PROJECT REPORT

EXECUTIVE SUMMARY

(pages 8-17 in original report)

For the Month of JUNE 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)

The Contractor, aware of the fact that the commitment undertaken to meet the completion dates promised to the Prime Minister cannot be neglected , is doing a excessive effort to accelerate the progress , but unfortunately this is done at disadvantage of the quality of the works . Considerable number of Chinese workers has been sent from China , but the majority are common labourers without professional skill and the result is a very poor workmanship. In general the works being done along the transmission lines and in the substations are classified of very low quality .

Steel structures are fabricated without quality control, galvanization is done under standard specification, brand new electromechanical equipment are arriving at site full of rust.

In addition to that handling of materials is also done in a very rough manner making additional damages .

The Consultant's engineers attending the factory tests of the equipment in China warned several time the manufacturers , but notwithstanding the promises from the management of the factory to improve the quality , the result continue to be the same with poor quality products.

Should the situation remains unchanged, during the maintenance period a lot of repair works shall be expected to be required .

The Contractor claims that obstacles created by land Owners in several places along the transmission lines are not solved yet , and also is claiming that with the present road condition from Manatuto to Baucau and Lospalos it is not possible to transport the transformers and the electromechanical equipment to those substations .

The total progress achieved at the end of June 2011 by CNI22 on site is 53.40 % against the planned 51.57 % (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 57.33%**
2) **Substations 30.27%**
3) **Hera oil tanks 90.84%**
4) **20 KV Lines 28.69%**

The progress of the works done by CNI22 during the month of June 2011 can be summarized as follow :

Dili Substation:

The target of the Contractor to complete all the civil works by end of June has not been accomplished , a lot remain to be done.

- Assembly of the two 31.5 MVA Power Transformers not completed yet.
- Installation of the 150KV equipment 90% is done.
- Installation of Capacitor Bank 80% done.
- Construction of the internal roads with concrete slab is 75% done .
- Installation of Cable supports in the main cable trench 80% is done. The Grounding Network installation is 95 %completed.
- 20 KV building — Installation of window 100% done , doors 50% done , grounding system 80% done , 20KV switchgear placed on place 100% .
- Main Control Building — Installation of window 95% done , floor and wall tiles 75% done , ceiling 70% done , protection and control cabinets placed on place 100%
- Plastering works inside the dormitory house is 100% done.
- Plastering of the fence wall 90% done
- The overall cleaning of the substation area is in progress.
- The overall civil work remaining to be done can estimated about 8%

Manatuto Substation

- Construction of the Permanent bricks wall fence is 80% completed with plastering to both side done .
- 150 KV area – Erection of the Steel Structures is 95% completed including the support foundations; cable trench is now in-progress and 90% completed .
- Main Control Building – Painting and floor tiling 50% done , insulation and water proofing of the roof slab completed.
- 20 KV building – Painting internal and external in progress , floor concrete slab done , insulation and water proofing of the roof slab completed.
- Pump house – Painting of the walls internal and external is in progress, water proofing of the roof slab completed.
- Concrete paving of internal roads 15% done.
- The main transformer is delivered to the site and placed on the foundation

Viqueque Substation

- Construction of the retaining wall is in progress , 50% completed.
- Main Control building foundation form works and rebar installation is in progress , 50% done.
- 20KV building foundation formworks and rebar installation is in progress, 40% done .
- Construction of the main transformer foundation is done.
- 150KV Switchyard - foundations for the steel structures and supports are 15% completed.

Liquica Substation

- Construction of the stone retaining wall in the south part is progressing and 80 % is done.
- Installation of steel structures in the 150KV switchyard is in progress .
- Cable trench construction is 80% done .
- Fence wail construction is 30% done
- Concrete structure of the pump house is completed.
- Construction of the 20KV capacitor foundation is done.
- Main Control Building – Plastering of the walls is done and installation of windows is 30% done .
- 20 KV Building – Plastering of the walls is done , construction of indoor cable trench is in progress.

Baucau Substation

- The foundations of the 150 KV structures and the foundations of the supporting structures are in progress , only 25% are done .

- Main. Control building – Concrete structures are in progress up to the roof level .
- 20 Kv. building – Concrete structures up to the roof level are in progress .
- Fence wall construction 40% done.
- Excavation of the fire fighting pit and house is in progress.

Lospalos Substation

- Construction of the fence wall is done.
- Main Control building- Concrete structures up to the roof level is done.
- 20 KV building – roof concrete beams are under preparation .
- 150KV switchyard area , foundations for the steel structures are 80% done .
- Concrete structures of the pump house are 40% done .
- The construction of the fire fighting water tank is done.
- Guard house – concrete structures are completed up to the roof level .

Maliana Substation

- Site leveling was completed and the only activity on going is the foundation works of the fencing wall . The contractor is claiming that , due to the damaged bridge , materials and equipment cannot be transported to the site .

Suai Substation

- No activity . The situation with Land Owners has not been solved yet by the Ministry of Justice , the Land Owners are waiting for their compensation for the trees to be cut . This situation become now critical for the Contractor that cannot start its activity . The Contractor with its organization requires at least 10 months to construct this substation from the moment the site is handed over .

Cassa Substation

- The activity of the site leveling and embankment compaction is done.
- Soil investigation is done .
- The Contractor is now waiting for the civil works drawings in order to start the field activity.

Hera Power Plant (Part of CNI22 Competence)

The construction of the Oil Tanks by CNI22 is on-going with the progress achieved as follow:

- First 5,000 M3 tank has passed the hydraulic test and anticorrosive paint is now being applied
- Second 5,000 M3 tank , the hydraulic test has been completed.
- Third 5,000 M3 tank , the hydraulic test is ongoing .
- First 1000 M3 tank , the hydraulic test has been completed and external insulation work is in progress (50% done).
- Second 1000 M3 tank , the hydro test is on going .
- Third 1,000 M3 tank , preparation work for the hydraulic test is in progress .
- Two (2) 300 M3 tanks , erection and welding is completed , installation of spiral stairs is completed .

150 KV Transmission Lines

Hera – Dili : Total number of Double Circuit Towers	**30 units**	(9.891 Km)
Total number of Tower Foundations Excavated	30	
Total number of Tower Foundations Concreted	30	
Total number of Towers Erected	30	
Total number of Towers- Stringing of Conductors	29	
Hera – Manatuto : Total number of Double Circuit Towers	**91 units**	(40.902 Km)
Total number of Tower Foundations Excavated	91	
Total number of Tower Foundations Concreted	91	

Total number of Towers Erected	85	
Total number of Towers- Stringing of Conductors	72	

- **Manatuto - Baucau : Total number of Single Circuit Tower** **132 units** (52.329 Km)

Total number of Tower Foundations Excavated	132
Total number of Tower Foundations Concreted	131
Total number of Towers Erected	127
Total number of Towers-Stringing of Conductors	68

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

Total number of Tower Foundations Excavated	111
Total number of Tower Foundations Concreted	105
Total number of Towers Erected	92

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

Total number of Tower Foundations Excavated	72
Total number of Tower Foundations Concreted	69
Total number of Towers Erected	41

- **Dili – Liquica : Total number of single circuit tower** **87 units** (38.818 Km)

Total number of Tower Foundations Excavated	84
Total number of Tower Foundations Concreted	81
Total number of towers Erected	67
Total number of towers-Stringing of Conductors	23

- **Liquica- Maliana : Total number of single circuit tower** **109 units** (44.921 Km)

Total number of Tower Foundations	39
Excavated Total number of Tower Foundations Concreted	29
Total number of Towers Erected	--

- **Maliana - Suai : Total number of single circuit tower** **134 units** (57.621 Km)
  Awaiting for the drawings of the foundations
- **Suai -Cassa : Total number of single circuit tower** **98 units** (38.555 Km)
  Awaiting for the drawings of the foundations.
- **Cassa-Betano : Total number of single circuit tower** **54 units**
  (24.104 Km provisional)
  Awaiting for the drawings.
- **Betano-Viqueque : Total number of single circuit tower** **196 units**
  (83.391 Km provisional)

Total number of Tower Foundations Excavated	31
Total number of Tower Foundations Concreted	16
Total number of Towers Erected	--

- **Viqueque - Lospalos : Total number of single circuit tower** **233 units** (103.439 Km)

Total number of Tower Foundations Excavated	41
Total number of Tower Foundations Concreted	12
Total number of Towers Erected	--

The performance of the Contractor CNI22 in the overall is poor

20 KV Distribution Lines

- **Dili – Aileu – Gleno** (KM 60.10)
  This line start from Dili substation (Becora) until Seloi with double circuit , and from Seloi one circuit goes to Aileu and one circuit goes to Gleno.
  Construction of the line is in progress:
  Excavation , installation of the poles and concreting of footing is done in 120 units
- **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)
  Tender's specification has been issued and given to 5 local Contractors for quotations.

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

Hera Power Plant

The activity at site is proceeding according to schedule and is slightly ahead.

Progress on Foundation and Building Works combined is 45 %.

Overall progress of the project is 30 %

Work completed during the month of June :

- All piling works.
- Foundations for all 7 engines.
- Concrete floor slab around engines 1-4 .
- Day tank area base slab and ring foundations .
- Exhaust gas duct foundations for engines 1-7 .
- Boiler foundations 1-3
- Engine hall underground conduits
- Foundations for fuel unloading station .
- Construction of boundary wall (80% completed) is done wherever it was possible to built
- Construction of the landing place for the barges in Behau , from there heavy and bulky equipment will be hauled by road to Hera power plant , 24 KM away .

Materials arrived at site during the month:

- Three boilers
- Steel structures for the power plant .
- Various equipment and tools
- Shipment of 100 containers with all the materials for the power plant is on the way . expected to arrive in Dili first week of July and

Drawings submitted to the Consultant and approved for construction :

- Detailed civil works for the Switchyard .
- Detailed Electrical Works for the Switchyard .
- Detailed electrical works for the Power Plant
- Detailed mechanical drawing for the Power Plant .

MANPOWER deployed at site during the month of June

- Management / Staff 70 persons .
- Workers skilled 149 persons .
- Local workers 76 persons .

DETANO *(sic)* **Power Plant**

- The full area 404 m x 404 m has been cleared from trees , bushes and the top soil removed .
- Soil boring and soil investigation have started with the local contractor , total 17 bore holes have to be done up to an average depth of 20 m.

The performance of the Contractor PAE in the overall is good

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

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

- Project Management No. 8 Chinese.
- Site works No. 31 Chinese workers and No. 35 Timorese workers .

The works done during the month of June are as follow :

- Excavation of the main building foundations completed .
- Excavation of the pipe trench done for 700 M3 .
- Installation of 88 anchor bolts in the foundation of the main building done .
- Concreting of beams , slabs , walls and columns of the main building is proceeding and 186 M3 has been poured this month .
- Fabrication and installation of reinforcing steel , 46 Tons done .
- First lot of steel structures , 320 Ton , for the main building have arrived at site .
- 150 Ton of steel plates for fuel tanks fabrication have been shipped from China.
- Part of the auxiliary equipments of the plant have been manufactured and are ready to be shipped.

The performance of the Contractor CSI in the overall is satisfactory .

(pages 18-42 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

Location: HERA – CNI22 Office
Date: 15/06/2011

EDTL

Mr. Roberto Manuel Marcal (EDTL Project Manager) Not Attending
M.r. Frederico Dos Reis Da Silva (Power Plant Engineer) Not Attending
Mr. Francisco Soares Pica (Substation Engineer). Not Attending
Mr. Domingo Dos Reis (Substation Engineer).Not Attending
Mr. Gilberto Seguera (Transmition Lines Engineer).Not Attending
Mr. Jaime Camacho (Power Plant Engineer). Not Attending
Mr. Bento Xavier (Power Plant engineer).Not Attending
Mr. Alexandre de Jesus (Substations Engineer). Not Attending
Mr. Ezequiel Pinto (Transmition line Engineer). Not Attending
Mr. Julio dos Santos(substation engineer). Not Attending

CONSULTANT

Mr. Felice Maffei (Project Manager). Not Attending
Mr. Virgilio Rivera(Civil Engineer)
Mr. Joko Siswadi (Electrical Engineer for Transmition Line)
Mr. Zoltan Lukacsi (QA/Qc Engineer). Not Attending
Mr. Veton Shaipi (Electrical Engineer).
Mr. Napoleon Villanueva (Civil Engineer for Substation).
Mr. Jaime Osvaldo Munoz (Electrical Engineer)
Mr. Francisco Pedigral (Safety Engineer).
Mr. Giampaolo pilia (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). Not Attending
Mr. Zhang Ming Ping (Transmition Line Manager). Not attending.
Mr. Zhang Yaping (Hera Power Plant Engineer).
Mr. Zhou Zhong Qi (Dili Substation Engineer). Not attending
Mr. Peng Liwei (Iterpeter).
Mr. Liu Jie (Electrical Engineer).
Mr. Jiang Pei Yun (Transmition Line Dep.Manager)
Mr. Xiao Yali (Transmition Line Engineer). Not attending
Mr. Peng Li Xian (Transmition Line Engineer). Not attending
Mr. Jiang Yan (Transmition Line Engineer).
Mr. Peng Xiu Rong (Transmition Line Engineer, stringing of conductors). Not attending
Mr. Zhu (Oil Tanks Engineer). Not attending
Mr. Than Qin Ghail (Tansmition Line Engineer).
Mr. Wu Jun (Transmition Line Supervisor). Not attending
Mr. Liu Jian Puo (Safety Engineer). Not Attending
Mrs. Dina (interpreter). Not attending
Mr. Li Lei (interpreter).

Subject of the meeting: Coordination of the works

MEETING AGENDA

1. Comments on the last minutes of meetings, dated 31.05.2011
2. Progress of works
   - Transmission Lines
   - Substations
   - Fuel Tanks — Coordination with Puri-Akraya
3. Delivery status of materials
4. Drawings and technical specifications
5. Insurance policy
6. Payment
7. Environment
8. Questions

1. Comments on the last Minutes of Meeting dated May 31, 201I

CNI22 asked for revision of the previous MoM, Page 2, item e), to read as follows: "Some of the material received at the site is of the very low quality. It will be replaced or repaired by CNI22." This was approved by the Consultant.
No additional comments from Contractor.
No comments from EDTL.
No comments from the presents.
The previous MoM is therefore approved with the above note.

2. Progress of works

Transmission Lines:

The overall situation is summarized in the following table:

Section	Excavation		Concrete		Tower Erection		Stringing	
Period	Last	To-date	Last	To-date	Last	To-date	Last	To-date
Hera-Dili	30	30	30	30	30	30	28	29
Hera-Manatuto	90	91	89	91	85	85	47	63
Manatuto-Baucau	128	129	127	129	119	122	21	41
Baucau- Los Palos	94	110	86	98	60	84		
Dili - Liquica	81	83	77	79	65	66		
North Coast Total	**423**	**443**	**409**	**427**	**359**	**387**	**96**	**133**
Baucau-Viqueque	67	69	66	66	41	41		
Liquica-Maliana	26	36	14	21				
Maliana-Suai								
East-West Total	**93**	**105**	**80**	**87**	**4I**	**41**	**0**	**0**
Suai-Casa								
Casa-Betano								
Betano-Viqueque	17	28	7	12				
Viqueque-Los Palos	14	30	3	6				
South Coast Total	**31**	**58**	**10**	**18**	**0**	**0**	**0**	**0**
GRAND TOTAL	**547**	**606**	**499**	**532**	**400**	**428**	**96**	**133**
This Period Performance		**59**		**33**		**28**		**37**

From June 1, 2011, through June 15, 2011, the production was as follows: 3.9 excavations per day, 2.2 concrete foundations per day, 1.9 erected towers per day, and 2.5 towers of stringing conductors per day. Compared to the last period, CNI22 shows a significant improvement, but process needs to be further accelerated in order to reach the projects goal on time. The Consultant stressed its support and commitment to help the Contractor finish the job in a timely manner. However, it is ultimately Contractors duty to finish the project on time.

The Consultant raised a question regarding Design Drawings of the end towers. Namely, all the towers are double-circuit towers, so in order to avoid confusion at an entrance to a substation, it is required to precisely define the incoming point of connection. CNI22 will provide detailed Design Drawings, as requested, section by section, with the first section submitted by middle of July, 2011.

HERA-DILI (9.80km – No. 30 towers)
CNI22 stressed problems with landowner for stringing tower #29 and #30. The landowner has appropriated a power generator, property of CNI22. This was not reported to the police, hoping that EDTL representatives will be able help solve this problem. The Consultant stressed importance of coordination of stringing with Dili-Liquica section.

HERA – MANATUTO (40.831cm –No. 91 towers)
The work is progressing as it should. No problems were identified by anyone present.

MANATUTO – BAUCAU (51.87km –No. 132 towers)
CNI22 stressed problems with tree cutting on stretch from tower #7 to #35, where the landowner is not allowing this work to be executed. The Consultant added that stringing can be done on towers #53 thru #62. Tower #52 is missing some pieces. CNI22 stated that all the errors will be corrected before the stringing.

BAUCAU – LOS PALOS ((53.28km – No. 118 towers)
CNI22 reported problems with landowners of towers #53, and #54, for which it took responsibility to solve. The

Consultant stated use of inappropriate tools for tightening bolts at tower #101. CNI22 will investigate and inform the Consultant at the next coordination meeting of the results of this investigation.

DILI – LIQUICA (38.81km – No. 87 towers)
CNI22 reported that it was able to solve problem with tower #24. Tower #77 still remained problematic, since the road is closed. CNI22 stressed importance of this tower. If this tower is late, there is a potential for the whole project to be late. The Consultant stated that stringing team #4 is improving, and that some conductor drums have a very small hole, which is too small to enter into its holder in the conductor tensioner. CNI22 will investigate and make sure that in the future this problem not be repeated.

BAUCAU – VIQUEQUE (38.56km – No. 96 towers)
The Contractor raised no problem. The Consultant asked about unfinished towers. CNI22 stated that it will complete them and prepare for stringing by end of August, 2011, and that they will additionally inform the Consultant when they will be ready for inspection.

LIQUICA – MALIANA (63km – No. 103 towers, provisional quantity)
The Contractor raised no problem. The Consultant asked about incomplete drawings. CNI22 replied that they will be submitted by the end of next week. The Consultant complained about tower #13 being out of the center line. CNI22 will inspect this whole section and inform the Consultant by the end of June, 2011.

MALIANA – SUM (26km – No. 67 towers, provisional quantity)
Situation remained unchanged. The Design Drawings will be submitted to the Consultant by middle of July, 2011,

SUAI– CASA (81km – No. 203 towers, provisional quantity)
Situation remained unchanged. The Design Drawings will be submitted to the Consultant by middle of July.

CASA – BETANO
Situation remained unchanged. The Design Drawings will be submitted to the Consultant in August.

BETANO – VIQUEQUE (81.52km – No. 190 towers, provisional quantity) Both the Contractor and the Consultant raised no problems on this section.

VIQUEQUE – LOS-PALOS (99.70km – No. 223 towers, provisional quantity)
CNI22 raised no problems. The Consultant asked for Design Drawings of the CNI22 will submit this design section by section, with the first part to be provided to Consultant for review by beginning of July, 2011.

Substations:

There is a problem with a long stay on the site of un-energized electrical equipment, especially transformers, where the metallic parts have started developing rust. The Consultant stressed importance of using conservation measures, and recommended use of physical barriers combined with heaters. CNI22 has agreed to immediately provide covers for all the transformers, and investigate potential use of heaters. CNI22 has agreed to clean the rust and provide one additional coating of paint to all the transformers, without giving a timeline for this work.

The controls panels on all transformers received to-date are of very low quality, and are damaged at the factory, by the use of improper fastening method to connect a CNI22 has agreed to ask the manufacturer to replace them with the new ones.

DILI SUBSTATION

The civil work is progressing as follows:

- Main Control Building: windows installation is at 95%, floor and wall tile is at 92%, ceiling is at 70%. Cleaning work is ongoing.
- 20kV Switchgear Building: windows are completed I00%, except for louvers, for which material is not on site. This material is expected to arrive before July I0, 2011. Door installation is at 50%.
- Pump House: Windows are installed 60%.
- Site: 60m of the access road is finished during this period.
- General: Cleaning is ongoing on the site and inside the buildings.

Electrical works is progressing as follows:

- In the switchyard, 80% of the equipment is erected.
- Illumination: Main control building installation is at 30%, 20kV Switchgear Building is at 20%. Supports in the cable trenches are 80% finished, welding only. Remains for the steel flats to be cleaned and zinc-rich paint to be applied to them.
- Erection of the 2 independent lightning protection rods is completed.
- The grounding system at the Main Control Building and 20kV Switchgear Building is 80% completed.

The Consultant raised an issue of the windows and doors installation, were the current method of their fastening is commented as insufficient. CNI22 agreed to provide for the already installed doors and windows an additional expansion bolt, and complete theses installations with additional cement and rebars. All the future door and window installations will be completed by adding rebars and cement and after that finalized with expansion sealing foam. This practice was approved by the Consultant.
The Consultant informed CNI22 that one of the newly installed lighting protection rods is not vertical, but is instead with a declination of around 3m/5cm. CNI22 will investigate, and repair the problem. The Consultant informed CNI22 that the erection of the control panels in the Main Control Building was problematic, since electrical and civil design details were different, and then this had to be overcome by site modification. CNI22 need to check details of this for all the substations, and make sure to use the appropriate design detail.
The Consultant also informed the Contractor about concrete covers for cable trenches. According to the design details, they need to be constructed using galvanized steel. Instead, they were constructed of a carbon steel, with application of the zinc-rich paint. At the present, there is rust over these metal parts. CNI22 will clean and repaint, and eventually replace them.

MANATUTO SUBSTATION

The civil work is progressing as follows:

- Main Control Building: Windows, doors, heat insulation and water proofing installation is finished. 20kV Switchgear Building: The putty on the walls, floor concreting, heat and water proofing installation is finished.
- Sewage water treatment plant: Concrete structure is finished.
- Pump house: The putty on the walls, doors and windows, floor concreting, heat and water proofing installation is finished.
- General: Cleaning is ongoing on the site and inside the buildings.

BAUCAU SUBSTATION

The civil work is progressing as follows:

- Construction of 150kV Switchyard foundations is progressing very slowly, because of the rocky bottom, and is now at 10%.
- 200m of fencing is completed (2 sides of the site)
- Main Control Building and 20kV Switchgear Building: Beams and ground leveling are completed.

The Consultant raised an issue with the very slow progress of work, since it is now 4 months from beginning of construction, and very little is accomplished. Also noted is a use of hand tools, as inappropriate for this type of land. CNI22 replied that it will have a meeting with their subcontractor in charge of civil works at this site and ask them to improve the speed of work, and that this subcontractor has 2 special machines for this type of land.

LOS-PALOS SUBSTATION

The civil work is progressing as follows:

- 20kV Switchgear Building: The form work and rebars are prepared and are being fixed to the roof.
- Main Control Building: The beams at the ground level are prepared and ready for concreting.
- 150kV Switchyard: 48 foundations are completed.
- The Guard House: Columns are concreted and are being fixed to the roof beams.
- The Fence: It is now at 95% progress, structure only. Once completed, it will need to be painted.
- Emergency Oil Reservoir: Lean concrete is completed.

LIQUICA SUBSTATION

The civil work is progressing as follows:

- 20kV Switchgear Building: Plastering of exterior and interior walls is at 60% progress.
- Main Control Building: Plastering of the exterior walls is completed. Installation of windows, doors, and waterproofing is undergoing.
- Plastering is finished on the Pump House, Guard House, and Sewage Treatment Plant.
- Eastern fence in completed (110m).
- Outdoor cable trench construction is undergoing (150m completed).

The Consultant raised an issue with the incorrect slope of cable trench. CNI22 will check and correct this.

MALIANA SUBSTATION

The civil work is progressing as follows:

- Site leveling is complete.
- Excavation for the buildings has not started, yet, because of the lack of access to the site through the damaged

bridge.

SUAI SUBSTATION

The Contractor asks for "Authorization to start the work" from EDTL. At the present, there is a problem with the land expropriation, which is now at hands of the Ministry of Justice.

CASA SUBSTATION

Site leveling is complete. CNI22 is waiting for civil design to continue the work. There is no timeline when this information will be received. In the mean time, the Consultant has asked CNI22 to provide a temporary wall to eliminate potential land problems and also comply with the safety requirements for the construction, which was not approved by CNI22 as not needed.

VIQUEQUE SUBSTATION

The civil work is progressing as follows:
- Retaining wall construction is at 50% progress.
- Main Control Building: Foundation, form works, and rebars construction is at 50% progress.
- 150kV Switchyard: Foundations for the electrical equipment are 50% prepared and 15% concreted.

Hera Power Plant

A delegation from Puri-Akraya, consisting of Mr.Vivek, Mr. Tapia, and Mr.Mario, joined this part of the meeting, in order to get acquaintance of the personnel involved with this part of project and provide drawings for the electrical grounding work for the fuel tank area. PAE asked to concurrently start the construction of the oily water drainage system (responsibility of PAE) with the electrical grounding work (responsibility of CNI22). CNI22 has approved this. PAE also stated that target date for completion of the concrete slab was July, 20, 2011, so the CNI22 need to finish the grounding work by end of June, 2011. CNI22 stated that an estimate of the completion date for the grounding work will be provided by 16/06/2011, to PAE.

Since PAE had more items on their agenda, than on our scope, it was agreed to conduct a meeting with the Consultant, CNI22 and PAE on 16/06/2011, on which will be further discussed issues related to the site turnover, possible damages to the insulation and future responsibility for it.

The construction of the oil tanks is progressing as follows:
- On the first 5000m3 fuel oil tank is being applied the anti-corrosive paint, after rust removal and the second layer of anti-corrosion primer paint are finished
- The hydro-test for the second 5000m3 is in progress
- Finishing work for the spiral ladders and accessories is under progress
- Situation with the rest of the fuel oil tanks is unchanged since the last MoM

20kV Distribution Feeders

The work is in progress in the section Dili-Aileu-Gleno:
- Excavation for the steel poles is in progress
- Transportation of the steel poles along the lines is in progress

3. Delivery of Material and Equipment

The situation of the material monitored and reviewed, as per CNI22 weekly reports. CNI22 has taken corrective steps, and the Consultant has noticed some improvement, in comparison to the performance shown at the last period. However, more proactive approach needs to be shown by the Contractor.

4. Drawings and Technical Specifications

There is no change from the previous MoM. The Consultant has stressed the importance of having the approved design before the start of the construction, and that CNI22 need to force the Engineer of Record to provide the design of the rest of the project, like Emergency Generator, DC Subsystem, Telecommunications Specification, and Commissioning Plan, at least for the substations that are now under construction.

5. Insurance

Situation is unchanged. The Risk Policy covering any damages which may occur on the site to materials, equipment and personnel does not exist. The Contractor will eventually bear all the consequences and costs.

6. Payments

The interim payment certificate No. 13, for month of March, 2011, is received.
The interim payment certificates No.14, for month of April, 2011, and No.15, for month of May, 2011, are in process.

7. Safety

CNI22 is collecting rubbish from the site at the regular interval. The Consultant raised a problem with many CNI22 subcontractors that do not use PPE. CNI22 agreed to instruct their subcontractors to use proper PPE for their workers. The Consultant also raised the problem with the dust. CNI22 has agreed to instruct application of the water to prevent dust. Otherwise, the situation remained unchanged, compared to the last period.

8. Questions

None.

The present meeting started at 15:10, and ended at 19:15.

Next meeting is scheduled for 30/06/2011, 14:30, in Hera.

Contract RDTL - 812931

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

Location: HERA – CNI22 Office
Date: 30/06/2011

EDTL

Mr. Sigismundo Antonio Liberata (EDTL Project Manager)
Mr. Roberto Manuel Marcal (EDTL Project Manager) Not Attending
Mr. Frederico Dos Reis Da Silva (Power Plant Engineer) Not Attending
Mr. Francisco Soares Pica (Substation Engineer). Not Attending
Mr. Domingo Dos Reis (Substation Engineer).Not Attending
Mr. Gilberto Seguera (Transmition Lines Engineer
Mr. Jaime Camacho (Power Plant Engineer). Not Attending
Mr. Bento Xavier (Power Plant engineer).Not Attending
Mr. Alexandre de Jesus (Substations Engineer). Not Attending
Mr. Ezequiel Pinto (Transmition line Engineer). Not Attending
Mr. Julio dos Santos(substation engineer)

CONSULTANT

Mr. Felice Maffei (Project Manager). Not Attending
Mr. Virgilio Rivera(Civil Engineer)
Mr. Joko Siswadi (Electrical Engineer for Transmition Line)
Mr. Zoltan Lukacsi (QA/Qc Engineer). Not Attending
Mr. Veton Shaipi (Electrical Engineer).
Mr. Napoleon Villanueva (Civil Engineer for Substation). Not Attending
Mr. Jaime Osvaldo Munoz (Electrical Engineer)
Mr. Francisco Pedigral (Safety Engineer). Not Attending
Mr. Giampaolo Pilia (Electrical Engineer).

CONTRACTOR CNI22

Mr. Li Tao (Project Manager).
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 (Transmition Line Manager). Not attending.
Mr. Zhang Yaping (Hera Power Plant Engineer).
Mr. Thou Thong Qi (Dili Substation Engineer). Not attending
Mr. Peng Liwei (Iterpeter).
Mr. Liu Jie (Electrical Engineer).
Mr. Jiang Pei Yun (Transmition Line Dep.Manager)
Mr. Xiao Yali (Transmition Line Engineer). Not attending
Mr. Peng Li Xian (Transmition Line Engineer). Not attending
Mr. Jiang Yan (Transmition Line Engineer).
Mr. Peng Xiu Rong (Transmition Line Engineer, stringing of conductors). Not attending
Mr. Zhu (Oil Tanks Engineer).
Mr. Than Qin Ghail (Tansmition Line Engineer).
Mr. Wu Jun (Transmition Line Supervisor). Not attending
Mr. Liu Jian Puo (Safety Engineer). Not Attending
Mrs. Dina (interpreter).
Mr. Li Lei (interpreter).

Subject of the meeting: Coordination of the works

MEETING AGENDA

1. Comments on the last minutes of meetings, dated 15.06.2011
2. General Notes
3. Progress of works
   - Transmission Lines
   - Substations
   - Fuel Tanks – Coordination with Puri-Akraya
4. Delivery status of materials
5. Drawings and technical specifications
6. Insurance policy
7. Payment
8. Environment
9. Questions

1. Comments on the last Minutes of Meeting dated June 15, 2011

No comments from EDTL. No comments from CNI22. No comments from the Consultant. Therefore, MoM of June, 16, 2011, is approved by all parties.

2. General Notes

CNI22 is informed that during the past period the Consultant had several meetings with representatives of the Government of Timor-Leste. During these meetings, he was informed that it is of utmost importance that Liquica, Dili, Manatuto, Baucau and Los-Palos Substations be ALL energized by November 28, 2011. The Government Representatives will accept no excuses if these substations are not completed on time. The Prime Minister and the Secretary of State also visited Baucau, Los-Palos and Dili Substations during the past period. They were dissatisfied by speed of work and the number of workers on the sites. They requested that CNI22 immediately provide twice or three times as many qualified workers, in order to speed up the work.
CNI22 will provide additional (70) qualified workers at the beginning of July, 2011.
CNI22 need to provide all the drawings and all certificates of material including cables, transformers, etc to the Consultant. CNI22 agreed to provide this information by 08.07.2011.
CNI22 Hera office (or parts of it), will probably need to be relocated, since PAE will need to build housing quarters for the operators of the Hera PP at the current CNI22 Hera office location. This information is provided to CNI22 so that it can start preparations. Additional information will be provided once it will be available.
The Consultant raised question regarding the low quality of work, and that compared to the past period there is no improvement.

3. Progress of works

Transmission Lines:

The overall situation is summarized in the following table:

Section	Excavation		Concrete		Tower Erection		Stringing	
Period	Last	To-date	Last	To-date	Last	To-date	Last	To-date
Hera-Dili	30	30	30	30	30	30	29	29
Hera-Manatuto	91	91	91	91	85	85	63	72
Manatuto-Baucau	129	132	129	131	122	127	41	68
Baucau- Los Palos	110	111	98	105	84	92		
Dili - Liquica	83	84	79	81	66	67		23
North Coast Total	**443**	**448**	**427**	**438**	**387**	**401**	**133**	**192**
Baucau-Viqueque	69	72	66	69	41	41		
Liquica-Maliana	36	39	21	29				
Maliana-Suai								
East-West Total	105	111	87	98	41	41	0	
Suai-Casa								
Casa-Betano								
Betano-Viqueque	28	31	12	16				
Viqueque-Los Palos	30	41	6	12				
South Coast Total	58	72	18	28	0		0	
GRAND TOTAL	547	631	532	564	428	442	133	192
This Period Performance		**25**		**32**		**14**		**59**

From June 15, 2011, through June 30, 2011, for the period of 15 days, the production was as follows: 1,7 excavations per day, 2,1 concrete foundations per day, 0,9 erected towers per day, and 3,9 towers of stringing conductors per day. Compared to the last period, CNI22 shows a dip in performance. CNI22 explained that the main reason for low performance in this period is material supply, since transportation is difficult. CNI22 will build (2) quarries, one in Watulari and one in Luru, in order to alleviate the transportation problem. The Consultant is asking CNI22 to provide more field presence and overview of its subcontractors works.

The Consultant raised a question regarding Design Drawings of the end towers. Namely, all the end towers are double-circuit towers, so in order to avoid confusion at an entrance to a substation and connections to the subsequent towers, it is required to precisely define the incoming point of connection. CNI22 will provide detailed Design Drawings, as requested, section by section, with the first section submitted by middle of July, 2011. No change.

HERA- DILI (9.80km – No. 30 towers)
CNI22 stressed problems with landowner for stringing tower #29 and #30. The landowner has appropriated a power generator, property of CNI22. This was not reported to the police, hoping that EDTL, representatives will be able help solve this problem. The Consultant stressed importance of coordination of stringing with Dili-Liquica section. No change.
The Consultant raised an issue of installation of lock-nuts, and tower painting, for all towers, prior to energizing. CNI22 will provide schedule of this work during the next Meeting, and start repair work in September, 2011. After finishing repair, CNI22 shall send a report to EDTL and the Consultant.

HERA – MANATUTO (40.83km –No. 91 towers)
The work is progressing as it should. No problems were identified by anyone present.

MANATUTO – BAUCAU (51.87km – No. 132 towers)
Tree cutting on stretch from tower #7 to #35, is finished. Tower #52 is completed. The Consultant is not invited to witness stringing for sections 35-46-53-62. CNI22 is strongly warned not to repeat this practice. In the future, CNI22 will be required to un-install and then re-install all conductors, for all sections where this practice will be noticed. CNI22 need to perform the grounding resistance test, and invite the Consultant to verify the test results. No section will be energized without verified grounding. The Consultant will be present even on Sunday, provided that CNI22 will invite him with due notice (minimum 2 days in advance).

BAUCAU – LOS PALOS ((53.28km – No. 118 towers)
CNI22 solved problems with landowners of towers #53, and #54.
The Consultant stated use of inappropriate tools for tightening bolts at tower #101. CNI22 investigated this, and issued a final warning to the construction team. This was accepted by EDTL and the Consultant.
Towers #32, and #34 are located on a rice field. EDTL will visit these towers on 04.07.2011, with Mr. Gilberto, and help ease this problem.
Configuration for towers #I through #3 and #118 through #143 is not provided. However, (2) towers in these locations are completed, without configuration. CNI22 will investigate and notice EDTL and the Consultant with a letter, by 30.06.2011.

DILI – LIQUICA (38.81km –No. 87 towers)
Tower #77 problems are resolved by CNI22.
On the previous Meeting, the Consultant stated that some conductor drums have a very small hole, which is too small to enter into its holder in the conductor tensioner. CNI22 investigated and found only (1) drum with the small hole, so there are no additional drums with small holes.
CNI22 raised a problem with tower #4; EDTL will send representatives on the site on 30.06.2011 to coordinate this on the site, and will additionally inform CNI22 of the results.
The Consultant informed that on the section 35-47 the conductor was damaged by improper use of metal scaffolding; CNI22 is warned to not repeat this practice. CNI22 already replaced this conductor.

BAUCAU – VIQUEQUE (38.56km – No. 96 towers)
The Contractor raised no problem. The Consultant asked about uncompleted towers. CNI22 stated that it will complete them and prepare for stringing by end of August, 2011, and that they will additionally inform the Consultant when they will be ready for inspection. CNI22 has ordered missing pieces, and they are on a ship. The Owner is asking CNI22 to provide a copy of letter of order for the missing pieces. CNI22 need to provide a copy of this letter by 04.07.2011.
CNI22 stated that the road conditions are very bad, and that one bridge is broken. This was backed by the Consultant. The Owner need to take all measures available to repair the road and the bridge.

LIQUICA – MALIANA (63km – No. 103 towers, provisional quantity)
The Contractor raised no problem. CNI22 submitted all the drawings, stated missing on the previous Meeting. The Consultant complained about tower #13 being out of the center line. CNI22 will inspect this whole section and inform the Consultant by the end of June, 2011. No change.
The subcontractor is complaining that CNI22 is not providing material for work. CNI22 will investigate and provide additional information during the next Metting.

MALIANA – SUAI (26km – No. 67 towers, provisional quantity)
Situation remained unchanged. The Design Drawings will be submitted to the Consultant by middle of July, 2011. No change.

SUAI - CASA (81km – No. 203 towers, provisional quantity)
Situation remained unchanged. The Design Drawings will be submitted to the Consultant by middle of July. No change.

CASA – BETANO
Situation remained unchanged. The Design Drawings will be submitted to the Consultant in August. No change.

BETANO – VIQUEQUE (81.52km – No. 190 towers, provisional quantity)
CNI22 raised a problem with the road conditions. From Dili to Same, the road has collapsed and is not suitable for transportation of material. The Owner need to take all measures possible to repair this road. Design for towers #47 through #58, #69 through #94, #143 through 146, #158 through #190, is under design. CNI22 will provide design by end of August, 2011.

VIQUEQUE – LOS-PALOS (99.70km – No. 223 towers, provisional quantity)
CNI22 raised no problems. The Consultant asked for Design Drawings of the tower foundations_ CNI22 will submit this design section by section, with the first part to be provided to Consultant for review by beginning of July, 2011. No change.

Substations:

There is a problem with a long stay on the site of un-energized electrical equipment, especially transformers, where the metallic parts have started developing rust. The Consultant stressed importance of using conservation measures, and recommended use of physical barriers combined with heaters. CNI22 has agreed to immediately provide covers for all the transformers, and investigate potential use of heaters. CNI22 has agreed to clean the rust and provide one additional coating of paint to all the transformers, without giving a timeline for this work. CNI22 did not contact the manufacturer regarding the provisional temporary heater connections. CNI22 provided covers for Liquica and Manatuto transformers. These covers are not satisfactory to the Consultant. Dili transformers bill be painted this week. The Consultant will check and advise during the next Meeting.

The controls panels on all transformers received to-date are of very low quality, and are damaged at the factory, by the use of improper fastening method to connect to the transformers. CNI22 has agreed to ask the manufacturer to replace them with the new ones. CNI22 asked the manufacturer to replace doors, only. This was not approved by the Consultant. CNI22 will ask the manufacturer for complete replacement of these panels.

DILI SUBSTATION

The civil work is progressing as follows:
- Main Control Building: windows installation is at 95%, floor and wall tile is at 92%, ceiling is at 70%. Cleaning work is ongoing. No change.
- 20kV Switchgear Building: windows are completed 100%, except for louvers, for which material is not on site. This material is expected to arrive before July 10, 2011. Door installation is at 50%. No change.
- Pump House: Windows are installed 60%. No change.
- Site: Additional 200m of the access road is finished during this period, totaling 75% progress.
- General: Cleaning is ongoing on the site and inside the buildings. No change.
- The plastering for the dormitory building – completed.
- The plastering for the fence undergoing, 90% progress.
- Backfilling of the sewage treatment plant, completed.

Electrical works is progressing as follows:
- In the switchyard, 90% of the equipment is erected.
- Illumination: Main control building installation is at 60%, 20kV Switchgear Building is at 90%.
- Supports in the cable trenches are 80% finished, welding only. Remains for the steel flats to be cleaned and zinc-rich paint to be applied to them. No change.
- The grounding system at the Main Control Building and 20kV Switchgear Building is 80% completed. No change.
- Protection and control cabinets in Main Control Building, erection completed.
- 20kV Switchgear in Switchgear Building, erection completed.
- Capacitor Bank (4), erection at 80% progress.

The Consultant raised an issue of the windows and doors installation, were the current method of their fastening is commented as insufficient. CNI22 agreed to provide for the already installed doors and windows an additional expansion bolt, and complete theses installations with additional cement and rebars. All the future door and window installations will be completed by adding rebars and cement and after that finalized with expansion sealing foam. This practice was approved by the Consultant. The practice is followed by CNI22. The Consultant informed CNI22 that one of the newly installed lighting protection rods is not vertical, but is instead with a declination of around 3m/5cm. CNI22 will investigate, and repair the problem. No change. The Consultant informed CNI22 that the erection of the control panels in the Main Control Building was problematic, since electrical and civil design details were different, and then this had to be overcome by site modification. CNI22 need to check details of this for all the substations, and make sure to use the appropriate design detail. CNI22 shall provide the channels per the electrical drawings for all the future substations. The Consultant also informed the Contractor about concrete covers for cable trenches. According to the design details, they need to be constructed using galvanized steel. Instead, they were constructed of a carbon steel, with application of the zinc-rich paint. At the present, there is rust over these metal

parts. CNI22 will clean and repaint, and eventually replace them. This is ongoing.

CNI22 will make final preparations of the transformer basement by mid. August, 2011.

CNI22 will provide all the remaining civil material to site by July 15, 2011.

CNI22 raised a problem with the local population, where the fence is being damaged by writing on the exterior walls of the fence. CNI22 is advised to provide a fresh coating of paint on the fence before energizing the substations. Thereafter, this problem will be responsibility of EDTL.

MANATUTO SUBSTATION

The civil work is progressing as follows:

- General: Cleaning is ongoing on the site and inside the buildings.
- Main Control Building, painting is at 50% progress.
- Site Leveling is at 50% progress. - Access Road is at 15% progress.
- Sewage Treatment Plant is at 80% progress.
- Cable Trench is at 90% progress.

The electrical work is progressing as follows:

- Transformer is delivered to the site.

BAUCAU SUBSTATION

The civil work is progressing as follows:

- Construction of 150kV Switchyard foundations is progressing very slowly, because of the rocky bottom, and is now at 25%.
- 200m of fencing is completed (2 sides of the site); No change.
- 20kV Switchgear Building, form works at 50% progress.
- Excavation for the Fire Fighting pit and Fire House is at 80% progress.
- Excavation of foundations for the 150kV switchyard equipment supports is at 85% progress.

The Consultant raised an issue with the very slow progress of work, since it is now 4 months from beginning of construction, and very little is accomplished. Also noted is a use of hand tools, as inappropriate for this type of land. CNI22 conducted a meeting with the subcontractor and it will provide one additional large excavator, to further accelerate the speed of work. The subcontractor will also provide additional (20) workers, by the beginning of July, 2011.

The Consultant raised issue regarding use of "un-screened sand" in preparation of concrete. CNI22 needs to investigate and determine how this happened, and provide a full report during the next meeting.

LOS-PALOS SUBSTATION

The civil work is progressing as follows:

- 20kV Switchgear Building: The form work and rebars are prepared and are being fixed to the roof;80% progress.
- Main Control Building: The beams at the ground level are prepared and ready for concreting, completed.
- 150kV Switchyard: 80% progress.
- The Guard House: Columns are concreted and fixed to the roof beams, completed.
- The Fence is completed.
- Pump House firefighting pit, rebars are prepared, 40% progress.

CNI22 will provide on 01.07.2011, additional (1) crane, 1) concrete mixer, and (5) additional workers for this site.

LIQUICA SUBSTATION

The civil work is progressing as follows:

- 20kV Switchgear Building: Plastering of exterior and interior walls is finished.
- Main Control Building: Installation of windows, doors, and waterproofing is completed.
- Fence construction is at 30% progress.
- Outdoor cable trench construction is undergoing (80% progress).

MALIANA SUBSTATION

The civil work is progressing as follows:

- Excavation for the buildings has not started, yet, because of the lack of access to the site through the damaged bridge, No change.

- Foundation of the fence is at 85% progress.

SUAI SUBSTATION

The Contractor asks for "Authorization to start the work" from EDTL. At the present, there is a problem with the land expropriation, which is now at hands of the Ministry of Justice.

CASA SUBSTATION

CNI22 is waiting for civil design to continue the work. This design will be provided by the end of July, 2011.

VIQUEQUE SUBSTATION

The civil work is progressing as follows:
- Retaining wall construction is at 50% progress.
- Main Control Building: Foundation, form works, and rebars construction is at 50% progress.
- 150kV Switchyard: Foundations for the electrical equipment are 50% prepared and 15% concreted.
- 20kV building rebars bending for foundations are at 40% progress.

There is a problem with delivery of the material, since the bridge is broken. Yesterday 3 trucks were blocked.

Hera Power Plant

The construction of the oil tanks is progressing as follows:
- On the first 5000m3 fuel oil tank is being applied the anti-corrosive paint, after rust removal and the second layer of anti-corrosion primer paint are finished; ongoing, 30% progress.
- The hydro-test for the second 5000m3 is in completed.
- Finishing work for the spiral ladders and accessories is completed.
- On the 3rd 5000m3 oil tank the hydro test is ongoing, will complete by 05.07.2011.
- On the 1st 1000m3 oil tank, hydro test is complete, insulation work at 50% progress.
- On the 2nd 1000m3 oil tank, hydro test is ongoing, will be complete by 03.07.2011.
- Grounding system is completed and its backfilling is completed.
- Situation with the rest of the fuel oil tanks is unchanged since the last MoM

20kV Distribution Feeders

The work is in progress in the section Dili-Aileu-Gleno:
- Concreting of the steel poles is at 20% progress (120 erected poles and foundations)

4. Delivery of Material and Equipment

The situation of the material monitored and reviewed, as per CNI22 weekly reports. CNI22 has taken corrective steps, and the Consultant has noticed some improvement, in comparison to the performance shown at the last period. However, more proactive approach needs to be shown by the Contractor.
CNI22 need to organize a team to asses and check storage of material at the local shipping agency storage area in Dili. CNI22 will prepare a list of damaged material, and order a replacement for the damaged material. Details of this action shall be provided during the next Meeting.

5. Drawings and Technical Specifications

There is no change from the previous MoM. The Consultant has stressed the importance of having the approved design before the start of the construction, and that CNI22 need to force the Engineer of Record to provide the design of the rest of the project, like Emergency Generator, DC Subsystem, Telecommunications Specification, and Commissioning Plan, at least for the substations that are now under construction. CNI22 provided many of the missing drawings and specification. However, there is a lack of support from the main CNI22 office and the Design Institute. Especially needed at this time are the details of the Emergency Generators and the Commissioning Plan. CNI22 need to contact their Head Quarters and further inquire the status of this design.

6. Insurance

Situation is unchanged. The Risk Policy covering any damages which may occur on the site to materials, equipment and personnel does not exist. The Contractor will eventually bear all the consequences and costs.

7. Payments

The interim payment certificates No.14, for month of April, 2011, and No.15, for month of May, 2011, are in process. No change.

8. Safety

CNI22 is collecting rubbish from the site at the regular interval. The Consultant raised a problem with many CNI22

subcontractors that do not use PPE. CNI22 agreed to instruct their subcontractors to use proper PPE for their workers. The Consultant also raised the problem with the dust. CNI22 has agreed to instruct application of the water to prevent dust. Otherwise, the situation remained unchanged, compared to the last period. CNI22 is stressing safety issues on the road Dili-Same, where many drivers are afraid to drive on this road.

9. Questions

None.

The present meeting started at 15:00, and ended at 19:40.

Next meeting is scheduled for 15/07/2011, 10:00, in Hera. The next meeting, on the request from the Owner, will be held in two parts, from 10:00 to 13:00, transmission network discussion, and then from 13:45 to 16:00, the substations discussion.

Remarks:

1. During the meeting, many of the CNI22 representatives where walking in and out of meeting at their leisure, practice which was sharply sanctioned by the Owner's representatives. CNI22 management shall hold a meeting with its engineers and demand this behavior not to be repeated again.
2. On the request of the Owners representatives, now on, CNI22 Project Manager shall prepare all the relevant answers for the questions and actions posed during the previous Meeting, and directly report to the Owner and the Consultants its findings and actions.

Doc. Classification Confidential

Title:	Hera Electrical Design MOM, Hera Site 3.6.2011	**Doc. ID:** DBAB834334 **Revision:** -.4	
Author:	Matias Vartio / 06-Mar-2011	**Status**:	Draft
Draft by:	Matias Vartio / 06-Mar-2011	**Pages**:	1 (2)
Project:	P/10045 - HERA Power Plant		
Description:			
Type:	Minutes of Meeting		

- General
Power Plants

Hera Electrical Design MOM, Hera Site 3.6.2011

Date & Time 3rd of June, 2011. 10:25-12:00
Place: Hera Power Plant Site Office

Participants: According to participation list

Agenda:

1. Hera Electrical design clarifications

Generally: All comments are included already in letters the drawings, but electrical issues be gone trough in more detail during the meeting.

Civil: N/A, Only CMA representatives available

Mechanical: N/A, Only CMA representatives available

Electrical:

- Clarifications to letter RDTL/10004115/JM032 Dated 18th of May, 2011
  - Item1: OK
  - Item 2: ELC & Bonifica informed that duplex bus bar will be needed for future purposes, but this would be a modification work done later after phase 1. The current equipment is already procured and packed, waiting for shipment. So first 3 engines will be run as per original plan and after the options are checked by WFI, time & cost impact discussions will take place. Possible load case scenarios were studied in the meeting using both Wartsila and ELC Bonifica's SC calculation programs and as a conclusion it was decided to proceed with 50 kA rating on the possible additional 15 kV switchgear. WFI will investigate the technical possibilities and limitations.
  - Item 3: The 4 outgoing feeders will be named Manatubo 1, Manatubo 2, Dili land Dili 2
  - Item 4: drawing will be revised according to request
  - Item 5: *"Please review with Puri Akraya and clarify who's responsibility is the first phase of the power plant?"* This comment is related to material deliveries. Comments and numbering is marked in the drawings, but those are not at the moment available. Wartsila CMA and PAE will check from the clouded paper documents at PAE office (it most probably belongs to ABB Scope)
  - Item 6: Bigger Black Start unit procured than in the specification (300kW/375kVA)
  - Item 7: Blanks will be removed and instead reference is made to PAE scope
  - Item 8:Visible title block will be added
  - Item 9: Ok, generator design is valid up to 1000 masl
  - Item: 10 Wartsila did not recognize the document # ITAD-PG-10022- 901, showing different ambient temperature. This is most probably a ABB Document, but CMA will double check with PAE
- Clarifications to Letter RDTL/10004115/VS/022 dated 26th of April, 2011
  - Item 1: Detail connection of grounding to the gate of the fence will be provided
  - Item 2: The lightning protection design has been made according to IEC standard 61024-

1-2. Wartsila will provide the necessary pages of this standard to ELC&Bonifica so that they can check that the installation according to IEC standard provides the necessary lightning protection -for the steel structured building.

- Item 3: design will be updated to include the requested additional connections.
- Item 4: additional support insulator will be provided for the grounding bar. The document will be replaced with new project wise drawing and a note "This drawing supersedes the drawing number DAAB856109 rev.a" will be added to the revision field
- Item 5: design calculation DBAB657971 will be provided

- Other Clarifications:
  - FD Connection means Fibre Optic Connection.
  - New drawing numbers will be added below of the old one in the list of documents in cases where a standard drawing needs to be revised (new drawing number is needed)
- PAE confirmed a meeting with Wartsila, ABB & NR on Monday 6th of June at 10:00 in Jakarta

Attachments:

1. Participation list
2. Drawings (distributed separately)

Hera, Timor- Leste
3rd of June,

For Owner's Engineer	For Wartsila	For PAE
/s/		
Felice Maffei	Sebastian Mellberg	Siswo Utomo

Doc. Classification Internal

Title:	Betano Kick-Off Meeting 3.6.2011 3.6.2011	**Doc. ID:** **Revision:**	DBAB834251 -.4
Author:	Matias Vartio / 06-Mar-2011	**Status**:	Draft
Draft by:	Matias Vartio / 06-Mar-2011	**Pages**:	1 (2)
Project:	P/11011 - Betano Power Plant		
Description:	Betano Kick-Off Meeting at Hera Site 3rd of June, 2011		
Type:	Minutes of Meeting		

- General
Power Plants

Betano Kick-Off Meeting 3.6.2011

Date & Time 3.6 2011 16:00-17:30
Place: Hera Site, Timor Leste

Participants: According to participation list

Agenda:

1. Design

Civil

- Layout:
  - Latest Master Site layout was presented and approved ,
  - Only Coordinates needs to be updated in the Master Site Layout - Space reserved for administration building south of the Fuel unloading units
- Earthquake zone
  - Technical Specification indicates Earthquake zone 2B. Data taken from US Seismological institute and based on the analysis there is a possibility for a bigger earthquake than magnitude 6. It would be safer to go ahead with zone 3
  - For example on April 26th, 2011 there was a earthquake nearby having the magnitude 5,6
  - It was agreed that earthquake zone 3 will be applied and PAE will give proposal of the additional costs on civil structure, if any.
  - Wind speeds are not verified for Betano, but will be maximum 90 mph

Mechanical

- Optimisation of storage tank yard
  - It was agreed to change the storage tank yard so it would include 3x7500m3 HFO storage tanks. This would mean that the capacity is enough for approximately one month need. Other options will also be investigated in terms of size of the tanks
  - Jetty for the HFO delivery is a must. No possibility to transport fuel by road to Betano, so the unloading station would be used only as back up for LFO & HFO supply.
  - If the storage tanks are changed, there is a possibility to move up the unloading station closer to the storage tank yard

Electrical

- Switchgear room
  - Based on the discussions the Switchgear room, will be similar as in Hera, but needs to be bigger
  - PAE will send calculation for the Auxiliary Transformer capacity to the Consultant for their evaluation
  - 15kV double bus bar will probably be used and if it is confirmed technically, the relevant quotation will be submitted

2. Time schedule

- Presentation and discussion regarding the target time schedule:
  Highlights:
  - Some of electrical procurement is purchased before all detailed design is completed
  - Critical tasks during the early phases of the project: Soil Investigation completed latest by 10th of August, 2011
  - Site Mobilisation start in September 2011
  - Soil improvement and site clearance start mid October, 2011
  - Foundations works start mid December 2011
  - Tanks start February 2012
  - First material on site end of March, 2012
  - Buildings start April 2012
  - Mechanical & Electrical works start May 2012
  - EG-Sets installation start August 2012
  - Handing Over End December 2012
  - More severe weather conditions needs to be taken into account in planning works in Betano.

Attachments:
Participant list

Hera, Timor-Leste
3rd of June,

For Owner's Engineer	For PAE	For Wartsila
/s/		
Felice Maffei	Siswo Utomo	Sebastian Mellberg

PURI AKRAYA
ENGINEERING LIMITED

Minutes of Meeting

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

Subject: 10th coordination meeting
Place: Hera site office
Date: 17.6.2011

Time: 15:00 —16:30
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 approved by participants

3 HSE

- HSE revised plan to be submitted, hospital/ambulance contract still in progress will be done by 25th of June 2011
- After EMMP meeting on Friday 10.6.2011 at 10:00 at Hera site the Consultant and PAE agreed to study the construction phase only.
- CMA safety officer started at site on 30.5.2011, the Consultant is requesting the CV with the credentials.
- PAE is required to submit a weekly report on safety to the Consultant and EDTL.

4 Factory Acceptance Test (Fat)

- All of the FATs are completed for Hera

5 Delivery. Procurement & Manufacturing Status

- The shipments arriving during the period after last meeting:
- Shipment no K4 (remaining piles and deformed rebar) has arrived to Dili port on 12.5.2011 and was delivered to site.
- Shipment no K6, one container with earthing material and joint filler arrived at site 4.6.2011
- Shipment no K7 two container containing mechanical tools expected to arrive to Dili port on 19th of June.
- Shipment no K8 containing one 50 ton crane, one 25 ton crane and one 7 ton crane will arrive in Dili port on the 26th of June 2011, and will be delivered to site by using the beach landing point.
- Shipment W1 a/b, W2 and W4 ETA Dili port 28th of June. The shipments contain all building steel structures, major part of some mechanical auxiliaries from Wartsila and boilers from Vietnam.
- PAE held a meeting with NR, ABB and WFI on the 6.6.2011 at 10:00 in Jakarta. NR proposes to use IEC60870/5/101/104 -standard for the power communication system between the ABB switchyard and ABB communication equipment and the NR electric dispatch centre. NR electric shows no interest in providing communication system and equipment for the PAE part of the project. The Consultant is requesting the use of IEC61850 -standard and further coordination on this item is needed.
- The Consultant has received detailed mechanical and plant electrification part of the power plant and will send back the reviewed design drawings by June 28th
- Underground piping for the CNI22 area has started on the 16th of June by PAE.

6 Update of site progress

- New foundations completed since the last meeting:
  - Engine foundations no 2, 3 and 4
  - Boiler foundations 1, 2 and 3
  - Exhaust gas ducks support foundations no 1-5
  - Stack foundation A
  - Fuel unloading station
  - Oily water pit for fuel treatment house
  - Cable pulling pit
- Road base course 90% completed
- Lay down area, gravel filling 100% completed Boundary wall 80% completed
- Piling 100 % completed
- Working piles tested with PDA: 32 pc

7 Transportation plan

- The use of Naval base ramp in Hera for receiving shipments is authorized and remains valid for future consignments
- Beach landing site no 2B was chosen (27,7km east from Hera) negotiations with the local community including traditional ceremonies were completed on 2.6.2011 and the land is now at disposal for the heavy lift contractor
- DG sets will be shipped in two shipments (4 pc and 3 pc)
- 4 units are expected to arrive in Dili port on 4th of August and the next three units on the 25th of August 2011 after which they will be delivered to site. Prior to the delivery PAE will submit to the Consultant a statement of method of heavy-lift transportation for approval.
- The method of statement will include a safety report including the cables on the transportation route, which will need to be shut down temporarily by EDTL.

8 Technical matters

8.1 Civil

- The capacity of raw water well no 3 has been checked, result is 10,4 m3/h. The results were verified by the Consultant and approved.
- The PDA test situation of power house concerning the original method statement will be clarified. Final report concerning piling to be submitted to the Consultant for review and approval

8.2 Mechanical

- There are no pending issues.
- Mechanical section manager expected to arrive to site beginning of July.

8.3 Electrical

- There are no pending issues at site.
- Electrical section manager expected to arrive to site middle of July.

9 Other issues

- Betano site survey has been done. PAE has received the final plant layout from WFI. PAE will submit this layout to the consultant.
- The local subcontractor started the clearing of the area on 1.6.2011 and is expected to be completed by 25th of June.
- PAE is on the process of selecting the subcontractor for soil investigation work.
- The Owner will provide the official letter to the Contractor regarding the handing over of the site
- The Consultant is asking PAE to provide a site security plan.

10 Next meetings

1.7.2011 at 14:30 at site in Hera
20.7.2011 at 14:30 at site in Hera

Prepared by: Kaisa Nikulainen, CMA

(pages 53-58 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 in process
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 In Process
Total	**159,263,978.39**	**125,544,444.19**

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
TOTALS up to end of June	**19,675,587**	**3,754,057**	**897,934**	**15,023,345**

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).
Total paid 20.23 % of the Contract value

(pages 71-76 in original report)

a) Summary of Contracts Contractual Data

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 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-2 : Following the decision of the Owner to cancel from CNI22's contract the two (2) power plant of Hera and Betano, a new contract has been signed with the Indonesian Contractor <Puri Akraya Engineering Limited> (contract No. RDTL 10004115 signed on September 15, 2010 and amended on April 14, 2011) to build the two power plants using double combustion system gen/set supplied by Wartsila of Finland, the value of the project is now as follow:

Power Grid (Transmission Lines and substations including 20KV distribution line) as per Amendment No. 3	**US $ 298,496,192.00**
Hera Power Plant	**US $ 186,419,850.00**
Betano Power Plant	**US $ 219,751,473.00**
TOTAL	**US $ 704,667,515.00**

To the above figure should be added the cost related to additional works not Originally foreseen in the contract such as the Jetty to unload and pump the HFO to the Tanks and the administrative buildings .

These additional costs are now under evaluation and once approved will be included in the monthly report.

a-3 Contract No. RDTL 100053 – 24MW Extension of Comoro Power Plant

This Contract signed on 23 December 2010 with CSI Company, Lda of Timor Leste foresees the following scope of work :

- Design of the complete new Extension Power Plant
- Supply of 5 new Generating Set of 5.5 MW capacity each , with all auxiliary system, storage oil tanks , cooling system , electrical components , transformers , electrical auxiliary equipments , a complete new building in prefab steel structures etc.etc. (a complete running power plant).
- Installation of the power plant including execution of all civil works , installation of the new building, electrical building , construction of the fuel storage tanks.
- All mechanical and electrical installation required in the power plant.
- Testing and commissioning.

The project a Turn Key EPC Contract of a lump sum value of US $ 30,900,000.00

Fixed price without any modification

(pages 171-182 of original report)

ENVIRONMENTAL MANAGEMENT PLANS

June 2011

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. The Environmental Management and Monitoring Plan (EMMoP) for the Hera and Betano Power Plants to be Constructed and Operated (5 years) by Puri Akraya Engineering Ltd. (PAE), which had taken over the Contract for the said Power Plants have yet to be finalized. The Draft of the EMMoP has already been provided to PAE and is undergoing review. Timeline for finalization of the said EMMoP is end of March 2011.

This report discusses the status of the implementation of the EMMP as of November 2010. Areas covered by this report are the following:

China Nuclear Industry 22nd Ltd.:

- Transmission Towers from Hera to Manatuto
- Transmission Towers from Baucau to Manatuto
- Transmission Towers from Baucau to Viqueque
- Transmission Towers from Baucau to Los Palos
- 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
- Comorro Power Plant
- Vemasse Camp
- Laclo Camp
- Liquica Camp
- Baucau Camp
- Vercoli/Venilale Camp

Puri Akraya Engieneering Ltd. (PAE):

- Hera Power Plant Site

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.

1. ENVIRONMENTAL MANAGEMENT

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. Table 1 presents the Summary Environmental Management Checklist as of March 2011

a) DESIGNATION OF AN ENVIRONMENTAL OFFICER

It has been recommended during the Coordination Meeting of 16 November 2010 by the Supervising Consultants that the Contractor engage a full-time Environmental Specialist that has a good command of the English language. This was raised in view of the minimal accomplishment and non compliance of the Contractor to the EMMoP since commencement of works. This has still to be complied with.

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 Dili, Manatuto, Liquica, Los Palos, Maliana Sub-Stations and the Baucau, Vemasse, Laclo, and Liquica Camps.

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

The QHSE Management Plan as submitted during the Audit of November 2010 has yet to be revised as per Envi Field Directive No. 1 of 01 June 2010. As reported in the previous Audit, the Contractor has yet to prepare the Solid Waste Management Plan for all the facilities and work areas.

d) SPILL CONTINGENCY/EMERGENCY RESPONSE PLAN

The Site Emergency Contingency as submitted during the Audit of May 2010 has yet to be revised as per Envi Field Directive No. 1 of 01 June 2010. The Oil Spill Contingency Plan, as per information from the Contractor, will be prepared after the Oil Tanks are erected.

TABLE 1. ENVIRONMENTAL MANAGEMENT CHECKLIST – MARCH 2011

PROJECT ACTIVITY	POTENTIAL ENVIRONMENTAL IMPACT	PROPOSED MITIGATION MEASURE	COMPLIANCE YES	NO	RESPONSIBLE ENTITIES	REMARKS
PRE-CONSTRUCTION PHASE						
LAND ACQUISITION	Loss of land	Just and fair compensation to landowners.	X		CNI22/ CSC/EDTL	See Table 2.
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 site offices		X	CNI22/ CSC/EDTL	No formal complaints/grievance desk has been established.
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.
ESTABLISHING CONSTRUCTION SITES	Soil Erosion due to exposure of topsoil	Re-vegetate when possible and practicable		X	CNI22/ CSC/EDTL	No re-vegetation has 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/SO_2/NOx	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	None has been installed to date.
		Minimum vegetative removal	X		CNI22/ CSC/EDTL	Complied
		Proper management, handling and disposition of spoils and unsuitable materials	X		CNI22/ CSC/EDTL	Complied

PROJECT ACTIVITY	POTENTIAL ENVIRONMENTAL IMPACT	PROPOSED MITIGATION MEASURE	COMPLIANCE YES	COMPLIANCE NO	RESPONSIBLE ENTITIES	REMARKS
SITE DEVELOPMENT AND CONSTRUCTION OF FACILITIES	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	None has been Installed to date.
		Construction of bund walls of adequate capacity around fuel, oil and solvent storage tanks	X		CNI22/ CSC/EDTL	Complied
		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	Transmission Tower Group in Vemasse and Baucau-Los Palos Camps are unacceptable.
		Installation of waste treatment facilities In ancillary facilities such as batching plants and related facilities		X	CNI22/ CSC/EDTL	None have been established to date.
SITE DEVELOPMENT AND CONSTRUCTION OF FACILITIES	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	On-going
		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 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	Complied
		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)

As reported in the previous Audit, the Contractor undertakes regular wetting/watering of exposed grounds to prevent re-suspension of particulates on a daily basis. Service vehicles, trucks, heavy equipment and machineries are regularly maintained.

The toilet and bath areas of the Vemasse and Baucau-Manatuto Camps comprise mainly of makeshift structures located along the beach area at the back of the main camp. Human waste is directly discharged into the sea with no proper treatment before final discharge into the receiving water body. This is highly unacceptable as this adversely impacts the receiving waters and marine life in the area. The Contractor has been already instructed to rectify this as per Envi Site Instruction Number 2 dated 01 December 2010. This has yet to be complied with by the Contractor.

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.

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. Table 2 presents the ROW issues raised from December 2010 to March 2011.

TABLE 2. ROW PROBLEMS DURING WORKS, NOVEMBER 2010 — JANUARY 2011

DATE	SUBJECT OF COMPLAINT	WORK SITE	SUB-SECTION	REMARKS
14 January 2011	Foundation	N-1	Dili-Liquica	Not yet resolved
24 January 2011	Foundation	N-2	Dili-Liquica	Already resolved
24 January 2011	Foundation	N-3	Dili-Liquica	Already resolved
31 January 2011	Foundation	N-4	Dili-Liquica	Already resolved
28 January 2011	Foundation	N-5	Dili-Liquica	Already resolved
08 February 2011	Foundation	N-15	Dili-Liquica	Not yet resolved
18 February 2011	Foundation	N-17	Dili-Liquica	Already resolved
03 December 2010	Foundation	N-28	Dili-Liquica	Already resolved
16 November 2010	Foundation	N-73	Dili-Liquica	Not resolved
23 February 2010	Foundation	N-77	Dili-Liquica	Not resolved
09 October 2010	Foundation	N-2,3,4	Dili-Liquica	Not resolved
	Access Road	N-15 N-17 N-67 N-73	Dili-Liquica	This was already resolved but since the Contractor did not start works immediately the local people closed the access again.
		N-77		Not resolved

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

i) OCCUPATIONAL HEALTH AND SAFETY

PROTECTIVE CLOTHING AND SAFETY EQUIPMENT

As reported in the previous Audit, 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. However, the medical officer services, aside from the Hera Power Plant, the workers in Dili Sub-Station, Manatuto Sub-Station, Baucau, Vemasse, Laclo, and Liquica Camps and all other Camps of CNI22.

SUPPLY OF DRINKING WATER AND SANITATION

As reported in the previous Audit, the water for the Vemasse camp is sourced from a well drilled within the facility. As per information gathered from the workers residing in the facility, the water is not suitable for human consumption. The water is salty owing to the fact that the aquifer is already salt water intruded as it is located in close proximity of the sea. Drinking water is secured from commercial sources (bottled water) or water is boiled before consumption.

There is no source of domestic water in the Baucau Camp on site and water is delivered to the Compound and stored in a concrete tank. This however is not potable and unfit for human consumption and is mainly utilized for bathing and washing. The workers have to buy bottled water for drinking purposes.

TEMPORARY FACILITIES FOR WORKERS INCLUDING SANITATION AND WASTE DISPOSAL

There exist no sanitary facilities to address the requirements of the occupants of the Baucau camp. The toilet consists of only an open pit located at the back of the compound near the shoreline and there is no bath area provided.

As was observed in all the facilities of the Contractor, 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

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

3. REPORTING REQUIREMENTS

As was reported in the previous audit (December 2010), the Contractor have not submitted any monthly environmental management and monitoring report since mobilization in January 2010. As per the EMMoP prepared for the Project, the Contractor is contractually obligated to prepare monthly environmental monitoring reports covering the implementation of the EMMoP and

discussing the environmental aspects of the project. The Contractor has not complied with this requirement since his induction in the project.

E. ISSUES AND CONCERNS

- As was cited in the previous audit and as per Field Directive Envi 02 dated 01 December, 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.
- As was cited in the previous audit, the EMMoP stipulates that a Baseline Survey for Air, Noise and Water Quality. The Contractor was directed to immediately comply with this requirement in the Field Directive Envi 02 dated 01 December 2010. The Contractor has not yet conducted this activity to date.
- As was cited in the previous audit, the EMMoP stipulates that Monthly Environmental Monitoring for Air, Noise and Water Quality be conducted as expounded in Table 3 of the said EMMP. The Contractor was directed to immediately comply with this requirement in the Field Directive Envi 02 dated 01 December 2010but has yet to conduct this activity to date.
- As was cited in the previous audit, the Contractor should submit a Monthly Environmental Management and Monitoring Report, the format for which is presented in Annex B of the said EMMP. The Contractor was directed to immediately comply with this requirement the Field Directive Envi 02 dated 01 December 2010 but has yet to comply to date.
- As was cited in the previous audit and as per Field Directive Envi 02 dated 01 December 2010, 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 has yet to be complied with by the Contractor
- As was cited in the previous audit and as per Field Directive Envi 02 dated 01 December 2010 the EMMoP stipulates that (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 to date.
- As was cited in the previous audit and as per Field Directive Envi 02 dated 01 December 2010 the Contractor was directed to construct siltation ponds to address discharge of silted runoff into nearby receiving bodies of water. To date, the Contractor has yet to comply with this requirement.
- 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. The Contractor was already cited for this in the previous audit and the Field Directive Envi 02 dated 01 December 2010.
- As was cited in the previous audit and as per Field Directive Envi 02 dated 01 December 2010, 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. The Contractor has yet to comply with this requirement.
- As was cited in the previous audit and as per Field Directive Envi 02 dated 01 December 2010, the Site Emergency Contingency Plan and the Quality, Health, Safety and Environment Management System as prepared by the Contractor should be revised to include pertinent operational details. This has yet to be complied with by the Contractor.
- As was cited in the previous audit and as per Field Directive Envi 02 dated 01 December

2010, the Contractor was directed to provide a separate medical facility for the Dili Sub Station with the requisite medical officer, equipment and supplies. This should also be undertaken in the other facilities and camps. No compliance has been made by the Contractor on this item.

- As was cited in the previous audit and as per Field Directive Envi 02 dated 01 December 2010, the accommodations provided the Transmission Tower Construction Group adjacent to the main facility in Hera is unacceptable, unsanitary and unhygienic and poses a grave health and safety risk to the workers. The Contractor was directed to rectify this but has yet to comply. Proper accommodations with the requisite sanitation facilities should also be provided the other camps in the project.

F. RECOMMENDATIONS

1. The Contractor (CNI22) engages a full-time Environmental Specialist for the Project, preferably with a good command of the English language to be responsible for the implementation of the EMMoP and other environmental concerns. See Site Instruction Envi 02 dated 01 December 2010.
2. The Vemasse and Baucau-Los Palos Camp should be provided with sanitary toilet and bath facilities with the requisite treatment facilities so as not to adversely impact the receiving body of water adjacent to the Camp. Discharge of untreated effluents should be discontinued until proper treatment facilities are established in the Camp.
3. Potable water supply should also be provided all Camps to preclude the occurrence of attendant diseases rated to the ingestion of non-potable water.
4. The accommodations provided in the Vemasse camp are cramped with an average of 15 workers occupying each room. Additional rooms should be constructed as this condition is unhealthy and is very conducive to the spread of contagious diseases. This has already been raised in the Environmental Audit No. 2 dated 01 December 2011.
5. Proper housekeeping and materials storage should be implemented in all the Camps of CNI22. This would prevent conditions that would allow pests, rodents and other vectors to proliferate in the area.

G. CONCLUSIONS

There has been no major accomplishment in the implementation of the Environmental Management and Monitoring Plan and in the general environmental aspects by the Contractor reckoned from the previous audit undertaken in December 2010. To date, the Contractor (CNI22) has yet to commence the implementation of the EMMoP. As such, they are not fulfilling the agreement as it is their contractual obligation to implement this as part of their works by virtue of the Commitment Letter they signed in March 2010

OCCUPATIONAL SAFETY & HEALTH (OSH)

CNI22

SUBSTATIONS, HERA FUEL TANK, & TRANSMISSION LINE WORKS:

HERA FUEL TANK:

While the construction of the tank walls and stairs had been completed except for the insulation and metal cladding of the three (3) 1000m^3 steel tanks, it can be said luck was on the side of the workers for not incurring any incidents as they were remiss in complying with the standard procedures on scaffold erection and working at heights. A verbal instruction had been given to the CNI22 HSE department to provide dust masks to workers for respiratory protection against inhalation of fibers from the fiberglass insulation materials.

SUBSTATIONS:

The situation is on status quo with very minimal improvement in almost all substations where work is ongoing. While housekeeping issues has been kept to a minimum, other safety practices like PPE, signages are not being followed.

TRANSMISSION LINE:

The highly hazardous type of work activity (working at heights during conductor stringing operations and tower structural erection) has much to be desired in making sure workers will not commit mistakes and inadvertently fall to the ground for they have tendencies not to use their fall protection equipment while on the process of installing the structural components way up high above the ground. While we continually remind them of the high risk of falling this type of work has on the workers, unfortunately, they revert back to their old ways once we leave the construction site.

PAE (Hera Power Plant & Betano Power Plant)

This contractor has manifested good execution of their safety program. The reaction time to correct was immediate on safety issues raised at the field concerning impalement hazards observed eliminating the hazards posed by the mentioned unsafe condition. With the current exemplary attitude by this contractor, it can be said they are doing an excellent job in safety implementation and compliance.

SUMMARY:

The two main contractor's performance on safety are poles apart as can be gleaned from data and the actual field implementation. While the power plant contractor continually seeks to further improve both on the administration and safety program execution, the other shows laxity and this is where the concern is high. Both contractors had shown good health programs with regards to illnesses but the tower and substation contractor, toilet facilities must be improved on some on their temporary facility areas. After two fatalities, we are seeing a small degree of improvement on the part of the CNI22 management as their safety personnel are now inspecting the substation site upon constant prodding to instill discipline on their workers, subcontractor's and we will continue to push them until they will have it among themselves as a part of their responsibility to manage occupational safety and health and have an incident and injury free workplace. Simply put, CNI22 needs to do more if they are to achieve the goal.