole period from Sept'13, to Oct' 28.

Name of equipment of that the demonstration and presentation be held	Demonstration		Participants		sum
	date	time	Name (call their name without using their title)		
Engine research and test bed	Sept17	1300-1600	Amporn, Nopadol,		12
	Sept19	0900-1200	Manuthum, Kongkiet, Monthien, Veerapat,		
	Sept20	0900-1200	Tani,		
	Oct13	0900-1200	Adul, Kampanart, Sompoch, Sittipan, Boordin,		
Process feedback control study unit	Sept13	1300-1700	Kittipong, Palboon, Somchai, Kanpanart, Sompoch,		23
	Sept19	1300-1600	Manuthum, Kongkiet, Monthien, Veerapat,		
	Sept20	1500-1700	Kittipong,		
	Sept24	1300-1600	Thani, Amporn, Nopadol,		
	Sept25	1300-1600	Kittipong, Thani, Preecha, Amporn, Nopadol		
	Oct13	0900-1600	Adul, Kampanart, Sompoch, Sittipan, Boordin,		
Gas turbine experimental unit	Oct3	0900-1200	Manuthum, Kongkiet, Monthien, Veerapat,		12
	Oct15	1300-1600	Thani, Amporn, Nopadol, Adol, Kampanart, Sompoch, Sittipan, Boordin,		
Pump performance and pipe friction experimental unit	Sept26	1300-1600	Manuthum, Kongkiet, Monthien, Veerapat,		14
	Oct2	1300-1600	Thani, Amporn, Nopadol, Preecha,		
	Oct13	1300-1600	Sukasem,		
	Oct17	0900-1300	Adul, Kampanart, Sompoch, Sittipan, Boordin,		
Electric-Hydraulic servo mechanical experimental device	Sept18	1600-1800	Kittipong,		13
	Sept26	0900-1200	Manuthum, Kongkiet, Monthien, Veerapat,		
	Oct8	1300-1600	Thani, Amporn, Nopadol,		
	Oct17	0900-1300	Adul, Kampanart, Sompoch, Sittipan, Boordin,		
Universal structure testing frame	Oct1	1300-1600	Thani, Amporn, Nopadol,		12
	Oct3	1300-1600	Manuthum, Kongkiet, Monthien, Veerapat,		
	Oct21	1300-1600	Adul, Kampanart, Sompoch, Sittipan, Boordin,		
Main switch board training unit	Sept22	0900-1200	Sukasem,		9
	Sept23	1300-1600	Pongsatorn,		
	Sept26	1000-1200	Kittipong,		
	Sept29	1300-1600	Sukasem		
	Oct22	1300-1600	Adul, Kampanart, Sompoch, Sittipan, Boordin,		

Name of equipment of that the demonstration and presentation be held	Demonstration		Participants	
	date	time	Name (call their name without using their title)	sum
Diesel Main engine and Steam system Simulator	Sept10	1300-1600	Adul, Kampanart, Sompoch, Sittipan, Boordin,	5
Small engine assembly kit	Oct28	0900-1500	Adul, Kampanart, Sompoch, Sittipan, Boordin,	5
SFTS	Oct16	1300-1600	Adul, Kampanart, Sompoch, Sittipan, Boordin,	5
			total number	110

In addition, when the guest lecturers or permanent staff requested to be given an account of operation about some apparatus, two short term experts put the demonstration into effect properly.

13 カリキュラムの作成・修正の計画と実績

COMPARISON BETWEEN PLANNED ACTIVITIES ON TRAINING PROGRAM AND THOSE IMPLEMENTED

CALENDAR YEAR	1993				1994				1995				1996				1997				'98	
	1993				1994				1995				1996				1997				'98	
JAPANESE FISCAL YEAR	1st qr	2nd qr	3rd qr	4th qr	1st qr	2nd qr	3rd qr	4th qr	1st qr	2nd qr	3rd qr	4th qr	1st qr	2nd qr	3rd qr	4th qr	1st qr	2nd qr	3rd qr	4th qr		
THAI FISCAL YEAR	1993				1994				1995				1996				1997				1998	
THAI ACADEMIC YEAR	'92				1994				1995				1996				1997				1997	
PROJECT PERIOD	[Mar.3]																				[Mar.2]	
Activities on Curriculum & relatives	Planned	Review of the existing curriculum				Making out new curriculum				Making out teaching guideline				Evaluation and amendment curri./teach. guide.								
	Implemented	Selection of teaching materials & textbooks				Making out Courses with DANIDA's on above comparison				Courses with DANIDA's Program for '95 curri. Introduced practical training at dock yards				Training at dock yards				Made out textbooks				
Transition of (*1) MMTC's Curriculum					Compared IMO Model Advised teaching materials & textbooks				Set up GOC Co. & Advanced textbooks (*4)				Advanced Tanker Co. (*3)									

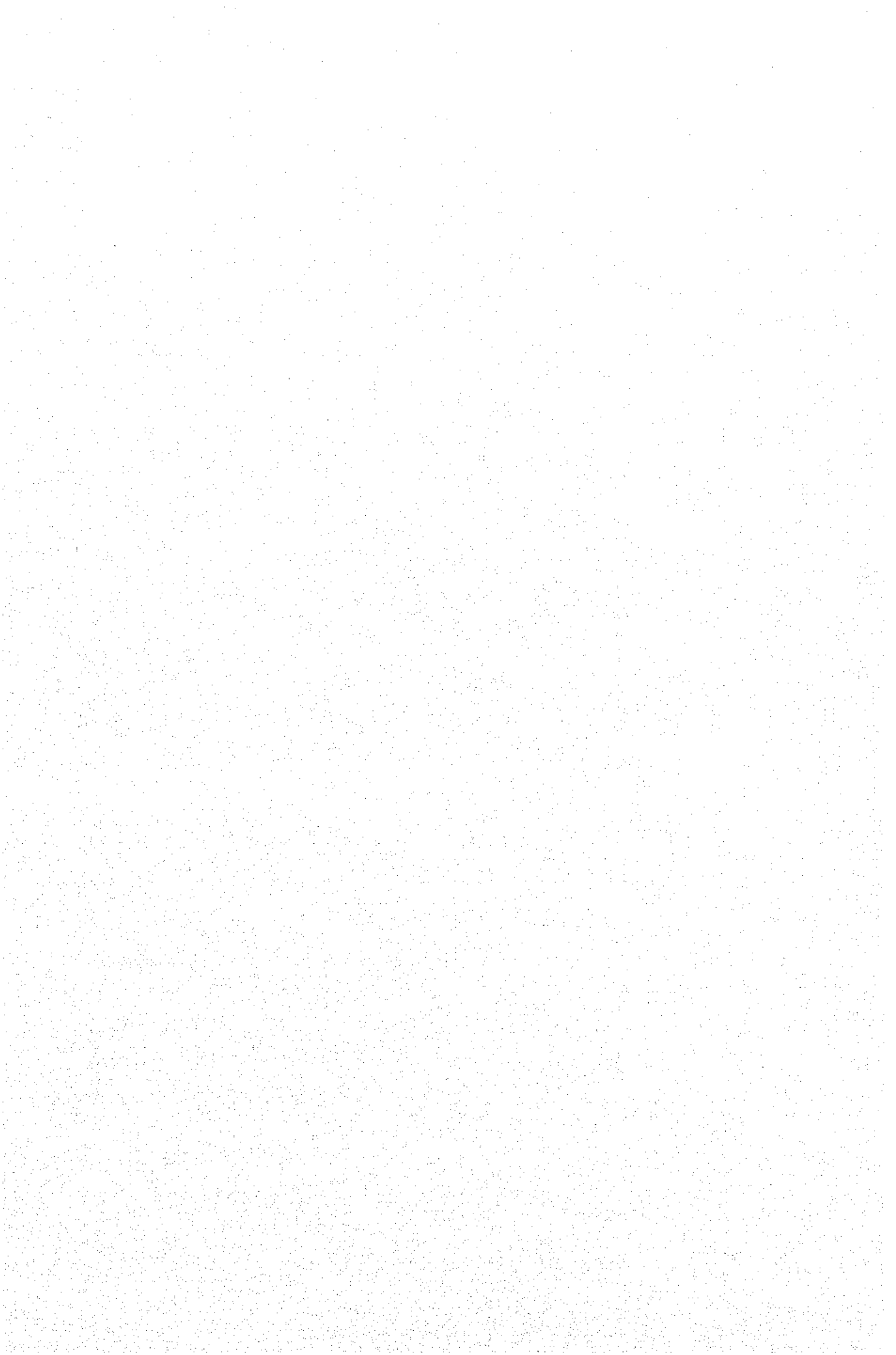
N.B. 1) '91 : DANIDA in 1994 provided MMTC with 'Lesson Program' for 5-year officer courses, according to the Thai side's request made in 1991 for the 10-year development plan of MMTC. Then 1995 curriculum had been introduced to be relieved by 1997 curriculum to introduce the Bachelor Degree (BD) into MMTC under affiliation to Burapa University. As MMTC staff concentrated to BD matters and so there were few time for JICA experts to discuss with Thai C/P, JICA experts only advised so that 1997 curriculum should have met the requirements of STCW.

2) '92 : Practical training at dock yards for engineer cadets was introduced to be carried out for 30 days in the term-end vacation.

3) '93 : GOC Training Co. required under GMDSS was introduced in January 1996 to be carried out regularly. Tanker familiarization Co. was improved and Advanced Tanker Co. was set up in 1997 to be carried out.

4) '94 : Seafarer Evaluation & Training System (SETS) has been introduced as an output of activities on evaluation of teach'g guide.

5) '95 : JICA experts made out 'A Booklet Introducing Practical Training on board Visud Sakorn' as an example. A textbook on GMDSS is under process to be published by MMTC C/P.



JICA