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GOVERNMENT OF THE DEMOCRATIC REPUBLIC OF TIMOR LESTE



Contract RDTL – 92896 Construction Supervision Services
of the Nationwide Electrical Power Grid and
Power Plant and its Facilities

Monthly Progress Report November 2011



		Myrna B. Sacramento	Zoltan Lukacs	Felice Maffei
Rev.	Date	Author	Checked	Approved
Project: Construction Supervision Services for Building of the National Electrical Power System for the Timor-Leste				
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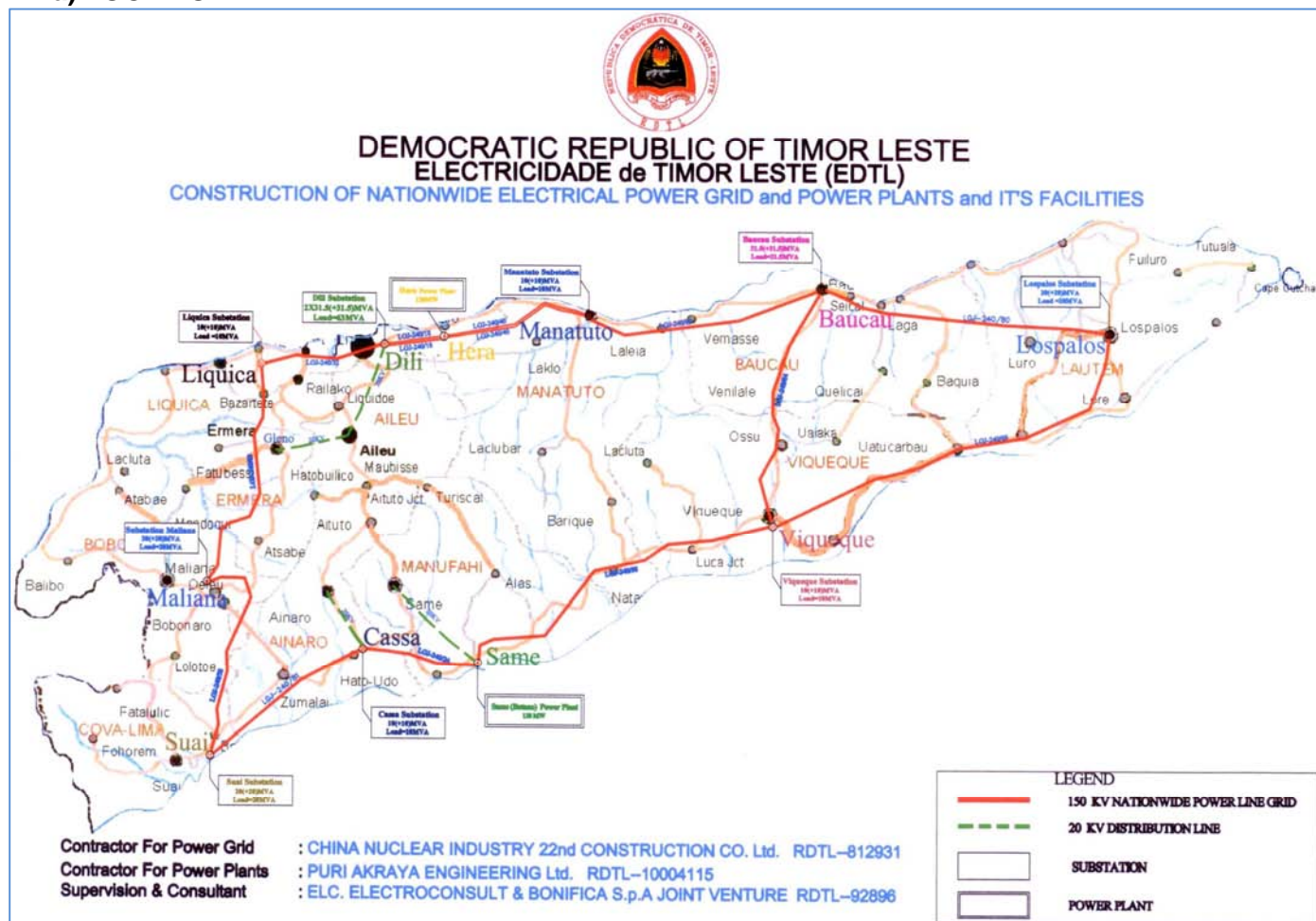
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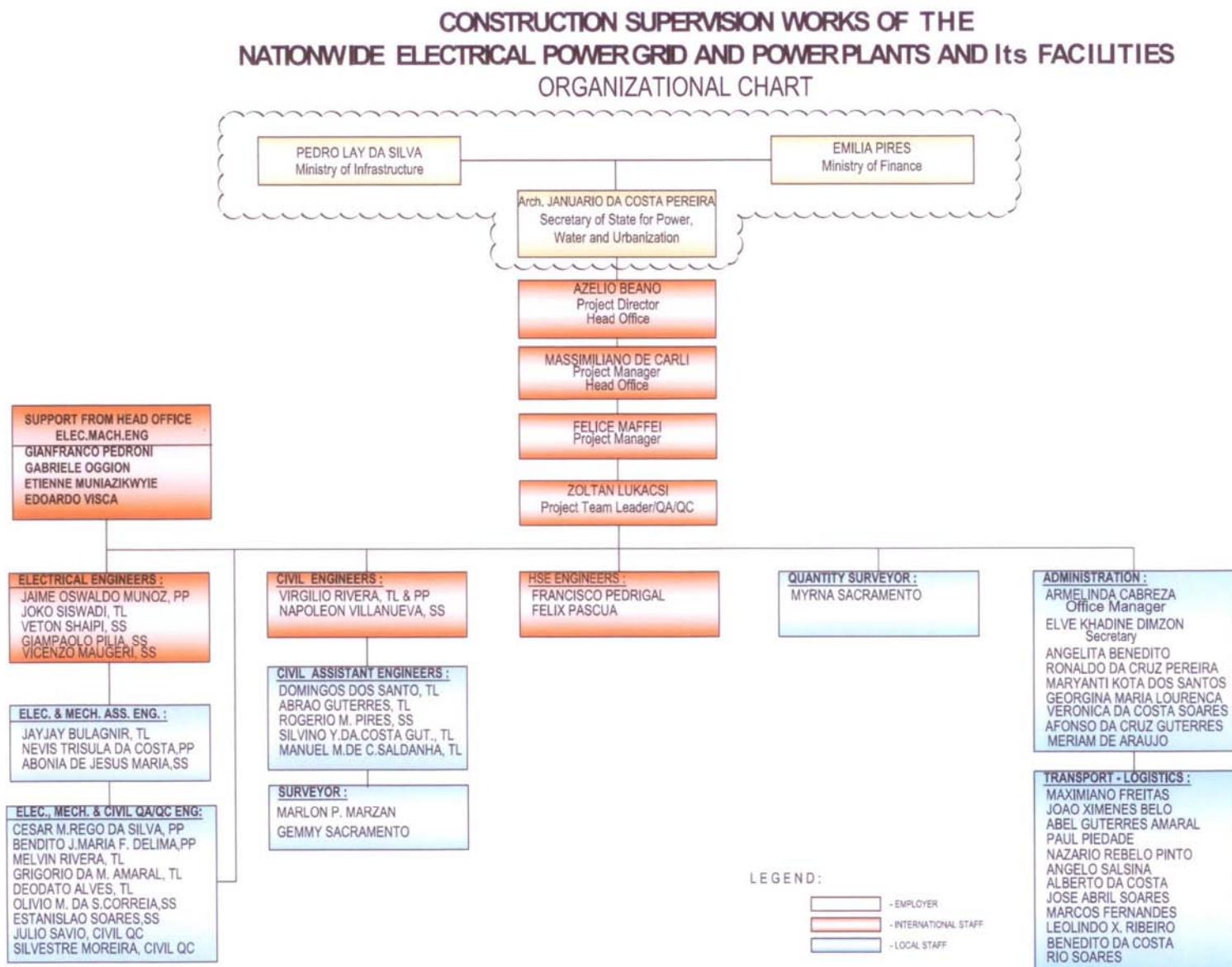
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PART I CONSULTANT REPORT

a) LOCATION MAP



b) CONSULTANT'S ORGANIZATIONAL CHART



c) EXECUTIVE SUMMARY, MINUTE OF MEETINGS and PROJECT SCHEDULE & S -CURVE

EXECUTIVE SUMMARY

(pages 8-22 in original report)

For the Month of NOVEMBER 2011

Project : CONSTRUCTION SUPERVISION SERVICES OF THE NATIONWIDE ELECTRICAL POWER GRID and POWER PLANTS and Its FACILITIES

A) CNI22 – Power Grid (150 KV Transmission Lines , Substations , 20KV distribution lines and Hera Facilities & Oil Tanks)

In order to meet the target of November 27 , 2011 the Contractor concentrated all its efforts to complete essential works remaining to be done in the substations of Liquica -Dili – Manatuto and in the transmission lines Hera-Dili , Dili-Liquica and Hera -Manatuto . Finally the Contractor succeeded to make this portion of the power grid in conditions to be energized .

First < trial test > from Hera up to Liquica was done on November 24 , 2011 and in subsequent days energizing was done progressively for longer hours in order to assure the perfect functionality by November 27 , 2011.

The Line Hera – Manatuto and the substation of Manatuto have been energized On November 30 , 2011 .

The obligation of the Contractor is fulfilled only in part since the Power Grid section from Manatuto to Baucau , from Baucau to Lospalos shall be energized (maybe) by Christmas time and the section from Baucau to Viqueque is now shifted to end of March 2012 .

As previously stated the transmission lines from Liquica up to Lospalos shall be considered substantially completed , but the Contractor is well aware that various works remain to be done on each towers such as : installation of anti-climbing devices , danger plates , name and number plates, phase plates , concrete caps above the anchor bolts and adjustment of the soil level around the tower foundation.

Concerning the 20 KV local network in Dili , feeder No.1 , feeder No. 2 and Feeder No. 6 have been energized simultaneously with the substation , while Feeders No.3 , 4 and 5 shall be made ready to be energized by Christmas time.

In the districts of Liquica and Manatuto the local 20KV networks are feed through the new substations respectively as from 27 November and 30 November , 2011 .

The total progress achieved at the end of November 2011 by CNI22 is 79.50 % against the planned 83,96 % (this percentage is calculated on the total value of the contract as per the Amendment No. 3).

Individual segment of the project have the following progress :

1) Transmission lines	80.17%	(+ 5.39% from previous month)
2) Substations	80.78%	(+ 15.35% from previous month)
3) Hera oil tanks	100.00%	(+ 2.49% from previous month)
4) 20 KV Lines	46.35%	(+ 3.34% from previous month)

Events of this month, to be highlighted:

- The visit to Dili substation on November 10th of H.E. the President Jose' Ramos Horta.
- The visit to Dili substation on November 26th of H.E. the Minister of Infrastructures Pedro Lay.

The progress of the works in the various sectors done by CNI22 during the month of November 2011 can be summarized as follow :

Dili Substation:

Substantially considered completed and **energized** for trial test on 24 November 2011.

Minor defects remain to be rectified , civil works as well as electrical works in accordance to the punch lists submitted , these defects do not hamper the functionality of the substation.

Manatuto Substation

Substantially considered completed and **energized** for trial test on 30 November 2011.

Minor defects remain to be rectified , civil works as well as electrical works in accordance to the punch lists submitted ,these defects do not hamper the functionality of the substation .

Liquica Substation

Substantially considered completed and **energized** for trial test on 24 November 2011.

Minor defects remain to be rectified , civil works as well as electrical works in accordance to the punch lists submitted , these defects do not hamper the functionality of the substation.

Baucau Substation

The Contractor scheduled to energize this substation on December 23, 2011.

The situation of the major works is the following :

- Main Control building civil work is completed up to 95 %
- 20KV building civil work is completed up to 95 %
- 150KV Switchyard , installation of the grounding system is 95% done .
- Construction of main cable trench is completed up to 96 %.
- Sewage system is completed up to 95 %.
- Pump house and fire fighting pool is completed up to 90% .
- Water drainage is completed up to 80 % .
- Construction of internal roads is done up to 35 %.
- Erection of the steel structures 95 % .
- Water supply system 80 %
- All outdoor electrical equipments installation done up to 80%
- All indoor , in the main control building and 20 KV building , electrical equipments Installation done up to 70%
- Assembly of the main transformer done up to 90 %.
- Fire alarm system done up to 80 %
- General grounding system of the substation done up to 90 %.

Lospalos Substation

The Contractor scheduled to energize this substation on December 24 , 2011.

The situation of the major works is the following :

- Main control building civil work is completed up to 95 %
- 20 KV building civil work is completed up to 95 %.
- Installation of all steel structures completed up to 95 %.
- Guard house completed up to 90 %.
- Drainage ditch around the fence wall completed up to 85 %.
- Construction of the pump house completed up to 90 %.
- Grounding installation completed up to 95 %
- Installation of all outdoor electrical equipment completed up to 85 %.

- Installation of all electrical equipment inside main control building and 20 KV building is done up to 80%
- Installation of the capacitor bank completed up to 95 %.
- Assembly of the transformer Completed up to 95 %.

Viqueque Substation

The Contractor scheduled to complete this substation by March 2012.

Major works remaining to be done .

- Main Control building, internal finishing works including the cable trench 30 %.
- 20 KV building , internal finishing works including cable trench 30 % .
- Fence wall construction 50% .
- Guard house pump house and fire fighting pool 20 %.
- Main cable trench 10 %
- Drainage System 20 % .
- Installation of all steel structures 90%.
- Installation of all outdoor electrical equipment.
- Installation of all indoor electrical equipment.
- Complete assembly of the transformer .

Maliana Substation

The Contractor scheduled to complete this substation by March 2012.

Works progress as follow:

- Construction of the bricks fencing wall is done , plastering 50% done.
- Main Control Building , bricks walls 20% done .
- 20 KV Building , indoor cable trench is done , bricks walls to be started
- Guard house , masonry walls are done.
- Pump house , masonry walls are done.
- Sewage treatment system 50 % done.
- Construction of the supports foundations on 150 KV area is done .
- Foundations of the capacitor bank are done.
- Main cable trench 50 % is done .

Suai Substation

- No activity . The situation with Land Owners is unchanged , they are waiting for the compensation for the trees to be cut . This situation is now very critical for the Contractor that cannot start its activity . **The Contractor for this delay may ask for prices revision of the civil work construction and installation .**

Cassa Substation

The Contractor scheduled to complete this substation by April 2012.

The civil work is in progress and the situation is the following :

- Foundation of the main control building is done .
- Excavation of the 20 KV building is done , lean concrete placed 50%.
- Excavation of the fencing wall is done .
- Construction of the retaining wall is 50 % done .
- Excavation of the transformer foundation is done and lean concrete placed.

Hera Power Plant (Part of CNI22 Competence)

The construction of the Oil Tanks by CNI22 is substantially completed , the following remaining activities have been also completed :

- Calibration of the volume of each tank .
- Construction of the access stair cases outside the fire protection wall .

One of the 1000 M3 tank has been put into operation as from 8 November 2011 by filling with LFO transported from Tibar by truck tankers.

150 KV Transmission Lines

➤ Hera – Dili : Total number of Double Circuit Towers 30 units (9.891 Km)

This section of line is **substantially completed** and has been **energized on 24 November 2011 for trial test.**

Works remaining to be done:

- Installation of anti-climbing devices ,danger plates, phase plates , number plates , name plates.
- Construction of the concrete caps on the anchor bolts in each tower's leg.

➤ Hera – Manatuto : Total number of Double Circuit Towers 91 units (40.902 Km).

This section of line is **substantially completed** and has been **energized On 30 November 2011 for trial test.**

Works remaining to be done:

- Installation of anti-climbing devices ,danger plates, phase plates , number plates , name plates.
- Construction of concrete caps on the anchor bolts in each tower's leg.

➤ Manatuto – Baucau : Total number of Single Circuit Tower 132 units (52.329 Km).

This section of line is **substantially completed** . Works remaining to be done :

- Connection to Baucau substation gantry .
- Installation of anti-climbing devices , danger plates , phase plates , number plates , name plates .
- Construction of concrete caps on the anchor bolts in each tower's leg.
- Cutting of trees up to a distance of 4.5 m from conductors.
- Test and commissioning.

➤ Baucau – Lospalos : Total number of single circuit tower 143 units (63.499 Km).

This section of line is **substantially completed**. Works remaining to be done:

- Connection to Baucau and Lospalos substations Gantries.
- Installation of anti-climbing devices , danger plates , phase plates ,number plates , name plates.
- Construction of concrete caps on the anchor bolts in each tower's leg.
- Cutting of trees up to a distance of 4.5 m from conductors.
- Test and commissioning.

➤ Baucau – Viqueque :Total number of single circuit tower 108 units (43.125Km)

Total number of Tower Foundations Excavated	108
Total number of Tower Foundations Concreted	108
Total number of Towers Erected	97
Total number of Tower-stringing of conductors	87

- **Dili – Liquica : Total number of single circuit tower** **87 units (38.818 Km)**
This section of line is **substantially completed** and has been **energized for trial test on 24 November 2011**.
Works remaining to be done:
- Installation of anti-climbing devices, danger plates , phases plates ,number plates and name plates.
- Construction of concrete caps on the anchor bolts in each tower's leg.
- **Liquica – Maliana : Total number of single circuit tower** **109 units (44.921 Km)**
Total number of Tower Foundations Excavated 101
Total number of Tower Foundations Concreted 88
Total number of Towers Erected 29
Total number of Towers-Stringing of Conductors --
- **Maliana – Suai : Total number of single circuit tower** **134 units (57.621 Km)**
Total number of Tower Foundations Excavated 10
Total number of Tower Foundations Concreted 6
Total number of Towers Erected --
Total number of Towers-Stringing of Conductors --
- **Suai – Cassa : Total number of single circuit tower** **98 units (38.555 Km)**
No activity.
- **Cassa – Betano : Total number of single circuit tower provisional)** **54 units (24.104 Km)**
Total number of Tower Foundation Excavated 35
Total number of Tower Foundation Concreted 35
Total number of Tower Erected --
Total number of Towers-Stringing of Conductors --
- **Betano – Viqueque : Total number of single circuit tower provisional)** **196 units (83.391 Km)**
Total number of Tower Foundations Excavated 148
Total number of Tower Foundations Concreted 136
Total number of Towers Erected 39
Total number of Towers-Stringing of Conductors
- **Viqueque – Lospalos : Total number of single circuit tower** **233 units (103.439 Km)**
Total number of Tower Foundations Excavated 208
Total number of Tower Foundations Concreted 189
Total number of Towers Erected 114
Total number of Towers-Stringing of Conductors --

The performance of the Contractor CNI22 in the overall , despite its attempt to recover some of the delay, remains poor in particular concerning the quality of the finishing works .

20 KV Distribution Lines

➤ **Dili – Aileu – Gleno (KM 60.10)**

This line start from Dili substation (Becora) until Seloï with double circuit , and from Seloï one circuit goes to Aileu and one circuit goes to Gleno.

The Contractor stated that this line will be completed before Christmas time.

Becora – Seloï 634 poles installed (total required 634)
Stringing of conductors done in 480 poles.

Seloï – Gleno 440 poles installed (total required 440)

Stringing of conductors not started.

Seloi- Aileu 128 poles installed (total required 128)
Stringing of conductors done in 100 poles.

- **Betano – Same** (KM 26.20)
No activity along this section.
- **Cassa – Ainaro** (Km 23.60)
No activity along this section.
- **Comoro – Dili substation (Becora)** (Km 9.45)
The contract for this work has been signed on 12 August 2011 with the Indonesian contractor bps PT BANGUN PRIMA SEMESTA .
The Contractor started the installation of the poles from Dili Substation in the direction of feeder No. 2 and No. 4 , subsequently feeders No.1 and 6 will be connected and after that feeders No. 3 and 5.
On 24 November 2011 feeders 2 and 6 have been energized , while feeder 1 has been energized throughout Liquica substation.

B) Puri Akraya Engineering Limited – Power Plants in Hera and Betano.
Contract No. RDTL 10004115 .

The most important event to be recorded for the month of November is the **achievement of the target < Inaugural Ceremony of Hera Power Plant on 27th November 2011>**. This historical ceremony was attended by all Authorities, foreign dignitaries and the Guest of Honor was H.E. the President of RDTL Dr. Jose Ramos Horta who at midnight pressed the button to connect Hera power Plant with Dili distribution network , for the first time about 50% of Dili was illuminated with electricity produced by Hera Power Plant .

Others events of the month are :

- Continuous presence of H.E. Prime Minister Kay Rala Xanana Gusmao in Hera during the nights of 6-7-8 November to witness the hauling of the engines into the power house.
- The visit to Hera Power plant of H.E. the President of RDTL Dr. Jose Ramos Horta on November 10TH
- Farewell ceremony held in EDTL place on November 16th for 20 Timorese mechanical engineers going to Finland for short period of training in Wartsila head quarter .

HERA Power Plant

Chronicle of the events:

- 07-11-2011 After several attempt the **first** engine was successfully transported into the power plant , running test was performed on 18-11-2011
- 08-11-2011 the **second** engine was transported into the power plant , running test was performed on 19-11-2011.
- 09-11-2011 the **third** engine was transported into the power plant , running test was performed on 20-11-2011 . this running test was witnessed by two special guests H.E. the Prime Minister Kay Rala Xanana Gusmao and H.E the Minister of Finance Emilia Pires.
- 12-11-2011 the **fourth** engine was transported into the power plant , running test was performed on 22-11-2011.
- 14-11-2011 the **fifth** engine was transported into the power plant, running test expected to be performed on 09 -12-2011.
- 15-11-2011 the **sixth** engine was transported into the power plant, running test expected to be performed on 16-12-2011.
- The 150 KV switchyard with the first step-up 110 MVA transformer was energized on 24 November 2011 simultaneously with the power grid Hera-Dili-Liquica . The second transformer is expected to be energized by mid of December 2011.

The activity at site during the month of November was planned in a very precise and professional manner , thus leading to the successful target of November 27 , 2011 .

Progress on Foundation 81.32 %

Progress on Building Works 97.07 %

Progress on Mechanical installation 96.52 %

Progress on Electrical installation 96.84 %

Overall progress of the Power Plant 83.64 %

Progress on Switchyard civil work 93.86 %

Progress on Switchyard electrical work 84.43 %

Overall progress on the Switchyard 90.18 %

Work completed during the month of November :

Main Plant

- Transportation of the six engines inside the plant.
- Transportation of three generators inside the plant.
- Mechanical installation of six engines.
- Mechanical and electrical installation of three Generators.
- Piping , air system ,instrumentation ,fuel system , exhaust gas system , cooling system and ventilation system.
- Electrical cables , panels and instrumentation.
- Electrical pre-commissioning and testing.
- Synchronization of generators set to the power grid.

Switchyard

- Erection of steel structures .
- Transformer installation.
- Primary equipment installation.
- Indoor equipment.
- Cable supports and cabling

Work ongoing :

Main Plant

- Rain water ditches , roads works ,street lighting.
- Gravel paving.
- Workshop finishing works and electrification
- Exhaust gas ducts of engines 5-6-7.
- HVAC system in electrical building .
- Flexible connection of engines 5-6.
- Platform of engines 5-6 .

Switchyard

- Fence and gate installation.
- Final backfilling and gravel paving.
- Control building some painting.
- Transformers fire walls finishing works.
- Cable supports and tray system.
- Lighting protection system and grounding.
- Cable pulling and termination works.
- Testing and commissioning.

Materials arrived at site during the month:

- Some missing and replacement parts which were sent by air cargo , but not affecting the commissioning and running of the power plant.

Documents submitted to the Consultant for review :

- Electrical details drawings of the switchyard .
- Start-up procedure for the power plant and power grid.

Manpower deployed at site during the month of September.

- Management / Staff 83 persons (expats) .
- Management / Staff 34 persons (local)
- Workers skilled 249 persons (expats) .
- Local workers 105 persons .

BETANO Power Plant

- Preliminary drawings of the plant are under preparation.
- Drawings of embankment level , drainage canals and boundary wall are not submitted yet as it was promised by the Contractor.

The performance of the Contractors PAE / Wartsila / Vika / ABB during the month of November in the overall was very good.

C) CSI Company,Lda of Timor Leste (China Shandong International) - 24 MW Extension of Comoro Power Plant , Contract No. RDTL 100053 .

The activity at site is proceeding normally in accordance to the time schedule

The overall progress achieved during the month of November is 94.65%

The Contractor is working on site with the following man power :

- Project Management No. 14 Chinese.
- Site works No. 137 Chinese workers and No. 40 Timorese workers .

The major works done during the month of November are as follow :

- Walls plastering of Water pump house completed .
- Roofing of oil pump house completed .
- Plastering of walls in main power house completed .
- Cable trench from main transformer to feeders 3 and 4 completed.
- Installation of daily fuel tank completed .
- Installation of all Auxiliary modules done.
- Engines 1 and 2 transported and positioned inside the power house.
- Cooling tower assembled .
- Main transformer assembly completed .
- Electrical distribution panels , control panel installed inside the control room.
- Assembly and welding of fuel tank No.1 completed.

Drawings submitted, revised and approved by the Consultant:

- Rebar of emergency oil sump.
- Electrical drawings revised .
- Fire protection system
- Revise cable laying drawings.
- Revised water piping installation drawings.
- Installation details of cooling water system.
- Mechanical installation revised drawings.

The performance of the Contractor CSI and the quality of the workmanship is good.

D) Bps PT BANGUN PRIMA SEMESTA – Engineering , Procurement and Construction of the 20KV Over Head Line Connecting the new 150/20KV Dili Substation with the Existing six (6) 20KV Feeders of Comoro Power Plant

The Contractor during this month of November is trying to complete the connections between 20 KV feeders of Dili substation with the nearest existing feeders in Dili . the work appeared to be more harder than what expected due to the urban obstacles and the presence of large size trees .

By 27 November 2011 only feeders No. 2 and 6 were connected and successfully energized.

Feeders No. 3-4-5 are expected to be connected by mid of December.

This contract shall be amended in accordance to the quantity of materials effectively installed

- Contract No. RDTL 11004369	Value US \$ 1,326,900.75
- Expected revised scope of work	<u>Value US \$ 933,000.00</u>
- Expected new Total Amount	US \$ 2,259,900.75

(pages 23-31 in original)

Contract RDTL - 812931

**Construction of nation-wide electrical power grid and power plants
and its facilities project of the Democratic republic of Timor Leste**

MINUTE of MEETING

Location: HERA – CNI22 Office

Date: November 09 , 2011

Participants:

EDTL

Mr. Roberto Manuel Marcal (EDTL Project Manager)

Mr. Paulino Pinto (Power Plant Engineer).

Mr. Francisco Soares Pica (Substations Engineer). Not attending.

Mr. Faustino Andre (Substation Engineer).Not attending

Mr. Gilberto Siguera (Transmission lines Engineer).Not attending

Mr. Jaime Camacho (Power Plant Engineer). Not attending

Mr. Claudino Da Cruz Pereira (substation Engineer).Not attending

Mr. Denis Consenciao (Substations Engineer).Not attending

Mr. Jose' Antonio Baba (Transmission Line Engineer).Not attending

Mr. Felismino Amnak (Substation Engineer).

Mr. Julio Dos Santos (Substation Engineer).Not attending

CONSULTANT

Mr. Felice Maffei (Project Manager).

Mr. Virgilio Rivera (Civil Engineer) .

Mr. Joko Siswadi (Electrical Engineer for transmission line).

Mr. Zoltan Lukacs (QA/QC Engineer).

Mr. Veton Shaipi (electrical Engineer)

Mr. Napoleon Villanueva (Civil Engineer for Substations). Not attending.

Mr. Francisco Pedigral (Safety Engineer). Not attending

Mr. Giampaolo Pilia (Electrical Engineer)

Mr. Vincenzo Maugeri (Electrical Engineer)

CONTRACTOR CNI22

Mr. Li Tao (Project Manager). Not attending

Mr. Wu Yong Jun (Chief Engineer).

Mr. Hung Kaifu (chief engineer for Hera power plant) .

Mr. Zhang Ming Cun (Substation Manager).

Mr. Zhang Ming Ping (Transmission Line Manager). Not attending

Mr. Ye Jingxing (electrical engineer). Mr. Li Rui (Design Institute) .

Mr. Peng Liwei (Interpreter).

Mr. Liu Jie (Electrical Engineer).Not attending

Mr. Jiang Pei Yun (Transmission Lines Dep. Manager).

Mr. Xiao Yali (Transmission line Engineer) . Not attending

Mr. Peng Li Xian (Transmission Line Engineer).Not attending

Mr. Jiang Yan (Transmission Line Engineer).

Mr. Zhu (Oil Tanks Engineer). Not attending

Mr. Wu Jun (Transmission line supervisor). Not attending

Mr. Liu Jian Puo (Safety Engineer). Not attending

Mrs. Dina (Interpreter).Not attending

Mr. Li Lei (Interpreter)

Mr. Zhao (Transmission Line Engineer).

Mr. Cai Hui (Safety Officer)

Mr. Li XianJian (Interpreter).

Mr. Yan Fuan (Electrical Engineer)

Subject of the meeting : Coordination of the works

Agenda of the present meeting :

- 1) General Notes
- 2) Comments on the last minute of meeting dated October 03 , 2011.
- 3) Progress of works.
- 4) Delivery status of materials and equipment.
- 5) Drawings and technical specifications.
- 6) Insurance policy
- 7) Payment
- 8) Environment
- 9) Questions

1) General Notes

- a) This is the first coordination meeting after the one held on October 03.2011 due to other commitment by the Consultant .
- b) The Consultant's Project Manager announced that the President of the Republic H.E. Ramos Horta will make an official visit tomorrow morning November 10 at 08 a.m. to Hera power plant and to Dili Substation.
The Contractor is invited to arrange for the President a good reception in Dili substation.

2) Comments on the last minute of meeting dated October 03 ,2011

EDTL remarks

None

CNI22 remarks

None

No comments from the Presents

Everybody present in the meeting are reminded that the <no comments> it means that the content of the minute of the previous meeting is approved .

3) Progress of the works

Transmission lines .

The overall situation is summarized in the following table:

Section	excavation	concrete	Tower erection	Stringing conductors	Total number	KM
Hera-Dili	30	30	30	30	30	9.89
Hera-Manatuto.	91	91	91	91	91	40.90
Manatuto-Baucau	132	132	132	132	132	52.33
Baucau-Iospalos	143	143	143	119	143	63.50
Dili-Liquica	87	87	87	87	87	38.82
North Coast Total	483	483	483	459	483	205.44
Baucau-Viqueque	107	107	97	87	108	43.13
Liquica-Maliana	89	78	10		109	44.92
Maliana-Suai	8	2			134	57.62
East-West Total	204	187	107	87	351	145.67
Suai Cassa					98	38.56
Cassa-Betano	21	18			54 provisional	24.10
Betano-Viqueque	121	111	22		196 provisional	83.39

Viqueque-Los palos	187	157	42		233	103.44
SouthCoast Total	329	286	64		581 provisional	249.49
TOTAL	1016	956	654	546	1415 provisional	600.60 provis.
This Period of 37days	154	134	63	149		

From October 03, 2011 to November 09, 2011 (37 days) , the progress achieved is as follow: 4.2 excavations per day , 3.6 concrete foundations per day ,1.7 towers erected per day, 4.2 tower of stringing of conductors per day.

The present progress , while shows a satisfactory number of foundations done remains very low for the towers erection .

The Contractor should focus to increase the number of erectors teams otherwise stringing of conductors team may catch up all the erected towers and then remaining idle.

HERA – DILI (9.891 KM - No. 30 towers)

Stringing of conductors from tower 30 up to the gantry of Dili substation has been completed.

Connection of tower No. 1 to the Gantry of Hera Switchyard can be done as from Friday November 11 , ABB is now completing the erection of the gantries .

Other works remaining to be done :Cutting of dangerous trees , modification of the phases between tower No.30 and Gantry , concrete caps on the Anchor bolts , fixing of the lock nuts on all the bolts (required to compensate for the flat washers) , installation of Anti-climbing devices , Danger plates , Phase plates , Number and Name plates and minor works of soil adjustment around foundations , testing and commissioning .

DILI – LIQUICA (38.818 KM – 87 towers)

All the towers are erected.

Stringing of conductors from Gantry of Dili substation up to the gantry of Liquica substation has been completed .

Other works remaining to be done are: Cutting of dangerous trees , fixing of Jumpers in some angle towers , concrete caps on the Anchor bolts , installation of Anti-climbing devices, Danger plates , Phase plates , Number and Name plates, adjustment of soil around foundations , cutting of trees , testing and commissioning .

HERA - MANATUTO (40.902 Km - 91 towers)

The towers erection has been completed.

The stringing of the conductors has been completed .

Connection of tower No. 1 to the gantry of Hera switchyard can be done as from Friday November 11 , ABB is now completing the erection of the gantries .

Other works remaining to be done are: Cutting of dangerous trees , concrete caps on the Anchor bolts , installation of Anti-climbing devices, Danger plates , Phase plates , Number and Name plates , adjustment of soil around foundations , cutting of trees , testing and commissioning.

MANATUTO – BAUCAU (52.329 Km -132 towers)

Towers erection has been completed.

The stringing of the conductors has been completed including the connection to substation gantry of Manatuto , remains the connection of Baucau substation .

Other works remaining also to be done are: Cutting of dangerous trees ,concrete caps on the Anchor bolts , installation of Anti-climbing devices, Danger plates , Phase plates , Number and Name plates , adjustment of soil around foundations , cutting of trees , testing and commissioning.

BAUCAU – LOS PALOS (63.499 KM – 143 towers)

The excavation work and concrete of all towers foundations have been completed .

Towers erection has been completed .

Stringing of the conductors is done in 119 towers , and 24 towers. remain to be done.

The completion date stated to be the end of October 2011 has been now shifted to November 16 .

All others finishing works remain to be done.

BAUCAU – VIQUEQUE (43.125 KM – 108 towers)

The excavation works and concrete works have been completed .

Towers erection has been done in 97 towers (89.8% of the total) .

The stringing of the conductors has been done in 87 towers (80.5 % of the total) .

LIQUICA – MALIANA (44.921 KM – 109 towers)

Work done by the Indonesian Company THEATE .

Excavation completed is done in 89 tower foundations (81.6 % of the total). Concrete completed is done in 78 tower foundation (71.5 % of the total) .

Tower erection has been done in 10 towers (9.1 % of the total) .

The Consultant remarked that the progress in this section of line is too slow.

MALIANA – SUAI (57.62 KM – 134 towers)

Work done by Indonesian Company THEATE.

Excavation works is done in 8 tower foundations (5.9 % of the total)

Concrete works is done in 2 tower foundations (1.5 % of the total)

SUAI- CASSA (38.555 KM – 98 towers)

No activity is reported along this section of line.

CASSA- BETANO (24.104 KM – 54 towers , provisional quantity)

Excavation works is done in 21 tower foundations (about 38 % of the total).

Concrete works is done in 18 tower foundations (about 33 % of the total).

BETANO - VIQUEQUE (83.391 KM – 196 towers, provisional quantity)

The excavation work is done in 121 tower foundations (about 62 % of the total)

The concrete has been done in 111 tower foundations (about 56 % of the total).

The tower erection has been done in 22 towers (about 11 % of the total).

The temporary jetty that the Contractor was constructing in Betano bay to be used as landing place for the barges during transportation of steel structures and transmission line materials has been washed away by the waves and abandoned . Materials is now transported by land.

VIQUEQUE – LOSPALOS (103 439 KM - 233 towers)

The excavation works is done in 187 tower foundations (80.2 % of the total).

The concrete has been done in 157 tower foundations (67.4 % of the total).

Towers erection completed 42 towers (18,0 % of the total).

Substations

DILI SUBSTATION

Works remaining to be done before energizing:

- Submittal of the commissioning protocol.
- Civil works punch list with all defects to be repaired .
- Electrical works punch list with all defects to be repaired .
- Connection and cabling of the Dispatching Centre equipment .
- Electrical installation inside the Pump house.
- Installation of all air conditioning system.

MANATUTO SUBSTATION

Works remaining to be done before energizing :

- Submittal of the commissioning protocol.

- Civil works punch list of all defects to be repaired .
- Electrical works punch list with all defects to be repaired.
- Installation of communication equipment inside the Main Control Building to be completed .
- Installation of all air conditioning system.

BAUCAU SUBSTATION

The works remaining to be done still are quite extensive :

- The main control building painting and ceiling to be done 50 % .
- In the 20 KV Building complete painting work inside and outside to be done .
- In the 150KV area installation of grounding network is in progress .
- Pump house , finishing works 50 % completed.
- Main cable trench 90% done,
- Sewage treatment system 90 % done.
- Guard house , finishing works in progress.
- Fencing masonry wall is done 440 M
- Water drainage completed 350 M.
- Erection of all steel structures 50% completed.
- Grounding network 60 % completed .
- Outdoor water supply 30 % completed .

LOSPALOS UBSTATION

The Works remaining to be done still are quite extensive.

- Drain ditch outside the boundary wall 400 Meters done .
- Main control building , internal finishing works including installation of window and door is 50 % done .
- 20KV building , internal finishing works 50% completed .
- The installation of all steel structures is done 90 %.
- Pump house completed 85 % .
- The guard house completed 90 %.
- Grounding network of the total substation 90% is done .
- Installation of electrical equipment in 150 KV area is 50 % done
- Installation of transformer 50 % is done .
- Installation of capacitor bank 80 % is done.
- 20 KV switchgear inside the building installed.
- Cable supports inside the cable trench 90 % installed .
- Water supply pipes 80 % installed .

LIQUICA SUBSTATION

Works remaining to be done before energizing

- Submittal of commissioning protocol .
- Civil works punch list of all defects to be repaired .
- Electrical works punch list of all defects to be repaired.
- Installation of all communication equipment inside Main Control building to be completed.
- Installation of all air conditioning System.

MALIANA SUBSTATION

Civil works is progressing slowly.

- Main Control Building , concrete structures are completed , brick walls to be started..
- 20 KV building concrete structures are completed brick walls to be started .
- Guard house concrete structure is done .
- Support foundations on 150KV area are all done .
- Foundations of the capacitor bank are completed .
- Main cable trench excavated for 150M and 100M concreted on the bottom slab

SUAI SUBSTATION

- No activity is reported . Land owners are still waiting for compensation of the trees to be cut..
The Contractor cannot mobilize .

CASSA SUBSTATION

- Excavation of the Main Control building is almost completed .
- Excavation of the fencing wall is completed and placing of lean concrete started .
- Construction of the retaining wall has started.

VIQUEQUE SUBSTATION

Civil works in progress

- Plastering of the fence brick wall is completed .
- In the Main Control building the plastering of walls is done and construction of indoor cable trench is done , electrical conduits are also installed.
- In the 20 KV building the plastering of the walls is done and the construction of indoor cable trench is done , electrical conduit are also installed.
- Fire fighting pool , construction is completed.
- Pump house , brick walls and plastering completed
- Guard house , brick walls and plastering completed.
- Foundations of 150 KV structures and of all supporting structures are completed. Drainage pipes 70 % installed .
- Main cable trench 80 % completed .
- Foundations of capacitor bank are completed .

Hera Power Plant

The construction of the Oil Tanks is substantially completed .

- The calibration of the volume of each tank remains to be done.
- The masonry work of the access stair case outside the fire walls is in progress .

20 KV distribution lines

The work is on going in the section Dili Substation-Alieu-Gleno , but at the present stage the completion schedule foreseen by end of September 2011 is very much in delay.

- Dili – Seloï , 634 poles have been installed (total quantity 634), stringing done in 33 poles.
- Seloï – Gleno , 351 poles have been installed (total quantity 440)
- Seloï – Aileu , 128 poles have been installed (total quantity 128) , stringing done in 16 poles.

The Contractor is strongly advise to send a team of 20 Chinese workers to help the subcontractor in pulling and fixing the cables .

This line must be completed by 27 November 2011.

4) Delivery of Material and Equipment

The situation of material delivery is monitored from what it is stated in the weekly reports . All the major electrical equipment are stored in Dili and in Hera waiting to be transported on the relevant substations .

Major items which are not shipped yet from China are :

- OPGW , Hardware and Fittings for Maliana-Suai-Cassa-Betano-Viqueque-Lospalos transmission lines .
- Electrical Materials for Maliana , Suai , Cassa and Viqueque substations.
- The most critical items which are now urgently required are the safety apparatus to be installed in the substations of Dili , Manatuto and Liquica before energizing .

5) Drawings and technical specifications

Drawings submitted recently are related to :

- Foundations works of Cassa – Betano – Viqueque -Lospalos Transmission line
- Communication system for Maliana – Suai – Cassa - Viqueque substations .
- Civil work drawings of Sewage treatment Plant for Cassa and Suai substations.

All these drawings have been revised and approved or approved with comments by the Consultant.

6) Insurance

Situation unchanged . All Risk Policy covering any damages which may occur on the site to materials , equipments and personnel has never been submitted The Contractor eventually will bear all the consequences and costs.

7) Payment

The interim payment certificates No.17 for the month of July and No. 18 for the month of August have been paid , the certificate No.19 for September has been submitted and is in process .

Environment & Safety

The situation remains constantly the same as previous months with little improvement .

8) Questions

The Consultant requested the CNI22 to submit the list with names and qualification of the Operators intended to be deployed on the substations of Dili , Liquica and Manatuto , Chinese operators as well as Timorenses operators which returned from the three months training period in China.

CNI22 stated that on November 13 operators from NRE will arrive in Dili from China to take over the situation .

The present meeting started at 15:00 and ended at 18:30 .

Next meeting is scheduled by November 23 , 2011 in Hera at 14:30.

(pages 32-40 in original)

Contract RDTL - 812931

**Construction of nation-wide electrical power grid and power plants
and its facilities project of the Democratic republic of Timor Leste**

MINUTE of MEETING

Location: HERA – CNI22 Office

Date: November 23 , 2011

Participants:

EDTL

Mr. Roberto Manuel Marcal (EDTL Project Manager) Not attending
Mr. Francisco Soares Pica (Substations Engineer). Not attending.
Mr. Faustino Andre (Substation Engineer).Not attending
Mr. Claudino Da Cruz Pereira (substation Engineer).Not attending
Mr. Denis Consencio (Substations Engineer).Not attending
Mr. Jose' Antonio Bobo (Transmission Line Engineer).
Mr. Araujo Lemos Sarmento (transmission Line Engineer.
Mr. Felismino Amnak (Substation Engineer).Not attending
Mr. Julio Dos Santos (Substation Engineer).Not attending

CONSULTANT

Mr. Felice Maffei (Project Manager).
Mr. Virgilio Rivera (Civil Engineer) .
Mr. Joko Siswadi (Electrical Engineer for transmission line).
Mr. Zoltan Lukacsi (QA/QC Engineer).
Mr. Veton Shaipi (electrical Engineer)
Mr. Napoleon Villanueva (Civil Engineer for Substations). Not attending. Mr. Francisco Pedigral (Safety Engineer).
Mr. Giampaolo Pilia (Electrical Engineer)
Mr. Vincenzo Maugeri (Electrical Engineer).Not attending

CONTRACTOR CNI22

Mr. Li Tao (Project Manager). Not attending
Mr. Wu Yong Jun (Chief Engineer).
Mr. Hung Kaifu (chief engineer for Hera power plant) .Not attending
Mr. Zhang Ming Cun (Substation Manager).
Mr. Zhang Ming Ping (Transmission Line Manager). Not attending
Mr. Ye Jingxing (electrical engineer).
Mr. Li Rui (Design Institute) . Not attending
Mr. Peng Liwei (Interpreter).Not attending
Mr. Liu Jie (Electrical Engineer).Not attending
Mr. Jiang Pei Yun (Transmission Lines Dep. Manager).
Mr. Xiao Yali (Transmission line Engineer) . Not attending
Mr. Jiang Yan (Transmission Line Engineer).
Mr. Zhu (Oil Tanks Engineer). Not attending
Mr. Wu Jun (Transmission line supervisor). Not attending
Mr. Liu Jian Puo (Safety Engineer). Not attending
Mrs. Dina (Interpreter).Not attending
Mr. Li Lei (Interpreter)) Not attending
Mr. Zhao (Transmission Line Engineer).
Mr. Cai Hui (Safety Officer)
Mr. Li XianJian (Interpreter).
Mr. Yan Fuan (Electrical Engineer). Not attending
Mr. Xu Jun Hua (chief engineer)
Ms. Jiang Fei (interpreter).
Mr. Hy Xyewn (Transmission Line Manager).
Mr. Cheng Owan Wei (Electrical Engineer)

Subject of the meeting : Coordination of the works

Agenda of the present meeting :

- 1) General Notes
- 2) Comments on the last minute of meeting dated November 09 , 2011.
- 3) Progress of works.
- 4) Delivery status of materials and equipment.
- 5) Drawings and technical specifications.
- 6) Insurance policy
- 7) Payment
- 8) Environment
- 9) Questions

1) General Notes

- a) The Consultant is informing all the present that the line Hera — Dili and Dili substation will be energized tomorrow morning November 24 ,2011, and is also asking if the line is ready . The Contractor states that the line is ready , but in reality the line cannot be considered completed since many items are not installed yet . Anti-climbing Devices and Danger Plates are the most urgently required items and to have the line energized without them is a very high risk that the Contractor should be aware of .
- b) The Consultant remarked that the local news papers of today highlighted the new that the north coast from Liquica to Lospalos shall be fully energized as from November 27 and invited the Contractor to be ready to face negative consequences due to the fact that Baucau and Lospalos substations are not ready. The Contractor stated once more that the two substations of Baucau and Lospalos will be energized before Christmas.

2) Comments on the last minute of meeting dated November 09 ,2011

EDTL remarks

None

CNI22 remarks

None

No comments from the Presents

Everybody present in the meeting are reminded that the <no comments> it means that the content of the minute of the previous meeting is approved .

3) Progress of the works

Transmission lines .

The overall situation is summarized in the following table:

Section	excavation	concrete	Tower erection	Stringing conductors	Total number	KM
Hera-Dili	30	30	30	30	30	9.89
Hera-Manatuto.	91	91	91	91	91	40.90
Manatuto-Baucau	132	132	132	132	132	52.33
Baucau-lospalos	143	143	143	143	143	63.50
Dili-Liquica	87	87	87	87	87	38.82
North Coast Total	483	483	483	483	483	205.44
Baucau-Viqueque	107	107	97	87	108	43.13
Liquica-Maliana	99	82	21		109	44.92
Maliana-Suai	10	5			134	57.62
East-West Total	216	194	118	87	351	145.67

Suai Cassa					98	38.56
Cassa-Betano	28	15			54 provisional	24.10
Betano-Viqueque	131	117	27		196 provisional	83.39
Viqueque-Los palos	196	172	78		233	103.44
SouthCoast Total	355	314	105		581 provisional	249.49
TOTAL	1054	991	706	570	1415 provisional	600.60 provis.
This Period of 14days	38	35	52	24		

From November 09, 2011 to November 23, 2011 (14 days) , the progress achieved is as follow: 2.7 excavations per day , 2.5 concrete foundations per day ,3.71 towers erected per day, 1.7 tower of stringing of conductors per day.

The present progress , shows a satisfactory number of towers erected while the foundations work remains relatively low .

The Contractor should focus to increase the number of teams for the foundation work for the reason that the rain season is approaching otherwise all other activities of tower erection and stringing of conductors are going to be affected .

HERA – DILI (9.891 KM - No. 30 towers)

Stringing of conductors from gantry of Dili substation up to the gantry of Hera switchyard is now completed.

Connection of tower No. 1 to the Gantry of Hera Switchyard has been done .

Modification of the phases between tower No.30 and Gantry has been done.

Works remaining to be done after energizing : concrete caps on the Anchor bolts , fixing of the lock nuts on all the bolts (required to compensate for the flat washers) , installation of Anti-climbing devices , Danger plates , Phase plates , Number and Name plates and minor works of soil adjustment around foundations , testing and commissioning .

DILI – LIQUICA (38 818 KM – 87 towers)

Stringing of conductors from Gantry of Dili substation up to the gantry of Liquica substation has been completed with Jumpers installation on angle towers.

Other works remaining to be done are: concrete caps on the Anchor bolts , installation of Anti-climbing devices, Danger plates , Phase plates , Number and Name plates, adjustment of soil around foundations , testing and commissioning

HERA - MANATUTO (40.902 Km - 91 towers)

The stringing of the conductors is now completed from the gantry in Hera switchyard up to the gantry in Manatuto substation.

Connection of tower No. 1 to the gantry of Hera switchyard has been done.

Other works remaining to be done are: concrete caps on the Anchor bolts , installation of Anti-climbing devices, Danger plates , Phase plates , Number and Name plates , adjustment of soil around foundations , cutting of trees , testing and commissioning.

MANATUTO – BAUCAU (52.329 Km -132 towers)

Towers erection is completed.

The stringing of the conductors has been completed including the connection to substation gantry of Manatuto , remains the connection from the terminal tower to the gantry of Baucau substation .

Other works remaining to be done are: Cutting of dangerous trees ,concrete caps on the Anchor bolts , installation of Anti-climbing devices, Danger plates , Phase plates , Number and Name plates , adjustment of soil around foundations , testing and commissioning.

BAUCAU – LOS PALOS (63.499 KM – 143 towers)

Towers erection is completed .

Stringing of the conductors has been completed from tower No. 1 to tower No. 132 .

Works remaining to be done are : connection from terminal towers to the gantries in Baucau and Lospalos substations , cutting of dangerous trees , concrete caps on the Anchor bolts , installation of Anti-climbing devises , Danger plates, Phase plates, Number and name plates, adjustment of the soil around foundations , testing and commissioning.

BAUCAU – VIQUEQUE (43.125 KM – 108 towers)

The excavation works and concrete works have been completed in 107 towers .

Towers erection remains , as previously, done in 97 towers (89.8% of the total) .

The stringing of the conductors remain ,as previously, done in 87 towers (80.5 % of the total)

The teams working on these section of line have been sent to make final inspection and rectification on Hera –Dili – Liquica and Hera –Manatuto lines before energizing..

LIQUICA – MALIANA (44.921 KM – 109 towers)

Work done by the Indonesian Company THEATE

Excavation completed is done in 99 tower foundations (90.8 % of the total).

Concrete completed is done in 82 tower foundation (75.2 % of the total) .

Tower erection has been done in 21 towers (19.2 % of the total) .

The Consultant remarked that the progress in this section of line continues to be too slow.

MALIANA – SUAI (57.62 KM – 134 towers)

Work done by Indonesian Company THEATE.

Excavation works is done in 10 tower foundations (7.4 % of the total)

Concrete works is done in 5 tower foundations (3.7 % of the total)

SUAI- CASSA (38.555 KM – 98 towers)

Work shall be done by Indonesian Company THEATE.

No activity is reported along this section of line.

CASSA- BETANO (24.104 KM – 54 towers , provisional quantity)

Excavation works is done in 28 tower foundations (about 51.8 % of the total).

Concrete works is done in 25 tower foundations (about 46.2 % of the total).

BETANO - VIQUEQUE (83.391 KM – 196 towers, provisional quantity)

The excavation work is done in 131 tower foundations (about 66.8 % of the total)

The concrete has been done in 117 tower foundations (about 59.7 % of the total).

The tower erection has been done in 27 towers (about 13.8 % of the total).

VIQUEQUE – LOSPALOS (103.439 KM - 233 towers)

The excavation works is done in 196 tower foundations (84.1 % of the total).

The concrete has been done in 172 tower foundations (73.8 % of the total).

Towers erection completed 78 towers (33,4 % of the total).

Substations

DILI SUBSTATION

The substation is substantially completed and is ready to be energized .

Works remaining to be done :

- Repairs of civil works defects mentioned in the punch list.
- Repairs of electrical works defects mentioned in the punch list.
- Dispatching Centre to be made operational.
- Electrical installation inside the Pump house.

MANATUTO SUBSTATION

The substation is substantially completed and is ready to be energized .: Works remaining to be done :

- Repairs of civil works defects mentioned in the punch list.
- Repairs of electrical works defects mentioned in the punch list.

BAUCAU SUBSTATION

The works remaining to be done still are quite extensive (Energizing the substation before Christmas remains very difficult unless the Contractor works in three shifts):

- The main control building painting and ceiling is done 85 , installation of windows and doors completed.
- In the 20 KV Building complete painting work inside and outside is done 80% installation of windows and doors completed .
- In the 150KV area installation of supporting steel structures is 80% done .
- Pump house , doors and windows installed, water pumps installed , painting and roof insulation completed .
- Main cable trench 92% done,
- Sewage treatment system 95 % done.
- Guard house , finishing works 90 % done.
- Fencing masonry wall is done 95% .and painting 75% is done.
- Water drainage completed 350 M. and water supply completed 150 M
- Erection of all steel structures 50% completed.
- Grounding network 65 % completed .
- Outdoor water supply 150 M completed .
- Fire alarming system 50% done.
- Assembly of main transformer 90% done

LOSPALOS UBSTATION

The Works remaining to be done still are quite extensive (Energizing the substation before Christmas remains very difficult unless the Contractor works in three shifts).

- Drain ditch outside the boundary wall 400 Meters done .
- Main control building , external and internal finishing works including installation of window and doors and painting etc. is 90 % done .
- 20KV building , external and internal finishing works including painting, installation of windows and doors 80 % completed .
- The installation of all steel structures is done 90 %.
- Pump house completed 90 % .
- The guard house completed 95 %.
- Grounding network of the total substation 90% is done .
- Installation of electrical equipment in 150 KV area is 70 % done
- Installation of main transformer 95 % is done .
- Installation of capacitor bank 95 % is done.
- 20 KV switchgear inside the building installed 95%.
- Cable supports inside the cable trench 90 % installed .
- Water supply pipes 90 % installed .

LIQUICA SUBSTATION

The substation is substantially completed and is ready to be energized. Works remaining to be done

- - Repair of civil works defects mentioned in the punch list.
- - Repair of electrical works defects mentioned in the punch list.

MALIANA SUBSTATION

Civil works is progressing slowly.

- Main Control Building , concrete structures are completed , brick walls to be started..
- - 20 KV building concrete structures are completed . brick walls to be started , internal cable trench under construction.
- - Guard house bricks walls in progress .

- - Pump house , concrete structure completed .
- - Support foundations on 150KV area are all done .
- - Foundations of the capacitor bank are completed .
- - Main cable trench 60 M concreted.
- - Sewage treatment system in progress.
- Emergency oil pit completed
- Fire fighting reservoir completed.

SUAI SUBSTATION

- No activity is reported . Land owners are still waiting for compensation of the trees to be cut .
- . The Contractor cannot mobilize .

CASSA SUBSTATION

- Excavation of the Main Control building completed and lean concrete placed .
- Excavation of 20 KV building 50 % completed.
- Excavation of the fencing wall is completed and placing of lean concrete started .
- Construction of the retaining wall has started , lean concrete placed.
- Main transformer foundation , lean concrete placed.

VIQUEQUE SUBSTATION

Civil works in progress

- In the Main Control building finishing works 80 % done .
- In the 20 KV building finishing works 80 % done.
- Fire fighting pool , construction is completed.
- Pump house , Finishing works 70 % done
- Guard house , Finishing works 70 % done.
- Foundations of 150 KV structures and of all supporting structures are completed.
- Drainage pipes 90 % installed .
- Main cable trench 90 % completed .

Hera Power Plant

The construction of the Oil Tanks is substantially completed .

- The calibration of the volume of each tank using a precise quantity of water is in progress .

20 KV distribution lines

The work is on going in the section Dili Substation-Alieu-Gleno , but there is no planning of when this distribution line shall be completed .

The Contractor is advised that liquidated damages may be applied as per contract conditions.

- Dili – Seloï , 634 poles have been installed (total quantity 634), stringing done in 264 poles.
- Seloï – Gleno , 410 poles have been installed (total quantity 440), no stringing of conductors yet.
- Seloï – Aileu , 128 poles have been installed (total quantity 128) , stringing done in 80 poles.

4) Delivery of Material and Equipment

The situation of material delivery is monitored from what it is stated in the weekly reports . All the major electrical equipment are stored in Dili and in Hera waiting to be transported on the relevant substations .

Major items which are not shipped yet from China are :

- OPGW , Hardware and Fittings for Baucau –Viqueque and Betano-ViquequeLospalos transmission lines .
- Electrical Materials for Maliana , Suai , Cassa and Viqueque substations.
- The most critical items which are now urgently required are the Anti-climbing device and the Danger Plates to be installed in Hera – Dili , Hera- Manatuto and Dili-Liquica transmission lines before energizing. No mention of these materials so far is made in the weekly report.

5) Drawings and technical specifications

Drawings submitted recently are related to :

- Foundations configuration of Liquica – Maliana –Suai - Cassa –Betano-Viqueque Transmission line.
- Communication system of Maliana, Suai , Cassa substations.
- As built drawings of Hera Oil Tanks.

All these drawings have been revised and approved or approved with comments by the Consultant.

6) Insurance

Situation unchanged . All Risk Policy covering any damages which may occur on the site to materials , equipments and personnel has never been submitted . The Contractor eventually will bear all the consequences and costs.

7) Payment

The interim payment certificates No.19 for September and No. 20 for October have been submitted and are in process. All previous certificates have been paid .

The Contractor is claiming that the retention money of 2% made by the Treasury in each interim payment certificate is illegal against the contract condition , Consultant fully agreed on this and the issue has to be clarified with the Ministry of Finance .

8) Environment & Safety

The situation remains constantly the same as previous months with little improvement .

9) Questions

The Consultant requested the Contractor to pay more attention on the operation of stringing of the conductors , the quality of the workmanship is not yet up to the required standard , apparently the supervisors are not very keen to walk along the line .

The Consultant remarked the carelessness of the stringing team by showing pictures of cable drums abandoned along the river bed and washed away by the recent heavy rain.

Contractor kept silent.

The present meeting started at 15:00 and ended at 18:30 .

Next meeting is scheduled by December 06 , 2011 in Hera at 14:30.



(pages 41-49 in original)

Minutes of Meeting

Contract Title: Hera Power Plant 120 MW 7 x W18V46
Project: P / 10045

Subject: 19th coordination meeting
Place: Hera site office
Date: 11.11.2011

Time: 14:45 – 18:15

Attendance: According to attached list

Distribution: Participants, WFI project group

1 Agenda

- Previous minutes of meeting
- Issues according to Previous minutes of meeting
- Other issues

2 Previous Minutes of Meeting

- Previous MoM, no comments, considered to be approved by all participants

3 HSE

- Concerning the 3 cable drums involved in the October 19th accident ABB is providing inspection and test in order to make sure that cables can be used
- Signage to be installed around working area in engine hall to keep visitors on safe distance
- Smoking, eating and sleeping in all working areas is prohibited
- Dust control around Power House and EEB to be arranged

4 Engine #1 accident on the road on September 6th 2011

- Preliminary insurance survey was conducted on 9th of September by the Loss Adjuster. The second insurance inspection was carried out on 16th of September by the independent investigator and engine damage assessor. Subsequently on 20th of September PAE obtained a clearance to remove all ancillary equipment ie. Trailer and the prime mover, damaged trailer parts etc. from the road which has been done. Concerning the engine the independent investigator team of 5 people consisting of two forensic experts, two engine damage assessors and one reinsurer's representative and two Wartsila representatives and PAE as insured party were on site between October 17th and 19th . Due to the engine position it was possible only to open one window cover of one turbo charger which was found totally damaged.
- The engine will be removed according to instruction issued by the insurance company. Meanwhile security guards are posted at accident site.
- Additional protection with tarpaulin to be installed on the fallen engine as requested by the insurance company
- The area in front of the engine has been prepared for the 600t crane which would be used to lift up the fallen engine
- The method statement of the removal of the engine from the accident site was submitted to the loss assessors and this has as of date submitted to the insurers.

- The total cost of the removal of the engine will be borne by the insurance company
- The insurance group has started now negotiating the salvage value of the fallen engine with all parties including the OEM of the equipment
- The removal of the engine from the accident place has to be done in the shortest time possible to avoid continuous negative comments from the media and from Members of Parliament. Concerning replacement of engine no 7 in Hera the contractor will place a new order to the manufacturer as soon as all the formalities with insurance have been totally completed and approved, the owners requirement is that the engine no 7 should be on place as per the contractual conditions.
- The new transporter SDV-Yew Choon appointed by Wärtsilä has started operations of hauling the engines from Behau to Hera, as of today three units are successfully transported into the engine hall

5 Factory Acceptance Test (Fat)

- FAT's for the Betano switchyard main transformer (2 units, 70/100 MVA step-up) is scheduled from 12th to 15th of November 2011 in Thailand. The test will be witnessed by the Consultant electrical engineer from Milano head quarters. Representative of EDTL may not attend due to time for visa requirements

6 Delivery, Procurement & Manufacturing Status

Wika Shipment #	Contents	ETA Dili Port	ATA Dili Port	Received and customs cleared			
				Dili to Hera	Dili to Behau	Behau to Hera	Customs Clearance
16	Doors, windows, wire mesh for access road		4.11.2011	10.11.2011			10.11.2011
17	Ceiling material for ABB switchyard ctrl room (no effect on on ABB startup)	17.11.2011					
WFI SHIPMENT #	Contents	ETA Dili Port	ATA Dili Port	Received and customs cleared			
				Dili to Hera	Dili to Behau	Behau to Hera	Customs Clearance
7A	Engines 1-4		19.8.2011		26/8/2011	7/8.112011 8/9.11.2011 10/11.11.2011	26/8/2011
9A	Engines 5-7		17.8.2011		18/8/2011		26/8/2011
98	Generators 5-7		17.8.2011		18/8/2011		26/8/2011
12	Insulation and cladding material		5.11.2011				11.11.2011
13	Suction heaters		5.11.2011				11.11.2011
17 air	Jouka valves	15.11.2011					
18 air	Junction box and optic cable	15.11.2011					
19 air	Spirax trapping- regulating valve sets, Flanges for Tank Level Switches	18.11.2011					
Xx air	LO Tank level switch	18.11.2011					
Xx air	Vertical Floor drains	18.11.2011					
Xx air	Lightning protection material	18.11.2011					
Xx air	Regulating valves Part II (Spirax)	22.11.2011					
Xx air	20 x Level Switches	22.11.2011					
Xx air	10 x Level Switches	6.12.2011					
Xx air	COM600 Panel	TBA					

WID SHIPMENT #	Contents	ETA Dili Port	ATA Dili Port	Received and customs cleared			
				Dili to Hera	Dili to Behau	Behau to Hera	Customs Clearance
1	Paint	18.11.2011					
2	Cable ladder	18.11.2011					
1 air	Insulation rubber mat	15.11.2011					
2 air	Flex hoses, paint cable ladder	12.11.2011					

ABB SHIPMENT #	CONTENTS	ETA-DILI	ATA-DILI	RECEIVED & CUSTOMS CLEARED			
				Dili to Hera	Dili to Behau	Behau to Hera	Customs Clearance
A9	Steel structure - Gantries & Beams (3rd shipment)	ETA Dili - 09.10.2011	5.10.2011	31.10.2011			31.10.2011
A13	ACSR Conductor & Shield Wires	ETA at Dili Port 29oct 2011	29.10.2011	4.11.2011			3.11.2011
A13	Fire Ext. CO2	ETA at Dili Port on 03-10-2011 Vessel: MV Konsistence 1116N	5.10.2011	20.10.2011			21.10.2011
A19	Control Relay Panel (CRP)		6.11.2011				11.11.2011
A20	SAS Equipment	TM					
A21	Tariff Metering	ETA at Dili Port on 03-10-2011 Vessel: MV Konsistence 1116N	5.10.2011	25.10.2011			25.10.2011
A22	LVAC/ ACDB	ETA at Dili Port on 03-10-2011 Vessel: MV Konsistence 1116N	5.10.2011	25.10.2011			25.10.2011
A23	DC System (DCDB/110V dc/48Vdc)	TM	6.11.2011				
A28	Clamp Cable, Dynabolt, Air Terminal, and CCTV Samsung	ETA at Dili Port on 03-10-2011 Vessel: MV Konsistence 1116N	5.10.2011	25.10.2011			25.10.2011
A29	SF6 Gas	5.11.2011	6.11.2011				
A30	CVT Structure (additional)		8.11.2011	10.11.2011			9.11.2011

7 Update of site progress

SWITCHYARD CIVIL WORKS

- Switchyard
 - ◆ Backfilling and compaction 90%
 - ◆ Excavations for oily water system 100%
 - ◆ Oily water pit 100%
 - ◆ Cable conduits 100%
- Switchyard Control room
 - ◆ Structure 100%
 - ◆ Finishing 85%
- Switchyard Cable trenches
 - ◆ Concrete covers for trenches 100%
 - ◆ Cable trench to EEB 70%
- Below zero level earthing 95%
- Perimeter drainage 100%
- Fence 20%
- Firewall 30%
- Gravel surfacing 1%

SWITCHYARD ELECTRICAL INSTALLATIONS

- Steel structure 95%
- High voltage equipment 75%
- Cable pulling and connection 65%
- Stringing over head conductors 0,5%
- Transformers (3 units) 75%

STEEL FRAME ERECTION & BUILDING WORKS OF MAIN PLANT

- Powerhouse
 - ◆ Steel frame 99%
 - ◆ External walls 85% (South side wall open due engine installation)

MECHANICAL INSTALLATIONS, MAIN PLANT, COMMON & DG SET 1-7

- Engine Hall and its Gen Set progress 65%
- Lube oil system 93%
- Compressed air system 99%
- Cooling water system 85%
- Charge air system 85%
- Exhaust gas system 75%
- Fire Fighting System 98%
- Sludge System 75%
- Fuel system 98%
- Boilers 75%
- Steam distribution 94%
- Water treatment 92%

MECHANICAL INSTALLATIONS, MAIN PLANT, COMMON & DG SET 1-3

- Engine Hall and its Gen Set progress 88%
- Lube oil system 98%
- Compressed air system 98%
- Cooling water system 98%
- Charge air system 98%

- Exhaust gas system 98%
- Fire Fighting System 98%
- Sludge System 85%
- Fuel system 96%
- Boilers 96%
- Steam distribution 98%
- Water treatment 92%

ELECTRICAL INSTALLATION, MAIN PLANT, COMMON & DG SET 1-3

- Cable ladders 99%
- Installation of panels instrumentation and equipment 96%
- Cable pulling 92%
- Cable termination 88%
- Energizing panels 80%
- Electrical pre-commissioning 40%

ELECTRICAL INSTALLATION, MAIN PLANT, COMMON & DG SET 4-7

- Cable ladders 96%
- Installation of panels instrumentation and equipment 95%
- Cable pulling 53%
- Cable termination 48%
- Energizing panels 83%
- Electrical pre-commissioning 34%

COMMISSIONING, MAIN PLANT, COMMON & DG SET 1-3: 4%

8 Commissioning

- Commissioning procedures (Wärtsilä electrical) submitted. Engine startup procedures requested by PAE.
- Commissioning procedures from ABB submitted

9 O&M

- Draft of Station manuals already available in soft copy and submitted on November 11th

10 Technical matters

10.1 Civil

- The revised drawings for the drainage system to be submitted by November Monday 14th
- Clearing of CNI22 areas
 - part 1 completed
 - part 2 completed
 - part 3 TBA later by CNI22. The corridor for the pipeline 80% completed, rest would be done when required to install the pipeline
- A joint survey was carried out for fence and drainage line at CNI22 housing area. Wika to prepare by November 14th a layout showing the areas to be cleared by CNI22
- Expansion joints on the dyke wall to be sealed by CNI22 by November 30th

10.2 Mechanical

- Flexible connections to the storage tanks are recommended by the Consultant and PAE, installation completed except steam lines.
- Blind flanges for unused storage tank connections installed.
- The recommendation of the Consultant is to calibrate all fuel tanks Wika has submitted the calibration procedure and calibration company certificate; the calibrator is expected to arrive at Hera site on Tuesday November 15th, separate meeting concerning calibration issues on November 12th morning.

10.3 Electrical

- Regarding the double bus bar system Consultant, PAE and CMA / WFI had a meeting on 5th of September where the proposed sequence of the installation of double bus bar was discussed. The technical matter was approved. PAE is to provide detailed engineering drawings and cost to the Consultant and the Owner ASAP. On September 16th there was a follow up meeting with the Consultant, PAE and ABB regarding the construction of the cable pulling pit which is also a part of above work. The issue remains open.
- ABB calculations as per the new cable trench design have been submitted and approved by the Consultant

10.4 ABB Switchyard

- Concerning communication and control system meeting was held on 5th of August in China and the matter is clear for all involved parties,
- drawings/documents have been submitted to the Consultant for approval. A meeting with CNI22, PAE, ABB and NRE was held on 16th of September 2011. ABB has agreed to provide 4 pc of relays RCS931 as manufactured by NRE. This will not have any impact on the schedule and cost of the projects for the Owner. ABB will have these relays on the site on November 16th . ABB has confirmed that these equipment will be commissioned, tested and verified to be ready to energize on November 22'd
- On November 9th the consultant conducted site survey and witnessed use of inappropriate tools for erection of the steel structures. ABB is using handmade tools. For the whole switchyard area for 4 teams ABB is using 1 adjustable torque wrench.
- The construction contractor is required to mark all bolts that they are properly tightened.
- ABB provided the revised schedule of switchyard construction to the Consultant

10.5 Initial start-up

- The first meeting regarding the initial start-up procedures was on November 7th at Hera power plant. Participants were ABB, Wartsila, PAE, CNI22, NRE, EDTL, Manitoba and Consultant.
- Next meeting is on November 13th

11 Betano

- Site development plan is under preparation by WFI and ABB, will be submitted by the third week of November.
- New location for the jetty has been identified as more suitable for the power plant equipment just in front of the existing access road. Semi-permanent jetty needs to be built for usage of equipment transport.
- Single line diagrams and equipment drawings submitted by ABB have been commented by the Consultant and would be rectified as required.

12 Other issues

- Supply of fuel initial quantity already started and as of today 600m3 in stock
- Critical item list of tasks which may affect the final target of 27th of November is required ASAP.
- Engine 1-3 installation day and night
- ABB switchyard commissioning and testing on fast track
- The training for 20 EDTL engineers scheduled from 16th to 26th November in Wärtsilä Finland training center in Turku.

Next meetings

25.11.2011 at 14:30 at site in Hera

09.12.2011 at 14:30 at site in Hera

Prepared by: Kari Ruuth, CMA



(pages 50-56 in original)

Minutes of Meeting

Contract Title: Hera Power Plant 120 MW 7 x W18V46
Project: P / 10045

Subject: 20th coordination meeting
Place: Hera site office
Date: 25.11.2011

Time: 14:30 – 17:15
Attendance: According to attached list
Distribution: Participants, WFI project group

1 Agenda

- Previous minutes of meeting
- Issues according to Previous minutes of meeting
- Other issues

2 Previous Minutes of Meeting

- Previous MoM, no comments, considered to be approved by all participants

3 HSE

- Concerning the 3 cable drums involved in the October 19th accident ABB is providing inspection and test in order to make sure that cables can be used, testing has been done 23.11.2011.
- Signage has been installed around working area in engine hall to keep visitors on safe distance
- Smoking, eating and sleeping in all working areas is prohibited
- Dust control around Power House and EEB to be arranged

4 Engine #1 accident on the road on September 6th 2011

- The insurance site surveys have been completed
- The engine will be removed according to instruction issued by the insurance company. Meanwhile security guards are posted at accident site.
- Additional protection with tarpaulin to be installed on the fallen engine as requested by the insurance company
- The area in front of the engine has been prepared for the 600t crane which would be used to lift up the fallen engine
- The method statement of the removal of the engine from the accident site was submitted to the loss assessors and this has as of date submitted to the insurers.
- The insurance group has started now negotiating the salvage value of the fallen engine with all parties including the OEM of the equipment
- The removal of the engine from the accident place has to be done in the shortest time possible to avoid continuous negative comments from the media and from Members of Parliament. Concerning replacement of engine no 7 in Hera the contractor will place a new order to the manufacturer as soon as all the formalities with insurance have been totally completed and approved, the owners requirement is that the engine no 7 should be on place as per the contractual conditions.
- Owner requested a time schedule for the delivery of the engine no 7

5 Factory Acceptance Test (Fat)

- FAT's for the Betano switchyard main transformer (2 units, 70/100 MVA step-up) has been completed.

6 Delivery, Procurement & Manufacturing Status

Remaining shipments

WFI SHIPMENT	Contents	ETS 1	ETS 2	ETA Dili	ATA SITE
Delivery 20AIR	Micro-motion meters x2	17.11.2011		22.11.2011	
Delivery 21AIR	Vertical Floor drains, Weldneck flanges DN150, Electrical material & misc	17.11.2011		22.11.2011	
Delivery 22AIR	Additional bolts for cooling system	17.11.2011		22.11.2011	
Delivery 23AIR	Lightning protection material	18.11.2011		24.11.2011	
Delivery 24AIR	COM600 Panel	22.11.2011		26.11.2011	
Delivery 25AIR	Valve assembly for Jouka valves	23.11.2011		29.11.2011	
Delivery xxAIR	LO Tank level switch	Week 46			
Delivery xxAIR	Pillar hydrant valves AVK part 1	Week 47			
Delivery xxAIR	Regulating valves Part 2 (Spirax)	Week 47			
Delivery xxAIR	20 x Level Switches	Week 47			
Delivery xxAIR	Pillar hydrant valves AVK part 2	Week 48			
Delivery xxAIR	10 x Level Switches	Week 49			
Delivery xxAIR	Rest spirax valves	Week 50			
Delivery xxAIR	Pillar hydrant valves AVK part 3	Week 52			
WID SHIPMENT					
Del WID	Paint			24.11.2011	
Del VV1D	Cable Ladder			24.11.2011	
ABB SHIPMENT					
	SAS Equipment			26.11.2011	

7 Update of site progress

SWITCHYARD CIVIL WORKS

- Switchyard
 - ◆ Backfilling and compaction 95%
 - ◆ Excavations for oily water system 100%
 - ◆ Oily water pit 100%
 - ◆ Cable conduits 100%
- Switchyard Control room
 - ◆ Structure 100%
 - ◆ Finishing 90%
- Switchyard Cable trenches
 - ◆ Concrete covers for trenches 100%
 - ◆ Cable trench to EEB 85%
- Below zero level earthing 98%
- Perimeter drainage 100%
- Fence 40%
- Firewall 50%
- Gravel surfacing 70%

SWITCHYARD ELECTRICAL INSTALLATIONS

- Steel structure 100%

- High voltage equipment 100%
- Cable pulling and connection 90%
- Stringing overhead conductors 95%
- Transformers (3 units) 100%

STEEL FRAME ERECTION & BUILDING WORKS OF MAIN PLANT

- Powerhouse
 - ◆ Steel frame 100%
 - ◆ External walls 90% (South side wall open due engine installation)

MECHANICAL INSTALLATIONS, MAIN PLANT, COMMON & DG SET 1-7

- Engine Hall and its Gen Set progress 91%
- Lube oil system 95%
- Compressed air system 99%
- Cooling water system 96%
- Charge air system 98%
- Exhaust gas system 85%
- Fire Fighting System 99%
- Sludge System 95%
- Fuel system 99%
- Boilers 75%
- Steam distribution 96%
- Water treatment 99%

MECHANICAL INSTALLATIONS, MAIN PLANT, COMMON & DG SET 1-3

- Engine Hall and its Gen Set progress 100 %
- Lube oil system 100%
- Compressed air system 100%
- Cooling water system 100%
- Charge air system 100%
- Exhaust gas system 100%
- Fire Fighting System 100%
- Sludge System 99%
- Fuel system 99%
- Boilers 99%
- Steam distribution 99%
- Water treatment 99%

ELECTRICAL INSTALLATION, MAIN PLANT, COMMON & DG SET 1-3

- Cable ladders 99%
- Installation of panels instrumentation and equipment 97%
- Cable pulling 99%
- Cable termination 94%
- Energizing panels 95%
- Electrical pre-commissioning 65%

ELECTRICAL INSTALLATION, MAIN PLANT, COMMON & DG SET 4-7

- Cable ladders 96%
- Installation of panels instrumentation and equipment 95%
- Cable pulling 61%
- Cable termination 66%

- Energizing panels 92%
- Electrical pre-commissioning 80%

COMMISSIONING, MAIN PLANT, COMMON & DG SET 1-3: 54%

COMMISSIONING, MAIN PLANT, COMMON & DG SET 4-7: 8%

8 Commissioning

- Engine start-up procedures are in operation manual which is part of station manuals which have been submitted last week.

9 O&M

- O&M personnel about 12 persons at site and 20 EDTL trainees expected on November 26th.

10 Technical matters

10.1 Civil

- The revised drawings for the drainage system submitted and consultants comments received. PAE will incorporate comments from the Consultant and resubmit to the Consultant
- Clearing of CNI22 areas
 - The revised layout of part 3 will be submitted to the Consultant by November 29th
- A joint survey was carried out for fence and drainage line at CNI22 housing area. Wika prepared a layout showing the areas to be cleared by CNI22, to be submitted to the Consultant after this meeting.
- Expansion joints on the dyke wall to be sealed by CNI22 by November 30th

10.2 Mechanical

- Flexible connections installation completed except steam lines, steam line flexible connections at site already.
- Storage tanks have been calibrated by CNI22 (3PC 5000m3 and 1PC 1000m3)
- Day tanks (HFO day and buffer, LFO day tank) have been calibrated by WIKA
- Level switches and manual level indicators still to be installed

10.3 Electrical

- Regarding the double bus bar system Consultant, PAE and CMA / WFI had a meeting on 5th of September where the proposed sequence of the installation of double bus bar was discussed. The technical matter was approved. PAE is to provide detailed engineering drawings and cost to the Consultant and the Owner ASAP. On September 16th there was a follow up meeting with the Consultant.

10.4 ABB Switchyard

- The construction contractor is required to mark all bolts that they are properly tightened. All bolts have been checked.
- The ratio test assessment of the step-down transformer has to be submitted by ABB to the Consultant on November 25th

10.5 Initial start-up

- Engine 1 running test done on November 18th Engine 2 running test done on November 19th
- Engine 3 running test done on November 20th (in the presence of the Prime Minister and Minister of Finance)
- Engine 4 running test done on November 22nd
- ABB step-up transformer no 3 was energized on November 24th including the 150 Kv power grid Hera-Dili-Liquica
- The energization with continuous operation will start as from November 26th at 10:00am

11 Betano

- During the kick-off meeting of June St' 2011 in the time schedule is indicated that site preparations to be done during November 2011 and foundation civil work to be started in the

middle of December 2011. Soil investigation has been done in accordance with the schedule but all drawings related to site preparations, boundary wall construction, drainage channels and piling requirements have not been submitted up to the present time.

- WFI to submit above drawings to PAE Jakarta by December 2nd
- New location for the jetty has been identified as more suitable for the power plant equipment just in front of the existing access road. Semi-permanent jetty needs to be built for usage of equipment transport.
- Single line diagrams and equipment drawings submitted by ABB have been commented by the Consultant and would be rectified as required.

12 Partial handing over

- WFI requests that engines are handed over before commercial use
- PAE requests that performance tests for guaranteed values should be witnessed and signed by GOTL and Owners Consultant.
- PAE also requests that proportional total plant readiness should be used as a measure apart from purely engine numbers
- ABB switchyard: the work is substantially completed and provisional acceptance certificate should be issued based on guarantee documentation of the contract.
- The issue of partial handing over needs to be discussed in separate meeting

13 Other issues

- Supply of fuel initial quantity already started and as of today 1700m3 in stock The supply is done on daily average rate of 120m3/day
- The training for 20 EDTL engineers scheduled from 16th to 26th November in Wärtsilä Finland training center in Turku is ongoing.
- Construction of the jetty should be initiated ASAP as it is of imperative importance to the GOTL to maintain the economics of the operation

Next meetings

12.12.2011 at 14:30 at site in Hera

09.01.2012 at 14:30 at site in Hera

Prepared by: Kari Ruuth, CMA

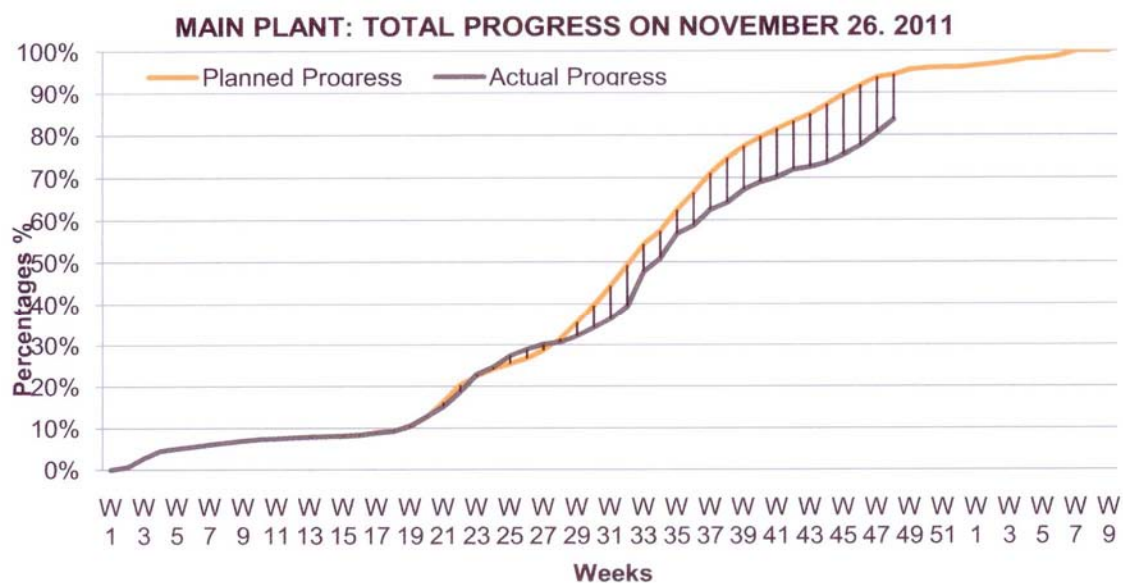
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Date: Nov, 2011

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4 S-CURVES



Week	W 1	W 2	W 3	W 4	W 5	W 6	W 7	W 8	W 9
Cum %	0,00%	0,63%	2,84%	4,56%	5,05%	5,54%	6,03%	6,52%	7,00%
Actual Cum %	0,00%	0,63%	2,84%	4,56%	5,05%	5,54%	6,03%	6,52%	7,00%
Week	W 10	W 11	W 12	W 13	W 14	W 15	W 16	W 17	W 18
Cum %	7,32%	7,50%	7,76%	7,97%	8,08%	8,16%	8,38%	8,90%	9,31%
Actual Cum %	7,31%	7,48%	7,74%	7,93%	8,04%	8,11%	8,32%	8,82%	9,23%
Week	W 19	W 20	W 21	W 22	W 23	W 24	W 25	W 26	W 27
Cum %	10,38%	12,62%	16,21%	20,29%	22,48%	24,23%	25,53%	26,82%	28,74%
Actual Cum %	10,52%	12,86%	15,28%	18,24%	22,99%	24,76%	27,40%	28,98%	30,18%
Week	W 28	W 29	W 30	W 31	W 32	W 33	W 34	W 35	W 36
Cum %	31,48%	35,44%	39,62%	44,29%	49,16%	54,26%	57,38%	62,42%	66,58%
Actual Cum %	30,80%	32,24%	34,19%	36,35%	39,41%	47,65%	50,86%	56,74%	58,72%
Week	W 37	W 38	W 39	W 40	W 41	W 42	W 43	W 44	W 45
Cum %	71,04%	74,64%	77,34%	79,58%	81,39%	83,25%	84,99%	87,26%	89,67%
Actual Cum %	62,51%	64,16%	67,20%	69,11%	70,21%	72,01%	72,64%	73,64%	75,51%
Week	W 46	W 47	W 48	W 49	W 50	W 51	W 52	W 1	W 2
Cum %	91,88%	93,75%	94,40%	95,55%	95,95%	96,11%	96,11%	96,53%	96,95%
Actual Cum %	77,48%	80,57%	83,64%						
Week	W 3	W 4	W 5	W 6	W 7	W 8	W 9	W 10	W 11
Cum %	97,41%	98,11%	98,31%	98,82%	99,99%	100,00%	100,00%	100,00%	100,00%
Actual Cum %									

(The original report contains 10 more similar graphs and tables for different components of the Hera plant and switchyard construction. La'o Hamutuk did not reproduce them here to keep the file size manageable.)

(pages 76-85 in original report)

FINANCIAL PROJECT STATEMENT

1.) Contract with CNI22

- A.) Contract signed on 25 October 2008. The total contract value of US \$ 360,366,947.00.
- B.) Amendment No. 1 signed on 27 February 2009. Total contract value unchanged of \$360,366,947.00 split in:
- (I) US \$ 91,038,377.00 for Power Plant, and its Facilities.
 - (II) US \$ 269,328,570.00 (Equivalent to Foreign Currency RNB 1,885,300,000.00) for Power Grid and it's Facilities.
- In addition to the above
- (III) US \$ 3,000,000.00 per year per a period of 5 years, and operation of the whole Power Plant, and Power Grid and Training of owner's nominated personnel.
- C.) Amendment No. 2 signed on 21 December 2009. The contract value has been increased of US \$ 6,764,277.00 due to the adjustment of the exchange rate between US \$ and Chinese currency RNB Renminbi.

New total contract price US\$ 367,131,224.00 split in:

- (I) US \$ 91,038,377.00 for Power Plant, and it's Facilities (unchanged)
- (II) US \$ 276,092,847.00 for Power Grid and it's Facilities,
- (III) US \$ 3,000,000.00 per year per 5 year period for management and operation of the whole Power Plant, and Power Grid and Training of owner's nominated personnel.

Fixed Contract Price not subject to any variation US \$ 367,131,224.00

- D.) Amendment No3 signed on 13 May 2011 . The contract is reflecting the cancellation of the two power plants and is taking into consideration the works and various activities done in Hera from the mobilization , site preparation and the construction of the Oil Tanks .

The original Contract Value reduced Of US \$ 91,038,377.00 is equal to US \$ **276,092,847.00. This amount is increased as stated in the Amendment No. 3 of the value of the works executed in Hera Power Plant : Mobilization-site facilities-site preparation-civil works-Retaining wall-drainage canal-fuel tanks construction etc.etc.**

Value of Amendment No. 3 is US \$ 22,403,345,00

The new total contract price become US \$ 298,496,192.00 In addition the amount of US \$ 5,126,400.00 for Operation , maintenance and training of the Timorese personnel.

E.) Disbursement Schedule:

10% Advance Payment (on original contract value) \$ 36,713,122.00

US \$ 10,000.000.00	Paid on April 2009	Against Bank Guarantee of same amount
US \$ 10,550,000.00	Paid on December 2009	Against Bank Guarantee of US \$ Twelve Million
US \$ 1,450,000.00	Paid on February 2010	Covered by above Bank Guarantee
US \$ 14,713,122.00	Paid on August 2010 , covered by the performance security of	US \$ 36,713,122.00

90% of the new contract price US \$ 268,646,572.80 to be paid to the Contractor in monthly installment, in accordance to the progress of the works and as per the price schedule items.

The interim payments submitted, paid /or under process are:

Interim payment No.	Gross amount US\$	Net Amount US\$
1 (March, 2010)	5,872,855.58	4,699,733.18 paid
2 (April, 2010)	4,117,847.41	3,294,319.58 paid
3 (May, 2010)	3,439,526.40	2,756,729.20 paid
4 (June, 2010)	800,321.83	640,257.46 paid
5 (July, 2010)	4,891,259.53	3,915,378.36 paid
6 (August, 2010)	5,569,325.60	4,456,218.22 paid
7 (September, 2010)	13,593,524.10	10,877,498.39 paid
8 (October, 2010)	10,454,635.75	8,374,646.12 paid
9 (November, 2010)	10,552,883.93	8,463,473.67 paid
10 (December, 2010)	9,449,125.16	7,572,389.75 Paid
11 (January, 2011)	8,723,373.58	6,993,451.33 Paid
12 (February, 2011)	3,221,828.39	2,577,562.86 paid
13 (March, 2011)	19,067,612.16	15,267,413.06 paid
14 (April, 2011)	3,996,415.36	3,197,519.17 Paid
15 (May, 2011)	45,536,799.34	36,464,812.22 Paid
16 (June, 2011)	9,976,644.27	7,993,041.62 paid
17 (July, 2011)	14,969,205.89	12,003,232.44 Paid
18 (August, 2011)	17,118,553.54	13,699,762.14 paid
19 (September, 2011)	11,349,268.85	9,079,970.24 paid
20 (October, 2011)	17,339,231.49	13,874,258.10 In Process
21 (November 2011)	21,336,481.64	17,084,538.97 In Process
Total	241,376,719.80	193,286,206.07

2.) Contract with Puri Akraya Engineering Limited for Hera and Betano Power Plants

A) Contract signed on September 15, 2010 of value US \$ 352,569,123.00 inclusive of taxes, split in:

(I) Hera power plant	US \$ 164,532,257.00
(II) Betano power plant	US \$ 188,036,866.00

B. Disbursement Schedule

25 % advance payment	US \$ 88,142,281.00
75 % by Letter of Credit	US \$ 264,426,842.00

The amount of the LC will be split and withdrawn over a period of 16 months during the length of the contract.

C. Payment done

US \$ 40,000,000.00 (portion of the advance payment) paid on 30-12-2010 (credited in the bank on January 02 ,2011) against a Bank Guarantee of same amount , this amount is related to Hera Power Plant.

US \$ 48,142,281.00 (balance of the advance payment) paid on 07-04-2011 against a Bank Guarantee of same amount , this amount is related to Betano Power Plant.

D. Supplemental Agreement

The Supplemental Agreement is covering the Exchange Rate fluctuation between US \$ and Euro and the cost of the two Switchyards 20 KV/150 KV of Hera and Betano.
Exchange rate at contract signing was **1.2800**

For **Hera** the exchange rate has been fixed on December 31, 2010 (two working days ahead of the advance payment date) and is equal to **1.3362**

For **Betano** the exchange rate has been fixed on April 05, 2011 (two working days ahead of the advance payment date) and is equal to **1.4166**

To be noted that the price adjustment with above exchange rates is applicable only to the value of the materials and equipment imported from Europe and payable in Euro.

The supplemental agreement has been signed by the Prime Minister on April 14th, 2011.

The new Contract Amount is now as follow :

- Hera Power Plant US \$ 186,419,850.00
(Basic Contract US \$ 154,196,280.00 + Switchyard value Us \$ 14,500,000.00
+Taxes US\$ 11,410,628.00 + Exchange Rate Adjustment US \$ 6,312,942.00)
- Betano Power Plant US \$ 219,751,473.00
(Basic Contract US \$ 176,224,320.00 + Switchyard value US \$ 13,200,000.00
+Taxes US \$ 12,790,849.00 + Exchange Rate Adjustment US \$ 17,536,304.00)

E. Letter of Credit

The Letter of Credit (LC) in the format <confirmed , irrevocable , divisible , transferable> has been negotiated with ANZ Bank in Dili and HBSC in Singapore.

The LC is covering the value of equipment and services for Hera Power Plant in the total amount of US \$ 170,000,000.00 and for Betano Power Plant in the total amount of US \$ 171,609,192.00.

The LC related to Hera Power Plant is made operative from April 21,2011

The amounts of money drawn from the LC during the month of June are as follow:

INVOICE No.	INVOICE VALUE US \$	ADVANCE AGAINST 40 Mill. Received US \$	RETENTION US \$	NET DRAWN from LC US \$
11601	3,893,663	Nil	Nil	3,893,663
11602	9,348,634	2,223,766	532,052	6,592,816
11603	5,117,937	1,217,407	291,273	3,609,257
11604	1,315,353	312,884	74,860	927,609
11606	1,236,174	294,050	70,353	871,771
11608	9,312,709	2,215,221	530,007	6,567,481
TOTAL month of June	30,224,470	6,263,328	1,498,545	22,462,598
11605	4,333,172	1,030,735	246,610	3,055,827
11710	46,521,748	11,066,161	2,647,658	32,807,929
11607	4,697,793	972,782	Nil	3,725,010
11609	1,800,960	428,395	102,497	1,270,068
11712	1,077,300	256,258	61,312	759,730
11713	34,891,311	8,299,621	1,985,743	24,605,947
TOTAL month of July	93,322,284	22,053,952	5,043,820	66,224,511
11711	26,455,514	6,292,992	1,505,643	18,656,879
11714	6,123,811	1,456,675	348,520	4,318,616
11715	2,162,354	447,763	NIL	1,714,591
11816	1,654,602	342,622	NIL	1,311,980
11817	17,939	NIL	1,631	16,308
11819	49,987	11,890	2,845	35,251
TOTAL month of August	36,464,207	8,551, 942	1,858,639	26,053,626
11818	252,264		22,933	229,331
11820	43,993	10,465	2,504	31,025
11821	1,473,305	350,456	83,849	1,039,000

11922	692,541	164,735	39,414	488,392
11923	219,749		19,977	199,772
11925	1,439,188		130,835	1,308,353
TOTAL month of September	4,121,040	525,656	299,512	3,295,873
11926	29,406		2,673	26,733
11927	88,858	21,137	5,057	62,664
111030	152,031		13,821	138,210
111031	528,071		48,007	480,065
111047	36,818	8,758	2,095	25,965
111046	124,874	29,704	7,107	88,063
111034	7,737	1,840	440	5,456
11924	3,112,495	644,511	-----	2,467,984
111035	25,742		2,340	23,402
111038	251,142		22,831	228,311
111036	269,081	-----	24,462	244,619
111042	269,081		24,462	244,619
11929	284,628		25,875	258,752
111040	269,081		24,462	244,619
111032	8,969		815	8,154
111044	217,281		19,753	197,528
11928	216,944	-----	19,722	197,222
111033	8,969		815	8,154
111041	17,939		1,631	16,308
111039	33,635		3,058	30,577
111043	34,981		3,180	31,800
111045	2,310,195		210,018	2,100,177
111048	4,053,921	839,454		3,214,467
111037	138,128		12,557	125,571
111051	13,454		1,223	12,231
111050	84,626	-----	7,693	76,933
111049	1,524,135			1,524,135
TOTAL month of October	14,112 222	1, 545,404	484,097	12,082,719
111152	1,473,534	----	153,958	1,339,576
111153	825,019	170,838		654,180
111154	369,431			369,431
111155	263,990			263,990
Total month of November	2,931,974	170,838	153,958	2,627,177
GRAND TOTAL	181,176,197	39,111,120	9,338,571	132,746,504

3.) **Contract with CSI Company,Lda of Timor Leste for 24 MW extension of Comoro power plant**

- A. Contract signed on 23 December 2010.
Value US \$ 30,900,000.00 .
- B. Disbursement schedule
 - 1) Plant and equipment supplied from abroad:
 - 10% advance payment against a Bank Guarantee of same amount.
 - 50% against presentation of shipping documents.
 - 30% upon delivery of material at site.
 - 5% upon completion certificate.
 - 5% upon Operational Acceptance Certificate.
 - 2) Design Service
 - 10% advance payment against a Bank Guarantee of same amount.

- 90% pro rata upon presentation and approval of drawings.
- 3) Installation and other service
 - 10% advance payment against a Bank Guarantee of same amount.
 - 80% pro rata in accordance to the monthly progress.
 - 5% upon completion certificate
 - 5% upon Operational Acceptance Certificate .

The 10 % advance payment has not been requested by the Contractor.

- The first interim payment for the month of April 2011 has been submitted in the Amount of US \$ 1,459,630.00 (Amount paid)
- The second interim payment covering the activity done during the month of May 2011 has been submitted in the amount of US \$ 4,792,754.00 (Amount paid).
- The third interim payment covering the activity done during the months of June & July 2011 has been submitted in the amount of US \$ 4,275,387.00 (amount paid).
- The fourth interim payment covering the activity done during the months of August 2011 has been submitted in the amount of US \$ 3,890,728.00 (amount paid).
- The fifth interim payment covering the activity done during the month of September 2011 has been submitted in the amount of US \$ 5,438,895.00 (amount paid).
- -The sixth interim payment covering the activity done during the month of October 2011 has been submitted in the amount of US \$ 3,848,671.40 (amount in process).
- The seventh interim payment covering the activity done during the month of November 2011 has been submitted in the amount of US \$ 5,539,354.60 (amount in process).

Total invoiced US \$ 29,245,420.00 equal to 94.65 % of the Contract value

4.) Contract with bps Pt Bangun Prima Semesta for the 20KV Connection Between Dili New Substation and existing Comoro Feeders

A. Contract Signed on 12August 2011

Value	US \$ 1,326,900.75
Revised scope of work	<u>US \$ 933,000.00</u>
Total Amount	US \$ 2,259,900.75

B. Disbursement schedule

- Fifty percent (50%) of the value of each item upon delivery to the site and certified by the Owner's representative
- Thirty percent (30%) of the value of each item upon erection work done and certified by the Owner's representative.
- Twenty percent (20%) of the value of each item after completion of the works and after successfully testing-commissioning and handing over to the Owner.

Up to the present time the Contractor has not submitted any progress payment Invoice.

(pages 96-102 in original report)

a) Summary of Contracts Contractual Data

- a-1 CNI22 . Contract Agreement No. RDTL 812931 effective as from October 25 , 2008.**
- a-2 CNI22 . The 1st Amendment to Contract Agreement No. RDTL 812931 effective as from February 27, 2009.**

SCOPE OF WORK

The Contractor shall provide a complete national electrical system Consisting of Power Plants and Electrical Power Grid. The electrical system shall cover the whole country , shall be reliable and produce electric power to full capacity of the installed power Plant and will be fully maintained without interruption . the power Plant and Electric power grid shall consist of the following:

- (i) One power plant will be located in Manatuto (north Timor Leste) with a capacity of 121.78MW , consisting of 4x8.82MW, 2x11MW 3x21.5 MW and 2x1MW (start up) generating sets.
- (ii) The existing power plant (Dili), Manatuto and Same Power Plant will be connected through a Power Grid system.
- (iii) Around 630 Kms length of the national Power Grid shall consist of 60 Kms double circuit, 570 Kms single circuit 110 KV transmission line and 10 substations located at Dili, Baucau, Liquica, Manatutu, Lospalos, Burburoron, Viqueque, Same, Suai and Maliana.

CONTRACT PRICE

The total Contract Price is US \$ 360,366,947 payable as follows:

- (a) US \$ 91,038,377.00 for power plant and its facilities.
- (b) US \$ 269,328,570.00 (equivalent to foreign currency RMB 1,885,300,000.00) for power grid and its facilities

In addition US \$ 3,000,000.00 per year for management and operation of the whole Power Plant and Power Grid and training of Owner's nominated personnel for a period of 5 years , computed from the issuance of the certificate of Completion of the installation of the works

- a-3 CNI22 .The 2nd Amendment to Contract Agreement No. RDTL 812931 effective as from December 21, 2009.**

SCOPE OF WORKS:

The Contractor shall provide a complete National Electrical System consisting of Power Plants and Electrical Power Grid. The electrical system shall cover the whole country, shall be reliable and produce electric power to full capacity of the installed Power Plants and will be fully maintainable without interruption. The Power Plants and Electric Power Grid consist of the following, referred to as Works;

One (1) Power Plant located at Hera (N-E of Timor-Leste) with a capacity of not less than 120MW and One Power Plant at Betano (S-W of Timor-Leste) with a capacity of not less than 60MW including the relevant step up and switching Substations which shall have 20KV Distribution capability of not less than 5MW each.

As stipulated in the Amendment, the Owner requires to change the second hand engines with a brand new one and to increase the Power Plant capacity in **Betano from 60MW to 130MW**. For this new condition, the Contractor shall submit corresponding Proposal subject to verification and negotiation wherein the price of the second hand engines as per the previous Contract will be deducted from this Proposal and the differential amount will be added to the contract signed on December 21, 2009, and;

- (i) The existing Comoro and Hera and Betano Power Plants will be connected through the Power Grid.

- (ii) Around 715 Km length of the National Power Grid shall consist of 58 Km double circuits, 657 Km single circuit 150 KV transmission lines and 9 substations located at Dili, Baucau, Liquica, Manatuto, Lospalos, Viqueque, Cassa, Suai and Maliana. The actual length of Transmission Lines measured from Gantry to Gantry of each substations shall have no effect to the Total Contract Price in case there will be variance in plus or minus compared to the distance measured in the maps.
- (iii) 120 Km of 20 KV Distribution Lines to connect Aileu, Gleno, Same, and Ainaro from the nearest 150/20KV Substations, and connection of the Substation to the 20KV Power Grid. This total length of the Lines is fixed and additional kilometers of lines, if requested will be paid as an additional amount to the Contract prices in accordance to the unit rates indicated in the Contract Agreement;
- (iv) The possible relocation of the Power Plant in Betano shall be technically negotiated with no effect the Contract Price.

CONTRACT PRICE:

The Owner hereby agrees to pay to the Contractor in consideration of the performance by the Contractor of its obligations hereunder amounting to US\$ 367,131,224.00 aggregate of:

- (a) US\$ 91,038,377.00 (Ninety One Million Thirty Eight Thousand Three Hundred Seventy Seven US Dollars) for the two (2) Power Plants and their Facilities;
- (b) US\$ 276,092,847.00 (Two Hundred Seventy Six Million Ninety Two Thousand Eight Hundred Forty Seven US Dollars) for Power Grid 150 / 20 KV and its Facilities.

In addition US\$ 3,000,000.00 (Three Million US Dollars) per year for management and operation of the whole Power Plants and Power Grid including training of Owner's nominated personnel, computed from the issuance of the Certificate of Operational Acceptance of the Works or part thereof. For the management, operation and training of Owner's nominated personnel of the complete power grid of one (1) year the cost is included and spread in above yearly amount.

The value of the Power Plants remains unchanged although the capacity of Betano has been increased;

Hera	120 MW
Betano from 60 MW to	130 MW

The increment of the Contract Price of US\$ 6,764,277.00 (Six Million Seven Hundred Sixty Four Thousand Two Hundred Seventy Seven US Dollars) due to the adjustment of the rate of exchange US\$/Renminbi has been added to the cost of the Power Grid.

a-4 CNI22 . The 3rd Amendment to Contract Agreement No. RDTL 812931 effective as from May 13 , 2011.

Following the decision of the Owner to cancel from CNI22's contract the two (2) power plants of Hera and Betano the new scope of work is summarized as below :

SCOPE OF WORK

The Contractor shall provide a complete national Electrical Power Grid that shall cover the whole country , shall be fully maintainable without interruption .

- (i) Power Plants Hera & Betano cancelled.
- (ii) Comoro Power Plant to be connected to the Power Grid.
- (iii) Around 715 Km length of the national Power Grid shall consist of 58 Km double circuit , 657 Km single circuit 150KV transmission lines and 9 substations located at Dili , Liquica , Manatuto , Lospalos , Viqueque , Cassa , Suai and Maliana. The length of the Transmission Lines is based on map's routing measurements only and will be revised with

actual lengths from Substation's Gantry to Substation's Gantry in plus or minus without affecting the Contract Price.

- (iv) 120 Km of 20KV Distribution Lines to connect Aileu , Gleno , Same and Ainaro from the nearest 150/20KV Substations , and connecting of the Substations to the 20KV power Grid. This total length of the lines is fix and additional kilometers of lines , if required, will be paid as an additional amount to the contract price.
- (v) In Hera , Mobilization of the Contractor , Site Facilities , Site preparation , Civil Works , retaining Walls , drainage Canal , Fuel Tanks Construction .In Betano , Clearing and Survey.

CONTRACT PRICE

The Owner hereby agrees to pay to the Contractor the Contract Price in consideration of the performance by the Contractor of its obligations hereunder . The total Contract Price for the Works is US \$ 298,496,192.00 aggregate of :

- (a) US \$ 22,403,345.00 for Power Plants works executed in Hera and Betano.
- (b) US \$ 276,092,847.00 for Power Grid 150 and 20 KV.

In addition US \$ 5,126,400.00 for management , training , maintenance and operation of Power Grid and training of the Owner's nominated personnel , computed from the issuance of the Certificate of Operational Acceptance of the works or part thereof.

The contract prices are fixed not subject to any variation and remain unchanged also in case of currency fluctuation and raw materials basic prices increase

a-5 PURIAKRAYA ENGINEERING LIMITED — Contract Agreement No. RDTL 10004115 , effective as from September 15 , 2010 and amended with Supplemental Agreement effective as from April 14, 2011.

SCOPE OF WORK

The Contractor shall , on Engineering - Procurement - Construction basis (EPC), provide to the Owner:

- (a) 7 x W18V46 power plant , with a total gross electrical power of 119,532 KW in Hera.
- (b) 8 x W18V46 power plant , with a total gross electrical power of 136,608 KW in Betano.
- (c) 150KV High Voltage Outdoor Switchyard and Transformers annexed to Hera power plant (supplemental agreement)
- (d) 150Kv High Voltage Outdoor Switchyard and Transformers annexed to Betano power plant (supplemental agreement)

The Contractor shall provide design , engineering , equipment procurement , construction , start-up , testing and training services for dual combustion system (oil and Natural gas) fired engine generating power plants.

The Contractor shall provide design , engineering , equipment procurement , construction , start-up , testing and training services for the 150KV switchyards.

CONTRACT PRICE

The contract prices shown are inclusive of all taxes levied in Timor Leste : Import duty 2.5% , Sale tax 2.5% , withholding tax 2.0% and in addition the prices of goods imported from Europe have been adjusted according to the fluctuation of exchange rate between US Dollar and Euro.

(i) (i) HERA POWER PLANT

- Basic Contract Price	US \$ 154,196,280.00
- Switchyard price	US \$ 14,500,000.00
- Taxes	US \$ 11,410,628.00
- Exchange rate adjustment	US \$ 6,312,942.00
TOTAL	US \$ 186,419,850.00

(ii) BETANO POWER PLANT

- Basic Contract Price	US \$ 176,224,320.00
- Switchyard price	US \$ 13,200,000.00
- Taxes	US \$ 12,790,849.00
- Exchange rate adjustment	US \$ 17,536,304.00
TOTAL	US \$ 219,751,473.00

Above Contract Prices are subject to increase when new Supplemental Agreement shall be issued upon the implementation of the extra works such as :

For Hera , jetty to offload fuel , supply of fuel , connection to the oil storage tanks, administration building , residential complex , Operation and Maintenance of the plant, various miscellaneous.

For Betano , jetty to offload fuel , supply of fuel , storage tanks , administration building, residential complex , Operation and Maintenance of the plant , various miscellaneous.

a-6 CSI Company Lda of Timor Leste — Contract Agreement No. RDTL 100053 effective as from December 23 , 2010.

SCOPE OF WORK

Engineering Design , Supply and Installation , testing and commissioning of 24 MW Extension of the Comoro Diesel Generating Power Station: 5 x 5500 KW , auxiliary , fuel tanks ,fuel system, cooling system , electrical components ,transformers , steel structures building, accessories , all requirements to put the Power Plant in full operational conditions.

CONTRACT PRICE

The Contract Price is the amount of US \$ 30,900,000.00 and is fix and not subject to any adjustment and or escalation .

a-7 bps TP Bangun Prima Semesta - Contract Agreement effective as from August 23 , 2011.

SCOPE OF WORK

Engineering ,Procurement , and Construction of the 20KV Over Head Line Connecting the New 150/20 IN Dili Substation with the existing Six (6) Feeders now connected to Comoro Power Plant.

CONTRACT PRICE

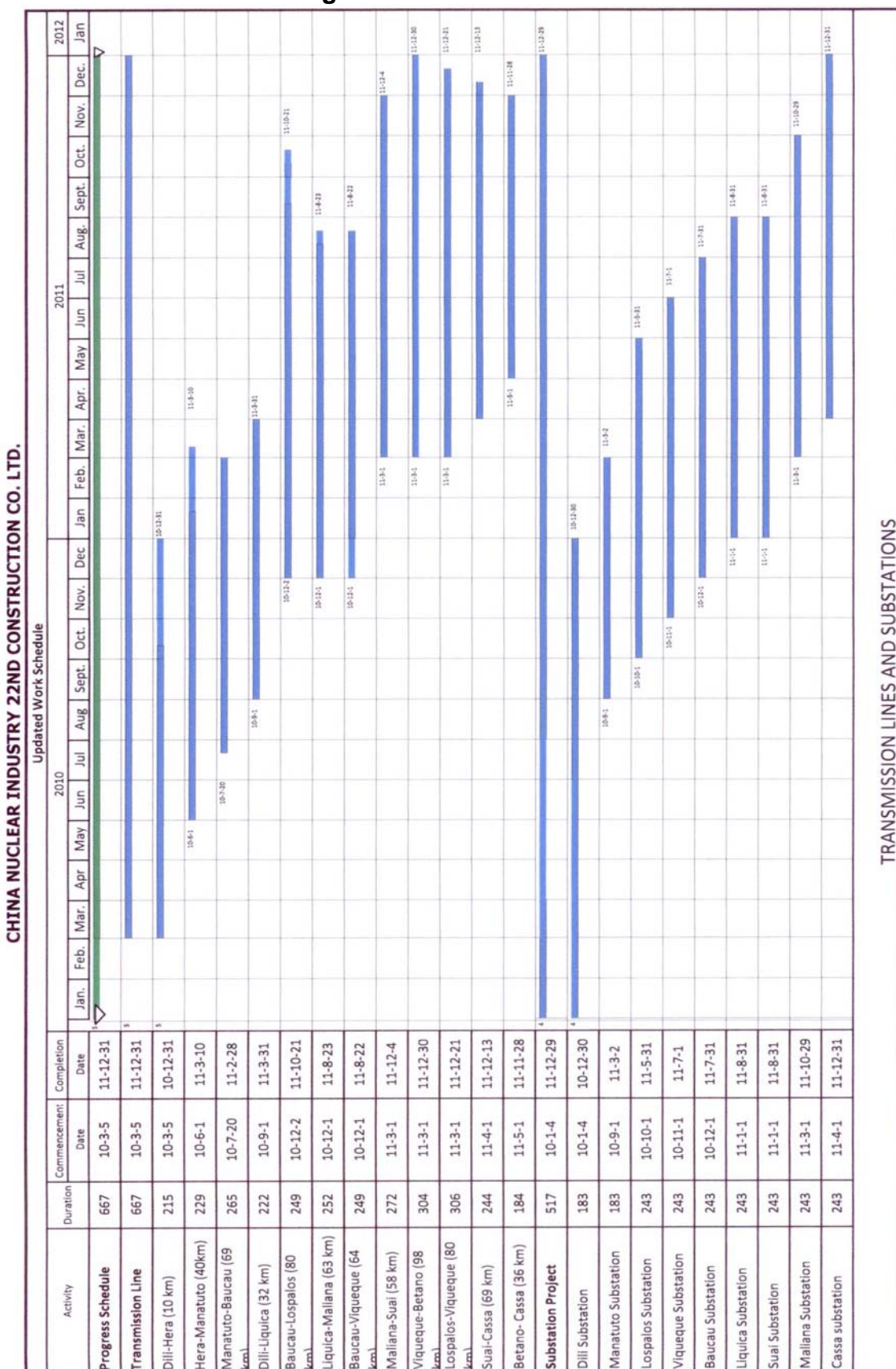
The Contract Price is in the amount of US \$1,326,900.22 , price fix for each item , and for any additional works same unit prices shall apply.

The additional work required to extend connections to the various feeders in town is in the amount of US \$ 993,000.00.

(pages 105-109 in original report)

b) PROJECT REPORT

b-1 Work Schedule/Program



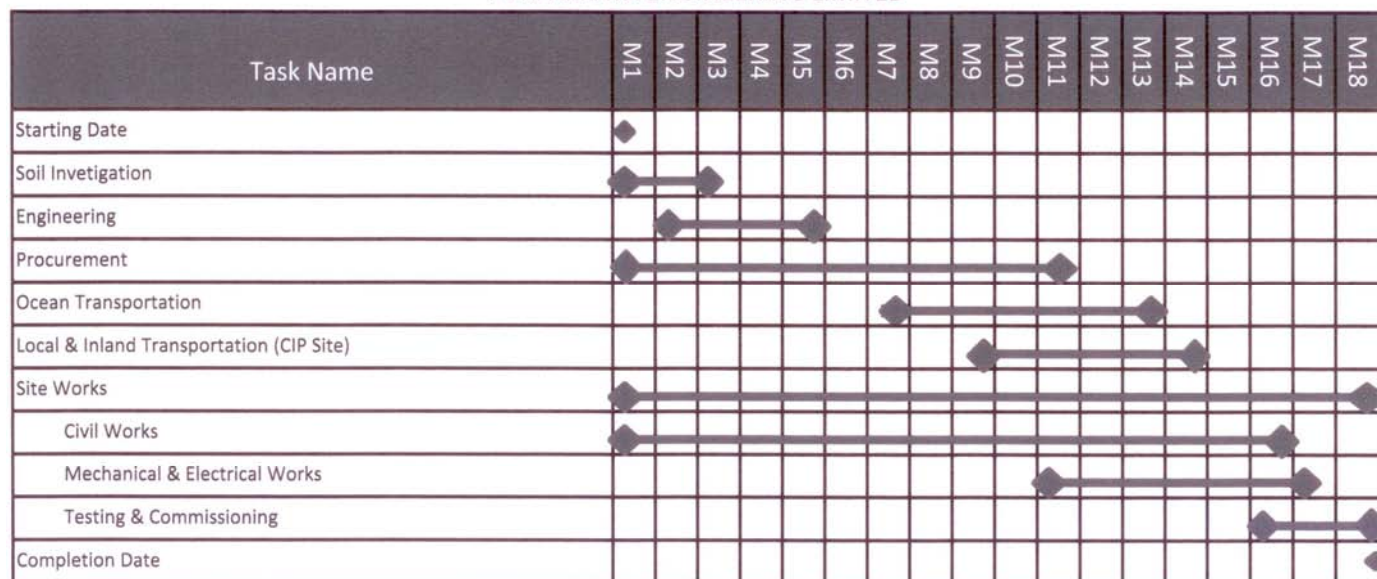
CHINA NUCLEAR INDUSTRY 22ND CONSTRUCTION CO. LTD.

Progress Schedule of Timor - Leste Electrical Power Project																		
NO.	Activity	Duration	Commencement Date	Completion Date	2009				2010				2011				2012	
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2		
0	Progress schedule of Timor - Leste Electrical Power Project	943d	2009-10-1	2012-04-30														
1	Design	882d	2009-10-1	2011-12-31														
2	Procurement & Delivery	716d	2009-01-15	2011-12-31														
3	Construction	943d	2009-10-1	2012-4-30														
4	Power Plant Project	669d	2009-10-1	2011-07-31														
5	Hera Power Plant (Oil Tank)	669d	2009-10-1	2011-07-30														
8	Substation project	943d	2009-10-1	2012-04-30														
9	Dili Substation	730d	2009-10-1	2011-9-30														
10	Liquica Substation	416d	2010-10-1	2011-11-20														
11	Baucau Substation	335d	2010-12-1	2011-10-31														
12	Sual Substation	305d	2011-7-1	2012-4-30														
13	Mallana Substation	245d	2011-06-1	2012-1-31														
14	Manatuto Substation	456d	2010-08-2	2011-10-31														
15	Cassa Substation	335d	2011-6-1	2012-04-30														
16	Lospalos Substation	365d	2010-11-1	2011-10-31														
17	Viqueque Substation	334d	2011-02-1	2011-12-31														
18	Transmission Line Project	943d	2009-10-1	2012-04-30														
19	Dili - Hera Transmission Line	577d	2009-10-1	2011-04-30														
20	Dili - Liquica Transmission Line	303d	2010-9-1	2011-06-30														
21	Cassa - Betano Transmission Line	243d	2011-9-1	2012-04-30														
22	Betano - Viqueque Transmission Line	397d	2011-03-1	2012-3-31														
23	Cassa - Sual Transmission Line	305d	2011-7-1	2012-04-30														
24	Sual - Mallana Transmission Line	274d	2011-6-1	2012-02-29														
25	Mallana - Liquica Transmission Line	244d	2011-4-1	2011-11-30														
26	Hera - Manatuto Transmission Line	426d	2010-6-1	2011-7-31														
27	Manatuto - Baucau Transmission Line	411d	2010-8-16	2011-09-30														
28	Baucau - Lospalos Transmission Line	365d	2010-11-1	2011-10-31														
29	Baucau - Viqueque Transmission Line	365d	2010-12-1	2011-11-30														
30	Viqueque - Los Palos Transmission Line	366d	2011-3-1	2012-2-29														

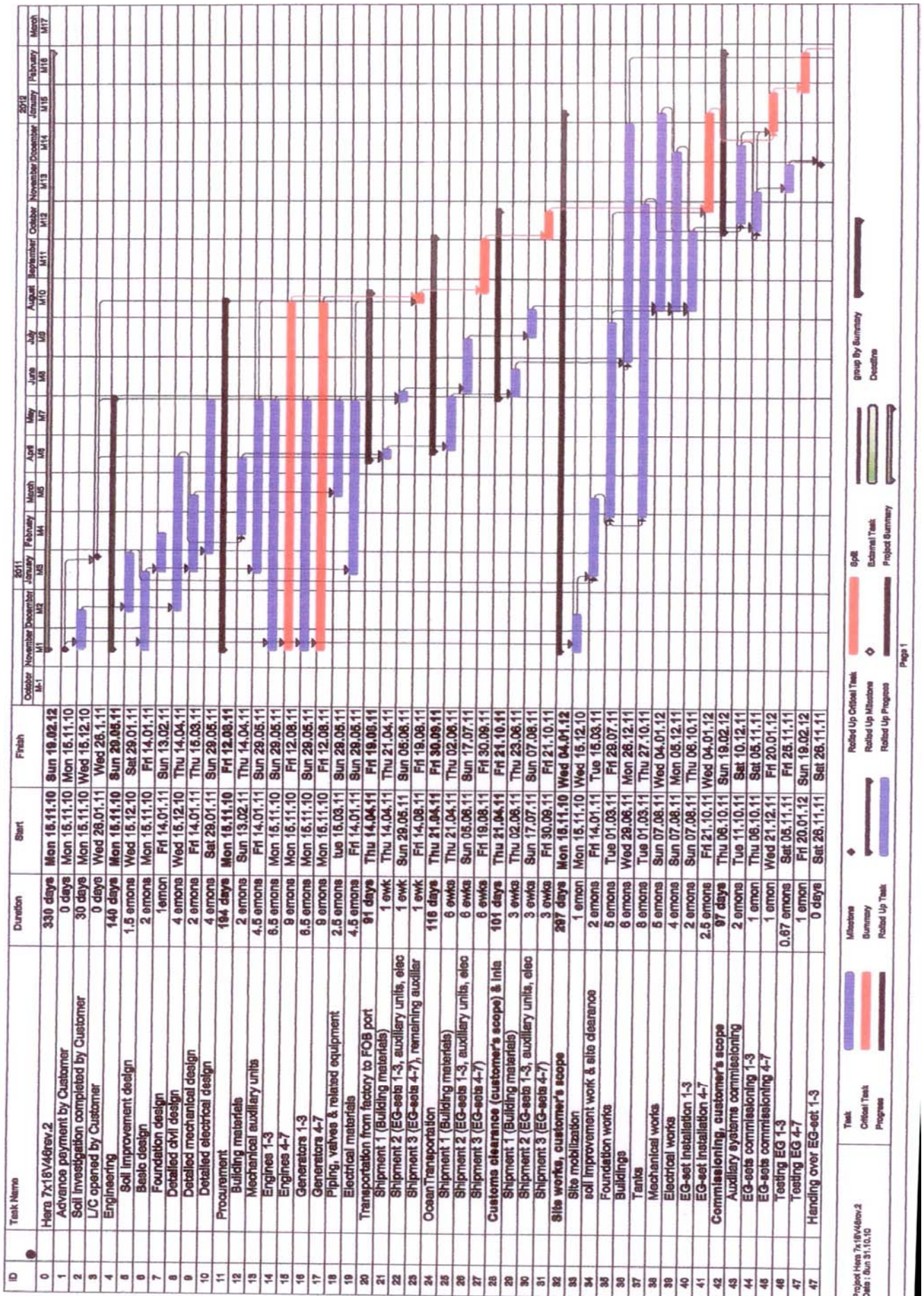
CONTRACT TIME SCHEDULE REVISED AS PER CNI22 AMMENDMENT No. 3

HERA - BETANO POWER PLANTS

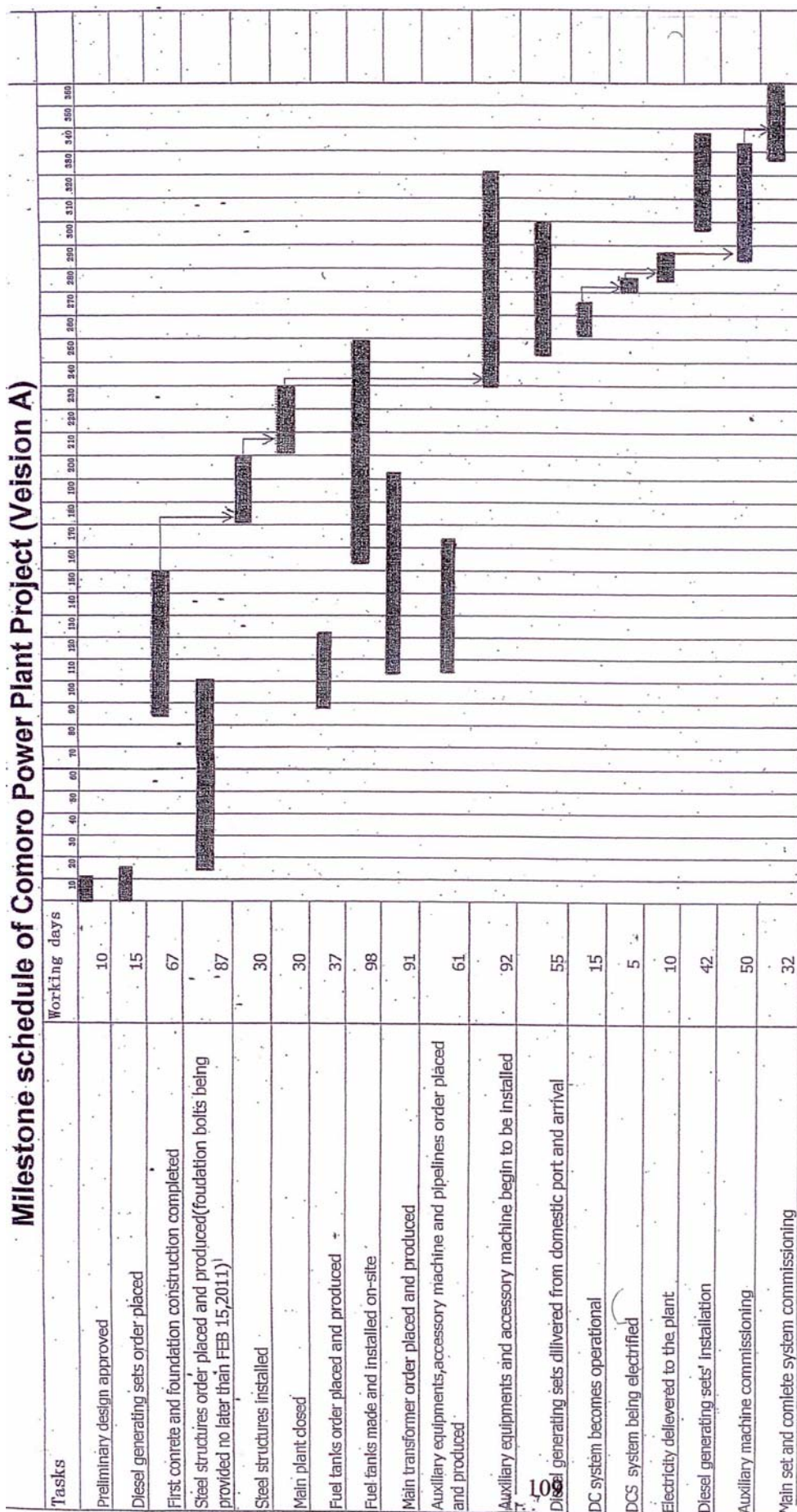
PURI AKRAYA ENGINEERING LIMITED



TIME SCHEDULE



Milestone schedule of Comoro Power Plant Project (Veision A)



(page 117 in original report)

b-2 Contractor's Personnel

CNI22 Staff	Numbers
Chinese	
Management Personnel	141
Substation	338
Transmission Line	362
Hera Power Plant	3
Total	844
Local	
Hera Power Plant	39
Substation	58
Transmission Line	304
Total	401
Grand Total	1,245
PAE Staff	
Management Personnel	89 expat+34 local=123
Hera Power Plant (Workers)	281
Local	138
Total	542
CSI Staff	
Management Personnel	14
Chinese	137
Local	40
Total	191

(pages 185-193 in original report)

a) ENVIRONMENTAL MANAGEMENT PLANS

November 2011

A. INTRODUCTION

This report presents the findings of the Environmental Monitoring and Audit conducted for Contracts RDTL-92896 for China Nuclear Industry 22nd (CNI22) and RDTL1004115 for Puri Akraya Engineering Ltd. (PAE) conducted from 19 September to 21 October 2011. The respective Environmental Management Plans (EMP's) for both Contracts have been prepared and are currently being implemented by the respective Contractors in their concerned work sites. Areas covered by this report are the following:

Puri Akraya Engineering Ltd. (PAE):

- Hera Power Plant
- Betano Power Plant

China Nuclear Industry 22nd Ltd.:

- Dili Sub-Station
- Manatutuo Sub-Station
- Baucau Sub-Station
- Los Palos Sub-Station
- Cassa Sub-Station
- Maliana Sub-Station
- Viqueque Sub-Station
- Liquica Sub-Station
- Suai Sub-Station
- Baucau to Los Palos Transmission Towers
- Viqueque to Los Palos Transmission Towers
- Betano to Viqueque Transmission Towers
- Liquica to Maliana Transmission Towers

B. DESCRIPTION OF PROJECT

The project involves the development of a system of electrification which will cover the whole Timor Leste, at the most cost effective manner, reliable and should be maintained without interruption. The project has the following components:

- Construction of Heavy Fuel Oil Power Plants with a total generating capacity of 250MW;
- Construction of 9 Sub-stations all over East Timor
- Laying of transmission lines – 715 kilometers
- Laying of 20kV distribution lines – 120 kilometers

C. ENVIRONMENTAL REGULATORY REQUIREMENTS FOR TIMOR LESTE

GoTL requires projects to conform to relevant environmental guidelines such as Guideline 1 (amended March 2003): Environmental Requirements for Development Proposals. The Contractor (CNI22) have yet to secure the requisite permits and clearances from the National Directorate of Environmental Services (DoE) under the Ministry for Economy and Development of the Government of Timor Leste (GoTL).

D. ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN

The environmental management plan and environmental monitoring program for the National Electrical Power System for the Timor Leste was designed to determine the extent of variations and changes in the levels of pollutants in the environment and other parameters and indicators considering the implementation or operation of the project. The EMMP was based on the internationally accepted environmental management and conservation practices, the existing environmental laws and regulations of the Government of Timor Leste (GoTL) and the Kyoto Protocol.

Annex A presents the Environmental Management Plan of PAE. An Environmental Walk Through was conducted on 07 October 2011 by the Consultants, together with the representatives of PAE, Wartsila, Wika and ABB in Hera Power Plant. Tables 1 and 2 present the Summary Environmental Management Checklist as of 22 October 2011 for Contracts of PAE and CNI22 respectively.

1. ENVIRONMENTAL MANAGEMENT PLAN

The Environmental Management Plan (EMP) is designed to ensure that the mitigating measures recommended to address the adverse impacts of the project on environment, life, and property are properly followed, while positive impacts are enhanced to gain maximum benefits.

a) DESIGNATION OF AN ENVIRONMENTAL OFFICER

PAE has designated Mr. Banter Tambanan as their Health, Safety and Environmental Officer for the Hera and Betano Power Plants while CNI22 designated Mr. Cai Hui as their Health, Safety and Environment Officer.

b) DESIGNATION OF A HEALTH/MEDICAL OFFICER

The Contractor has on-site a Health/Medical Officer. However, the medical officer services aside from the Hera Power Plant, the workers in all sub-stations and all other facilities of CNI22. Medical facilities should be established in each sub-station to service workers in their respective areas. There is no Medical Facility established in the Hera Power Plant. This needs to be rectified.

c) PREPARATION OF HEALTH AND SAFETY (HSP) AND SOLID WASTE MANAGEMENT PLANS

The HSE Plan for the Hera and Betano Power Plants as prepared by PAE has been accepted and is currently being implemented in Hera Power Plant. The Solid Waste Management (SWMP) is included in the EMP as submitted by PAE. The QHSE Management Plan as submitted during the Audit of November 2010 has yet to be revised as per Envi Field Directive Nos. 1, 2 and 3 of 01 June, 01 December 2010 and 16 April 2011. The Contractor (CNI22) has yet to prepare the Solid Waste Management Plan for all the facilities and work areas.

d) SPILL CONTINGENCY/EMERGENCY RESPONSE PLAN

The relevant Spill Contingency Plan for the Hera and Betano Power Plant is included in the EMP submitted by PAE. The Site Emergency Contingency Plan as submitted by CNI22 during the Audit of May 2010 has yet to be revised.

TABLE 1. SUMMARY ENVIRONMENTAL MANAGEMENT CHECKLIST — PURI AKRAYA ENGINEERING LTD (PAE)

PROJECT ACTIVITY	POTENTIAL ENVIRONMENTAL IMPACT	PROPOSED MITIGATION MEASURE	COMPLIANCE		RESPONSIBLE ENTITIES	REMARKS
			YES	NO		
PRE-CONSTRUCTION PHASE						
LAND ACQUISITION	Loss of land	Just and fair compensation to landowners.			PAE/ CSC/EDTL	Proof of payment of land compensation EDTL
PLANNING SITE ACTIVITIES	Health hazards and risks to workers and residents of nearby communities	Prepare Occupational Health and Safety Plan	X		PAE/ CSC/EDTL	Safety Plan approved
	Social conflicts with local residents	Undertake consultations with local residents prior to mobilization	X		PAE/ CSC/EDTL	Not Documented
		Priority employment for local workers	X		PAE/ CSC/EDTL	List of Workers
		Establishment of grievance/complaints desk at offices		X	PAE/ CSC/EDTL	
CONSTRUCTION PHASE						
ESTABLISHING CONSTRUCTION SITES	Generation of dust from clearing and grubbing	Minimize clearing to required area only			PAE/ CSC/EDTL	Undertaken by CNI22
		Regular watering of exposed areas	X		PAE/ CSC/EDTL	Watering area Program
	Soil Erosion due to exposure of topsoil	Re-vegetate when possible and practicable	X		PAE/ CSC/EDTL	Architect plant available water
	Generation of solid waste	Prepare Solid Waste Management Plan (SWMP)	X		PAE/ CSC/EDTL	Form Waste management
	Conflicts with local residents	Undertake consultations with local residents	X		PAE/ CSC/EDTL	Not documented
SITE DEVELOPMENT AND CONSTRUCTION OF FACILITIES	Acute elevated levels of TSP/SO2/NOx	Minimize and control dust generation through regular spraying of exposed areas	X		PAE/ CSC/EDTL	Watering area Program
		Regular maintenance of heavy equipment, vehicles and machineries	X		PAE/ CSC/EDTL	Form Inspeksi
	Siltation and sedimentation of nearby water bodies	Containment and construction of siltation ponds and silt curtains	X		PAE/ CSC/EDTL	Jetty Construction plan
		Minimum vegetative removal	X		PAE/ CSC/EDTL	Architect plan
		Proper management, handling and disposition of spoils and unsuitable materials	X		PAE/ CSC/EDTL	HSE Prog & implementation
	Contamination of nearby water bodies	Installation of oil and grease traps in drainage systems from workshops, vehicle and plant washing facilities and service and fuelling areas	X		PAE/ CSC/EDTL	Office WIKa design
		Construction of bund walls of adequate capacity around fuel, oil and solvent storage tanks	X		PAE/ CSC/EDTL	Fuel Strorage design by wika

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PROJECT ACTIVITY	POTENTIAL ENVIRONMENTAL IMPACT	PROPOSED MITIGATION MEASURE	COMPLIANCE		RESPONSIBLE ENTITIES	REMARKS
			YES	NO		
SITE DEVELOPMENT AND CONSTRUCTION OF FACILITIES	Contamination of nearby water bodies	Proper handling and storage of petroleum products and toxic and hazardous substances	X		PAE/ CSC/EDTL	Lay out godown
		Installation of sanitation facilities in camps and site offices	X		PAE/ CSC/EDTL	Office WIKA design
		Installation of waste treatment facilities in ancillary facilities such as batching plants and related facilities	X		PAE/ CSC/EDTL	Temporary Garbage Storage
	Acute elevated levels of noise	Operation of heavy equipment and other appurtenant facilities will be limited during daytime – 0800-1700. Should operation beyond these hours is required, proper notification shall be given the concerned local government officials	X		PAE/ CSC/EDTL	Driver Schedule
		Regular maintenance of heavy equipment and machineries	X		PAE/ CSC/EDTL	Evident of Equipment Repair and service
		Establishment of buffers between nearby settlement areas and work areas	X		PAE/ CSC/EDTL	Project fence drawing
	Loss of habitat	Cutting of trees and clearing of vegetative cover to be undertaken only when necessary	X		PAE/ CSC/EDTL	Architect plan
		Relevant permits and clearances will be secured prior to cutting and clearing activities	X		PAE/ CSC/EDTL	Architect plan
	Migration/Loss of wildlife	Habitat development and generation through planting of indigenous species	X		PAE/ CSC/EDTL	Architect plan
		Re-vegetation of cleared areas	X		PAE/ CSC/EDTL	Architect plan
	Loss of aesthetic values	Landscape development and design when possible and practicable	X		PAE/ CSC/EDTL	Architect plan

CNI22- Contractor, China Nuclear Industry 22nd Construction Company Ltd.; CSC - Construction Supervision Consultants; EDTL - Electricidade Da Timor Leste; DoE - Directorate for Environment

November 2011 report from Electroconsult/Bonifica about the power plants and national electricity grid.

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TABLE 2. SUMMARY ENVIRONMENTAL MANAGEMENT CHECKLIST — CHINA NUCLEAR INDUSTRY 22ND CNI22

PROJECT ACTIVITY	POTENTIAL ENVIRONMENTAL IMPACT	PROPOSED MITIGATION MEASURE	COMPLIANCE		RESPONSIBLE ENTITIES	REMARKS
PRE-CONSTRUCTION PHASE						
LAND ACQUISITION	Loss of land	Just and fair compensation to landowners.	X		CNI22/CSC/EDTL	No issue in this component during the audit period.
PLANNING SITE ACTIVITIES	Health hazards and risks to workers and residents of nearby communities	Prepare Occupational Health and Safety Plan	X		CNI22/CSC/EDTL	The plan as submitted May 2010 has yet to be revised.
	Social conflicts with local residents	Undertake consultations with local residents prior to mobilization	X		CNI22/CSC/EDTL	Continuing Activity
		Priority employment for local workers	X		CNI22/CSC/EDTL	Local laborers are employed by the Contractor
		Establishment of grievance/complaints desk at offices		X	CNI22/CSC/EDTL	Non Complying
CONSTRUCTION PHASE						
ESTABLISHING CONSTRUCTION SITES	Generation of dust from clearing and grubbing	Minimize clearing to required area only	X		CNI22/CSC/EDTL	Complying
		Regular watering of exposed areas	X		CNI22/CSC/EDTL	Undertaken daily. Difficult this period due to dry season
	Soil Erosion due to exposure of topsoil	Re-vegetate when possible and practicable		X	CNI22/CSC/EDTL	No re-vegetation been undertaken to date.
	Generation of solid waste	Prepare Solid Waste Management Plan (SWMP)		X	CNI22/CSC/EDTL	No SWMP to date.
	Conflicts with local residents	Undertake consultations with local residents	X		CNI22/CSC/EDTL	On-going activity.
SITE DEVELOPMENT AND CONSTRUCTION OF FACILITIES	Acute elevated levels of TSP/SO2/NOx	Minimize and control dust generation through regular spraying of exposed areas	X		CNI22/CSC/EDTL	Undertaken daily. Difficult this period due to dry season
		Regular maintenance of heavy equipment, vehicles and machineries	X		CNI22/CSC/EDTL	Undertaken regularly
	Siltation and sedimentation of nearby water bodies	Minimum vegetative removal	X		CNI22/CSC/EDTL	Complying
		Proper management, handling and disposition of spoils and unsuitable materials	X		CNI22/CSC/EDTL	Complying
	Contamination of nearby water bodies	Installation of oil and grease traps in drainage systems from workshops, vehicle and plant washing facilities and service and fuelling areas	X		CNI22/CSC/EDTL	Complied
		Construction of bund walls of adequate capacity around fuel, oil and solvent storage tanks	X		CNI22/CSC/EDTL	Complied

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PROJECT ACTIVITY	POTENTIAL ENVIRONMENTAL IMPACT	PROPOSED MITIGATION MEASURE	COMPLIANCE		RESPONSIBLE ENTITIES	REMARKS
			YES	NO		
SITE DEVELOPMENT AND CONSTRUCTION OF FACILITIES	Contamination of nearby water bodies	Proper handling and storage of petroleum products and toxic and hazardous substances	X		CNI22/CSC/EDTL	Needs improvement
		Installation of sanitation facilities in camps and site offices	X		CNI22/CSC/EDTL	Complying
		Installation of waste treatment facilities in ancillary facilities such as batching plants and related facilities		X	CNI22/CSC/EDTL	None have been constructed to date.
	Acute elevated levels of noise	Operation of heavy equipment and other appurtenant facilities will be limited during daytime – 0800-1700. Should operation beyond these hours is required, proper notification shall be given the concerned local government officials	X		CNI22/CSC/EDTL	Complying
		Regular maintenance of heavy equipment and machineries	X		CNI22/CSC/EDTL	Complying
		Establishment of buffers between nearby settlement areas and work areas		X	CNI22/CSC/EDTL	None have been established to date
	Loss of habitat	Cutting of trees and clearing of vegetative cover to be undertaken only when necessary	X		CNI22/CSC/EDTL	Complying
		Relevant permits and clearances will be secured prior to cutting and clearing activities		X	CNI22/CSC/EDTL	No permits have been presented to date.
	Migration/Loss of wildlife	Habitat development and generation through planting of indigenous species		X	CNI22/CSC/EDTL	None undertaken to date.
		Re-vegetation of cleared areas		X	CNI22/CSC/EDTL	None
	Loss of aesthetic values	Landscape development and design when possible and practicable		X	CNI22/CSC/EDTL	None

CNI22- Contractor, China Nuclear Industry 22nd Construction Company Ltd.; CSC - Construction Supervision Consultants; EDTL - Electricidade Da Timor Leste; DoE - Directorate for Environment

e) PREVENTION OF POLLUTION (AIR, WATER AND NOISE)

The Contractors, PAE and CNI22, undertakes regular wetting/watering of exposed grounds on a daily basis. During this Audit period, this activity has been hampered by the availability of fresh water as this is relatively difficult to secure during the dry season. However, the contractor, to the extent possible, still complies with this requirement. Service vehicles, trucks, heavy equipment and machineries are regularly maintained.

f) PROTECTION OF TREES AND VEGETATION

Clearing of areas with trees and vegetation are only undertaken in required areas. There are no major issues or concerns relative to this aspect of the EMMoP. Identification and compensation for the felled trees are addressed by the GoTL through EDTL.

g) RELATIONS WITH LOCAL COMMUNITIES AND AUTHORITIES

Consultations are still regularly conducted with the affected communities by the Consultants to inform the local leaders and populace of the on-going works. This serves as a monitoring activity as to the issues and concerns of the stakeholders relevant to the project. As in most projects of this type, land acquisition and hiring of local workers is the major issue that normally arises. There is no issue relevant to the ROW of the Hera and Betano Power Plants. Consultations undertaken by PAE have not been properly documented. This shall be rectified in the succeeding Audit. ROW acquisition for Facilities and Transmission Towers, which is the responsibility of the GoTL has been adequately and expeditiously addressed.

h) PRIVATELY OR COMMUNITY OWNED SERVICES AND STRUCTURES

Compensation for private property that has been affected by the works is expeditiously addressed by the GoTL to the extent possible. This is not a concern for the Power Plants as these areas have already been acquired by the GoTL prior to the awarding of the Contract of PAE. Public services have not been affected by the current works.

i) OCCUPATIONAL HEALTH AND SAFETY**PROTECTIVE CLOTHING AND SAFETY EQUIPMENT**

Workers are of both Contractors, PAE and CNI22, are adequately provided the basic PPE such as hard hats and safety shoes. Consultants were provided safety shoes and hard hats by ELC & Bonifica.

SUPPLY OF DRINKING WATER AND SANITATION

Adequate water supply is provided in the Hera Power Plant being constructed by PAE and all sub-stations being constructed by CNI22. Water is normally sourced from commercial sources as water extracted from the wells is not potable. Water for operational concerns are sourced from these wells.

TEMPORARY FACILITIES FOR WORKERS INCLUDING SANITATION AND WASTE DISPOSAL

As per the SWMP prepared by PAE, solid waste is properly disposed in designated areas. As was observed in all the facilities of CNI22, basic housekeeping is not strictly implemented. In most of the camps and facilities visited, solid waste, materials, etc are scattered and are not properly stored, handled and disposed.

TRAFFIC MANAGEMENT

The Traffic Management Plan for Hera Power Plant is included in the EMP as prepared by PAE and adequately addresses the traffic situation in the said work site. There is no traffic management being implemented in the facilities and no traffic management plan submitted by CNI22 to the Consultants.

2. ENVIRONMENTAL MONITORING

An integral part of the environmental protection is the continuous monitoring of the condition of the receiving environment to determine if any undesirable changes are occurring as a result of the project. The Contractor has yet to commence the conduct of the Baseline Survey and Monthly Monitoring for Air, Noise and Water Quality. This activity should have been conducted upon induction of the Contractor to the site.

3. REPORTING REQUIREMENTS

As was reported in the previous audits, CNI22, the Contractor for all the sub-stations and the transmission tower have not submitted any monthly environmental management and monitoring report since mobilization in January 2010. As per the EMP prepared for the Project, CNI22 is contractually obligated to prepare monthly environmental monitoring reports covering the implementation of the EMP. CNI22, the Contractor has not complied with this requirement since his induction in the project.

E. ISSUES AND CONCERNS

- **Environmental Permits and Clearances from the National Directorate for Environmental Conservation** has yet to be secured by Contractors, PAE and CNI22, for their respective Contracts. This is a requirement of the GoTL and has to be complied with immediately.
- As was cited in previous audits, the EMP for CNI22 stipulates that a Baseline Survey for Air, Noise and Water Quality. The Contractor has not yet conducted this activity to date.
- As has been cited in the previous audits, the EMP stipulates that Monthly Environmental Monitoring for Air, Noise and Water Quality be conducted as expounded in Table 3 of the said EMP. CNI22, the Contractor for the sub-stations and transmission towers, has yet to comply with this requirement.
- As has been observed in several locations in the Viqueque to Los Palos Transmission line, Waste cement was indiscriminately dumped by the transit mixer along the access roads. This should immediately be cleaned and instruction to the drivers of the transit mixers be given to prevent further this practice.

OCCUPATIONAL SAFETY & HEALTH (OSH)

CNI22

Testing and commissioning of the two (2) substations, Dili and Liquica were in full throttle so as to meet the schedule of Energization that was the 27th of Nov. Start-up procedures were realized on the 24th November with all stakeholders and this contractor as well to ensure that synchronization was achieved. This contractor was up to the job by setting up controls at the access gates where only authorized personnel were allowed to enter which was strictly followed. Rectification works on the transmission lines were done ahead of schedule and by the time the start up would commence, all lines were ready. Good job!

PAE (Hera Power Plant & Betano Power Plant)

The revised plan to transport the power plant engines using a temporary jetty in front of the Hera plant location made it easy for the delivery of the six (6) engines to its intended location. While all the other components were made by way of the road and delivered safely as well. Construction of the switchyard towers and transformers were also done in a very fast manner but all things considered, no untoward incident happened including testing and eventually the commissioning that happened at the tail end of the month.

SUMMARY:

It was a very busy month as almost all contractors were hurrying up all installations to meet the scheduled start-up and commissioning of all equipments for the eventual energization that had happened at the end of the month. In fairness to all contractors involved, all activities were done and completed and the goal was realized without having any injury or lost day cases considering the number of workers involved and it can be considered an extraordinary feat to accomplish it. Kudos and we can now say as long as people are focused on what they do and pre-planning was made, execution would be easy and all works were done in a safe manner. It is expected the same cooperation and execution can be repeated when all work activities will be shifted to the Betano Power Plant area sometime next year.

(pages 197-198 in original report)

PROBLEMS / ISSUES AND RECOMMENDATIONS

Problems/Issues Encountered mainly with CNI22.

1. Communication problems for technical staff and workers of the contractor who cannot speak nor understand the English Language . Consultant Inspectors find difficulty to give direct instructions on site to Chinese workers due to communications barrier with oftentimes no responsible supervisor present on
2. Work preparation not carefully planned to match with the existing site conditions, such as rains and landowner's interference for access.
3. Unprofessional handling of the materials during loading, unloading and transporting from the yard to the site that causes heavy damages to the materials itself.
4. Working safety practices on sites and procedures such as warning signs for incoming vehicles are not placed along the main roads to preclude accidents and PPE 's for workers is not strictly implemented.
5. Quality of the workmanship in general is very poor. A lot of unqualified Chinese workers are used as subcontractors who do not care of the quality and of the finishing up.
6. Coordination with local residents around the work sites is not properly handled.

Recommendations/Actions:

1. The Contractor must provide technical staff good in English communication to facilitate better understanding to the field instructions issued by the Owner's Representatives and Consultant.
2. The Contractor supervisors , particularly QA/QC personnel , Safety Officer must inspect always and constantly monitor the works done on sites to guarantee that all works are according to the approved plans and specifications and upholds the safety program at the construction sites. Likewise, plan in advance and study the corresponding weather situation around the areas of responsibilities to insure the work progress since different locality have different weather scenario.
3. The Contractor's Planning Engineer must coordinate, monitor the progress of the works against submitted approved time schedule, and have a close coordination with the responsible in-charge of different sites to facilitate any adjustment made to get back in track the project in general.
4. The Contractor is instructed to employ more qualified and knowledgeable staffs workers to manage , handle materials from the lay down area , unloading and loading from/to the vehicles to prevent damages and to prevent that material is rejected .
5. The Contractor should supply to all workers the Personal Protective Equipment (PPE), which must be strictly worn by everybody on the jobsite.
6. The Contractor is reminded that after one activity has been completed, the working area must be left clean and free from papers, plastic, bottles, cans, timbers and any sort of garbage to adhere to the environmental program and promote good relationship and gain respect from the local residents.

All above problems/issues do not exist or are minimal with others Contractors : PAE, Wartsila, ABB, Vika and CSI.