

**Quarterly Progress Report No. 17**

**2nd Quarter 2012**

**(April – June 2012)**

Table of Acronyms

ADB Asian Development Bank

ADR Arthur D Riley

APM Acting Project Manager

ATS Automatic Transfer Switch

AusAID Australian Agency for International Development

CDC Cabinet Development Committee

CEO Chief Executive Officer

CSO Community Service Obligation

DSR Debt-service Ratio

EA Executing Agency

EARF Environmental Assessment and Review Framework

EI Egis 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 MAN MAN Diesel Australia Ltd

MCIL Ministry of Commerce, Industry and Labour MNRE Ministry of Natural Resource and Environment MOF Ministry of Finance

MOU Memorandum of Understanding

MV Medium Voltage

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

PMU Project Management Unit

PPMS Project Performance Monitoring System

PSEP Power Sector Expansion Project

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. 17 and it covers the project activities and progress for the 2nd Quarter 2012 from April 1 to June 30, 2012.

Here is a summary of the progress of each subproject at end of Quarter 2, 2012:

**1.1 Core Subprojects**

**Hospital Feeder Upgrade Stage 1 – Contractor was Bluebird Ah LAL JV**

 Project is complete.

**Prepayment Meters – Contractor is A D Riley NZ Ltd**

 Total number of Prepayment meters installed by ADR up to end of June 2012 is 19,616;

1,384 left to complete ADR‟s contract. Total number of PPM to be installed in ADR‟s contract is 21,000. Contract includes lowering of meters. Total of 3,845 meters have been lowered so far.

 There are 31,909 active meters at end of June; 22,932 Prepayment Meters and 8,977 still

on induction meters.

 71.87% of total active meters are on Prepayment; this leaves 3.13% to achieve project goal of having 75% of total number of active meters on Prepayment Meters.

 ADR repaired 1,064 defective meters with blank screen; 786 are contract meters and 278

EPC installed meters. They replaced a component in defective meters. It was thought this would solve the blank screen problem. But it didn‟t. EPC is very concern of the defect and have pressured ADR for a solution. Worse is that customers continued to receive power even if meters are blank screens. This is a loss to EPC of customers with this kind defective meters will continue to receive free power.

 Tests continued of an alternative prepayment meter from another supplier, Joy Electric Ltd Company. Test is if meter can work with tokens from existing vending system installed by A D Riley. If tests prove successful, this will give EPC another supplier of these meters.

**Consultancy Services**

 Implementation Consultant, Egis International, is continuing to complete Feasibility

Studies of 5 hydro schemes and tender documents of 3 of the 5 schemes.

 PMU still has 2 individual consultants hired. Replacement of 3rd individual consultant who resigned was replaced with a local hired Distribution Engineer.

 PMU to submit to ADB proposal for additional consultants required to complete project.

 ADB approved to hire short term experts to assist with detailed commissioning of these subprojects; Fiaga power plant, SCADA, and Fuluasou Substation.

 ADB approved to fund as part of PSEP a short term individual consultant to conduct a Cost of Service and Tariff Study. Request for Proposal for solicitation will be issued soon.

**1.2 Candidate Subprojects**

**Upolu Generation**

**1.2.1 Tanugamanono Plant Noise and Emission Controls**

 No activity this Quarter.

 May not need to do this subproject because new Board of Directors approved to relocate all 4 base load generators from Tanugamanono power station to the new power station in Fiaga.

 New power station is built with only 3 generators to be relocated to Fiaga new power station. To also relocate 4th generator would require major redesign and construction work to accommodate the 4th generator.

 Main critical reason for keeping one generator in Tanugamanono is for backup to the main hospital and critical government facilities in middle of Apia, if transmission line from Fiaga power station to Fuluasou Substation and Tanugamanono is down on a fault. Main feeder which supplies power to main hospital and rest of critical facilities in Apia is connected to Tanugamanono power station.

**Refurbishment of Alaoa Hydro Plant**

 Project is complete.

 Plant is back in operation.

 One change order from civil contractor is approved. Change is for extra length of stairway they built alongside penstock to use by maintenance crew.

**Fiaga Power Plant Lot A – Contractor is Blue Bird Ah LAL in association with**

**Woods Pacific Ltd and Mitsubishi Heavy Industry (BBA/Woods/MHI)**

 This project include; powerhouse, 4 new generators, drainage, ring road, single stack, water system, fire fighting system, wastewater system, workshops, electrical reticulation in power plant, fence, earth grid system, and water storage tanks.

 70% of contract is completed.

 Commission of generator is scheduled at end of October this year.

 Installation of generators continued.

 6 additional change orders were approved this quarter. This brings accumulated value of all change orders to 4.73% of original contract amount. There are still other change orders being considered.

**Fiaga Power Plant Electrical Lot B – Contractor is North Power NZ Ltd**

 This contract involves design, manufacture, supply, installation and commissioning of 415 volts, 11kV, 22kV, and 33kV electrical switchgear, 6 power generators, 2 local supply transformers, and backup generators.

 Installation is 90% complete. Remaining work is dependent on completion of work by others. Pre-commission tests are successfully completed with no problems.

 Tender Board also approved Change Order No 2 and submitted to Cabinet for approval.

 Change Order No 2 covers 110VDC and battery bank system and SCADA interface equipment.

**Fuel Tanks – Contractor is Fuelquip NZ Ltd/GMA Construction Ltd JV**

 Tank bunds are completed. All 6 tanks are completed, arrived and installed.

 Pipe work and pumps to connect tanks to power station is not part of contractor‟s contract. Variation for this is approved. Contractor preparing design and construction drawings

 Estimate completion is in October 2012.

**Fiaga Access Road/Pipe/Fence – Contractor is Silva Transport Ltd**

 Contract is complete and being closed out.

 Change Order No 2 is approved. This is for additional fill materials used for construction of road.

 Punch list of defects is prepared for contractor to fix.

**Relocation of Generators 5A, 7A and 9A from Tanugamanono to Fiaga Power Plant**

 Actual moving of the 3 generators has not started, but some of work associated with relocating the 3 generators to Fiaga has been done as part of Fiaga power plant.

 Bluebird Ah LAL JV, contractor for powerhouse, completed construction of foundation for the 3 generators.

 North Power NZ Ltd under Fiaga Power Plant Lot B contract supplied and installed 3 power transformers, cable racks and power cables. Also the 11kv switchgear circuit breakers for the 3 generators are included in 11kV switchgear for entire power plant. Work is done.

 PMU started preparation of tender for relocation of 3 existing generators.

 New Board of Director approved to relocate all 4 Mirrlees generators from Tanugamanono to Fiaga. Design and construction of Fiaga power station did not allow for the 4th generator to be relocated.

 Original decision to keep the 4th generator (Unit No. 12) was critical to provide backup for main hospital and Government critical office in Apia.

**Hospital Feeder Stage 2 – by Bluebird Ah LAL JV**

 70% of construction is complete; worked stopped awaiting arrival of certain materials.

Vaults are installed and connectors inside vaults installed and cables terminated and connected to connectors.

 North Power NZ Ltd will install terminations of underground cables of feeders to connect to new 22kv switchgear in Tanugamanono power station.

 Improvements included in this subproject are:

a) Upgrade voltage Hospital Feeder from 6.6kV to 22kV;

b) replace eighteen (18) 6.6kV transformers with 22kV transformers;

c) replace the main 500 kVA transformer which supply the National Hospital

d) Install two padmount Automatic Transfer Switches (ATS) at the National Hospital‟s two electricity supply points. ATSs enable two distribution feeders to be connected to the hospital substations so that if the primary feeder is off, the ATS will automatic switch to 2nd feeder;

e) Replace the 22kV overhead lines of Hospital Feeder with 22kV

underground cables from Tanugamanono power station to Savalalo;

f) Construct a dedicated underground transmission line to connect the

Samasoni hydro plant direct to Tanugamanono power station; and

g) Connect dedicated transmission line for Alaoa and Fale ole Fee hydro plants direct to 22kv switchgear in Tanugamanono power station instead of feeding through East Coast distribution feeder.

**33kV Transmission Line – Construction by EPC**

 This 33kV transmission line connects the new Fiaga power plant to the new Fuluasou Substation and continues to Tanugamanono power station. This line becomes the 33kV backbone transmission line that links power stations to substation. There are two 33kV circuits connecting Fiaga Power Plant to Fuluasou Substation; one underground and one overhead. Reason is to improve reliability of transmission line during major cyclone or earthquake. Line continued underground from Fuluasou Substation to Tanugamanono power station.

 Construction of 33kv overhead line started. Construction is done by EPC and supervised by Distribution Engineer. EPC introduced use of pre-stressed concrete poles for this important transmission line. EPC used to use wooden poles.

 Underground 33kv cables will be run inside Golf Course to Substation. Samoa Land

Corporation approved to run underground cables inside the Golf Course fence.

 Materials started to arrive. Cables are expected to arrive in September. Factory testing of cable is scheduled on September.

 Consultations with affected people and survey of powerline route are finished.

 Total length of trenching for underground cable from Fiaga power station to Fuluasou substation 15 kilometers. EPC will contract out excavation and EPC crew only lay and install cables. .

**22kV Underground Cables from Fuluasou Substation to Apia – by EPC**

 Rest of materials supplied as part of 33kv TL contract. Contract has been awarded to 2 suppliers.

 Design of interconnection of customers along Vaitele Road is complete.

 Construction has not started.

 All conduits and vaults for this underground feeder have been built and installed under another earlier contract.

**Fuluasou Substation – by North Power NZ Ltd**

 Construction continued; about 50% of civil work and 50% of building and transformers bund are completed. Subcontractor is Fletcher Construction Ltd. All medium volt switchgear has arrived in Apia. Factory testing of all main transformers is done. There are tests that did not pass, manufacturer are resolving failed tests. Two PMU engineers attended FAT.

 EPC reduced scope and cost of this Contract. Replacing the Lalomauga hydro plant

22/33 kV substation for 33kV tie and interconnecting 33kV switchgear is taken out of contract. These changes are included in Change Order 1.

 CO1 is with ADB for their review and approval.

 NPL conducted computer modelling of EPC‟s electric network with addition of the Fiaga Power station 4 new generators. This will enable Mitsubishi to design protection system for the 4 new generators in Fiaga.

 Completed factory testing of transformers in Schneider‟s (supplier) factory Indonesia.

EPC sent 3 engineers to witnessed tests. Transformers are now shipped due to arrive at end of August.

**Low Voltage System Improvements (Upolu)**

 Feasibility Study is approved by ADB.

 About 70% of materials have arrived; rest is ordered with 33kv line materials.

 Construction is carried by EPC.

**22kV Overhead line Reconductoring – Contractor is GMA Construction Ltd**

 Construction continued. Work is 55% complete.

 Work slowed down due to shortage of materials. Additional materials are ordered 33kv materials contracts. Contracts for supply of materials have awarded to INTRACOR and SOUTH AUSTRAL.

 Contractor filed a SAT$1,126,076.84 claim loss of revenue due to stoppage of work due to lack of materials. Acting Project Manager disapproved this claim twice. Contractor is now requesting dispute to taken to Adjudicator.

**Refurbishment of Salelologa Power Station and construction of new power station in Vaiaata.**

 Feasibility Study and Resettlement Plan have been submitted to ADB for review /

approval.

 MOF approved Resettlement Plan.

 Evaluation report for consultant to conduct resistivity study is submitted to ADB for review/approval. ADB will not approve it until Feasibility Study is approved.

 EPC is considering to incorporate a bio-diesel plant (by others) in planning of power plant in Vaiaata. Bio diesel plant will be built and operated by somebody else, not EPC. EPC main involvement is buying bio fuel to use in power station.

 PMU decided to implement Salelologa Substation separately from Vaiaata Power Plant due to deteriorating conditions of electrical switchgear in Salelologa power plant and long implementation time of the Vaiaata power plant. PMU started to prepare bid for substation. Substation will be housed inside old power plant building.

**Puapua to Asau 22kV (Savaii) overhead line upgrade – Contractor is Tenix NZ Ltd**

 Project is 100% complete.

 There is still a section of HV powerline (102 spans) that conductors need replacing.

Materials for reconductoring of these additional spans are ordered with 33kV line materials. Work will be done by EPC crew.

**Stream Flow Gaging & Test Equipment**

 Project is 100% complete.

 Stream gauging station in Tiavea is shutdown and equipment removed. Adequate data has been collected.

**Refurbishment of Generators 7A and 9A in Tanugamanono Power Station –**

**Contractor is MAN Diesel Australia Ltd**

 Contract is complete with recent commissioning of generator 7A. A new crankshaft was installed in 7A as well as major overhaul. Unit 7A replaced Unit 5A in original contract to overhaul generators 9A and 7A.

**SCADA – Schneider Electric Ltd**

 Contract is awarded to Schneider Electric Ltd. Contract agreement is signed.

 Design work starts.

 Schneider engineers visited on April 10 - 13 to start data collection and finalize contract agreement.

 Signing of contract is delayed due to a few legal and technical issues. PMU / Office of

Attorney General continued to work on contract.

**Vending System for Prepayment Meters**

 EPC and National Bank of Samoa launched a new system this year for customers to buy top up tokens by a texting system to NBS and payment of token is deducted direct from customer account in NBS. Cost of each transaction is 1 Tala, and is paid by customer. Money collected is automatically deposited in EPC account with NBS. Already 1000 new customers have signed up with NBS for this new service.

 A new prepayment meter from another supplier is being tested if can work in existing vending system. If it works, this will give EPC an option of another supplier.

**Taelefaga, Lalomauga, and Samasoni Hydro Plants and Tanugamanono Power**

**Station 22kv Switchgear Refurbishment**

 Contract is 100% complete. Plants are back in operation.

**Hydro Development**

 Hydro development of schemes in Savaii and Upolu are combined under this subproject.

 Implementation Consultant (Egis International) continued with preparation of Feasibility Studies of 5 hydro schemes; which are: Faleseela, Fuluasou, Tiapapata, and Tafitoala on Upolu and Faleata-Palauli on Savaii. They are also preparing design built tenders of 3 schemes (Fuluasou, Faleseela, and Tiapapata).

 Summary of capital costs and annual electricity generated from each of the 3 selected schemes. There isn‟t enough funding in the present budget to build all 3 schemes.

Additional funding is needed.

|  |  |  |  |
| --- | --- | --- | --- |
| **Hydro**  **Schemes** | **Installed Capacity**  **MW** | **Annual Generation**  **kWh million** | **Capital Costs**  **US$million.** |
| Fuluasou | 1.15 | 4.061 | $13.057 |
| Tiapapata | 0.6 | 3.478 | $6.177 |
| Falese‟ela | 0.5 | 1.776 | $4.910 |
| Total | 2.25 | 11.315 | $24.144 |

**Vaipu Pump Scheme**

 Decision from ADB and EPC to start implementation of this project is still pending.

 ADB funded study under a Technical Assistance TA: 7121 SAM – ***Afulilo Environmental***

***Enhancement Project*** Phase 1 Report by SMEC is complete. Report has been reviewed

and discussed by various Government agencies. EPC is presently planning to conduct consultation with 6 villages of Fagaloa District to present findings of the Study.

 Unpleasant smell of hydrogen sulphide odour generated at Afulilo Dam continues to be of major concern to the people of the village of Taelefaga where the discharge water from the hydro plant flow through. Kids affected by the smell ended up in hospital from vomiting and headache.

 EPC has decided to implement recommendations of Study Report to mitigate the smell. A new subproject outline to implement these recommendations will be submitted to EPC Board for approval. It is also brought to ADB for their review and approval.

 Plan is to: 1st install concrete pipes in the ocean to pipe the water from hydro plant to

discharge in deep part of bay. 2nd is install pumps or air compressor to improve the circulating of deep water in dam up on surface to expose to oxygen.

 A USD$300,000 is left over from the TA used for SMEC study. ADB is requested to reprogram this money towards the budget for implementation of remedy to the odour problem.

**Taelefaga Hydro Plant Governor System Replacement**

 Revised Evaluation Report was submitted to ADB for final consideration.

 ADB and Government granted approval to award contract to North Power NZ Ltd for total price of US$914,967.75 or SAT$2,091,354.86.

 Contract replaces existing control system of two hydro generators in the Taelefaga hydro station.

**Training**

 This is subproject of its own, with a budget of US$0.235million.

 EPC Board approved outline of this subproject; budget is US$0.235 million.

 PMU is preparing Training Plan

 Plan will include setting up a computer based Asset Management Program (AMP) to plan, schedule and manage maintenance of all facilities. PMU reviewed an existing maintenance schedule that was used by EPC if suitable for AMP.

 PMU prepared bid for installation of Asset Management Program, bid has not been issued until evaluation of an existing program is done.

 It also include of EPC linemen, mechanics, SCADA technicians and engineers, and operators and power system controllers.

**PMU Staffing**

 Project Manager‟s position is still vacant. Generation Engineer Consultant continued as acting project manager. EPC advised position locally and internationally. Interview has been done.

 All positions are now filled except for PM.

 PMU to submit proposal for additional consultancy services needed to see PSEP to completion.

 EPC hired Distribution Engineer for PMU. 30 EPC linemen are also assigned work under PMU for construction of power distribution subprojects. This include: 33kv underground transmission line from Fiaga power station to Fuluasou substation, 33kv overhead transmission line from Fiaga power station to Fuluasou substation, 33kv underground

transmission line from Fuluasou substation to Tanugamanono power station, 22kv overhead distribution line from Fiaga power station to Fuluasou substation, 22kv underground feeder from Fuluasou substation to Apia, connecting Samasoni hydro 22kv transmission line to Tanugamanono power plant, connecting Alaoa/Fale ole Fee hydro transmission line to Tanugamanono power station and other powerline work.

 ADB concurred to conduct EPC cost of service and tariff study and funded under PSEP

loan.

 ADB also concurred to hire short term experts for commissioning of Fiaga power plant, SCADA and Fuluasou Substation.

**Investment Plan Revision**

 Revised Investment Plan is submitted to ADB for approval. Same plan has been approved by Project Steering Committee, and Project Management Committee.

 Project original Plan had 19 subprojects. 11 new subprojects were added under the same budget. No subproject was dropped.

**Financial Report at end Quarter 2, 2012**

|  |  |  |
| --- | --- | --- |
| **Financial Report to end of 2nd Quarter 2012** | | |
| **No.** | **Details** | **Amounts in USD** |
| 1 | Total Project Budget | USD$100 million |
| 2 | Total Amount Obligated/Committed | USD$79.156 million |
| 3 | Total Claimed (Withdrawal Application) | US$54 million |
| 4 | Total Amount Already Disbursed  (Loan+Grant) | US$51.675 million |
| 5 | Total Amount Paid Out from: ADB Loan  ADB Grant JICA Loan AusAid EPC  (US$4.5m include interest payment during construction of SAT$2.8million, Principal repayment has not started until 2013 or 5 yrs from start of project in May 2008) | US$15.3 million US$ 6.4 million US$22.9 million US$ 6.6 million US$ 4.5 million |
| 6 | Original Funding Sources:  ADB Loan ADB Grant JICA Loan AusAid Grant EPC | US$26.61 million US$15.39 million US$38.00 million US$8.00 million US$12.00 million |

***Notes:***

1. ADB informed Govt. and EPC during their Mission in May of an increase of US$18 million of JICA‟s contribution to Project. EPC will provide a list of subprojects to use this fund on.

2. ADB Mission preferred to keep hydro development subprojects in PSEP under a different development package to seek funding from other sources.

**EPC Funded Projects**

These subprojects which are also managed and implemented by PMU are funded under EPC‟s

local budget:

**Generator No. 5A major overhaul – TBA (pay to EPC)**

 Overhaul was bided out. Evaluation report was approved by EPC Project Management

Committee and Board.

 ADB and Government approved award of contract to MAN Diesel Ltd for price of

AUD$274,114.23 or SAT$682,046.98.

**Salelologa No. 8 and 9 Major Overhaul**

 EPC did not go ahead with major overhaul. EPC is consideration other options to improve generation in Salelologa before completion of new power station in Vaiaata.

**RENEWABLE ENERGY**

Solar Samoa Ltd

 Power Purchase Agreement between SSL and EPC has been signed. Project will be launched in July with first 1MW installation in Faleolo Airport.

 PPA has been approved by the Regulator.

**BIOGen3**

 There has been a long delay due to approval of Environmental Impact Assessment (EIA).

 Company had plans to import power millet to raise here for feed stock for gas manufacturing. MNRE/PUMA did not approve. Company proposed giant grass instead. Approval is being processed as part of EIA.

 As a starter, Company plans to import glycerine grade liquid fuel to run the generators first awaiting production of gas. Company is seeking land on Apia Wharf to build storage tanks for the imported glycerine. This has not been approved.

 Company said they secured a 10 acre block in Nuu for the plant. We have not received confirmation.

**JICA 400kw Solar Project**

 This project is funded by a US$3.6M grant from Japanese Government to all Forum

Countries.

 Main condition is that the (i) main contractor MUST be a Japanese incorporated company; (ii) all major components of the PV systems must be Japanese made and brand; and (iii) Major components are: solar panels, inverters, and power transformers and switchgear.

 Project involves installation of 400kw or more of total capacity solar systems to generate electricity and feed into EPC‟s grid.

 Bid for construction is advertised. Bid closes on 27 of August 2012.

 There are 3 EPC sites considered for installation. They are Vaitele Depot, Tanugamanono power plant, and Salelologa power plant sites.

 Prebid meeting is completed. There are a few bidders who took bid documents.

**ProCom Solar PV System Proposal**

 Received proposal from ProCom for installation of a 3.5MW Independent Power Producer

(IPP).

 Cabinet approved for National Energy Coordinating Committee (NECC) to investigate

ProCom proposal whether it is needed by EPC.

 EPC main concern of too much solar generation is the impact on system stability. Total solar generation should not exceed 20% of EPC‟s noon peak. The 20% limit in solar generation capacity is already maxed out with Samoa Solar Ltd‟s 3-4MW proposal. So EPC cannot approval anymore solar PV system connected to EPC grid.

 ProCom original offered a feed in tariff of 57 sene/kWh; later they raised to 65 sene/kWh.

 EPC notified National Energy Committee that EPC cannot approve to connect any more Solar System to grid. 20% limit of system noon peak has maxed out with Samoa Solar Ltd installations.

**Renewable Energy Systems Interconnection to EPC system**

 Draft Rules/ Regulations for interconnection agreement has been submitted to Power Regulator and Attorney General for their review and comments. Received Regulator comments.

 Same with interconnection agreement also submitted to Regulator and AG.

**Biodiesel**

 NECC approved to ask developer to provide a formal proposal on setting up bio diesel plants in Samoa.

**Expressional of Interest (EOI)**

 National Energy Coordinating Committee (NECC) of Government approved to issue EOI for investment for development of renewable energy. EOI is for (i) development of biodiesel, (ii) solar hybrid systems with storage batteries for generation of electricity,

**Withdrawal Applications**

***Table 1*** below provides a summary of Withdrawals Application and Disbursements at end of 2nd

Quarter 2012:

WITHDRAWAL APPLICATIO N S A ND DI SBURSEMENTS AS AT 30TH JUNE 2012

**ADI LOAN ·LOAN 2368** ADII GIIANT - ADII 0017 AUSM> GIIANT- AilS 0101 .1CA LOAN- L8232 *I* SAM-1'1 EPC

TOTAL OIS8URSEO

US$ **Value** US$ **Value** US$ **Value** US$ **Value** FU NDS · COUNTDIPAIIT TOTAL PAYMENT VARIANCES

PROJECT/ CONTllACTS CONTllACT NO'S Equivalent Date Equivalent Dllte Equivalent Date Equivalent Dllte LOANS+6RANT RNANONG PER PROJECT TOTAL BUDGET PER PROJECT VARIANCES (S) (%)

I I

TOTAL PROJECT FUNDS 26610 000 16390,000 8000000 38,000000 88,000,000 12,000,000 100,000,000 100,000,000

PROJECT MANAGER - - - -

0

IMPLEMENTATION & INDIVIDUAL CONSULTANTS L -

SINGLE AND THREE PHASE PREPAYMENT METERS ,L

-

52,93)-

2,367,934 L -

0 0 52,937 323,441 376,378 750,000 *373,6 22 50%*

OL - OL - 2,367,934 272,312 2,640,247 3,181,458 *541,211 17%*

,L

-

-

-

1,612,483 -

358 799 L - 769 557L

'

2,430,087 - 5,170,926 336,110 5,507,036 6,142,688 *635,653 10%*

HOPITAL FEEDER STAGE ONE,ALAOA AND PUAPUA FEEDER

409,111 -

91:736 r--=

196,500 - 620,752 - 1,318,100 85,676 1,403,776 1,893,637 *489,86 1 26%*

REFURBISHMENT OF ALAOA HYDRO POWER STATION - MECHANICAL ELECTRICAL

412,509 -

93,131 L - 199,566L -

640,576 - 1,345,781 87,476 1,433,257 1,697,378 *264,121 16%*

REFURBISHMENT OF ALAOA HYDRO POWER STATION - CIVIL WORKS

-

- 1 -

-

MEASUREMENT EQUIPMENTS & POWER SYSTEM PLANNING SOFTWARE

125,995

40,415 -

14,180 · 30,293L - 133,775L -

9,132 L - 19,568L - 62,199L -

304,244 95,837 400,080 503,029 *102,949 20%*

131,314 8,535 139,850 170,497 *30,647 18%*

REFURBISHMENT OF SWITCHGEARS - TAELEFAGAILALOMAUGAISAMASONIIT/NONC

REFURBISHMENT OF TINONO GENERATORS 9A AND 7A

1

82o,4o1L - 185,172 ·

-

396,631L - 1,289,128L - 2,691,331 174,937 2,866,267 2,861,391 *(4,877) 0%*

393,872L - 192, 413L - 87,o59L - 6o3,895L - 1,277,238 83,020 1,360,259 1,677,825 *317,56 6 19%*

-

-

CASHPOWER - VENDING SYSTEM REIMBURSEMENT

-

-

-

'

28 466L 6428 L - 13 774L 43158L 91,825 5,969 97,794 91,825 *(5,969)* -7%

-

' '

HOSPITAL FEEDER STAGE 2 & 22Kv UPGRADING - - -

1,556,140

22Kv UNDERGROUND CABLE - FULUA SOU SUBSTATION TO APIA WHARF AREA -

344:766 r=::

739,050 2,343,089 4,797,608 311,845 5,109,453 7,040,000 *1,930,547 27%*

-

687,279

- ·' -

368,868 L - 112,656L -

1,030,988 2,199,791 142,986 2,342,778 2,314,104 *(28,674) -1%*

FIAGA DIESEL POWER STATION ,L

8,804,992 2,026,286 4,020, 462

13,214,284L -

28,066,024 2,074,292 30,140,316 35,305,078 *5,164,76 2 15%*

33Kv - FIAGA PS TO FULUASOU 55 TO TANUGAMANONO PS

-

FULUASOU 22KV SUBSTATION

334,418 -

242 177 L -

01 - 498,08s' -

-

1,069,381 569,510 1,638,891 5,690,000 *4,051,109 7 1%*

UPOLU LOW VOLTAGE

664,432 -

470:858 r--=

0 - 1,031,860 - 2,167,150 140,865

2,167,150

3,680,000 *1,512,850 41%*

n,3ooL - 17,454 L - 37 4o2L - 118,o62L - 250,218 16,264 250,218 250,218 *0%*

I I I

TOTAL DISBURSEMENTS A S AT 30TH JUNE 2012 16,303,380 6,371,413 6,622,518 23,028,079 51,134,652 4,588,210 55,706,598 -

*% OF* FUNDS *ALREADY DISBURSED* 58% 1 *41% 1 83% 1 6 1% 58% 38% 56%*

REMAINING PROJECT FUNDS A S AT 30TH JUNE 2012 11,306,620 9,018,587 1,377,482 14,971,921 36,866,348 7,411,790 44,293,402

% *OF REMAINING PROJECT* FUNDS *42% 1* 59% 1 17% 1 *39% j 42% 62% 44%*

I I I

TOTAL FUNDS ALREADY COMMiffiD FOR AWARDED CONTRACTS 19,747,000 9,240,000 7,969,000 34,200,000 71,166,000 8,000,000 79,166,000

*% OF* FUNDS *ALREADY COMMITTED FOR AWARDED CONTRACTS* 74% 1 60% 1 *100% 1 90% 81%* 67% 79%1

I I I

-

REMAINING PROJECT FUNDS AVAILABLE FOR NEW PROJECTS 6,863,000 6,160,000 31,000 3,800,000 16,844,000 4,000,000 20,844,0001

*% OF* FUNDS *AVAILABLE FOR NEW PROJECTS* 26% 1 *40% 1* 0% 1 *10% 19% 33% 21% 1*

I I I

EPC PMU 2"d QUARTER 2012 PROGRESS REPORT Page 16 of 55

**2. INTRODUCTION**

This is the Quarterly Progress Report No. 17 and it covers the project activities and progress for the period from beginning of April to end of June 2012 (2nd Quarter 2012 Progress Report).

This Report provides progress report of each subproject highlighting work completed to date, problems encountered and planned solutions. It also provides financial situation of Project, of total funds obligated, claims received, withdrawal application processed and submitted to ADB and amount of money paid to contractors. It also gives status of spending.

**3. PROJECT IMPLEMENTATION**

**3.1 Project Management Unit Staff Movement**

PMU has a total of 22 staff; 20 EPC local staff and 2 ADB recruited Individual Consultant engineers (Civil and Generation Engineers).

Total staff includes: 1 Project Manager (vacant since July 2011), 3 Engineers, 4 Graduate

Engineers, 1 Mechanical Supervisor, 1 Project Accountant, 1 Attorney, 1 Social and Land Resettlement Staff, 1 Environmentalist, 1 Public Relation Staff, 1 Secretary, a driver, 1 linemen assistant, 1 Store-person and 3 store assisting staff, and 2 Renewable Energy staff. RE section is now incorporated as part of PMU. A JICA engineer was with PMU for 3 months assisting with SCADA project. .

EPC hired a local Distribution Electrical Engineer to replace the International TD engineer who resigned after 4 months of work here. 30 EPC linemen were also assigned to work with PMU for construction 33kv transmission line from Fiaga power station to Fuluasou Substation and to Tanugamanono power station. They also completed other power distribution subprojects under Power Sector Expansion Project.

The Project Manager position is still vacant. Newly hired Generation Engineer has been acting Project Engineer since beginning of this year. It is critically important the appointment should be made as soon as possible.

PMU staff:

Generation engineer/Acting Project Manager

Generation Electrical Engineer,

TD Electrical Engineer, locally hired and to join PMU in start of 3rd Quarter. System Planner Graduate Engineer,

SCADA/Graduate Engineer, Civil Engineer

Electrical Graduate Engineer, Civil Graduate Engineer,

1 Environmentalist

1 Land Resettlement Specialist,

1 Legal Advisor,

1 Public Relation Coordinator,

1 Project Accountant,

1 Secretary,

1 Administrative Assistant / Store Keeper,

1 Lineman, and 3 Store assistants, and

1 driver.

3 Meter inspectors were transferred back to EPC‟s Utilization Section.

Fifteen (15) subprojects were under construction this quarter. The status of construction of each subproject at end of 2nd Quarter 2012:

1. Access road and water pipeline to Fiaga new power plant – 100% complete.

2. Construction of security fence around Fiaga property – 100% complete.

3. Upgrading of the Hospital Feeder to 22kv and undergrounding medium voltage cable from Tanugamanono power plant to Apia – 80% complete.

4. Reconductoring of all 22kv overhead line feeders in Upolu – 60% complete.

5. Civil work of refurbishment of Alaoa hydro plant – 90% complete; work that can be done.

6. Reconductoring of Puapua to Asau 22kv Overhead line – 100% complete.

7. Fiaga power plant fuel and oil storage tanks and off loading facility – 60% complete

8. Construction of Alaoa and Fale ole Fee hydro plants dedicated 22kv transmission line from the hydro plants to Tanugamanono power station is in progress – 80% complete

9. Construction of Samasoni hydro plant dedicated transmission line to Tanugamanono power station is in progress – 80% complete.

10. Refurbishment of the 9A and 7A generators in Tanugamanono – 100% complete.

11. Fiaga New Power Plant and Generators Lot A – construction of power house is 90% completed, installation of generators 60% complete, civil work (road, drainage, fence, etc) 60% complete, water tanks, collection, and water distribution system 60% complete.

12. Fiaga Power Plant MV Electrical Switchgear Lot B – switchgear installation and pre- commissioning testing is 95% complete.

13. Construction of 33kv overhead transmission line from Fiaga power plant to Fuluasou

substation started with training on handling and setting up of pre-stressed concrete poles. Underground 33kv line has not started, waiting on arrival of cables and materials. Work is done by EPC. 30 EPC linemen are assigned to this project and other power distribution projects. 33kv line continues to from Fuluasou to Tanugamanono.

14. 22kv underground cable from Fuluasou to Apia wharf – 70% of installation of electrical conduits is completed. This was done as part of the 4 lane road corridor project with Ott Transport as main contractor. Materials were ordered and started to arrive. Cable installation has not started – 0% complete.

15. Prepayment meters – 91.29% of meters under A D Riley‟s contract have been installed. Defective meters with blank screens continued to rise. Defective meters with

blank screens are the biggest concern on this project. Worse, is customers with blank

screen meters continue to receive electricity without paying top up. Contractors have been asked many times to fix problem. Factory of these meters have not come up

with a technical solution.

**3.2 PMU Actual Personnel Movement during 2nd Quarter and Plan for 3rd Quarter**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | | **2nd QUARTER 2012 ACTUAL** | | | **3rd QUARTER 2012 PLAN** | |  |
| **NAME** | **DESIGNATION** | | **START** | **FINISH** | **START** | **FINISH** | **COMMENTS** |
| **Fonoti Perelini** | Acting Project Manager  & Individual Consultant  Generation Engineer | | 1 April 2012 | Jun 30, 2012 | 1 July 2012 | Sept 30, 2012 | Will be available for whole 3rd  quarter |
| **Taulealea**  **Aumalaga Tiotio** | Transmission&  Distribution Engineer | | 1 April 2012 | Jun 30, 2012 |  |  | Appointed as Deputy General  Manager Operation and left PMU. |
| **Tupai Mau Simanu** | Generation Electrical  Engineer | | 1 April 2012 | Jun 30, 2012 | 1 July 2012 | Sept 30, 2012 | Will be available for whole 3rd  quarter |
| **Nuulopa Pereira** | Graduate Engineer -  Power System Planner | | 1 April 2012 | Jun 30, 2012 | 1 July 2012 | Sept 30, 2012 | Will be available for whole 3rd  quarter |
| **Faalepo Solofa** | Project Accountant | | 1 April 2012 | Jun 30, 2012 | 1 July 2012 | Sept 30, 2012 | Will be available for whole 3rd  quarter |
| **Mathew Lemisio** | Legal Environment  Advisor | | 1 April 2012 | Jun 30, 2012 | 1 July 2012 | Sept 30, 2012 | Will be available for whole 3rd  quarter |
| **Seukeva Asi Tuuau** | Land Acquisition DFC Specialist | | 1 April 2012 | Jun 30, 2012 | 1 July 2012 | Sept 30, 2012 | Will be available for whole 3rd  quarter |
| **Moetuasivi Asiono** | PRCS | | 1 April 2012 | Jun 30, 2012 | 1 July 2012 | Sept 30, 2012 | Will be available for whole 3rd  quarter |
| **Iosefa Aiolupo** | Environmental Specialist | | 1 April 2012 | Jun 30, 2012 | 1 July 2012 | Sept 30, 2012 | Will be available for whole 3rd  quarter |
| **Raema S. Adam** | Graduate Engineer –  SCADA | | 1 April 2012 | Jun 30, 2012 | 1 July 2012 | Sept 30, 2012 | Was away on maternity leave for most of 2nd quarter, but will return to work in 3rd quarter. |
| **Roberto**  **Pamingtuan** | Individual Consultant  Civil Engineer | | 1 April 2012 | Jun 30, 2012 | 1 July 2012 | Sept 30, 2012 | Will be available for whole 3rd  quarter |
| **Sila** | Electrical Inspector | | 1 April 2012 | Jun 30, 2012 | 1 July 2012 | Sept 30, 2012 | Transferred to EPC Utilization  Section in 2nd quarter. |
| **Oikumene** | Apprentice | | 1 April 2012 | Jun 30, 2012 | 1 July 2012 | Sept 30, 2012 | To transfer to EPC Utilization  Section in 3rd Quarter. |
| **Posi Moe** | Linesman | | 1 April 2012 | Jun 30, 2012 | 1 July 2012 | Sept 30, 2012 | Will be available for whole 3rd  quarter |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Elisapeta Collins** | Secretary | 1 April 2012 | Jun 30, 2012 | 1 July 2012 | Sept 30, 2012 | Will be available for whole 3rd  quarter |
| **Alfred Matatia** | Graduate Civil Engineer | 1 April 2012 | Jun 30, 2012 | 1 July 2012 | Sept 30, 2012 | Will be available for whole 3rd  quarter |
| **John Rimoni** | Graduate Electrical  Engineer | 1 April 2012 | Jun 30, 2012 | 1 July 2012 | Sept 30, 2012 | Will be available for whole 3rd  quarter |
| **Penelope Tupuola** | Project Assistant/Store keeper | 1 April 2012 | Jun 30, 2012 | 1 July 2012 | Sept 30, 2012 | Will be available for whole 3rd  quarter |
| **Venisini Iese** | Storeman | 1 April 2012 | Jun 30, 2012 | 1 July 2012 | Sept 30, 2012 | Will be available for whole 3rd  quarter |
| **Iosefa Leota** | Storeman assistant | 1 April 2012 | Jun 30, 2012 | 1 July 2012 | Sept 30, 2012 | Will be available for whole 3rd  quarter |
| **Puleia Tuiloma** | Storeman assistant | 1 April 2012 | Jun 30, 2012 | 1 July 2012 | Sept 30, 2012 | Will be available for whole 3rd  quarter |

**3.3 Implementation Consultants Personnel Movement**

The Implementing Consultant (Egis International) remaining task under their contract is completion of feasibility studies of 5 hydro schemes and tender documents of 3 schemes. Only 3 experts are involved in this remaining task. Completing this task is late.

There was little progress during this quarter in completing FS and tenders. Project Manager is putting pressure on IC to complete the FS and tenders.

Table below provides number of days worked in each month and combined for 2nd Quarter 2012 for each of IC personnel and remaining man months.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Team Members | Contract  person-mnths  Q4 2011 | Person-mnth  worked in Q2  2012 | Remaining  man- months |
|  | Hydro Expert | 0.526 | 0 | 0.481 |
|  | Civil Engineer | 0.89 | 0 | 0.604 |
|  | Environmentalist | (0.37) | 0 | 0 |
|  | Social and Land Resettlement | (0.1) | 0.37 | 0 |

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**3.4 Egis International Personnel Movement during this Quarter and Plan for next Quarter**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | **2nd QUARTER 2012 ACTUAL** | | | **PLAN for 3rd QUARTER 2012** | | |  |
| **NAME** | **DESIGNATION** | | **START** | **FINISH** | **START** | **FINISH** | **COMMENTS** | |
| **Dominique**  **Giraud** | Hydro Expert &  Coordinator | | 1 Apr 2012 | 31 Jun 2012 | 1 Jul 2012 | 30 Sept 2012 | Continued working to complete  feasibility studies of 5 hydro schemes. | |
| **Peri**  **Perelini** | National Civil Engineer | | 1 Apr 2012 | 31 Jun 2012 | 1 Jul 2012 | 30 Sept 2012 | Continued working to complete  tenders of 3 schemes. | |
| **Sam**  **Sesega** | National  Environmentalist | | 1 Apr 2012 | 31 Jun 2012 | 1 Jul 2012 | 30 Sept 2012 | Continued working to complete  feasibility studies of 5 hydro schemes. | |
| **Sam**  **Sesega** | National Resettlement  Specialist | | 1 Apr 2012 | 31 Jun 2012 | 1 Jul 2012 | 30 Sept 2012 | Continued working to complete feasibility studies of 5 hydro schemes. | |

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**3.5 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. Refer to Appendix 2 for Project Monitoring.

**A. Core Subprojects:**

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

Project is complete.

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

A total of 218 prepayment meters were installed during 2nd Quarter; 29 are new installations and 189 conversions from induction to prepayment meters. This brought the total number of meters installed under this contract at end of the 2nd Quarter is 19,722 or 93,91% of 21,000 meters to be converted under this Contract in AD Riley Contract.

Total number of active meters at end of 2nd Quarter is 31,909; made up of 22,932 prepayment meters and 8,977 induction meters. This brings total percentage of customers with prepayment meters to 71.87% or 3.13% short of target is 75%. Remaining meters to be installed by A D Riley will bring total percentage to 75%. All new installations are installed with prepayment meters.

Besides converting to PPMs, contractor also lowered the meters; 36 meters were lowered to

1.6 meters this 2nd Quarter bringing the total number of meters lowered to 3,715. Most CRITICAL issue with this Contract of installing Prepayment meters is:

 Blank screen defective meters is still unresolved. A D Riley has been replacing defective meters under warranty. But main concern is that customers with blank screen meters continue to receive power with topping up their meter with more credit resulting in loss of revenue. ADR have not found a solution on this defect. EPC has written strong letters to ADR related to issue. EPC will eventually claim from ADR its loss of revenue due to blank screen meters.

A D Riley had two technicians here in May to carry out repairs to 786 contract meters and 278 meters installed by EPC. These meters had blank screens. An electronic component was replaced in all these defective meters. However, the repair didn‟t eliminate defect which caused blank screens.

At end of this 2nd Quarter 2012, a total of 19,616 meters have installed by ADR under their contract, leaving 1,384 meters remained to be installed to complete their contract.

Table below shows meters installed during the 1st and 2nd Quarter 2012:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Subcontractors** | **Total**  **installed since start** | **Meters**  **installed in Jan**  **2012** | **Meters**  **installed in Feb.**  **2012** | **Meters**  **installed in Mar.**  **2012** | **Meters**  **installed in Apr.**  **2012** | **Meters**  **installed in May.**  **2012** | **Meters**  **installed in Jun.**  **2012** |
| 1 | All Electrical | 5,201 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | McLean Electrical | 9,278 | 113 | 152 | 60 | 51 | 106 | 69 |
| 3 | Telecom. Tronics  Ltd. | 5,243 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total meters installed each month | | 19,722 | 113 | 152 | 60 | 51 | 106 | 69 |

Breakdown below are meter lowered during 1st Quarter of 2012 and 2nd Quarter of 2012:

|  |  |  |  |
| --- | --- | --- | --- |
| **Categories** | **Cable length** | **Q1 – 2012**  **Quantity** | **Q2 – 2012**  **Quantity** |
| 1 | 0-5 meters | 57 | 68 |
| 2 | 5-10 meters | 6 | 14 |
| 3 |  10 meters | 4 | 6 |
| 4 | no cable needed | 0 | 0 |
|  | Lowered during maintenance | 0 | 0 |
|  | Total meters lowered | 70 | 95 |

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

Only 3,715 meters have been lowered so far by ADR. This is 19.38% of total number of meters converted plus new ones ( or 19,171 at end of 4th Quarter) installed by A D Riley under its present contract. So there are still about 81% of the 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.

**B. Candidate Subprojects:**

**1. Upolu**

**a. Generation**

**(i). Tanugamanono Power Station Noise & Emission Control**

No activity.

**(ii). Refurbishment of Alaoa Hydro Power Station**

Completed.

**(iii). Fiaga Diesel Power Station**

***Powerhouse and Generators (Lot A)***

Bluebird Ah LAL JV/Woods/MHI continued with construction of powerhouse. About 90% of building is complete. Installation of generators and all associated equipment continued. 5 change orders were approved. This includes; water tanks, external water system, extra excavation, and strengthening of floor of switch room. There are additional change orders under review.

***Fiaga power station electrical switchgear (Lot B)***

North Power NZ Ltd completed 95% of construction and installation of all electrical switchgear, and transformers and testing. Final installation will be done when Bluebird Ah LAL JV completed electrical installation of generators. This includes power cables from generators to11kv switchgear. One change order was approved for upgrade of DC system and supply and installation of SCADA interface equipment. They filed two claims for cost for not accessing site during Easter weekend and extra storage cost due to delay in accessing the switchgear room to install generators. Project Manager disapproved both claims.

***Fiaga Access Road, Water Pipeline and Fence***

Project is complete. The only outstanding item is approval by ADB and Government of Change Order No 2 for supply of base course materials for construction of road. It is now approved and official closure of project is now being processed.

***Fiaga Pumped Water Source***

Tender is prepared to pump water from Samoa Water Authority‟s water system to Fiaga power plant. Bid is with ADB for approval. SWA system is 4 km away from the power plant and an elevation climb of about 250 meters. Because of the high elevation of the power plant at 520 meters, it requires 4 booster pumps to pump water to the power plant. Sites of 4 pumps are selected and a consultation with Samoa Land Corporation who owns the land and lessees is underway.

**(iv) Refurbishment of 9A and 7A Generators at Tanugamanono Power Plant**

Project is complete and both generators are back in operation. .

**(v) Taelefaga, Samasoni, and Lalomauga hydro plant and Tanugamanono power station new 22kv switchgear**

Project is complete.

**b. Transmission**

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

Project is complete.

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

Materials for this project started to arrive. There are two suppliers; INTRACOR and South Austral. The 33kv transmission line has 2 circuits; underground and overhead. This will improve reliability of this critical line against cyclones and earthquakes. Construction of overhead line by EPC crew started.

**(iii). Hospital Feeder Upgrading Stage 2**

This project is under construction; 80% of work is completed. Remaining work is energizing of cable and replacement of 18 x 6.6kv transformers with 22kv ones. Same subproject included; Samasoni hydro underground transmission line and connection to Tanugamanono power station of Alaoa/Fale O le Fee transmission line. Conduits and underground feed to main hospital 2nd substation.

**(iv) 22kV Fuluasou Substation**

This project is under construction. Construction by subcontractor, Fletcher Construction continued and is progressing well. Building and civil work (road, drainage, transformer bunds, etc) is 60% complete. Switchgear arrived and is being stored until moved into building. Shipping delayed some of materials for construction.

One change order which reduces scope and adding some other items of contract has been approved by ADB and Government. We took off replacing of 33kv tie substation in Lalomauga hydro plant. PMU is preparing tender for construction of river bank protection rock rep rap; this is not part of North Power‟s contract. Construction will be scheduled during dry season next year.

**(v). Upolu Low Voltage Network Improvements**

Construction has not commenced. 50% of materials have been received. Remaining 50% is included with rebid materials. Construction will be done by EPC.

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

Installation of cable and equipment has not started. Cables and materials are arriving. Conduits and vaults for this project from Lepea bridge to Apia is already laid as part of the main Vaitele road. There is a 1.7km section from Fuluasou substation to Lepea bridge that has not been done. Excavation of this 1.7km is included as part of another contract which included the 33kv underground cable.

**(vii). 22kV Overhead Conductor Upgrading Program**

This project is under construction. Contractor, GMA Construction Ltd, continued with construction. About 60% of work is completed and invoiced. This contractor submit a claim of about SAT$1.1M for loss of revenue from September 2011 to February 2012 due to shortage of materials according to them. Acting Project Manager disapproved this claim twice. Dispute is now transferred to Adjudication Process. This is contractor who hired 17 linemen from EPC. Linemen returned to EPC in July 2011. This greatly affected its work production because they did not have qualified linemen and engineer to perform.

**2. Savaii**

**a. Generation**

**(i) Hydropower Scheme**

Savaii hydropower scheme is included under „Hydro Developments‟. One Savaii hydro scheme is included. This is scheme in Faleata, Vailoa, Palauli. Sili Scheme is on hold.

Only activity this quarter is completion of Feasibility Study by Egis International,

Implementation Consultant.

**b. Distribution**

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

Project is complete. No work on this subproject this Quarter.

There are still some sections of distribution system (102 spans of 22kv lines) with conductors that needs replacing with larger ones. Poles and other items will be replaced at same time. Materials are included in rebid materials. EPC will do the work.

**(ii). Power Factor (PF)**

Completed.

**(iii). Low Voltage Network Improvement Program in Savaii**

Materials are ordered and received. Work has not started.

**3. Measurement Equipment:**

**(i). Steam Flow Gauging Equipment**

Completed.

**(ii). HV Testing Equipment**

Completed.

**SCADA**

Contract started; contractor is Schneider Electric (Australia) Ltd. Completed field survey and study of option of network. Continued with design.

**NEW SUBPROJECTS**

Listed as follows are approved new subprojects:

**(i). Public Dissemination**

On going.

**(ii). Vending System Expansion**

System is in operation.

Only activity is testing of a prepayment meters from Joy Electric Ltd supplier if they work on current vending system. Also getting ITRON manufactured meters to undergo same tests. If successful, this will give EPC other suppliers to buy meters from.

**(iii). Power System Planning Software**

On-going updating of system as changes are completed.

**(iv). Refurbishment of Salelologa Power Station**

New power plant is built in Vaiaata, not Salelologa. Only substation and mini control centre is located in Salelologa depot. ADB approved FS and Resettlement Plan. Due to deteriorating conditions of existing electrical switchgear in Salelologa and long delay in completing Vaiaata Power Plant, it was decided to separate bid for Salelologa new substation from Vaiaata Power Plant bid. Tender for Salelologa Substation was prepared and submitted to ADB for final review before issuing bid.

Resistivity study is carried out in Vaiaata site. Similar geotechnical study will be carried out.

**(v). Refurbishment of Taelefaga and other power plants 22kV Switchgears**

Project is complete.

**(vi). Refurbishment of Tanugamanono Diesel Generators**

Involves Unit 9A and 7A. Refurbishments are completed. Contract is closed out.

**(vii). Vaipu Pumping Scheme**

No decision on this yet if to go ahead.

$300,000 is left over from ADB Technical Assistant used for SMEC study on Afulilo. Request is with ADB to reallocate this fund for implementing of solution to odour problem from water from Afulilo Dam that discharges from Taelefaga hydro plant. There is a separate mitigation subproject to solve smell problem. Tender is prepared.

.

**4. RISKS AND ISSUES**

**A. PMU Organization Structure**

No further action is needed. PMU continued with present organization structure.

**B. Staff Recruitment**

Project Manager‟s position is vacant since middle of 2011; position and is being advertised locally and internationally. A local TD engineer is hired. .

**C. Prepayment Meters**

Major issue is blank screen defective meters that is continuing to increase. Contractor is yet to find a solution even though they are replacing defective meters as part of guarantee. But

worse problem is customers with blank screen meters continuing to receive power without topping up their meter.

**D. Vending and Card System**

There are no issues. Tests of prepayment meters from other suppliers if working on vending system is on-going. Two new suppliers provide test samples.

**E. Fiaga Power Plant Access Road, Pipeline and Fence**

Only outstanding item was approval of final Change Order No 2, which was finally approved by ADB and Government. Contract Agreement addendum is in process. Project is complete and is being closed out.

**F. Land transfer to EPC**

Official transfer of 97 acres in Fiaga and 100 acres in Vaiaata for new power plants is still outstanding. A third piece of land (5,059 square meters) in Tuanaimato for the Fuluasou substation was approved by Minister of Environment to be used by EPC. Samoa Land Corporation also approved lease of four 20m x 20m lots of access road to Fiaga Power Plant to install booster water pumps.

**G. Claims against EPC**

There are two contractual claims against EPC. One is from GMA Construction Ltd with 22kV overhead line reconductoring. Claim is for lost of revenue when work slowed down due to shortage of materials. Total claims is SAT$1,126,076. Acting Project Manager disapproved claim twice. Case is now refereed to Adjudication. Our counter arguments are: GMA did not have qualified linemen since 17 EPC linemen returned to EPC; contract is for work completed; some qualified is excessive; contractor delayed work from beginning as they were finding some qualified linemen and engineer.

Second claim is from North Power NZ Ltd for extra cost associated with their contract of Fiaga Power Plant Lot B. Extra cost is for additional storage charges due to delay in completion of switchgear room in Lot A contract for construction of powerhouse. Second part of this claim is extra cost for non accessing power plant during public holiday during Easter weekend.

Again, Acting Project Manager disapproved claims on ground they supposed to coordinate work with power house contractor.

**5. EPC PERFORMANCE MONITORING**

|  |  |  |
| --- | --- | --- |
| **Design Summary** | **Performance**  **Targets/Indicators** | **Current Status** |
| **Impact**  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 reactivated service order tracking system in  Daffron System to track all customers requests.. |
| **Outcome**  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 | Baseline SAIDI established on 3rd Quarter 2008: Annual SAIDI for Upolu: 1515 min  Annual SAIDI for Savaii: 2622 min Quarterly SAIDI for Upolu: 379 min Quarterly SAIDI for Savaii: 656 min  2nd Quarter 2012 SAIDI:  Total Annual SAIDI for Upolu: 380  Annual Unplanned SAIDI Upolu:104  Annual Planned SAIDI Upolu: 276  Total Annual SAIDI for Savaii: 340  Annual Unplanned SAIDI Savaii: 312  Annual Planned SAIDI Savaii: 28  Total Quarterly SAIDI for Upolu: 95  Quarterly Unplanned SAIDI Upolu: 26  Quarterly Planned SAIDI Upolu: 69  Total Quarterly SAIDI for Savaii: 85  Quarterly Unplanned SAIDI Savaii: 78  Quarterly Planned SAIDI Savaii: 7  Baseline SAIFI established on 3 rd Quarter 2008  Annual SAIFI for Upolu: 26  Annual SAIFI for Savaii: 44  Quarterly SAIFI for Upolu: 6.5  Quarterly SAIFI for Savaii: 11  SAIFI on 2nd Quarter 2011  Annual SAIFI for Upolu: 5.2  Annual SAIFI for Savaii: 24  Quarterly SAIFI for Upolu: 1.3 |

|  |  |  |
| --- | --- | --- |
| **Design Summary** | **Performance**  **Targets/Indicators** | **Current Status** |
|  | Cost of generation established and published by 1st Quarter of FY 2009 | Quarterly SAIFI for Savaii: 6  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 |
| **Outputs**  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 | 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  Baseline for non- technical system  losses established and verified by 4th quarter  2008 and reduced by  10% by 2010. | Baselines figures of Total System losses  established on a 12 month moving average at  September 2008 are: Upolu: 15.7% Savaii: 18.2% EPC : 15.9%  Updated 12 month moving average of total system losses now reported monthly to the Board. End of December 2008 are:  Upolu: 17.1% Savaii: 18.2% EPC : 17.2%  Not possible to calculate Technical losses due to lack of metering and dedicated resources.  Not possible to calculate non-technical losses - this can only be calculated as *“total system loss – technical loss”*  Technical loss is established to be 13.5% from studies by the Japanese Volunteer and PMU in 4th Quarter 2008.  Change in non technical loss can be monitored as technical loss level generally remains static Finance Department have begun diagnostic review of causes of non-technical loss as basis for implementation of reduction measures |
| 3. The financial  performance of | Consistent application | Procedures reviewed in August 2008 and revised  procedures implemented. Refer to Customer aging |

|  |  |  |
| --- | --- | --- |
| **Design Summary** | **Performance**  **Targets/Indicators** | **Current Status** |
| EPC improves | of disconnection policy  Fuel audits conducted on all EPC‟s diesel power stations  Timeliness of tariff adjustments in response to cost  EPC‟s collection performance improves such that accounts receivables are below 2 months of sales  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 | report below.  Fuel Audit‟s at both Upolu and Savaii Generation Stations introduced 1 May 2008 and now routinely conducted monthly. Results reported monthly to Board.  Refer to Fuel Report below for Period of June 2011 to June 2012  Base Tariff decrease of 3.6% effective from 1  August 2012, and 2% discount for all prepayment meter customers top up purchases. This changes were incorporated in FY 2012/13 approved Budget which is already implemented. EPC planning to hire a consultant to conduct a cost of service and tariff review before end of 2012.  Customers‟ arrears on 2nd Quarter of 2012 were: Debtor days as = 45.4 days  % Government Debt (of total debt) = 19.45%  % Government Sales (of total sales) = 10.63%  Debt/Sales Ratio:1.83  Reference Appendix 5 |

4. Effective regulation of the power sector is established

Electricity Act Reform to govern the power sector was established by 31

December 2009

Amendments of the EPC Act consistent with the Electricity Act by 31

December 2009

Regulatory agency established by 31

December 2010.

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

Number of projects by energy subsector financed by the clean energy fund

Number of projects by energy subsector eligible for clean development mechanism

Electricity produced by clean energy resources (baseline of 45

Not within Scope of this Project

89.91%

62.399%

37.59S%

0.006%

**ElSTOCK RECONCILIATION ASAT 30JUNE 2012**

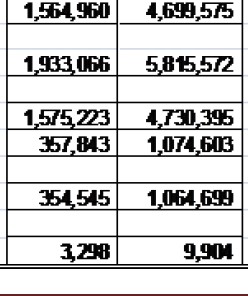
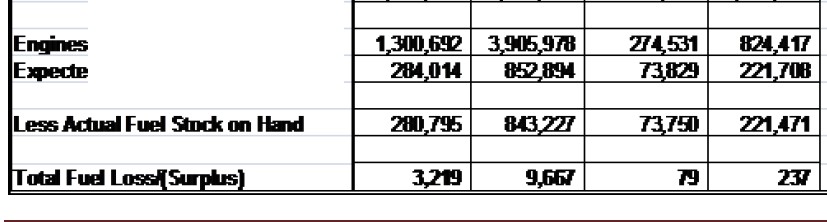
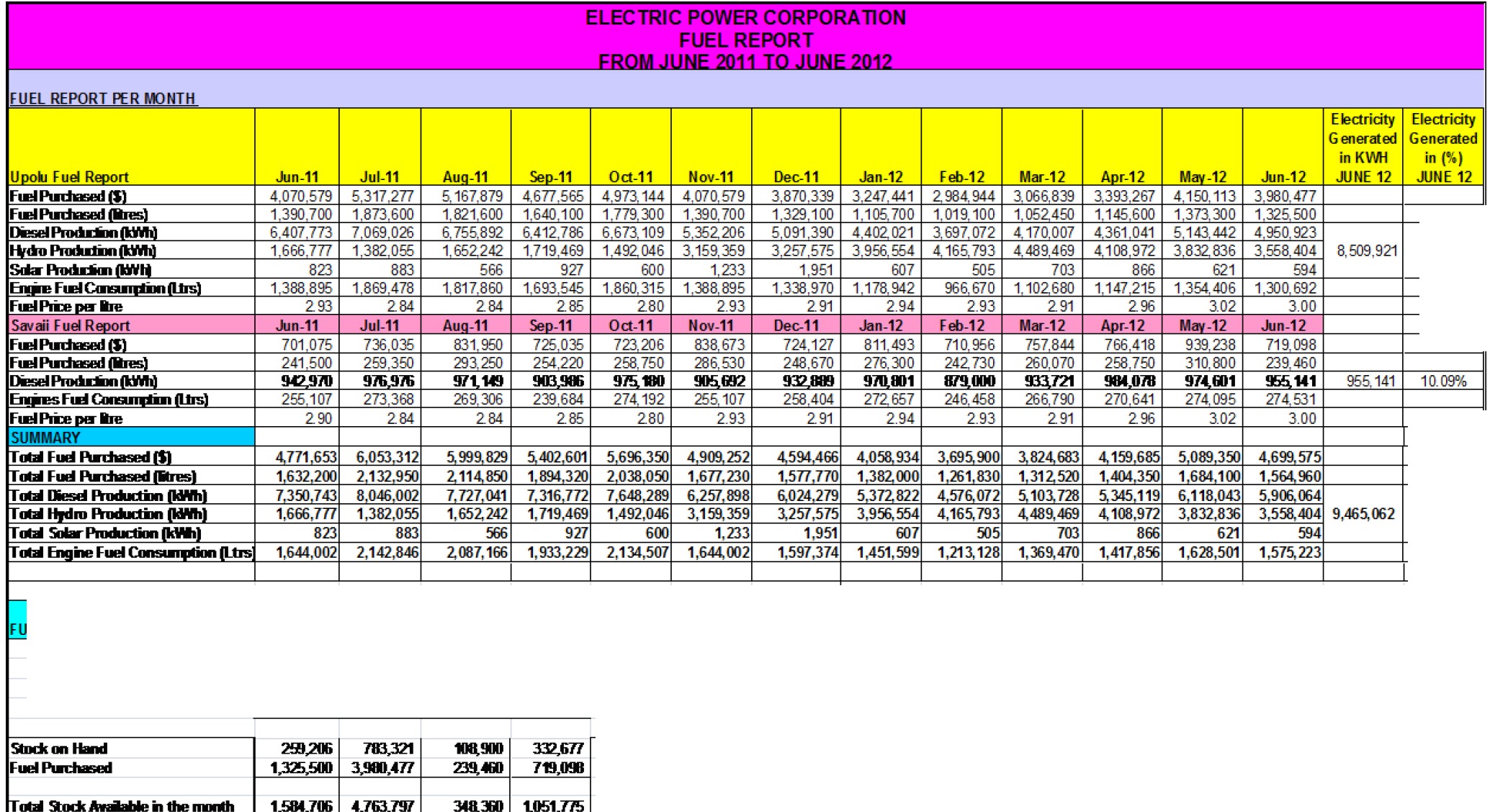
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**FuelCon!uqJtion(Urs)**

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**6. COMPLIANCE WITH LOAN COVENANTS (Beneficiary)**

|  |
| --- |
| Covenant  Status Comments |
| The Beneficiary shall carry out the project with due **Complied PMU is carrying out**  diligence and efficiency and in conforming with **project with due** sound administrative, financial, engineering, **diligence** environmental and public utilities practices |
| 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 **Complied PMU new office at**  schedule 5 of the Financing Agreement **TTTE Bldg is being provided with all**  **facilities** |
| The Beneficiary shall make available promptly, as **Complied Yes, Beneficiary**  needed, the funds, facilities, services, land and **committed**  other resources which are required in addition to **personnel, funds,**  the proceeds of the ADB Loan and Grant, and the **and other**  JBIC Loan and the Government of Australia Grant, **resources to**  for carrying out of the Project and for the operation **support the project.**  and maintenance of the Project facilities. |
| 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 **Complied Yes, ADB Mission** JBIC Loan and the Government of Australia Grant, **here on Sept 5 to 7.** and any relevant records and documents. |
| The Beneficiary shall take all action which shall be **Complied Yes, EPC provided** necessary on its part to enable EPC to perform it‟s **resources to** obligations under the Project Agreement and shall **support Project.** take or permit any action which would interfere with  the performance of such obligations. |
| The Beneficiary shall exercise its rights under the **Complied Yes, regard claims** Subsidiary Financing Agreement in such a manner **against project and** as to protect the interests of the Beneficiary and **managing of**  ADB and to accomplish the purpose of the Loan **contracts.**  and Grant, and the JBIC Loan and the Government of Australia Grant. |
| No rights or obligations under the Subsidiary **Complied ALL changes to** Financing Agreement shall be assigned, amended, **contracts are pre** or waived without the prior concurrence of ADB. **approved by ADB**  **including less than**  **15% of contract amount changes.** |

**7. LOAN EFFECTIVE MILESTONES (Electric Power Corporation)**

|  |
| --- |
| Details Status |
| Settlement of Government arrears as of 30 September 2007 **Complied** |
| Subsidiary Financing Agreement with EPC **Complied** |
| Establishment of the Project Steering Committee (PSC) **Complied** |
| Establishment of the Project Management Committee (PMC) **Complied** |
| Establishment of Project Management Unit **Complied**  Hire of Implementation Consultant **IC contract expired except completion of 5 hydros**  **feasibility study** |
| Project Manager **To be appointed**  Restructure of PMU **Maintained old flat org. chart. It works.** |
| Project Accountant **Complied** |
| Generation Engineer **Complied** |
| Transmission & Distribution Engineer **Complied** |
| Power System Planner **Complied** |
| Public Relation & Community Liaison Specialist **Complied** |
| SCADA Engineer **Complied** |
| PMU Secretary **Complied** |
| Establishment of Environment and Social Unit **Complied** |
| Legal / Environment Advisor **Complied** |
| Environment Specialist **Complied** |
| Land & Acquisition Specialist **Complied** |
| Effectiveness of the JBIC Loan Agreement **Complied** |
| Commitment of the Government of Australia Grant **Complied, Aussie Aid grant**  **is used up** |
| Legal Opinion from the Attorney General‟s Office **Complied; all contracts**  **need AGO clearances.** |

**8. RESETTLEMENT (updated quarterly)**

Official transfer or lease of Fiaga 97 acres, Vaiaata 100 acres and additional land in Tuanaimato for Fuluasou Substation is still pending; but not affecting progress of project. These will be addressed towards end of the Project. However, Cabinet had approved all 3 properties for EPC to use for power sector facilities. Samoa Land Corporation also approved lease of four 20m x 20m lots to install booster water pumps for Fiaga power plant water supply.

Status of land acquisition and resettlement for subprojects at end of 2nd Quarter 2012:

**Subproject Temporary**

**Land**

**Acquisition**

**Permanent Land Acquisition**

**Percentage**

**Obtained**

**%**

**Commentary on Negotiations and Compensation paid**

**1) Hospital Feeder**

**Upgrading Stage 1**

N/R N/R N/R N/R

**2) Single & Three**

**Phase PPM**

N/R N/R N/R N/R

**3) Tanugamanono**

**Power Station Noise**

**& Emission Control**

N/R N/R N/R N/R

**4) Refurbishment of**

**Alaoa Hydropower**

**Station**

N/R N/R N/R N/R

**5) Fiaga Diesel**

**Power Station**

NO YES 100% Official transfer or lease of land to EPC is outstanding

**6) Upgrade of Alaoa**

**6.6 kV Transmission**

**Line to 22kV**

N/R N/R N/R N/R

**7) Fiaga Diesel Power Station to Fuluasou Substation**

**33KV Underground**

**Cable**

N/R N/R N/R Cable route is inside road reserve but 30% of existing road is outside of

legal road reserve. People planted crops inside legal road reserve. Held consultations with affected people and their crops will

be compensated.

**8) Hospital Feeder**

**Upgrading Stage 2**

N/R N/R N/R Cable is laid inside road legal reserve. Have sorted out all land issues. 100%

cable is laid.

**9) 22kV Fuluasou**

**Substation**

NO YES 50% Use old EPC hydropower station land. Cabinet approved 500sq meters of extra land for substation. Land is registered.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **10) Low Voltage**  **Network Improvement Program** | N/R | N/R | N/R | N/R |
| **11)Fuluasou**  **Substation to Apia Wharf Area 22kV Underground Cable** | N/R | N/R | N/R | Underground feeder will  terminate at corner of  Vaitele and Falealili Road |
| **12) Fuluasou**  **Substation to Leulumoega via Vaigaga 22kV Underground Cable** | N/R | N/R | N/R | N/R |
| **13) 22kV Overhead**  **Conductor**  **Upgrading Program** | N/R | N/R | N/R | N/R |
| **14) Hydro Schemes** | YES | YES | YES | YES |
| **15) Puapua-Asau**  **Transmission Line**  **22kV Reconductoring** | N/R | N/R | N/R | N/R |
| **16) Power Factor**  **Improvement**  **Program** | N/R | N/R | N/R | N/R |
| **17) Low Voltage**  **Network**  **Improvement**  **18) Fiaga water booster pumps** | N/R  N/R | N/R  YES | N/R  90% | N/R  SLC approved 4 lots for pump sites |

**18)Stream Flow Gauging Equipment**

**19)HV/LV Testing**

**Equipment**

N/R N/R N/R N/R

**20)Supply, Installation & Operation of**

**SCADA System**

NO YES 50% NCC included in Fuluasou Substation at old Fuluasou hydro site. Mini NCC in

Salelologa Depot.

**21)Public**

**Dissemination**

N/R N/R N/R N/R

**22)Vending System**

**Expansion**

**23)Power System**

**Planning Software**

N/R N/R N/R N/R

**24) Refurbishment of Salelologa Power Station**

N/R N/R N/R Old power plant will be replaced with a new power station at Vaiaata. Old plant will be converted to a substation and a Mini Control

Center for Savaii system.

**25) Refurbishment of Taelefaga**

**Switchgears**

N/R N/R N/R N/R

**26)Refurbishment of Samasoni Switchgears**

N/R N/R N/R N/R

**27) Refurbishment of Tanugamanono Generators**

N/R N/R N/R N/R

**28)Vaipu Pumping**

**Scheme**

**30) Refurbishment of Taelefaga hydro governor system**

YES N/R

YES N/R

0% N/R

Yes, would need approval of land for pump and pipeline

N/F

**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.

ADB approved feasibility study of Vaiaata power plant. Included in FS is Resettlement Plan and

Initial Environmental Examination.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Subproject** | **Constraints** | **Activities** | **Action Taken** | **Comments** |
| **1) Hospital Feeder**  **Upgrading Stage 1** | NIL | NIL | NIL | Completed |
| **2) Single & Three**  **Phase PPM** | NIL | NIL | NIL | 93.4% of meters have  installed. This brings total number of consumers with PP to  71.87%. Target is  75%. |
| **3) Tanugamanono**  **Power Station Noise**  **& Emission Control** | NIL | NIL | NIL | Started Feasibility  Study; not finished. |
| **4) Refurbishment of Alaoa Hydropower Station** | NIL | NIL | NIL | Project is complete. |
| **5) Fiaga Diesel**  **Power Station** | NIL | YES | YES |  |
| **6) Upgrade of Alaoa**  **6.6kV Transmission**  **Line to 22kV** | NIL | NIL | NIL | Completed. Followed  existing line a long side of road. |
| **7) Fiaga New Diesel**  **Power Station to Fuluasou Substation Underground Cable** | NIL | NIL | NIL | Contracts are  awarded for supply of materials. EPC will do construction. 33kv Transmission Line is changed to have one circuit overhead and other underground. |
| **8)Hospital Feeder**  **Upgrading Stage 2** | NIL | NIL | NIL | Construction  continued; 100% of trenching and |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| installation of ducts is  complete. Cables being pulled and installed terminations. | | | | |
| **9) 22kV Fuluasou**  **Substation** | YES | NIL | NIL | Cabinet approved 500  sq meters of land for Substation. Land survey has been registered with MNRE. |
| **10) Low Voltage**  **Improvement**  **Program** | NIL | NIL | NIL | Received all materials  No IEE required |
| **11) Fuluasou**  **Substation to Apia Wharf Area 22kV Underground Cable** | NIL | NIL | NIL | Contracts were  awarded for supply of materials. Vehicles, tools, equipment and other material have arrived. |
| **12) Fuluasou**  **Substation to Leulumoega via Vaigaga 22kV Underground Cable** | NIL | NIL | NIL | NIL |
| **13) 22kV Overhead**  **Conductor**  **Upgrading Program** | NIL | NIL | NIL | Construction  continued. 40% is complete. New powerline along East Coast Road require easements and social resettlement of affected trees. |
| **14) Hydro Scheme** |  |  |  | 5 Feasibility Study  reports are finalized. |
| **15) Puapua-Asau**  **Transmission Line**  **22kV Reconductoring** | NIL | NIL | NIL | Project is complete. |
| **16) Power Factor**  **Improvement**  **Program** | NIL | NIL | NIL | Assessment  completed. PF is good. No further work required. |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **17) Low Voltage**  **Improvement program** | NIL | NIL | NIL | Rapid Environmental  Assessment has been prepared and submitted to ADB.  No IEE required |
| **18) Stream Flow**  **Gauging Equipment** | NIL | NIL | NIL | Completed. |
| **19) HV/LV Testing**  **Equipment** | NIL | NIL | NIL | NIL |
| **20) Supply,**  **Installation & Operation of SCADA System** | NL | NIL | NIL | Report of Tender  submitted to ADB for approval. |
| **21) Public**  **Dissemination** | NIL | NIL | NIL | NIL |
| **22) Vending System**  **Expansion** | | | | |
| **23) Power System**  **Planning Software** | NIL | NIL | NIL | NIL |
| **24) Refurbishment of**  **Salelologa Power**  **Station** | YES | YES | YES | ADB approved  Feasibility study & Resettlement Plan of Vaiaata power plant |
| **25) Refurbishment of**  **Taelefaga**  **Switchgears** | NIL | NIL | NIL | NIL |
| **26) Refurbishment of**  **Samasoni**  **Switchgears** | NIL | NIL | NIL | NIL |
| **27) Refurbishment of**  **Tanugamanono**  **Generators** | NIL | NIL | NIL | NIL |
| **28) Vaipu Pump**  **Assisted Scheme**  **29) Upolu hydro schemes** | NIL | NIL | NIL | Need to complete IEE  and prepare tender for construction.  Implementation Consultant revising Faleseela Feasibility study and continued with rest of FS for other 4 schemes and tender of 3 schemes. |

**10. LOAN DRAW DOWN TO DATE (1 Jan- 31 March 2012)**

10 LOAN DRAW DOWN TO DATE (31December 2010)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No.  1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24  25  26  27  28  29 | TITLE OF SUBPROJECTS |  | | | | | | | |
| *ADB Loan ADB Grant JICA Loan Ausaid Grant EPC* | ADB categ• | Schedule Date  Contract Award | **Revised**  Contract  Budaet | Actual Contract  **Price** | **Contract**  Number | Actual Date  Contract  Awarded | **Draw Down to**  date | **Balance** |
|  |  | USD$M |  |  |  |  |  |
| *26.61* |
| *15.39* |
| *38.00* |
| *8.00* |
| *12.00* |
| *100.00* |
| CORE SUBPROJECTS |  |  |  |  |  |  |  |  |
| Project Manager (0,37 + 0,38 unallocated) | 4 | Q4 2007 | 0.75 | 0.37 | CO N-0108 | 30th Oct 2 007 | 0.06 | 0.69 |
| Pr oject r mplementatr on consultant: EBI(73 man.  m onths) | 4 | Q 1 2008 | 2.67 | 2.67 | CON-05058 | 2 Ma y 2008 | 1.74 | 0.93 |
| Hosprtal Feeder Upgradr ng Project- Stage 1 | 3 | Q 1 2009 | 0.60 |  | SAM·PSEP·02 |  | 1.94 | ·1.34 |
| Smgle.and Thr ee-Phase Prepayment Metenng  Pro·ect | 3 | Q3 2008 | 5.67 | 5.89 | PP M1207 | 30 July 2008 | 4.90 | 0.77 |
| CANDIDATE SUBPROJECTS |  |  |  |  |  |  |  |  |
| UPOLU Generation |  |  |  |  |  |  |  |  |
| T anugamanono Power StatJon Noise and Em1ss1on  Control Proaram | 3 | Q4 2009 | 0.17 |  |  |  | 0.00 | 0.17 |
| Refur brshment of Alaoa Hydropower Statron | 3 | Q3 2009 | 1.34 |  | SAM·PSEP -03 |  | 0.00 | 1.34 |
| Fraga New Dresel Power Station Project | 3 | Q1 2010 | 22.27 | 35.88 | SAM·PSEP -08 |  | 6.10 | 29.78 |
| UPOLU Transmission |  |  |  |  |  |  |  |  |
| Upgrade of the Aal oa 6.6 kV Transmrssr on Line to 22  kV Pro·ect | 3 | Q3 2009 | 1.14 |  | SAM·PSEP -02 |  |  | -0.80 |
| Upolu Diesel Power St ation to Fuluasou Substatron  Underaround Cable Pro·ect | 3 | Q1 2010 | 3.12 |  |  |  |  | 3.12 |
| Hosprt al Feeder Upgradr ng Project- Stage 2 | 3 | Q4 2009 | 3.20 |  | SAM·PSEP -09 |  | 0.84 | 2.36 |
| 22 kV Fuluasou Substatr on Project | 3 | Q2 2010 | 2.93 |  |  |  |  | 2.93 |
| Low- Voltage Network Expansion Program | 3 | Q2 2010 | 1.29 |  |  |  |  | 1.29 |
| Fuluasou Subst ation to Apr a Wharf Area 22 kV  Underaround Cable Pro·ect | 3 | Q2 2012 | 0.00 |  |  |  |  | 0.00 |
| Fuluasou Subst ation to Leulumoega via Vaigaga 22  kV Underaround Cable Proect | 3 | Q2 2012 | 2.78 |  |  |  |  | 2.78 |
| 22 kV Overhead Conductor Upgradrng Program | 3 | Q3 2009 | 6.03 |  | SAM·PSEP -09 |  | 0.41 | 5.62 |
| SAVAII Generation |  |  |  |  |  |  |  |  |
| Hydropower Scheme | 3 | Q3 2012 | 10.65 |  |  |  |  | 10.65 |
| SAVAI'I Transmission |  |  |  |  |  |  |  | 0.00 |
| Puapua-Asau Transmrssron Line 22 kV  Reconductonna Pr oect | 3 | Q3 2009 | 1.24 |  | SAM-PSEP-02 |  |  | 1.24 |
| Low- Voltage Network Expansion Progr am | 3 | Q2 2010 | 0.56 |  |  |  |  | 0.56 |
| Measurement Equipment |  |  |  |  |  |  |  |  |
| Stream Flow Gaugrng Equrpment | 3 | Q3 2008 | 0.05 |  | SAM·PSEP -04 | 23rd Oct 08 | 0.06 | -0.01 |
| Electrical Test Equipment Equr pment | 3 | Q3 2008 | 0.06 |  | SAM·PSEP -05 | 23rd Oct 08 | 0.07 | -0.01 |
| SCADA | 3 | Q4 2009 | 3.48 |  |  |  |  | 3.48 |
| CORE AND CANDIDATE SUBTOTAL |  |  | 70.00 | 44.81 |  |  | 16.12 | 53.88 |
| APPROVED NEW SUBPROJECTS |  |  |  |  |  |  |  |  |
| Vendrng System | 3 | Q 1 2009 | 0.25 |  |  |  | 0.10 | 0.15 |
| Public Dr ssemr natron | 3 | Q 1 2009 | 0.10 |  |  |  |  | 0.10 |
| Power System Plannrng Sof tware | 3 | Q3 2008 | 0.06 |  | SAM·PSEP -06 | 23rd Oct 08 | 0.06 | 0.00 |
| Refurbrshment of Taalefaga and Samasonr SW1tchgea | 3 | Q2 2009 | 1.60 |  | SAM·PSEP -07 |  | 1.97 | -0.37 |
| Refurbrshment of Salelologa Power Statr on | 3 | Q2 2009 | 5.90 |  | SAM-PSEP-10 |  |  | 5.90 |
| Refurbrshment of Tanugamanono Two Generators | 3 | Q3 2009 | 0.75 |  | SAM-PSEP-08 |  | 0.47 | 0.28 |
| Upoul Hydro | 3 | Q ! 20 10 | 3.51 |  |  |  |  | 3.51 |
| Contrngency (Var pu Assrsted Pumprng Scheme) | 3 | Q 1 2010 | 0.50 |  |  |  |  | 0.50 |
| NEW SUBPROJECTS SUBTOTAL |  |  | 12.67 | 0.00 |  |  | 2.60 | 10.07 |
|  |  |  |  |  |  |  |  |  |
| GRAND TOTAL |  |  | 82.67 | 44.81 |  |  | 18.7 | 63.95 |

EPC PMU 2"d QUARTER 2012 PROGRESS REPORT Page 44 of 55

**LIST OF WITHDRAWAL APPLICATIONS OUTSTANDING AT END OF Q2, 2012**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | **WA No** | **Contractor** | **Contract No** | **Lot** | **Claim No** | **Currency** | **Amount** |
| 1 | WA 0269 | A D Riley | PPM 1207 |  |  | SAT | $ 46,303.95 |
| 2 | WA 0270 | A D Riley | PPM1207 |  |  | USD | $ 4,040.43 |
| 3 | WA 0271 | BBA JV /Woods / MHI | 12/03A |  |  | USD | $ 351,163.87 |
| 4 | WA 0272 | A D Riley | PPM1207 |  |  | SAT | $ 18,661.02 |
| 5 | WA 0273 | A D Riley | PPM1207 |  |  | USD | $ 1,579.02 |
| 6 | WA 0274 | A D Riley | PPM1207 |  |  | SAT | $ 16,341.92 |
| 7 | WA 0275 | A D Riley | PPM1207 |  |  | USD | $ 1,342.16 |
| 8 | WA 0276 | Northpower NZ Ltd | 14/01 |  | Claim 5 | NZD | $ 435,889.66 |
| 9 | WA 0277 | Northpower NZ Ltd | 14/01 |  | Claim 9 | NZD | $ 62,676.23 |
| 10 | WA 0278 | INTRACOR | 13/02A | LOT 5 | Claim 1 | USD | $ 54,218.64 |
| 11 | WA 0279 | INTRACOR | 13/02A | LOT 3 | Claim 1 | USD | $ 99,120.00 |
| 12 | WA 0280 | INTRACOR | 13/02A | LOT 5 | Claim 2 | USD | $ 42,075.25 |
| 13 | WA 0281 | INTRACOR | 13/02A | LOT 1 | Claim 2 | USD | $ 5,559.68 |
| 14 | WA 0282 | INTRACOR | 13/02A | LOT 1 | Claim 1 | USD | $ 45,778.07 |

**11. LAST ADB REVIEW MISSION**

No ADB Mission during this Quarter. Next Mission is schedule towards middle of year.

**12 APPENDICES**

**13. ATTACHMENTS**

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**Appendix 1 - INVESTMENT PLAN Revised June 2012**

**REVISED INVESTMENT PLAN (Revised): JUNE 2012, WITH ADDITIONAL SUBPROJECTS**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | **Location** | **Contract Description** | | **Contractors** *I*  **Consultants** | **Estimate**  **Cost mi(USD)** | **Subproject Number** | **%Completed** |
|  | **CORE PROJECTS** | |  |  |  |  |  |
| 1 | Upolu | Hospital Feeder Upgrade Stage 1 | | Bluebird Ah LAL JV | **0.700** | **SAM PSEP 02/01A** | 100% |
| 2 | Upolu/Savaii | Single & three phase Prepayment Metering | | AD Riley | **6.143** | **SAM PSEP 1207** | Installation is 91% complete; 73% of All  active customers (31, 730) have  Prepayment Meters |
| 3 | Upolu | Project Manager | | TBA | **0.750** |  | Vacant |
| 4 | Upolu | Consultant Services (Note 1) | | Implementation consultant | **2.67** | **CON 0508** | Egis International & Individual  Consultants, short term consultants, COS and Tariff Study |
|  |  |  | | Individual consultants | **1.50** |  | Individual consultants, short term experts for commissioning, cost of  servce & tariff review |
|  | **CANDIDATE SUBPROJECTS** | | |  |  |  |  |
|  | **Upolu Generation** | |  |  |  |  |  |
| 5 | Upolu | T'manono Power Station noise and em iss ion control program | | TBA | **0.170** |  | 0% |
| 6 | Upolu | Refurbishment of Alaoa Hydro Power Station: | |  |  | **535,847.309** |  |
|  |  | a Electrical- Mechanical | | Tenix NZ Ltd | **1.291** | **SAM PSEP 03** | 100% |
|  |  | b Civil Works | | Silva Transport Ltd | **0.536** | **SAM PSEP 03/01** | 90%, reduced scope |
| 7 | Upolu | Fiaga Power Plant | |  | | |  |
|  |  | a LOT A (Generators & Powerhouse) | | Bluebird/Woods/MHI | **28.015** | **SAM PSEP 12/3A** | Bldg-70%; Equip. Supply-80%; Equip.  insta11-70% |
|  |  | b LOT B (Electrical SWitchgear) | | Northpower NZ Ltd | **3.437** | **SAM PSEP 12/38** | Construction-100%; Equip Supply 90%;  Equip. Install 95% |
|  |  | c Survey work | | Sepulona Surveyor | **0.041** |  | 100% |
|  |  | d Level power plant site | | PPG Construction | **0.071** | **SAM PSEP 12/28** | 100% |
|  |  | e Access Road/fence/water pipeline | | Silva Transport Ltd | **1.420** | **SAM PSEP 12/2A** | 100% |
|  |  | f Fuel & Oil Tanks | | Fuelquip/GMA JV | **1.200** | **SAM PSEP 12/04** | Tank manuf-100%; Design-100%;  Construction-GO% |
|  |  | g Water booster pumping system & tanks | | EPC | **0.400** | **SAM PSEP 12/06** | Bid doc-100%;with ADB to review |
|  |  | h Water well drilling | | EPC | **0.032** |  | 0% |
|  |  | i Relocate Units SA, 7A, & 9A to Fiaga | | TBA | **3.00** | **SAM PSEP 12/05** | construction 30%, bid preparing |
|  |  | j Lube oil supply | | TBA | **0.560** |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Upolu Transmission** | |  |  |  |  |  |
| 8 | Upolu | Alaoa Feeder Upgrade 6.6 to 22kV | | Bluebird AhlAL JV | **0.440** | **SAM PSEP 02/02A** | 100% |
| 9 | Upolu | 33kV Transmission Line from Fiaga to Fuluassou Substation | | EPC | **5.690** | **SAM PSEP 13/03** | 10% |
|  |  |  | a Survey services | Sepulona SS Ltd | **0.007** |  | 100% |
|  |  |  | b Trench excavation contract | TBA | **1.500** | **SAM PSEP 13/02** | biding |
|  |  |  | c Equipment rental | EPC | **0.043** |  | continuing |
| 10 | Upolu | Hospital Feeder Upgrade- Stage 2 | | Bluebird AhLAL JV | **3.753** | **SAM PSEP 09/01A** | construction 100%, installation 70% |
| 11 | Upolu | Fuluasou Substation | | Northpower NZ Ltd | **3.103** | **SAM PSEP 12/01** | construction 70%, installation 5% |
|  |  |  | a River bank riprap protection | TBA | **0.652** |  | preparing bid |
| 12 | Upolu | Low Voltage System Improvements | | EPC | **0.162** |  | materials supply 100%, construction 0% |
| 13 | Upolu | 22kV UG Fuluasou Substation to Apia Wharf | | EPC | **1.430** | **SAM PSEP 10/01** | construction 30%, installation 0% |
| 14 | Upolu | 22kV Overhead conductor upgrading program | | GMA Construction Ltd | **3.360** | **SAM PSEP 09/28** | construction 60% |
|  |  |  |  |  |  |  |  |
|  | **Savaii Transmission** | |  |  |  |  |  |
| 15 | Savaii | Puapua- Asau 22 kV line reconductoring | | Tenix NZ Ltd | **0.754** | **SAM PSEP 02/028** | 100% |
| 16 | Savaii | Low Voltage Network Improvements | | EPC | **0.534** |  | materials supply 100% construciton 9% |
| 17 | Savaii | Reconductor remaining spans (102) | | EPC | **0.096** |  | 0% |
|  | **Measurement Equipme** | | **t** |  |  |  |  |
| 18 | Upolu/Savaii | Measurement equipment: stream flow gauging | | EPC | **0.062** |  | 100% |
| 19 | Upolu/Savaii | Measurement equipment: electric HV/current | | EPC | **0.058** |  | 100% |
| 19 | Upolu/Savaii | SCADA System | | Schneider Electric Ltd | **3.548** | **SAM PSEP 12/05** | 0% |
|  |  |  | Contingency, 5% |  | **0.177** |  |  |
|  | **APPROVED NEW SUBPROJECTS** | | |  |  |  |  |
| 20 | Savaii | Vaiaata Power Station and Salelologa Substation | | TBA | **7.683** |  | Separate bids |
|  |  |  | a Resistivity study | Northpower NZ Ltd | **0.010** |  | start on 15/9/12 |
|  |  |  | b Geotechnical study | TBA | **0.020** |  |  |
|  |  |  | c Surveying | Sepulona | **0.003** |  | start on11/9/12 |
|  |  |  | d Prepare access rd and clear site | TBA | **0.050** |  | 0% |
| 21 | Upolu/Savaii | Vending System |  | AD Riley | **0.162** |  | 100% |
| 22 | Upolu/Savaii | Public dissemination | | EPC | **0.100** |  | Continuing |
| 23 | Upolu | Taelefaga/Lalomauga/SamasonifTanugamanono Power stations  Switchgear Refurbishment | | Northpower NZ Ltd | **2.731** | **SAM PSEP -07** | 100% |
| 24 | Upolu | Power System Planning Software | | Northpower NZ Ltd | **0.051** |  | 100% |
| 25 | Upolu | Refurbishment of Generators 9A and 7A in Tanugamanono Power  Station | | MAN Diesel | **1.678** | **SAM PSEP -08** | 100% |
| 26 | Upolu | Vaipu Pumping Scheme | | await EPC/ADB  approval | **0.477** |  | FS-100%;EIA-80%; Bid-0% |

**n**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| 27 | ALL | Training |  | TBA | **0.238** |  | Linemen & other trainings &  computerized maintenance program |
| 28 | Upolu | Taelefaga Power station Hydro Governor System Upgrade | | Northpower NZ Ltd | **0.90** | **SAM PSEP 17/01** | Contract awared |
|  | **Hydro Development** | |  |  |  |  |  |
| 29 | Upolu/Savaii | Hydro Developments- Feasibility Study & tender doc. | |  | refer below |  | Packaged separately & refer NEW  PROJECTS below |
|  | **SUBTOTAL** |  | |  | **91.37** |  | investment costs |
|  | **CONTINGENCY (Physical)** | | |  | **3.42** |  | contingencies |
|  | **LOAN INTERES** | **T PAYMENT DURING CONSTRUCTION** | |  | **5.21** |  | loan interest during construction |
|  | **TOTAL** |  |  |  | **100.00** |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **NEW SUBPROJECTS PENDING APPROVAL** | |  |  |  |  |
| 30 | Afulilo Dam Environmental hazard Mitigation | |  | 0.75 |  | Design and tender |
| 31 | Refurbish hydro m/c control system of 3 hydro plants (Samasoni, FOF, Lalomauga) | |  | 1.80 |  | EPC Board to approve |
| 32 | Refurb. Penstock, valves, etc. of 4 hydros- Taelefaga, Lalomauga, Samasoni & FOF. | |  | 2.40 |  | EPC Board to approve |
| 33 | Refurbish Tanugamaono diesel generator Unit 12 | |  | 0.40 |  | EPC Board to approve |
| 34 | Refurbish 3 Cummins generator in Salelologa | |  | 0.50 |  | getting EPC Board approval |
| 35 | Hydro developments |  |  | 13.15 |  |  |
|  | TOTAL I |  |  | **19.00** |  |  |
|  | I |  |  |  |  |  |

1 Include IC completion of hydro study, independent consultants, short term commission consultants, cost of service and tariff study

2 Total funds needed for 5 hydras is $48m, and $25m for 3 hydras (Fuluasou, Tiapapata, and Faleseela) tender being prepared now.

3 No decision yet on Vaipu Pump Scheme;assign USD300K from TA in SMEC contract to prepare design/tender.

4 TBA- To be announced

5 Proposed new subprojects for additional funds of US$19 million.

**Appendix 2 - DISBURSEMENT PLAN**

POWER SECTOR EXPANSION PROJECT DISBURSEMENT PLAN- AS OF 2ND QUARTER 2012

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**Appendix 3- Revised Project Schedule to end June 2012**

**NO TITLE OF SUBPROJECTS** I**Status** 2008 2009 2010 2011 2012 2013 2014 2015 2016

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**CORE** SUI

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Hospital Feeder Upgrading Project- Stage1 COM

2 Single- and Three-Phase Prepayment Metering Project liP

3 Project Manager (0,37 + 0,38 unallocated) CON" **'Ill**

4 Project implementation consultant: EBI (73 man-months) CONT **-.11**

• **SUBPROJECTS UPOLU Generation**

5 ,""""""' '""" ...,.••••••' Noise and Emission Control Program FSIP :"!..

6 t of Alaoa Hydropower Station COM **'4**

·

7 Upolu DieselPower Station Project (LotA and Lot B) CIP

I•

8 Fiaga Access Road, Pipeline,and Fence CIP ....

•

9 Fiaga Fuel and oH tanks C)p

10 Fiaga; ·system CIP

11 Relocate Gen SEts 5A, 7A & 9A to Fiaga Power Plant PL ...

**UPOLU**

...

...

12 Upgrade of the Alaoa6.6 kV · .ine to 22 kV Project COMP

13 1 line from Fiaga to Fuluasou Substation C)p

... •

14 33kv Iline from Fuluasou ss to· CIP

15 HospitalI 1 Project- Stage 2 CIP I I I I I I I I I I I I

16 Samasonihydro ltrans line to Tanugamanono CIP

-. ,...

22 kV Fuluasou Substation CIP I •Network iml PL

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19 Fuluasou >Apia Wharf Area22 kV ICable CIP I I I I I I I I I I I **'-4**

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20 22 kV Overflead Conductor Upgrading Program CIP Alaoa FOF hydros · i 1linetoT< CIP

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**SAVAI'I Transmission**

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23 1 Transmission Line 22 kV 1 Project CIP

24 Low-Voltage Network 1m1 PL

**Measurement l=n..inn..•nt**

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25 Stream Flow Gauging Equipment COMP **'4..**

26 ElectricalTest Equipment COMP

27 SCADA CIP **'Ill**

**NEW** SUI

...

28 ·station PL

29 Sal,.oloaa Substation TP

31 Public Dissemination ONG

32 Refurbish Taaletaga, & others 22kv switchgears COMP I I **'Ill**

33 Power System Planning Software COMP I I I I I

34 tof • Generators 9A and 7A CIP

35 Vaipu Pumping Scheme PL

36 Upolu hydro ·Fuluasou, Tipapata, Faleseela,& Tafttoala FSIP

37 Refurbish Taeletaga hydro plant govemor control system CA

38 Afulilo Dam Environmental Hazard Mitigation TP I I I I I I

39 rraining PL

40 Refurbish No 12 gen in T'manono &3 gens in Salelologa NEW I

Refurbish governor & generator controls of FOF, Lalom auga &

41 Samasoni hydro stations TP

: ; ;d = tocks, valves , etc ror 1ae1eraga, am as om, Lalom auga,

42 NEW

NOTES & KEY

1 Completion date -actual & planned

2 Original subprojects & implementation schedules from RRP Report

3 New subprojects NOT in original RRP Report

4 Completed

5 Construction in Progress

6 Planning

7 Installation in Progress

8 Feasibiilty Study in Progress

9 On-Going

10 Contract Award

11 On Hold

12 Tender Preparation

13 New, pending approval



COMP CIP

PL INP FSIP ONG AG OH TP NEW

**Appendix 4 - Electricity Receivables**

Refer to Receivable Rport in Page 36.

**Appendix 5 – Prepayment Meter Installation Projection & Actuals**

Project Target is to get 75% of consumers on Cash Power Meters at end of project in 2016.

19,616 meters have converted by A D Riley under their contract. At end of 2nd Quarter of 2012,

71.87% of active consumers have been converted or installed with prepayment meters. There is 3.13% needed to meet target. About 1,384 meters are left to be installed under A D Riley‟s contract. 75% will be reached with these meters. EPC is still testing a new meter from another supplier, Joy Electric Ltd. Another supplier is sending test meters to be tested on A D Riley vending system. If successful, this will give EPC new suppliers beside A D Riley. There has not been any technical solution on blank screen defective meters. ADR is asked for a solution. They have gone back to factory of CP meters. No word from them.

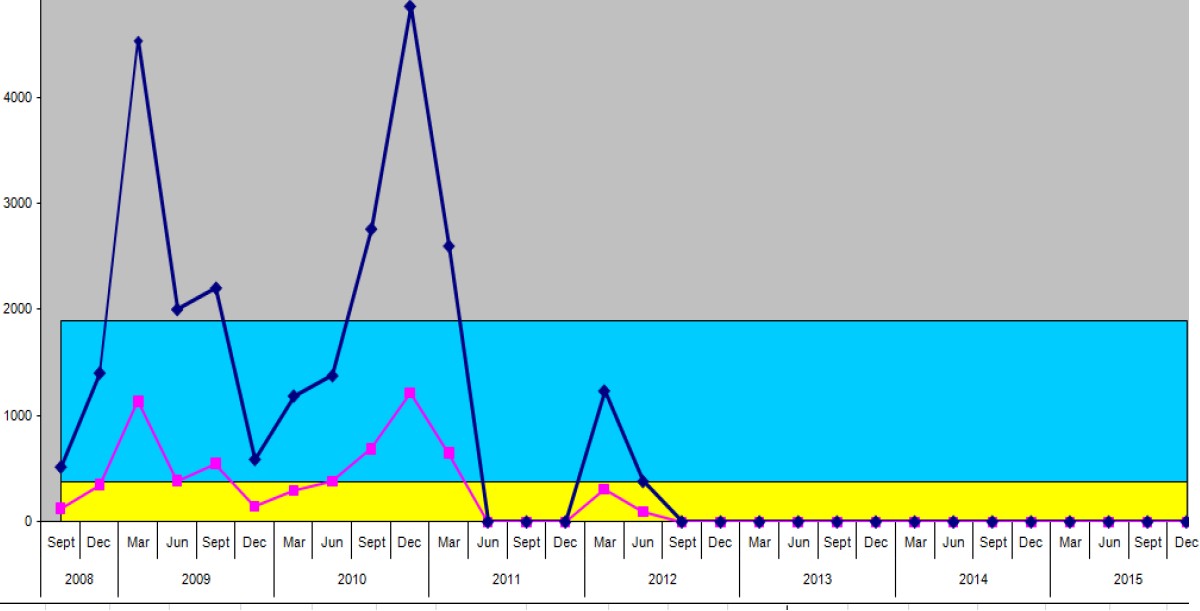
**POWER SECTOR EXPANSION PROJECT Customers Converted to Prepayment Meters**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Month** | **All**  **Electrical** | **McLean**  **Electrical** | **Tel**  **Tronic** | **ADR Total Installed this Month** | **No of customers on Cash Power** |
| Oct-08 | 136 | 198 | 130 | 464 |  |
| Nov-08 | 249 | 212 | 335 | 796 |  |
| Dec-08 | 5 | 162 | 5 | 172 |  |
| Jan-09 | 203 | 348 | 200 | 751 |  |
| Feb-09 | 207 | 366 | 215 | 788 |  |
| Mar-09 | - | 233 | - | 233 |  |
| Apr-09 | 254 | 286 | 322 | 862 |  |
| May-09 | 595 | 459 | 495 | 1,549 |  |
| Jun-09 | 542 | 583 | 473 | 1,598 |  |
| Jul-09 | 510 | 509 | 370 | 1,389 |  |
| Aug-09 | 194 | 419 | 223 | 836 |  |
| Sep-09 | 109 | 190 | 149 | 448 |  |
| Oct-09 | 30 | 106 | 125 | 261 |  |
| Nov-09 | 55 | 11 | 218 | 284 |  |
| Dec-09 | 70 | 129 | 156 | 355 |  |
| Jan-10 | 68 | 134 | 197 | 399 |  |
| Feb-10 | 79 | 99 | 209 | 387 |  |
| Mar-10 | 439 | 304 | 351 | 1,094 |  |
| Apr-10 | 436 | 498 | 328 | 1,262 |  |
| May-10 | 390 | 447 | 486 | 1,323 |  |
| Jun-10 | 127 | 433 | 186 | 746 |  |
| Jul-10 | 131 | 345 | 60 | 536 |  |
| Aug-10 | 185 | 246 | - | 431 |  |
| Sep-10 | 163 | 289 | 3 | 455 |  |
| Oct-10 | 24 | 236 | 7 | 267 |  |
| Nov-10 | - | 278 | - | 278 | **20,990** |
| Dec-10 | - | 235 |  | 235 | **21,268** |
| Jan-11 |  | 192 |  | 192 | **21,503** |
| Feb-11 |  | 131 |  | 131 | **21,695** |
| Mar-11 |  | 127 |  | 127 | **21,826** |
| Apr-11 |  | 131 |  | 131 | **21,953** |
| May-11 |  | 59 |  | 59 | **22,084** |
| Jun-11 |  | 83 |  | 83 | **22,143** |
| Jul-11 |  | 71 |  | 71 | **22,226** |
| Aug-11 |  | 47 |  | 47 | **22,297** |
| Sep-11 |  | 48 |  | 48 | **22,344** |
| Oct-11 |  | 31 |  | 31 | **22,392** |
| Nov-11 |  | 38 |  | 38 | **22,423** |
| Dec-11 |  | 14 |  | 14 | **22,461** |
| Jan-12 |  | 113 |  | 113 | **22,475** |
| Feb-12 |  | 152 |  | 152 | **22,588** |
| Mar-12 |  | 60 |  | 60 | **22,740** |
| Apr-12 |  | 51 |  | 51 | **22,800** |
| May-12 |  | 106 |  | 106 | **22,906** |
| Jun-12 |  | 69 |  | 69 | **22,932** |
| **Total to date** | **5,201** | **9,278** | **5,243** | **19,722** |  |

EPC PMU 2nd QUARTER 2012 PROGRESS REPORT Page 52 of 55

Appendix 6- System Average Interruption Duration Index (SAlOl) Monitoring

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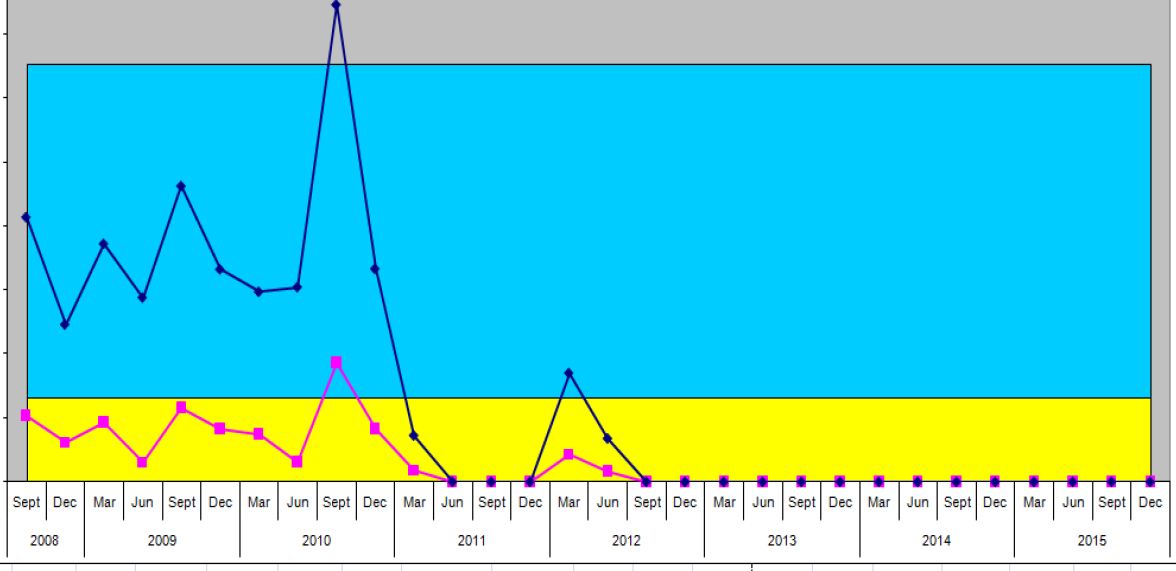
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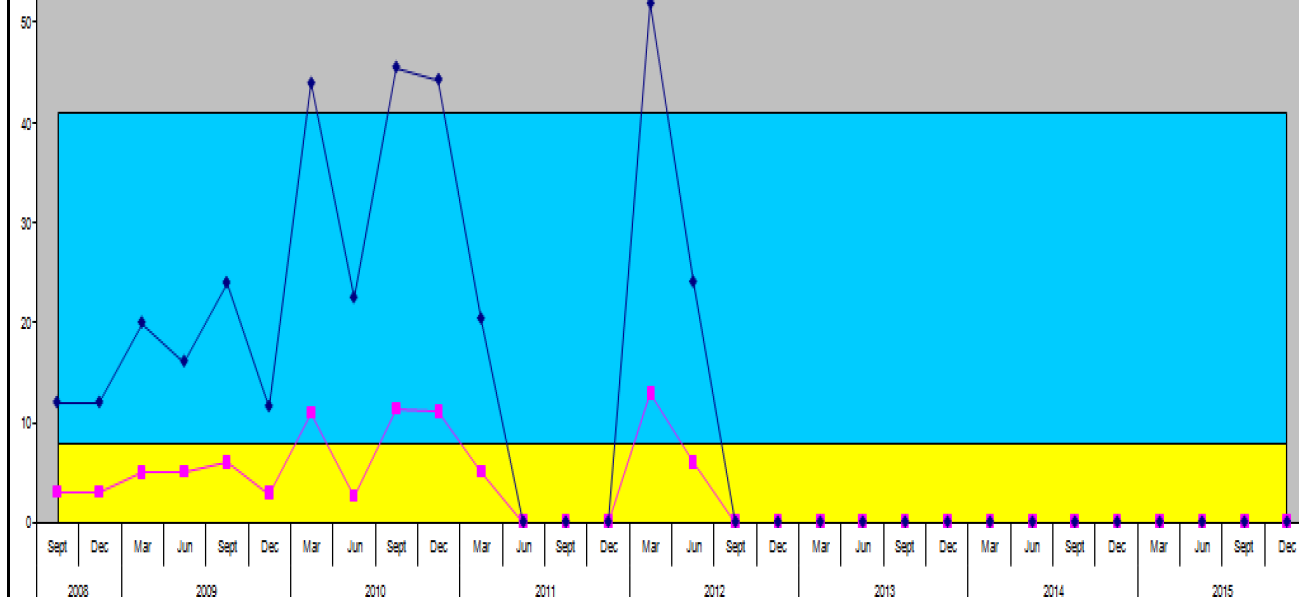
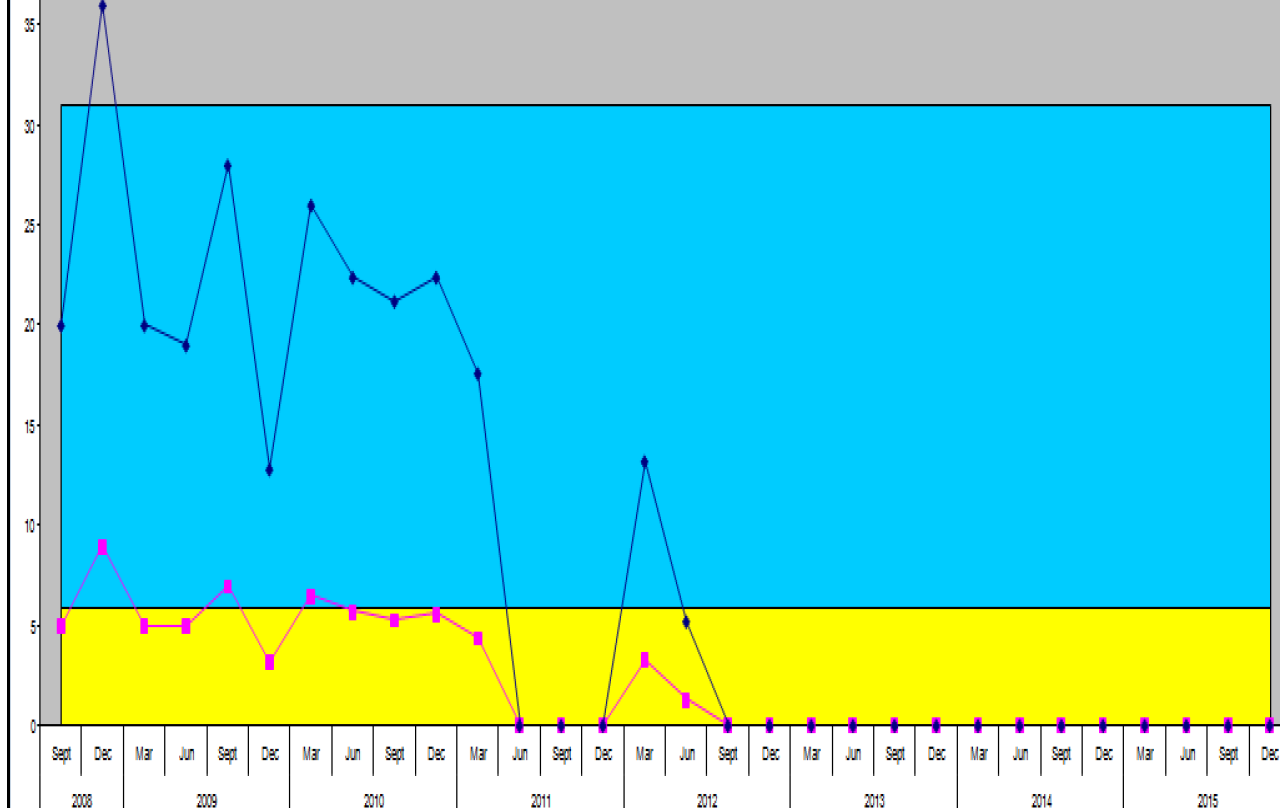
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• SAlOl to be reduced by 20% by 2015



• Plan interruption is included since 1st Quarter 2009.

Appendix 7- System Average Interruption Frequency Index (SAIFI)



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• SAIFI to be reduced by 20% by 2015

• Plan interruption is included since 1st Quarter 2009.

**Appendix 8: PMU Current Organisational Structure**

**EPC PROJECT MANAGEMENT UNIT**

Revised 14 Sept 2012

EPC Hoard of

Directors

General

Manager Tologata Tile Tuimalealiifano

Project

Manager fonoti Perelini S. Perelini (Acting Project Manager)

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Generation

Transmission &

ESU

ESU

Renewable Public Relation

Engineer

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Distri buti on Generation Elec. Legal Project Social

Engineer Accountant Resettlement

Energy

*I* Community

Consultant

Engineer Advisor

Officer

Manager Officer

Perelini

Perelini

Lafai ele. J. Mau Mathew faalepo Asi R pa Moe

Pe eira Simanu Lemisio Solofa Tuuau Yo ng Asi

Telecom

Engneer

Asolima

Noted

Perelini Perelini a nd Roberto P a mingtuan are 2 individua l consultants

Civil Engineer

A red

M tatia

Draftsman

Grad. Elec. Engineer John

Rimoni Overseer

Underground

Overseer Line

Construction

Overseer Line

Construction

Preinspection

RE Assoc. Technician Bobby Williams

Crewl

Crew 2 Crew 3