

## ATTACHMENT

### 1. Components of the Draft Final Report

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

### 2. Japan's Grant Aid Scheme

The Kiribati side understands the Japan's Grant Aid scheme and the necessary undertakings to be taken by the Government of Kiribati as explained by the Team and described in Annex-3 and Annex-4 of the Minutes of Discussions signed by both sides on December 5, 2003.

### 3. Schedule of the Study

JICA will complete the final report in accordance with the confirmed items and send it to the Government of Kiribati by the end of May, 2004.

### 4. Other Relevant Issues

- 4-1. The Kiribati side will carry out any relocation of existing facilities (low voltage distribution lines and communication lines, water lines, etc.), if necessary.
- 4-2. If an approved EIS (Environmental Impact Statement) is necessary to implement the Project, the procedures necessary for EIS shall be implemented by the Kiribati side by the end of April, 2004.
- 4-3. The Kiribati side will allocate the budget for the implementation of installation 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.
- 4-4. Both sides confirmed that requested Crane Truck for Maintenance Works will be used for installation works of distribution lines implemented by PUB.
- 4-5. The Kiribati side shall notify land owners and occupiers in relation to any works to be carried out on their land in accordance with the Kiribati Laws before the end of April 2004.
- 4-6. The Team handed one (1) copy of the draft detailed specifications of Equipment to the Kiribati side. These draft specifications are confidential and should not be duplicated or released to other parties in order to secure the fairness of the tender of the Project.
- 4-7. The Kiribati side requested the Team to carry out the counterpart training in Japan on the management of maintenance of Diesel Engine Generators and Distribution Lines as a technical cooperation by JICA, and the Kiribati side understands that another official request will be needed to be submitted from the Kiribati side to the Japanese side through JICA Fiji office.
- 4-8. Public Utilities Board (PUB) is considered as an eligible organization for Japan's Grant Aid, because the Kiribati Government has no intention to privatize PUB in the foreseeable future.

✓✓  
ASICW

## **5. POWER BALANCE IN TARAWA POWER SYSTEM**

## Power Balance in Tarawa Power System

Description	Installed Capacity [kW]	Recorded								Forecast								Remarks	Base Load Operation
		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012			
		1. PEAK DEMAND	2,060	2,200	2,695	2,857	2,550	3,093	3,190	3,600	3,860	3,980	4,100	4,220	4,350	4,480	4,610		
1.1. Existing Consumer							40	40											
1.2. Waiting Consumer (*2)							264	106											
1) Residential							3,494	3,746											
2) Public, commercial, etc. (Total)	2,060	2,200	2,695	2,857	2,550	3,093	3,494	3,746	3,860	3,980	4,100	4,220	4,350	4,480	4,610				
2. GENERATING OUTPUT (*3)																			
2.1 Betio Power Station (*4)																			
No.6 (1976)	750	700	650	650	650	600	600	600	550	550	550	(Retired)							
No.7 (1976)	750	700	650	650	(Stopped)														
No.8 (1988)	1,080	850	850	850	(Stop)	(Retired)													
(*5) No.9 (2004)	1,250						1,250	1,250	1,250	1,250	1,200	1,200	1,200	1,200	1,150		-by Crank Shaft Damage -by Fire Financed by Kiribati Government		
(Subtotal of Available Capacity)	1,750	2,250	2,150	2,150	650	600	1,850	1,850	1,800	1,800	1,750	1,200	1,200	1,200	1,150				
2.2 Bikembeu Power Station (*4)																			
No.1 (1969)	600	500	500	500	450	(Stopped)													
No.2 (1969)	600	500	500	500	450	450	450	450	(Retired)										
No.3 (2002)	1,400				1,400	1,400	1,400	1,400	1,350	1,350	1,350	1,350	1,300	1,300	1,300		-Waiting spare parts		
No.4 (2002)	1,400				1,400	1,400	1,400	1,400	1,350	1,350	1,350	1,350	1,300	1,300	1,300		Japanese Grant Aid (Ph-I)		
No.5 (2005)	1,400						1,400	1,400	1,400	1,400	1,400	1,350	1,350	1,350	1,350		Japanese Grant Aid (Ph-I)		
(Subtotal of Available Capacity)	1,000	1,000	1,000	1,000	3,700	3,250	3,250	4,650	4,100	4,100	4,100	4,050	3,950	3,950	3,950		Request to Japan (Ph-II)		
2.3 TOTAL AVAILABLE CAPACITY [KW]	2,750	3,250	3,150	3,150	4,350	3,850	5,100	6,500	5,900	5,900	5,850	5,250	5,150	5,150	5,100				
3. POWER BALANCE (2.3 - 1.) [KW]	690	1,050	455	293	1,800	757	1,606	2,754	2,040	1,920	1,750	1,030	800	670	490				
4. MAXIMUM UNIT CAPACITY [KW]	700	850	850	850	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,350	1,350	1,350	1,350				
5. STAND-BY CAPACITY (3. - 4.) [KW]	-10	200	-395	-557	400	-643	206	1,354	640	520	350	-320	-550	-680	-860				

Remarks: \*1: Average of Annual increasing ratio for Forecast is 3.0 %.

\*2: This value is estimated by PUB as of November 2003.

\*3: Decreasing factor of DEG output is supposed as 1 % per year.

\*4: Numerical value in parenthesis means manufacturing year of Diesel Engine.

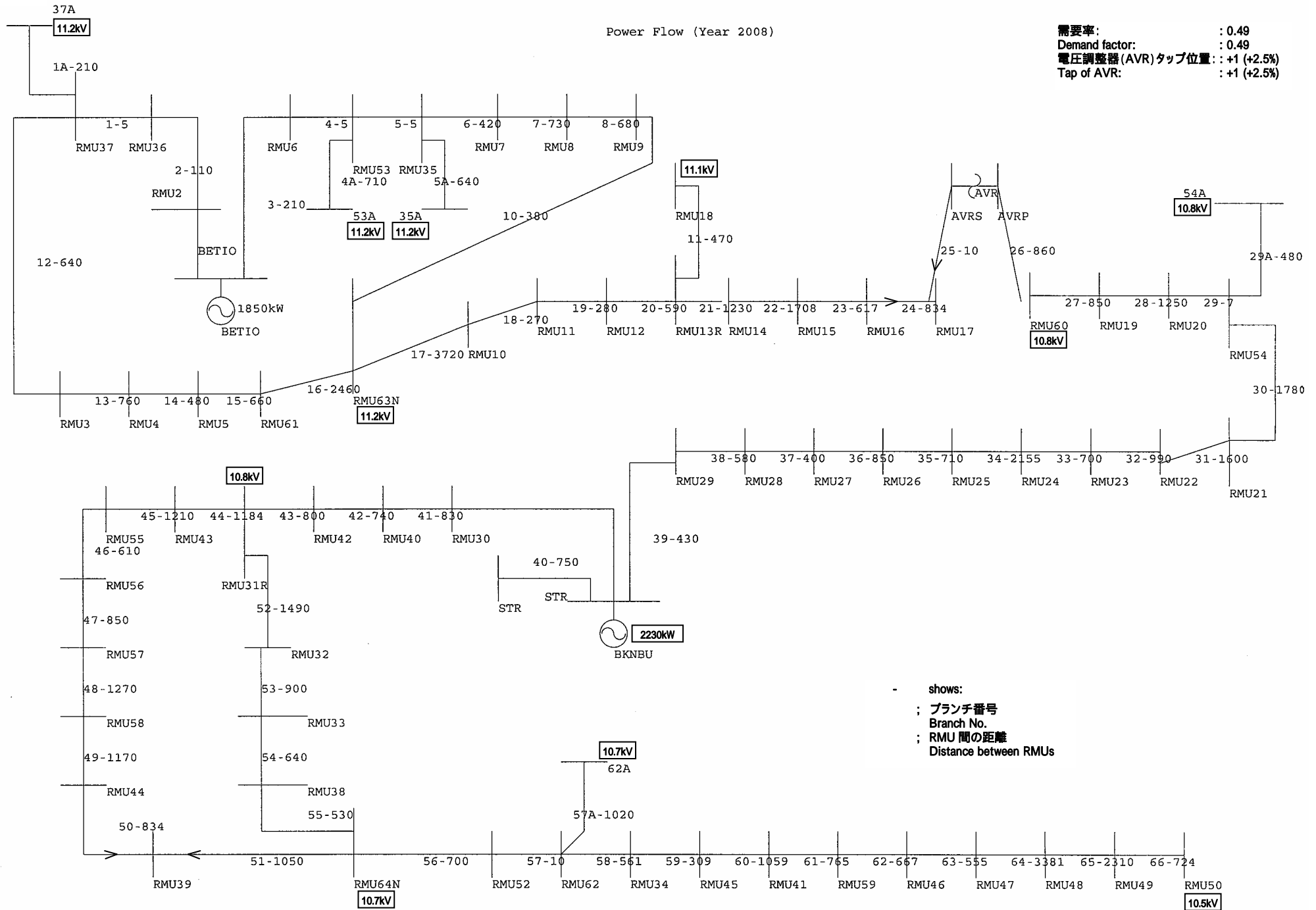
\*5: Contract had been signed on Sep. 2003 and this unit will be put into commercial operation on June, 2004.

\*6: Recorded data means the actual data at the end of year.

## **6. POWER FLOW STUDY**

Power Flow (Year 2008)

需要率: : 0.49  
 Demand factor: : 0.49  
 電圧調整器 (AVR) タップ位置: : +1 (+2.5%)  
 Tap of AVR: : +1 (+2.5%)



shows:  
 ; ブランチ番号  
 Branch No.  
 ; RMU 間の距離  
 Distance between RMUs

