



# **POWER SECTOR EXPANSION PROJECT**

**ADB LOAN N.º 2368**

**ADB GRANT N.º 0087**

**JBIC LOAN N.º 8232**

**AusAID GRANT N.º 0101**



## **Quarterly Progress Report No. 12 1<sup>st</sup> Quarter 2011 (Jan - Mar 2011)**



**PROJECT MANAGEMENT UNIT**

**&**



**EGIS BCEOM INTERNATIONAL**

# Table of Acronyms

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ADB	Asian Development Bank
ADR	Arthur D Riley
APM	Acting Project Manager
AusAID	Australian Agency for International Development
CEO	Chief Executive Officer
CSO	Community Service Obligation
DSR	Debt-service Ratio
EA	Executing Agency
EARF	Environmental Assessment and Review Framework
EBI	Egis Bceom International
EPC	Electric Power Corporation
ESU	Environment and Social Unit
GoS	Government of Samoa
IA	Implementing Agency
ICB	International Competitive Bidding
IEE	Initial Environmental Examination
IRR	Internal Rate of Return
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
km	kilometre
kV	kilo Volt
kVA	kilo Volt-Ampere
kW	Kilo Watt
LARF	Land Acquisition and Resettlement Framework
LARSF	Land Acquisition and Resettlement Screening Form
MCIL	Ministry of Commerce, Industry and Labour
MNRE	Ministry of Natural Resource and Environment
MOF	Ministry of Finance
MOU	Memorandum of Understanding
MWCSD	Ministry of Women Community and Social Development
NCB	National Competitive Bidding
NPV	Net Present Value
PEAR	Preliminary Environmental Assessment Report
PM	Project Manager
PMC	Project Management Committee

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PMU	Project Management Unit
PPMS	Project Performance Monitoring System
PSC	Project Steering Committee
PUMA	Planning & Urban Management Agency
REA	Rapid Environmental Assessment
SLC	Samoa Land Corporation
SMEC	Snowy Mountain Engineering Consultant
STEC	Samoa Trust Estate Corporation
SWA	Samoa Water Authority
TA	Technical Assistance
TER	Tender Evaluation Report
USD	American Currency

# Distribution List

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## 1. EXECUTIVE SUMMARY

This is the Quarterly Progress Report No. 12 and it covers the project activities and progress for the 1<sup>st</sup> Quarter 2011 from January 1 to March 31, 2011.

The purpose of this report is to provide quarterly progress as well as any issues confronting the Project Management Unit in the implementation of the subprojects under the Samoa Power Sector Expansion Project to enable the EPC Board of Directors, Project Steering Committee, Project Management Committee and Asian Development Bank to monitor the project progress, become aware of the issues and assess whether the immediate project objectives will be met.

The Government of Samoa received a loan of USD26.60 million and a grant of USD15.40 million from the Asian Development Bank (ADB), a loan of USD38.00 from JICA and a grant of USD8.00 million through the AusAID and the Electric Power Corporation contributes USD12.00 million making up the total cost of USD100.00 million for the Samoa Power Sector Expansion Project. The loan was approved on December 11, 2007 and became effective on June 16, 2008.

There was a full ADB/JICA/AusAid Mission this Quarter on February. They ran through status of each subproject. There were extensive discussions between Mission Team and PSEP PMU and EPC as well as Attorney General. Main topic of discussion is Fiaga New Diesel Power Station contract with Bluebird Ah Lal JV in association with Woods Pacific Ltd and Mitsubishi Heavy Industries.

Main issues Mission focused on were:

(i) Contractor's joint venture legal structure and whether contract should have been awarded to Bluebird and its partners.

(ii) Whether Contractor has the financial resources to continue the contract given that ADB disapproved their request through Samoan Government for part of payments be made in other currencies knowing that 60% of payment will be in Japanese Yen.

(iii) ADB considering as one of 3 options to terminate Bluebird's contract and re-award contract to Caterpillar, 2<sup>nd</sup> lowest complying bid but with a price increase of SAT\$11 million and not including warranty costs. Other two options considered by ADB are: letting BB continuing with contract and splitting contract into two parts, where BB will construct powerhouse and Mitsubishi Heavy Industries supply and install generators.

ADB is arranging a review of this and all subprojects in Power Sector Expansion Project by their Anti Corruption Review Committee in April. Visit has been postponed to June this year.

Bluebird never officially declared to EPC that they cannot perform the contract. BB continued to perform contract. There has been a lot of progress with preparation of design and manufacture of generators and all equipment. Factory of generators are scheduled on August this year, shipment of all equipment in September and arrival in Apia at end of October. This was the schedule until earthquake, tsunami and nuclear plant disaster. Because of the disaster, there are delays now in supplies of parts for the manufacture of the generators and associated equipment because of effect of disasters on factories that manufacture these supplies.



Implementation Consultant (IC) continued to fulfil its tasks and responsibilities under its Contract to assist PMU with implementation of various subprojects under the PSEP. Implementation Consultant also continued with the preparation of feasibility studies of hydro schemes in Upolu and Savaii. Study now focuses on five schemes; namely Faleseela, Tafitoala, Tiapapata and Fuluasou in Upolu and Faleata in Vailoa, Palauli, Savaii. IC completed feasibility study of Faleseela scheme; report was submitted to Project Manager for EPC review. Study continued with preparation of feasibility studies of the other 4 schemes. Based on decision by EPC General Manager and PMC to prepare detailed designs of the 3 selected schemes before bidding, IC submitted technical and cost proposals to Project Manager and EPC to do carry out detailed designs. EPC has not made a decision on proposals.

Construction of the upgrades of the Alaoa Feeder and Hospital Feeder Stage 1 from 6.6 to 22 KV by Bluebird Ah LAL JV are completed and the contract closed. Final payment of this contract for extra work has not been approved by ADB. ADB did disapproved it, but after discussions with ADB during their February Mission, they approved to reconsider it as a one time case due to misunderstanding between ADB and PMU/IC related to contract amount. PMU/IC considered contract as based on actual units completed. ADB on the other hand considered it is fixed sum contract.

Construction started on Hospital Feeder Upgrade Stage 2 to upgrade from 6.6kV to 22kV. Feeder will be underground from Tanugamanono power plant to Savalalo. Underground will supply power to the main hospital. Underground will increase security of power supply to critical facilities like hospital, government offices, commercial stores, hotels and parliament building. Contractor is Bluebird Ah LAL JV, a local contractor.

Construction started on Reconductoring of Upolu 22kV Powerlines. It includes 5 overhead distribution feeders and transmission lines. Contractor is GMA, a local contractor. Large conductors replaced smaller conductors. This will improve voltage and reduces line loss.

Construction started on Reconductoring of the Puapua to Asau 22kV Powerline in Savaii. Contractor is Tenix New Zealand.

Construction at Alaoa hydro continued. The electro/mechanical portion is carried out by Tenix New Zealand. Civil work portion is carried out by Silva Transport Ltd, a local contractor. Installation of new equipment starts in April. Completion is scheduled at end of April. Upgraded plant will increase amount of power from this hydro.

For Cash Power meter installation, 450 customers were installed with Cash Power during this first quarter. Of these, 176 are new electric installation and 274 converted from induction meters to Cash Power meters.

The 450 customers converted and installed with Prepayment Meters this Quarter brought the total number of customers converted to Cash Power under ADR's contract to 18,649 meters; this is 86.0% of the total 21,000 meters to be converted to Cash Power under A D Riley's contract. This left only 2,351 meters to be converted to complete ADR's contract. Project is ahead of schedule. Two of the subcontractors already completed installation of their allocations. Only one subcontractor is installing meters now. Total number of electric



customers with Cash Power meters at end of this Quarter is 23,415 or 63.75% of total number of electric meters of 36,580. Total number of electric customers is being verified. If this figure is correct, we may not achieve the 75% of total number of customers with the remaining number of Cash Power meters left to be installed by A D Riley. EPC may need to order 1,764 more Cash Power meters in order to meet the 75% requirement. But if total number of active meters is less than the figure above, we may achieve the 75% with remaining meters to be installed in A D Riley's contract. PMU will not make a decision to extend ADR's contract or order more meters until EPC completed reconciling of number of electric meters.

A total of 172 Cash Power meters were lowered this quarter. Total number of meters lowered so far is 3,474 or about 30% of total number of meters to be lowered. Subcontractors lowered these meters as they are converted to Cash Power. For new installations, consumer installed meters at 1.6 meters, so did not require subcontractors to lower them. EPC now refers all new installations to subcontractors to do. Lowering of meters is covered under Variation 1 to A D Riley's contract. Variation 1 has not been signed. Variation 1 only covers labor cost. Cost of bulk supply of materials to lower the meters has been paid under the loan. Subcontractors were supplied with these materials. Left over materials are returned to EPC.

Conversion of induction meters to Cash Power is continuing. All new installations are installed with Cash Power meters. Scratch cards are widely used now with more outlets set up by EPC in villages to sell these cards. This makes it easier for consumers to access to these places to buy top up tokens without coming to EPC offices in Salelologa or Apia. Until March this year, all new Cash Power installations were referred to subcontractors to install. It has gone back to EPC to install Cash Power in all new installations. One EPC inspector has been assigned to PMU to inspect Cash Power installations in Upolu. A separate inspector is engaged for Savaii inspection.

Taelefaga, Lalomauga (part of) and Samasoni hydro plants and Tanugamanono are now operating with new 22kV switchgear installed by Northpower. EPC issued a variation to Northpower to also supply 4 additional circuit breakers to replace the rest of the old switchgear in Lalomauga. Switchgear have not arrived.

Construction started on Alaoa hydro refurbishment. Tenix New Zealand on electro/mechanical and Silva Transport on civil work. Runner, generator and electrical switchgear arrived. Installer from Gilkes arrived in March to start installation. Commission of the plant is scheduled at end of April.

Refurbishment of Unit 9A is complete and generator is back into operation. Unit is running at its full load. Refurbishment was a success. EPC used refurbishment to train mechanics assigned to work with MAN engineers. This is the engine that had its crankshaft replaced with a new one. Old crankshaft was damaged when one of big end bearings failed. Unit 5A is still running. Overhaul of 5A will be carried out when Alaoa hydro is back into operation. This is expected in May this year. MAN will again carry out overhaul. This is part of their contract. Parts have arrived.

For Fiaga's Lot A for diesel power station subproject, Bluebird Ah LAL JV/Woods/MHI started construction on site. They have set up site offices and have equipment working on preparation of power plant site. Because EPC has not extended powerline to Fiaga site, EPC lend BB a standby generator to use. PPG, contractor for preparation of site was terminated. BB moved

in to complete earthwork. BB brought in geotechnical engineer from Tonkin and Taylor to check on site that PPG prepared. They discovered that compaction was not to their specification for power plant and generator foundation.

Contractor for Lot B of Fiaga new power plant is Northpower. Lot B covers electrical switchgear and transformers. Northpower started to submit to EPC PMU designs of electrical network and interconnection to the new generators and all systems of new power plant.

There are separate contracts for clearing and levelling of power plant site, and construction of the access road, security fence, and water line to the power plant site. Silva Transport Company Ltd is contracted to construct access road, waterline, and security fence, and PPG Engineering and Construction Ltd for levelling and preparation of power plant site. PPG Engineering contract was terminated due to lack of progress. BB Ah LAL JV took over completing of this work.

Construction of Hospital Feeder underground started. Contractor is Bluebird Ah LAL JV. Over 2000 meters of trenching and installation of electrical conduits is complete. Vaults arrived and BB started to install them. There have been a few land issues so far. EPC PMU resolved them to avoid stoppage of construction.

Construction started on reconductoring and repair of all 22kV powerlines in Upolu. Contractor is GMA. Five distribution feeders will be upgraded under this contract. They are; South Coast, West Coast, East Coast, Vaitele, and Lalomauga 33kV tie. Also the new Alaoa /Fale ole Fee transmission line will be constructed under this project to connect the Alaoa and Fale ole Fee hydro plants direct to Tanugamanono power plant instead of connecting to East Coast distribution feeder. Construction is for one year. Scope covers replacing of conductors to a large one, replace rotten poles and cross arms, and about relocate about 1.5 kilometers of the Lalomauga 33kV tie line to the side of the main east coast road for ease of access for maintenance; this part of the tie is currently running over the hills.

Materials and related equipment started to arrive for the Upolu Low Voltage System Improvements subproject. EPC will carry out construction in house when all materials arrive.

EPC PMU started to redo Feasibility Study of the Savaii new power plant in Vaiaata to replace the Salelologa power plant. New power plant will house two new medium speed base load machines. Three existing generators from Salelologa will be refurbished before shifting them to Vaiaata. Salelologa will be turned into a substation where feeder from Vaiaata will be redistributed into smaller feeders. This will greatly improve power reliability. With new power plant located in Vaiaata, a mini control center will be located in EPC's depot in Salelologa to monitor and control the system. A telecommunication link will be made from Upolu National Control Center to Vaiaata and mini control center in Salelologa so that system in Savaii can be monitored from EPC national control center in Fuluasou.

There was no activity in Vaipu pump assisted system subproject this Quarter. This project will put additional water in the Afulilo Dam to increase power generated from the Taelefa power plant. Decision is waiting on outcome of investigation by SMEC where the dam is safe after the 2009 earthquake.

All 4 JICA volunteers with PMU completed their mission here. EPC submitted request to JICA for 3 more engineers. EPC is still waiting on JICA's reply. In meantime, EPC advertised for 3 experienced engineers to add to PMU team.

Latest status of items identified from previous and current quarterly reports:

- (i) Lowering of the first 10,500 meters converted to cash power without lowering - Variation to A D Riley's contract to lower meters was approved after these meters were converted to Cash Power. ADR's base contract did not include lowering of meters. EPC is only lowering meters for consumers who requested them.*
- (ii) Number of EPC active electric meters – EPC is still working on this. This is not an easy task because EPC has to reconcile and inspect just about all electric meters shown on computer system to find out if they really exist. The number of active meters is needed to correctly determine the number of additional prepayment meters to be installed to achieve the 75% mark of total number of electric consumers on prepayment meters.*
- (iii) Drilling a new water well in Fiaga for new power plant water supply – No activity.*
- (iv) Agreement between MOF and EPC to convert loan into grant – No activity.*

## **2. INTRODUCTION**

This is the Quarterly Progress Report No. 12 and it covers the project activities and progress for the period from January to March 2011 (1st Quarter 2011 Progress Report).

The purpose of this report is to provide quarterly progress as well as any issues confronting the Project Management Unit in the implementation of the subprojects under the Samoa Power Sector Expansion Project to enable the EPC Board of Directors, Project Steering Committee, Project Management Committee, and Asian Development Bank to monitor the project progress and become aware of the issues and assess whether the immediate project objective will be met.

### **2.1 Vision**

Provide reliable, affordable electricity for Samoa.

### **2.2 Mission**

To provide quality electricity services in partnership with customers and stakeholders, be financially viable by adopting the most economical use of our resources and continued pursuit of technology and innovation to achieve excellent services, through technical, commercial and environmentally sound work practices.

### **2.3 Objectives**

- (i) Improve the capacity of the sector to meet growing electricity demand and improve quality, reliability, and cost-effectiveness of power supply.
- (ii) Support and implement EPC's investment plan to meet growing demand.
- (iii) Improve the operational efficiency of EPC.
- (iv) Improve the financial performance of EPC.
- (v) Assist in establishing effective regulation of the power sector.
- (vi) Develop a demand-side management strategy to promote energy efficiency and conservation.
- (vii) Provide accurate and timely reports to Lending Agencies, Stakeholders, Sponsors and customers.
- (viii) Collaboratively work as a team with Lending Agencies, Stakeholders, Sponsors and customers to ensure timely delivery of the Power Sector Expansion Project.

### **2.4 Rationale**

Reliable power supply is essential for enhancing the quality of life of all Samoans. Good performance of the power sector and reliable electricity services are vital for promoting private sector investments to diversify the economy and achieve sustainable economic growth. The performance of the power sector is increasingly becoming a hindrance to economic growth. High system losses and voltage drops, insufficient generating capacities for reserve, and insufficient maintenance resulting in equipment failure have resulted in poor reliability and quality of electricity supply. As a consequence, consumers are resorting to more expensive self-generation or loss of production and damage to electrical equipment.

## 2.5 Sector Loan Data

ADB Sector Loan Number:	<b>2368</b>
ADB Grant Number:	<b>0087</b>
JBIC Loan Number:	<b>8232</b>
AUSAID Grant Number:	<b>0101</b>
Project Title:	<b>Power Sector Expansion Project</b>
Borrower:	<b>The Government of Samoa</b>
Executing Agency:	<b>Ministry of Finance</b>
Implementing Agency:	<b>Electric Power Corporation</b>
Lending Agencies:	<b>Asian Development Bank (ADB)</b> <b>Japan Bank for International Cooperation (JBIC)</b> <b>Australian Agency for International Development (AusAID)</b>

## 2.6 Key Loan and Asian Development Bank (ADB) Mission Dates

<b>Loan Approval Date:</b>	21 <sup>st</sup> November 2007
<b>Date Loan Signed:</b>	11 <sup>th</sup> December 2007
<b>Date of Loan Effectiveness:</b>	19 <sup>th</sup> June 2008
<b>Loan Closing Date:</b>	31 <sup>st</sup> December 2016
<b>Last ADB Mission:</b>	Last full ADB mission was in February 2011; ADB, JICA and Aussie Aid officers were present.

## 2.7 Estimated Project Cost and Financing Plan

<b>Source</b>	<b>Total USD</b>	<b>%</b>
<b>Asian Development Bank ADF Loan:</b>	26.61	26.61
<b>Asian Development Bank ADF Grant:</b>	15.39	15.39
<b>Japan Bank for International Cooperation:</b>	38.00	38.00
<b>Government of Australia:</b>	8.00	8.00
<b>Electric Power Corporation:</b>	12.00	12.00
<b>Total</b>	<b>100.00</b>	<b>100.00</b>

The estimated Project cost, as presented in the ADB RRP, is US\$100 million comprised of:

- US\$80 million as Investment Costs;
- US\$14.8 million as Contingencies; and
- US\$5.2 million as Financial Charges during Implementation.

The ADB will finance 26.61% under the ADF Loan, and 15.39% under the ADF Grant. This covers 42% of the total Project cost which is anticipated to cover Civil Works, Equipment Supply and Installation, and Consultant Services. JBIC/JICA will finance 38% of the total Project cost to cover the 42.2% of Civil Works and 47% of Equipment Supply and Installation. AusAID will finance 8% of the total Project cost to cover 35% of Land Acquisition and Resettlement and 15% of Equipment Supply and Installation. The Electric Power Corporation finances 12% of the total Project costs; which is USD\$12 million. EPC's contribution covers 65% for Land Acquisition and Resettlement cost, 10.3% of Civil Works, 5.1% of Consultant Service, and 20% on taxes and interest of loan repayment during implementation. All local taxes and import duty and interest is paid by EPC. Please refer to Appendix 1 for Revised Project Estimates.

### **3. PROJECT IMPLEMENTATION**

#### **3.1 Project Management Unit Staff Movement**

PMU has 14 core staff, 4 for the materials store, and 2 for Cash Power meter inspector and an electrical apprentice. PMU also had 4 JICA volunteer engineers but they completed their missions in EPC. Of the 19 PMU employees, 5 are hired under 2 – 3 years contracts and 14 as EPC employees. Included in PMU 14 staff are 4 graduate engineers; which are three electrical and one civil. Two other graduate engineers (1 civil and 1 electrical) are assigned to PMU from EPC Renewable Section.

The 4 JICA engineers include: 1 civil engineer, 1 hydro civil engineer, 1 SCADA engineer, and 1 electrical/mechanical engineer. JICA civil engineer is returning home in beginning of January at end of his two year term here. There has not been any plan to replace him. The hydro, SCADA and electrical/mechanical engineers are on short term assignments. They visit here 3 times a year with 6 six week duration per visit. From time to time, hydrological staff with EPC Renewable Division is assigned to work with Implementation Consultants related to data collection for hydro scheme study. EPC PMU submitted a further request to JICA for two additional volunteers; one is a telecommunication engineer or technician experienced in fibre optic work and second volunteer is a machinist to assist with setting up a mechanical maintenance workshop in Fiaga new diesel power plant and training of EPC maintenance staff in use of equipment and tools to repair major components and require engine parts for overhaul.

ADB approved to hire three independent consulting engineers (1 civil, 1 generation and 1 power distribution) for PMU seeing that Implementation Consultant's contract is coming to an end in May. The advertisement for the 3 positions closed on March 31, 2011.

Fifteen (15) subprojects are now in construction phase concurrently. The status of construction of each subproject at end of 1<sup>st</sup> Quarter 2011:

1. Access road and water pipeline to Fiaga new power plant – 70% completed.
2. Levelling and preparation of site for new power plant – 80% completed.
3. Construction of security fence around Fiaga property – 0% completed.

4. Upgrading of the Hospital Feeder to 22kv and undergrounding medium voltage cable from Tanugamanono power plant to Apia – 20% completed.
5. Reconductoring of all 22kv overhead line feeders in Upolu – 5% completed.
6. Refurbishment of the Alaoa hydro plant and civil work – 50% completed.
7. Reconductoring of Puapua to Asau 22kv Overhead line – 5% completed.
8. Refurbishment of the two generators in Tanugamanono.
9. Replacing of 22kv switchgear in Tanugamanono, Samasoni, Lalomauga and Taelefaga power stations - 100% is completed except for additional switchgear for Lalomauga hydro plant.
10. Fiaga New Power Plant and Generators – just started work on site, but manufacture of generators and associated equipment are about 50% completed. It is suspected that recent disaster in Japan has affected delivery of generators; this is yet to be confirmed by Contractor. Design is 50% complete.
11. Electrical switchgear – no work on site, equipment are being manufactured
12. Construction of 33kv underground cables from Fiaga to Fuluasou substation and Tanugamanono.
13. 22kv underground cable from Fuluasou to Apia wharf – 20% completed.
14. 33kv underground transmission line from Fiaga new power plant to Fuluasou substation and continuing to Tanugamanono power plant – 20% completed.
15. Prepayment meters – 90% completed

These require good experienced inspectors and construction managers to maintain quality of works.

Implementation Consultant always had two full time staff in EPC PMU office. They are the Team Leader / Construction Engineer and Administrative Assistant. IC's Generation / Distribution Engineer moved to live in Samoa in November and will now be working full time on the project. This greatly improved support provided by the IC Team to EPC. Other technical support is provided from IC's head office in France. IC's assistance to EPC has greatly improved. This is very timely with the start of design and construction of the 14 major subprojects.

Hydro feasibility study of 5 schemes by the Implementation Consultant is progressing well. The Study started in September. Study now focuses on preparation of estimate costs. IC will then submit an interim report in mid January recommending the top 3 schemes to be designed first for tendering. Because detailed design is not part of IC's Variation for the hydro feasibility studies, IC submitted a formal proposal to EPC to carry out detailed designs of 3 schemes. EPC wanted the hydro projects to be designed before bidding. IC plans to start on detailed designs immediately after EPC and ADB approves recommendation and IC proposal to perform this work.



### 3.2 PMU Actual Personnel Movement during this Quarter and Plan for next Quarter

		1st QUARTER 2011 ACTUAL		2nd QUARTER 2011 PLAN		
NAME	DESIGNATION	START	FINISH	START	FINISH	COMMENTS
<b>Tologatā Tile Tuimalealiifano</b>	Project Manager	1 Jan. 2011	31 Mar 201	01 Apr. 2011	30 Jun 2011	Will be available for whole 2 <sup>nd</sup> quarter
<b>Taulealea Aumalaga Tiotio</b>	Transmission& Distribution Engineer	1 Jan. 2011	31 Mar 201	01 Apr. 2011	30 Jun 2011	Will be available for whole 2 <sup>nd</sup> quarter
<b>Tupai Mau Simanu</b>	Generation Electrical Engineer	1 Jan. 2011	31 Mar 201	01 Apr. 2011	30 Jun 2011	Will be available for whole 2 <sup>nd</sup> quarter
<b>Nuulopa Pereira</b>	Graduate Engineer - Power System Planner	1 Jan. 2011	31 Mar 201	01 Apr. 2011	30 Jun 2011	Will be available for whole 2 <sup>nd</sup> quarter
<b>Faalepo Solofa</b>	Project Accountant	1 Jan. 2011	31 Mar 201	01 Apr. 2011	30 Jun 2011	Will be available for whole 2 <sup>nd</sup> quarter
<b>Mathew Lemisio</b>	Legal Environment Advisor	1 Jan. 2011	31 Mar 201	01 Apr. 2011	30 Jun 2011	Will be available for whole 2 <sup>nd</sup> quarter
<b>Seukeva Asi Tuuau</b>	Land Acquisition Specialist	1 Jan. 2011	31 Mar 201	01 Apr. 2011	30 Jun 2011	Will be available for whole 2 <sup>nd</sup> quarter
<b>Seumalo Afele Failagi</b>	Environment Specialist	1 Jan. 2011	31 Mar 201	01 Apr. 2011	30 Jun 2011	Will be available for whole 2 <sup>nd</sup> quarter
<b>Moetuasivi Asiono</b>	PRCS	1 Jan. 2011	31 Mar 201	01 Apr. 2011	30 Jun 2011	Will be available for whole 2 <sup>nd</sup> quarter
<b>Raema Schuster</b>	Graduate Engineer – SCADA	1 Jan. 2011	31 Mar 201	01 Apr. 2011	30 Jun 2011	Will be available for whole 2 <sup>nd</sup> quarter
<b>Sila</b>	Electrical Inspector	1 Jan. 2011	31 Mar 201	01 Apr. 2011	30 Jun 2011	Will be available for whole 2 <sup>nd</sup> quarter
<b>Posi Moe</b>	Linesman	1 Jan. 2011	31 Mar 201	01 Apr. 2011	30 Jun 2011	Will be available for whole 2 <sup>nd</sup> quarter
<b>Elisapeta Collins</b>	Secretary	1 Jan. 2011	31 Mar 201	01 Apr. 2011	30 Jun 2011	Will be available for whole 2 <sup>nd</sup> quarter
<b>Alfred Matatia</b>	Graduate Civil Engineer	1 Jan. 2011	31 Mar 201	01 Apr. 2011	30 Jun 2011	Will be available for whole 2 <sup>nd</sup> quarter
<b>Muro</b>	JICA Civil Engineer	1 Jan. 2011	31 Mar 201			Completed his mission here.
<b>Tomita</b>	JICA Volunteer, Hydro Civil engineer	1 Jan. 2011	31 Mar 201			Completed his mission here
<b>Yosuke Suesawa</b>	JICA SCADA Engineer	1 Jan. 2011	31 Mar 201			Completed his mission here
<b>Mori</b>	JICA Electrical Engineer	1 Jan. 2011	31 Mar 201			Completed his mission here

### 3.3 Implementation Consultants Personnel Movement

The Implementing Consultants continued to fulfil their tasks under the contract to assist EPC PMU. A total of 13 staff from IC worked on the Project during 1<sup>st</sup> Quarter, 2011. This included additional experts involved with hydro development feasibility study under Variation 2.

Table below provides number of days worked in each month and combined for 1<sup>st</sup> Quarter 2011 for each of IC personnel.

No.	Team Members	Contract man- month	Days work in Jan.	Days worked in Feb.	Days work in Mar.	Days worked on 1st Quarter
1	Team Leader / Construction Engineer: PERELINI, Perelini	36	20	20	23	63
2	Generation Engineer: HEGERTY, Brendan	4	0	10	5	15
3	T&D Engineer: HEGERTY, Brendan	12	19	10	23	52
4	SCADA Engineer: PONS, Bernard	3	0	0	0	0
5	Environment Specialist: ADAMSON, Charles	4	0	0	0	0
6	Resettlement Specialist: WILLIAMS, Jean	4	0	0	0	0
7	Administrative Assistant: POE, Penelope	36	18	20	23	61
8	Hydro Expert/Coordinator: GIRAUD, Dominique	4.3	0	9	14	23
9	Hydro Expert: GINON, Laetitia	2.87	0	1	6	7
10	Hydrologist 1: DAVAL, Emmanuel	2.75	0	0	0	0
11	Hydrologist 2: PYRON, Nelly	2	0	0	0	0
12	Civil Engineer (Int): GUERPILLON, Herve	3.58	3	6	6	15
13	Civil Engineer (National); PERELINI, Peri T	4.75	5	5	10	20
14	Environment Specialist (National): SESEGA, Sam	3.17	5	11	10	26
15	Land Resettlement (National): SESEGA, Sam	3.17	5	11	10	26
16	Hydro Electrical Engineer: HEGERTY, Brendan	2.5	0	0	0	0

Implementation Consultant had 3 full time staff in office here during this Quarter when TD/Generation Engineer moved to live in Apia. The 3 full time staff are; Team Leader, Transmission Distribution & Generation Engineer and Administrative Assistant. To maintain continuity of work by IC, Team Leader worked on preparation and review feasibility studies, tender documents, evaluation reports, monthly and quarterly reports, and plans subprojects assisted by Generation/Distribution Engineer.

There are no major outstanding environmental issues related to any of the original subprojects. During construction, EPC's local environmental staff will handle all environmental matters. IC is using a local firm for environmental and resettlement part of hydro study.

IC's Project Director, Dominique Giraud, continued to monitor the project from IC's home office in France and provided technical and management assistance as needed. He is also head coordinator and a hydro expert for the hydro study. He visited here during this Quarter to finalize Feasibility Study report of Faleseela hydro scheme and discussed IC's overall contract as original contract ends in May. IC contract will be extended to cover limited tasks.

Team Leader/Construction Engineer of IC continued to assist PMU Project Manager with various activities; such as preparation of monthly and quarterly reports, preparation of Cabinet and EPC Board submission, in addition to planning, and preparation of feasibility studies, tendering documents of various generation and power distribution subprojects and evaluation of bids.

IC's Variation 2 for hydro feasibility study five hydro schemes continued this Quarter. IC hydro study team continued with preparation of Feasibility Reports and estimate costs of the 5 schemes. Estimate costs report was submitted to EPC PMU Project Manager. IC also submitted technical and cost proposal for Variation 3 to prepare detail designs of 3 schemes. One of the key components in the Study is the introduction of a proposal for a *Business Model* for acquisition of land for hydro projects. This Model includes land owners / village in a business entity formed to plan, develop and operate the hydro scheme with land owners / village involved in decision making and sharing of profit from sale of electricity to EPC now or a private electricity retailing company.

### 3.4 Egis Bceom International Personnel Remaining Man-months at end of 1st Quarter, 2011

No.	Team Members	Contract man-month	Remaining man-months at end of Q1 2011
1	Team Leader: PERELINI, Perelini	36	2
2	Generation Engineer: HEGERTY, Brendan	4	0
3	T&D Engineer: HEGERTY, Brendan	12	4
4	SCADA Engineer: PONS, Bernard	3	0
5	Environment Specialist: ADAMSON, Charles	4	0
6	Resettlement Specialist: WILLIAMS, Jean	4	0
7	Administrative Assistant: POE, Penelope	36	2
8	Hydro Expert/Coordinator: GIRAUD, Dominique	4.3	1.24
9	Hydro Expert: GINON, Laetitia	2.87	0.4
10	Hydrologist 1: DAVAL, Emmanuel	2.75	0
11	Hydrologist 2: PYRON, Nelly	2	0.01
12	Civil Engineer (Int): GUERPILLON, Herve	3.58	0.01
13	Civil Engineer (National); PERELINI, Peri T	4.75	1.56
14	Environment Specialis (National): SESEGA, Sam	3.17	0.49
15	Land Resettlement (National): SESEGA, Sam	3.17	0.49

### 3.5 - Egis Bceom International Personnel Movement during this Quarter and Plan for next Quarter

1st QUARTER 2011 ACTUAL				PLAN FOR 2nd QUARTER 2011		
NAME	DESIGNATION	START	FINISH	START	FINISH	COMMENTS
<b>Perelini S. Perelini</b>	Contract/Construction Engineer (Team Leader)	01 Jan 2011	31 Mar. 2011	01 Apr. 11	30 Jun. 2011	Available for whole of 2nd Quarter 2011. Prepared feasibility studies, tenders, evaluation reports, and reviewed same various subprojects which included Fiaga new diesel power station, access road to new Fiaga power station; 33 kV transmission from Fiaga to Fuluasou and 22 kV feeder from Fuluasou to Lepea and Fiaga diesel power station; 22 kV underground from Fuluasou substation to Apia wharf; prepared monthly and quarterly report. Assist prepared board papers and attended EPC Board, Project Steering Committee and Project Management Committee meetings with Project Manager to present status reports of the Project. Coordinator of Fiaga power plant subproject now under construction and assisted with managing of construction of other subprojects.
<b>Dominique Giraud</b>	Power System Planner	01 Jan 2011	31 Mar. 2011	01 Apr. 11	30 Jun. 2011	He continues to monitor project and has 1.24 man-mnths left in his contract to complete hydro feasibility study reports and tenders of 3 schemes.
<b>Brendan Hegerty</b>	Transmission and Distribution Engineer/	01 Jan 2011	31 Mar. 2011	01 Apr. 11	30 Jun. 2011	He moved to live in Apia. He was available full time on job.
<b>Brendan Hegerty</b>	Generation Engineer	01 Jan 2011	31 Mar. 2011	01 Apr. 11	30 Jun. 2011	At end of 1 <sup>st</sup> Quarter, he has 4 man months left in his contract to provide technical assistances to all

						subprojects.
<b>Charles Adamson</b>	Charles Adamson	01 Jan 2011	31 Mar. 2011	01 Apr. 11	30 Jun. 2011	He completed his involvement with project.
<b>NAME</b>	<b>DESIGNATION</b>	<b>START</b>	<b>FINISH</b>	<b>START</b>	<b>FINISH</b>	<b>COMMENTS</b>
<b>Jean Williams</b>	Resettlement Spec	01 Jan 2011	31 Mar. 2011	01 Apr. 11	30 Jun. 2011	She completed her involvement with project. PMU is handling all land resettlement issues.
<b>Bernard Pons</b>	SCADA Engineer	01 Jan 2011	31 Mar. 2011	01 Apr. 11	30 Jun. 2011	He completed his involvement with project.
<b>Penelope Poe</b>	Administrator	01 Jan 2011	31 Mar. 2011	01 Apr. 11	30 Jun. 2011	She is available to provide administrative assistance to IC and PMU.
<b>Dominique Giraud</b>	Hydro Expert & Coordinator	01 Jan 2011	31 Mar. 2011	01 Apr. 11	30 Jun. 2011	Coordinated project from home office. He had a visit to Apia for one week to finalize Feasibility study of one of hydro scheme and discuss IC contract extension past May 2011.
<b>Emmanuel Daval</b>	Hydrologist	01 Jan 2011	31 Mar. 2011	01 Apr. 11	30 Jun. 2011	Worked on hydro study
<b>Nelly Pyron</b>	Hydrologist	01 Jan 2011	31 Mar. 2011	01 Apr. 11	30 Jun. 2011	Worked on hydro study
<b>Herve Guerpillon</b>	International Civil Engineer	01 Jan 2011	31 Mar. 2011	01 Apr. 11	30 Jun. 2011	Worked on hydro study
<b>Peri Perelini</b>	National Civil Engineer	01 Jan 2011	31 Mar. 2011	01 Apr. 11	30 Jun. 2011	Worked on hydro study
<b>Sam Sesega</b>	National Environmentalist	01 Jan 2011	31 Mar. 2011	01 Apr. 11	30 Jun. 2011	Worked on hydro study
<b>Sam Sesega</b>	National Resettlement Specialist	01 Jan 2011	31 Mar. 2011	01 Apr. 11	30 Jun. 2011	Worked on hydro study

### **3.6 Implementation Progress**

All implementation activities or tasks are reflected in measuring implementation progress against the subprojects implementation schedules and referred to as “project progress”. All pre-implementation activities or tasks are considered in calculating subproject implementation progress. These activities or tasks include preparation of the Subproject Outline, Feasibility Study, Rapid Environmental Assessment, Initial Environmental Examination, Screening for Land Acquisition and Resettlement, Tender documents, Evaluation of tenders and preparation of awards and contracts. Each task in the implementation schedule is weighted according to its overall contribution (using time as a reference) to progress of subproject implementation. These weights are used to calculate the percentage of subproject progress along the entire time span of the project. This is to provide a holistic view of the pace on implementation. Due to the magnitude of the Power Sector Expansion Project and the number of its subprojects, it is not practical to list all the tasks or activities. Therefore only milestones are listed for the purpose of simplicity of subprojects progress but more details can be obtained from the Project Schedule Gantt Chart of each respective subproject. Please refer to Appendix 2 for Project Monitoring.

#### **A. Core Subprojects:**

##### **1. Hospital Feeder Upgrading Project Stage 1**

Construction was completed in 2010. Making final payment for additional work is still outstanding. ADB disapproved payment because PMU did not get prior approval. PMU argued that their understanding is that contract is a unit cost contract based on actual units built by contractor. ADB in its Mission in February agreed to approve payment as a one case due to misunderstanding between their office and PMU related to contract cost. Final payment still has not been made to Contract at end of 1<sup>st</sup> Quarter.

##### **2. Single and Three-Phase Prepayment Metering (PPM)**

A total of 450 prepayment meters were installed by A D Riley's subcontractors during this Quarter. This number of prepayment meters is made up of 176 new installations and 274 customers converted from induction to prepayment meters. This brought the total number of meters installed under this contract at end of the 1st Quarter is 18,649; which is 86.8% of 21,000 meters to be converted under this Contract in AD Riley Contract.

The total overall number of customers with prepayment meters at end of March 2011 is 23,415; which is 63.75% of total number of EPC electric customers of 36,584.

All new meter installations of prepayment meters were referred to A D Riley's subcontractors to install until new installations were referred back to EPC in March. ADR continue with meter conversions. EPC carry out pre-inspection and now installing new meters. Only one subcontractor is now installation PPMs for ADR.

Besides converting to PPMs, contractor also lowered the meters. 172 meters were lowered to 1.6 meters this Quarter. This is carried out under Variation 1 to A D Riley's contract.

Here are some remaining and outstanding matters with prepayment meters:

(i) Lowering of 10,500 meters not covered under A D Riley's Variation 2 Contract; these are meters converted to Cash Power before approval of Variation 2. PMU/IC submitted costs to ADB to lower these meters. Approval by ADB is pending.

(ii) Increasing number of defective meters with blank screens. Major problem is that these blank screen meters will continue to supply power without recharging with credits. THIS IS SERIOUS. Matter has been brought up to ADR but they have not come up with a technical solution other than replacing them with new ones. Problem is the possible large number of defective meters out there resulting in EPC losses. Until ADR come up with a solution, EPC must monitor monthly purchases of tokens by consumers on prepayment meters to find those who have not made any purchases of recharge tokens and then follow up to find out if meters are defective.

(iii) Getting true count of active meters.

(iv) Need to buy and install more Cash Power meters after the 21,000 are installed, in order for EPC to achieve 75% of its customers on Cash Power. It is estimated that we would need 1,453 meters purchased to meet the 75% requirement. PMU requested cost of 2000 single phase meters and 100 three phase meters.

(v) Meters originally installed by EPC without weatherproofed boxes and need to reinstall inside these boxes. This is not part of A D Riley's contract. There are cases of ADR installed meters not installed inside the weatherproof boxes. This will shorten lives of these meters now that they are lowered and more exposed to weather and rain.

All new meter installations with single phase meters are fitted with prepayment meters. There are customers that are impractical to be on Cash Power meters as long as they are stay current with their electric bills. This includes Government, some church organizations, and large businesses. The most important goal is that customers pay their bills on time whether they are on prepayment or induction meters. EPC reports showed a marked improvement in collection of arrears since introduction of prepayment meters under this project.

At end of this 1st Quarter 2011, there is 2,351 meters remained to be installed to complete ADR's contract.

Table below shows meters installed by each sub-contractor during the 4th 2010 and 1st Quarters 2011:

No.	Subcontractors	Meters installed in Oct. 2010	Meters installed in Nov. 2010	Meters installed in Dec. 2010	Meters installed in Jan 2011	Meters installed in Feb 2011	Meters installed in Mar 2011
1	All Electrical	24	0	0	0	0	0
2	McLean Electrical	236	278	235	192	131	127
3	Telecom. Tronics Ltd.	7	0	0	0	0	0
Total meters installed each month		267	278	235	192	131	127



Breakdown below are meter lowered during 4<sup>th</sup> Quarter 2010 and 1<sup>st</sup> Quarter 2011:

Categories	Cable length	Q4 – 2010 Quantity	Q1 - 2011 Quantity
1	0-5 meters	197	134
2	5-10 meters	29	36
3	➤ 10 meters	5	2
4	no cable needed	208	0
	Total meters lowered	438	172

Included in meter count above are meters that were lowered during maintenance.

Only 3,474 meters or 18.6% have been lowered of total number of meters converted to Cash Power. So there is still a lot of meters to be lowered. Beside ADR's subcontractor lowering meters as they convert them, EPC is lowering meters already converted on request by consumers. All new meters are installed at 1.6 meters.

Variation 1 in ADR's contract covered lowering of meters. Cost of Variation 1 is based on unit prices of materials and labour involved. ADR supplied materials bulk to its three subcontractors and billed EPC accordingly. Invoices of bulk materials supplied to lower meters were paid in full under the loan. Labour costs were paid in accordance with unit costs as agreed on in Variation 1.

Here are unit prices for labour and materials under Variation 1 of A. D. Riley's contract to lower meters:

Categories	Length of Cables Meters	Labor Unit Cost Samoan Tala
1	0 – 5m	\$20.00
2	5 – 10m	\$38.00
3	Over 10m	\$55.00
4	Attend meter recently installed and lower to 1.6m; only by request by PMU.	\$89.00

All materials required to lower meters are supplied by ADR and paid for my EPC as lump sum.

## **B. Candidate Subprojects:**

### **1. Upolu**

#### a. Generation

(i). Tanugamanono Power Station Noise & Emission Control  
Work started on Feasibility study; not finished.

(ii). Refurbishment of Alaoa Hydro Power Station  
Construction and installation started on electro-mechanical contract. Generating equipment and electrical switchgear arrived. Installer from Gilkes arrived to start installation.

Silva Transport Company continued with civil work. Silt has been cleared from headpond, started on clearing silt, logs, and rocks inside east headrace canal, completed building of walkway next to penstock, and started sandblasting and undercoating of pipe.

(iii). Fiaga Diesel Power Station  
*Powerhouse and Generators(Lot A)*  
Bluebird Ah LAL JV had mobilized on site setting up site offices. They started on earthwork to prepare site for powerhouse.

Design and preparation of construction drawings is 50% complete. Construction is due to start in June.

Manufacture of generators and associated equipment by MHI is 50% complete. Factory testing is schedule in August, shipment in September and equipment arriving at end of October.

*Fiaga station electrical switchgear (Lot B)*  
Northpower, contractor, finalized detailed design of electrical switchgear and installation. Variation 1 for changes in the main contract has been signed.

*Fiaga access road and water pipeline*  
Contractor, Silva Transport Ltd, completed 60% of civil works; completed culvert, starting on base course of some sections of road, continued with cutting, filling and compaction, and started trenching for installation of water pipeline. Order materials for fence but have not arrived; due to arrive in April. Time extension was approved due to bad weather and delay in getting fill materials from PPG contract at the site of power plant.

*Levelling and preparation of power plant site*  
Contract with PPG Engineering has been terminated due to lack of equipment and supervision which was greatly delaying work. They were delaying mobilization of Bluebird JV to take control of site to start their contract.

*Water source*

Investigation to find where to drill a new water well was put on hold. There are not conclusive information that will indicate finding groundwater on power plant site or nearby. It was decided to rely on rainwater collected on powerhouse roof and feed off Samoa Water Authority system when new 150mm diameter pipeline is completed.

EPC will construct underground cable to feed power to site. Materials and associated materials will be purchased.

(iv) Refurbishment of Generators at Tanugamanono Power Plant

MAN, contractor, completed refurbishment of first generator, Unit 9A. Generator is back in operation. Start on second generator, Unit 5A, is deferred until Alaoa Hydro is back in operation in May.

(v) Replacement of 22kv switchgear in Taelefaga, Lalomauga, and Samasoni hydro plants and Tanugamanono power plant

Northpower, completed construction, installation, and commission of new switchgear. Equipment is operational now. There is a variation to replace rest of 22kv equipment in Lalomauga hydro plant. New switchgear has not arrived.

b. Transmission

(i). Upgrade of Alaoa 6.6kV Transmission Line to 22kV

This project was completed in 2010. It was combined with Hospital Feeder Upgrade Stage 1. Final payment for extra work still outstanding. ADB did not approve payment due to some procedural matter. ADB during February Mission agreed to approve payment as a one case only. Final payment is still outstanding at end of this Quarter.

(ii). 33 kV Underground Cable from Fiaga Power Station to Fuluasou Substation

Contracts were awarded in this Quarter for the supply materials and related equipment. EPC will perform the work. Construction will start when materials and equipment arrive. EPC crew involved in this will undergo training in New Zealand. EPC will also hire cable splicers from overseas to work with crew.

(iii). Hospital Feeder Upgrading Stage 2

This subproject upgrades the rest of Hospital Feeder from 6.6 to 22 kV and underground the HV cables from Tanugamanono power plant to Savalalo. This includes improvement of power supply to the National Health Service and TTMN hospital. Construction has started. Contractor is Bluebird Ah LAL JV. Contract includes pulling and termination of cables, change out of pole structures from 6.6 to 22kv and changing of transformers. They started construction with underground to hospital along Salenesa, and Ifiifi and Falealili Roads. Combined with this Contract is trenching and installation of electrical conduits for section of the 33kv underground transmission line and Samasoni hydro transmission line along Falealili Road to Tanugamanono. 20% of trenching and installation of conduits is completed at end of this Quarter.

(iv) 22kV Fuluasou Substation

Bid closed for design built contract of the substation. Evaluation report is finalized for submission to ADB for review and approval. Four bids were received. Contract includes; all 415volts, 11, 22, and 33kv electrical switchgear, substation transformers, two story building,

paved road and civil work, undergrounding of incoming and outgoing cables and connection to feeders and transmission lines, standby generator, National Control Center and related furniture and equipment, security fence, and outdoor lights.

(v). Upolu Low Voltage Network Improvements

Materials for this subproject are currently on order. EPC will do construction.

(vi). Fuluasou Substation to Apia Wharf Area 22kV Underground Cable

Contracts have been awarded for supply of materials. EPC will carry out work. Part of electrical conduits for this project have been installed under construction of Vaitele Road. This project will underground all high voltage powerlines along Vaitele Road and then remove these high voltage powerlines. All cables to consumers along side of Vaitele Road will be installed underground.

(vii). Fuluasou Substation to Leulumoega via Vaigaga 22kV Underground Cable

This subproject is removed from Project. All powerlines will be install overhead.

(viii). 22kV Overhead Conductor Upgrading Program

The feeders involved in this project are; West Coast, Lalomauga 33 KV line, East Coast, South Coast, Vaitele, Beach Road, and Alaoa transmission line. All materials are here.

Construction started. Contractor is GMA. They completed over 10 shutdowns already. Two crews of 10 men each are currently being used. More men is needed to set up another crew. There is lack of equipment. Contractor is getting more equipment. Contractor is also getting a power distribution and transmission engineer or experienced line supervisor to supervise construction.

## **2. Savaii**

### **a. Generation**

(i) Hydropower Scheme

Since disapproval by the village of Sili of developing a hydro scheme in their village, hydro scheme subproject in Savaii has been combined under a new subproject, *Hydro Development*. This includes schemes in Upolu. Five schemes were selected for feasibility study. They are: Faleata in Vailoa Savaii, and Faleseela, Tafitoala, Fuluasou, and Tiapapata in Upolu. There is only one scheme in Savaii under this Study.

### **b. Distribution**

(i). Puapua-Asau 22kV Distribution Line Reconductoring

Tenix New Zealand, contractor, finally started construction. They hired a local subcontractor. Tenix is yet to provide a construction supervisor for construction. Supervisor must be an engineer or an experienced linemen. No body is doing this now and PMU already voiced their concern to Tenix. It is a requirement of contract.

(ii). Power Factor (PF)

This project is complete. There is no more activity required done on this.

(iii). Low Voltage Network Improvement Program in Savaii

Feasibility study is being prepared.

### **3. Measurement Equipment:**

(i). Steam Flow Gauging Equipment

Installation of stream flow gauges is complete. EPC renewable department and MNRE continue to collect data, carry out maintenance and monitor these gauges monthly.

(ii). HV Testing Equipment

PMU continued to use this equipment for their work.

### **SCADA**

ADB approved tender document. Tender is being advertised in ADB website, EPC website and local newspaper.

### **New Subprojects**

Listed as follows are new subprojects:

(i). Public Dissemination

Public awareness and dissemination and consultations are continuing for all subprojects.

(ii). Vending System Expansion

Scratch card system is fully operational. Cash Power consumers buy top up cards from various shops in villages in both Upolu and Savaii.

(iii). Power System Planning Software

EPC continued to use software to check on system voltage and feeder loads.

(iv). Refurbishment of Salelologa Power Station

EPC's Salelologa power plant will not be refurbished. Instead, a new 8 MW diesel power plant will be built in Vaiaata to replace the Salelologa power plant. EPC will still main a depot in Salelologa for its power distribution, customer service and administration office. With the power plant located in Vaiaata, it is planned that a Mini Control Center will be set up in Salelologa to monitor the network. PMU submitted Feasibility study and Initial Environmental Examination report to ADB in December for review.

Planning of the new power plant tender has started. This will require a topographic survey of the entire property. Survey has started.

(v). Refurbishment of Taelefa and other power plant 22kV Switchgears

Contract is completed. Plants are now operating with new switchgear. There are 2 outstanding issues under this contract. One is correcting setting of protective relays from load flow and protection study. Feeders are still tripping unnecessarily due to settings of relays. Second is arrival of 4 new circuit breakers to complete replacements of 22kv circuit breakers at Lalomauga hydro plant.

(vi). Refurbishment of Tanugamanono Diesel Generators

Two generators are refurbished under this subproject; Units 9A and 5A. Refurbishment of Unit 9A is completed and put back in service. Work was successful. New crankshaft was installed. Overhaul of 5A will start when Alaoa hydro is back on line; expected in early May.

(vii). Vaipu Pumping Station

Still no decision this Quarter whether to go ahead with this project or not.

EPC is waiting on outcome of the study by SMEC on the integrity of the dam after the 2009 earthquake. Report is complete. Outcome of study is that the dam is safe.

This is an excellent project. It will generate more power from Taelefa hydro plant. Payback is very short. Money is already budgeted for construction. There are no major environmental issues.

#### **4. RISKS AND ISSUES**

##### **A. Staff Recruitment**

EPC advertised for 3 new independent consulting engineers to add to PMU. Advertisement closed at end of March.

##### **B. Prepayment Meters**

Installation continued during the 1st Quarter. Only one subcontractor is involved. Most critical issue is blank screen defect of meters. Number of blank screen defective meters is increasing. Problem is that when meters screens turned blank, they will continue to supply power even if customer credit runs out. So there will be a lot of customers with blank screens receiving free power. This problem has been brought to A D Riley, but they have not come up with a solution. What is needed is, if meter screen turns blank, it should automatically switch off power to customer. Until ADR comes up with a technical solution to this, EPC needs to closely monitor customers who have not purchased top up credits and send inspectors to check on these customers' meters.

##### **C. Cabinet Policy**

There have been no further discussions on this.

##### **D. Meter Heights**

Lowering of meters by subcontractors continued. Materials were supplied by AD Riley and paid in bulk by EPC under loan. There has been no firm decision on how to lower about 10,500 consumers that have been installed before meter lowering program started. PMU discussed this matter with ADB and have sent recommendation and costing to ADB to buy materials to lower meters and cost for ADR to lower them. Other option considered is buying materials under the Loan and letting EPC staff lower the meters.

##### **E. Vending and Card System**

Scratch cards are widely used now. EPC is working with a local bank to use this bank dial up system for their bank consumers with EPC accounts to buy tokens without leaving his house. Consumer will text this bank using a 627 number and request EPC token. Bank system will process token and deduct amount from consumer account and bank get token number from EPC electronically and then text back to consumer. This is a very convenient method to get top up tokens.

##### **F. Access Road to Fiaga**

Contract was awarded to Silva Transport for construction of access road, and water line; work completed at end of this Quarter is 70%. Silva has not started on fence. Materials are on order, to arrive in April.

## G. Land transfer to EPC

Government approved transfer of land in Fiaga and Vaiaata to EPC for new power plants. Transfer has not been done. Office of Attorney General will check on status.

## 5. EPC PERFORMANCE MONITORING

Design Summary	Performance Targets/Indicators	Current Status
<b>Impact</b>  Access to sustainable and reliable electricity services at affordable prices	Consumer satisfaction ratings of EPC's services  Complaints to EPC's consumer service division	Initial Consumer Confidence Survey (CCS) is scheduled for 2011  EPC to reactivate service order tracking system in Daffron System.
<b>Outcome</b>  Improved quality, reliability, and cost-effectiveness of power supply	System Average Interruption Duration Index (SAIDI) Baseline established and verified on 4th Quarter of 2008 and reduced by 20% by 2015  System Average Interruption Frequency Index (SAIFI) Baseline established and verified on 4th quarter 2008 and reduced by 20% by 2015	<u>Baseline SAIDI established on 3<sup>rd</sup> Quarter 2008:</u> Annual SAIDI for Upolu: 1515 min Annual SAIDI for Savaii: 2622 min Quarterly SAIDI for Upolu: 379 min Quarterly SAIDI for Savaii: 656 min <u>4<sup>th</sup> Quarter 2010 SAIDI:</u> Annual SAIDI for Upolu: 2596 Annual SAIDI for Savaii: 364 Quarterly SAIDI for Upolu: 649 Quarterly SAIDI for Savaii: 91  <u>Baseline SAIFI established on 3<sup>rd</sup> Quarter 2008</u> Annual SAIFI for Upolu: 26 Annual SAIFI for Savaii: 44 Quarterly SAIFI for Upolu: 6.5 Quarterly SAIFI for Savaii: 11 <u>SAIFI on 4<sup>TH</sup> Quarter S2010</u> Annual SAIFI for Upolu: 17.6 Annual SAIFI for Savaii: 20 Quarterly SAIFI for Upolu: 4.4 Quarterly SAIFI for Savaii: 5



Design Summary	Performance Targets/Indicators	Current Status
	Cost of generation established and published by 1st Quarter of FY 2009	Refer to Appendix 8 for SAIDI monitoring Refer to Appendix 9 for SAIFI monitoring  Cost of Generation established and reported to EPC Board as part of FY 2008 Budget process
<b>Outputs</b>  1. EPC's investment plan meets demand requirements	Power system capacity for energy and power meets demand requirements on Savai'i and Upolu	Project Implementation Plans meet estimated demand per survey. Planned expansion of power generation is based on N-2 criteria.
2. Operational efficiency of EPC improves	<p>Baselines for technical system losses are established and verified by 4th Quarter of 2008 and are to be reduced by 10% by 4th Quarter 2010 and 20% by 4th Quarter 2012</p> <p>Baseline for non-technical system losses established and verified by 4th quarter 2008 and reduced by 10% by 2010.</p>	<p>Baselines figures of Total System losses established on a 12 moth moving average at September 2008 are:</p> <p>Upolu: 15.7%</p> <p>Savaii: 18.2%</p> <p>EPC : 15.9%</p> <p>Updated 12 month moving average of total system losses now reported monthly to the Board. End of March 2011 are:</p> <p>Total Losses: 16.17%</p> <p>Technical: 7.30%</p> <p>Non technical : 8.88%</p> <p>Not possible to calculate Technical losses due to lack of metering and dedicated resources.</p> <p>Not possible to calculate non-technical losses - this can only be calculated as "<i>total system loss – technical loss</i>"</p> <p>Technical loss is established to be 13.5% from studies by the Japanese Volunteer and PMU in 4<sup>th</sup> Quarter 2008.</p> <p>Change in non technical loss can be monitored as technical loss level generally remains static</p> <p>Finance Department have begun diagnostic</p>

Design Summary	Performance Targets/Indicators	Current Status
		review of causes of non-technical loss as basis for implementation of reduction measures
3. The financial performance of EPC improves	<p>Consistent application of disconnection policy</p> <p>Fuel audits conducted on all EPC's diesel power stations</p> <p>Timeliness of tariff adjustments in response to cost</p> <p>EPC's collection performance improves such that accounts receivables are below 2 months of sales</p> <p>Government consumers' share of EPC's accounts receivables reduced from 55% in 2007 to less than their share of total sales by 31 December 2009</p>	<p>Procedures reviewed in August 2008 and revised procedures implemented.</p> <p>Fuel Audit's at both Upolu and Savaii Generation Stations introduced 1 May 2008 and now routinely conducted monthly. Results reported monthly to Board.</p> <p>Tariff Increase of 10% from 1 September 2008 incorporated in FY 2009 approved Budget not yet implemented – implementation now anticipated as 1<sup>st</sup> January 2009.</p> <p>Customers' arrears on 1st Quarter of 2011 were:  Debtor days as = 43.2days  % Government Debt (of total debt) = 16.06%  % Government Sales (of total sales) = 8.26%</p> <p>Debt/Sales Ratio: 194.32%</p> <p>Reference Appendix 5</p>

4. Effective regulation of the power sector is established	<p>Electricity Act Reform to govern the power sector was established by 31 December 2009</p> <p>Amendments of the EPC Act consistent with the Electricity Act by 31 December 2009</p> <p>Regulatory agency established by 31 December 2010.</p>	Not within Scope of this Project
5. Energy demand-side management	Energy conservation and demand-side management public awareness campaign implemented	Not within Scope of this Project
6. Development of clean energy	<p>Number of projects by energy subsector financed by the clean energy fund</p> <p>Number of projects by energy subsector eligible for clean development mechanism</p> <p>Electricity produced by clean energy resources (baseline of 45</p>	Not within Scope of this Project

## 6. COMPLIANCE WITH LOAN COVENANTS (Beneficiary)

Covenant	Status	Comments
The Beneficiary shall carry out the project with due diligence and efficiency and in conforming with sound administrative, financial, engineering, environmental and public utilities practices	<b>Complied</b>	<b>PMU is carrying out project with due diligence</b>
In carrying out of the Project and operation of the project facilities the Beneficiary shall perform or cause to be performed, all obligations set forth in schedule 5 of the Financing Agreement	<b>Complied</b>	<b>PMU office is being provided with all facilities</b>
The Beneficiary shall make available promptly, as needed, the funds, facilities, services, land and other resources which are required in addition to the proceeds of the ADB Loan and Grant, and the JBIC Loan and the Government of Australia Grant, for carrying out of the Project and for the operation and maintenance of the Project facilities.	<b>Complied</b>	<b>Beneficiary committed personnel, funds, etc support the project.</b>
The Beneficiary shall enable ADB's representatives to inspect the Project, the goods financed out of the proceeds of the ADB Loan and the Grant and the JBIC Loan and the Government of Australia Grant, and any relevant records and documents.	<b>Complied</b>	<b>There was a full ADB Mission in February this Quarter. ADB, JICA and Aussie Aid participated.</b>
The Beneficiary shall take all action which shall be necessary on its part to enable EPC to perform it's obligations under the Project Agreement and shall take or permit any action which would interfere with the performance of such obligations.	<b>Complied</b>	
The Beneficiary shall exercise its rights under the Subsidiary Financing Agreement in such a manner as to protect the interests of the Beneficiary and ADB and to accomplish the purpose of the Loan and Grant, and the JBIC Loan and the Government of Australia Grant.	<b>Complied</b>	

No rights or obligations under the Subsidiary Financing Agreement shall be assigned, amended, or waived without the prior concurrence of ADB.	<b>Complied</b>	<b>One outstanding issue with variation in Hospital Feeder Stage 1 and Alaoa feeder upgrade contract. ADB decided to approve as a single case due to PMU and ADB's misunderstanding on this contract.</b>
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## 7. LOAN EFFECTIVE MILESTONES (Electric Power Corporation)

Details	Status
Settlement of Government arrears as of 30 September 2007	<b>Complied</b>
Subsidiary Financing Agreement with EPC	<b>Complied</b>
Establishment of the Project Steering Committee (PSC)	<b>Complied</b>
Establishment of the Project Management Committee (PMC)	<b>Complied</b>
Establishment of Project Management Unit	<b>Complied</b>
Hire of Implementation Consultant	<b>Complied</b>
Project Manage	<b>Complied</b>
Project Accountant	<b>Complied</b>
Generation Engineer	<b>Complied</b>
Transmission & Distribution Engineer	<b>Complied</b>

Power System Planner	<b>Complied</b>
Public Relation & Community Liaison Specialist	<b>Complied</b>
SCADA Engineer	<b>Recruited Graduate Engineer assisted by JICA Volunteer</b>
PMU Secretary	<b>Complied</b>
Establishment of Environment and Social Unit	<b>Complied</b>
Legal / Environment Advisor	<b>Complied</b>
Environment Specialist	<b>Complied</b>
Land & Acquisition Specialist	<b>Complied</b>
Effectiveness of the JBIC Loan Agreement	<b>Complied</b>
Commitment of the Government of Australia Grant	<b>Complied</b>
Legal Opinion from the Attorney General's Office	<b>Complied</b>

## 8. RESETTLEMENT (updated quarterly)

Regarding land for the Fiaga new diesel power station, Cabinet approved to transfer 97 acres to EPC at no cost. Matter was referred to the Office of Attorney General and Ministry of Finance to be reviewed. Final report of review by the two agencies is still outstanding. EPC needs to finalize official transfer of land to EPC. This matter was discussed in PSC meeting in December. Attorney General's Office will advise on status of transfer of lands in Fiaga and Vaiaata to EPC. Official transfer is still pending.

Status of land acquisition and resettlement for subprojects at end of 1<sup>st</sup> Quarter 2011:

<b>Subproject</b>	<b>Temporary Land Acquisition</b>	<b>Permanent Land Acquisition</b>	<b>Percentage Obtained %</b>	<b>Commentary on Negotiations and Compensation paid</b>
<b>1) Hospital Feeder Upgrading Stage 1</b>	N/R	N/R	N/R	N/R
<b>2) Single &amp; Three Phase PPM</b>	N/R	N/R	N/R	N/R
<b>3) Tanugamanono Power Station Noise &amp; Emission Control</b>	N/R	N/R	N/R	N/R
<b>4) Refurbishment of Alaoa Hydropower Station</b>	N/R	N/R	N/R	N/R
<b>5) Fiaga Diesel Power Station</b>	NO	YES	50%	Official transfer of land to EPC is still outstanding
<b>6) Upgrade of Alaoa 6.6 kV Transmission Line to 22kV</b>	N/R	N/R	N/R	N/R
<b>7) Fiaga Diesel Power Station to Fuluasou Substation 33KV Underground Cable</b>	N/R	N/R	N/R	N/R, cable installed inside road reserve
<b>8) Hospital Feeder Upgrading Stage 2</b>	N/R	N/R	N/R	UG is built inside road reserve, but there are families who have encroached legal reserves.
<b>9) 22kV Fuluasou Substation</b>	NO	YES	50%	Use old EPC Hydropower Station land & requesting Land Board for extra land to Golf Course fence and right of way for underground cables to substation
<b>10) Low Voltage Network</b>	N/R	N/R	N/R	N/R



<b>Improvement Program</b>				
<b>11)Fuluasou Substation to Apia Wharf Area 22kV Underground Cable</b>	N/R	N/R	N/R	Underground feeder will terminate at corner of Vaitele and Falealili Road
<b>12) Fuluasou Substation to Leulumoega via Vaigaga 22kV Underground Cable</b>	N/R	N/R	N/R	N/R
<b>13) 22kV Overhead Conductor Upgrading Program</b>	N/R	N/R	N/R	N/R
<b>14) Hydro Scheme</b>	YES	YES	YES	YES
<b>15) Puapua-Asau Transmission Line 22kV Reconductoring</b>	N/R	N/R	N/R	N/R
<b>16)Power Factor Improvement Program</b>	N/R	N/R	N/R	N/R
<b>17)Low Voltage Network Improvement</b>	N/R	N/R	N/R	N/R

<b>18)Stream Flow Gauging Equipment</b>				
<b>19)HV/LV Testing Equipment</b>	N/R	N/R	N/R	N/R
<b>20)Supply, Installation &amp; Operation of SCADA System</b>	NO	YES	50%	NCC included in Fuluasou Substation at old Fuluasou hydro site.
<b>21)Public Dissemination</b>	N/R	N/R	N/R	N/R
<b>22)Vending System Expansion</b>				
<b>23)Power System Planning Software</b>	N/R	N/R	N/R	N/R
<b>24) Refurbishment of Salelologa Power Station</b>	N/R	N/R	N/R	Old power plant will be replaced with a new plant at Vaiaata. Old plant will be converted to a substation and a mini Control Center for Savaii system.
<b>25) Refurbishment of Taelefaga Switchgears</b>	N/R	N/R	N/R	N/R
<b>26)Refurbishment of Samasoni Switchgears</b>	N/R	N/R	N/R	N/R
<b>27) Refurbishment of Tanugamanono Generators</b>	N/R	N/R	N/R	N/R
<b>28)Vaipu Pumping Scheme</b>				

## 9. ENVIRONMENT (updated quarterly)

PUMA approved development consents of all subprojects that are now under construction. PMU is monitoring construction in accordance the DC and reported to PUMA. Inspectors from PUMA also visited construction sites to carry out their own independent inspection of these projects.

Only subprojects that PUMA has not approved Development Consent is new power plant in Vaiaata in Savaii and proposed hydro plants.

Subproject	Constraints	Activities	Action Taken	Comments
<b>1) Hospital Feeder Upgrading Stage 1</b>	NIL	NIL	NIL	Completed
<b>2) Single &amp; Three Phase PPM</b>	NIL	NIL	NIL	To decide how to lower 10,500 meters, funding and who does it
<b>3) Tanugamanono Power Station Noise &amp; Emission Control</b>	NIL	NIL	NIL	Started Feasibility Study
<b>4) Refurbishment of Alaoa Hydropower Station</b>	NIL	NIL	NIL	Monitor EMMP during construction currently in progress.
<b>5) Fiaga Diesel Power Station</b>	NIL	YES	YES	Relocate fences of two leases affected by new access road. Saved 3 Aoa trees in road and more at quarry site. Cleared trees in plant site. Lots of excavation at site and access road. Also relocated fences that have encroached 15m legal road reserve.
<b>6) Upgrade of Alaoa 6.6kV Transmission Line to 22kV</b>	NIL	NIL	NIL	Completed
<b>7) Fiaga New Diesel Power Station to Fuluasou Substation Underground Cable</b>	NIL	NIL	NIL	Contracts are awarded for supply of materials. EPC will do construction

<b>8)Hospital Feeder Upgrading Stage 2</b>	NIL	NIL	NIL	Construction started; 20% completed of trenching and installation of conduits.
<b>9) 22kV Fuluasou Substation</b>	YES	NIL	NIL	MNRE approved to use back access for underground cable. PMU is also requesting Land Board to transfer extra land to Golf Course fence for Substation.
<b>10) Low Voltage Improvement Program</b>	NIL	NIL	NIL	Contract awarded for supply of materials.  No IEE required
<b>11) Fuluasou Substation to Apia Wharf Area 22kV Underground Cable</b>	NIL	NIL	NIL	Contracts were awarded for supply of materials. Conduits, vaults and pillar boxes bases were constructed with construction of Vaitele Rd. EPC will do work.
<b>12) Fuluasou Substation to Leulumoeaga via Vaigaga 22kV Underground Cable</b>	NIL	NIL	NIL	NIL
<b>13) 22kV Overhead Conductor Upgrading Program</b>	NIL	NIL	NIL	Contract started; contractor is GMA.
<b>14) Hydro Scheme</b>				Feasibility Study of Faleseela scheme is submitted to PMU.
<b>15) Puapua-Asau Transmission Line 22kV Reconductoring</b>	NIL	NIL	NIL	Rapid Environmental Assessment and Dev. Consent approved.  Construction started.

<b>16) Power Factor Improvement Program</b>	NIL	NIL	NIL	Assessment completed. PF is good. No further work required.
<b>17) Low Voltage Improvement program</b>	NIL	NIL	NIL	Rapid Environmental Assessment has been prepared and submitted to ADB.  No IEE required
<b>18) Stream Flow Gauging Equipment</b>	NIL	NIL	NIL	Completed.
<b>19) HV/LV Testing Equipment</b>	NIL	NIL	NIL	NIL
<b>20) Supply, Installation &amp; Operation of SCADA System</b>	NL	NIL	NIL	ADB approved tender.
<b>21) Public Dissemination</b>	NIL	NIL	NIL	NIL
<b>22) Vending System Expansion</b>				
<b>23) Power System Planning Software</b>	NIL	NIL	NIL	NIL
<b>24) Refurbishment of Salelologa Power Station</b>	YES	YES	YES	PMU is redoing Feasibility Study for new power plant in Vaiaata because it is total different site. Topographic survey of site started. Old site in Salelologa will be converted to a new substation and miini control center.
<b>25) Refurbishment of Taelefaga Switchgears</b>	NIL	NIL	NIL	NIL
<b>26) Refurbishment of Samasoni Switchgears</b>	NIL	NIL	NIL	NIL

<b>27) Refurbishment of Tanugamanono Generators</b>	NIL	NIL	NIL	NIL
<b>28) Vaipu Pump Assisted Scheme</b>	NIL	NIL	NIL	Awaiting EPC decision. SMEC study confirmed that dam is safe.
<b>29) Upolu hydro schemes</b>				Implementation Consultant completed one Feasibility study, Faleseela Scheme and submitted to PMU and ADB. IC is continuing with rest of FS for other 4 schemes.

## 10. LOAN DRAW DOWN TO DATE (31 March 2011)

### 10. LOAN DRAW DOWN TO DATE (31 MARCH 2011)

No.	TITLE OF SUBPROJECTS	ADB category	Schedule Date Contract Award	Revised Contract Budget	Actual Contract Price	Contract Number	Actual Date Contract Awarded	Draw Down to date	Balance
				USD\$M					
	ADB Loan			26.61					
	ADB Grant			15.39					
	JICA Loan			38.00					
	Ausaid Grant			8.00					
	EPC			12.00					
				100.00					
	<b>CORE SUBPROJECTS</b>								
1	Project Manager (0.37 + 0.38 unallocated)	4	Q4 2007	0.75	0.37		30th Oct 2007	0.16	0.59
2	Project implementation consultant: EBI (73 man-months)	4	Q1 2008	2.67	2.67		2 May 2008	1.79	0.88
3	Hospital Feeder Upgrading Project – Stage 1 + Alaoa 6.6kV to 22kV upgrade	3	Q1 2009	1.74		SAM-PSEP-02		1.83	-0.09
4	Single- and Three-Phase Prepayment Metering Project	3	Q3 2008	5.67	5.89	PPM1207	30 July 2008	4.92	0.75
	<b>CANDIDATE SUBPROJECTS</b>								
	<b>UPOLU Generation</b>								
5	Tanugamanono Power Station Noise and Emission Control Program	3	Q4 2009	0.17					0.17
6	Refurbishment of Alaoa Hydropower Station	3	Q3 2009	1.34		SAM-PSEP-03		0.41	0.93
7	Fiaga New Diesel Power Station Project	3	Q1 2010	22.27		SAM-PSEP-08		6.51	15.76
	<b>UPOLU Transmission</b>								
9	Upolu Diesel Power Station to Fuluasou Substation Underground Cable Project	3	Q1 2010	3.12					3.12
10	Hospital Feeder Upgrading Project - Stage 2	3	Q4 2009	3.20		SAM-PSEP-09		1.32	1.88
11	22 kV Fuluasou Substation Project	3	Q2 2010	2.93					2.93
12	Low-Voltage Network Expansion Program	3	Q2 2010	1.29					1.29
13	Fuluasou Substation to Apia Wharf Area 22 kV Underground Cable Project	3	Q2 2012	0.00					0.00
14	Fuluasou Substation to Leulumoega via Vaigaga 22 kV Underground Cable Project	3	Q2 2012	2.78					2.78
15	22 kV Overhead Conductor Upgrading Program	3	Q3 2009	6.03		SAM-PSEP-09		0.57	5.46
	<b>SAVAII Generation</b>								
16	Hydropower Scheme	3	Q3 2012	10.65					10.65
	<b>SAVAII Transmission</b>								
17	Puapua-Asau Transmission Line 22 kV Reconductoring Project	3	Q3 2009	1.24		SAM-PSEP-02		0.05	1.19
18	Low-Voltage Network Expansion Program	3	Q2 2010	0.56					0.56
	<b>Measurement Equipment</b>								
19	Stream Flow Gauging Equipment	3	Q3 2008	0.05		SAM-PSEP-04	23rd Oct 08	0.06	-0.01
20	Electrical Test Equipment	3	Q3 2008	0.06		SAM-PSEP-05	23rd Oct 08	0.07	-0.01
21	SCADA	3	Q4 2009	3.48					3.48
	<b>CORE AND CANDIDATE SUBTOTAL</b>			70.00				17.69	52.31
	<b>APPROVED NEW SUBPROJECTS</b>								0.00
22	Vending System	3	Q1 2009	0.25				0.10	0.15
23	Public Dissemination	3	Q1 2009	0.10					0.10
24	Power System Planning Software	3	Q3 2008	0.06		SAM-PSEP-06	23rd Oct 08	0.06	0.00
25	Refurbishment of Taelelefa and Samasoni Switchgear	3	Q2 2009	1.60		SAM-PSEP-07		2.34	-0.74
26	Refurbishment of Salelologa Power Station	3	Q2 2009	5.90		SAM-PSEP-10			5.90
27	Refurbishment of Tanugamanono Two Generators	3	Q3 2009	0.75		SAM-PSEP-08		0.48	0.27
28	Upolu Hydro	3	Q1 2010	3.51					3.51
29	Contingency (Vaipu Assisted Pumping Scheme)	3	Q1 2010	0.50					0.50
	<b>NEW SUBPROJECTS SUBTOTAL</b>			12.67				2.97	9.70
									0.00
	<b>GRAND TOTAL</b>			82.67				20.66	62.01

## 11. DISBURSEMENT SUMMARY TO DATE (31 MARCH 2011)

ELECTRIC POWER CORPORATION															
SAMOA POWER SECTOR EXPANSION PROJECT															
TOTAL DISBURSEMENTS SUMMARY AS AT 31ST MARCH 2011															
PROJECT	PAYEE	CONTRACT NO.	TOTAL	LOANS				GOVT CAPITAL	COUNTERPART	TOTAL LOANS +	TOTAL LOANS +	TOTAL	TOTAL	Remainder	
			DISBURSEMENT	ADB Loan	ADB Grant	JICA	TOTAL	AUSAID	EPC	GOVT CAPITAL+ EPC C/PART	GOVT CAPITAL+ EPC C/PART	AWARDS SAT	AWARDS	(Variance)	
			SATS				LOANS							\$	%
COLUMN A	COLUMN B	COLUMN C	COLUMN D	COLUMN E	COLUMN F	COLUMN G	COLUMN H	COLUMN I	COLUMN J	COLUMN K	USDS	COLUMN L	USDS	COLUMN M	COLUMN N
TOTAL PROJECT APPROVED FUNDS		USD	\$ 88,000,000	\$ 26,610,000	\$ 15,390,000	\$ 38,000,000	\$ 80,000,000	\$ 8,000,000	\$ 12,000,000	\$ 100,000,000		2,180,000.00	\$ 911,028		
													\$ -		
TOTAL ESTIMATED PROJECT FUNDS		SATS	\$ 210,575,200	\$ 63,675,069	\$ 36,826,731	\$ 90,930,200	\$ 191,432,000	\$ 19,143,200	\$ 28,714,800	\$ 239,290,000	\$ 100,000,000	\$ 5,216,522	\$ 2,180,000		
											\$ -		\$ -		
1 SINGLE AND THREE PHASE PREPAYMENT METERS	Arthur D. Riley & Co. Ltd.	PPM1207	\$ 11,773,134	\$ 3,649,672	\$ 824,119	\$ 5,533,373	\$ 10,007,164	\$ 1,765,970	\$ -	\$ 11,773,134	\$ 4,920,028	\$ 15,139,803	\$ 6,326,968	\$ 3,366,668	22%
2 POWER SYSTEM PLANNING SOFTWARE	Digilent Pacific Pty Ltd	SAM-PSEP-06	\$ 134,810	\$ 41,791	\$ 9,437	\$ 63,361	\$ 114,589	\$ 20,222	\$ -	\$ 134,810	\$ 56,338	\$ 134,810	\$ 56,337	\$ 0	0%
3 STREAM FLOW GAUGING EQUIPMENT	NWA	SAM-PSEP-04	\$ 145,397	\$ 45,073	\$ 10,178	\$ 68,337	\$ 123,588	\$ 21,810	\$ -	\$ 145,397	\$ 60,762	\$ 145,397	\$ 60,762	\$ 0	0%
4 HV TEST EQUIPMENT	Electrotech Ltd.	SAM-PSEP-05	\$ 163,443	\$ 50,667	\$ 11,441	\$ 76,818	\$ 138,927	\$ 24,516	\$ -	\$ 163,443	\$ 68,303	\$ 163,443	\$ 68,303	\$ 0	0%
5 EGIS BCCOM IMPLEMENTATION CONSULTANTS	EGIS BCCOM International	CON0508	\$ 4,109,757		\$ 4,109,757		\$ 4,109,757		\$ 183,776	\$ 4,293,533	\$ 1,794,280	\$ 7,105,010	\$ 2,969,205	\$ 2,811,477	40%
6 EPC REIMBURSEMENTS:											\$ -		\$ -	\$ -	
1. PROJECT MANAGER	EPC	CON0108	\$ 140,851		\$ 140,851		\$ 140,851		\$ 249,304	\$ 390,155	\$ 163,047	\$ 612,000	\$ 255,757	\$ 221,845	36%
2. 22 KV OVERHEAD UPGRADING	EPC	SAM-PSEP-09	\$ 991,727	\$ 307,435	\$ 69,421	\$ 466,112	\$ 842,968	\$ 148,759	\$ -	\$ 991,727	\$ 414,446	\$ 991,727	\$ 414,446	\$ 0	0%
3.UPGRADING OF SUPRIMA VENDING MACHINES:	EPC		\$ 244,218	\$ 75,708	\$ 17,095	\$ 114,782	\$ 207,585	\$ 36,633	\$ -	\$ 244,218	\$ 102,059	\$ -	\$ -	\$ 244,218	#DIV/0!
7 UPGRADING HOSPITAL FEEDER STAGE 1, ALAOLA DIST. LINE & ASAU 22KV RECONDUCTORING:											\$ -		\$ -	\$ -	
1.TRANSFORMERS	Etel Limited	SAM-PSEP-02/01-D	\$ 543,527	\$ 168,493	\$ 38,047	\$ 255,458	\$ 461,998	\$ 81,529	\$ -	\$ 543,527	\$ 227,142	\$ 571,118	\$ 238,672	\$ 27,591	5%
2.CABLES & CONDUCTORS	Dlex Australia Pty Ltd.	SAM-PSEP-02/01-C	\$ 683,914	\$ 212,013	\$ 47,874	\$ 321,439	\$ 581,327	\$ 102,587	\$ -	\$ 683,914	\$ 285,810	\$ 684,687	\$ 286,133	\$ 773	0%
3.POLES & CROSSARMS	Bluebird/Hltd IV	SAM-PSEP-02/01-B	\$ 88,804	\$ 27,529	\$ 6,216	\$ 41,738	\$ 75,483	\$ 13,321	\$ -	\$ 88,804	\$ 37,111	\$ 102,124	\$ 42,678	\$ 13,321	13%
4.SUPPLY OF GALVANISED LINE HARDWARE AND INSULATORS	South Austral Pty Ltd.	SAM-PSEP-02/01-A	\$ 2,468,322	\$ 765,180	\$ 172,783	\$ 1,160,111	\$ 2,098,074	\$ 370,248	\$ -	\$ 2,468,322	\$ 1,031,519	\$ 154,689	\$ 64,645	\$ 2,313,634	-1496%
5.PROCUREMENT OF WORKS & RELATED SERVICES	Bluebird/Hltd IV	SAM-PSEP-02/02-A	\$ 491,223	\$ 152,279	\$ 34,386	\$ 230,875	\$ 417,540	\$ 73,683	\$ 101,680	\$ 592,903	\$ 247,776	\$ 154,690	\$ 64,645	\$ 438,214	-283%
8 REFURBISHMENT OF ALAOLA HYDRO POWER STATION:															
1.MECHANICAL-ELECTRICAL WORKS	Tenix New Zealand	SAM-PSEP-03	\$ 657,916	\$ 203,954	\$ 46,054	\$ 309,221	\$ 559,229	\$ 98,687	\$ -	\$ 657,916	\$ 274,945	\$ 3,432,945	\$ 1,434,638	\$ 2,775,029	81%
2.PENSTOCK AND CIVIL WORKS	Sliva Transport Company	SAM-PSEP-03/01	\$ 272,636	\$ 84,517	\$ 19,085	\$ 128,139	\$ 231,741	\$ 40,895	\$ 41,018	\$ 313,654	\$ 131,077	\$ 1,169,837	\$ 488,878	\$ 856,183	73%
9 HOSPITAL FEEDER STAGE 2 & 22KV UPGRADING:											\$ -		\$ -		
1.SUPPLY OF CABLES	Etel Limited	SAM-PSEP-09/01-A	\$ 859,520	\$ 266,451	\$ 60,166	\$ 403,974	\$ 730,592	\$ 128,928	\$ -	\$ 859,520	\$ 359,196	\$ 768,178	\$ 321,024	\$ 91,343	-12%
2.SUPPLY OF TRANSFORMERS	South Austral Pty Ltd.	SAM-PSEP-09/01-B	\$ 1,126,030	\$ 349,069	\$ 78,822	\$ 529,234	\$ 957,125	\$ 168,904	\$ -	\$ 1,126,030	\$ 470,571	\$ 4,625,858	\$ 1,933,160	\$ 3,499,828	76%
3.POWERLINE MATERIALS & RELATED EQ	Intracor	SAM-PSEP-09/03	\$ 667,733	\$ 206,997	\$ 46,741	\$ 313,835	\$ 567,573	\$ 100,160	\$ -	\$ 667,733	\$ 279,048		\$ -	\$ 667,733	
4.PROCUREMENT OF WORKS & RELATED	GMA	SAM-PSEP-09/02B	\$ 493,940	\$ 153,121	\$ 34,576	\$ 232,152	\$ 419,849	\$ 74,091	\$ -	\$ 493,940	\$ 206,419		\$ -	\$ 493,940	
10 REFURBISHMENT OF TALEFAGA, LALOMAUAGA, SAMASOINI & TANUGAMANO SWITCHGEARS:	Northpower Ltd.	SAM-PSEP-07	\$ 5,595,396	\$ 1,734,573	\$ 391,678	\$ 2,629,836	\$ 4,756,086	\$ 839,309	\$ -	\$ 5,595,396	\$ 2,338,332	\$ 5,390,576	\$ 2,252,738	\$ 204,819	-4%



11	REFURBISHMENT OF TANUAMANO GENERATORS 5A AND 9A:	Man Diesel & Turbo Australia	SAM-PSEP-08	\$ 1,138,081	\$ 352,805	\$ 79,666	\$ 534,898	\$ 967,369	\$ 170,712	\$ -	\$ 1,138,081	\$ 475,608	\$ 2,855,377	\$ 1,193,271	\$ 1,717,296	60%
12	CONSTRUCTION OF PUAPIA FEEDER	Tenix New Zealand	SAM-PSEP-10/02-B	\$ 125,163	\$ 38,801	\$ 8,761	\$ 58,827	\$ 106,389	\$ 18,774	\$ -	\$ 125,163	\$ 52,306	\$ 6,536,160	\$ 2,731,481	\$ 6,410,997	98%
13	FIAGA DIESEL POWER STATION:															
	1. POWER HOUSE AND GENERATORS	Bluebird / Mitsubishi / Woods	SAM-PSEP-10/03	\$ 12,769,013	\$ 3,958,394	\$ 893,831	\$ 6,001,436	\$ 10,853,661	\$ 1,915,352	\$ -	\$ 12,769,013	\$ 5,336,208	\$ 63,845,066	\$ 26,681,042	\$ 51,076,053	80%
	2. FIAGA ACCESS ROAD AND FENCING	Shiva Transport Company	SAM-PSEP-12/02-ABC	\$ 1,712,279	\$ 530,806	\$ 119,859	\$ 804,771	\$ 1,455,437	\$ 256,842	\$ 45,164	\$ 1,757,442	\$ 734,440	\$ 2,579,246	\$ 1,077,874	\$ 821,803	32%
	3. FIAGA SWITCHGEAR	North Power	SAM-PSEP-12/03B	\$ 904,267	\$ 305,123	\$ 68,899	\$ 462,606	\$ 836,627	\$ 147,640	\$ -	\$ 984,267					
	4. FIAGA SITE CLEARING & LEVELING	PPG Engineering	SAM-PSEP-12/02-B	\$ 70,324	\$ 21,800	\$ 4,923	\$ 33,052	\$ 59,775	\$ 10,549	\$ -	\$ 70,324	\$ 29,389	\$ 251,000	\$ 104,894	\$ 180,676	72%
14	VAITELE ROAD WIDENING:															
	1. ELECTRICAL DUCTING	Ott Transport	SAM-PSEP-10/01	\$ 614,495	\$ 190,493	\$ 43,015	\$ 288,813	\$ 522,321	\$ 92,174	\$ -	\$ 614,495	\$ 256,799	\$ 614,495	\$ 256,799	\$ -	0%
	2. STREETLIGHTS INSTALLATION	All Electrical	SAM-PSEP-13/03	\$ 223,500	\$ 69,285	\$ 15,645	\$ 105,045	\$ 189,975	\$ 33,525	\$ -	\$ 223,500	\$ 93,401		\$ -	\$ 223,500	
15	POWER CABLES	Olex	SAM-PSEP-15/01-C	\$ 364,883	\$ 113,114	\$ 25,542	\$ 171,495	\$ 310,151	\$ 54,733	\$ -	\$ 364,883	\$ 152,486		\$ -	\$ 364,883	
TOTAL DISBURSEMENTS AS AT 31st MARCH 2011				SATS	\$ 49,654,305	\$ 14,075,146	\$ 7,428,866	\$ 21,389,738	\$ 42,533,599	\$ 6,755,822	\$ 620,942	\$ 49,910,363	\$ 20,857,689	\$ 24,210,886	\$ 10,117,801	\$ 25,699,477
TOTAL DISBURSEMENTS AS AT 31st MARCH 2011				USD	\$ 20,750,681	\$ 5,882,045	\$ 3,104,545	\$ 8,917,940	\$ 17,774,917	\$ 2,823,278	\$ 259,493	\$ 20,857,689	\$ 8,716,490	\$ 10,117,801	\$ 4,228,259	\$ 10,739,888
INTEREST DURING CONSTRUCTION (IDC):				Interest rate												
Interest Due				6.50%		\$ 914,884	\$ 482,876	\$ 1,387,083	\$ 2,784,844			\$ -		\$ -		
less Interest paid						\$ 115,752	\$ 61,094	\$ 175,496	\$ 352,342		\$ 352,342	\$ 352,342	\$ 147,245	\$ 352,342	\$ 147,245	\$ -
Total Interest Outstanding as at 31st March 2011						\$ 799,132	\$ 421,782	\$ 1,211,587	\$ 2,432,502		\$ -	\$ -	\$ 2,432,502	\$ 1,016,556	\$ 2,432,502	\$ 1
TOTAL DISBURSEMENTS + IDC				SATS	\$ 49,654,305	\$ 14,874,278	\$ 7,850,649	\$ 22,551,325	\$ 44,966,101	\$ 6,755,822	\$ 973,284	\$ 50,262,705	\$ 21,004,933	\$ 26,995,730	\$ 11,281,595	\$ 23,266,975
% of funds disbursed as at 31st MARCH 2011				%	24%	23%	21%	25%	23%	35%	3%	21%				
TAXES AND DUTIES (GOVERNMENT CONTRIBUTION - MOF)											\$ 4,345,254.17	\$ 4,345,254.17	\$ 1,815,895	\$ 5,216,522	\$ 2,180,000	\$ 871,267.83
TOTAL DISBURSEMENTS + IDC + TAXES & DUTIES				SATS	\$ 49,654,305	\$ 14,874,278	\$ 7,850,649	\$ 22,551,325	\$ 44,966,101	\$ 6,755,822	\$ 5,318,538	\$ 54,607,959	\$ 22,820,828	\$ 32,212,252	\$ 13,461,595	\$ 22,395,707
% of funds disbursed as at 31st MARCH 2011				%	24%	23%	21%	25%	23%	35%	19%	23%				
Remaining Balance as at 31st MARCH 2011				SATS	\$ 160,920,895	\$ 48,800,791	\$ 28,976,082	\$ 68,378,875	\$ 146,465,899	\$ 12,387,378	\$ 23,396,262	\$ 184,682,041	\$ 77,179,172			
% of funds remaining as at 31st MARCH 2011				%	76%	77%	79%	75%	77%	65%	81%	77%				
Remaining Balance as at 31st MARCH 2011				USDs	\$ 67,249,319	\$ 20,393,995	\$ 12,109,191	\$ 28,575,734	\$ 61,208,533	\$ 5,176,722	\$ 9,777,367	\$ 77,179,172				
% of funds remaining as at 31st MARCH 2011				%	76%	77%	79%	75%	77%	65%	81%	77%				

## 12. LAST ADB REVIEW MISSION

ADB had a full Mission in February this 1<sup>st</sup> Quarter 2011 representatives from ADB, JICA, and Aussie Aid attended:

Matters discussed:

- a) Status of each subproject;
- b) Payment of variation costs of contract for construction of Hospital Feeder Stage 1 and Alaoa Feeder Upgrades. ADB Mission decided to recommend approval of payment as a one time case, due to misunderstanding between PMU and ADB related to contract cost.
- c) Bluebird Ah LAL JV in association with Woods Pacific and MHI; whether they have financial resources to continue; considered 3 options if BB does pull out. Financial strain started when ADB disapprove request by Government for BB payments claims request in Yen, considering that 60% of total contract amount will be paid in Yen. BB has not officially advised EPC that they cannot perform contract. BB is pushing ahead with project.
- d) 3 options that ADB considered for Fiaga power plant contract; (i) terminate BB and award to Caterpillar; (ii) split contract into 2 parts, one for powerhouse by BB and second by Mitsubishi for supply of generators and installation; and (iii) do nothing and let BB continue.
- e) Discussion with Attorney General related to BB's contract and legal structure of JV agreements with Woods Pacific and Mitsubishi Heavy Industry.
- f) Anti Corruption Committee visit in April to review entire power expansion project.
- g) Improvement in process to speed up payment of contractor invoices.
- h) Verifying of total number EPC's electric consumers so that it can be accurately determined if additional Prepayment Meters are needed to be purchased and installed to meet PSEP objective of having 75% of electric consumers on Prepayment Meters.
- i) Hydro study; feasibility studies of 5 schemes; budget and funding; proposal from Implementation Consultant for detailed design as required by EPC.
- j) Recruit of 3 independent consultant engineers; 1 civil, 1 generation, and 1 power distribution engineers to add to PMU with Implementation Consultant coming to an end.

ADB next Mission is not known when.

### 13. APPENDICES

#### Appendix 1 – Project Progress Monitoring

TASKS / MILESTONES	TARGET DATE	ACHIEV DATE	ASS WT	AC PR	WT PR	COMMENTS
<b>A. CORE SUBPROJECTS</b>			%	%	%	
<b>1. Hospital Feeder Upgrading Project -Stage 1</b>						
2. Approved Outline	15.08.08	25.08.08	2.0	100	2.0	EPC Board approved outline on 25 August 2008. Feasibility Study was reviewed and endorsed by ADB in October 2008. This was submitted and approved by the EPC Board in November 2008. Tender is combined with Upgrade of Alaoa 6.6 Transmission Line to 22kV and Puapua-Asau Transmission Line 22kV Reconductoring. PMU prepared 2 separate tenders; ICB-Goods & NCB-Labour. 4 contracts for supply of all materials were awarded. All materials received. Needed more materials; included LV materials; were not included in bid. Contract of Works awarded to Bluebird. Contract signed. Construction is complete. Outstanding is final payment of extra cost to contract. Extra cost is 335,284 Tala.
3. Approved Feasibility Study	05.12.08	27.11.08	5.0	100	5.0	
4. Settle all Environmental issues	10.04.09	27.11.08	5.0	100	5.0	
5. Settle all Land Issues	13.02.09	27.11.08	5.0	100	5.0	
6. Approved Tender Documents	13.02.09	10.3.09	5.0	100	5.0	
7. Approved Tender Evaluation Report	29.05.09	29.05.09	5.0	100	5.0	
8. Award Contract	04.12.09	30.09.09	5.0	100	5.0	
9. Receive Materials	26.02.10	31.10.10	20.0	100	20.0	
10. Complete Construction	26.03.10	30.11.10	43.0	100	43.0	
11. Final Report			5.0	100	5.0	
		<b>Total Wt</b>	<b>100</b>			
		<b>Imp.Prog</b>			<b>100</b>	
<b>1. Single and Three-phase Prepayment Metering Project</b>						
1. Approved Outline			2.0	100	2.0	450 meters were installed this 1st Quarter 2011 bringing total number of meters installed by A D Riley to 18,649 since project started in 2008. Total number of meters installed included new customers and customers converted from induction meters to PPM. Installation is ahead of schedule by 12 months. Overall total number of customers installed with PPM is
2. Approved Feasibility Study			5.0	100	5.0	
3. Settle all Environmental Issues			5.0	100	5.0	
4. Settle all Land Issues			5.0	100	5.0	
5. Approved Tender Documents			5.0	100	5.0	
6. Approved Tender Evaluation Report			5.0	100	5.0	
7. Award Contract	31.12.08	31.12.08	5.0	100	5.0	

8. Install 1-1650 meters	31.03.09	31.03.09	5.0	100	5.0	23,415. This is 63.75% of total number of electric customers of 36,584.  Total number of meters lowered during this quarter is 172. This brings the total number of meters lowered to 3,474.  Installation is over 12 months ahead of schedule.	
9. Install 1651-3238	30.06.09	30.06.09	5.0	100	5.0		
10. Install 3239-4826	30.09.09	30.09.09	5.0	100	5.0		
11. Install 4826-6414	31.12.09	20.11.09	5.0	100	5.0		
12. Install 6415-8000	31.03.10	31.12.09	4.0	100	4.0		
13. Install 8001-9250	30.06.10	31.01.10	4.0	100	4.0		
14. Install 9251-10500	30.09.10	29.02.10	4.0	100	4.0		
15. Install 10500-11750	31.12.10	31.03.10	4.0	100	4.0		
16. Install 11750-13000	31.03.11	31.05.10	4.0	100	4.0		
17. Install 13001-14250	30.06.11	30.06.10	4.0	100	4.0		
18. Install 14251-15500	30.09.11		4.0	100	4.0		
19. Install 15501-16750	31.12.11		4.0	100	4.0		
20. Install 16751-18000	31.03.12	31.12.10	2.0	50	1.0		
21. Install 18001-18750	30.06.12	31.3.11	2.0	13	0.3		
22. Install 18751-19500	30.09.12		2.0				
23. Install 19501-20250	31.12.12		2.0				
24. Install 20250-21000	31.02.12		3.0				
25. Final Report							
		Total Wt	100				
		Imp.Prog			90.3		
B. CADIDATE SUBPROJECTS							
1. Upolu							
a. Generation							
(i) Tanugamanono Power Station Noise & Emission Control Program							
1. Approved Outline	11.09.09		2.0	100	2.0	There was no activity on this subproject during this Quarter. PMU started on preparation of Feasibility Study this Quarter.	
2. Approved Feasibility Study	01.01.10		5.0	20	1.0		
3. Settle all Environment Issues	07.05.10		5.0				
4. Settle all Land Issues	12.03.10		5.0				

5. Approved Tender Documents	12.03.10		5.0			
6. Approved Tender Evaluation Report	25.06.10 15.10.10		5.0 5.0			
7. Award Contract	14.01.11		20.0			
8. Receive Materials	27.05.11		43.0			
9. Complete Construction	24.06.11		5.0			
10. Final Report						
		<b>Total WT</b>	<b>100</b>			
		<b>Imp.Prog</b>			<b>3.0</b>	
<b>(ii) Refurbishment of Alaoa Hydropower Station</b>						
1. Approved Outline	15.08.08	25.07.08	2.0	100	2.0	Contract was awarded to Tenix New Zealand for electro-mechanical part of refurbishment. Contract is signed. Civil part scope of work was revised and then rebided. Turbine, generator, electrical switchgear and all related equipment will arrive at end of January, 2011. Construction will start at end of January. Silva Transport, contractor for civil work started preliminary work on site.  Construction started both electro mechanical and civil work. Equipment arrived. Installer also arrived to start installation.
2. Approved Feasibility Study	05.12.08	27.11.08	5.0	100	5.0	
3. Settle all Environment Issues	24.04.09	27.11.08	5.0	100	5.0	
4. Settle all Land Issues	16.01.09	27.11.09	5.0	100	5.0	
5. Approved Tender Documents	06.03.09	10.06.09	5.0	100	5.0	
6. Approved Tender Evaluation Report	03.07.09 06.11.09	30.09.09 31.12.09	5.0 5.0	100 100	5.0 5.0	
7. Award Contract	23.04.10					
8. Receive Materials/Equipment	23.04.10		20.0	100	20.0	
9. Complete Construction	21.05.10		43.0	60	25.0	
10. Final Report			5.0	0	0	
		<b>Total Wt</b>	<b>100</b>			
		<b>Imp.Prog</b>			<b>77.0</b>	
<b>(iii) Fiaga Diesel Power Station Project</b>						
1. Approved Outline	08.08.08	25.07.08	2.0	10	2.0	Contracts for following have been awarded and signed; Bluebird Ah LAL JV for powerhouse and generators; Northpower for electrical switchgear and substation; Silva Transport for access road, water pipeline and fence, and PPG for levelling and preparing of site of powerhouse. Constructions started on site in October 2010. Design of powerhouse started. Geotechnical study on site is complete. BB JV mobilized on site. They set up offices and started
2. Approved Feasibility Study	17.04.09	30.09.09	5.0	0	5.0	
3. Settle all Environment Issues	04.09.09	30.06.09	5.0	10	5.0	
4. Settle all land issues	26.06.09	31.01.10	5.0	0	5.0	
5. Approved Tender Documents	24.07.09	31.01.10	5.0	10	5.0	
6. Approved Tender Evaluation Report	01.01.10 12.03.10		5.0 5.0	0 10	5.0 5.0	
7. Award Contract	27.08.10		20.0	0	20.0	
8. Receive Materials	14.02.14		43.0	10	0	

9. Complete Construction 10. Final Report	14.03.14		5.0	0 10 0 10 0		earthwork to prepare site. Manufacture of generators is 50% complete. Design and preparation of construction drawings is 50% complete. Access road and water line is 70% complete. Work on fence has not started. Materials are due to arrive in April.
		<b>Total Wt</b>	<b>100</b>			
		<b>Imp.Prog</b>			<b>52.0</b>	
<b>b. Transmission</b>						
<b>(i) Upgrade of Alaoa 6.6KV Transmission Line from 6.6 to 22kV Project</b>						
1. Approved Outline	10.10.08	25.07.08	2.0	100	2.0	All materials for this, Hospital Feeder Stage 1 upgrade and Puapua feeder reconductoring have arrived. Construction is complete. Contractor for works is Bluebird Ah LAL JV.
2. Approved Feasibility Study	30.01.09	27.11.08	5.0	100	5.0	
3. Settle all Environment Issues	12.06.09	27.11.08	5.0	100	5.0	
4. Settle all Land Issues	27.03.09	27.11.08	5.0	100	5.0	
5. Approved Tender Documents	24.04.09	10.03.09	5.0	100	5.0	
6. Approved Tender Evaluation Reports	21.08.09		5.0	100	5.0	
	15.01.10		5.0	100	5.0	
7. Award Contract	09.04.10	30.09.09	5.0	100	5.0	
8. Supply Materials	30.07.10		20	100	20	
9. Complete Construction	27.08.10	30.09.09	40	100	40	
10. Final Report			3	100	3	
		<b>Total Wt</b>	<b>100</b>			
		<b>Imp.Prog</b>			<b>100</b>	
<b>(ii) Fiaga Diesel Power Station to Fuluasou Substation 33KV Underground Cable Project</b>						
1. Approved Outline	08.05.09		2.0	100	2.0	Feasibility Study is complete and approved by ADB. Tender for Goods and Materials closed in December, 2010. Evaluation report was submitted to ADB for approval. Award contracts for supply of materials and equipment. Construction will be done by EPC crew.
2. Approved Feasibility Study	28.08.09		5.0	100	5.0	
3. Settle all Environment Issues	01.01.10		5.0	100	5.0	
4. Settle all Land Issues	09.10.09		5.0	100	5.0	
5. Approved Tender Documents	06.11.09		5.0	100	5.0	
6. Approved Tender Evaluation Report	10.02.10		5.0	100	5.0	
	04.06.10					
7. Award Contract for materials.	09.04.10		5.0	100	5.0	
8. Supply Materials	11.02.11		20	0	0	
9. Complete Construction	11.03.11		43	0	0	

10. Final Report			5	0	0	
		<b>Total Wt</b>	<b>100</b>			
		<b>Imp.Prog</b>			<b>32.0</b>	
<b>(iii) Hospital Feeder Upgrading Project Stage 2</b>						
1. Approved Outline	07.08.09	28.3.09	2.0	100	2.0	Project is implemented in two parts. Part 1 is purchase of materials and Part 2 is construction and installation of cable and related equipment. Supply of materials is 90% complete. Rest of materials was rebided. Contract has been awarded for rebid materials. Construction is awarded to Bluebird Ah LAL JV. Construction started in December 2010; about 20% is completed.
2. Approved Feasibility Study	27.11.09	31.3.09	5.0	100	5.0	
3. Settle all Environment Issues	02.04.11	31.03.09	5.0	100	5.0	
4. Settle all Land Issues	08.01.10	31.03.09	5.0	100	5.0	
5. Approved Tender Documents	19.02.10	30.09.09	5.0	100	5.0	
6. Approved Tender Evaluation Report	04.06.10		5.0	100	5.0	
7. Award Contract	17.09.10		5.0	100	5.0	
8. Receive Materials	10.12.10					
9. Complete Construction	27.05.11		20.0	90	20	
10. Final Report	24.06.11		43	100	4	
			5	0	0	
		<b>Total Wt</b>	<b>100</b>			
		<b>Imp.Prog</b>			<b>57</b>	
<b>(iv) 22KV Fuluasou Substation Project</b>						
1. Approved Outline	06.11.09	28.3.09	2.0	10	2.0	ADB approved feasibility study and tender as a turnkey project. Tender was advertised in December 2010. Tender closes in February 2011. Evaluation report ready to submit to ADB.
2. Approved Feasibility Study	26.02.10		5.0	0	5.0	
3. Settle all Environment Issues	02.07.10		5.0	10	5.0	
4. Settle all Land Issues	09.04.10		5.0	0	5.0	
5. Approved Tender Documents	21.05.10		5.0	10	5.0	
6. Approved Tender Evaluation Report	03.09.10		5.0	0		
7. Award Contract	17.12.10		5.0	10		
8. Supply Materials	10.03.11		20.0	0		
9. Complete Construction	26.08.11		43.0	10		
10. Final Report	23.09.11		5.0	0		
		<b>Total Wt</b>	<b>100</b>			
		<b>Imp.Prog</b>			<b>22.0</b>	
<b>(v) Low Voltage Network Improvement Program</b>						
1. Approved Outline	06.11.09	31.3.09	2.0	100	2.0	Materials were tendered separately. Construction is done by EPC. PMU issued ICB tender for supply of
2. Approved Feasibility Study	26.02.10		5.0	100	5.0	

3. Settle all Environment Issues	02.07.10		5.0	100	5.0	materials. Contract was awarded for materials supply.
4. Settle all Land Issues	09.04.10		5.0	100	5.0	
5. Approved Tender Documents	21.05.10		5.0	100	5.0	
6. Approved Tender Evaluation Report	03.09.10		5.0	100	5.0	
	17.12.10		5.0	100	5.0	
7. Award Contract	11.03.11		20.0			
8. Supply Materials	26.08.11		47.5			
9. Complete Construction	23.09.11		5.0			
10. Final Report						
		<b>Total Wt</b>	<b>100</b>		<b>32.0</b>	
		<b>Imp.Prog</b>				
<b>(vi) Fuluasou Substation to Apia Wharf Area 22kV Underground Cable Project</b>						
1. Approved Outline	06.11.09	30.06.09	2.0	100	2.0	Feasibility study was completed and approved by ADB. Materials supply was tendered separately. Construction will be done by EPC. Work of undergrounding electrical conduits and vaults from Lepea to Malifa has started as part of Vaitele Road widening project. EPC, Tender Board and ADB approved contract with Ott to start this work. Ott completed construction. There are a few items to be corrected by Ott. Contract for installation of cables to feed street lights and control panel for street lights was awarded to All Electrical. Work is complete. Evaluation Report for supply of cables and other related materials was submitted to ADB. ADB and Tender's Board granted their approval. Contracts were awarded.
2. Approved Feasibility Study	26.02.10		5.0	100	5.0	
3. Settle all Environment Issues	02.07.10		5.0	100	5.0	
4. Settle all Land Issues	07.05.10		5.0	100	5.0	
5. Approved Tender Documents	21.05.10		5.0	100	5.0	
6. Approved Tender Evaluation Report	03.09.10		5.0	100	5.0	
7. Award Contract	17.12.10		5.0	100	5.0	
8. Supply Materials	11.03.11		20.0			
9. Complete Construction	27.07.12		43.0			
10. Final Report	24.08.12		5.0			
		<b>Total Wt</b>	<b>100</b>			
		<b>Imp.Prog</b>			<b>32</b>	
<b>(vii) Fuluasou Substation to Leulumoega via Vaigaga 22kV Underground Cable Project</b>						
1. Approved Outline	05.08.11		2.0			This subproject is cancelled from PSEP. Powerlines for West Coast feeder will remain overhead.
2. Approved Feasibility Study	25.11.11		5.0			
3. Settle all Environment Issues	30.03.12		5.0			
4. Settle all Land Issues	03.02.12		5.0			
5. Approved Tender Documents	17.02.12		5.0			
6. Approved Tender Evaluation Report	01.06.12		5.0			
	14.09.12		5.0			
7. Award Contract	07.12.12		20.0			
8. Supply Materials	25.04.14	43.0				



9. Complete Construction	23.05.14		5.0			
10. Final Report						
		<b>Total Wt</b>	<b>100</b>			
		<b>Imp.Prog</b>			<b>0.0</b>	
<b>(viii) 22kV Overhead Conductor Upgrading Program</b>						
1. Approved Outline	06.02.09	23.10.08	2.0	100	2.0	Materials were supplied under separate contracts. All materials have arrived. Works was tendered separately.
2. Approved Feasibility Study	29.05.09	28.02.09	5.0	100	5.0	
3. Settle all Environment Issues	02.10.09	31.3.09	5.0	100	5.0	
4. Settle all Land Issues	07.08.09	31.3.09	5.0	100	5.0	
5. Approved Tender Documents	21.08.09	30.09.09	5.0	100	5.0	Feeders included in this subproject are: Lalomauga Feeder, East Cost Feeder, South Coast Feeder, Alaoa transmission line, West Coast Feeder, Beach Road and Vaitele Feeders.
6. Approved Tender Evaluation Report	04.12.09		5.0	100	5.0	
7. Award Contract	19.03.10		5.0	100	5.0	
8. Supply Materials	11.06.10		20.0	100	20.0	
9. Complete Construction	11.04.14		43.0			Construction was tendered. ADB approved to award contract to GMA. Contract was signed in December 2010. Contractor is yet to provide performance bond, advance payment bank security, and advance payment invoice. Construction started in February.
10. Final Report	09.05.14		5.0			
		<b>Total Wt</b>	<b>100</b>			
		<b>Imp.Prog</b>			<b>52.0</b>	
<b>2. Savaii</b>						
<b>a. Generation</b>						
<b>(i) Hydro Scheme</b>						
1. Approved Outline	05.08.11		2.0	10	2.0	Hydro in Sili is put on hold due to land dispute. Faleata scheme at Vailoa, Palauli is included under subproject Hydropower Development. There are 5 schemes being studied under this project. There are 4 hydro schemes selected in Upolu.
2. Approved Feasibility Study	13.04.12		5.0	0		
3. Settle all Environment Issues	31.08.12		5.0			
4. Settle all Land Issues	22.06.12		5.0			
5. Approved Tender Documents	30.07.12		5.0			Implementation Consultant is conducting Feasibility Studies of 5 hydropower schemes. From 5 schemes, 3 will be selected for detailed design and tender preparation. IC submitted a proposal and EPC to perform detailed designs of three schemes. This subproject is combined with Hydro Development.
6. Approved Tender Evaluation Report	23.11.12		5.0			
7. Award Contract	08.02.13		5.0			
8. Receive Materials	26.07.13		20.0			
9. Complete Construction	13.01.17		43.0			
10. Final Report	10.02.17		5.0			

		<b>Total Wt</b>	<b>100</b>			
		<b>Imp.Prog</b>			<b>2.0</b>	
<b>b. Transmission</b>						
<b>(i) Puapua-Asau Transmission Line 22kV Reconductoring Project</b>						
1. Approved Outline	15.08.08	25.07.08	2.0	100	2.0	ADB approved Feasibility Study and tender. Materials are supplied under separate contracts which were combined with materials for Alaoa and Hospital Feeder Upgrades. All materials for this subproject have arrived and shipped to Savaii.
2. Approved Feasibility Study	05.12.08	27.11.08	5.0	100	5.0	
3. Settle all Environment Issues	10.04.09	27.11.08	5.0	100	5.0	
4. Settle all Land Issues	13.02.09	27.11.08	5.0	100	5.0	
5. Approved Tender Documents	27.02.09	10.3.09	5.0	100	5.0	
6. Approved Tender Evaluation Report	12.06.09		5.0	100	5.0	
7. Award Contract	25.09.09		5.0	100	5.0	Contract for construction was awarded to Tenix New Zealand. Contract has been signed. Construction started at end of March. Contract subcontracted a local contractor.
8. Supply Materials	18.12.09		20.0	100	20.0	
9. Complete Construction	12.03.10		43.0			
10. Final Report	09.04.10		5.0			
		<b>Total Wt</b>	<b>100</b>			
		<b>Imp.Prog</b>			<b>52.0</b>	
<b>(ii) Power Factor Improvement Program</b>						
1. Approved Outline	15.08.08	25.07.08	2.0	10	2.0	PF improvement for high voltage lines in Savaii has been removed from PSEP. PF is high and in an acceptable level. There is another PF correction project to improve PF inside large consumers. This is not part of PSEP. PMU and Implementing Consultant is managing implementation of this project.
2. Approved Feasibility Study	05.12.08	05.01.09	5.0	0	5.0	
3. Settle all Environment Issues	10.04.09	05.01.09	5.0	10	5.0	
4. Settle all Land Issues	13.02.09	05.01.09	5.0	0	5.0	
5. Approved Tender Documents	27.02.09		5.0	10		
6. Approved Tender Evaluation Report	12.06.09		5.0	0		
7. Award Contract	25.09.09		5.0	10		
8. Receive Materials	18.12.09		20.0	0		
9. Complete Construction	12.02.10		43.0			
10. Final Report	12.03.10		5.0			
		<b>Total Wt</b>	<b>100</b>			
		<b>Imp.Prog</b>			<b>17.0</b>	
<b>(iii) Low Voltage Network Improvement Program</b>						
1. Approved Outline	06.11.09	31.03.09	2.0	100	2.0	ADB approved Feasibility Study and tender. Contracts have awarded for supply of materials. Construction will be carried out by EPC. Construction has not started.
2. Approved Feasibility Study	26.02.10		5.0	100	5.0	
3. Settle all Environment Issues	02.07.10		5.0	100	5.0	

4. Settle all Land Issues	07.05.10		5.0	100	5.0	
5. Approved Tender Documents	21.05.10		5.0	100	5.0	
6. Approved Tender Evaluation Report	03.09.10		5.0	100	5.0	
7. Award Contract	17.12.10		5.0	100	5.0	
8. Receive Materials	11.03.11		20.0	100	20.0	
9. Complete Construction	27.07.12		43.0			
10. Final Report	24.08.12		5.0			
		<b>Total Wt</b>	<b>100</b>			
		<b>Imp.Prog</b>			<b>52.0</b>	
<b>3. Measurement Equipment</b>						
<b>(i) Stream Flow Gauging Equipment</b>						
1. PMU prepare subproject outline	17.07.08	15.07.08	5.0	100	5.0	Outline was approved by the EPC Board of Directors on 25 Jul 2008. PMU notified ADB and PSC on 11 Aug 2008. Delay in notification is due to official approval of the Board can only be available and confirmed when the minutes of the previous meeting are approved in the proceeding meeting. This subproject does not need a Feasibility Study and prior review and endorsement of ADB. PMU prepare equipment specification and called tenders for the supply of equipment. Tender Evaluation Report was completed on 18 Sept 2008. ADB endorsed TER on 23 Oct 2008. EPC Board approved Tender Evaluation Report during its meeting on 23 Sept 2008. Withdrawal application for payment is now with ADB. Equipment has not been received. 8 gauges have been installed; 1 left to be installed. Installation of rain gauges will be added to this project.
2. EPC Board approves Outline	31.07.08	25.07.08	10.0	100	10.0	
3. PMU notify ADB	07.08.08	11.08.08	2.0	100	2.0	
4. PMU notify PSC	07.08.08	11.08.08	2.0	100	2.0	
5. PMU prepares Equipment Specs	07.08.08	01.08.08	10.0	100	10.0	
6. PMU prepares Tender Documents	14.08.08	08.08.08	10.0	100	10.0	
7. PMU calls tenders	11.09.08	05.09.08	5.0	100	5.0	
8. PMU evaluate tenders	18.09.08	09.09.08	5.0	100	5.0	
9. PMU prepares TER	25.09.08	16.09.08	10.0	100	10.0	
10. ADB review and endorse TER	09.10.08	23.10.08	10.0	100	10.0	
11. EPC Board approves TER	09.10.08	23.09.08	10.0	100	10.0	
12. PMU advise Successful bidder	23.10.08	23.10.08	2.0	100	2.0	
13. Successful Bidder supply equipment	04.12.08		10.0	100	10.0	
14. Equipment hand over to REU/MNRE	11.12.08		2.0	100	2.0	
15. PMU process payment	17.09.09		5.0	100	5.0	
16. PMU provide final report	20.11.08		2.0	100	2.0	
		<b>Total Wt</b>	<b>100</b>			
		<b>Imp.Prog</b>			<b>100</b>	
<b>(ii) HV/LV Testing Equipment</b>						
1. PMU prepare subproject outline	18.07.08	18.07.08	5.0	100	5.0	Outline of this subproject was approved by EPC Board on 25 July 2008. PMU notified ADB and PSC on 11 Aug 2008. Delay in notification is due to official
2. EPC Board approves Outline	01.08.08	25.07.08	5.0	100	5.0	
3. PMU notify ADB	08.08.08	11.08.08	2.0	100	2.0	

4. PMU notify PSC	08.08.08	11.08.08	2.0	100	2.0	approval of the Board can only be available and confirmed when the minutes of the previous meeting are approved in the proceeding meeting. This subproject does not need a Feasibility Study and prior review and endorsement of ADB. PMU prepared equipment specification and called tenders for the supply of equipment. Tender Evaluation Report was completed on 29 Sept 2008 and forwarded to ADB. This is yet to be endorsed due to some misunderstanding. EPC Board approved TER on 23 Oct 2008. Withdrawal application is now with ADB. Suppliers received their payments.	
5. PMU prepares Equipment Specs	08.08.08	11.08.08	7.0	100	7.0		
6. PMU prepares Tender Documents	15.08.08	18.08.08	7.0	100	7.0		
7. PMU calls tenders	12.09.08	22.08.08	5.0	100	5.0		
8. PMU evaluate tenders	19.09.08	22.09.08	5.0	100	5.0		
9. PMU prepares TER	26.09.08	29.09.08	10.0	100	10.0		
10. ADB review and endorse TER	10.10.08	15.10.08	5.0	50	5.0		
11. EPC Board approves TER	10.10.08	23.10.08	10.0	100	10.0		
12. PMU advise Successful bidder	24.10.08	24.10.08	2.0	100	2.0		
13. Successful Bidder supply equipment	05.12.08	29.02.09	10.0	100	10.0		
14. PMU receive equipment	19.12.08	31.3.09	5.0	100	5.0		
15. PMU test & use equipment	16.01.08	31.3.09	10.0	100	10.0		
16. PMU process payment	21.11.08	31.3.09	5.0	100	5.0		
17. PMU provide final report	13.02.09		5.0	100	5.0		
		<b>Total Wt</b>	<b>100</b>				Project is completed.
		<b>Imp.Prog</b>			<b>100</b>		
<b>4. System Control and Data Acquisition (SCADA)</b>							
1. Approved Outline	03.04.09	31.3.09	2.0	100	2.0	ADB approved Feasibility study. ADB approved tender. Tender is advertised.	
2. Approved Feasibility Study	17.07.09		5.0	100	5.0		
3. Settle all Environment Issues	01.01.10		5.0	100	5.0		
4. Settle all Land Issues	23.10.09		5.0	100	5.0		
5. Approved Tender Documents	30.10.09		5.0	100	5.0		
6. Approved Tender Evaluation Report	05.03.10		5.0				
7. Award Contract	21.05.10		5.0				
8. Receive Materials	05.11.10		20.0				
9. Complete Construction	24.06.11		43.0				
10. Final Report	22.07.11		5.0				
		<b>Total Wt</b>	<b>100</b>		<b>22.0</b>		
		<b>Imp.Prog</b>					
<b>5. New Subprojects</b>							
<b>(i) Public Dissemination</b>							

1. EPC Board approved Outline	22.08.08	23.09.08	5.0	100	5.0	This is a new subproject. It was the EPC's understanding that all the supporting components of the subprojects such as advertisement, awareness programs, public notices, education programs, etc are all covered under the Power Sector Expansion Project. Unfortunately when the need aroused to pay for these costs during the Prepayment Meter Core Subproject, it was realized that there is no provision for this under the loan. Preliminary discussions took place between PMU and ADB took place. ADB advised this can be added as a new subproject and PMU has to follow the process as outlined in Appendix 7 of the RRP. PMU then prepared the outline to be submitted to the EPC Board. EPC Board approved the outline of this new subproject on 23 Sept 2008. PMU notified ADB and PSC on 01 Oct 2008. ADB agreed to include advertisement of tenders under this subproject.
2. PMU notify ADB	05.09.08	01.10.08	2.5	100	2.5	
3. PMU notify PSC	12.09.08	01.10.08	2.5	100	2.5	
4. PMU to implement	19.11.15		85.0	50	34.0	
5. Final Report	17.12.15		5.0			
		<b>Total Wt</b>	<b>100</b>			
		<b>Imp.Prog</b>			<b>44.0</b>	
<b>(ii) Vending System Expansion</b>						
1. EPC Board approved Outline	26.12.08	23.09.08	5.0	100	5.0	Scratch card system was successfully tested in A D Riley workshop in New Zealand. New card system was successfully launched in February 2010. More than 50 shops sell cards in Upolu and Savaii. There are some problems with new card system that EPC is working to resolve. Scratch cards are widely used now.
2. PMU notify ADB	02.01.09	01.10.08	2.5	100	2.5	
3. PMU notify PSC	02.01.09	01.10.08	2.5	100	2.5	
4. ADB endorses Feasibility Study	27.03.09		10.0	100	10.0	
5. PSC endorses Feasibility Study	17.04.09		10.0	100	10.0	
6. EPC Board approves FS	30.04.09		10.0	100	10.0	
7. Implementation	24.12.10		45.0	100	45.0	
8. Final Report	24.01.11		5.0	100	5.0	
		<b>Total Wt</b>	<b>100</b>			
		<b>Imp.Prog</b>			<b>100</b>	
<b>(iii) Power System Planning Software</b>						
1. PMU prepare subproject outline	22.08.08	23.09.08	5.0	100	5.0	As part of Northpower's scope of work for replacement of 22kV switchgear in Taelefa, Lalomauga, Samasoni, and Tanugamanono power plants, a variation was approved for NP to conduct a load flow study and protection study of Upolu system. NP used
2. EPC Board approves Outline	05.09.08	23.09.08	5.0	100	5.0	
3. PMU notify ADB	12.09.08	01.10.08	2.0	100	2.0	
4. PMU notify PSC	12.09.08	01.10.08	2.0	100	2.0	
5. PMU prepares Software	12.09.08	26.08.08	5.0	100	5.0	

Specification	19.09.08	15.08.08	5.0	100	5.0	EPC DigSilent software for the studies and used this to train 3 of EPC electrical engineers. The project is completed. EPC will continue to model the rest of distribution feeders using the same software. What is left to be done is actual testing and recalibration of all protection replays in feeders, transmission lines and generators. NP schedules to this in Feb. 2011.	
6. PMU prepares Tender Documents	17.10.08	22.08.08	5.0	100	5.0		
7. PMU calls tenders	24.10.08	29.08.08	2.0	100	2.0		
8. PMU evaluate tenders	31.10.08	05.09.08	2.0	100	2.0		
9. PMU prepares TER	14.11.08	05.09.08	5.0	100	5.0		
10. ADB review and endorse TER	14.11.08	17.09.08	5.0	100	5.0		
11. EPC Board approves TER	21.11.08	23.09.08	2.0	100	5.0		
12. PMU advise Successful bidder	05.12.08	26.09.08	5.0	100	5.0		
13. Successful Bidder supply software	12.12.08	15.12.08	10.0	100	10.0		
14. Successful bidder installed software	19.12.08	31.03.09	10.0	100	10.0		
15. Successful bidder provide training	02.01.09	31.03.09	10.0	100	10.0		
16. PMU take over	19.12.08	31.03.09	10.0	100	10		
17. PMU process payment	30.01.09	30.04.09	5.0	100	5.0		
18. PMU provide final report			5.0		5.0		
		<b>Total Wt</b>	<b>100</b>				
		<b>Imp.Prog</b>			<b>100</b>		
<b>(iv) Refurbishment of Salelologa Power Station</b>							
1. Approved Outline	07.11.08	23.10.08	2.0	10	2.0	EPC will not refurbish Salelologa Power Station. Instead, a new power station will be built in Vaiaata. Cabinet approved 100 acres of govt land for new power plant. PMU is redoing feasibility study. Topographic survey of land is carried out.	
2. Approved Feasibility Study	20.03.09	31.3.09	5.0	0	2.5		
3. Settle all Environment Issues	07.08.09	31.3.09	5.0	50	2.5		
4. Settle all Land Issues	23.01.09	31.3.09	5.0	50	2.5		
5. Approved Tender Documents	26.06.09		5.0	50			
6. Approved Tender Evaluation Report	30.10.09		5.0				
	15.01.10		5.0				
7. Award Contract	02.07.10		20.0				
8. Receive Materials	03.09.10		43.0				
9. Complete Construction	01.10.10		5.0				
10. Final Report							
		<b>Total Wt</b>	<b>100</b>				
		<b>Imp.Prog</b>			<b>9.5</b>		

<b>(v) Refurbishment of Taelefaga/Lalomauga/Samasoni/Tanugamanono power plant 22kV Switchgears</b>						
1. Approved Outline	26.12.08	23.10.08	2.0	100	2.0	Contract was awarded to Northpower Ltd. Original contract is complete. New 22kV switchgear is now in operation. A 2 <sup>nd</sup> variation to NP was approved to replace the 4 old remaining switchgear in Lalomauga hydro plant. Additional switchgear is due to arrive in February 2011.
2. Approved Feasibility Study	03.04.09	31.3.09	5.0	100	5.0	
3. Settle all Environment Issues	14.08.09	31.3.09	5.0	100	5.0	
4. Settle all Land Issues	15.05.09	31.3.09	5.0	100	5.0	
5. Approved Tender Documents	08.05.09	30.09.09	5.0	100	5.0	
6. Approved Tender Evaluation Report	04.09.09		5.0	100	5.0	
7. Award Contract	01.01.10		5.0	100	5.0	
8. Receive Materials	03.12.10		20.0	100	20.0	
9. Complete Construction	03.12.10		43.0	75	35.0	
10. Final Report	31.12.10		5.0			
		<b>Total Wt</b>	<b>100</b>		<b>87.0</b>	
		<b>Imp.Prog</b>				
<b>(vi) Refurbishment of Tanugamanono Power Station Generators</b>						
1. Approved Outline	19.12.09	27.11.08	2.0	100	2.0	Contract was awarded to MAN to refurbish generators 5A and 9A. Unit 9A has a defective crankshaft; to be replaced with a new one. Work started on 9A. There was delay due to reorder of additional parts. There was a lot of reorder parts for 9A. Refurbish of 9A is completed and put on line. Start on 5A is postponed until Alaoa hydro is back in operation; this scheduled in May 2011.
2. Approved Feasibility Study	03.04.09	31.3.09	5.0	100	5.0	
3. Settle all Environment Issues	21.08.09	31.3.09	5.0	100	5.0	
4. Settle all Land Issues	12.06.09	31.3.09	5.0	100	5.0	
5. Approved Tender Documents	19.06.09	25.06.09	5.0	100	5.0	
6. Approved Tender Evaluation Report	25.09.09	30.09.09	5.0	100	5.0	
7. Award Contract	11.12.09		5.0	100	5.0	
8. Receive Materials	05.02.10		20.0	100	10.0	
9. Complete Construction	30.07.10		43.0	50	22.0	
10. Final Report	27.08.10		5.0			
		<b>Total Wt</b>	<b>100</b>			
		<b>Imp.Prog</b>			<b>64.0</b>	
<b>(viii) Vaipu Pump Assisted Scheme</b>						
1. Approved Outline	19.12.08	18.12.08	2.0	100	2.0	Subproject is on hold until SMEC completed evaluation of dam if it is safe to take more water for storage. PMU completed Feasibility Study and IEE.
2. Approved Feasibility Study	08.05.09		5.0	50	2.5	
3. Settle all Environment Issues	25.09.09		5.0			
4. Settle all Land Issues	17.07.09		5.0			
5. Approved Tender Documents	14.08.09		5.0			
6. Approved Tender Evaluation	25.12.09		5.0			

Report	12.03.10		5.0			
7. Award Contract	27.08.10		20.0			
8. Receive Materials	29.10.10		43.0			
9. Complete Construction	26.11.10		5.0			
Final Report						
		<b>Total Wt</b>	<b>100</b>			
		<b>Imp.Prog</b>			<b>4.5</b>	
<b>(ix) Upolu Hydro Investigation</b>						
1. Approved Outline	30.06.09		2.0	100	2.0	Implementation Consultant under Variation 2 is currently doing feasibility studies of 5 hydropower schemes; Faleata, Faleseela, Tafitoala, Fuluasou and Tiapapata. Study started in March 2010. First consultations with villages concerned are done. Vailoa for Faleata and Faleseela approved for investigation of schemes to continue, pending their final decision on the Govt plan to build hydropower plants using rivers in the two villages. Estimate cost of each scheme is currently being done. Ones EPC and ADB approves top 3 schemes to be built, detailed designs and preparation of tenders for 3 schemes then start. IC submitted a proposal to EPC for detailed design.
2. Approved Feasibility Study	31.12.09		5.0			
3. Settle all Environmental Issues	31.12.09		5.0			
4. Settle all land issues	31.12.09		5.0			
5. Approved Tender Documents	30.06.10		5.0			
6. Approved Tender Evaluation Report	30.09.10		5.0			
7. Award Contract	31.10.10		5.0			
8. Received Materials & equipment			30.0			
9. Complete Construction			33.0			
10. Final Report			5.0			
		<b>Total Wt</b>	100			
		<b>Imp. Prog</b>			<b>2.0</b>	

a



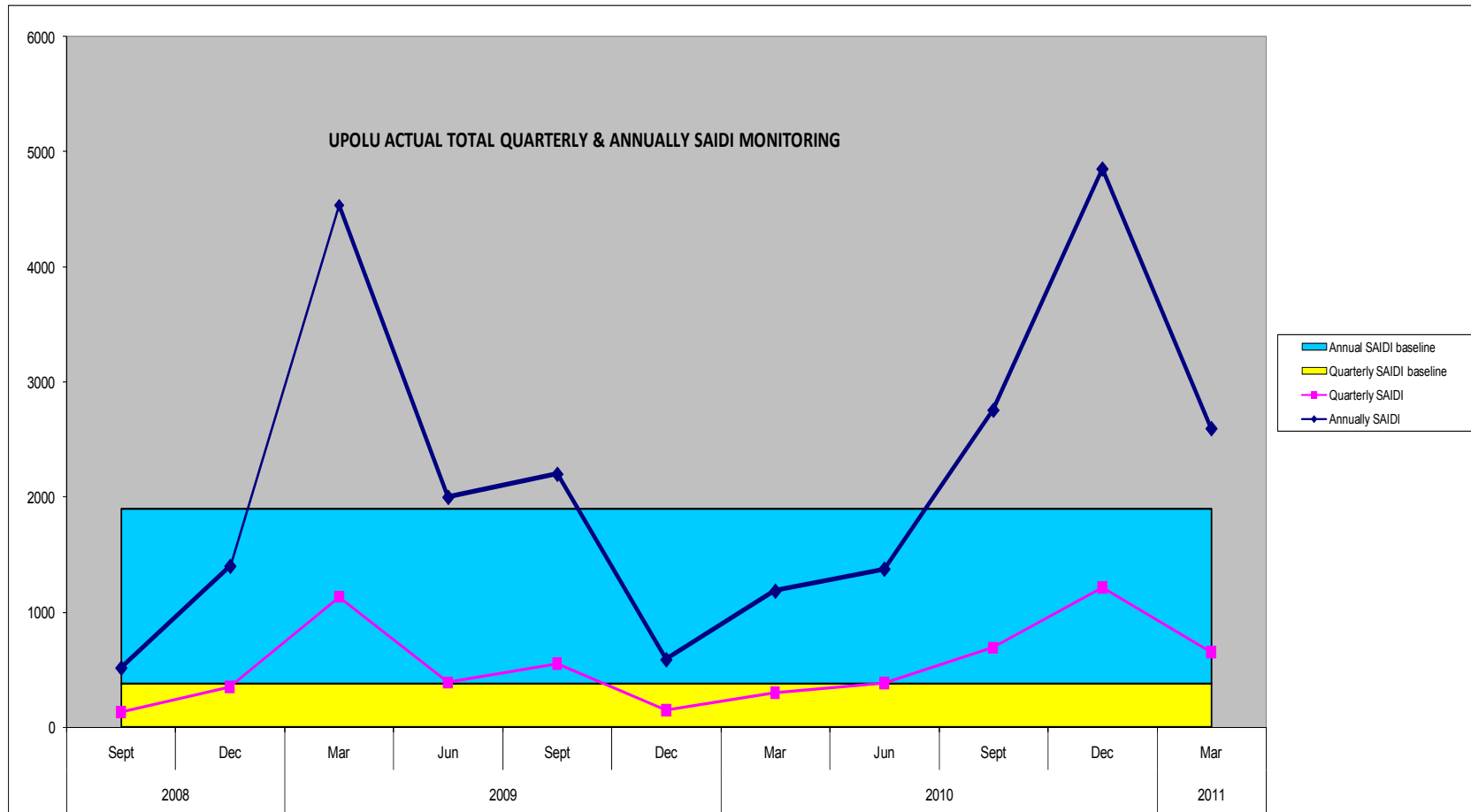
## Appendix 2 - Electricity Receivables

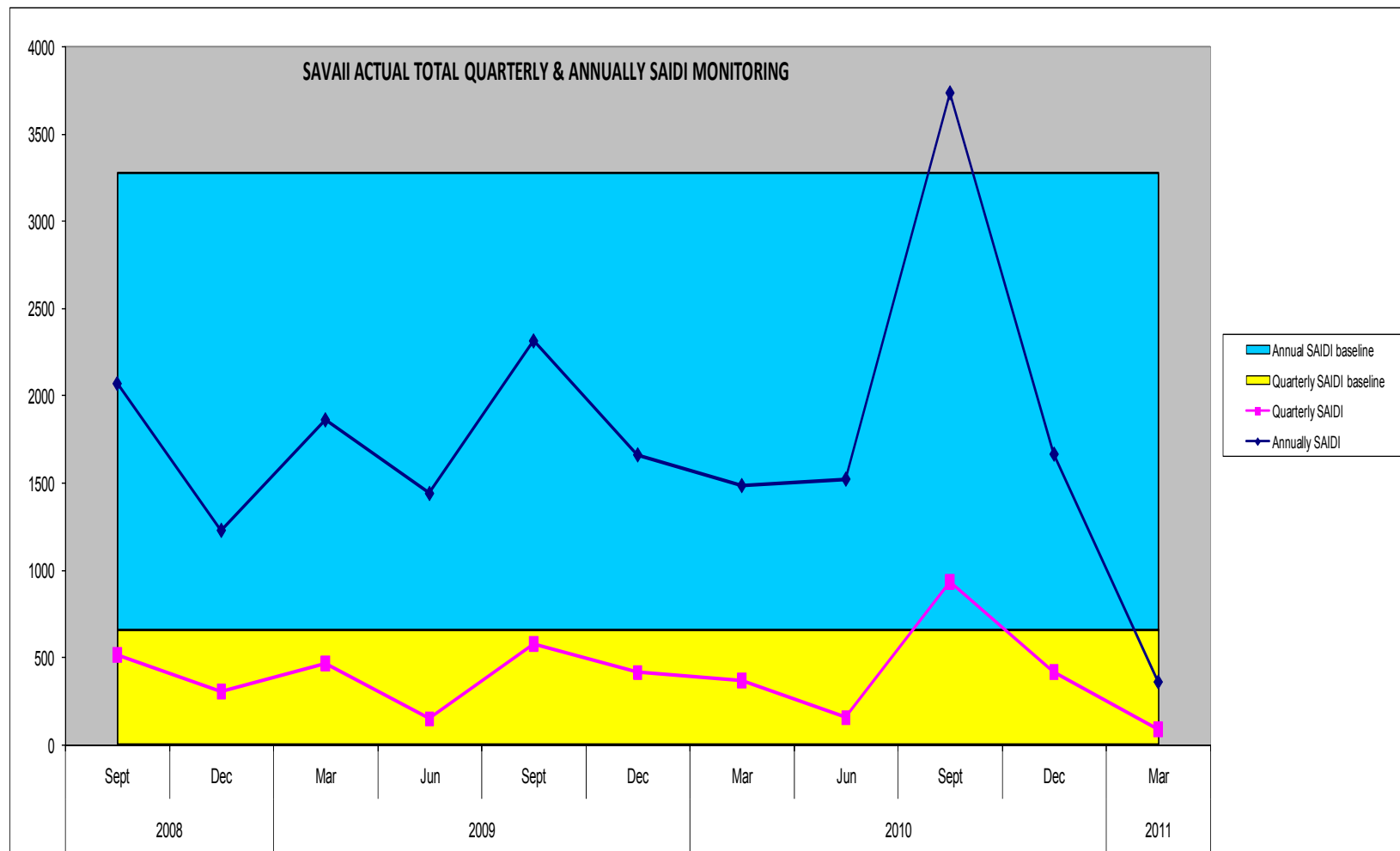

### Appendix 3 – Prepayment Meter Installation Projection & Actuals

		Projected Customers with Payment Meters	Project Total Customers	Projected % of Customers with Prepayment Meters Installed	Actual Customers with Prepayment Meters	Actual Total Numbers of Customers	Actual % of Customers with Prepayment Meters
2008	Sep	5,000	29,800	16.8%	4,760	31,000	15.35%
	Dec	6,940	30,000	23.1%	6,248	31,827	19.63%
2009	Mar	8,190	30,150	27.2%	8,276	32,158	25.74%
	Jun	9,440	30,300	31.2%	13,018	39,476	32.98%
	Sep	10,690	30,450	35.1%	15,792	39,566	39.91%
	Dec	12,065	30,600	39.4%	16,692	33,566	49.73%
2010	Mar	13,300	30,750	43.3%	17,432	34,148	51.05%
	Jun	14,560	30,900	47.1%	20,763	35,644	58.25%
	Sep	15,815	31,050	50.9%	22,180	36,082	61.47%
	Dec	17,080	31,200	54.7%	22,965	36,408	63.08%
2011	Mar	18,330	31,350	58.5%	23,415	36,584	64.0%
	Jun	19,580	31,500	62.2%			
	Sep	20,830	31,650	65.8%			
	Dec	22,080	31,800	69.4%			
2012	Mar	23,330	31,950	73.0%			
	Jun	24,580	32,100	76.6%			
	Sep	25,830	32,250	80.1%			
	Dec	26,230	32,400	81.0%			

Project Target is to get 75% of consumers on Cash Power Meters at end of project in 2016. At end of 1<sup>st</sup> Quarter of 2011, about 64% of consumers are already on Cash Power. There is 11% needed to meet target. About 2,000 additional meters are needed added to A D Riley's present contract to complete the 75%.

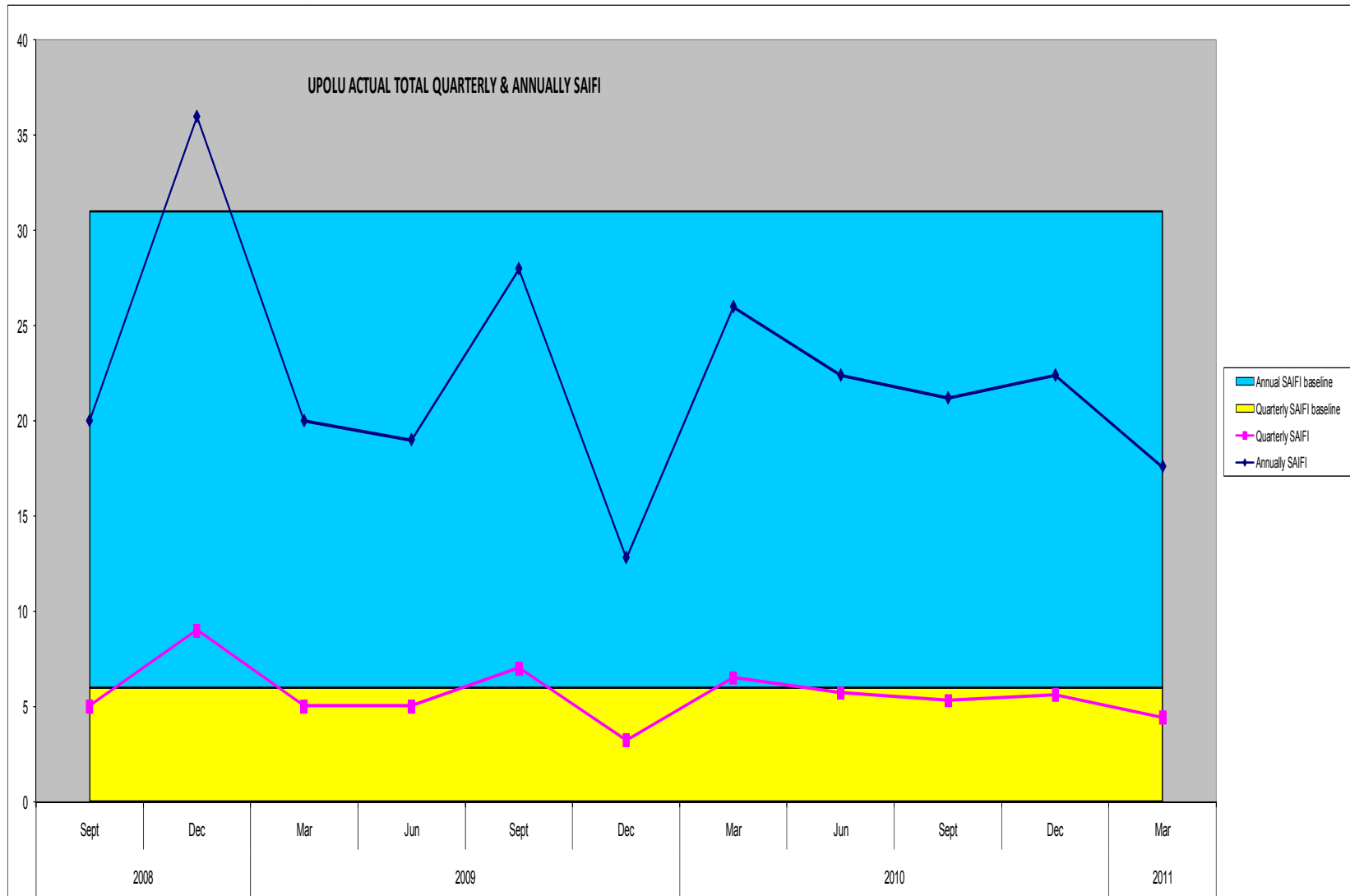
#### Appendix 4 - System Average Interruption Duration Index (SAIDI) Monitoring

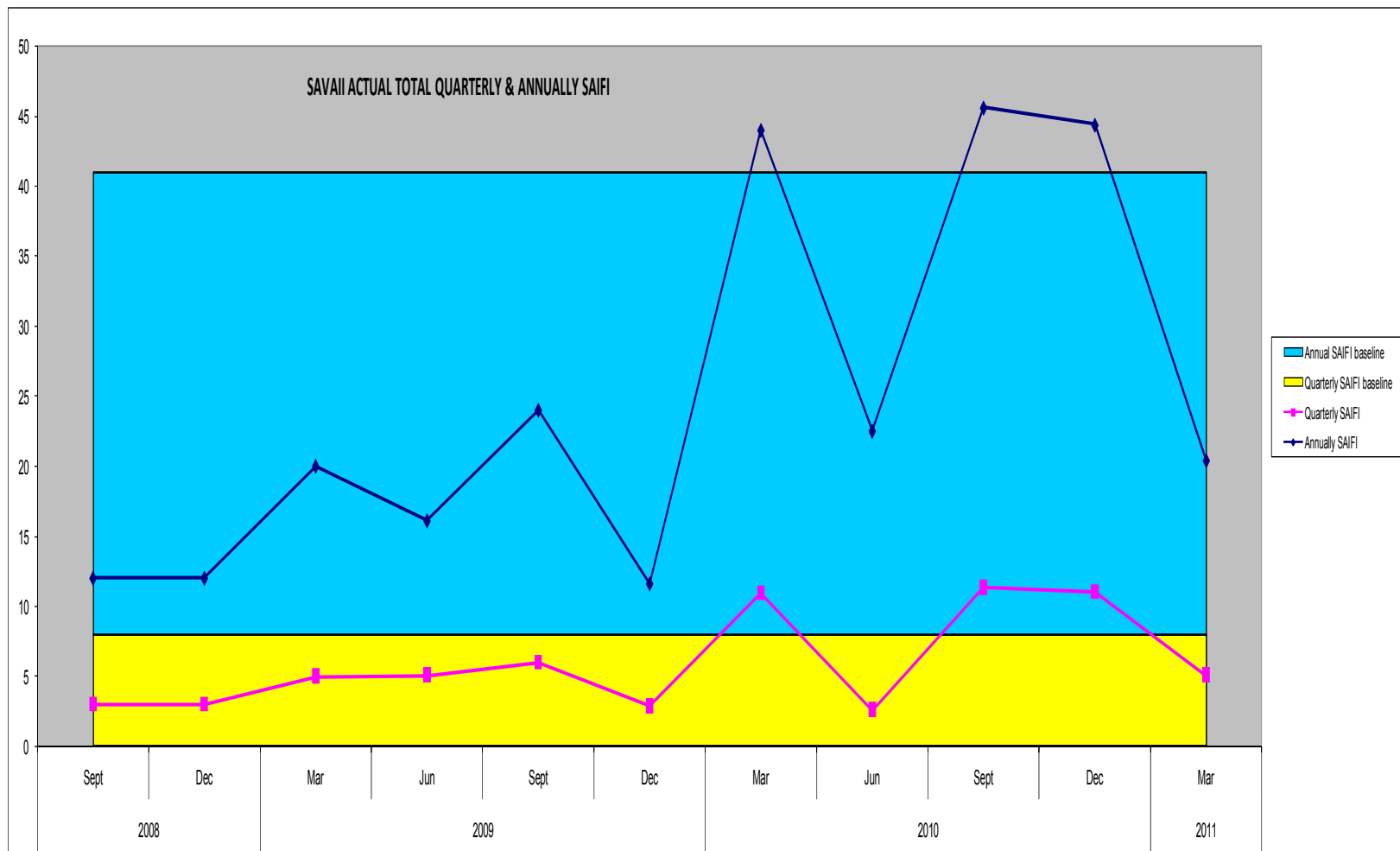




- SAIDI to be reduced by 20% by 2015
- Plan interruption is included since 1<sup>st</sup> Quarter 2009.

## Appendix 5 – System Average Interruption Frequency Index (SAIFI)





- SAIFI to be reduced by 20% by 2015
- Plan interruption is included since 1<sup>st</sup> Quarter 2009.



Asian Development Bank

**Appendix 6 – Memorandum of Understanding of ADB REVIEW Mission in February 2011**

**LOANS 2368/8232 AND GRANTS 0087/0101-SAM: POWER SECTOR EXPANSION PROJECT  
ADTA 4494-SAM: IMPLEMENTING THE NATIONAL ENERGY POLICY**

**AIDE MEMOIRE**

**REVIEW MISSION**

**INTRODUCTION**

1. A review mission<sup>1</sup> (the Mission) from the Asian Development Bank (ADB) visited Samoa from 13 to 19 February 2011 to review progress on (i) Loans 2368/8232 and Grants 0087/0101-SAM: Power Sector Expansion Project (Project), and (ii) ADTA 4494-SAM: Implementing the National Energy Policy. A list of persons met is included in Appendix 1. A wrap-up meeting was held on 17 February 2011 at Ministry of Finance (MOF). This Memorandum of Understanding (MOU) records the understandings reached between the Government and ADB.

**Mission findings**

**Loans 2368/8232 and Grants 0087/0101-SAM: Power Sector Expansion Project (PSEP)**

2. The Project was approved by the Board on 21 November 2007, signed on 11 December 2007, and became effective on 19 June 2008. Loan closing is on 31 December 2016. The Project is being co-financed by Japan International Cooperation Agency (JICA) and the Government of Australia.

3. **Contract Awards and Disbursements.** The cumulative commitments and disbursements as of 16 February 2011 are detailed below:

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<sup>1</sup> The Mission comprised Anthony Maxwell: Team Leader, Chika Kondo: Project Manager, Japan International Cooperation Agency, Rebecca Salvo: Operations Officer, ADB, Ralph Karhammar: AusAID Consultant

Fund Source	Loan/Grant	Contract Awards	%	Disbursements	%
	Amount – Current				
	Value (\$ million)				
2368-SAM (ADB Loan)	26.548	16.001	60%	5.288	20%
8323-SAM (JICA Loan)	38.000	22.185	74%	7.880	21%
0087-SAM (ADB Grant)	15.390	6.282	41%	2.620	17%
0101-SAM (AusAID Grant)	8.000	7.603	95%	2.507	33%
	<b>87.974</b>	<b>52.071</b>	<b>59%</b>	<b>18.295</b>	<b>21%</b>

4. Between February 2010 and February 2011, contract awards rose from 10% to 59% and disbursements rose from 5% to 21%. Both contract awards and disbursements are projected to reduce in 2011, as presented in Appendix 2 and 3.

5. **Loan Buy Down Mechanism.** The Project includes a loan buy down mechanism<sup>2</sup> of \$4 million for conversion of loan to grant, funded by AusAID. A summary of progress towards the performance targets is presented below.

<sup>2</sup> Loan Buydown Agreement between the Government of Australia and Asian Development Bank with respect to the Power Sector Expansion Project Loan in the Independent State of Samoa, 19 February 2008



**Table 1: Progress on the Loan Buy Down Mechanism Triggers**

Triggers	Progress
1. Appointment of an independent technical and price regulator for the power sector	The Electricity Act was passed in December 2010. TA 4994-SAM: Implementing the Samoa National Reform Energy Policy (grant financed by AusAID) supported drafting of the Electricity Act and Regulations. MoF intends to hire a power regulator by June 2011. TA 4994 has been extended to June 2011 to provide assistance with establishing the power regulator. MOF has indicated that allocation for the power regulator will be allocated in the 2011/12 budget.
2. Improvement of Electric Power Corporation (EPC) debt collection performance such that accounts receivable shall not have exceeded 2 months of electricity sales for a minimum of two years	Receivables are 37.3 days as of January 2011. Receivables have remained below 2 months since 30 September 2007 (3.3 years). Current data for receivables is presented in Appendix 4. Compliance with this loan buy down trigger has been achieved.
3. Usage of prepaid meters by 75% of all EPC's electricity customers by 31 December 2012	Currently an estimated 61% of EPC's customers are using prepaid meters. The installation of prepaid meters is on-going. Installation projections for prepaid meters are included in Appendix 5. Installation targets are currently being met.

6. **Conversion of Loan to Grant.** The Project Report and Recommendation to the President (RRP) para. 47 and para. 8 (c) of the Subsidiary Financing Agreement<sup>3</sup> allows for up to 7% of Project costs or a ceiling of \$10 million to be converted from loan to grant by MOF to EPC. Section 6.01 (b) of the Financing Agreement<sup>4</sup> requires a conversion mechanism to be established. EPC and MOF have discussed options for triggers under the loan buy down mechanism would be suitable for conversion of the loan to grant. MOF agreed to finalize the mechanism for approval by the next Project Steering Committee.

7. **PMU Staffing.** Implementation of civil works on a number of large projects has commenced. The EGIS-BCEOM consultant supervision contract will expire in second quarter 2011. The Mission discussed construction supervision capacity with the PMU and expressed concern that current staffing levels were insufficient to adequately manage construction supervision. It was agreed that additional experienced

<sup>3</sup> Subsidiary Financing Agreement (Power Sector Expansion Project) between Independent State of Samoa and Electric Power Corporation, 16 June 2008

<sup>4</sup> Financing Agreement between Independent State of Samoa and Asian Development Bank for the Power Sector Expansion Project, 11 December 2007

staff are required to manage construction supervision and EPC confirmed that they will hire 3 additional fulltime construction supervision consultants for the duration of relevant subproject implementation<sup>5</sup>.

8. **Fiaga Powerplant.** Contract SAM-PSEP-12/03A was signed with Bluebird AhLal in association with Mitsubishi Heavy Industries and Wood Pacific (BBA) on 10 November 2010 for USD26,681,042 for Design, Manufacture, Supply, Construct, Install and Commission of Fiaga Power Station. ADB received a letter from the Minister of Finance on 20 December 2010 proposing to partially change the currency of payment from USD to NZD and Yen. ADB responded advising that payment for Contract SAM-PSEP-12/03A should be made according to the currency schedule included in the accepted bid of BBA, in accordance with ADB Procurement Guidelines para 2.32 which states "*Payment of the contract price shall be made in the currency or currencies in which the bid price is expressed in the bid of the successful bidder.*" In response to statements made by BBA to the Project Steering Committee in January 2011 regarding reluctance to continue with implementation of Contract SAM-PSEP-12/03A, the Executing Agency (MoF) agreed to continue discussions with BBA to bring the matter to a conclusion as soon as possible.

9. **Imprest Account.** The letter to ADB from the Minister of Finance on 20 December 2010 also requested establishment of an imprest account for the Project. The Mission discussed the option of establishment of an imprest account with the PMU and was advised that it was no longer required.

10. **Office of Anti-corruption and Integrity (OAI) Project Review.** The Mission advised the Government and EPC that OAI had randomly selected the project for review. Initial site visits by OAI are anticipated by March 2011.

11. **Subproject Prioritization.** The Mission discussed prioritization of remaining subprojects with the PMU. The PMU advised that the remaining budget may be insufficient to finance all remaining subprojects, including the proposed small hydropower subprojects. It was discussed that the small hydropower projects may be suitable for external grant financing by other development partners.

#### **TA 4494-SAM: Implementing the National Energy Policy**

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<sup>5</sup> One international generation engineer, one international transmission engineer, and one international civil engineer, all with extensive project construction supervision experience.

12. TA 4994-SAM consists of the following components (i) Component 1: Establishment of the Clean Energy Fund (CEF), (ii) Component 2: Establishment of the Designated National Authority (DNA), (iii) Component 3: Regulatory and Policy Reform in the Power Sector, and (iv) Component 4: Resident Financial Management Advisors to EPC. Activities under Component 1, 2 and 4 have been completed. The closure of TA 4994-SAM has been extended to June 2011 to allow final activities to support establishment of the power regulator under Component 3. ADB agreed to assess the remaining budget to support (i) a final mission by one financial management advisor to EPC in March 2011, and (ii) office equipment to the power regulator.

### III. CONCLUSION

13. The Mission would like to express its appreciation for the cooperation and the hospitality extended by the GoS and EPC. It is understood that the points of agreement and recommendations as reflected in the Aide Memoire are subject to the approval of higher authorities in GoS and ADB.

Signed in Apia, Samoa 18 February 2011

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Anthony Maxwell

Team Leader

Asian Development Bank

## **List of Persons Met**

### **Ministry of Finance**

Mr. Iulai Lavea	Chief Executive Officer
Ms. Noumea Simi	Assistant CEO, Debt Management
Ms. Justina Sau	Assistant CEO, State Enterprise Monitoring Division
Ms. Silia Kilepoa Ualesi	Energy Coordinator, Economic Policy and Planning Division

### **Electric Power Corporation**

Mr. Mua'ausa Fiu Joseph Walter	Chief Executive Officer
Mr. Vui Lance Lameko	Manager, Corporate Services
Mr. Galumalemana Tologata Tile	
Lei'a Tuimalealiifano	Project Manager, PMU
Mr. Tupai Fui Mau Simanu	Generation Engineer, PMU
Mr. Taulealeausumai Tiotio	Transmission & Distribution Engineer, PMU
Ms. Faalepo Solofa-Lemisio	Project Accountant, PMU
Mr. Alfred Matatia	Civil Engineer, PMU
Ms. Raema Schuster	Electrical Engineer, PMU
Ms. Nuulopa Pereira	Power System Planner, PMU
Mr. Mathew Lemisio	Environment and Legal Advisor, PMU
Ms. Moetusivi S Asiono	PR and Community Specialist
Mr. Seukeya Asi Tiatia	Land Acquisition and Resettlement Specialist
Mr. Wairarapa Young	Renewable Energy Officer

### **Attorney General's Office**

Mr. Peter Bednell	Lawyer
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### **Australian Agency for International Development (AusAID)**

Ms. Frances Schuster	Senior Program Manager
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**Other**

Ms. Maeva Betham-Vaai	ADB/World Bank Group Focal Officer
Mr. Fonoti Perelini Perelini	Team Leader EGIS-BCEOM
Mr. Brendan Heggarty	Generation/Transmission Specialist EGIS-BCEOM
Mr. Kazuyoshi Mori	JICA Technical Advisor
Mr. Shimpei Tomita	JICA Technical Advisor
Mr. Yosuke Suezawa	JICA Technical Adviso