

Ref. No: SEPL/F-5/15-16/544

To,
The Joint Director,
North-Eastern Regional office,
Ministry of Environment & Forest,
Government of India

Dated: 23/11/2015

Subject: Six Monthly compliance Report on status of Environmental Safeguards of 97MW Tashiding Hydro Electric Project.

Dear Sir,

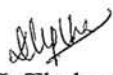
This has reference to Environmental Clearance of 97MW Tashiding hydro Hydro Electric Project vide MoEF letter No.J-12011/66/2006-IA-I dated 29.07.2010 following are clarified for your kind perusal.

1. As per the Stage I Clearance the following amount is deposited to the Forest Env. & Wildlife management Deptt. Government of Sikkim, Gangtok.
 - i) **Compensatory afforestation:** Rs, 28,43,900=00
 - ii) **Net Present Value:** Rs, 32,18,774=00
 - iii) **CAT Plan:** Rs 63,48,000=00
 - iv) **Biodiversity Conservation & Management Plan:** Rs,88,40,000=00
2. Public Notification Published as per the Para 12 of the Environmental Clearance.
We have advertised in two Local Newspaper widely circulated in the region around the Project "Himali Bela" in Nepali and "Sikkim Express" in English and Sikkim Herald classified the Government of Sikkim paper dated; 11th August 2010 and 12th August 2010, informing that Project has been accorded environmental clearance.
3. Six Monthly compliance on the status of the 97 MW Tashiding Hydro Electric Project to the stipulated environmental conditions is enclosed as Annexure A, Environmental activities and Corporate Social Responsibilities as Annexure B and Monthly Progress report of the project as Annexure C.

This is for your kind information.

Thanking You.

Yours faithfully,


(C.L. Thakur)
Sr. Vice president
Shiga Energy Pvt. Ltd.
Email.id:cl.thakur@dansenergy.com

- Copy to: 1) Additional Director, MoEF New Delhi, for kind information.
2) Central Pollution Control Board, Govt. of India, for kind information.
3) CCF-cum -Nodal Officer (FCA) Gangtok, for kind information.
4) Member Secretary, State pollution Control Board Gangtok, for kind information.

**97MW TASHIDING HYDRO ELECTRIC PROJECT
DATA SHEET**

Sl.No.	Particulars	Details
1.	Project Type	Run- of- River Scheme
2.	Name of the Project	97MW Tashiding Hydro Electric Project
3.	Clearance Letter i) Environmental Clearance ii) Forest Clearance.	No.J-12011/66/2006-IA-I dated 29.7.2010 MoEF GOI vide letter No.3-SKB 007/2010-SHI/1693-94 dated 16 th Sept.2011. Forest Env.& wildlife Management Deptt GOS vide Letter No.1368/FCA/FEWMD 955-57 Dated 24/9/2011
4.	LOCATION:	
	District	West District
	State	Sikkim
	Latitude	27°20'28"N
	Longitude	88°13'59"E
5.	Address for Correspondence	
	a) Address of concerned Project Head(with pin code, Telephone/Fax)	Shri. P.B.Praveen Kumar, Director Shiga Energy Pvt.Ltd. Rabdenling, Annex-II, Adjoining Hotel Royal Plaza Upper Shyari, Gangtok, East Sikkim. e-mail:praveenpb@yahoo.com Telephone:03592-280709 Fax:03592-280703
	b) Address of Project Incharge site office (With Pin code, Telephone/Fax)	Mr. C.L.Thakur Sr.Vice-President, Shiga Energy Pvt.Ltd. Yangtey, Gyalshing, West Sikkim, Contact no;8348691932 e-mail:cl.thakur@dansenergy.com
6.	Break up of the Project Area	
	a) Forest Land Total	4.3492Ha(Surface 2.7840Ha+Underground :1.5652Ha) in West Sikkim,
7.	Break-up of the Project affected Population.	Project affected families:30 Landless affected families: Nil
8.	Financial Details	
	a) Project cost as originally planned.	491.44Crores.
9.	Forest Land requirement	
	a.The Status of approval for diversion of forest land for non forestry use,	The Ministry of Environment & Forest Government of India vides its letter No.3-SKB 007/2010-SHI/1693-94 dated 2 nd May 2008 Forest Env.& wildlife Management Deptt GOS vide Letter No.1368/FCA/FEWMD 955-57 Dated 24/9/2011

Annexure-A
Compliance Status on Environmental Clearance.

Sl.No.	Stipulated Conditions	Compliance Status
Part -A: Specific Conditions		
(i)	Catchment area treatment plans as has been proposed should be completed in 3 years.	We have already deposited the CAT amount of Rs. 63, 48, 000=00 in the CAMPA fund and work will be carried out by the State Forest Department.
(ii)	Five dumping site have been identified for dumping 380858m ³ of excavated material. For retaining the dumped /unused material for subsequent stabilization along the hill slopes and along the stretch of the road sausage-cum-retaining walls shall be developed. These need to be built prior to the dumping of muck at these sites. These walls would range from 70 to 290m length at the proposed dumping site.	Muck dumping is being carried out in approved muck dumping sites. Sausage cum retaining walls has been developed as proposed to ensure that the unused material does not spillover. Further, the excavated muck is being used for preparation of aggregate and boulder is being used for constructing of sausage wall.
(iii)	It should be ensured that the dumping yards blend with the natural landscape by developing the sites with gentle slopes, bunds, terraced and water ponds, patches of greenery in and around them.	After the completion of the construction work we will convert the dumping sites into natural vegetation parks and recreational centre by consulting experts in this field.
(iv)	For maintaining environmental flow in the river two cumec water should be released during lean season.	We will comply as per the MoEF norms.
(v)	The scheme of disposal of solid waste should cover the integrated project area including from labour colony during construction Phase. Solid waste from the labour camps shall be collected in beans/Masonry Vats and the same shall be dumped or disposed to nearby municipal landfills/authorized dump sites. No dumping of solid waste is allowed near any water body or a stream to exclude any health hazard problems to the society.	The solid waste is collected in bins and then dumped into Municipal approved dumping area. This condition is being complied strictly so as to prevent any health hazards to staffs and labourers.

(vi)	Jobs should be provided to atleast 1 member of all the 30 affected families as per their skills.	We have already provided jobs to atleast one member of all the affected families as per their skills and also contract works are being allocated to the affected families and we are further encouraging them to produce organic vegetables and developed poultry/dairy farming to be supplied to the Company.
(vii)	Fishery Management Plan as proposed in the EMP should be implemented in totality.	We will implement the Fishery Management plan as proposed in the EMP together with the Fisheries Department, Govt. of Sikkim and we are in touch with the Fishery Department Government of Sikkim for implementation.
(viii)	The Proposed site is about 5Km away from the buffer Zone of Khangchendzonga Biosphere Reserve as per Supreme Court order clearance from NBWL may be obtained (If required)	Not applicable as per Gazette Notification issued by MoEF vide: 1688 dated 27 th August 2014.
(ix)	The Proponent should carry out a study on post construction period during O&M stage in between 3 to 5 years after commissioning of the project to examine the actual environmental impact of the project on its surrounding compare to what was planned initially. The study should be conducted by a reputed institute/consultant.	Construction of the project is in progress. After the commissioning of the project we will comply with the said condition.

Part-B: General Conditions

Sl.No.	Stipulated Conditions	Compliance status
(i)	Adequate free fuel arrangement should be made for the labour force engaged in the construction work at project cost so that indiscriminate felling of trees is prevented.	Sufficient free fuel (only LPG) has been provided by the company for labourers engaged in the project. As such food is provided to the most employees at the Company's mess where LPG is used as fuel.
(ii)	Fuel depot may be opened at the site to provide the fuel (kerosene/wood/LPG).Medical facilities as well as recreational facilities should also be provided to the labourers.	The fuel Depot (LPG) has been established at site. We have employed three nurses (one female & two male) and two ambulances have been provided to meet the emergency needs for project employees and also the public residing within the project site. Routine health checkup is conducted at project sites. We are also taking help from State Health Department. We have provided Table Tennis, Carom Board, chess, Volley ball Television, Screening Films etc. for recreation of labourers and employees.

(iii)	All the labourers to be engaged for construction works should be thoroughly examined by health personal and adequately treated before issuing them work permit.	Labourers engaged at construction work are examined by MBBS Doctor. Regular health checkup is carried out at Project sites.
(iv)	Restoration of Construction area including dumping site of excavated materials should be ensured by leveling, filling up of burrow pits, landscaping etc.The area should be properly treated with suitable plantation.	As and when the construction is complete the guidelines laid down will be followed. We have already started the plantation around the dumping areas.
(v)	Financial provision should be made in the total budget of the project for implementation of the above suggested safeguard measures.	Yes, the financial provision for implementation of environmental safeguards has been kept.
(vi)	Six monthly monitoring reports should be submitted to the Ministry and its Regional Office, Shillong for review.	Proposal for constituting monitoring committee is already submitted to Additional Director, MoEF, New Delhi for confirmation.
5.	Officials from Regional Office MoEF, Shillong who would be monitoring the implementation of environmental safeguards should be given full co-operation, facilities and documents/data by project proponents during their inspection.	We have been providing full co-operation, facilities and documents/ data by project proponents during the inspection of the officials from MoEF, Shillong.
6.	The responsibility of implementation of environmental safeguards rests fully with the M/s Shiga Energy Pvt.Ltd. & Govt. of Sikkim.	We are strictly complying with all the conditions set for the safeguards of environment with the cooperation of Forest Env. & Wildlife management Department, Government of Sikkim.
7.	The total amount of Rs.466.76 lakh kept in the budgetary provision for implementation of environmental management plan should be strictly adhered and not to be diverted for any other purpose.	We are committed to implement of the said budget for Environmental Management programme.
8.	In case of change in the scope of the project, project would require a fresh appraisal.	There is no change in scope of the project. However, in case of any changes we will inform the concern department and take the fresh appraisal.
9.	The Ministry reserves the right to add additional safeguard measures subsequently, if found necessary and take action including revoking of the clearance under the provision of the Environment (protection) Act,1986 to ensure effective implementation of the safeguard measures in a time bound and satisfactory manner.	Agreed.
10.	This clearance letter is valid for a period of 10 years from the date of issue of this for commencement of construction work	The construction work began since December, 2011.
11.	A copy of the clearance letter will be marked to	Till date we had not received the suggestion

	concerned Panchayat / local NGO, if any .from whom any suggestion / representation has been received while processing the proposal. The Clearance letter shall also be put on the website of the Company by the proponent.	/representation while processing the proposal. The Clearance letter is available on the company's website.
12.	The proponent should advertise in atleast two local newspaper widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned informing that the project has been accorded environmental clearance and copies of the clearance letter are available with the State Pollution Control Board/ Committee and may also be seen in the Website of the ministry of environment and Forests at http://www.envfor.nic.in .	We have advertised in Two local Newspaper widely circulated in the region around the project "Himali Bela" in Nepali and "Sikkim Express" in English and Sikkim Herald Classified the Government of Sikkim Paper dated: 11th August 2010 and 12 th August 2010, informing that project has been accorded environmental clearance. The clearance letter is available with SPCB and at MoEF website.
13.	The project proponent shall also submit Six monthly reports on the status of compliance of the stipulated EC conditions including result of monitored data (both in Hard copies as well as by e-mail) to the representative Regional office of MoEF, the respective Office of CPCB and the SPCB.	We are submitting six monthly compliance reports as stipulated in Hard and soft copy to the concerned officials.
14.	Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Authority Act.1997.	Agreed

ANNEXURE- B ENVIRONMENTAL ACTIVITIES AND CORPORATE SOCIAL RESPONSIBILITY

Earth Day Celebrations

Earth Day is an annual event, celebrated on April 22, on which day events worldwide are held to demonstrate support for environmental protection. On this occasion Shiga Energy Pvt. Ltd. organized a contest on Earth & Environment conservation between two Schools of the Project area, St. Mary's Convent School, Geylsing and Government Secondary School, Sakyong on 23rd April 2015 for Class VIII to Class X Students. On the Occasion, Divisional Forest Officer (DFO) Land Use & Environment, Mrs. Kusum Gurung was invited as chief guest and she spoke on various earth and Environment Conservation topics.



Eye Check-up Camp

Shiga Energy Pvt. Ltd has organized a Free Eye Checkup camp for the students at Lobing Primary School along with Jr. High School Tamtang under Lobing Garethang GPU (Gram Panchayat Unit) of Yoksham Tashiding Constituency on 21st April 2015.



Book Fare for Students

A Book fare for the students was held at Girls Senior Secondary School Auditorium, at Geyzing, West Sikkim on 25th April 2015. In this book fare Shiga Energy has facilitated the students of Two Project Area Schools for the participation in the Book fare, which were Tamatang Jr. High School under Lobing Garethang GPU (Gram Panchayat Unit) and Government Secondary School Sakyong under Yangtey GPU of Yangtam constituency.



Football Tournament:

SEPL sponsored an Under-15 Interschool football tournament for the Gyalshing district at playground of Govt. Sec. School Sakyong. In this tournament 12 Schools participated. The tournament was held from 24th May 2015 to 30th May 2015. In the Final day to promote the participation of Girls in Sports, SEPL also organized an exhibition football match between Women Football Academy, Gyalshing and Women Football club Legship which was won by Women Football Academy. The Final match was held between Govt. Sec. School Lingchong Vs Government Sr. Sec. School Legship. This match has won by Govt. Sr. Sec. School Legship. In the Final Match Area MLA of Yuksum Tashiding Constituency Mr. Sonam Dalul Bhutia was chief guest while Sikkim Milk Union Chairman Mr. M B Rai was the Guest of Honor. Gram Panchayat Units, School Staff and SEPL company representatives were also present on the occasion. The Teams were awarded trophies and Cash Prize by Chief Guest. The event was appraised by Chief Guest, Local public as well as by the leading Newspaper of the Sikkim.



Blood Donation Camp:

In association with Red Ribbon Club & NSS, SEPL had organized a blood donation camp at Sr. Secondary Girls School, Geyzing. It was voluntary blood donation camp and approx. 100 people have donated blood in this camp including students of this school.



Renovation of Floor of Class Room & Verandah:

SEPL had got request from Government Secondary Sakyong School for the renovation of floor of a class room and verandah which may lead to the slip trip and fall for the students. SEPL had done this to improve the conditions of the class room and verandah.



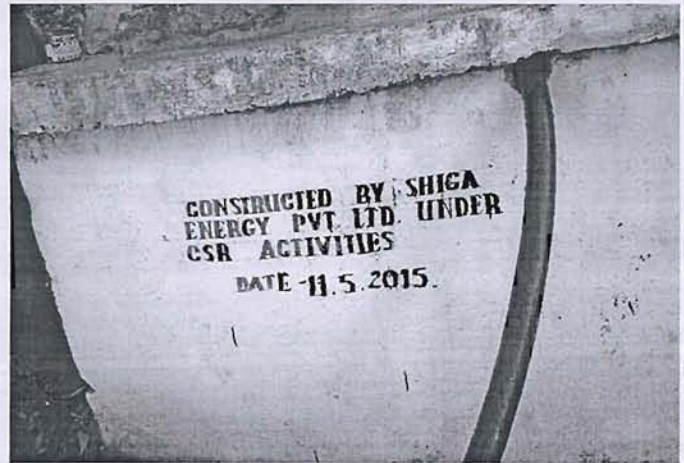
GI Sheet Donation:

As requested by a villager for the renovation of his house roof which got damaged due to natural landslide, SEPL has provided the GI Sheet for the renovation of his roof.



Construction of Water Storage tank & Supply Line to the Villagers:

On the request of villagers from Kagyathang, SEPL has constructed one water storage tank of capacity 1KL with a water supply line from water source 3 km away from the storage tank. This work of the SEPL is appreciated by the Villagers and GPU.



World Environment Day:

This Year World Environment Day based on the theme “Seven Billion Dreams One planet Consume with Care” which indicates that the resources of the earth is limited for the seven billion human beings, however we have to utilize judicially for sustainable development. Keeping this in mind Shiga Energy Private Limited observed World Environment Day 2015 in the month of June 2015 and organized the following activities:

Awareness Drive in all Schools of Project Area – Competition on Painting, Drawing, spelling & Quiz were organized by SEPL in association with a NGO ESS (Environmental Sustainable Studies) along with an awareness drive for the students of the five schools present in Project area. On 10th June 2015 SHIGA organized final events for Quiz and Spelling which was based on Environmental Awareness and invited DFO Ms. Kusum Gurung as the Chief Guest for the event. The Quiz Competition was held between Tamutam School & Chumbung School for the students of class VII & VIII . For this Quiz competition SEPL provided a rolling trophy and annual trophy was won by Tamutam Jr. Sec. School. While other competitions like spelling, drawing, handwriting were organized among all five schools and top three were selected for award. All winners were awarded with medals and appreciation certificates by Chief Guest.



Plantation Drive along the road side: SEPL completed road protection work and to further reduce induced erosion and landslides, SEPL planted local grass species such as Napier & Almiso in three to four tier. In Barrage site approx. 4000 grass saplings were planted from barrage Site to till Crusher/Batching Plant. Apart from this stretch, plantation was carried out in 300 meters from Adit-1 to till Magazine store and planted approx. 5000 sapling of Napier grass and around 1000 saplings of Almiso grass (Common Name Broom Stick grass).



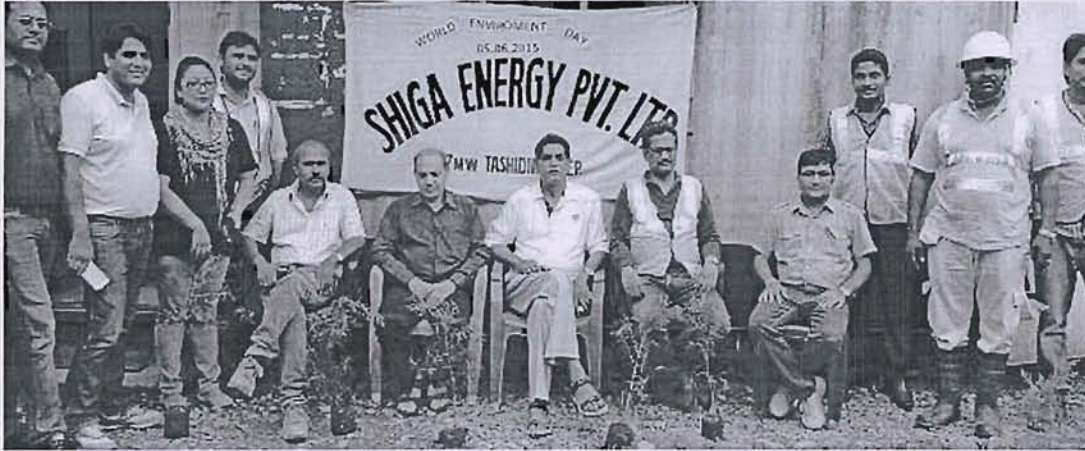
CELEBRATION OF WORLD ENVIRONMENT DAY

A District level programme for the celebration of World environment day 2015 was organised at Budang West Sikkim on 5th June 2015 by Environment and soil conservation , West division in collaboration with Sikkim State Medical Plant Board Forest Environment and Wildlife Management Department Government of Sikkim. The Chief Guest for the programme was Shri. R.B. Subba, Hon'ble Minister HRDD & Law Department and other Dignitaries. The Shiga Energy Pvt. Ltd. also actively participated the programme. The plant species like Rudraksha, Amala, Bur, papal, Bhui Champa etc were planted by the dignitaries.



Plantation Drive on the Muck Dumping Site: As we had completed the excavation of HRT and no further muck dumping would be required, plantation was started in the muck dumping yards by external agency M/s Kyonsa. Till date they had planted more than 5000 saplings of various plant and bamboos. In this area we had planted more than 3000 bamboo saplings, 1700 saplings of grass Amliso (Broom Stick Grass) and 200 saplings of Banyan tree.

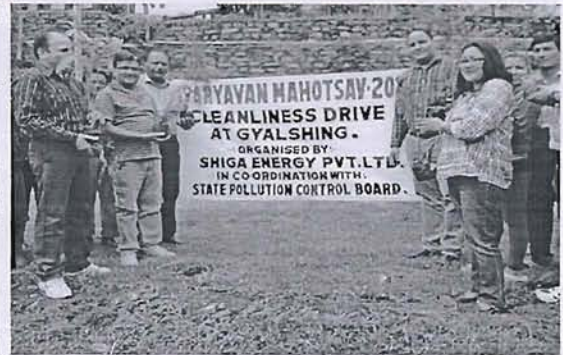
Plantation Drive by Official of Shiga & Contractors: On the occasion of World Environment Day 2015, SEPL organized a plantation drive by the Officials of SEPL and its Contractors at the ADIT-1 Office area. SEPL officials planted around 70 plants of Pine tree. The President of SEPL also participated and urged staff to protect our environment.



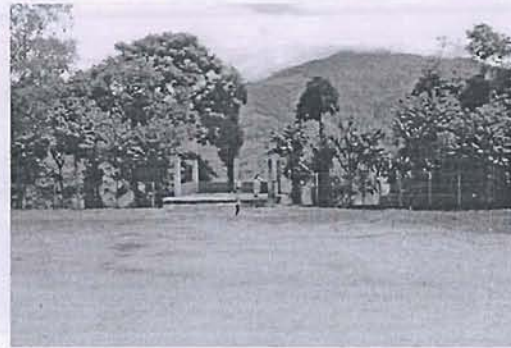
Plantation Drive along Road Side – SEPL carried out plantation drive on project approach roads. Some patches of the approach road from Sakyong to Project site are steep and without trees. In this regard SEPL chose those spots and planted trees with the help of rings of Hume pipe. In this technique firstly steep side of the road is dug for an 8-10 inches and ring of Hume pipe is placed and filled it with soil. Till date SEPL has planted around 100 trees and found approx. 90% viable ratio.



Paryavaran Mahotsav: This year also SEPL in coordination with State Pollution Control Board observed Prayavaran mahotsav at their site and carried out plantation in their colony area in Kabirthang Village.

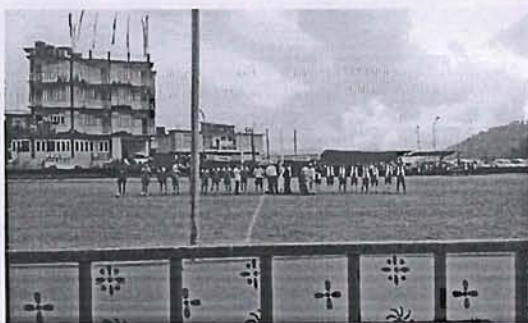


Construction of Shed at Sports Ground at Sakyong School: SEPL has promoted various sports activities. In this respect, SEPL has constructed shed at the sports ground at the Sakyong School which will help to organize various sports tournaments in this remote area and help overall development of the students.



Independence Day 2015 celebration:

SHIGA participated actively with district administration (Geyzing) to sponsor and provide transportation facility to the participating Schools in the Independence Day celebrations held at Pelling Senior Secondary School (Yangthang Constituency) and Tashiding Senior Secondary School (Yuksom Tashiding Constituency).



SHIGA also actively participated in celebration of Independence Day at Sakyong Secondary School Geyzing, West Sikkim. On the Occasion of Independence Day celebration the Hon'ble Area MLA, Ms, Chandra Maya Subba present as a Chief Guest. The Independence Day celebration committee felicitated SHIGA representative for their outstanding CSR initiatives.



SHIGA staff celebrated the Independence day at Kabirhang Colony. The program included National Flag hosting, address from Project Manager and refreshment to Company Employee and local people who attended the event.

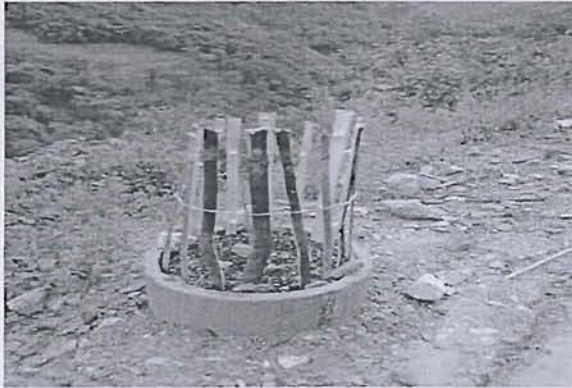


Construction of Pavilion at Sakyong Secondary School:

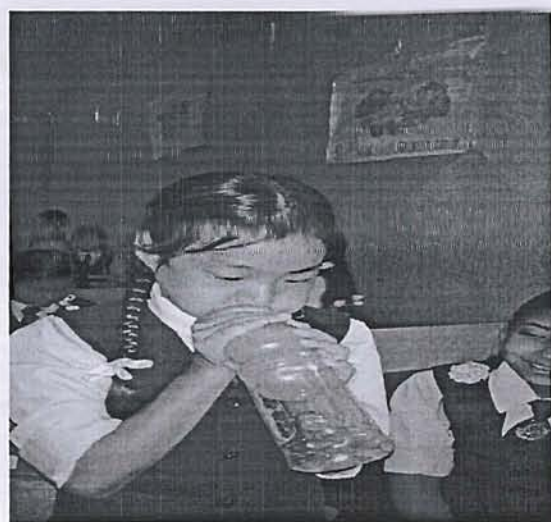
On request of School Management Committee and the Local Villagers of Yangtey Gram Panchayat, SHIGA constructed the pavilion roof in front of School Ground measuring 30'-0"x20'-0". The work was completed in a week time. The celebration of Independence Day was carried out in same pavilion.



Plantation Drive August 2015: SHIGA carried out plantation drive along the Project area road from Sakyong Zero point to Kageythang Project Site, and surrounding of project area, mainly on dumping yard.



Awareness Program at School:Gyan Setu NGO of Maharashtra and M/s. Shiga Energy Pvt. Ltd organized a two day workshop at Chumbung Junior High School on 22nd 23rd September 2015 at Sakyong Secondary School. The awareness program included various activities and scientific experiments.



CAP Program (Competition among Primary School)

The Final Competition among Primary School programme was held at Lower Bhaluthang, Primary School on 2nd October'15, i.e. on the occasion of Gandhi Jayanti. Area MLA Ms.Chandra Maya was present as the chief Guest of the Programme. Students and Teachers from Ramitay Primary School, Kaberthang Primary School, Lower Bhaluthang School, Upper Bhaluthang School, Sakyong School and Yangthey Primary School participated in the competition. The competitions were held in various fields including football match, Dancing Competition, Easy writing, Painting competition, Handball and rhymes etc. M/s Shiga Energy Pvt. Ltd. actively supported the programme to make it a success.



Plantation Drive September 2015: M/s Shiga Energy Pvt. Ltd carried out plantation drive on project approach road. The planted trees with the help of rings of hume Pipe (Coller) and to protect from animals the plant has been surrounded by bamboos sticks with green painted. More than 300 varieties of sapling were planted

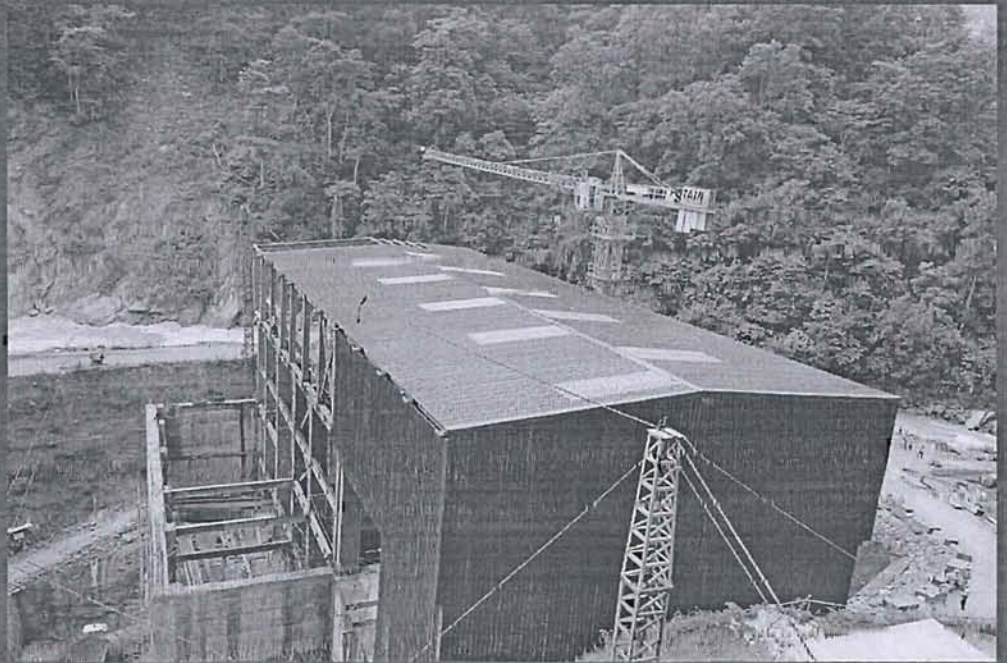


ANNEXURE-C

SEPTEMBER 2015

97 MW TASHIDING HEP
SIKKIM

MONTHLY PROGRESS REPORT



SHIGA ENERGY PVT LTD

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EXECUTIVE SUMMARY

Owner	: Shiga Energy Pvt Ltd
Civil and HM Works Contractor	: Bumi Geo Engineering Ltd
Electro-Mechanical Contractor	: Alstom India Ltd
Owner's Engineer	: Energy Infratech Pvt. Ltd

All the construction contracts for Tashiding HEP - have been awarded and construction works at various fronts is going on in full swing with HRT excavation completed and invert & overt lining progressing simultaneously; penstock tunnel excavation, levelling concreting and rail laying completed and ferrule erection & backfill concreting in progress; construction works in Power House sub-structure & superstructure in advanced stages of completion with civil fronts handed over to E&M contractor for scroll case & MIV erection; construction works in head works area in progress; preliminary survey as well as detailed topographic survey along the selected route for the transmission line having been completed and foundation works for five number towers in progress and land acquisition process for balance towers in progress.

Diversion Tunnel work was completed and river successfully diverted on 06th Jan 2015 followed by Barrage excavation and concreting works.

Excavation of upstream apron and barrage body was completed including that for left and right bank cladding walls; concreting of Barrage Body raft and the upstream apron including CC Blocks completed; concreting work in right and left bank cladding walls as well as pier concreting works completed up to well above likely water level in the area during monsoon and further concrete works under progress. First lift of breast wall of Bay-1 & 2 completed and further shuttering works is under progress.

Under Ground excavation of the HRT has been completed with about 28 m length left on the intake side which will be taken up later after plugging of the diversion tunnel. HRT invert cleaning, Invert Concreting and Overt lining works are under progress. Overt Concreting using **Gantry No-2 was started on 10th September 2015 from Face-3**. As at end Sept 2015, 3858 m length of the invert concreting and 747 m overt lining is completed.

End portion of HRT excavated from Power Intake side on 3rd August 2015.

Excavation of Adit to Surge Shaft top completed. Surge Shaft Dome excavation completed including rlb fixing, shotcreting in some of the area is under progress.

Excavation of Adit to Surge Shaft top and Surge Shaft dome excavation including rock support etc completed. Surge Shaft Gantry erection work for mucking is nearing completion. Surge Shaft excavation for initial 3.4 m depth was completed during the month.

Power House open excavation along with extensive slope protection works was completed in the month of Feb. 2014. Draft tube positioning along with 2nd stage concreting of both the Units was completed in 2014 itself. Service Bay Raft, D line RCC columns, River side wall and draft tube side wall concreting completed and structural steel erection in superstructure in the service bay area to facilitate EOT crane erection and sheeting works also completed. Structural steel erection work in Power House area except gable end wall completed. Side wall sheeting is under progress. Civil works completed in Unit-1 & 2 and ready for erection of Stay ring, Spiral Case and MIV for both the units.

HM Works: Fabrication of Y-Piece, Branch ferrules and Ferrules up to Anchor Block AB-6 completed and fabrication of underground ferrules is under progress.

Erection of Y-Piece, Unit-1 & Unit-2 branch ferrules and 4 segments of Bend no-7 including welding completed.

Ferrule erection, welding and backfilling concreting in penstock tunnel completed in 50 m length.

Fixing of 1st stage embedment for radial and stop log gates in the barrage piers are in progress. Chair fixing for Trunion girders and Bolts for walk way in Barrage completed in all the piers. Concreting up to bottom of trunnion chair for Pier No-3,3A & 4 completed during the month. Trunion girder erection including anchorage rods for Pier No-1 completed and embedding of 1st stage embedment for draft tube gates and DT Inlet gate has been completed. Second stage embedment fixing in Draft Tube gate is under progress during the month.

For **E&M works**, Design of turbine and related components are 99% complete. EOT crane erection is in advanced stages of completion at site. All other major components are in various stages of manufacturing, inspection and dispatch.

Preliminary survey as well as detailed topographic survey along the selected transmission line route has been completed. Clearance of CEA for starting construction of the transmission line has also been obtained and actions for other clearances, land acquisition etc. is underway. **Land acquisition for the first 7 towers is completed and Tower foundation work started during the month on 4 tower locations.**

1. PROJECT STATUS

1.1 Clearances

SEPL has obtained all clearances which are required for construction of the Tashiding HEP. The list of clearances obtained is attached as Annexure V.

1.2 Financial Closure

The financial closure for the Project was achieved in the month of July 2011.

2. Infrastructure Works at Project Site

2.1 Infrastructure Works

Infrastructure works are complete, the detail of which is given below:

- The total land required for the project has been acquired.
- The work for construction of access roads were completed and regular maintenance is under progress.
- Bridges erection works completed and are in operation.
- Construction of Magazine House is completed.
- Power supply line network for Construction power has been charged and is under operation.

- A Batching plant of 45 TPH capacity near Adit-1 and another of 30 TPH at Power House site are operational. Another batching plant of 30 TPH capacity has been installed at Adit -1.
- A Crusher Plant of 100 TPH capacity near Adit 1 and another of 30 TPH capacity at Power House site are operational.
- Tower crane at the power house is operational.
- Setting up of SEPL's administrative and technical office at Project Site has been done.
- Construction Work of labour quarters for the Civil Contractor completed at all sites.

3. Progress of Works

3.1 Head Race Tunnel

Excavation of all the three Adits as well as the HRT is completed. Excavation of the HRT took place from six faces: Faces 1 and 2 from Adit 1 with Face 1 advancing towards intake and Face 2 advancing towards Adit 2; Faces 3 and 4 from Adit 2 with Face 3 advancing towards Adit 1 and Face 4 advancing towards Adit 3; Faces 5 and 6 from Adit 3 with Face 5 advancing towards Adit 2 and Face 6 advancing towards Surge Shaft.

3.1.1 HRT-Face-1:

Under Ground excavation of HRT from Face-1 was completed in the month of Oct. 2014 making total excavated length of 1376.20 m from this face.

Invert concreting completed in 1306m length during the month.

3.1.2 HRT-Face-2:

Under Ground excavation of HRT from Face-2 was completed in the month of Nov. 2013 making total excavated length of 765.00 m from this face.

Invert concreting of HRT Face-2 completed on 11th July 2015. Overt lining started on 10th August 2015 and completed in 337 m length during the month and making total progress 576 m.

3.1.3 HRT-Face-3:

Under Ground excavation of HRT from Face-3 was completed in the month of Nov. 2013 making total excavated length of 1181.48 m from this face.

Invert concreting of HRT Face-3 completed on 31st August 2015. Overt lining started on 10th September 2015 and completed in 171 m length during the month.

3.1.4 HRT-Face-4:

Under Ground excavation of HRT from Face-4 was completed in the month of March 2015 making total excavated length of 1119.10 m from this face.

Invert concreting completed in 605m length.

3.1.5 HRT-Face-5:

Under Ground excavation of HRT from Face-5 was completed in the month of March 2015 making total excavated length of 967.80 m from this face.

3.1.6 HRT-Face-6:

Under Ground excavation of HRT from Face-6 was completed in the month of Oct 2014 making total excavated length of 243.34 m from this face.

3.2 Penstock Tunnel:

Under Ground excavation of Penstock Tunnel, in its entire length of 234 m, was completed in the month of March 2015. Backfill concrete in penstock tunnel completed in 50 m length from portal that is from FE-90 to FE-72.

Surface Penstock:

Excavation and First Stage concreting from Anchor block - 6 up to the Power House end completed.

3.3 Intake Site:

Diversion Tunnel:

Diversion Tunnel excavation is completed. (DT Length = 262 m includes 90.60 m length which is common with HRT).

Invert concreting & slope protection work near DT inlet portal, DT Outlet Channel, Invert concrete and side slope protection work (Concreting) was also completed followed by successful river diversion achieved on 6th Jan 2015.

Power Intake Transition part (5 m length) completed and excavation of end portion of the HRT from intake side and upto the diversion tunnel completed in 43.6 m length during the month.

Invert lining of end Portion of HRT of 47 m length completed during the month.

3.4 Barrage

Excavation of upstream Apron and Barrage body completed including left and right bank excavation. Concreting in upstream apron as well as main barrage body raft including CC Blocks also completed.

Pier Concreting Status:

- Pier No-1, 2 & 3:-Concreting completed up to El.894.236 in D/S end
- Pier No-1, 2 & 3:-Concreting completed up to El.895.084 in U/S end
- Breast wall first lift of Bay-1 & Bay-2 completed up to El.895.084m
- Pier No-3A, 4:-Concreting completed up to El.894.236 in D/S end
- Pier No-3A, 4:-Concreting completed up to El.894.10 in U/S end

- Pier No-5:-Concreting completed up to El.893.458 in D/S end
- Pier No-5:-Concreting completed up to El.893.90 in U/S end

Concreting in Upstream Right bank cladding wall completed up to El.898.80 m and on Left bank completed up to El.896.00 m.

3.5 Surge Shaft

Surge Shaft Adit Portal and underground excavation of Adit to Surge Shaft top was completed on 28 May 2015. Surge Shaft dome excavation including rock support works completed. Surge Shaft Gantry erection work is nearing completion. Initial portion of 3.4 m depth of the surge shaft excavated during the month.

3.6 Power House area

- **Excavation and Slope protection works**

Power House open excavation along with slope protection was completed in the month of Feb. 2014.

- **Concreting**

Dewatering Sump: 1st stage concreting from El. 676.00 m to El. 682.50 m completed.

Unit-1: Draft tube lowering, positioning, alignment and second stage concreting completed up to El. 682.50 m.

Unit-2: Draft tube lowering, positioning, alignment and second stage concreting completed up to El. 682.50 m.

Unit-1 and Unit-2 concreting completed up to El.685.14m and ready for erection of Stay ring and spiral case during the month. MIV foundation concrete also completed during the month.

Control Block: Concreting in raft from El. 684.10 m to El. 689.45 m completed from D - Line up to E - Line of Power House. Concreting of slab at El.690.60 m and El.696.10 m completed. E-Line Wall concrete completed during the month that is up to El.706.60 m. Shuttering of Slab at EL.701.10 m completed during the month. Lift well wall and stair case completed up to EL.696.00m

Hill Side Wall: Concreting of the wall completed.

River Side Wall: Concreting of the river side wall completed.

Draft Tube Gate Wall: Concreting of Draft Tube Gate wall completed.

Super Structure Structural Steel Works

Service Bay: Erection in the service bay area including roof and side sheeting completed facilitating EOT crane erection work in advanced stages of completion.

Unit-1: Erection of steel structure including roof sheeting completed and wall sheeting is under progress during the month.

Unit-2: Erection of steel structure work and part roof sheeting completed. Sheeting in B line wall and Roof is under progress during the month.

- **Protection works along river side and Other Works**

Wire crate fixing as well as Back filling with due compaction has already been completed up to El 707.00 m.

Construction of temporary approach to the service bay area was completed on 27th April for vehicular access to the service bay.

4. HM-WORKS

Gates

- **Barrage:** 1st Stage embedment parts fixing in barrage is under progress. Chair fixing along with walk way bolts for Pier No-1, 2, 3, 3A, 4 & 5 completed during the month. Pier No-1 Trunion girder erection along with anchorage rod fixing work completed during the month.
- **Power House:** 1st Stage embedment parts fixing for the Draft tube gates completed. 2nd Stage embedment fixing works also under progress during the month.
- **Surface and Underground Penstock:**
 - **Under Ground penstock:** Ferrule fabrication of Penstock Tunnel is under progress. Erection and welding work of Ferrule FE-72 to FE-90 along with backfill concrete (50 m) was completed during the month. 40 ferrules out of total 90 ferrules for underground penstock have been received at site.
 - **Surface Penstock:** All 22 Y-Piece segments, Branch Ferrules for Unit-1 & 2 except reducer piece received at site. 9 ferrule of Bend no-7 out of 9, 4 ferrules from AB-6 to AB-7 out of 14, 04 nos. in AB-6 out of 11, 01 nos. and In AB-5 out of 7.

Y-Piece: Erection of all 22 segments along with welding completed during the month.

Unit-1: Erection of 10 out of 11 ferrules along with welding completed during the month.

Unit-2:- Erection of 22 out of 23 ferrules along with welding completed during the month.

AB-7:-Erection of 4 segments out of 9 along with welding completed during the month.

Erection of Bulk head fixing along with welding work completed for Unit-1 Branch Ferrule side (2.7 m dia.) during the month.

5. Electro-mechanical Work :

The contract for entire Electro Mechanical works was awarded to M/s ALSTOM Projects India Ltd to be carried out on turnkey basis.

Status of E&M works drawings/ documents, Manufacturing, Inspection, MDCC, Dispatch and Erection:

1. Turbine , MIV & Governing System

- Approved Drawings/ Documents

Lower & Upper pit liner, embedded pipes, pressure taps and field efficiency pipes, inlet spiral case and stay ring foundation, anchorage and extension piece, Draft Tube, Elbow & Liner Hydraulic Design, Turbine generator coupling and runner assembly and Draft Tube Bulk Head General Arrangements & ITP of Turbine & MIV, Francis Turbine Guide bearing, shaft seal, Discharge Draft tube cone, Pressure tap disposal board GA drawings, Head cover, Bottom ring, Wicket gate & regulating ring BOM, Francis Turbine Stages of concrete Civil work General layout, Francis Turbine Non Embedded Pipes for SA 10 Spiral Case Drain GA, MIV Air admission & Air release valve GA, MIV by pass Line GA & BOM, Ultra Sonic Flowmeter Technical Specification, Francis Turbine governing system and MIV function diagram, Governor Panel -GA & Wiring Diagram, Governing System & MIV Design Memorandum and Calculation note, ITP of Governing System, Turbine runner removal gallery layout, Turbine Cross Section & Distributor, turbine Instrumentation & monitoring diagram, Francis Turbine Shaft Line Calculation, Head Cover Dismantling General Arrangement & BOM, MIV Design Memorandum, Downstream Sleeve GA & BOM, Spherical valve loads on concrete, MIV Signalization & Water piping General Assembly, Design Memorandum of Turbine, MIV Loads on concrete, Governor Operating Instructions, Governing System over speed detection GA, Turbine, Generator, MIV & Governing System Operating Sequence, MIV General

Arrangement, Spiral Case Inspection Sheets, Turbine non Embedded Pipes Air Admission Valve Piping G.A., Francis Turbine Shaft Seal Pressure Tap Disposal Board GA, Spherical Valve Penstock and MIV Body Drainage GA & BOM, Turbine Instruments and Safety List, Francis turbine Neyrpic T.SLG Governor Functional diagram and input/output list, MIV Pressure Testing General Assembly & BOM, Upstream Sleeve General Assembly, Spiral Case Field Quality Working Plan, Governing System Piston Accumulator JB Wiring Diagram, Governing System OPU Sump Tank JB Wiring Diagram, Turbine Hard Coating Details, Spiral Case Erection Procedure.

- **Under Review Drawings/ Documents**

Francis Turbine Discharge Draft Tube Bulk Head with Grating GA, Francis Turbine Guide Bearing and Shaft Seal Instrumentation, Francis Turbine common tools mono rail - Hoist GA, Turbine Spares BOM, Governing System Spare Part List and Tools

2. Generator

- **Approved Drawings/ Documents**

Characteristic Curve, Instrumentation & Monitoring Diagram, ITP, Design Memorandum, Pole Complete, Generator, Rotor & Stator cross-section layout, lower guide bearing arrangement, stator sole plate, upper & lower bracket sole plate anchoring arrangement & BOM, Upper Combined Bearing & Lower Guide Bearing Basic Layout, Rotor Embedded Plate Arrangement, Stator Complete Handling & Rotor Lifting Arrangement, Upper Combined Bearing complete & BOM, Generator Instruments and Safety List, Upper Bracket Assembly, Generator Foundation Embedded Component, ITP Excitation System, Generator loads on concrete, Upper & lower Bracket Lifting Arrangement, Stator Wound, Generator Top Cover Arrangement, Generator Foundation Arrangement, Control Device Installation, Slot and Iron RTD Arrangement, Generator Instruments & Instruments Spares BOM, Generator Name Plate, Erection Procedure for Stator and Rotor Assembly at Site, Generator Rotor Arrangement

- **Under Review Drawings/ Documents**

Stator and Rotor Assembly Field Quality Working Plan

3. BOP Items

- **Approved Drawings/ Documents**

Design Memorandum - Grounding System, 11 kv isolated phase bus duct, GSU Transformer, Elevator & EOT crane, Burled main earth mat and electrodes drawings, Cable trays & support system erection standard, General Site list of Embedment, PH EOT Crane - Assembly Drawings, rail fixing arrangements, Electrical Schematic Circuit Diagram, BOM & GA Drawing of Panels & electrical and Control Write Up, Structural Design, Shrouded Type DSL Fixing Arrangement Details Technical Specification of condition monitoring system, Embedded and

overgrind piping hydro test procedure, Piping System & support Erection Standard, Oil piping calculation note, Design Memorandum & Flow Diagram - Power House Drainage & Dewatering System, Cooling Water System, Oil Handling System Design Memorandum & Single Line Diagram - Illumination, NGR & NGT Calculation, Generating Unit - Protection Single Line Diagram, 220kV Switchyard single line diagram, Protection System Design Memorandum, Protection relay list, & MV system cable sizing, 240 V UPS Design Memorandum & Single Line Diagram, UPS cable sizing, Design Memorandum & Single Line Diagram -220 V & 48 V DC, MV, LV & DG Systems and Cable & cable trays System, cable sizing 220 V & 48 V DC System, Lightning Protection System calculation, Grounding System connection details, General Power Plant - Control System Design Memo & Configuration, Communication System, LV System cable Sizing, Cable trays & support system erection standard, Lightning overvoltage study, Power House EOT Crane - Spare Part List & 175T Test Cradle - General Arrangement Drawing, Pipes & pipe fittings technical specification, Design Memorandum & Flow Diagram -Ventilation and Air Conditioning System , over ground earthing drawing, 11 CT & VT Calculations, 11 kV & 220 kV load flow & short circuit Analysis, Design Calculation, General Arrangement Drawing & Earthing layout of 11 kV Isolated Phase Bus Duct, LP Compressed air system, Tap off IPBD, Foundation, GA, Bushing GA, Transportation Sketch for PH GSU Transformer, Technical Data Sheet of MV & LV Power, Control and Instrument Cables, Technical Data Sheet for 11 kV Main, CT Wiring Diagram and Termination details at LAVT Cubicle end for 11KV Isolated Phase Bus Duct, ITP of Grounding System, Cooling Water System, fire protection & detection system, and EOT Crane, Public Address and Communication System, 11 kV Bus Duct

- **Under Review Drawings/ Documents**

Firefighting System, 220 kV - CT &VT Calculations &, Design Memorandum for 220kV Switchyard, 220 kV Switchyard Plan & Sectional View General Arrangement Drawing, PH Cable Tray Guide Network drawing, technical Specification for GSU transformer, Inspection & Test Plan for -MV & LV Cables, Cable Tray & Supports, DG Set, MV & LV Switchgear

4 Following Material Dispatch Clearance Certificate (MDCC) has been released:

1. Grounding System (Lot-1)
2. Draft Tube Elbow & Liner for Unit -1 and unit -2
3. Draft tube embedded parts
4. Embedded parts for Spiral casing - lot 1
5. Draft Tube Bulk Head
6. Embedded parts for Spiral casing - lot 2
7. Stay ring Unit 1
8. Grounding System - Flat Lot 2
9. Embedded parts for pit liners

10. Rails and Fixing Accessories of EOT Crane
11. Stay Ring Unit # 2
12. Stator Frame Unit 1 & 2
13. EOT Crane & Spares
14. Lower pit liner Unit 1 & 2
15. Stator Core Laminations Unit # 1
16. Stator Core Laminations Unit # 2
17. Cradle of EOT Crane
18. Turbine Shaft Unit #1
19. Turbine Shaft Unit #2
20. Embedded Parts MIV
21. Spiral Case Bulk Head
22. Spiral Case Unit #1 & 2
23. Coupling Bolts Unit # 1& 2.
24. Upper Pit Liner Unit #1 & 2
25. Stator Bar Unit #1 &2,
26. Generator Shaft with Spider U#1 &2
27. Stator Winding Material Lot 1
28. Counter weight Unit # 1 & 2
29. Rails for GSU Transformer
30. Spares Stator Bar

5. Status of E&M equipment at Alstom works/ Inspection/ Dispatch:

1. Draft Tube elbow /liner for unit 1 and Unit 2 and grounding system material (Lot-1) have been manufactured, Inspected and reached project site.
2. Draft Tube embedded parts reached at site.
3. EOT Crane - Rails & Fixing accessories dispatched from Works
4. Embedded parts for Pit Liners dispatched from Works
5. Stator Frame Unit 1 & 2 dispatched from Works
6. Inspection of EOT Crane & Spares completed & Dispatched from works
7. Stator Lamination U# 1 & U#2 dispatched from works
8. Lower pit liner U#1 & U#2 received at site
9. Cradle for EOT Crane dispatched from works
10. Stay ring & Spiral Case both units reached at site
11. Turbine Shaft Unit #1 & 2 received at site
12. Upper Pit Liner & Generator Shaft (Both Units), Rails for Transformer, Stator Bars (Both Unit & Spares) and Stator Winding material Lot 1 dispatched from works

6. Status of Erection, Testing and Commissioning at Site

1. Initial stage embedment in first stage concreting has been started.
2. Draft tube liner of both Unit 1 and Unit 2 has been placed in position and its alignment and concreting completed.
3. EOT crane erection is in progress.

6. Transmission System :

SEPL has signed the Long Term Access Agreement (LTAA) with Power Grid Corporation of India Limited (PGCIL) on 19th October, 2011 for evacuation of power. Transmission service agreement (TSA) has been signed with Power Grid Corporation of India Limited (PGCIL) on 30th January, 2014.

Detailed survey along the selected transmission line route has been completed. Actions for land acquisition and obtaining various clearances as well as finalizing the design consultant are in progress. Prior approval from CEA for installation of overhead transmission line has also been received.

Land acquisition for the first 7 towers is completed and Tower foundation work was started during the month on 4 tower locations.

7. Social and Environmental Activities

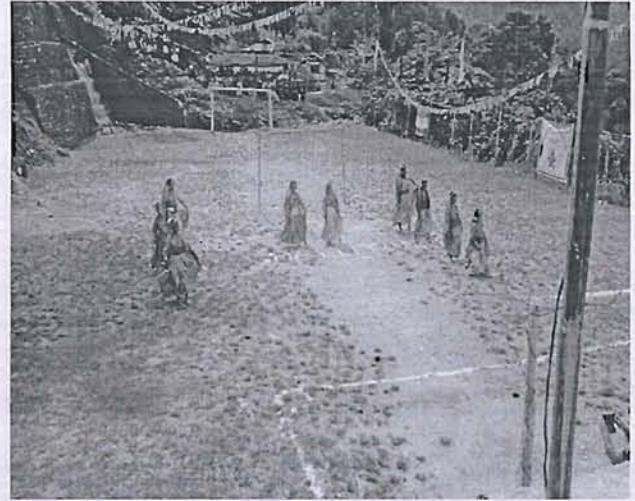
- Awareness Program at School

Gyan Setu NGO of Maharashtra and M/s. Shiga Energy Pvt. Ltd organized a two day workshop at Chumbung Junior High School on 22nd 23rd September 2015 at Sakyong Secondary School. The awareness program included various activities and scientific experiments.



CAP Program (Competition among Primary School)

The Final Competition among Primary School programme was held at Lower Bhaluthang, Primary School on 2nd October'15, i.e. on the occasion of Gandhi Jayanti. Area MLA Ms.Chandra Maya was present as the chief Guest of the Programme. Students and Teachers from Ramitay Primary School, Kaberthang Primary School, Lower Bhaluthang School, Upper Bhaluthang School, Sakyong School and Yangthey Primary School participated in the competition. The competitions were held in various fields including football match, Dancing Competition, Easy writing, Painting competition, Handball and rhymes etc. M/s Shiga Energy Pvt. Ltd. actively supported the programme to make it a success.



Plantation Drive September 2015: M/s Shiga Energy Pvt. Ltd carried out plantation drive on project approach road. The planted trees with the help of rings of hume Pipe (Coller) and to protect from animals the plant has been surrounded by bambooes sticks with green painted. More than 300 varieties of sapling were planted



8.

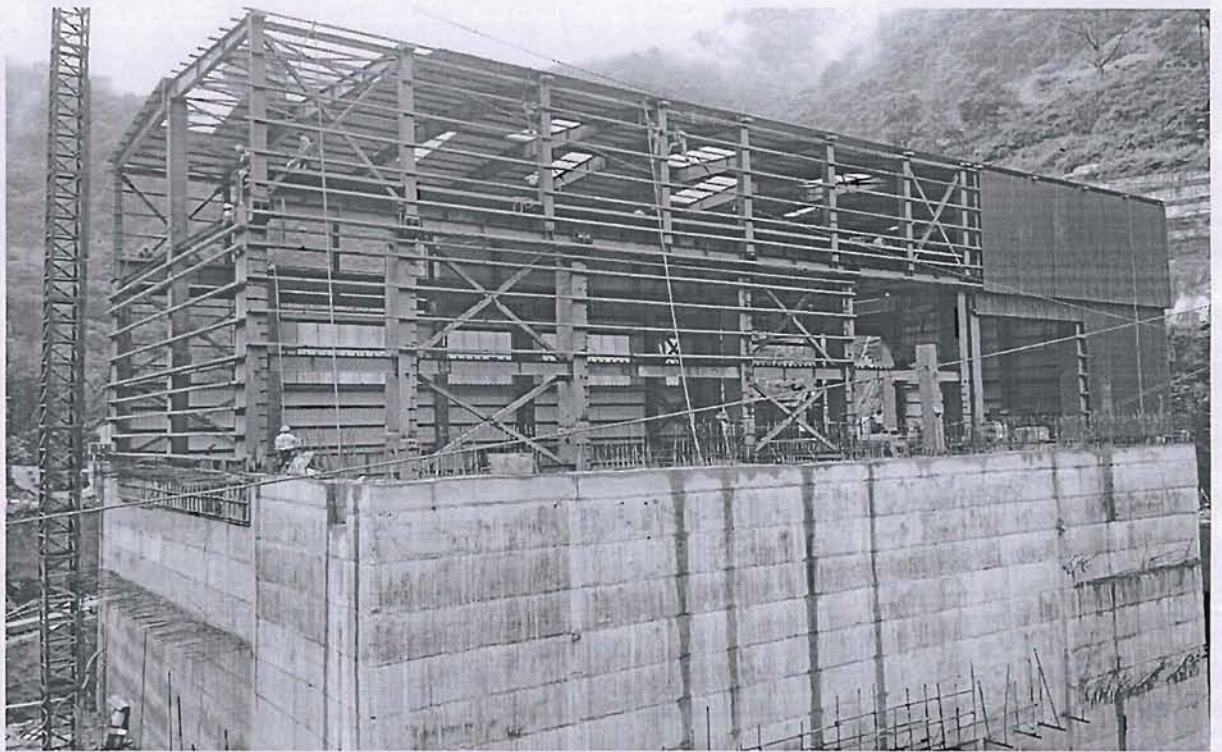
PROGRESS PHOTOGRAPHS:



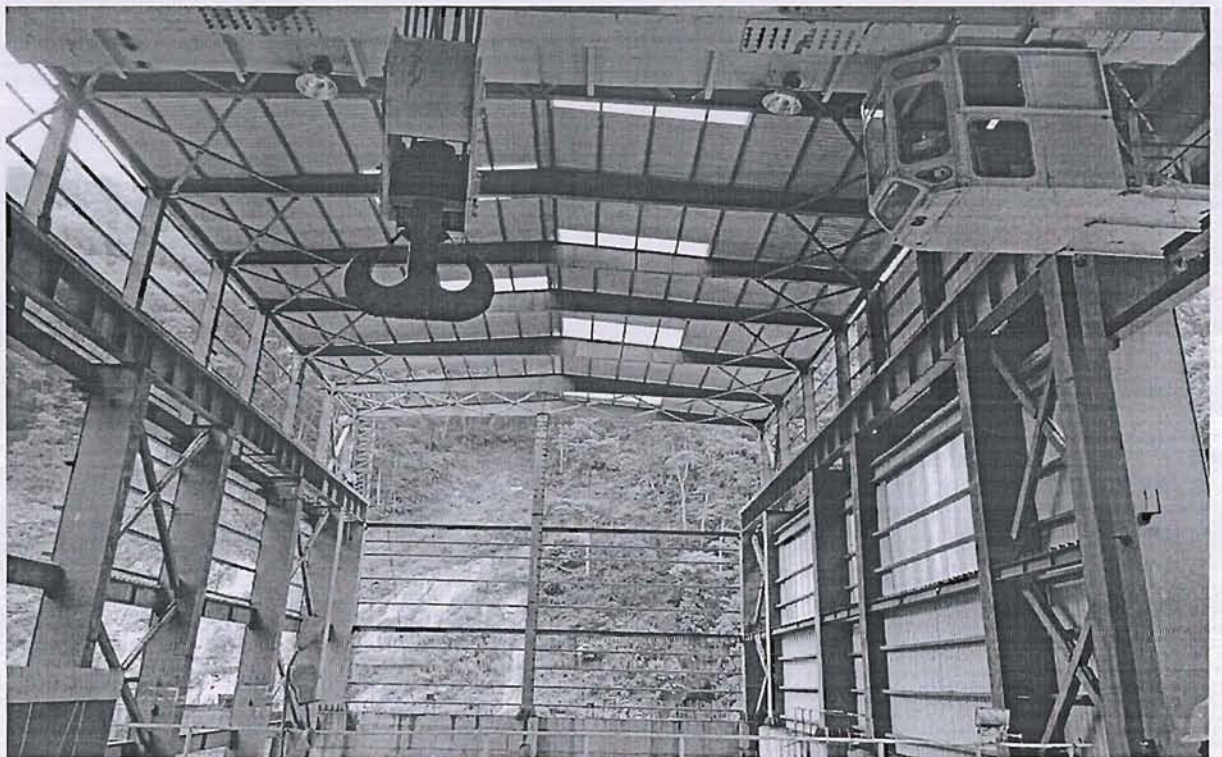
View of Barrage – Work on all piers in progress



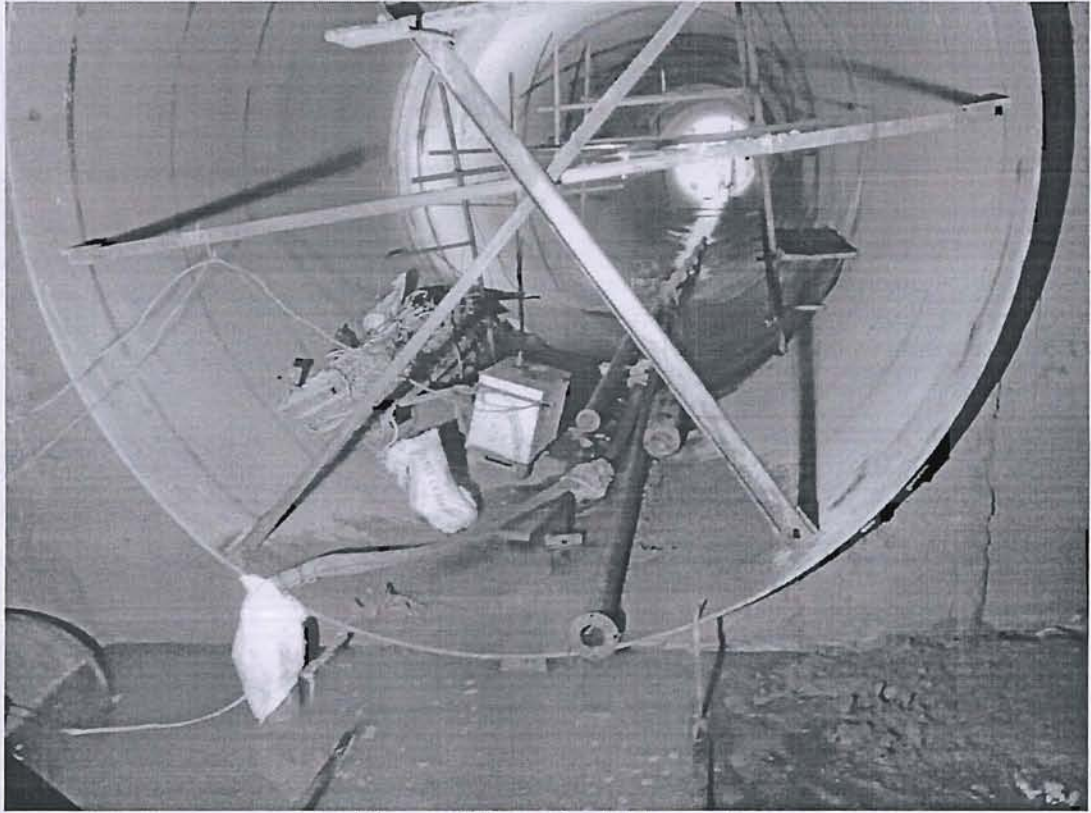
View of Power House-Purlins fixing under progress



View of Power House-Purlins Fixing work under Progress



View of Power House-EOT Crane



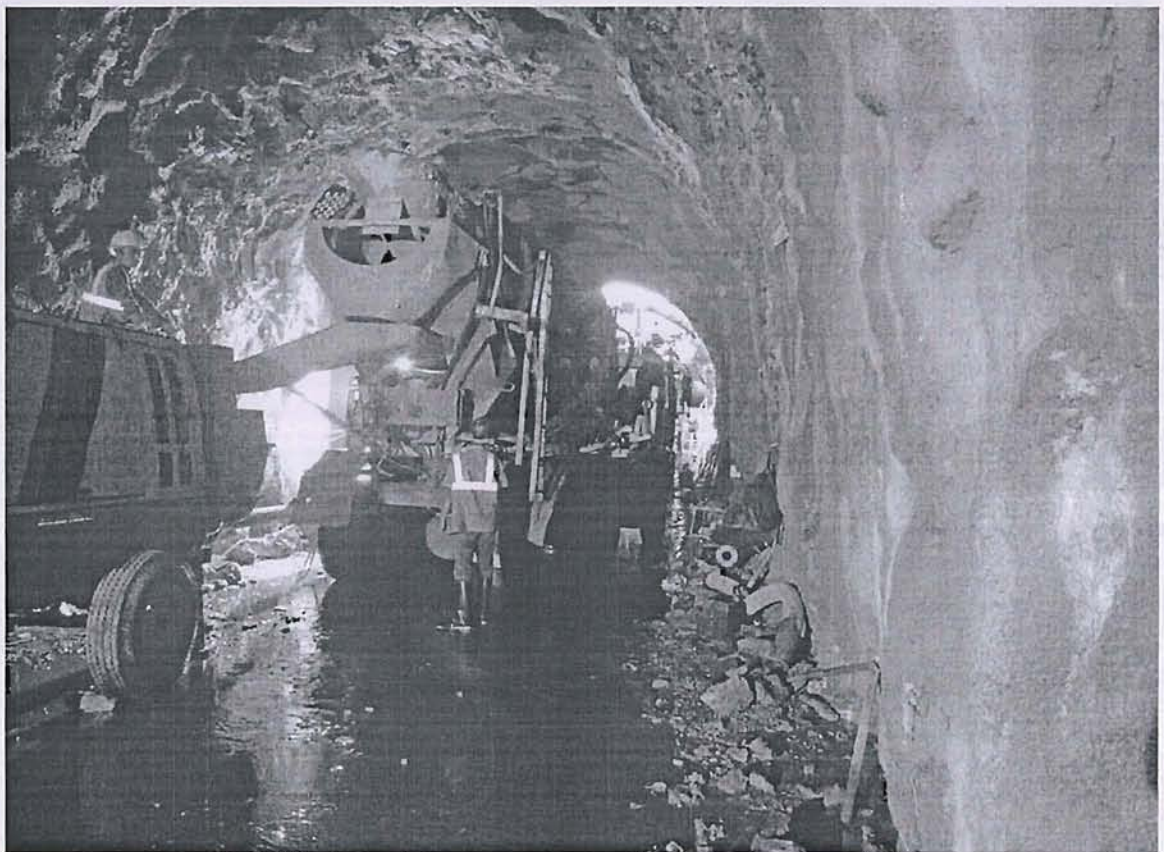
View of Penstock Tunnel



Surge Shaft Dome-Gantry Erection work under progress



View of HRT-After Pouring Concrete



HRT-Face-1 Invert concreting under progress