

## **APPENDICES**

# **1. MEMBER LIST OF THE STUDY TEAM**

## 1. Member List of the Study Team

### (1) Members of the Basic Design Study Team

Name	Work Assignment	Current Position
Mr. Akira NIWA	Leader	Development Specialist, Institute for International Corporation, JICA
Mr. Yuichi MATSUSHITA	Project Coordinator	Third Project Management Div., Grant Aid Management Dept., JICA
Mr. Mitsuhsa NISHIKAWA	Chief Consultant/ Management, O and M Planner	Yachiyo Engineering Co., Ltd.
Mr. Hirohito SETO	Power Generation Planner	Yachiyo Engineering Co., Ltd.
Mr. Yutaka MURAKI	Electric Power Supply Planner	Yachiyo Engineering Co., Ltd.
Mr. Masatsugu KOMIYA	Procurement Planner/ Cost Estimator	Yachiyo Engineering Co., Ltd.

### (2) Members of the Explanation Team for the Draft Basic Design Report

Name	Work Assignment	Current Position
Mr. Hiroshi SHIONO	Team Leader	Deputy Director, first Programme Division, Tsukuba International Centre, JICA
Mr. Mitsuhsa NISHIKAWA	Chief Consultant/ Management, O and M Planner	Yachiyo Engineering Co., Ltd.
Mr. Hirohito SETO	Power Generation Planner	Yachiyo Engineering Co., Ltd.
Mr. Yutaka MURAKI	Electric Power Supply Planner	Yachiyo Engineering Co., Ltd.

## **2. STUDY SCHEDULE**

## 2. Study Schedule

### (1) Itinerary of the Basic Design Study Team

No.	Day		Contents of Field survey		Stay at
			Official Members	Consultant Members	
1	11Nov.	Sat.	-Trip[Tokyo(21:00)~JL771~]		Air
2	12Nov.	Sun.	-Trip[~(08:30)Sydney(14:50)~FJ910~(19:50)Nadi]		Nadi
3	13Nov.	Mon.	-Courtesy Call to Embassy of Japan and JICA Fiji office in Suva		Nadi
4	14Nov.	Tue.	-Trip[Nadi(07:20)~ON222~10:20]Tarawa -PM: Courtesy Call to Ministry of Works and Energy (MWE) and Public Utilities Board (PUB)		Tarawa
5	15Nov.	Wed.	-Discussion of the IC/R with MWE and PUB about contents, schedule, etc.		Tarawa
6	16Nov.	Thu.	-Survey of existing Bikenibeu Power Station (P/S), Betio P/S and 11 kV Distribution Lines		Tarawa
7	17Nov.	Fri.	-Explanation of Japan's Grant Aid System and Scheme to MWE and PUB		Tarawa
8	18Nov.	Sat.	-Survey of Photovoltaic Power Generation Facilities at North Tarawa		Tarawa
9	19Nov.	Sun.	-Sorting and Analysis of Collected Data and Information, Internal Meeting		Tarawa
10	20Nov.	Mon.	-Discussion on Main Project Component with MWE and PUB		Tarawa
11	21Nov.	Tue.	-Discussion on M/D with MWE and PUB		Tarawa
12	22Nov.	Wed.	-Signing of M/D with MWE and PUB		Tarawa
13	23Nov.	Thu.	- Trip [Tarawa(07:45)~ON141~(10:45) Nadi] - Trip [From Nadi to Suva by Car] -Courtesy Call to Embassy of Japan and JICA Fiji office in Suva	-Reconfirmation of the field Survey Schedule and Collection of General Information	Official :Suva Consul :Tarawa
14	24Nov.	Fri.	-Trip[Suva(06:45)~PC133~(07:15)Nadi] -Trip[Nadi(08:20)~NZ045~(12:25)Auckland]	-Survey of Statistics of Electric Power at PUB -Survey of Statistics of Housing at Related Parties	Official :Auckland Consul :Tarawa
15	25Nov.	Sat.	-Trip[Auckland(12:25)~JL099~(19:10)Tokyo]	-Detail Survey of Existing 11 kV Distribution System	Official :Tokyo Consul :Tarawa
16	26Nov.	Sun.		-Sorting and Analysis of Collected Data	Tarawa
17	27Nov.	Mon.		-Rough topographic survey of Bikenibeu P/S -Survey of Causeway	Tarawa
18	28Nov.	Tue.		-Collection of Data and Information at Ministry of Environment, Port Authority, etc.	Tarawa
19	29Nov.	Wed.		-Collection of Data from other Donors	Tarawa
20	30Nov.	Thu.		-Investigation of Development Plans	Tarawa
21	01Dec.	Fri.		-Survey of Operation & Maintenance (O&M) status of existing P/S and Distribution System	Tarawa
22	02Dec.	Sat.		-Market survey	Tarawa
23	03Dec.	Sun.		-Sorting and Analysis of Collected Data	Tarawa
24	04Dec.	Mon.		-Survey of new 11 kV Distribution Line Route	Tarawa
25	05Dec.	Tue.		-Confirmation of Structure, Staff power, Budget, etc. of new P/S and Distribution System -Arrival of Mr. Komiya	Tarawa
26	06Dec.	Wed.		-Preparation of Field Report (F/R) and Market survey (Equipment and Materials)	Tarawa
27	07Dec.	Thu.		-Preparation of F/R and Market survey	Tarawa
28	08Dec.	Fri.		-Preparation of F/R and Market survey	Tarawa
29	09Dec.	Sat.		-Preparation of F/R and Market survey	Tarawa
30	10Dec.	Sun.		-Internal Meeting	Tarawa
31	11Dec.	Mon.		-Explanation and Discussion of F/R (Facility)	Tarawa
32	12Dec.	Tue.		-Explanation and Discussion of F/R (Facility)	Tarawa
33	13Dec.	Wed.		-Obtaining of approval for the Field Report from MWE and PUB. -Courtesy Call to MWE and PUB	Tarawa
34	14Dec.	Thu.		-Trip[Tarawa(07:45)~ON141~(10:45)Nadi]	Nadi
35	15Dec.	Fri.		-Courtesy Call to Embassy of Japan and JICA Fiji office in Suva	Nadi
36	16Dec.	Sat.		-Trip[Nadi(12:00)~QF398~(14:00)Brisbane]	Brisbane
37	17Dec.	Sun.		-Trip[Brisbane(09:30)~JL762~(17:20)Tokyo]	Tokyo

## (2) Itinerary of the Draft Report Explanation Team

No.	Day		Contents of Activities		Stay at
			Official Member (H. Shiono)	Consultant Members (M. Nishikawa, H. Seto, Y. Muraki)	
1	Feb.17	Sat.	- Trip[Tokyo(21:00)~by JL771]		On Air
2	Feb.18	Sun.	- Trip[~(08:30)Sydney by JL771] - Trip[Sydney(14:50)~(19:50)Nadi by QF391]		Nadi
3	Feb.19	Mon.	- Trip[Nadi(08:45)~(09:10)Suva by PC 136] - Courtesy call to Embassy of Japan and JICA Fiji office in Suva. - Trip[Suva(16:30)~(16:55)Nadi by PC171]		Nadi
4	Feb.20	Tue.	- Internal Meeting		Nadi
5	Feb.21	Wed.	- Internal Meeting		Nadi
6	Feb.22	Thu.	- Internal Meeting		Nadi
7	Feb.23	Fri.	- Trip[Nadi (12:00)~FJ2221~(15:00)Tarawa] - Courtesy call to Public Utilities Board (PUB) and coordination of the explanation schedule.		Tarawa
8	Feb.24	Sat.	- Courtesy call to Ministry of Works and Energy (MWE). - Discussion on and explanation of the draft final report (DFR) with MWE and PUB. - Explanation of Japan's Grant Aid System and the project schedule to MWE and PUB. - Submission and explanation of the draft Minute of Discussions (M/D) to MWE and PUB. - Visiting the project sites (Betio, Bikenibeu power station and the distribution lines.)		Tarawa
9	Feb.25	Sun.	- Internal Meeting - Site reconnaissance for distribution lines		Tarawa
10	Feb.26	Mon.	- Discussion on the M/D with MWE, PUB and Attorney General. - Signing of the M/D with MWE and PUB		Tarawa
11	Feb.27	Tue.	-Reconfirmation of the explanation schedule of the equipment specifications. -Explanation and discussion of the equipment specifications. -Confirmation of the budget for the construction of 415 V distribution lines by Kiribati side.		Tarawa
12	Feb.28	Wed.	-Trip[Tarawa(08:30) ~ FJ2220 ~(11:30) Nadi]	-Explanation and discussion of the equipment specifications. -Reconfirmation of the Project sites (New power station and distribution lines)	Official: Nadi Consul: Tarawa
13	Mar.1	Thu.	-Trip[Nadi(09:30) ~ FJ302 ~ (17:20) Tokyo]	-Explanation and discussion of the equipment specifications. -Hearing about Phase-2 of AusAID	Tarawa
14	Mar.2	Fri.		-Explanation of the equipment specifications. -Hearing about procedures of Kiribati's budget	Tarawa
15	Mar.3	Sat.		-Reconfirmation of the project sites	Tarawa
16	Mar.4	Sun.		-Sorting of the results of discussions with PUB	Tarawa
17	Mar.5	Mon.		-Explanation of the equipment specifications.	Tarawa
18	Mar.6	Tue.		-Confirmation of the latest situations of existing generation and distribution system.	Tarawa
19	Mar.7	Wed.		-Explanation of the Project to EIA Team (PUB/MESD) -Courtesy call to MWE and PUB.	Tarawa
20	Mar.8	Thu.		-Sorting of the results of discussions with EIA Team	Tarawa
21	Mar.9	Fri.		-Trip[Tarawa (11:00)~(14:00) Nadi by FJ2220]	Nadi
22	Mar.10	Sat.		-Courtesy Call to JICA Fiji office in Suva	Nadi
23	Mar.11	Sun.		-Trip[Nadi (15:05)~(17:00)Brisbane by FJ921]	Brisbane
24	Mar.12	Mon.		-Trip[Brisbane(09:30)~(17:20)Tokyo by JL762]	Tokyo

### **3. LIST OF PARTIES CONCERNED IN THE RECIPIENT COUNTRY**

## **List of Party Concerned in the Recipient Country**

### **Ministry of Works and Energy (MWE)**

Hon. Teaiwa Tenieu	Minister
Mr. Francis Ngalu	Permanent Secretary
Mr. Ruatu Bweuo	Deputy Secretary
Mr. Mautaaake Tannang	Acting Energy Planning, EIA Team Member
Mr. Kireua B. Kaiea	Assistant Energy Planner
Mr. Titaake Binataake	Quantity Surveyor: Public Work Section
Mr. Ienimao Katia	EIA Team Member

### **Public Utility Boards (PUB)**

Mr. Tokia Greig	Chief Executive Officer
Mr. Buibui Tiweri	Manager of Power Engineering
Mr. Moten Naari	Mechanical Engineer: Betio P/S
Mr. Takabwere Arinoko	Mechanical Engineer: Bikenibeu P/S
Mr. Kiriati Biritia	Electrical Engineer: Distribution
Mr. Baikia Nauoko	Electrician: Distribution, EIA Team Member
Ms. Kiritia Biribo	CEO Assistance
Mr. Tetangare Teinai	Finance Manager
Mr. Toani Naateke	Electrical Draught Man
Ms. Janet Kantabuki	EIA Team Member
Mr. Taboia metutera	Manager, Water Engineering
Mr. Riteti Eritama	Water Sewerage Engineer
Mr. Teawaki Mackenzie	Foreman Inspection

### **Ministry of Finance & Economic Planning (MFEP)**

Mr. Bureti Williams	Permanent Secretary (National Authorizing Officer of EU)
Mr. Peter Toall	Director of National Economic Planning (NEP)
Mr. Tekeraoi Nangka	Economist: Aid Coordination: NEP Officer
Mr. Teiwaki Teiwaki	Deputy Census Commissioner, Statistics Dept.

### **Ministry of Environment and Social Development (MESD)**

Mr. Michael Phillipps	Team Leader of EIA
Mr. Michael Taing	EIA Team Member
Mr. Kautu Temakei	Officer
Mr. Moreti Tibiriano	MET Service

### **Public Prosecutor Attorney General Office**

Mr. Titabu Tabane	Director
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### **Ministry of Home Affaire (MHA)**

Mr. Tebutonga Ereata	Chief Lands Surveyor of Land Management Division
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**Australian High Commission Tarawa (Australian Agency for International Development: AusAID)**

Mr. Colin Hill

High Commissioner

Mr. Nigel Ewels

First Secretary: Development Assistance

**Australian Power & Water Pty Ltd.**

Mr. Denis Johnstone

Senior Electrical Engineer

**Solar Energy Company (SEC)**

Mr. Terubentau Akura

Manager

Ms. Tahirih Pedro Tuare

Deputy General Manager

Mr. Teikona Toamannang

Utility Supervisor and Technician

**Telecommunication Services of Kiribati Ltd.**

Mr. Tebua Robuti

Manager of Earth Station

**Original Engineering Consultant: SAPHE Project by ADB**

Mr. Yasuaki Matsumoto

Project Manager

Mr. Yasuhisa Sakurai

Manager: Sewerage Section

**Embassy of Japan in Fiji**

Mr. Tsuguyoshi Hada

First Secretary

Ms. Miwako Takase

First Secretary

Mr. Hiroaki Okamoto

Envoy

**JICA Fiji Office**

Mr. Tadanori Suzuki

Resident Representative

Mr. Ichiro Mukai

Deputy Resident Representative

Mr. Hiroyuki Sawada

Assistant Resident Representative

Mr. Takashi Toyama

Assistant Resident Representative

## **4. MINUTES OF DISCUSSIONS**

**MINUTES OF DISCUSSIONS  
ON THE BASIC DESIGN STUDY  
ON THE PROJECT FOR UPGRADING OF ELECTRIC POWER SUPPLY  
IN TARAWA ATOLL  
IN THE REPUBLIC OF KIRIBATI**

In response to a request from the Government of the Republic of Kiribati (hereinafter referred to as "Kiribati"), the Government of Japan agrees to conduct a basic design study on the Project for Upgrading of Electric Power Supply in Tarawa Atoll (hereinafter referred to as "the Project") and entrust the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA agrees to send to Kiribati the basic design study team (hereinafter referred to as "the Team"), already in Kiribati, which is headed by Dr Akira Niwa, Development Specialist, Institute for International Cooperation, JICA, and is scheduled to stay in the country from November 14 to December 14, 2000.

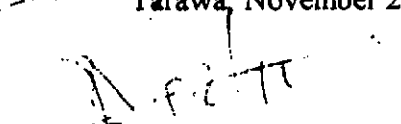
The team has held and shall continue to hold discussion with the officials concerned of the Government of Kiribati and to conduct a field survey at the study area under the Project.

In the course of discussions and field survey, both parties confirm the main items described on the Summary of Understandings and the Annexes attached hereto as the main component parts of the project. The team shall proceed to collect data and information for the preparation of the Basic Design Study Report.

Tarawa, November 22, 2000



Akira Niwa  
Team Leader  
Basic Design Study Team  
Japan International Cooperation Agency

  
Francis Ngalu  
Permanent Secretary  
Ministry of Works and Energy  
Tokia Greig  
Chief Executive Officer  
Public Utilities Board

## **SUMMARY OF UNDERSTANDINGS**

### **1. Objective**

The objective of the Project is to upgrade the present power supply system on Tarawa Atoll to a reliable and economical power supply system, that will contribute to the welfare of the people and to the improvement of economic activities.

### **2. Project Site**

The Project sites are shown in Annex-1.

### **3. Responsible and Implementing Agency**

The Responsible Agency is the Ministry of Works and Energy (MWE)

The Implementing Agency is the Public Utilities Board (PUB)

The organization of MWE and PUB are shown in Annexes-2 and -3, respectively.

### **4. Items Requested by the Government of Kiribati**

After discussions with the Team, the items as shown in the Summary of Understandings and Annex-4 were requested by Kiribati. JICA will assess the appropriateness of the request and will recommend to the Government of Japan for approval.

### **5. Japan's Grant Aid Scheme**

Kiribati understands the Japan's Grant Aid Scheme explained by the Team, as described in Annex-5.

Kiribati will take the necessary measures, as described in Annex-6, for smooth implementation of the Project, as a condition for the Japan's Grant Aid to be implemented.

### **6. Schedule of the Study**

- (1) The consultants will proceed to further studies in Kiribati until December 14, 2000.
- (2) JICA will prepare a draft report in English and dispatch a team to Kiribati around the middle of February 2001 to explain the contents of the report.
- (3) Once the contents of the report are accepted by the Government of Kiribati, JICA will then prepare a final draft and submit it to the Government of Kiribati by the end of May 2001.

### **7. Other Relevant Issues**

- (1) Kiribati confirms that it has no plan to privatize PUB.
- (2) The Kiribati side shall ensure that the land required for the new powerhouse and the laying of the 11 kV distribution facilities is available not later than the commencement date of the construction phase of the Project.

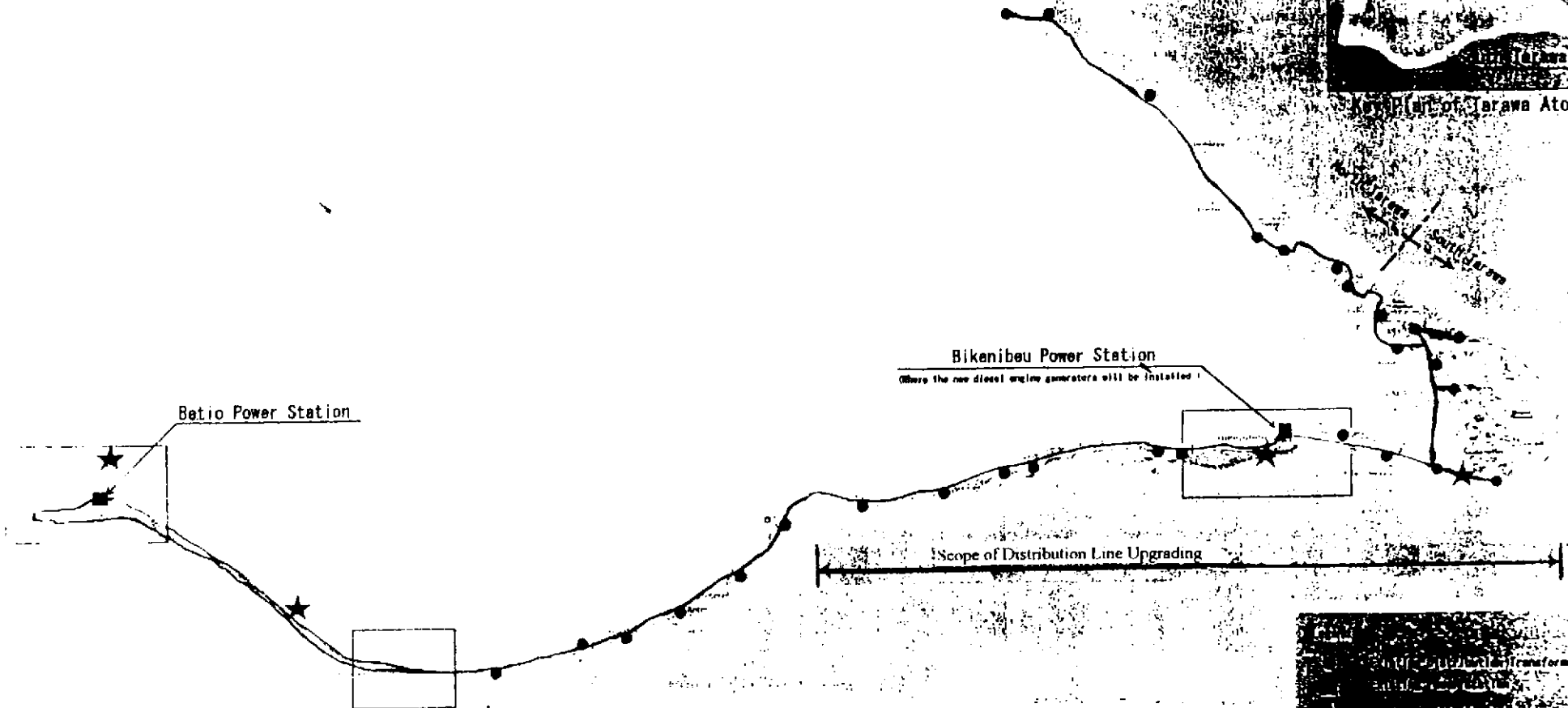
- (3) Kiribati requests that the technical skill transfer for operation and maintenance on electric power supply facility is included in the Project.
- (4) For the sake of sustainable operation and maintenance of the Project Kiribati requests that suitable factory training in the works of the equipment manufactured should form part of the Project. An application for such training must be submitted to JICA office in Fiji.
- (5) Kiribati requests that the Project includes the removal of existing 11kV distribution facilities. The team undertakes to convey such request to Government of Japan.
- (6) Kiribati undertakes to allocate the provisions in the budget for the construction of 415V distribution lines including procurement of materials such as LV cables, watt-hour meters, etc. at the Project sites in conformity with the construction schedule.
- (7) Kiribati undertakes to carry out an IEE (Initial Environment Examination) and/or EIA (Environmental Impact Assessment) before March 2001 in accordance with its laws.
- (8) PUB agrees to deal with issues relating to the Project arising from third parties including inhabitants on the Project area and individuals, commercial and industrial consumers during the implementation of the Project.
- (9) Kiribati undertakes to take necessary measures to secure the safety of Project personnel during the study and the implementation of the Project in Kiribati.
- (10) Kiribati side strongly request the Team to extend the Project to further stages as originally requested. The Team replied Kiribati side to submit the new request to the Government of Japan through appropriate diplomatic channel.



Annex - I

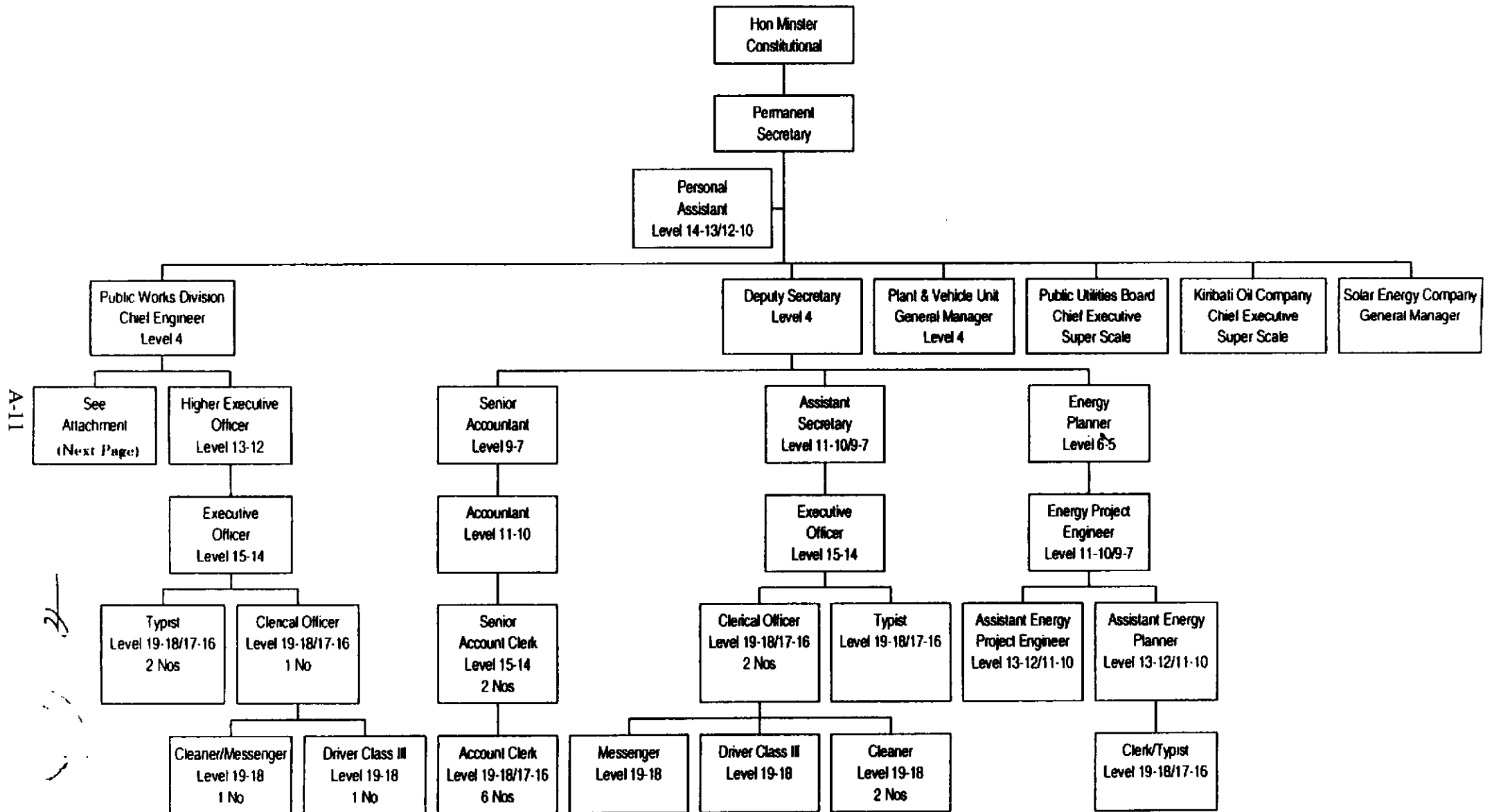


Koror (Part of Tarawa Atoll)



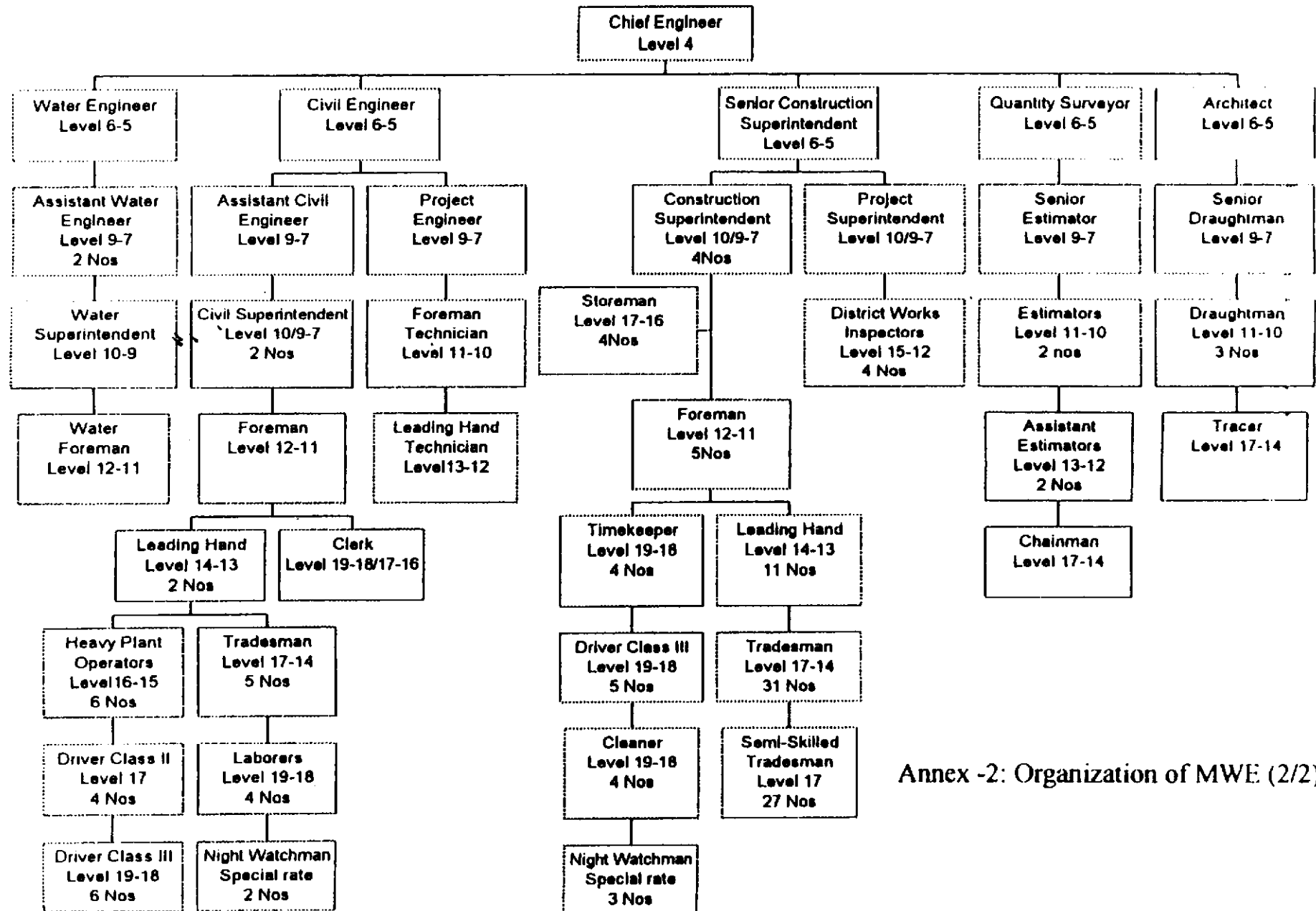
General Plan of 11kV Distribution System in Tarawa Atoll

# MINISTRY OF WORKS & ENERGY



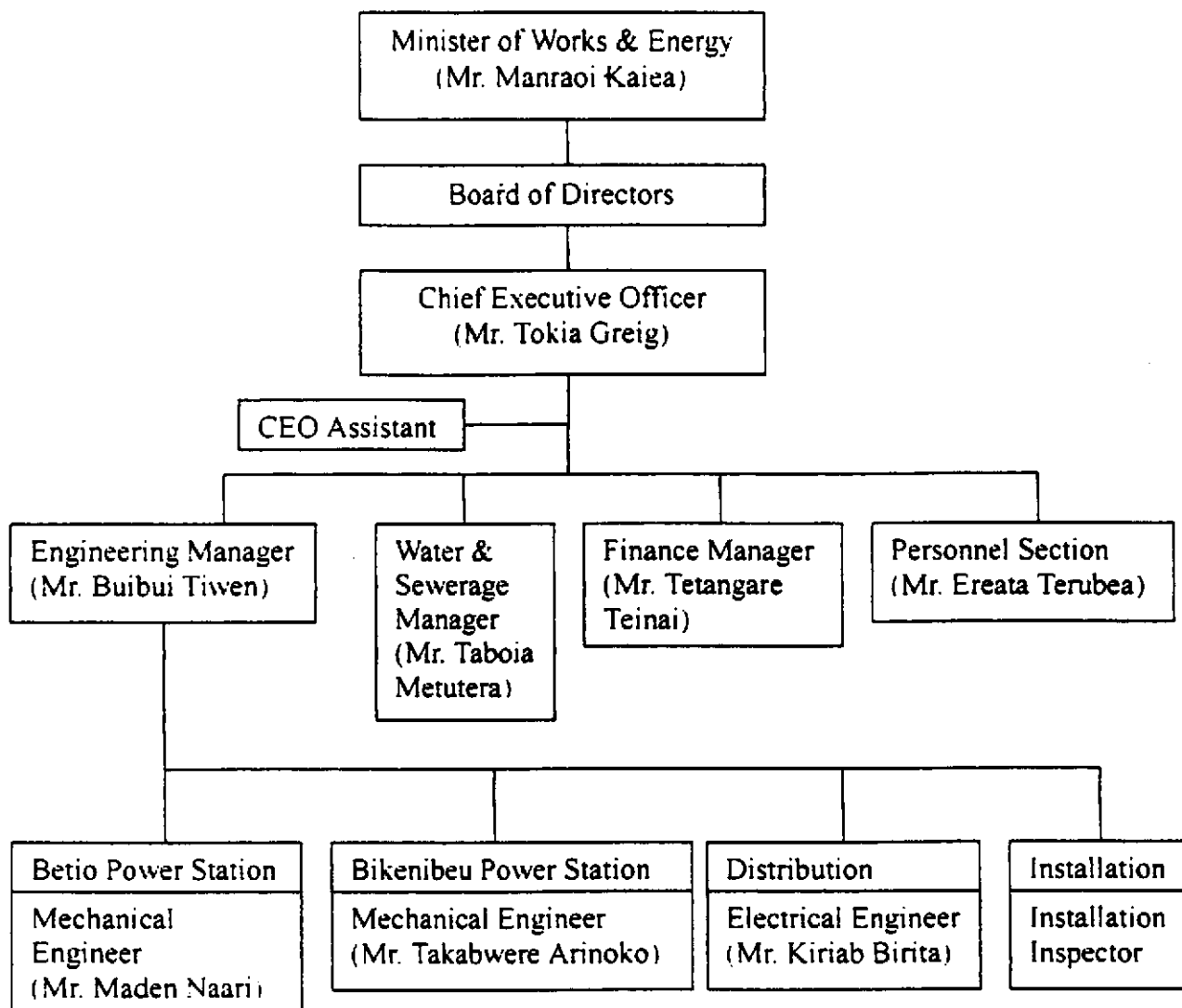
# PUBLIC WORKS DIVISION

Attachment



Annex -2: Organization of MWE (2/2)



Organization of PUB

## **Annex-4.**

### **Items Requested by the Government of Kiribati**

- (1) Supply and installation of new diesel engine generating facilities
  - 1) Two (2) sets of diesel engine generators with output capacity approximately 1.4 MW each.
  - 2) Auxiliary mechanical system necessary for item 1) above
    - Local engine control panels for each engine.
    - Fuel and lubrication oil supply system including main fuel oil storage tank(s) and daily tank(s).
    - Oil Water separation and sludge incineration system.
    - Cooling water supply system including crossed type radiators.
    - Air supply and ventilation system.
    - Installation materials such as pipes, cables, wires, etc.
  - 3) Electrical system necessary for items 1) and 2) above and station power supply system.
    - Excitation system.
    - Remote control panel including instrumentation and protection panel(s).
    - MCC for mechanical auxiliary and station power supply system.
    - 11kV switchgears for power distribution system.
    - DC power supply system.
    - Grounding (Earting) system.
    - Installation materials such as cables, wires, etc.
- (2) Construction of the civil and building works necessary for item (1) above at Bikenibeu power station
  - 1) Construction of a powerhouse including building services
  - 2) Construction of equipment foundations.
  - 3) Access road, rainwater drainage, oil & water separator, etc. within the site
- (3) Upgrading (Equipment supply and installation works) of 11kV power distribution lines including necessary civil works
  - 1) 11kV power distribution lines including cable termination & joint materials and other accessories
    - From Bikenibeu power station up to the existing Circuit Breaker panel (CB-4) at Teaoraereke.
    - From Bikenibeu power station up to the existing Ring Main Unit (RMU-31).
    - From the existing Ring Main Unit (RMU-43) up to the existing Ring Main Unit (RMU-44).
  - 2) Five (5) sets of 11kV Ring Main Unit with distribution transformer and accessories.
  - 3) Three (3) sets of 11 kV Circuit Breaker panels with accessories.
  - 4) One (1) set of Voltage Regulator with out put capacity approximately 3000 kVA with accessories.
- (4) Supply of spare parts and maintenance instruments & tools necessary for items (1) to (3) above.
  - 1) Spare parts and consumables for two (2) years operation
  - 2) Instruments and tools for maintenance and repair works.
  - 3) Twenty (20) sets of operation & maintenance manuals prepared by English, which are able to use for technical transfer conducted by the equipment supplier.
  - 4) Audiovisual equipment necessary for technical transfer of operation and maintenance technology

## Japan's Grant Aid Scheme

### 1. Grant Aid Procedures

- (1) Japan's Grant Aid Program is executed through the following procedures.

Application	(Request made by a recipient country)
Study	(Basic Design Study conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of Implementation	(The Notes exchanged between the Governments of Japan and the recipient country)

- (2) Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA (Japan International Cooperation Agency) to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using (a) Japanese consulting firm(s).

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Program, based on the Basic Design Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Governments of Japan and the recipient country.

Finally, for the implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

### 2. Basic Design Study

- (1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study"), conducted by JICA on a requested project (hereinafter referred to as "the Project") is to provide a basic document necessary for the appraisal of the Project by the Japanese Government. The contents of the Study are as follows:

- Confirmation of the background, objectives, and benefits of the requested project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation.
- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, social and economic point of view.
- Confirmation of items agreed on by both parties concerning the basic concept of the Project.
- Preparation of a basic design of the Project
- Estimation of costs of the Project

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure 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 in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Study, JICA uses (a) registered consultant firm(s). JICA selects (a) firms(s) based on proposals submitted by interested firms. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference set by JICA.

The consulting firm(s) used for the Study is(are) recommended by JICA to the recipient country to also work on the Project's implementation after the Exchange of Notes, in order to maintain technical consistency.

### 3. Japan's Grant Aid Scheme

(1) What is Grant Aid?

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

(2) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the Project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

(3) "The period of the Grant Aid" means the one fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedures such as exchanging of the Notes, concluding contracts with (a) consultant firm(s) and (a) contractor(s) and final payment to them must be completed.

However in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

(4) Under the Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments 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, consulting, contracting and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

(5) Necessity of "Verification"

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

(6) Undertakings required of 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 the following:

- 1) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the construction.
- 2) To provide facilities for the distribution of electricity, water supply and drainage and other incidental facilities in and around the sites.
- 3) To secure buildings prior to the procurement in case the installation of the equipment.

- 4) To ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid.
- 5) To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts.
- 6) To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

(7) "Proper Use"

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

(8) "Re-export"

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

(9) Banking Arrangements (B/A)

- 1) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan 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.
- 2) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an authorization to pay issued by the Government of the recipient country or its designated authority.

## Major Undertakings to be taken by Each Government

No	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	To be secured land		●
2	To Clear, level and reclaim the site when needed		●
3	To construct or demolish gates and fences in and around the site		●
4	To construct roads		
	1) Within the site	●	
	2) Outside the site (if necessary)		●
5	To provide facilities for water supply, drainage and other incidental facilities		
	1) Water supply		
	a. The city water distribution main to the site		●
	b. The supply system within the site (receiving and elevated tanks)	●	
	2) Drainage		
	a. The city drainage main (for storm, sewer and others) to the site		●
	b. The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site	●	
	3) Telephone system		
	a. The telephone trunk line to the main distribution frame/panel (MDF) of the building		●
	b. The MDF and the extension after the frame/panel	●	
	4) Furniture and Equipment		
	a. General furniture		●
	b. Project Equipment	●	
6	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		●
7	To ensure unloading and customs clearance at port of disembarkation in recipient country		
	1) Marine (Air) transportation of the products from Japan to the recipient country	●	
	2) Tax exemption and custom clearance of the products at the port of disembarkation		●
	3) Internal transportation from port of disembarkation to the project site	●	
8	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.		●
9	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imported in the recipient country with respect to the supply of the products and services under the verified contract.		●
10	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant		●
11	To bear all the expenses, other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and installation of the equipment		●


**MINUTES OF DISCUSSIONS**  
**ON THE BASIC DESIGN STUDY**  
**ON THE PROJECT FOR UPGRADING OF ELECTRIC POWER SUPPLY**  
**IN TARAWA ATOLL**  
**IN THE REPUBLIC OF KIRIBATI**  
**FOR EXPLANATION OF THE DRAFT REPORT**

In November 2000, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Basic Design Study Team on the Project for Upgrading of Electric Power Supply in Tarawa Atoll (hereinafter referred to as "the Project") to the Republic of Kiribati (herein after referred to as "Kiribati"), and through discussions, field survey and technical examination of the results in Japan, JICA prepared a draft report of the study.

In order to explain and to consult the Government of Kiribati on the components of the draft report, JICA sent to Kiribati the Draft Report Explanation Team (hereinafter referred to as "the Team"), which is headed by Mr. Hiroshi Shiono, Deputy Director, First Programme Division, Tsukuba International Centre, JICA, from February 23 to March 8, 2001.

As a result of discussions, both parties confirmed the main items described on the Summary of Understanding attached hereto.

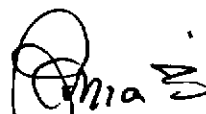
Dated February 26<sup>th</sup> 2001 at Betio, Tarawa, Kiribati.



\_\_\_\_\_  
Mr. Hiroshi Shiono  
Team Leader  
Draft Report Explanation Team  
Japan International Cooperation Agency



\_\_\_\_\_  
Mr. Francis Ngahu  
Permanent Secretary  
Ministry of Works and Energy  
Republic of Kiribati



\_\_\_\_\_  
Mr. Tokia Greig  
Chief Executive Officer  
Public Utilities Board (PUB)

## SUMMARY OF UNDERSTANDING

### 1. Components of the Draft Report

The Kiribati side agreed and accepted in principle the components of the draft report explained by the Team.

### 2. Japan's Grant Aid Scheme

The Kiribati side has understood the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Kiribati as explained by the Team, which is described in Annex – 5 and Annex – 6 of the Minutes of Discussions signed by both parties on November 22, 2000.

### 3. Schedule of the Study

JICA will complete the final report in accordance with the confirmed item and send it to the Government of Kiribati by the end of May, 2001.

### 4. Other relevant issues

- (1) The Kiribati side gives assurance that land is available for the 11 kv distribution cables, ring main units, circuit breaker panels, distribution transformers, etc., supplied and installed under the Project for the construction phase of the Project not later than the date of the Exchange of Notes between the Government of Japan and the Government of Kiribati.
- (2) The Team explains to the Kiribati side that the technical transfer for the operation and maintenance of the equipment under the Project during the installation, testing and adjustment period is already included as a component part of the Project in the Basic Design Report.
- (3) Regarding the training for the operation and maintenance of the equipment at the manufacturer's factory, an application by the Kiribati side must be submitted to JICA office Fiji.
- (4) The Kiribati Government undertakes to source funding for the construction of the 415V distribution lines for the waiting consumers in conformity with the Project construction schedule.
- (5) It is confirmed that the application form of the Environment Impact Statement (EIS) is now being prepared by PUB for submission for approval by the Ministry of Environment and Social Development (MESD), and that confirmation of approval will be obtained by the end of March 2001.
- (6) The Kiribati side agrees to deal with issues relating to the Project arising from third parties in Kiribati including inhabitants on the Project area and individuals, commercial and industrial consumers during the implementation of the Project.

H. S





- (7) The Kiribati side undertakes to take necessary measures to secure the safety of the Project personnel during the study and implementation of the Project in Kiribati.
- (8) The Team handed one copy of the draft detailed specification of the equipment to the Chief Executive Officer, PUB. Both sides agreed that this draft specification are protected under the copy right law and are confidential for the purpose of the tendering process and should not be duplicated or released to any third party.

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## **5. COST ESTIMATION BORNE BY THE RECIPIENT COUNTRY**

## **COST ESTIMATION BORNE BY THE RECIPIENT COUNTRY**

Main items of the construction costs to be borne by Kiribati side are as follows:

① Replacement of existing fence, cleaning, etc, at Bikenibeu P/S:	Some	3,500 A\$
② Replacement of Existing Ring Main Units (3 sets):	Some	15,500 A\$
③ Removal of existing circuit breaker (No. CB4):	Some	3,600 A\$
④ Material procurement and installation of 415/240 V distribution lines:	Some	912,700 A\$
⑤ Preparation of the Statement of Environmental Impact:	Some	900 A\$
<b>Total:</b>	<b>Some</b>	<b>936,200 A\$</b>

## **6. POWER BALANCE**

# Power Balance

Description	Installed Capacity [kW]	Recorded						Forecast												Remarks
		1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	
<b>1. PEAK DEMAND</b>							<b>*4</b>													
1.1. Existing Consumer		1,586	1,850	1,857	2,060	2,200	2,695	2,860	3,260	3,690	4,350	4,610	4,890	5,180	5,490	5,820	6,170	6,540	6,930	*1
1.2. Waiting Consumer																				
1) Private Consumer									90	130										
2) Public Consumer								217	133	285										
(Total)		1,586	1,850	1,857	2,060	2,200	2,695	3,077	3,483	4,105	4,350	4,610	4,890	5,180	5,490	5,820	6,170	6,540	6,930	
<b>2. GENERATING OUTPUT</b>																				
<b>2.1 Betio Power Station (*5)</b>																				
No.1 (1953)	300	265	265	(Dismantled)																
No.3 (1953)	300	265	265	265	(Retire)															
No.6 (1976)	750	750	700	700	700	700	650	650	650	650	650	(Retire)								PO *2
No.7 (1976)	750		700	700	700	700	650	650	650	650	650	650	(Retire)							PO *2
No.8 (1988)	1,080		350	350	350	850	850	850	850	850	800	800	800	800	800	800	800	800	800	
No.9 ( )																1,000	1,000	1,000	1,000	
No.10 ( )																	1,000	1,000	1,000	
(Subtotal of Available Capacity)		1,280	2,280	2,015	1,750	2,250	2,150	2,150	2,150	2,150	2,100	1,450	800	800	800	1,800	2,800	2,800	2,800	
<b>2.2 Bikenibeu Power Station (*5)</b>																				
No. 1 (1969)	600	500	500	500	500	500	500	500	500	480	480	480	480	480	(Retire)					PO *2
No. 2 (1969)	600	500	500	500	500	500	500	500	500	480	480	480	480	480	480	(Retire)				PO *2
No. 3 ( )	1,400									1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	This Project
No. 4 ( )	1,400									1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	This Project
No. 5 ( )	1,400											1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	
No. 6 ( )	1,400												1,400	1,400	1,400	1,400	1,400	1,400	1,400	
(Subtotal of Available Capacity)		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	3,760	3,760	5,160	6,560	6,560	6,080	5,600	5,600	5,600	5,600	
<b>2.3 TOTAL AVAILABLE CAPACITY [kW]</b>		2,280	3,280	3,015	2,750	3,250	3,150	3,150	3,150	5,910	5,860	6,610	7,360	7,360	6,880	7,400	8,400	8,400	8,400	
<b>3. POWER BALANCE ( 2.3 - 1.) [kW]</b>		694	1,430	1,158	690	1,050	455	73	-333	1,805	1,510	2,000	2,470	2,180	1,390	1,580	2,230	1,860	1,470	
<b>4. MAXIMUM UNIT CAPACITY [kW]</b>		750	700	700	700	850	850	850	850	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	*3
<b>5. STABD-BY CAPACITY ( 3. - 4.) [kW]</b>		-56	730	458	-10	200	-395	-777	-1,183	405	110	600	1,070	780	-10	180	830	460	70	

Note: PO means Peak Operation.

Remarks: \*1: Average of Annual Increasing Ratio for FORECAST is 6.0 %.

\*2: Retired date was supposed considering availability of the spare parts, major troubles and thermal efficiency.

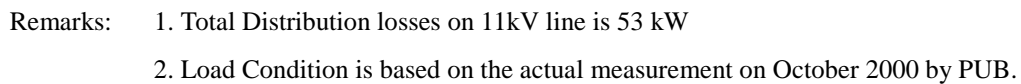
\*3: This value means available capacity of the Maximum Unit..

\*4: This data is as of 31 December 2000. (Betio P/S=1,795 kW and Bikenibeu P/S=900 kW at day time)

\*5: Numerical value in parenthesis means manufacturing year of Diesel Engine.

## **7. STUDY RESULT OF POWER FLOW**

## A-27



## **8. REFERENCES**



## REFERENCES

**BASIC DESIGN STUDY REPORT  
ON THE PROJECT FOR UPGRADING OF ELECTRIC POWER SUPPLY  
IN TARAWA ATOLL IN THE REPUBLIC OF KIRIBATI**

No.	Title	Original or Copy	Organization	Year
1	National Development Strategies 2000 - 2003	Copy	Ministry of Works and Energy	2000
2	National Development Strategy, 1996 to 1999	Copy	Government of the Republic of Kiribati	1996
3	Medium Term Strategy An Action Programme for the National Development Strategy through to the year 2000	Copy	Ministry of Finance & Economic Planning (MFEP)	1997
4	2001 Development Budget	Copy	Ministry of Finance & Economic Planning (MFEP)	2000
5	Annual Review and Update of the Medium Term Strategy: 1998	Copy	MFEP	1999
6	Report on the 1995 Census of Population	Copy	MFEP	1997
7	Public Utilities Board: Ordinance Cap. 83 (With Amendment No. 4 and 12 of 1999)	Copy	Government of Kiribati	1996
8	Appendix 1: Terms of Reference for Design (AusAID)	Copy	PUB	2000
9	Environment Act 1999	Copy	Ministry of Environment and Social Development (MESD)	2000
10	Environment Protection: Regulations 2000 (Initial Draft)	Copy	MESD	2000
11	The Republic of Kiribati (No. 9 of 1999)	Copy	MESD	2000
12	The South pacific Sea Level & Climate Monitoring Project. Monthly Data Report No. 60	Copy	AusAID	2000