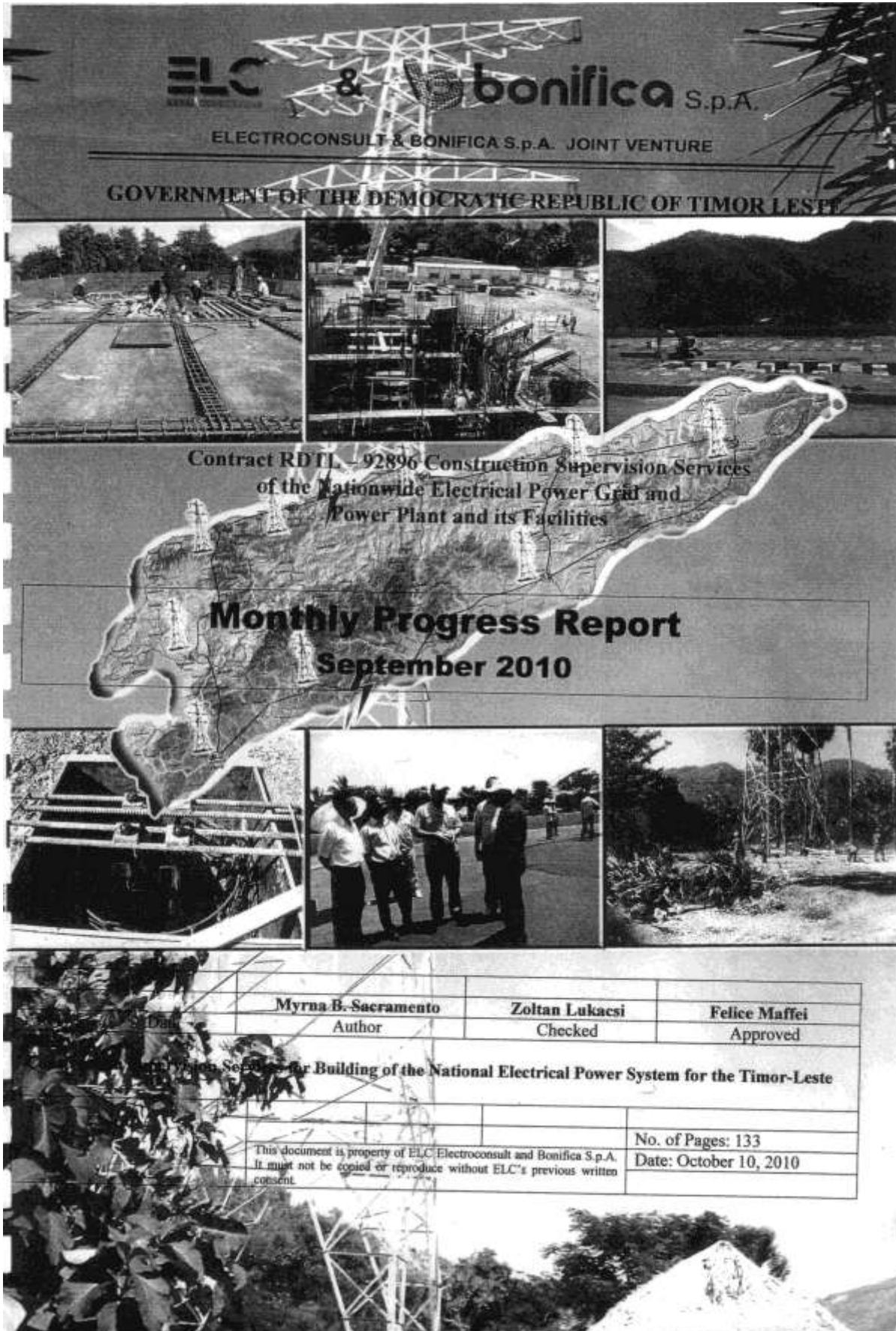


Scanned and excerpted from the Monthly Progress Report of the Construction Supervisor for the Nationwide Electrical Power Grid and Power Plant and its Facilities by La'o Hamutuk. For more information on this project, see

<http://www.laohamutuk.org/Oil/Power/10PowerPlant.htm>



	Myrna B. Sacramento Author	Zoltan Lukacs Checked	Felice Maffei Approved
<p>Construction Supervisor for Building of the National Electrical Power System for the Timor-Leste</p>			
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PROJECT REPORT

EXECUTIVE SUMMARY

For the Month of September 2010

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

For the month of September the activities of the Contractor have been spread out to many fronts.

With the arrival of additional equipments and additional manpower from China somehow the daily accomplishment has been increased , but still the progress remains below to the satisfactory level required in order to maintain the scheduled date of completion fixed by December 31 , 2011.

In view of this situation the Consultant does not spare any effort to press CNI22 to speed up the agreements with Indonesian Subcontractors for subletting to them portions of Transmission Lines and Substations, (particularly the south part of the project). Negotiations with two potential subcontractors : DCP from Surabaya and PT.KARYA from Jakarta are still on going .

One of the milestone achieved during the month of September is the official signature of the contract for the construction of the Hera and Betano Power plants with the Indonesian Company <Puri Akraja Engineering Limited>.

This Company will do the supply , installation , commissioning and operation of 15 Generating Sets manufactured by Wartsila of Finland.

Signature of the Contract took place on 15 September 2010 .

The major activities of the Contractor CNI22 remain concentrated in :

- Dili substation where the main foundation works for 150 KV outdoor structures are 80% completed , the 20KV building main concrete structures with the roof concrete slab are done and in the Main Control Building foundations and columns are done up to the ground level .
- Manatuto substation where only preparatory works are done while waiting for the construction drawings .
- Transmission line sections Hera-Dili ; Dili-Liquica; Hera-Manatuto and Manatuto-Baucau.

The overall progress of the project ON SITE achieved at the end of September is 10.43% against the planned 34.59 % .

Excluding the two power plants from CNI22 contract , in this case the progress achieved and calculated only on the value of the Power Grid plus the 20KV distribution lines is 13.87 % .

It must be highlighted the fact that a substantial quantity of materials and electrical equipments such as Main transformers , Surge arresters , voltage current transformers , current transformers , cables , fittings , steel structures etc. have been manufactured and tested in China and are ready to be shipped , but for the computation of the work progress can be taken in consideration only after the delivered at site.

The following activities are the highlights of the work progress for the Month of September 2010 throughout the various sections of the project.

Dili Substation

- The bricks fencing wall : construction already closed on the side along the existing river and the progress of completion evaluated is 90 % .

- The building for the 20KV equipment : columns up to and including the roof slab have been completed .
- The main control building : concrete structures have been completed up to the ground level.
- The 150KV outdoor area : the main foundations for the gantry steel structures are 90% completed while the support foundations of electrical equipment are 60% completed and are progressing fast.

Manatuto Substation

- No major activity on site . The works are centered in the foundation work of the fence wall and in the stock piling of gravel and sand . Concrete foundations will start as soon as the construction drawings are sent from China .

Baucau Substation

- No activity done .

Lospalos Substation

- The soil investigation is the only activity done. .

Liquica Substation

- The issue of the land ownership was solved and the Contractor was authorized to mobilize in consequently soil investigation has been completed.

Maliana Substation

- No activity done.

Suai Substation

- No activity done.

Cassa and Viqueque Substations

- No activity done.

Hera Power Plant

- The only activity carried out during this month is the asphalt application inside the remaining six Oil Tanks foundations . the steel plates for the tanks constructions are still waiting to be shipped from China.

Betano Power Plant

- No activity done.

Transmission Lines

- **Hera – Dili : Total number of Double Circuit Towers = 30 units**
(9.89 Km)

Total number of Tower Foundation Excavated	= 28
Total number of Tower Foundations Concreted	= 27
Total number of Tower Erected	= 23

The towers remaining are No.1-30 for excavation , No. 1-2-30 for concrete and No. 1-2-26-27-28-29-30 for erection .

- **Hera – Manatuto : Total number of Double Circuit Towers = 92 units**
(41.5 Km)

Total number of Tower Foundation Excavated	= 51
Total number of Tower Foundations Concreted	= 40
Total number of Tower Erected	= 7
Total number of Excavation in progress	=12

➤ **Manatuto – Baucau : Total number of Single Circuit Tower = 127 units**
(60.0 Km)

Total number of Tower Foundation Excavated = 46
Total number of Tower Foundations Concreted = 24
Total number of Tower Erected = 0
Total number of excavation in progress = 15

➤ **Baucau – Lospalos : Total number of single circuit tower = 118 units**
(53.280 Km)

The cross section survey of each tower foundation is being carried out in preparation to start excavation works

➤ **Baucau – Viqueque : Total number of single circuit tower = 96 units**
(64.00Km)

Plans and longitudinal profiles submitted and the Contractor is now preparing to do the cross section of each tower location.

➤ **Dili — Liquica : Total number of single circuit tower = 87 units**
(36.841 Km)

Total number of Tower Foundation Excavated = 24
Total number of excavation in progress = 6
Total number of Tower Foundations Concreted = 2

➤ **Liquica — Maliana**

Plans and longitudinal profiles have been partially done and submitted together with foundation drawings .

➤ **Maliana — Suai**

field survey activity is in progress

➤ **Suai — Cassa**

➤ No field survey activity done yet

➤ **Cassa — Betano**

➤ No field survey activity done yet

➤ **Betano — Viqueque**

The field survey works for this section is completed , and plans and longitudinal profiles are under preparation .

➤ **Viqueque — Lospalos**

The activity of field survey works began with a second group of surveyors arrived from China .

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 : September 29, 2010

Participants :

EDTL

Mr. Roberto Manuel Marcal
Mr. Frederico dos reis da Silva (Power Plant Engineer)
Mr. Francisco Soares Pica (In-charge of the Substations).
Mr. Domingo dos Reis (Substation Engineer)
Mr. Gilberto Siguera (In-charge of Transmission lines) . Not attending
Mr. Jaime Camacho (Power Plant Engineer).
Mr. Bento Xavier (Power Plant Engineer). Not attending
Mr. Alexander de Jesus (Substations Engineer). Not attending
Mr. Jose Antonio Bobo (Administration)

CONSULTANT

Mr. Felice Maffei (Project Manager)
Mr. Virgilio Rivera (Civil Engineer) .
Mr. Joko Siswadi (Electrical Engineer).
Mr. Zoltan Lukacs (QA/QC Engineer).
Mr. Jose Domingo Verasay (Electrical Engineer) .
Mr. Napoleon Villanueva (Asst. Civil Engineer 1for Dili Substation).

CONTRACTOR CNI22

Mr. Li Tao (Project Manager) .
Mr. Wu Yong Jun (Chief Engineer). On leave
Mr. Hung Kaifu (chief engineer for Hera power plant) .Not attending
Mr. Zhang Ming Cun (Substation Manager). Not attending
Mr. Zhang Ming Ping (Transmission Line Manager). Not attending
Mr. Zou Xiaoming (Hera power plant Manager).Not attending
Mr. Zhou Zhong Qi (Dili Substation Engineer)
Mr. Peng Liwei (Interpreter).
Mr. Tang Zi Xian (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. Peng Li Xian (Transmission Line Engineer).Not attending
Mr. Jiang Yan (Transmission Line Engineer).
Mr. Li Dawei (Transmission Line engineer).
Mr. Zhu Ling (Designer). Not attending
Mr. Li Yui (Designer).Not attending
Mr. Cai Hui (QHSE). Not attending
Ms Dina (Interpreter). Not attending
Mr. Pu Yuji (interpreter).

Subject of the meeting : Coordination of the works

Agenda of the present meeting :

- 1) Comments on the last minute of meeting dated September 16 , 2010.
- 2) Progress of works.
- 3) Delivery status of materials and equipment.
- 4) Drawings and technical specifications.
- 5) Insurance policy
- 6) Payments

1) Comments on the last minute of meeting dated September 16, 2010

The Contractor reported that on page 4 , section of transmission line Betano —Viqueque the

words <cross section survey> should be replaced by the words <field survey> and the sentence <The contractor will start excavation in October > to be deleted since this activity is not possible without the drawings not yet submitted .

No other comments from the Contractor.

No comments from EDTL

No comments from those present

Everybody present in the meeting are reminded that <the no comments> it means full approval of the contents of the minute of the previous meeting.

2) Progress of the works

Transmission lines .

The month of September was considered to be as the reference for the Contractor's performance, full month of activity and with good weather conditions, the achievement of this month would have given a clear indication whether the Contractor is capable or not to completed the project on time .

From Liquica substation up to Lospalos substation there are 458 Towers (provisional number since field survey near Manatuto and Baucau substations has to be completed, this will be done within the month of October as stated by the Contractor).

The overall situation is summarized in the following table:

Section	excavation	concrete	Tower erection	Total number
Hera-Dili	27	27	23	30
Hera- Manat.	51	40	7	92
Manat.-Baucau	46	24	--	131
Dili-Liquica	24	2	--	87
Baucau-Lospa.	--	--	--	118
TOTAL	148	93	30	458
THIS MONTH	44	25	7	

The quantity of work done during this month of September is still very far from what could be as the minimum requirement for the project to be completed on scheduled time 31st December 2011.

As discussed many time the Contractor must , in every single calendar day , complete a minimum of:

- 4 (four) Excavation complete of tower foundations
- 4 (four) Concrete complete of tower foundations
- 4 (four) Erection complete of tower structure including tightening of bolts.

If this target is not maintained the Contractor must explain how and when the 2400 towers of the power grid shall be completed.

The Contractor stated the following:

- a) During the month of October the progress will be double
- b) The first team of erector will start on October 2nd the erection of towers 26-2728-29 in Hera- Dili and after will do 7 towers on Manatuto-Baucau.
- c) The second team of erectors in Hera – Manatuto will do 15 towers
- d) The target is to complete at least a minimum of 26-30 towers in the month of October
- e) A third team of erectors will start on Manatuto - Baucau as soon as tower structures will arrive from China.

The Consultant asked how many months the Contractor needs to complete the 458 towers from Liquica to Lospalos based on the progress of 30 towers/month.

The Contractor reply that in November 9 teams of erectors will be working and in December more group will be involved .

The Consultant asked if that means to import more Chinese workers and when CNI22 will start doing tower erection with Timorese workers ?

The Contractor reply that is not his responsibility to recruit workers and train them because tower erection is a very dangerous work. **The Contractor wants the workers for tower erection to be recruited and selected directly by EDTL and then transferred to him for employment and training.**

The Consultant advised the Contractor that the Owner is very unhappy with the situation of the local workers not being employed in sufficient numbers and may stop giving visa to Chinese workers and also may oblige the Contractor to have in the project at least 4 (four) local workers for each Chinese.

HERA– DILI (9.890 KM - No. 30 towers)

Tower foundations to be excavated remain N1 and N30

Tower Foundation to be concreted remain N1-N2 and N30

Tower to be erected N1-N2-N26-N27-N28-N20-N30

On tower No.30, the problem of the land owner still persist and EDTL said that the final solution to this problem is a matter of couple of days, but the Contractor should be ready to start immediately.

The Contractor stated that in the month of October clearing of the right of way 25 m wide will start and stringing of conductors will start from November 1st since all the fittings have been shipped and shall arrive at site in Hera early in October.

DILI – LIQUICA (36.80 KM – 87 towers)

The excavation work is completed in 24 tower foundations and is in progress in 6.

The concrete has been done in only 2 towers foundations.

HERA – MANATUTO (41.500 KM – No. 92 towers)

The excavation work is completed in 51 tower foundations and is in progress in 10.

The concrete has been done in 40 tower foundations.

The tower foundation No.27 is in progress with piling , but it requires long time with the type of old drilling machine used .

The towers erected are only 7

MANATUTO – BAUCAU (50.065 Km -131 towers)

The excavation work is completed in 46 tower foundations and is in progress in 15. The concrete has been done in 24 tower foundations.

BAUCAU – LOS PALOS (53.280 KM – 118 towers)

No activity is reported except the cross section survey of few remaining towers.

In this section plan and longitudinal profile has to be completed for few towers near the substations.

BAUCAU – VIQUEQUE (64 KM – 96 towers)

No activity is reported except the cross section survey of the tower foundations.

LIQUICA – MALIANA (63 KM – 112 towers)

No activity is reported along this section.

MALIANA – SUAI – CASSA – BETANO

Field survey work is in progress with one group of surveyors.

BETANO - VIQUEQUE

Plan and longitudinal profile are under preparation

VIQUEQUE – LOSPALOS

A second group of surveyors is now on site to do field survey.

Concerning the Indonesian Contractors to be utilized for the construction of the portion of the transmission line along the South Coast the situation is as follow :

CNI22 is now in the negotiation phase with <DCP> Company from Surabaya for the section Liquica-Maliana-Suai and on October 5th the agreement will be most probably finalized.

For the sections Suai-Cassa-Betano-Viqueque , CNI22 had preliminary contact with <PT.KARYA LOGAM AGUNG> Company from Jakarta, official meeting will be held on the coming week.

For the section Viqueque-Lospalos a third contractor must be sought (requested by Secretary of State).

Substations

DILI SUBSTATION

The remaining three foundations of the 150 KV steel structures will be done during the coming week.

The main cable trench is under construction. On the 20KV Building the roof is just concreted.

On the main control building the foundations are just completed and backfilling is in progress.

The completion of the civil work is still far to be achieved , the total percentage of civil work progress can be estimated in no more than 70%. The Contractor stated that all the civil work will be completed by middle of November and that steel structures and primary equipment installation will start toward the end of October.

MANATUTO SUBSTATION

There are no major activities going on , except the foundation work of the fencing wall ..

The Contractor is still waiting for the construction drawings from Sichuan Electrical and Power Design Institute in order to start the civil work of the building and of the Steel structures .

BAUCAU SUBSTATION

No activity has been done since the Contractor took possession of the site on August 16 , 2010 .

LOS PALOS SUBSTATION

The soil investigation has been completed , no other activity is reported .

LIQUICA SUBSTATION

Soil investigation and soil boring is in progress .

MALIANA SUBSTATION

No activity done , there are no obstacles for the Contractor to mobilize.

SUAI SUBSTATION

The land owners are still waiting for the compensation of the trees to be cut before handing over the site to the Contractor.

CASSA SUBSTATION

No activity done , there are no obstacles for the Contractor to mobilize in.

VIQUEQUE SUBSTATION

No activity done

The Contractor stated that he plans to start works on Maliana , Suai , Cassa and Viqueque

substations in 2011, but the Consultant reiterated that **Local Contractors** must be employed on these substations and there are no reasons to postpone the activity.

Hera Power Plant

No activity is reported except pointing of the stone in the drainage canal .

The Contractor is reminded that major works to be completed are : Embankment , Drainage Canal up to the road crossing , Fencing Bricks Wall and there are no reasons to have stop for long time this activity.

Betano Power Plant

No activity

3) Delivery of Material and Equipment

Delivery of material and equipment became a very critical issue at this phase of the project , there are no clear indication of what is ready to be shipped , when it will be shipped , when it will arrive at site for erection.

The Contractor submitted already several delivery schedule one different from the other and with indications which are vague and inconsistent .

Packing list are not submitted , so the situation is totally kept in the darkness

4) Drawings and technical specifications

All the submitted drawings have been returned with comments and corrections mainly in the format , in the title block , in the writing , except for the electrical drawings which require a lot of correction in the concept and in the content .

Concept and contents of the civil drawings , of the steel structures drawings , of the transmission line towers drawings were accepted , major corrections have been done only on the roof of the substations buildings.

Now the Contractor should submit a clean copy of each drawing in order to be officially sealed with stamp **<Approved for construction>**

5) Insurance

There is no information about this issue .The Contractor continue to work at his own risk without insurance coverage

6) Payments

All the payments have been made by the Owner , the only outstanding payment is the one relevant to the interim payment certificate No. 6 for the month of August .

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

Next meeting is scheduled for Thursday 14 October at 14:30 in Hera.

FINANCIAL PROJECT STATEMENT

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 its 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 its Facilities (unchanged)
- (II) US \$ 276,092,847.00 for Power Grid and its 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

A. Disbursement Schedule:

10% Advance Payment		\$ 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 contract price ----- \$ 330,418,102.00

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	5,872,855.58	4,699,733.18 paid
2	4,117,847.41	3,294,319.58 paid
3	3,439,526.40	2,756,729.20 paid
4	800,321.83	640,257.46 paid
5	4,891,259.53	3,915,378.36 paid
6	5,569,325.60	4,456,218.22 paid
7	13,593,524.11	10,877,498.39 in process
Total	38,284,660.46	30,640,134.39

The cost for the management and operation in the amount of US \$ 3,000,000.00 per year per a period of 5 years, shall be disbursed starting from the date of issuance of Operational Certificate.

The summary (gross amount) of above interim payments represent 10.43% of the total Contract Price (US \$ 367,131,224.00).

If from the original contract price the value of the Power Plants of Hera and Betano are removed (contract for this work has been now assigned to the Indonesian Company <Puri Akraya Engineering Limited> for the installation of Wartsila Gen / Set), the above percentage increase to 13.87%.

B. Expected Budget of Performance

1. WORKS & SUPPLY

Year	Monthly Schedule of Disbursement (USD)				Amount
	Jan-Mar	Apr.-Jun	Jul-Sep	Oct-Dec	
2009		10,000,000.00		10,550,000.00	10,550,000.00
2010	Feb-Mar	Apr.-Jun	Jul-Sep	Oct-Dec	
	1,450,000.00	9,990,702.99	27,324,566.81	76,915,281.42	115,680,551.22
2011	Jan-Mar	Apr.-Jun	Jul-Sep	Oct-Dec	
	50,000,000.00	50,000,000.00	45,000,000.00	41,000,000.00	186,000,000.00
2012	Jan-Mar	Apr.-Jun	Jul-Sep	Oct-Dec	
	30,000,000.00	24,900,672.78			54,900,672.78
TOTAL					367,131,224.00

2. MANAGEMENT & OPERATION

Year	Monthly Schedule of Disbursement (USD)				Amount
	Jan-Mar	Apr.-Jun	Jul-Sep	Oct-Dec	
2012		750,000.00	750,000.00	750,000.00	2,250,000.00
2013	Jan-Mar	Apr.-Jun	Jul-Sep	Oct-Dec	
	750,000.00	750,000.00	750,000.00	750,000.00	3,000,000.00
2014	Jan-Mar	Apr.-Jun	Jul-Sep	Oct-Dec	
	750,000.00	750,000.00	750,000.00	750,000.00	3,000,000.00
2015	Jan-Mar	Apr.-Jun	Jul-Sep	Oct-Dec	
	750,000.00	750,000.00	750,000.00	750,000.00	3,000,000.00
2016	Jan-Mar	Apr.-Jun	Jul-Sep	Oct-Dec	
	750,000.00	750,000.00	750,000.00	750,000.00	3,000,000.00
2017	Jan-Mar	Apr.-Jun	Jul-Sep	Oct-Dec	
	750,000.00				750,000.00
TOTAL					15,000,000.00

NOTE:

Expected payments done by the Owner in accordance with the progress of the works these tables shall be revised now that the contract for the Two Power Plants is signed with Indonesian Company <Puri Akarya Engineering Limited>

a) Summary of Contracts Contractual Data (page 57)

a-1 The 2nd Amendment to Contract Agreement No. RDTL – 812931 now 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 IN 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 IN 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.

NOTE : Following the decision of the Owner to cancel from CNI22's contract the two power plant of Hera and Betano , and to use new Gen/Set supplied by Wartsila ,the value of the project will increase substantially .

ROUGHLY THE VALUE OF THE PROJECT COULD BE AS FOLLOW :

Original contract price US \$ 367,131,224.00 , less value of the two power plants US\$ 91,038,377.00 , plus the new estimated cost of the two new plants US \$ 352,569,123.00 = US \$ 628,661,970.00

b)SUMMARY OF CONTRACT STATUS

I. HERA POWER PLANT

Asphalt layer 10 cm thickness has been done on all other remaining six tanks foundations and afterward no activity has been done inside the Power Plant. Waiting for the arrival of the steel plate for the tanks construction. The Indonesian Contractor <Puri Akraya Engineering Limited> that shall make the installation of Wartsila Generating Sets will start mobilization as soon as advance payment is received.

II. BETANO POWER PLANT

No activity. The Indonesian Contractor < Puri Akraya Engineering Limited> that shall make the installation of Wartsila Generating Sets will start mobilization as soon as advance payment is received .

III. SUBSTATIONS

• • DILI SUBSTATION

The activity is concentrated in the civil works:

- Bricks fencing wall is completed with a total progress of 90%.
- For the 20KV Building the concrete work up to the roof slab has been completed and now preparing for the block works for the external and internal walls.
- For the Main Control Building the foundations including the columns up to the ground level has been completed. The work is now centered mainly in the preparation for the upper concrete structure up to the 2nd floor level.
- The foundations of the 150KV outdoor steel structures are 90% done, while the support foundations of the electrical equipments are 70% done and shall be ready for the erection of the steel structures in the coming month when the materials arrive in East Timor.

• MANATUTO SUBSTATION

- All the temporary facilities and living quarters for the Contractor's staff are completed including the temporary fence while the foundation for the permanent bricks wall fence is about at 10% complete. Mechanical screening of sand and gravel is continuously done and stock piled for the foundations concrete works.
- The construction drawings will arrive soon from China and the Contractor will be able to commence excavation for the structures most probably next month.

• BAUCAU SUBSTATION

- No activity is reported from the date the Contractor has obtained site possession (16 August 2010).

• LOS PALOS SUBSTATION

- The only activity done after the area was cleared from any land disputes was the soil investigation .Now construction drawings are under preparation in China.

• LIQUICA SUBSTATION

- The issue of the land ownership problem was solved and that gave the opportunity for the Contractor to start and complete the soil investigation.

• MALIANA – SUAI – CASSA – VIQUEQUE SUBSTATIONS

- No activity is done on these places, all substations sites are free for the Contractor to mobilize in except Suai for which the eight (8) land owners are waiting for the compensation as agreed with Land and Property Department .

IV. TRANSMISSION LINES

- HERA – DILI (9.89 KM) total number of double circuit towers: 30 units.
 - Total number of tower foundations excavated: 28
 - Total number of tower foundations concreted: 27
 - Total number of towers erected : 23
- HERA – MANATUTO (41.5 KM) total number of double circuit towers : 92 units.
 - Total number of tower foundations excavated: 51
 - Total number of tower foundations concreted: 40
 - Total number of towers erected : 7
- MANATUTU – BAUCAU (60.00 KM) total number of single circuit towers:127 units.
 - Total number of tower foundations excavated: 46
 - Total number of tower foundations concreted: 24
 - Total number of towers erected :: 0
- BAUCAU – LOS PALOS (53.28 KM) total number of single circuit towers :118 units.

In preparation to start the excavation works the cross section survey of each tower foundation is carried out.
- BAUCAU – VIQUEQUE (64.00 KM) total number of single circuit towers : 96 units.

Plans and longitudinal profiles have been completed except the last couple of KM near Viqueque substation. The contractor is preparing to do the cross section of each tower location.
- DILI – LIQUICA (36.84 KM) total number of single circuit towers : 87 units.
 - Total number of tower foundations excavated : 24
 - Total number of tower foundations concreted : 2
- LIQUICA — MALIANA (63.0 KM) total number of single circuit towers : 112

Plan and longitudinal profiles have been completed and submitted partially together with the foundation drawings.
- MALIANA — SUAI — CASSA — BETANO

Along these sections the field survey has been started from Maliana toward Suai .
- BETANO — VIQUEQUE

The field survey work is done .
- VIQUEQUE — LOSPALOS

The field survey works is just started .

a) ENVIRONMENTAL MANAGEMENT PLANS (page 120)

A. INTRODUCTION

An Environmental Management and Monitoring Plan (EMMP) was prepared by the Consultants (ELC in association with Bonifica S. p. A.) in August of 2009 for the National Electrical Power System For Timor Leste (Contract RDTL-92896). The Contractor - China Nuclear Industry 22nd Construction Company Limited (CNI22) – signed the Commitment Letter for the implementation of the EMMP in late March of 2010 binding the Company (CNI22) to the tenets and requirements of the said EMMP. This report discusses the status of the implementation of the EMMP as of May 2010. Areas covered by this report are the following:

Hera Power Plant Site
Transmission Towers from Hera to Dili
Dili Sub-station

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 – 630 kilometers
- Distribution lines linking the High Voltage Grid to the existing Medium Voltage Grid

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.

1. ENVIRONMENTAL MANAGEMENT

The Environmental Management Plan (EMP) is designed to ensure that the mitigating measures recommended to prevent or control the negative impacts of the different aspects of the project on environment, life, and property are properly followed, while positive impacts are enhanced to gain maximum benefits from the project. Table 1 presents the Summary Environmental Management Checklist as of May 2010.

TABLE 1. ENVIRONMENTAL MANAGEMENT CHECKLIST-JUNE 2010

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.	X		CNI22/ CSC/EDTL	ROW for Facilities and Transmission Towers have been acquired by the GoTL and did not encounter any issues. Acquisition of access roads which is the responsibility of the Contractor is yet to be resolved.
PLANNING SITE ACTIVITIES	Health hazards and risks to workers and residents of nearby communities	Prepare Occupational Health and Safety Plan	X		CNI22/ CSC/EDTL	Attachment 1 presents the QHSE Plan for the Project. The plan however lacks major operational details and need to be revised.
	Social conflicts with local residents	Undertake consultations with local residents prior to mobilization	X		CNI22/ CSC/EDTL	Proper Consultations with the local leaders and communities have been undertaken and is an on- going activity.
		Priority employment for local workers	X		CNI22/ CSC/EDTL	As of 28 May 2010, records provided by the Contractor states that 155 local workers have been hired for the various works.
		Establishment of grievance/complaints desk at site offices		X	CNI22/ CSC/EDTL	No formal complaints desk has been established by the Contractor. Issues and concerns raised by the local leaders and stakeholders are usually brought to the attention of the local staff of the Consultants and properly forwarded to the Owner.
CONSTRUCTION PHASE						
ESTABLISHING CONSTRUCTION SITES	Generation of dust from clearing and grubbing	Minimize clearing to required area only	X		CNI22/ CSC/EDTL	Clearing of work areas are undertaken in required area only.
		Regular watering of exposed areas	X		CNI22/ CSC/EDTL	Undertaken daily.
	Soil Erosion due to exposure of topsoil	Re-vegetate when possible and practicable		X	CNI22/ CSC/EDTL	No re-vegetation of cleared areas has been undertaken to date.
	Generation of solid waste	Prepare Solid Waste Management Plan (SWMP)		X	CNI22/ CSC/EDTL	No SWMP have been prepared by the Contractor to date.
	Conflicts with local residents	Undertake consultations with local residents	X		CNI22/ CSC/EDTL	Proper consultations with the local leaders and communities have been undertaken primarily by the Consultants. This is an on-going activity.

PROJECT ACTIVITY	POTENTIAL ENVIRONMENTAL IMPACT	PROPOSED MITIGATION MEASURE	COMPLIANCE		RESPONSIBLE ENTITIES	REMARKS
			YES	NO		
SITE DEVELOPMENT AND CONSTRUCTION OF FACILITIES	Acute elevated levels of TSP/SO ₂ /NO _x	Minimize and control dust generation through regular spraying of exposed areas	X		CNI22/ CSC/EDTL	Undertaken daily
		Regular maintenance of heavy equipment, vehicles and machineries	X		CNI22/ CSC/EDTL	Undertaken regularly
	Siltation and sedimentation of nearby water bodies	Containment and construction of siltation ponds and silt curtains		X	CNI22/ CSC/EDTL	The Contractor has not complied with this requirement.
		Minimum vegetative removal	X		CNI22/ CSC/EDTL	
		Proper management, handling and disposition of spoils and unsuitable materials	X		CNI22/ CSC/EDTL	
	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	The Contractor has not complied with this requirement.
		Construction of bund walls of adequate capacity around fuel, oil and solvent storage tanks	X		CNI22/ CSC/EDTL	Construction of Fire Bank (Bund Wall) for the Tank Farm is on-going. This need to be clarified with the Contractor as the dimensions of the said Fire Bank can contain only less than 60% of the total materials stored inn the Tanks.
		Proper handling and storage of petroleum products and toxic and hazardous substances	X		CNI22/ CSC/EDTL	
		Installation of sanitation facilities in camps and site offices	X		CNI22/ CSC/EDTL	The main facility is adequately provided with the requisite sanitation facilities, however, the makeshift camp located just beside the main facility where the workers of the Transmission Tower Construction group are housed does not have the proper sanitation facilities. The wastewater for the facility is discharged into an open canal located at the entrance of the facility.
		Installation of waste treatment facilities in ancillary facilities such as batching plants and related facilities		X	CNI22/ CSC/EDTL	None
		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

PROJECT ACTIVITY	POTENTIAL ENVIRONMENTAL IMPACT	PROPOSED MITIGATION MEASURE	COMPLIANCE		RESPONSIBLE ENTITIES	REMARKS
			YES	NO		
		Regular maintenance of heavy equipment and machineries	X		CNI22/ CSC/EDTL	On-going
		Establishment of buffers between nearby settlement areas and work areas		X	CNI22/ CSC/EDTL	None
	Loss of habitat	Cutting of trees and clearing of vegetative cover to be undertaken only when necessary	X		CNI22/ CSC/EDTL	200 trees have already been cut as a result of clearing and grubbing activities for Hera Plant Site, Dili Substation and Transmission Towers for Hera to Dili Substation Line. Total number of trees for the other facilities and Transmission Towers are yet to be counted pending the conduct of the survey.
		Relevant permits and clearances will be secured prior to cutting and clearing activities		X	CNI22/ CSC/EDTL	No permits have been presented by the Contractor
	Migration/Loss of wildlife	Habitat development and generation through planting of indigenous species		X	CNI22/ CSC/EDTL	None
		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 22 Construction Company Ltd.; CSC — Construction Supervision Consultants; EDTL — Electricidade Da Timo Leste; DoE — Directorate for Environment

a) DESIGNATION OF AN ENVIRONMENTAL OFFICER

The Contractor — China Nuclear 22nd Industry Company — has on-site the following personnel designated as Safety and Environmental Officers:

Mr. Cai Hui
Mr. Lui Jianguo
Mr. Wang Jinan
Mr. Chen Jiangtao

b) DESIGNATION OF A HEALTH/MEDICAL OFFICER

The Contractor — China Nuclear 22nd Industry Company — has on-site Dr. Wang as the designated Health/Medical Officer. However, the medical officer services both the Hera Facility and the Dili Sub-Station Facility.

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

Attachment 1 presents the Quality, Health, Safety and Environment Management System. The QHSE Management Plan does not contain the requisite operational details and should be revised to include this. The Contractor — CNI22 - has yet to prepare the Solid Waste Management Plan for the facilities.

d) SPILL CONTINGENCY/EMERGENCY RESPONSE PLAN

Attachment 2 presents the Site Emergency Contingency Plan. The Plan (Site Emergency and Contingency Plan) as prepared sorely lacks the necessary operational details required. This should be revised to include this. The Oil Spill Contingency Plan (as per information from the Contractor) will be prepared after the Oil Tanks are erected.

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

Regular wetting/watering of exposed grounds to prevent re-suspension of particulates is undertaken daily. Regular maintenance of equipment and facilities to mitigate emission of noxious fumes and gases is an on-going activity. Sanitary facilities are provided in the main camp in Hera, however the area where the makeshift camp of the Transmission Tower Construction Group is located does not have the proper sanitation facilities. The Contractor has prepared a Site Emergency and Contingency plan (Attachment 2) but this lacks the necessary operational details required in such a plan. This has to be revised to conform to acceptable standards. Operation of heavy equipment and related machinery are operated on a normal basis only from 8:00AM to 5:00PM.

f) PROTECTION OF TREES AND VEGETATION

Clearing of areas with trees and vegetation are only undertaken in required areas.

g) RELATIONS WITH LOCAL COMMUNITIES AND AUTHORITIES

Consultations are 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. The ROW acquisition for Facilities and Transmission Towers, which is the responsibility of the GoTL, has been adequately and expeditiously addressed. Currently the contention between the Contractor, the affected communities and the Owner is the acquisition of ROW for access road which is the responsibility of the Contractor. This has yet to be properly resolved.

h) PRIVATELY OR COMMUNITY OWNED SERVICES AND STRUCTURES

Compensation for private property that have been affected by the works are expeditiously

addressed by the GoTL. Public services have not been affected by the current works.

i) OCCUPATIONAL HEALTH AND SAFETY

PROTECTIVE CLOTHING AND SAFETY EQUIPMENT

Workers are provided the basic PPE such as hard hats (Timorese and Chinese) and safety shoes (only for Chinese workers). Consultants were provided safety shoes and hard hats by ELC & Bonifica.

MEDICAL AND FIRST AID FACILITIES

The Contractor has on-site (Hera Power Plant Facility) a room designated as a clinic and a Medical Officer to service the medical requirements of the workers. The Medical Officer, however, also services the requirements of the workers in the Dili Sub-Station. As per information from the Contractor, major medical concerns of the workers are referred to the Chinese Volunteer Medical Group of the Chinese Contingent of the United Nations in Dili. Medical records of cases handled by the medical officer to date have been formally requested from the Contractor but these have yet to be provided to date.

SUPPLY OF DRINKING WATER AND SANITATION

The water supply both for drinking supply and domestic usage for the facility is sourced from groundwater sources within the Hera Power Plant Facility. The raw water passes through a three stage treatment before distribution. As per information provided by the Contractor, the average daily extraction is 65m³ or a total volume of 7,800m³ since induction of the Contractor on-site in January 2010. Sanitation facilities address the waste water discharge generated in the facility. Data provided by the Contractor indicate that the average discharge of wastewater is 40m³ per day or a total volume of 4,800 m³ since mobilization of Contractor on-site.

TEMPORARY FACILITIES FOR WORKERS INCLUDING SANITATION AND WASTE DISPOSAL

Temporary facilities and accommodations for workers in the facilities have been made available by the Contractor in the main facility. This includes sanitation facilities such as toilet and bath areas with the requisite septic tanks. Waste disposal receptacles are located in strategic places for wastes generated from the daily personal and operational activities. These receptacles are emptied and disposed regularly through the local waste disposal system.

The Tower Transmission Construction Group is housed in makeshift (scaffolding covered by laminated sack) structures adjacent to the main facility. The temporary facilities provided these workers are unacceptable and highly deplorable. The toilet and bath facilities provided the workers are unsanitary and unhygienic and is not within acceptable sanitation standards. This is a great risk to the health and well being of, not only the workers residing in the area but also the workers in the main facility. Ample space are still available in the main facility and could accommodate these workers.

TRAFFIC MANAGEMENT

There is no traffic management being implemented in the facilities and no traffic management plan submitted by the Contractor to the Consultants.

1. 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 effects to the living receptors are received mainly through the surface water, air and surrounding area. Environmental monitoring principally requires quantitative measurements of the amount of pollutants present in the environmental media.

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.

2. REPORTING REQUIREMENTS

The Contractor have not submitted any monthly environmental management and monitoring report since mobilization in January 2010. As per the EMMP prepared for the Project, the Contractor has not prepared a single monthly report covering the implementation of the EMMP and discussing the environmental aspects of the project. A format for the Monthly Environmental Management and Monitoring Report is provided in Annex B of the EMMP.

3. ISSUES AND CONCERNS

- The EMMP stipulates that a Baseline Survey for Air, Noise and Water Quality. The Contractor has not yet conducted this activity to date. This is non-compliance to the EMMP of the Project.
- The EMMP stipulates that Monthly Environmental Monitoring for Air, Noise and Water Quality be conducted as expounded in Table 3 of the said EMMP. The Contractor has not yet conducted this activity to date. This is non-compliance to the EMMP of the Project.
- As per the EMMP, the Contractor should submit a Monthly Environmental Management and Monitoring Report, the format for which is presented in Annex B of the said EMMP. To date the Contractor have never submitted such report.
- Conflicts with the local populace have arisen as a result of acquisition of ROW, specifically for access roads for Tower 26, 27, 28 and 29. This should be resolved soonest to preclude further deterioration of relations with the communities.
- Corollary to the above, a formal grievance and complaints desk should be established by the Contractor in the facilities to receive complaints, issue and concerns of the stakeholders. The Contractor should have on his staff a Community Relations Officer (CRO) that will liaise and coordinate with the local communities together with the local staff of the Consultants. This will mitigate the occurrence of social conflicts and effect a smoother flow of the works.
- There has been no re-vegetation of the cleared areas undertaken by the Contractor to date. This is critical since 14 of the Transmission Towers (Her Power Plant to Dili Sub Station) are located in steep slopes and is highly prone to erosion. Immediate re-vegetation of these areas should be undertaken to prevent erosion of the slopes. Furthermore, areas cleared in the Hera Power Plant and Dili Sub Station which will not be worked on anymore should be immediately re-vegetated to minimize the generation of dust (Particulate Matter) which could give rise to unsafe working conditions and in the extreme upper respiratory diseases.
- As stipulated in the EMMP (see Item 4.1.3) the Contractor should prepare a Solid Waste Management Plan and submitted to the Consultants within one (1) month of his arrival on-site. The Contractor has yet to comply with this requirement.
- The Contractor has not constructed siltation ponds to address discharge of silted runoff into nearby receiving bodies of water. During heavy rains, run-off from bare areas is heavily laden with materials that contribute to the siltation of the nearby sea.
- Oil and grease traps in drainage systems from workshops, vehicle washing facilities and service and fuelling areas have yet to be installed by the Contractor. This should be immediately complied with to prevent further degradation of the nearby water bodies which is the ultimate depository of the wastewater being discharged by the facility.
- As per the EMMP. the Contractor is obligated to secure the requisite Environmental Permits and Clearances from the National Directorate for Environmental Conservation. To date, the Contractor has not presented the necessary Development Permits and Clearances as required by the National Laws, Rules and Regulations of the GoTL.
- Appurtenant pollution control devices should be installed in the ancillary facilities such as the Batching Plant within the Hera Power Plant. Particulate Matter (PM) and wastewater generated by the operation of the plant need to be addressed to mitigate health risk to workers and mitigate further degradation of nearby water bodies.

- Buffer zones should be established between the facilities and the surrounding settlement areas. This would prevent nuisance to the populace living within the periphery of the facilities and mitigate/eliminate adverse impacts to the surrounding communities.
- The Site Emergency Contingency Plan and the Quality, Health, Safety and Environment Management System as prepared by the Contractor are barely adequate and should be revised to include pertinent operational details. The Oil Spill Contingency Plan should be drafted soonest and should not be prepared only upon installation/erection of the Tanks.
- The Contractor needs to provide a separate medical facility for the Dili Sub Station with the requisite medical officer, equipment and supplies. The current practice is for the Medical Officer assigned in the Hera Power Plant also serves the medical requirements of the workers in the Dili Sub-Station.

QUALITY CONTROL

The procedures implemented to all the activities in this project shall be in strict compliance to the International Standard Practice .

A. RECEIVING SECTION

- Handling, storage and preservation of materials and equipments at the designated stock yard; *Visual inspection of the materials and receiving verification of Manufacturer's Certificate.*

B. INSTALLATION

- *Grade & site inspection*
- *Formwork inspection*
- *Reinforcing Bars and embedded items inspection*
- *Gravel and sand visual inspection for impurity and soil content*
- *Concrete Sampling, Testing & Concrete Placing observation*
- *Testing, calibration and commissioning of concrete Batching Plant*

SAFETY

The overall safety program is still below the standard construction practice and the Consultant is imposing strict procedures to avoid any accident throughout the duration of the project.

DILI SUB STATION AND HERA POWER PLANT

- ✓ Warning sign showing «you are entering a construction area» Ex. CAUTION DRIVE WITH CARE CONSTRUCTION AREA AHEAD; SLOW DOWN EQUIPMENT CROSSING etc. to be placed visibly before and after the main gate at least 50 meters.
- ✓ At excavation place warning signboard such as; DEEP EXCAVATION
- ✓ To any moving equipments such as crane; DANGER HEAVY LIFTING IN PROGRESS.
- ✓ ALWAYS PUT LADDER for excavation exceeding 1.5 meter depth and put railings to any working platform with a minimum height of 2.0 meters above the ground surface.
- ✓ Place at the main gate of every site signboard — SAFETY BEGINS HERE, ALWAYS WEAR YOUR (PPE) PERSONAL PROTECTIVE EQUIPMENTS, hard hat, safety shoes and proper working clothes .

TRANSMISSION LINE HERA – DILI

- ✓ Foundation area to be circumscribed with RED/YELLOW WARNING RIBBON to keep onlookers away.
- ✓ In each excavation pit , a LADDER must be placed for fast evacuation of workers in case of danger.
- ✓ Place on every foundation place the safety sign-boards : SAFETY BEGIN HERE , ALWAYS WEAR THE PERSONAL PROTECTIVE EQUIPMENT, hard hat, safety shoes,

safety gloves, and proper working clothes.

- ✓ For towers erection and conductors stringing sign-boards : ALWAYS WEAR SAFETY HAT, SAFETY BELT, SAFETY SHOES, SAFETY GLOVES and PROPER WORKING CLOTHES.

PROBLEMS / ISSUES AND RECOMMENDATIONS

Problems/Issues Encountered:

1. *Communication problems* for technical staff and workers of the contractor who cannot speak nor understand the English Language.
2. Constantly delay in submission of Construction Drawings for Consultant's review and approval.
3. Supervisors of the Consultant are obliged to be constantly present on site otherwise the quality of workmanship is deteriorating due to the carelessness of the Contractor.
4. No cohesive planning department of the Contractor to make a constant follow up of the office and of the field activities.
5. Mishandling of tower materials during unloading, loading and transporting from the yard to the site.
6. Safety practices at the jobsite are far below regulations .
7. Environmental negligence on site .
8. Obstructions made by Landowners who oppose any construction inside their property without compensation.

Recommendations/Actions:

1. The Contractor must *provide* technical staff fluent or an average understanding of the English language to facilitate easy communications and field instruction.
2. The Contractor is always reminded/instructed to submit on time the construction drawings to avoid delay for the review and approval.
3. The Contractor is verbally instructed that supervisors, particularly QA/QC personnel, must be always present on site to inspect and monitor that the work activities are carried out according to the plans and specifications.
4. The Contractor is reminded that Planning Engineer must keep an eye with the progress according to the approved time schedule. Keep the record , update daily the general accomplishments and find remedy to recover delay .
5. The Contractor is reminded that more qualified staff is required to handle the materials to prevent being damaged in unloading and transporting to site. Any damaged structures will be rejected and must be replaced , all that will cause inevitable delay.
6. The Contractor is reminded to supply the workers with Personal Protective Equipment (PPE), which must be worn on the jobsite always. Provide barricades to every excavation or provide warning tape around the excavation clearly visible at all times.
7. All completed works on site must be cleaned free from left over from the construction materials used and other rubbish in order to prevent environmental pollution.
8. Contractor must familiarize himself to manage with the local community whenever entering to the property prior to start the works.